

1. Considered: _____, 19____

Water Right No. 4980-3

2. Name of Applicant Brookings-Devel Rural Water System

3. Post Office Address Box 810

4. Amount of Water Claimed 1.0 cfs maximum acre feet _____

5. Source of Water Supply Groundwater 3 wells

6. Water to be used for RWS acres to be irrigated _____

7. County Brookings about 7 miles East of Aurora

8. PROOF OF PUBLICATION: Received 10-31-83 Not Received _____

APPLICATION: Approved 11-30-83 Subject to SW-92

Not Approved _____ Action Deferred _____

PRIORITY
10-13-83

Dated Received 10-13-83 Application complete-yes X no _____ FEE \$350.00

Remarks _____

Corrected Application received _____ Period of Annual Use Jan. 1 Thru Dec. 31

WATER
QUALITY

Received yes _____ no _____ APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as application-yes _____ no _____ Remarks _____

Disapproved _____ Returned _____

			35	36	
			x	x	
			x	x	

Diversion Point SE⁴ Sec 35-T110N-R48W

Land to be irrigated _____

WELL LOG

Driller SDGS Licensed - yes _____ no _____

Depth 35 Ft (approximately)

Remarks _____

Water Right No. _____

MAP Map No. 4980-3 Map located in Water Right _____ Map file _____
Type of Map Copy of USGS Quad Prepared by Bruce Jennings

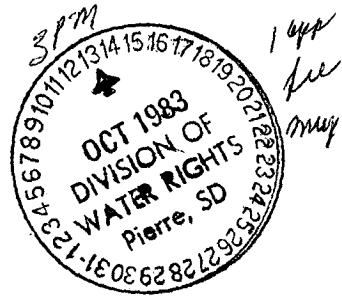
REVIEWED This Application was received within 30 days of the date received, accepted as complete, Number assigned and written up for advertisement before the Board on:

10-17-83

Kevin C. Larson
(Signed)

PROTESTS Letters/Petitions in File - yes _____ no _____ Remarks _____

REMARKS
F.F. & C. OF LAW, FINAL DECISIONS ETC.
Date _____
Final Decision, including F.F. & C. of Law were adopted _____
Date _____
Final Decision mailed to parties and/or parties notified that Final Decision was adopted _____
Remarks _____

No. 4980-3Map No. 4980-3 Water Division No. Big Sioux DistrictAbove for Office Use 10170202

APPLICATION FOR PERMIT To Appropriate Water within the State of South Dakota

Check one of the following:

New ☒ Vested Right _____ Future Use _____

Change in Diversion _____ Additional Diversion _____

Change in Acreage _____ Additional Acreage _____

1. Name of Applicant Brookings Deuel Rural Water System, Inc. Phone No. (605)692-5200
 Post Office Address P.O. Box 810 Brookings State South Dakota 57006
 (Street, RR, or Box) (Town) (Zip Code)
 If a corporation show date and place of incorporation March 21, 1974, Brookings, SD

2. Method of accomplishing work (contract, employment of others, or by direct labor) Contract3. Name of diversion work Medary Creek Wells No. 1, 2 and 34. Amount of water claimed (cubic feet per second) 1.0 cfs total for 3 wells5. Source of water supply Shallow aquifer adjacent to Medary Creek6. Location of point of diversion SE 1/4 of Sec. 35, R48W, T110NCounty Brookings7. Annual period or periods during which water is to be used 12 months/year8. Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) domestic

9. For irrigation use, Total number of acres to be irrigated _____

List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.

Land Description	No. Acres Irr.

Attach sheet if more space is needed

10. Time required to complete construction of water supply system 1.5 years. Additional time required to complete application of water to the proposed beneficial use 1.0 years.

11. Choice of county newspaper for publication of Notice of Intent to Appropriate Water Brookings Daily Register

12. Principal Features of the Proposed Water Supply System.

A. Works proposed to divert water from its natural source.

Gravel packed wells

B. Works proposed to transport water to place of use.

PVC pipelines (Rural Water System)

C. Works proposed to apply water to beneficial use.

Existing individual farm plumbing systems

Estimated Total Cost \$ 600,000.00

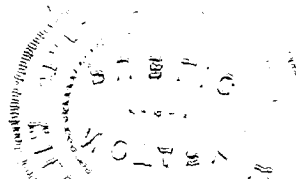
Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map. (see instructions concerning preparation.)

STATE OF SOUTH DAKOTA)
) ss.
 County of _____)

I, Brookings Deuel Rural Water System, Inc. the applicant, certify that I have read the foregoing application and 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 Patrick M. Gilligan
 Patrick M. Gilligan, System Manager
 12th day of Oct, 1983
William F. Dempsey
 Notary Public (or other qualified officer)

4-1-89



WATER RIGHT APPLICATION APPROVAL

The Board of Water Management hereby approves Water Right Application No. 4980-3

Brookings - Devel RWS
(Applicant)

Box 810 Brookings
(Post Office Address)

South Dakota
(State)

With the following qualifications.

That aquifer testing be conducted to determine safe yield (pump sizing) and proper well spacing.

That the well 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.

Date of first receipt of application October 13, 1983

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

Date of receipt of corrected application —, 19—

Approved November 30, 1983, Recorded in Book — Page —

WATER RIGHT PERMIT NO. 4980-3

The Board of Water Management hereby grants and issues this Water Right Permit No. 4980-3 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as qualified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is October 13, 1983
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before May 30, 1986
3. The whole of said work is to be completed on or before November 30, 1988
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is November 30, 1992
5. The water appropriated shall be used for the purpose of Rural Water Supply

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 injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 1.0 cubic feet per second; neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for beneficial uses served, and if for irrigation purposes said appropriation must be limited to not more than 2 acre feet per acre per year and be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied

for irrigation on or before November 30, 1992; said water to be used during the following described

annual period: January 1 thru December 31

Witness my hand this 4th day of January, 1984

THE BOARD OF WATER MANAGEMENT

By: John Hatch
Chief Engineer, Water Rights JOHN HATCH

Certificate of Construction Issued —, 19—

Water License Issued —, 19—

Form 2A - Wells, Dugouts or Water Storage Dams (Supplement to Form 2)

12. Principal Features of the Proposed Water Supply System (continued).

D. Well Information

- (1) Drill Hole, Diameter 18 inches, Depth 35 feet
- (2) Casing, Type steel, Diameter 12 inches, Thickness 0.375 inches
(wood, concrete, steel, etc.)
- (3) Screen, Type stainless steel, Diameter 12 inches, Length 8 feet
- (4) Gravel Pack, Thickness 3 inches, Length of gravel pack 20 feet

E. Dugout Information or Estimates

- (1) Surface dimensions, _____, Depth _____

F. Fill out for Either a Well or a Dugout.

- (1) Water Bearing Materials. (Attach a copy of test well log)

Depth to top of water bearing material _____

Depth to bottom of water bearing material _____

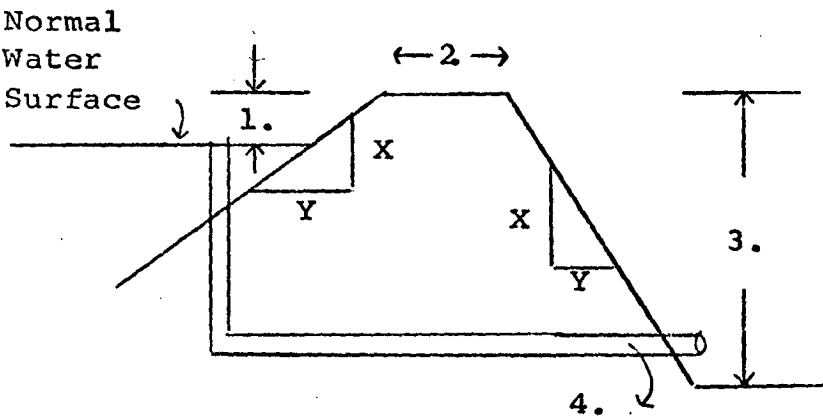
Depth to water (ground surface to water level) _____
- (2) Distance to nearest existing household or livestock watering well.

On same owner's property _____ rds.

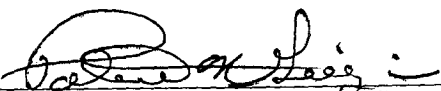
On property owned by others _____ rds.

G. Water Storage Dams

If the proposed water use system contains one or more water storage dams, please show in the space below, the height, length, maximum water depth, surface area, drainage area, storage capacity, dam slope, dimensions, location and size of outlet works, of each storage dam. The location of each water storage dam should be shown on the water right map.



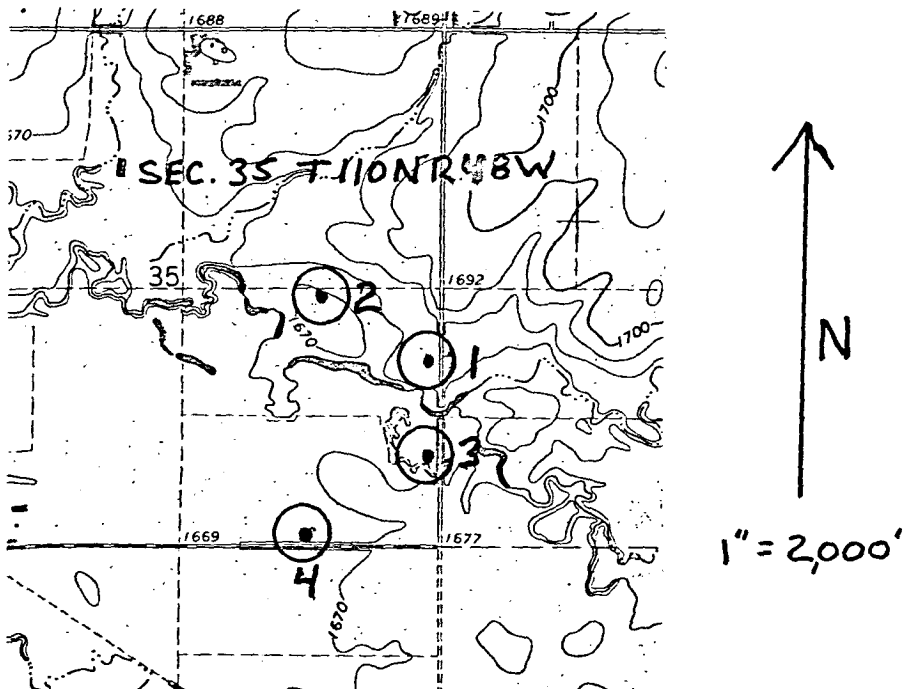
- 1. Freeboard _____
- 2. Crest width _____
- 3. Height of Dam _____
- 4. Outlet dimensions:
Pipe diameter _____
Spillway width _____
X & Y slope:
Upstream _____
Downstream _____
Surface area of impoundment _____
Drainage area above dam _____


Signature of Applicant

Brookings Deuel Rural Water System
Medary Creek Well Test Holes

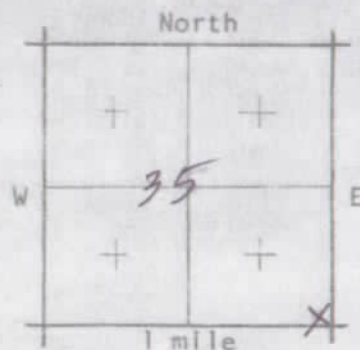
<u>Well No.</u>	<u>Log</u>
1	0-7 Finesand 7-14 Gravel 14-17 Gravel 14' s.w.l. 17-30 Blueclay
2	0-1 Dirt 1-7 Gravel 7-9 Gravel 7' s.w.l. 9-25 Clay
3	0-3 Dirt 3-5 Y clay 5' s.w.l. 5-16 Gravel 15-21 Gravel 21-32 Very coarse gravel 32-33 Hard clay
4	0-3 Dirt 3-7 Gravel 7' s.w.l. 7-28 Clear brown gravel 28-30 Hard clay

All test holes by Lacey Well Drilling, Trent, South Dakota



STATE OF SOUTH DAKOTA WELL DRILLERS REPORT

4980-3

Location SE 1/4 Sec 35 Twp 110N Rg 48WCounty
BrookingsPlease mark well
location with
an "X"Well Completion Date 11-14-83

PROPOSED USE:

☒ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock
Method of Drilling: Hydraulically
DRIVEN FALSE CASING

WELL CONSTRUCTION:

Diameter of hole 12 inches Depth 31 feetCasing: ☒ Steel ☐ Plastic ☐ Other
Specify _____
 Pipe Weight Diameter From To
50 lb/ft _____ inches 0 feet 23 feet
 _____ lb/ft _____ inches _____ feet _____ feet
Was a well screen used? ☒ Yes ☐ No

If Not Specify _____

Screen Type SSHIQ Slot Size 080Length 8' Diameter 12"Was Casing left open end? ☐ Yes ☒ NoWas a Packer or seal used? ☐ Yes ☒ No

If so what material? _____

Was well gravel packed? ☒ Yes ☐ NoWas well grouted? ☒ Yes ☐ NoDescribe grouting procedure filled to
SURFACE FROM WATER LEVELTo what depth? 0-6 FeetWhat was grouting material? CEMENT

If cement, how many sacks? _____

Location of packer(s) and screen or perforated
pipe _____WAS WELL PLUGGED OR ABANDONED ☐ Yes ☐ No

If so how and with what material? _____

Well Owner:

Name Brookings DEUEL R.W.S.Address Box 810 Brookings SD 57006

Well Log:

Depth

Formation

From

To

Topsoil (Black)	0	1
Yellow Clay	1	4
Sand	4	8
Silty Gravel	8	28
Coarse Gravel	28	31

STATIC 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 off? _____

WELL TEST DATA:

☒ Pumped☐ Bailed Describe: _____☐ Other _____

Pumping Level Below Land Surface

22 ft. After 24 Hrs. pumped 200 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

Remarks:

This well was drilled under license # 111

and this report is true and accurate.

LACEY Well Drilling James J. Lacey
 Drilling Firm Signed by
1-27-84

Well #1

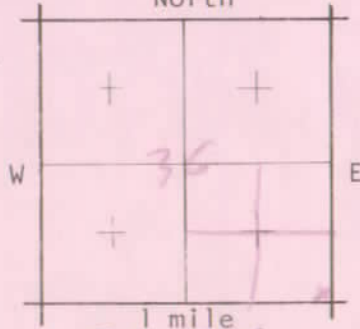
STATE OF SOUTH DAKOTA WELL DRILLERS REPORT

Location SE 1/4 SE 1/4 Sec 36 Twp 10N Rg 48W

County

North

Please mark well location with an 'X'

Well Completion Date 1-28-84

PROPOSED USE:

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

Method of Drilling:

Hydraulically Driven Auger

WELL CONSTRUCTION:

Diameter of hole 20 inches Depth 31 1/2 feetCasing: ☒ Steel ☐ Plastic ☐ OtherSpecify 12" std pipe
 Pipe Weight Diameter From To
 lb/ft inches 22 feet 22 feet
 lb/ft inches feet feet
Was a well screen used? ☒ Yes ☐ NoIf Not Specify Screen Type SS Slot Size 100Length 8' Diameter 12"Was Casing left open end? ☐ Yes ☒ NoWas a Packer or seal used? ☐ Yes ☒ NoIf so what material? Was well gravel packed? ☒ Yes ☐ NoWas well grouted? ☐ Yes ☒ NoDescribe grouting procedure 5' of cementTo what depth? 5' FeetWhat was grouting material? If cement, how many sacks? 15 bagsLocation of packer(s) and screen or perforated pipe WAS WELL PLUGGED OR ABANDONED ☐ Yes ☐ NoIf so how and with what material?

Well Owner:

Name Brookings Power RM.SAddress Box 110, Brookings S.D.

Well Log:

Depth

Formation

From

To

Black Topsoil	0	1
Yellow Clay	1	4
Yellow Gravel	4	18
Coarse Gravel	18	31 1/2

STATIC WATER LEVEL 5 FeetIf flowing: closed in pressure PSIGPM flow through inch pipeControlled by ☐ Valve ☐ Reducers ☐ OtherIf other; specify Can well be completely shut off?

WELL TEST DATA:

☒ Pumped☐ Bailed☐ OtherDescribe:

Pumping Level Below Land Surface

21 ft. After 24 Hrs. pumped 200 GPM ft. After Hrs. pumped GPM ft. After Hrs. pumped GPMRemarks: This well was drilled under license # 111

and this report is true and accurate.

Lacey Well Drilling
 Drilling Firm Signed by James Lacey
5-15-85

Date

Well #2

STATE OF SOUTH DAKOTA WELL DRILLERS REPORT

4980-3

Location $\frac{1}{4}$ $\frac{1}{4}$ Sec Twp Rg

County

North

Brookings

Please mark well location with an "X"



Well Completion Date 11-19-83

PROPOSED USE:

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

Method of Drilling:

False Casing

WELL CONSTRUCTION:

Diameter of hole 20 inches Depth 28 feet

Casing: ☒ Steel ☐ Plastic ☐ Other

Specify 12" std pipe

Pipe Weight Diameter From To
lb/ft inches feet 20 feet

lb/ft inches feet feet

Was a well screen used? ☒ Yes ☐ No

If Not Specify

Screen Type 55 Slot Size 100

Length 8' Diameter 12"

Was Casing left open end? ☐ Yes ☐ NoWas a Packer or seal used? ☐ Yes ☐ No

If so what material?

Was well gravel packed? ☒ Yes ☐ NoWas well grouted? ☒ Yes ☐ No

Describe grouting procedure CEMENTED

To what depth? 5 Feet

What was grouting material?

If cement, how many sacks? 15 bags

Location of packer(s) and screen or perforated pipe

WAS WELL PLUGGED OR ABANDONED ☐ Yes ☐ No

If so how and with what material?

Well Owner:

Name Brookings Devel RWS

Address PO Box 810 Brookings S.D.

Well Log:

Depth 5700

Formation

From

To

Topsoil	0	1
Yellow Clay	1	4
Sand	4	8
Silty Gravel	8	28

STATIC WATER LEVEL 5 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 off?

WELL TEST DATA:

☒ Pumped☐ Bailed

Describe:

☐ Other

Pumping Level Below Land Surface

21 ft. After 24 Hrs. pumped 200 GPM

ft. After Hrs. pumped GPM

ft. After Hrs. pumped GPM

Remarks:

This well was drilled under license # 111

and this report is true and accurate.

Drilling Firm

Signed by

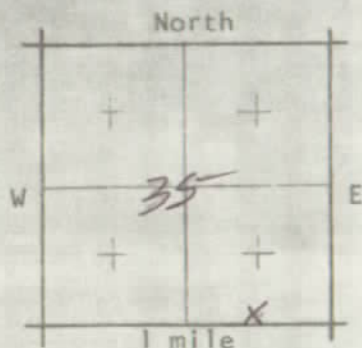
Date

Location SW 1/4 SE 1/4 Sec 35 Twp 110N Rg 48W

County

Brookings

Please mark well location with an "X"

Well Completion Date 1-28-84

PROPOSED USE:

☒ Domestic ☒ Municipal ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Stock
Method of Drilling: Hydraulically Driven Casing

WELL CONSTRUCTION:

Diameter of hole 20 inches Depth 31'6" feetCasing: ☒ Steel ☐ Plastic ☐ Other
Specify _____Pipe Weight Diameter From To
50 lb/ft 12 inches 0 feet 23 feet
_____ lb/ft _____ inches _____ feet _____ feetWas a well screen used? ☒ Yes ☐ No

If Not Specify _____

Screen Type SS H/A Slot Size 120
Length 8' Diameter 12"Was Casing left open end? ☐ Yes ☒ NoWas a Packer or seal used? ☐ Yes ☒ No

If so what material? _____

Was well gravel packed? ☒ Yes ☐ NoWas well grouted? ☐ Yes ☐ No

Describe grouting procedure _____

To what depth? _____ Feet

What was grouting material? _____

If cement, how many sacks? _____

Location of packer(s) and screen or perforated pipe _____

WAS WELL PLUGGED OR ABANDONED / ☐ Yes / ☐ No
If so how and with what material? _____

Well Owner:

Name Brookings PECE/RWSAddress Box 810 Brookings SD 57006

Well Log:

Depth

Formation

From

To

Topsoil (Black)01Yellow Clay14Silty Yellow Gravel418Clean " "1831'6"CLAY

STATIC WATER LEVEL _____ 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 off? _____

WELL TEST DATA:

☒ Pumped☐ Bailed☐ Other

Describe: _____

Pumping Level Below Land Surface

20 ft. After 24 Hrs. pumped 270 GPM

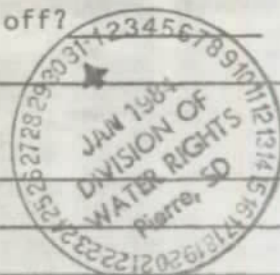
_____ ft. After _____ Hrs. pumped _____ GPM

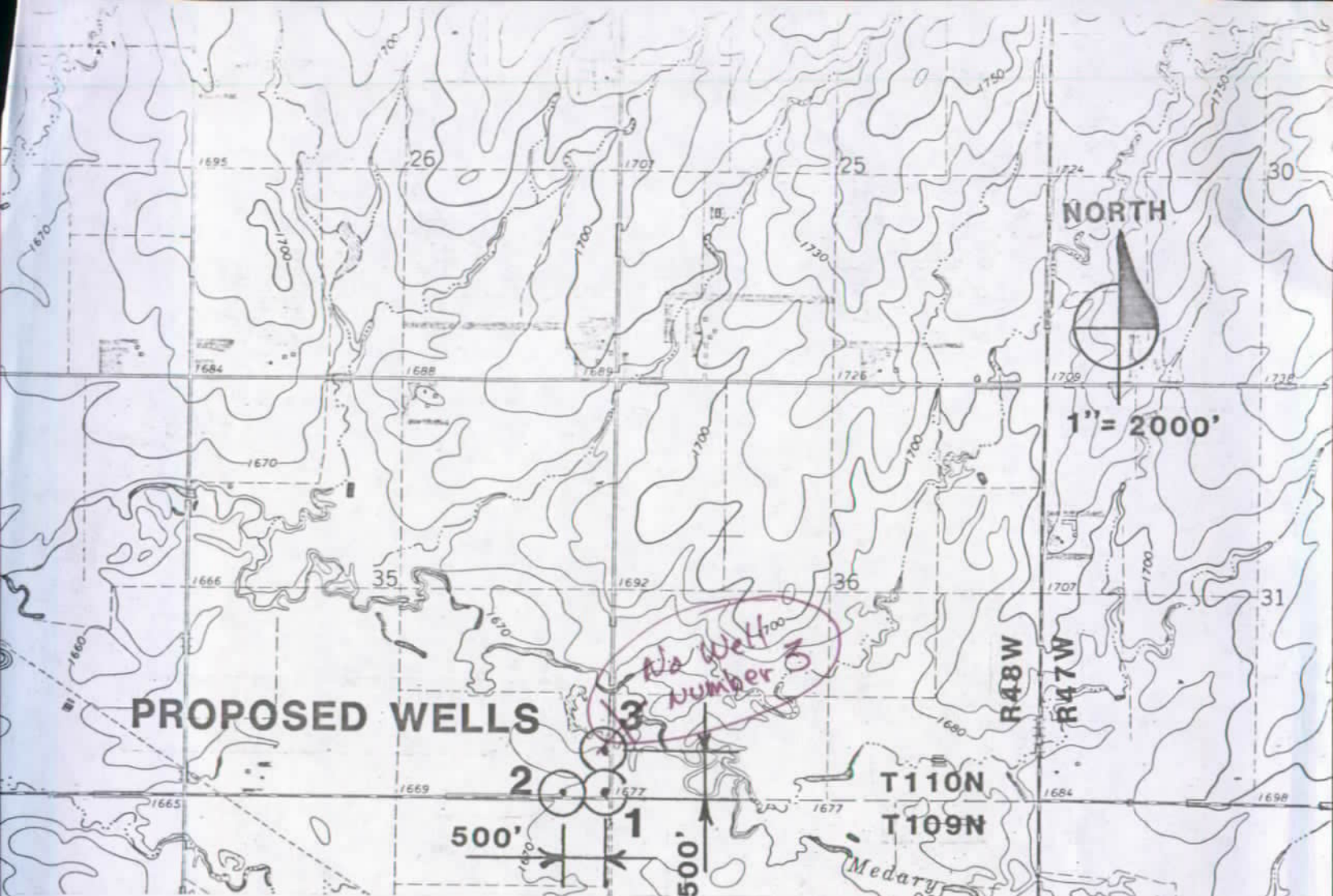
_____ ft. After _____ Hrs. pumped _____ GPM

Remarks: _____

This well was drilled under license # _____

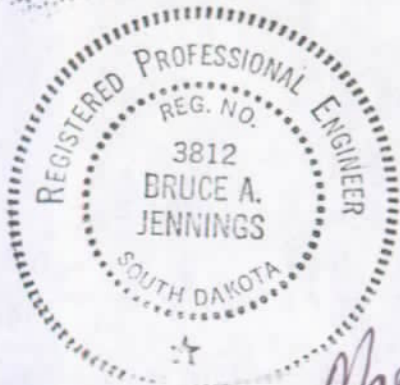
and this report is true and accurate.

LACEY Well Drilling James Lacey
Drilling Firm Signed by1-28-84



I, Bruce Jennings, do hereby certify that, to the best of my knowledge and belief, this drawing identifies a reasonably accurate description of the proposed location of the Brookings Deuel Rural Water System Medary Creek wells.

Bruce A. Jennings
 Bruce A. Jennings, P.E.
 South Dakota Registration No. 3812



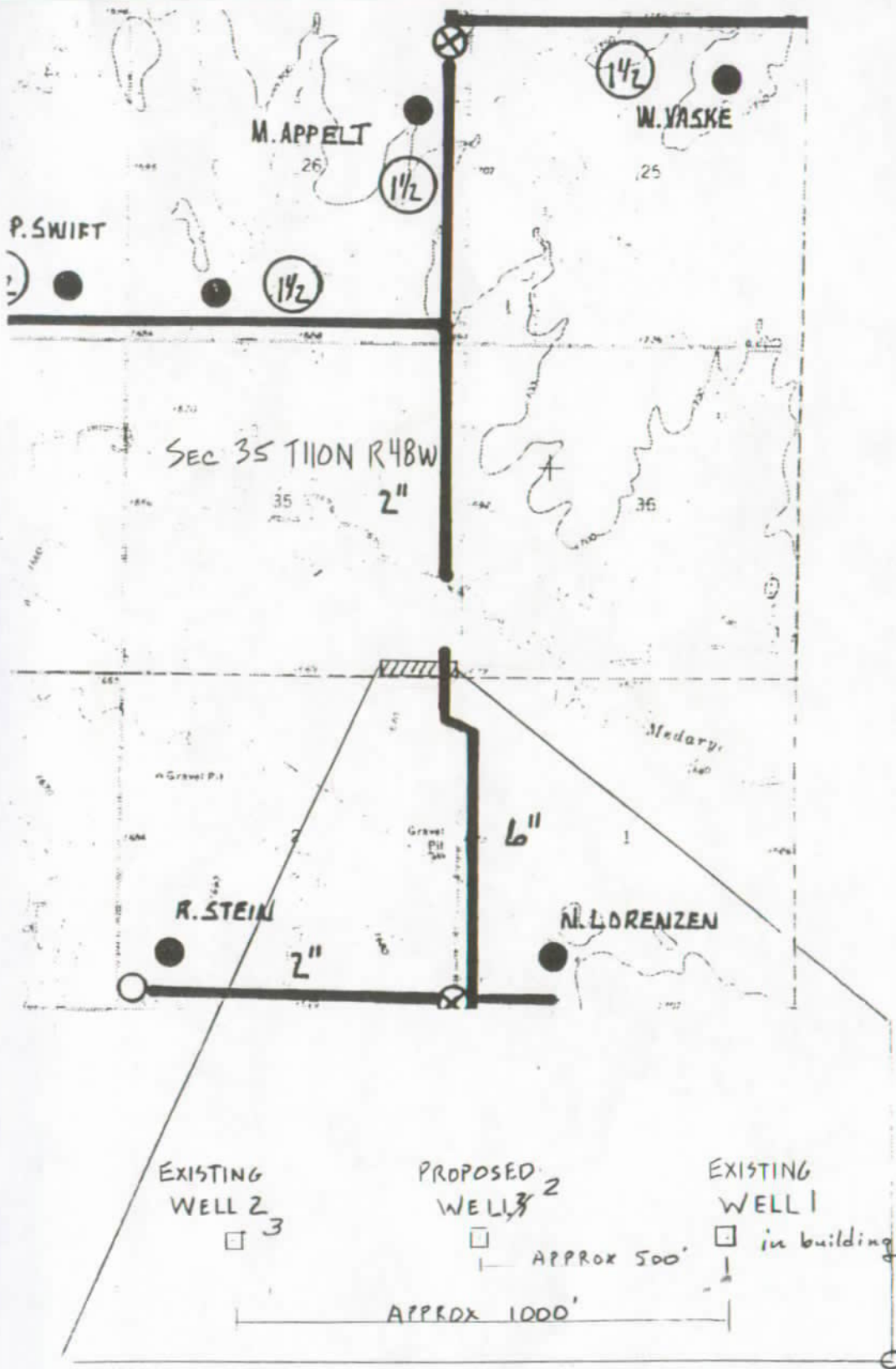
Map & App. # 4980-3



DeWid Grant Racker & Associates Co.
 Architecture Engineering Planning
 Rock Rapids, Iowa
 Sioux City, Iowa
 Sioux Falls, South Dakota

Date 10-10-83
 Drawn by DPK
 Approved
 Revised

**GENERAL LOCATION PLAN
 MEDARY CREEK WELL FIELD
 BROOKINGS - DEUEL
 RURAL WATER SYSTEM**



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 Registration No. 3812

By Bance Jennings Date 3-15-90

SE COR SEC 35
T11N R48W



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

Date
Drawn By
Approved
Revised

**BROOKINGS DEUEL
RURAL WATER
ELKTON WELL FIELD**

RECEIPT

Division of Water Rights

No 4 9381

South Dakota Department of Water and Natural Resources

Pierre, October 14, 19 83

RECEIVED OF Brookings-Deuel Rural Water System, Inc., PO Box 810, Brookings, SD 57006

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

Fee for Application for Permit No. <u>4980-3</u> to Appropriate Water, to construct works and to put water to beneficial use	350	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	350 00

By

Chief Engineer

John Hatch

JOHN HATCH/ms

DEPARTMENT OF WATER AND NATURAL RESOURCES
SOUTH DAKOTA GEOLOGICAL SURVEY
Science Center, USD
Vermillion, SD 57069
(605) 624-4471



October 13, 1983

Bruce A. Jennings
DeWild Grant Reckert & Associates Co.
315 First Avenue
Rock Rapids, IA 51246

Dear Bruce:

At your request I am enclosing the following data regarding the shallow glacial aquifer along the Medary Creek in the vicinity of Sec. 35, T. 110 N., R. 48 W.

- 1) Logs of test hole and observation wells constructed for the Brookings-Deuel Rural Water System in 1983, and logs of other test holes and observation wells in this area.
- 2) Map showing the saturated thickness of shallow sand and gravel along Medary Creek (preliminary map).
- 3) Results of chemical analysis of water samples collected in 1983.

The above data indicate that the area is favorable for developing a rural water well field. However, prior to the construction of any permanent facilities, it is recommended that an aquifer test be conducted and the data on the yield, drawdown and recovery be collected and analyzed. Based on the results of the aquifer test a proper pumping rate, and a safe distance between the future wells will be determined. Water samples should be collected during the test for chemical analysis.

Before a permanent well is drilled, the Division of Water Rights, Department of Water and Natural Resources should be contacted to obtain a water Right permit. Also the Office of Drinking Water, Department of Water and Natural Resources, should be contacted for final determination of biological and chemical suitability of the water.

A final report of the study conducted by the Geological Survey will be sent to the Rural water System after it is published.

If you have any further questions, don't hesitate to contact me.

Sincerely,

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

Assad Barari
Geologist

For the State Geologist

AB:aj

cc: Marck E. Steichen
Gale Selken
Pat Gilligan

REPORT ON APPLICATION NO. 4980-3
Brookings Deuel Rural Water System
October 17, 1983

Application No. 4980-3 for Brookings Deuel Rural Water System proposes to withdraw 1.0 cfs of water from three thirty five foot wells. The wells will be located in the SE $\frac{1}{4}$ Section 35, T110N, R48W and will withdraw water from a shallow sand and gravel aquifer along Medary Creek.

Test drilling has been completed by South Dakota Geological Survey, observation wells have been installed and water quality samples have been taken. The saturated thickness map indicates that in the SE $\frac{1}{4}$ Section 35, T110N, R48W saturated thickness of the aquifer is 20 feet. This is also confirmed by test drilling conducted by Lacey Well Drilling for the rural water system.

The aquifer is under water table conditions so the direct interference with area adequate domestic wells or irrigation rights in the same section should not be an issue. Although an interference problem is not anticipated, an aquifer test should be conducted to determine the safe yield and proper spacing for the production wells.

The Water Rights Division is monitoring an observation well (BG 57G) approximately two miles from the proposed well field. This well has shown seasonal fluctuations with a maximum high of 2.3 feet to water in 1969, to a low of 11.2 feet in 1981. The well is 40 feet deep with sand and gravel from 2 to 40 feet.

Conclusions

1. Test drilling has been completed and maps prepared which show the areal extent of the aquifer.
2. Observation wells exist to monitor water levels.
3. Test drilling by the applicant indicates that wells can be constructed at said location.
4. An aquifer test should be run to size the wells and determine the proper spacing.
5. Aquifer is under water table conditions.
6. Based upon information available, there is a reasonable probability that water is available for this application.

Gale N Selken

GALE N SELKEN
Hydrologist

Drillers logs and preliminary map provided by Assad Barari, South Dakota Geological Survey (unpublished)

DWNR, Water Rights Division, observation well files and water permit files (unpublished).

COUNTY: BROOKINGS LOCATION: 109N-48W-01ADUA
LEGAL LOCATION: NE SE SE NE SEC. 01, T. 109 N., R. 48 W.
LATITUDE: 44.1638 LONGITUDE: 96.3137

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 05-15-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH:

28.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1682.00 T

TEST HOLE NUMBER: A1-82-118

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	25	SAND, BROWN, MEDIUM TO COARSE; MOIST, OXIDIZED, SOME GRAVEL, SATURATED AT 5 FEET
25 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

WATER LEVEL APPROXIMATELY 5 FEET.

COUNTY: BROOKINGS LOCATION: 109N-48W-010000
LEGAL LOCATION: SE SE SE SE SEC. 01, T. 109 N., R. 48 W.
LATITUDE: 44.1606 LONGITUDE: 96.3136

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: B. EPLING

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-15-1982

DRILLING METHOD: AUGER

E-LOG: NO

SAMPLES: NO

GROUND SURFACE ELEVATION: 1700.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A1-82-119

0 -	4	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
4 -	6	CLAY, LIGHT-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
6 -	15	GRAVEL, BROWN, MEDIUM TO COARSE, SILTY, SANDY; DRY, OXIDIZED
15 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS

LEGAL LOCATION: SE NE NE SE SEC. 02,

LATITUDE: 44.1624

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: B. EPLING

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-15-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 28.0

LOCATION: 109N-48W-02DAAD

T. 109 N., R. 48 W.

LONGITUDE: 96.3255

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1691.00 T

TEST HOLE NUMBER: A1-82-113

0 -	2	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
2 -	15	SAND, BROWN, FINE, CLAYEY, GRAVELLY; DRY, OXIDIZED
15 -	19	GRAVEL, BROWN, MEDIUM TO COARSE, SANDY; DRY, OXIDIZED
19 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 109N-48W-02DDDD
LEGAL LOCATION: SE SE SE SE SEC. 02, T. 109 N., R. 48 W.
LATITUDE: 44.1605 LONGITUDE: 96.3255

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-15-1982

DRILLING METHOD: AUGER

E-LDG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1693.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A1-82-112

0 -	2	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
2 -	9	GRAVEL, BROWN, COARSE, SANDY; DRY, OXIDIZED
9 -	19	CLAY, GRAYISH-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
19 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 109N-48W-03ADD
LEGAL LOCATION: SE SE SE NE SEC. 03, T. 109 N., R. 48 W.
LATITUDE: 44.1631 LONGITUDE: 96.3402

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 29.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1682.00 T

TEST HOLE NUMBER: A1-82-123

0 -	3	ROADFILL
3 -	7	CLAY, BROWN, SILTY, SANDY, VERY PEBBLY; MOIST, OXIDIZED
7 -	9	GRAVEL, BROWN, MEDIUM, SANDY; DRY, OXIDIZED
9 -	21	SAND, BROWN, MEDIUM, CLAYEY; DRY, OXIDIZED, SOME GRAVEL
21 -	23	CLAY, BROWN, SILTY, VERY SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
23 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

WATER LEVEL APPROXIMATELY 26 FEET.

COUNTY: BROOKINGS LOCATION: 109N-48W-05ABBB
LEGAL LOCATION: NW NW NW NE SEC. 05, T. 109 N., R. 48 W.
LATITUDE: 44.1655 LONGITUDE: 96.3704

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: B. EPLING

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 05-17-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH:

28.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1639.00 T

TEST HOLE NUMBER: A1-82-128

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	4	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
4 -	17	GRAVEL, BROWN, MEDIUM TO COARSE, SILTY, VERY SANDY; MOIST, OXIDIZED
17 -	23	CLAY, GRAYISH-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
23 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

WATER LEVEL APPROXIMATELY 11 FEET.

COUNTY: BROOKINGS LOCATION: 110N-48W-250000
LEGAL LOCATION: SE SE SE SE SEC. 25, T. 110 N., R. 48 W.
LATITUDE: 44.1750 LONGITUDE: 96.3137
LAND OWNER:
PROJECT: KINGSBURY-BROOKINGS STUDY
DRILLING COMPANY: SDGS
DRILLER: E. EPLING DRILLER'S LOG:
GEOLOGIST: D. TOMHAVE GEOLOGIST'S LOG: X
DATE DRILLED: 06-15-1982 DRILLING METHOD: AUGER
E-LOG: NO SAMPLES: NO GROUND SURFACE ELEVATION: 1705.00 T
TOTAL DRILL HOLE DEPTH: 28.0 TEST HOLE NUMBER: A1-82-117

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	6	GRAVEL, BROWN, MEDIUM, VERY SILTY, SANDY; MOIST, OXIDIZED
6 -	14	CLAY, LIGHT-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
14 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-274DDD
LEGAL LOCATION: SE SE SE NE SEC. 27, T. 110 N., R. 48 W.
LATITUDE: 44.1813 LONGITUDE: 96.3402

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. ENTERMAN

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1962

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1692.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A2-82-6

0 -	1	CLAY, BLACK, SILTY, SANDY; MOIST (TOPSOIL)
1 -	4	CLAY, BROWN, SILTY, SANDY; MOIST, OXIDIZED
4 -	5	SAND, BROWN, FINE; MOIST, OXIDIZED
5 -	22	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
22 -	28	CLAY, GRAYISH-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-270000
LEGAL LOCATION: SE SE SE SEC. 27, T. 110 N., R. 48 W.
LATITUDE: 44.1750 LONGITUDE: 95.3402

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. ENTERMAN

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 28.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1681.00 T

TEST HOLE NUMBER: A2-82-5

0 -	2	CLAY, BLACK, SILTY; MOIST (TOPSOIL)
2 -	3	CLAY, BROWN, SILTY; MOIST, OXIDIZED
3 -	6	SAND, BROWN, MEDIUM TO COARSE, MODERATELY SORTED; DRY, OXIDIZED
6 -	11	GRAVEL, BROWN, COARSE, SANDY, MODERATELY SORTED; DRY, OXIDIZED
11 -	12	GRAVEL, REDDISH-BROWN, VERY COARSE; DRY, OXIDIZED
12 -	22	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
22 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-28ADA
LEGAL LOCATION: NE NE SE NE SEC. 28, T. 110 N., R. 48 W.
LATITUDE: 44.1625 LONGITUDE: 96.3515
LAND OWNER:
PROJECT: KINGSBURY-BROOKINGS STUDY
DRILLING COMPANY: SDGS
DRILLER: M. ENTERMAN DRILLER'S LOG:
GEOLOGIST: D. TOMHAVE GEOLOGIST'S LOG: X
DATE DRILLED: 06-16-1982 DRILLING METHOD: AUGER
E-LOG: NO SAMPLES: NO GROUND SURFACE ELEVATION: 1664.00 T
TOTAL DRILL HOLE DEPTH: 28.0 TEST HOLE NUMBER: A2-82-8

0 -	2	CLAY, BLACK, SILTY; MOIST (TOPSOIL)
2 -	5	CLAY, BROWN, SILTY; MOIST, OXIDIZED
5 -	7	SAND, BROWN, COARSE; SATURATED, OXIDIZED
7 -	9	GRAVEL, BROWN, MEDIUM, SANDY, POORLY SORTED; SATURATED, OXIDIZED
9 -	14	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
14 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

WATER LEVEL APPROXIMATELY 5 FEET.

COUNTY: BROOKINGS LOCATION: 110 N-48 W-28 000A
LEGAL LOCATION: NE SE SE SE SEC. 28, T. 110 N., R. 48 W.
LATITUDE: 44.1752 LONGITUDE: 96.3515

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. YESKE

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 43.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1655.00 T

TEST HOLE NUMBER: A2-82-7

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	2	CLAY, GRAYISH-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
2 -	6	GRAVEL, REDDISH-BROWN, MEDIUM, VERY SANDY; MOIST, OXIDIZED
6 -	11	SAND, BROWN, COARSE, GRAVELLY; SATURATED, OXIDIZED
11 -	32	GRAVEL, BROWN, MEDIUM, SANDY; SATURATED, OXIDIZED
32 -	43	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-29AAAD
LEGAL LOCATION: SE NE NE NE SEC. 29, T. 110 N., R. 48 W.
LATITUDE: 44.1836 LONGITUDE: 96.3627
LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. YESKE

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO

SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 28.0

DRILLER'S LOG:

GEOLOGIST'S LOG: x

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1681.00 T

TEST HOLE NUMBER: A2-82-11

0 - 1 CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST
(TOPSOIL)
1 - 28 CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST,
OXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-29CBBB
LEGAL LOCATION: NW NW NW SW SEC. 29, T. 110 N., R. 48 W.
LATITUDE: 44.1811 LONGITUDE: 96.3738

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. YESKE

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH:

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1657.00 T

TEST HOLE NUMBER: A2-82-15

0 -	2	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
2 -	3	CLAY, DARK-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
3 -	4	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
4 -	6	SAND, REDDISH-BROWN, FINE, CLAYEY; MOIST, OXIDIZED
6 -	10	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
10 -	13	SAND, BROWN, MEDIUM, VERY CLAYEY, GRAVELLY; SATURATED, OXIDIZED
13 -	25	GRAVEL, BROWN, MEDIUM, SANDY; SATURATED, OXIDIZED
25 -	54	GRAVEL, GRAY, MEDIUM TO COARSE, SANDY; SATURATED, UNOXIDIZED
54 -	66	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-29DADA
LEGAL LOCATION: NE SE NE SE SEC. 29, T. 110 N., R. 48 W.
LATITUDE: 44.1806 LONGITUDE: 96.3627

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. ENTERMAN

GEOLOGIST: D. TOMHAVE

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1643.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A2-82-12

0 -	1	CLAY, BLACK, SILTY; MOIST (TOPSOIL)
1 -	4	CLAY, GRAYISH-BLACK, SILTY; MOIST (ALLUVIUM)
4 -	7	SAND, BROWN, MEDIUM TO COARSE, SILTY, MODERATELY SORTED; SATURATED, OXIDIZED
7 -	20	CLAY, DARK-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
20 -	21	GRAVEL, DARK-BROWN, COARSE; SATURATED, OXIDIZED
21 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

WATER LEVEL APPROXIMATELY 3 FEET.

COUNTY: BROOKINGS LOCATION: 110N-48W-31AADA
LEGAL LOCATION: NE SE NE NE SEC. 31, T. 110 N., R. 48 W.
LATITUDE: 44.1738 LONGITUDE: 96.3740

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-17-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1638.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A1-82-125

0 -	2	SILT, BLACK, SANDY; DRY (TOPSOIL)
2 -	4	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
4 -	6	SAND, BROWN, FINE, CLAYEY; MOIST, OXIDIZED
6 -	9	CLAY, LIGHT-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
9 -	25	SAND, BROWN, MEDIUM TO COARSE, SILTY; SATURATED, OXIDIZED
25 -	28	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)

COUNTY: BROOKINGS

LOCATION: 110N-48W-3200AD

LEGAL LOCATION: SE NE SE SE SEC. 32, T. 110 N., R. 48 W.

LATITUDE: 44.1705

LONGITUDE: 96.3627

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. ENTERMAN

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1650.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A2-82-14

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	2	SAND, BROWN, FINE, SILTY; MOIST, OXIDIZED
2 -	11	CLAY, BROWN, SILTY, SANDY; MOIST, OXIDIZED
11 -	17	GRAVEL, BROWN, MEDIUM TO COARSE, SANDY, POORLY SORTED; DRY, OXIDIZED
17 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

LOG AND INSPECTION SHEET

Well No. BG 78-E, Section 29, Township 110, Rge. 47

Well Driller Harold S. D. S.

Date drilled 5-17-78 Dia. of Hole 4 3/4, Dia. of Casing 2"

LOG

Layers, Top to Top in feet	Description of Layer	Sampled
0-3	Dark silty clay with fine sand	
3-28	Clay, yellowish, fine sand & silt, boulders (11')	
28-75	Clay, brown, fine sand (11')	
75-107	Clay, silty, dark, with (11')	
107-157	Clay, silty, with (11')	
157-170	Gravel, 1/2" to 1" particles, numerous	
170-200	Soft, dark, silty, clay (11')	

Depth to saturated material _____ Feet

Depth to static water level _____ Feet

Total depth of drill hole 200 Feet

Total length of casing installed 165 Feet

CHECK LIST

Well Point _____

Waste Mounded _____

Casing Packed _____

Air Hole _____

Bentonite Placed _____

Padlocked _____

Well Tested _____

Post set _____

LOG AND INSPECTION SHEET

Well No. 6678-6, Section 36, Township 110, Rge. 48

Well Driller W. J. [unclear] 1823

Date drilled 5-18-78 Dia. of Hole 4 $\frac{3}{4}$, Dia. of Casing 2"

LOG

[illegible]

Depth to saturated material _____ Feet

Depth to static water level _____ Feet

Total depth of drill hole 140 Feet

Total length of casing installed 140 Feet

CHECK LIST

Well Point _____

Waste Mounded

Casing Packed _____

Air Hole

Bentonite Placed _____

Padlocked

Well Tested

Post set

66-57-6
110-48-3306ac

Well No. S-15 ^{*ABAC*}, Section NE $\frac{1}{4}$ 33, Township 110, Range 48

Date drilled August 9, 1957 Dia. of Hole 4", Dia. of Casing 1½"

[illegible]

Total length of casing installed 24 feet

Well Tested x

COUNTY: BROOKINGS LOCATION: 110N-48W-33A000
LEGAL LOCATION: SE SE SE NE SEC. 33, T. 110 N., R. 48 W.
LATITUDE: 44.1722 LONGITUDE: 96.3515
LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. YESKE

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 33.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1650.0 FT

TEST HOLE NUMBER: A2-82-9

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	5	CLAY, DARK-BROWN, VERY SILTY, SANDY, PEBBLY; VERY MOIST, OXIDIZED
5 -	16	GRAVEL, BROWN, MEDIUM, VERY SILTY, SANDY; SATURATED, OXIDIZED
16 -	33	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS

LOCATION: 110N-48W-33BCCB

LEGAL LOCATION: NW SW SW NW SEC. 33. T. 110 N., R. 48 W.

LATITUDE: 44.1727

LONGITUDE: 96.3625

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. YESKE

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1642.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A2-82-13

0 -	3	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
3 -	4	CLAY, GRAY, SILTY, SANDY, VERY PEBBLY; MOIST (ALLUVIUM)
4 -	7	SAND, BROWN, COARSE, CLAYEY; SATURATED, OXIDIZED, SOME GRAVEL
7 -	12	GRAVEL, BROWN, MEDIUM; SATURATED, OXIDIZED, CLEAN
12 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-330000
LEGAL LOCATION: SE SE SE SE SEC. 33. T. 110 N., R. 48 W.
LATITUDE: 44.1657 LONGITUDE: 96.3515

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: M. ENTERMAN

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1650.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A2-82-10

0 - 6 GRAVEL, BROWN, COARSE, POORLY SORTED;
DRY, OXIDIZED, SATURATED AT 2 FEET
6 - 28 CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST,
UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-34DAAA
LEGAL LOCATION: NE NE NE SE SEC. 34, T. 110 N., R. 48 W.
LATITUDE: 44.1721 LONGITUDE: 96.3402
LAND OWNER:
PROJECT: KINGSBURY-BROOKINGS STUDY
DRILLING COMPANY: SDGS
DRILLER: B. EPLING DRILLER'S LOG:
GEOLOGIST: D. TOMHAVE GEOLOGIST'S LOG: X
DATE DRILLED: 06-16-1982 DRILLING METHOD: AUGER
E-LOG: NO SAMPLES: NO GROUND SURFACE ELEVATION: 1664.00 T
TOTAL DRILL HOLE DEPTH: 28.0 TEST HOLE NUMBER: A1-82-120

0 -	5	CLAY, BLACK, VERY SILTY, PEBBLY; MOIST (ALLUVIUM)
5 -	19	GRAVEL, BROWN, MEDIUM TO COARSE, VERY SANDY, CLAYEY; SATURATED, OXIDIZED
19 -	28	CLAY, BROWN, SILTY, SANDY, PEBBLY; VERY MOIST, OXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48E-34E DDD

LEGAL LOCATION: SE SE SE SE SEC. 34, T. 110 N., R. 48 W.

LATITUDE: 44.1657 LONGITUDE: 96.3402

LONGITUDE: 96.3402

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-16-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1662.00 T

TOTAL DRILL HOLE DEPTH:

28.C

TEST HOLE NUMBER: A1-82-121

0 -	2	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
2 -	5	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
5 -	25	GRAVEL, BROWN, MEDIUM, SANDY; SATURATED, OXIDIZED
25 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS

LOCATION: 110N-48W-350AAA

LEGAL LOCATION: NE NE NE SE SEC. 35, T. 110 N., R. 48 W.

LATITUDE: 44.1722

LONGITUDE: 96.3249

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: B. EPLING

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-15-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1690.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A1-82-115

0 -	2	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
2 -	4	SAND, BROWN, COARSE, PEBBLY; DRY, OXIDIZED
4 -	21	CLAY, BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
21 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-350000
LEGAL LOCATION: SW SW SW SE SEC. 35, T. 110 N., R. 48 W.
LATITUDE: 44.1657 LONGITUDE: 96.3323

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: B. EPLING

GEOLOGIST: D. TOMHAVE

DATE DRILLED: 06-16-1982

E-LOG: NO SAMPLES: NO

TOTAL DRILL HOLE DEPTH: 33.0

DRILLER'S LOG:

GEOLOGIST'S LOG: X

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1667.00 T

TEST HOLE NUMBER: A1-82-122

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	9	CLAY, LIGHT-BROWN, SILTY, SANDY, VERY PEBBLY; MOIST, OXIDIZED (ALLUVIUM)
9 -	29	GRAVEL, BROWN, MEDIUM TO COARSE, SANDY; SATURATED, OXIDIZED
29 -	33	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS LOCATION: 110N-48W-3500DA
LEGAL LOCATION: NE SE SE SE SEC. 35, T. 110 N., R. 48 W.
LATITUDE: 44.1701 LONGITUDE: 96.3249
LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: X

DATE DRILLED: 06-15-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO GROUND SURFACE ELEVATION: 1672.00 T

TOTAL DRILL HOLE DEPTH: 29.0 TEST HOLE NUMBER: A1-82-114

0 -	1	CLAY, BLACK, SILTY, SANDY, PEBBLY; MOIST (TOPSOIL)
1 -	4	CLAY, LIGHT-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED
4 -	24	GRAVEL, BROWN, COARSE, SANDY; SATURATED, OXIDIZED
24 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

COUNTY: BROOKINGS

LOCATION: 110N-48W-36DAAA

LEGAL LOCATION: NE NE NE SE SEC. 36, T. 110 N., R. 48 W.

LATITUDE: 44.1722

LONGITUDE: 96.3137

LAND OWNER:

PROJECT: KINGSBURY-BROOKINGS STUDY

DRILLING COMPANY: SDGS

DRILLER: A. MACDONALD

DRILLER'S LOG:

GEOLOGIST: D. TOMHAVE

GEOLOGIST'S LOG: x

DATE DRILLED: 06-15-1982

DRILLING METHOD: AUGER

E-LOG: NO SAMPLES: NO

GROUND SURFACE ELEVATION: 1705.00 T

TOTAL DRILL HOLE DEPTH: 28.0

TEST HOLE NUMBER: A1-82-115

0 -	13	CLAY, LIGHT-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
13 -	18	CLAY, GRAYISH-BROWN, SILTY, SANDY, PEBBLY; MOIST, OXIDIZED (TILL)
18 -	28	CLAY, GRAY, SILTY, SANDY, PEBBLY; MOIST, UNOXIDIZED (TILL)

DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 118N-48W-26CDDD ^{N/S} ^{E/W} LATITUDE 44.1749 LONGITUDE 896.3325COUNTY BROOKINGS LAND OWNER .PROJECT ELKTON/BROOKINGS-DEUELDATE 8-24-1983COMPANY SDGSMETHOD ROTARYDRILLER C. SCHMIGDRILLERS LOG ☐GEOLOGIST D. TOMHAVEGEOLOGISTS LOG ☒AQUIFER BIG SIOUXE-LOG ☐SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUXWELL ☐TEST HOLE R2-83-189OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1685.4 ☒ A/T/ICASING TOP ELEVATION . ☐ A/T/ITOTAL DRILL HOLE DEPTH 58.4TOTAL CASING AND SCREEN .CASING TYPE ☐CASING DIAMETER .SCREEN TYPE ☐SCREEN LENGTH . STICK-UP . WELL MAINTENANCE DATE - - -NOTES (1) ☐NOTES (2) ☐NOTES (3) ☐NOTES (4) ☐NOTES (5) ☐

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COUNTY BROOKINGS

LONGITUDE 196.3325

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DEPTH

END
DEPTH

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NOTES (I)

1. *Journal of the American Medical Association*, 1997; 277: 1039-1043.

NOTES (2)

NOTES(3)

NOTES(4)

NOTES (5) _____

DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 11&N-48W-27BCCC ^{N/3} ^{E/4} LATITUDE 44.1815 LONGITUDE 896.3513COUNTY BROOKINGS ^R LAND OWNER •PROJECT ELKTON/BROOKINGS-DEUEL DATE 8-25-1983COMPANY SDGS METHOD ROTARYDRILLER M. JARRETT DRILLERS LOG ☐GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒AQUIFER BIG SIOUX E-LOG ☐ SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUX WELL ☐TEST HOLE R2-83-114 OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1663.00 ^{A/T/I} CASING TOP ELEVATION • ^{A/T/I}TOTAL DRILL HOLE DEPTH 35.0 TOTAL CASING AND SCREEN •CASING TYPE • CASING DIAMETER •SCREEN TYPE •SCREEN LENGTH • STICK-UP • WELL MAINTENANCE DATE •NOTES (1) •NOTES (2) •NOTES (3) •NOTES (4) •NOTES (5) •

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COUNTY BROOKINGS

LONGITUDE 096.3513

END
DEPTH

NOTES (1) []

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DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 118N 48W 27CCBC LATITUDE 44.1757 LONGITUDE 96.3513
_{N S E W}COUNTY BROOKINGS LAND OWNER
_RPROJECT ELKTON/BROOKINGS-DEUEL DATE 8-24-1983COMPANY SDGS METHOD ROTARYDRILLER M. THOMPSON DRILLERS LOG ☐GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒AQUIFER BIG SIOUX E-LOG ☐ SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUX WELL EBD-113TEST HOLE R2-83-113 OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1661.0 ☒ A/T/I CASING TOP ELEVATION 1663.2 ☒ A/T/ITOTAL DRILL HOLE DEPTH 58.0 TOTAL CASING AND SCREEN 44.5CASING TYPE PVC CASING DIAMETER 2.0SCREEN TYPE PVC, MFG.SCREEN LENGTH 5.0 STICK-UP 2.2 WELL MAINTENANCE DATE 8-31-1983NOTES (1) NOTES (2) NOTES (3) NOTES (4) NOTES (5)

RECORD TYPE **D**

LOCATION 118A-48W-27CCBC

COUNTY BROOKINGS

LATITUDE $44^{\circ} 17' 57''$

LONGITUDE 196.3513

DESCRIPTION

BEGIN
DEPTH

END
DEPTH

CLAY, BLACK (TOP SOIL)

111

112

SAND AND GRAVEL, BROWN; GRADES FROM A

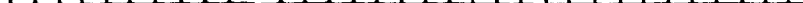
MEDIUM SAND TO A COARSE GRAVEL

43

CLAY, GRAY, SILTY, SANDY, PEBBLY;

KNOXIDIZED (TILL)

L. 501





NOTES (I) _____

NOTES (2)

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NOTES(5)

DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 11 & N-48W-28CCC LATITUDE 44.1748 LONGITUDE 896.3626
N/S E/WCOUNTY BROOKINGS LAND OWNER .
RPROJECT ELKTON/BROOKINGS-DEVEL DATE 08-25-1983COMPANY SDGS METHOD ROTARYDRILLER C. SCHMIG DRILLERS LOG ☐GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒AQUIFER BIG SIOUX E-LOG ☐ SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUX WELL EBD-115TEST HOLE R2-83-115 OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1643.00 ☒ A/T/I CASING TOP ELEVATION 1645.00 ☒ A/T/ITOTAL DRILL HOLE DEPTH 50.0 TOTAL CASING AND SCREEN 44.0CASING TYPE PVC CASING DIAMETER 2.0SCREEN TYPE PVC MFG.SCREEN LENGTH 5.0 STICK-UP 2.0 WELL MAINTENANCE DATE 08-31-1983NOTES (1) ☐NOTES (2) ☐NOTES (3) ☐NOTES (4) ☐NOTES (5) ☐

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COUNTY BROOKINGS

LONGITUDE 196.3626

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NOTES (I)

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DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 110N-48W-33AADD ^{N/2} ^{E/4} ^R LATITUDE 44.1736 LONGITUDE 96.3514COUNTY BROOKINGS LAND OWNER .PROJECT ELKTON/BROOKINGS-DEUELDATE 08-29-1983COMPANY SDGSMETHOD ROTARYDRILLER M. JARRETTDRILLERS LOG ☐GEOLOGIST D. TOMHAVEGEOLOGISTS LOG ☒AQUIFER BIG SIOUXE-LOG ☐SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUXWELL ☐TEST HOLE R2-83-117OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1651.82 ^{A/T/I} ☒CASING TOP ELEVATION ☐ ^{A/T/I}TOTAL DRILL HOLE DEPTH 52.5TOTAL CASING AND SCREEN ☐CASING TYPE ☐CASING DIAMETER ☐SCREEN TYPE ☐SCREEN LENGTH ☐ STICK-UP ☐WELL MAINTENANCE DATE ☐NOTES (1) ☐NOTES (2) ☐NOTES (3) ☐NOTES (4) ☐NOTES (5) ☐

RECORD TYPE ☐ D

LOCATION 110N-48W-33AADD

COUNTY BROOKINGS

LATITUDE 44.1736

LONGITUDE 96.3514

DESCRIPTION	BEGIN DEPTH	END DEPTH
CLAY, BLACK (TOPSOIL)	0	1
SAND AND GRAVEL, BROWN. GRADES FROM A		
MEDIUM SAND TO A COARSE GRAVEL		32
CLAY, GRAY, SILTY, SANDY, PEBBLY;		
UNOXIDIZED (TILL)		33
SAND, GRAY, FINE TO COARSE; UNOXIDIZED		35
CLAY, GRAY, SILTY, SANDY, PEBBLY;		
UNOXIDIZED (TILL)		43
SAND, GRAY, MEDIUM TO COARSE; UNOXIDIZED		47
CLAY, GRAY, SILTY, SANDY, PEBBLY;		
UNOXIDIZED (TILL)		50

NOTES (1)

NOTES (2)

NOTES (3)

NOTES (4)

NOTES (5)

DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 118N-48W-34ABB LATITUDE 44.1747 LONGITUDE 896.3436
_{N₃ E₁ W}COUNTY BROOKINGS LAND OWNER •
_RPROJECT ELKTON/BROOKINGS-DEUEL DATE 08-31-1983COMPANY SDGS METHOD ROTARYDRILLER M. JARRETT DRILLERS LOG ☐GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒AQUIFER BIG SIOUX E-LOG ☐ SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUX WELL EBD-124TEST HOLE R2-83-124 OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1664.88 ☒ CASING TOP ELEVATION 1665.64 ☒
_{A/T/I} _{A/T/I}TOTAL DRILL HOLE DEPTH 52.4 TOTAL CASING AND SCREEN 44.6CASING TYPE PVC CASING DIAMETER 2.0SCREEN TYPE PVC, MFG.SCREEN LENGTH 5.4 STICK-UP 1.6 WELL MAINTENANCE DATE 09-01-1983

NOTES (1) _____

NOTES (2) _____

NOTES (3) _____

NOTES (4) _____

NOTES (5) _____

RECORD TYPE ☒ DLOCATION 11°N 48W 34ABBBCOUNTY BROOKINGSLATITUDE 44.1747LONGITUDE 106.3436

DESCRIPTION

BEGIN
DEPTHEND
DEPTH

CLAY, BLACK (TOPSOIL)	1	3
SAND AND GRAVEL, BROWN; GRADES FROM A		
MEDIUM SAND TO A COARSE GRAVEL		45
CLAY, GRAY, SILTY, SANDY, PEBBLY;		
UNOXIDIZED (TILL)		50

NOTES (1) _____

NOTES (2) _____

NOTES (3) _____

NOTES (4) _____

NOTES (5) _____

DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 112N-48W-35BCCB _{N_s E_w} LATITUDE 44.1726 LONGITUDE 896.3481COUNTY BROOKINGS _R LAND OWNER •PROJECT ELKTON/BROOKINGS-DEUELDATE 88-25-1983COMPANY SDGSMETHOD ROTARYDRILLER M. THOMPSONDRILLERS LOG ☐GEOLOGIST D. TOMHAVEGEOLOGISTS LOG ☒AQUIFER BIG SIOUXE-LOG ☐SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUXWELL EBD-116TEST HOLE B2-83-116OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1662.88 ☒ A/T/ICASING TOP ELEVATION 1663.58 ☒ A/T/ITOTAL DRILL HOLE DEPTH 58.4TOTAL CASING AND SCREEN 42.7CASING TYPE PVCCASING DIAMETER 2.8SCREEN TYPE PVC, MFBSCREEN LENGTH 5.4 STICK-UP 1.5 WELL MAINTENANCE DATE 89-01-1983

NOTES (1) _____

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NOTES (4) _____

NOTES (5) _____

RECORD TYPE **D**

LOCATION 118N-48W-35BCCB

COUNTY BROOKINGS

LATITUDE $44^{\circ} 17' 26''$

LONGITUDE 196.3421

DESCRIPTION

BEGIN
DEPTH

END
DEPTH

CLAY, BLACK (TOPSOIL)

L. A.

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SAND AND GRAVEL, BROWN, GRADES FROM A

MEDIUM SAND TO A COARSE GRAVEL

42

CLAY, GRAY, SILTY, SANDY, PEBBLY:

UNOXIDIZED (TILE)

150

NOTES (I)

NOTES (I)

NOTES (2)

NOTES(3)

NOTES(4)

NOTES(5)

RECORD TYPE ☒ L

COUNTY BROOKINGS LAND OWNER •

COMPANY SDGS METHOD ROTARY

GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒

MANAGEMENT UNIT BIG SIOUX-AURORA

BASIN BIG SIOUX WELL

TEST HOLE R2-83-118 OBSERVATION WELL

GROUND SURFACE ELEVATION 1662.84 7 CASING TOP ELEVATION 1662.84 7
A/T/I A/T/I

TOTAL DRILL HOLE DEPTH 54.8 TOTAL CASING AND SCREEN 1.0

CASING TYPE CASING DIAMETER

SCREEN TYPE

SCREEN LENGTH STICK-UP WELL MAINTENANCE DATE

NOTES (I) _____

NOTES (2) _____

NOTES(3) _____

NOTES (4) _____

NOTES(5)

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COUNTY BROOKINGS

LONGITUDE 096.3357

END
DEPTH

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Age Group	Percentage
18-24	10%
25-34	25%
35-44	20%
45-54	20%
55-64	15%
65+	10%

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DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 118 N 48W 35 DCCC LATITUDE 44.1657 LONGITUDE 896.3321
N/S E/WCOUNTY BROOKINGS LAND OWNER .
R.PROJECT ELKTON/BROOKINGS-DEUELDATE 08-24-1983COMPANY SDGSMETHOD ROTARYDRILLER M. JARRETTDRILLERS LOG ☐GEOLOGIST D. TOMHAVEGEOLOGISTS LOG ☒AQUIFER BIG SIOUXE-LOG ☐SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUXWELL EBD-111TEST HOLE R2-83-111OBSERVATION WELL EBD-111GROUND SURFACE ELEVATION 1666.80 ☒ A/T/ICASING TOP ELEVATION 1667.80 ☒ A/T/ITOTAL DRILL HOLE DEPTH 35.0TOTAL CASING AND SCREEN 30.6CASING TYPE PVCCASING DIAMETER 2.0SCREEN TYPE PVC, MFG.SCREEN LENGTH 5.0 STICK-UP 1.0WELL MAINTENANCE DATE 08-31-1983

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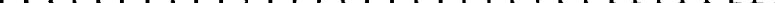
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DEPARTMENT OF WATER AND NATURAL RESOURCES

RECORD TYPE ☒ LLOCATION 118N-48W-36CCC ^{N/2} ^{E/4} LATITUDE 44.1657 LONGITUDE 896.3217COUNTY BROOKINGS LAND OWNER .PROJECT ELKTON/BROOKINGS-DEUEL DATE 08-24-1983COMPANY SDGS METHOD ROTARYDRILLER C. SCHMIG DRILLERS LOG ☐GEOLOGIST D. TOMHAVE GEOLOGISTS LOG ☒AQUIFER BIG SIOUX E-LOG ☐ SAMPLES ☐MANAGEMENT UNIT BIG SIOUX-AURORABASIN BIG SIOUX WELL EBD-112TEST HOLE R2-83-112 OBSERVATION WELL ☐GROUND SURFACE ELEVATION 1674.8 ☒ A/T/I CASING TOP ELEVATION 1675.2 ☒ A/T/ITOTAL DRILL HOLE DEPTH 35.8 TOTAL CASING AND SCREEN 36.5CASING TYPE PVC CASING DIAMETER 2.8SCREEN TYPE PVC, MFG.SCREEN LENGTH 5.8 STICK-UP 1.2 WELL MAINTENANCE DATE 08-31-1983NOTES (1) NOTES (2) NOTES (3) NOTES (4) NOTES (5)

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Brookings Deuel Rural Water System
Medary Creek Well Test Holes

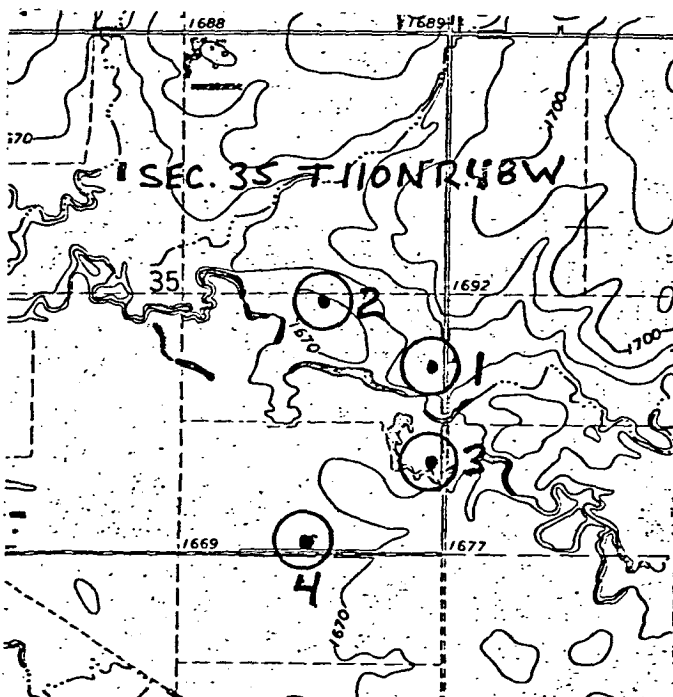
<u>Well No.</u>	<u>Log</u>
1	0-7 Finesand 7-14 Gravel 14-17 Gravel 14' s.w.l. 17-30 Blueclay
2	0-1 Dirt 1-7 Gravel 7-9 Gravel 7' s.w.l. 9-25 Clay
3	0-3 Dirt 3-5 Y clay 5' s.w.l. 5-16 Gravel 15-21 Gravel 21-32 Very coarse gravel 32-33 Hard clay
4	0-3 Dirt 3-7 Gravel 7' s.w.l. 7-28 Clear brown gravel 28-30 Hard clay

*Test holes
Drilled 10-7-83
Jim Lacey*

good site

good site

All test holes by Lacey Well Drilling, Trent, South Dakota



↑
N
1" = 2,000'



Brookings Decal

In Water Since 1946

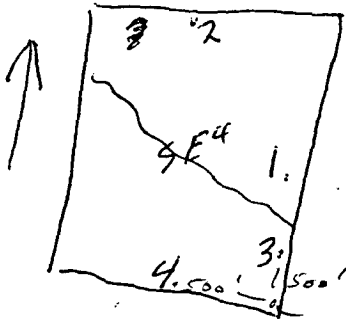
LACEY WELL DRILLING

Wells
Test Drilling
Irrigation Supplies

Box 796
Trent, South Dakota 57065
Telephone 428-5686 or 428-5979

Pumps
Water Specialists
Water Source Heat Pumps

Bruce. have the logs from this A.M. 10-7-83



① 0-7 FINE SAND
7-14 GRAVEL 14' SW/
14-17 GRAVEL
17-30 BLUE CLAY

② 0-1 Dirt
1-7 GRAVEL
7-9 GRAVEL 7' SW/
9-25 CLAY

③ 0-3 Dirt
3-5 Y CLAY SW/ 5'
5-16 GRAVEL
16-21 GRAVEL
21-32 VERY COARSE GRAVEL
32-33 HARD CLAY

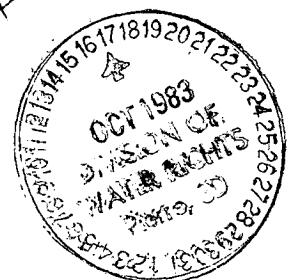
④ 0-3 Dirt
3-7 GRAVEL SW/ 7'
7-28 CLEAR BROWN GRAVEL
28-30 HARD CLAY

THESE 2
ARE EVERY
GOOD SITES
if quality
is o.k.

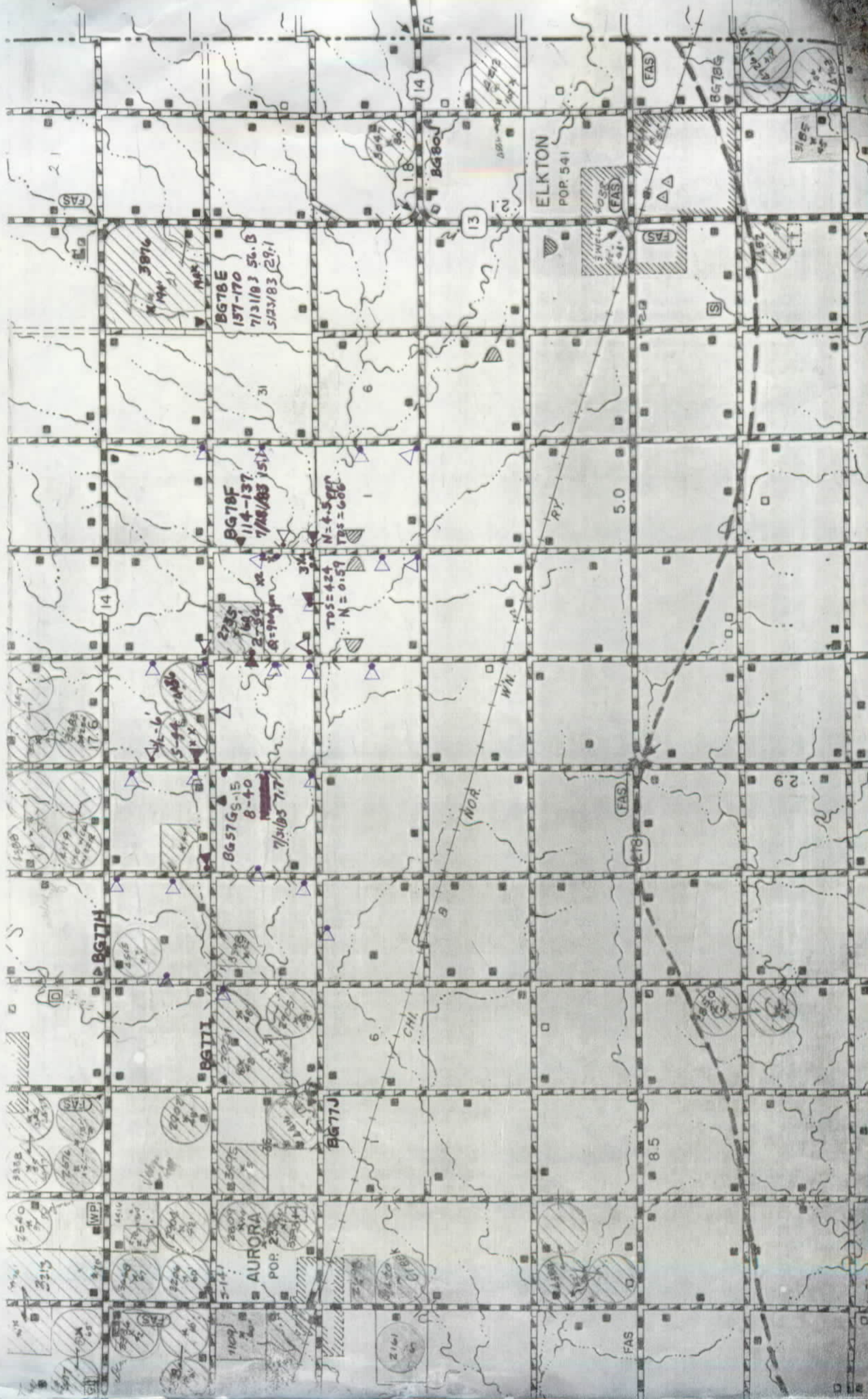
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Jim
Lacey

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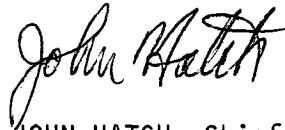
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 4980-3, Brookings Deuel Rural Water System

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. 4980-3, Brookings Deuel Rural Water System, PO Box 810, Brookings SD.

The Chief Engineer is recommending APPROVAL of Application No. 4980-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

1. That aquifer testing be conducted to determine safe yield (pump sizing) and proper well spacing.
2. That the well 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.

The attached report is a part of this recommendation.

A handwritten signature in cursive script, appearing to read "John Hatch".

JOHN HATCH, Chief Engineer
October 17, 1983

Instruction to Newspaper - Publish first publication of the following Notice on or before October 21, 1983 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 4980-3 to Appropriate Water
~~and/or to Amend Water Permit or Water Rights No. _____~~

Notice is hereby given that Brookings-Deuel Rural Water System whose mailing address is Box 810, Brookings, South Dakota has made an application for a permit

to appropriate 1.0 cubic feet per second from groundwater (3 wells approximately 35 feet deep) the points of diversion to be located in the SE $\frac{1}{4}$ Section 35, T110N, R48W. Said water to be used for the purpose of providing water supply for rural water system.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends Approval of Application No. 4980-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) 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 on November 30, 1983 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on 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 November 18, 1983. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason 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, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; ~~(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 land) 46-5-30.4; 46-5-33 thru 46-5-35, (10,000 AFA) 46-5-20.1, 46-5-8.1, 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, 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 November 18, 1983.

Affidavit of Publication

State of South Dakota

County of Brookings

ss

Douglas Anstaett

_____ of said county, being first duly sworn, on oath, says: That he is one of the editors of THE BROOKINGS REGISTER, a daily newspaper, printed and published in the City of Brookings, in said County of Brookings, and State of South Dakota; that he has full and personal knowledge of the facts herein stated; that said newspaper is a legal newspaper and has a bona fide circulation of at least two hundred copies of each issue daily; that said newspaper has been published within the said County of Brookings and State of South Dakota, for more than one year next prior to the first publication of Exhibit "A," hereto attached and herein mentioned, and was and is printed in the office maintained at said place of publication; and that the _____

Legal No. 588

93 lines x .339

a printed copy of which, taken from the paper in which the same was published, is hereto attached marked Exhibit "A," and is made a part

of this affidavit, was published in said newspaper for _____ Two

successive week. s., to-wit:

October 21, 19 83

October 28, 19 83



That the full amount of the fee charged for the publication of said Exhibit "A" inures to the sole benefit of the publishers of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever; that the fees charged for the publication thereof are:

Thirty-one dollars and fifty-two cents _____ Dollars

Subscribed and sworn to before me this _____ 28th _____ day of

October 19 83

E. P. James

Notary Public in and for the County of Brookings, South Dakota.

My Commission expires _____ September 6, 19 85

Exhibit "A"

Legal No. 588, 2x, Oct. 21, 28
NOTICE OF HEARING
on Application No.
4980-3 to

Appropriate Water

Notice is hereby given that Brookings-Deuel Rural Water System whose mailing address is Box 810, Brookings, South Dakota has made an application for a permit to appropriate 1.0 cubic feet per second from groundwater (3 wells approximately 35 feet deep) the points of diversion to be located in the SE¼ Section 35, T110N, R48W. Said water to be used for the purpose of providing water supply for rural water system.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends Approval of Application No. 4980-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

The application will be considered by the Water Management Board at Room 216, Joe Foss Building, 523 East Capitol, Pierre, South Dakota on November 30, 1983 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 make a determination on 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 November 18, 1983. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason 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, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; 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, 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 November 18, 1983.



4980-3

Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

January 4, 1984

Brookings-Deuel Rural Water System
Post Office Box 810
Brookings, SD 57006

Dear Sir:

Enclosed herewith is your Water Permit No. 4980-3 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. 4980-3.

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.

WNR-809-5/83



Department of Water & Natural Resources

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

WATER RIGHTS DIVISION

(605) 773-3352

No. 4830-3

4980-3

November 6, 1985

Brookings-Deuel Rural Water System
1457 6th Street
Brookings, South Dakota 57006

Dear Sir:

The inspection of your water use system and inspection of the extent of the application of water to beneficial use, as developed under your Water Right Nos. 4830-3 and 4980-3 has been completed. Your final water right document, the Water License, can now be issued.

Statutes require that we charge a \$50.00 fee for each inspection and issuing the Water License, total of \$100.00. Upon receipt of the \$100.00 fee from you, your Water License will be sent to you.

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until this \$50.00 license fee has been paid (total of \$100.00 for two licenses). Please contact us if you have any questions.

Sincerely,

Maxine Stirling
Staff Assistant

ms

Equal Opportunity Employer

Water District

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

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

I have this day made a thorough examination of the water use system constructed by Brookings - DevelRural Water System of _____ holder ofPermit No. ⁴⁹⁸⁰~~4030~~-3, bearing the priority of October 13 19 83 authorizingthe diversion of 1.0 cu. ft. per second of the waters of Groundwaterfor rural water purposes, in Brookings County.

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

- A. Works used to divert the water: Well #1, 31.5 ft. deep, 12 in. Steel casing, 10 hp VTP, 200 gpm
Well #2, 28 ft. deep, 12 in. Steel casing, 10 hp VTP, 200 gpm

- B. Works used to transport water to place of use:

Rural water system distribution pipeline

- C. Works used to apply water to beneficial use:

The system is in the following condition goodThe point of diversion is located Well #1, 100 ft. North, 100 ft. East, Well #2, 600 ft East,
100 ft. North From SE corner of sec. 35 T110N R48WThe works are capable of diverting and conveying to the place of use 0.89cu. ft. per second of water which is to be used for rural water system use

Water has been put to beneficial use to the maximum extent as follows: _____

~~comprising a total of _____ acres of land and~~ the license should be issued for 0.89 cfsApplicable permit qualifications have been complied with ☒ Yes ☐ NoExceptions to compliance are: _____ Date 5-7-85Kevin C. Yanson

RECEIPT

Division of Water Rights

No 4 10239

South Dakota Department of Water and Natural Resources

Pierre, November 15, 1985

RECEIVED OF Brookings/Deuel Rural Water System, Box 810, Brookings, SD 57006

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct works and to put water to beneficial use _____

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. 4980-3

50 00

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

50 00

By

Chief Engineer

John Hatch
JOHN HATCH ms



No. 4980-3

Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

WATER RIGHTS DIVISION
Phone (605) 773-3352

NOV 19 1985

Brookings-Deuel Rural Water System
1457 6th St
Brookings SD 57006

Dear Sir:

Enclosed herewith is, Water License No. 4980-3. This is the final water right document completing your process of obtaining a water right.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

Enclosures

State of South Dakota

Water License No. 4980-3

(1) Brookings-Deuel Rural Water System
of Box 810, Brookings, South Dakota
made Application No. 4980-3, October 13, 1983 for a water permit to appropriate
1.0 cubic feet per second of water from groundwater (three wells),
Brookings County, South Dakota for rural Water System purposes.
Permit No. 4980-3, with a priority date of October 13, 1983
was approved November 30, 1983 and issued to applicant(s) for diversion of water with construction of the described
water supply system to be completed on or before November 30, 1988 and for the application to beneficial use of said
water on or before November 30, 1992.

and

(2) It is certified that the application 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 0.89 cubic feet per second of water
for beneficial use. The location of the diversion point(s) is are Well #1, 100 feet N and 100 feet E;
Well #2, 600 feet E and 100 feet N from the SE corner of Section 35, T110N,
R48W.

and

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to the following extent, water is diverted through the rural water system's
distribution system.

(4) Pursuant to §46-5-30.1 Brookings-Deuel Rural Water System
of Box 810, Brookings SD
the holder(s) and/or owner(s) of Water Permit No. 4980-3 is issued a license to appropriate water, the right to use
0.89 cubic feet per second of water from groundwater (two wells) with a priority date
of October 13, 1983 from the location specified in (2) of this license. The water to be
conducted to and upon lands specified in (3) of this license for the purpose of irrigation

This license is subject to any limitations or qualifications listed in Water Permit No. 4980-3 and subject
to South Dakota State Law.



Chief Engineer, Water Rights Division
Department of Water and Natural Resources

NOV 19 1985



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

OCT 17 1996

Patrick Gilligan, Manager
Brookings-Deuel Rural Water System
RR 2 Box 84
Toronto SD 57268

Dear Mr. Gilligan:

Enclosed is Reissued Water License No. 4980-3. The original water license issued November 19, 1985, contained an error in the legal description of diversion points when referencing the direction of the wells from the corner of the section. The water permit application, map and publication notice all indicated the correct location. The license is being reissued to correct the error.

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

Sincerely,

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

enclosure

STATE OF SOUTH DAKOTA

REISSUED WATER LICENSE NO. 4980-3

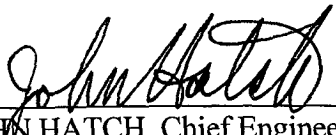
(1) Brookings-Deuel Rural Water System, RR 2 Box 84, Toronto SD 57268 was issued Water License No. 4980-3, November 19, 1985 for a water permit to divert 0.89 cubic feet of water per second from groundwater (two wells), Brookings County, South Dakota for rural water system use. Water License No. 4980-3, with a priority date of October 13, 1983 was issued to the rural water system with construction of the described water supply system completed and the application to beneficial use of said water completed.

The original water license, contained an error in the legal description of diversion points when referencing the direction of the wells from the corner of the section. The water permit application, map and publication notice all indicated the correct location. The license is being reissued to correct the error.

(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 0.89 cubic feet of water per second for beneficial use. The location of the diversion points are: Well #1 - 100 feet north and 100 feet west; Well #2 - 600 feet west and 100 feet north from the southeast corner of section 35-T110N-R48W (SE 1/4 SE 1/4).

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

(4) Pursuant to South Dakota Water Law 46-5-30.1 Brookings-Deuel Rural Water System, RR 2 Box 84, Toronto SD 57268 the holder and/or owner of Water License No. 4980-3 is reissued a license to appropriate water, the right to use 0.89 cubic feet of water per second from groundwater (two wells) with a priority date of October 13, 1983 from the location specified in (2) of this license, for rural water sytem use. This license is subject to any limitations or qualifications listed in Water Permit No. 4980-3 and subject to South Dakota State Law.

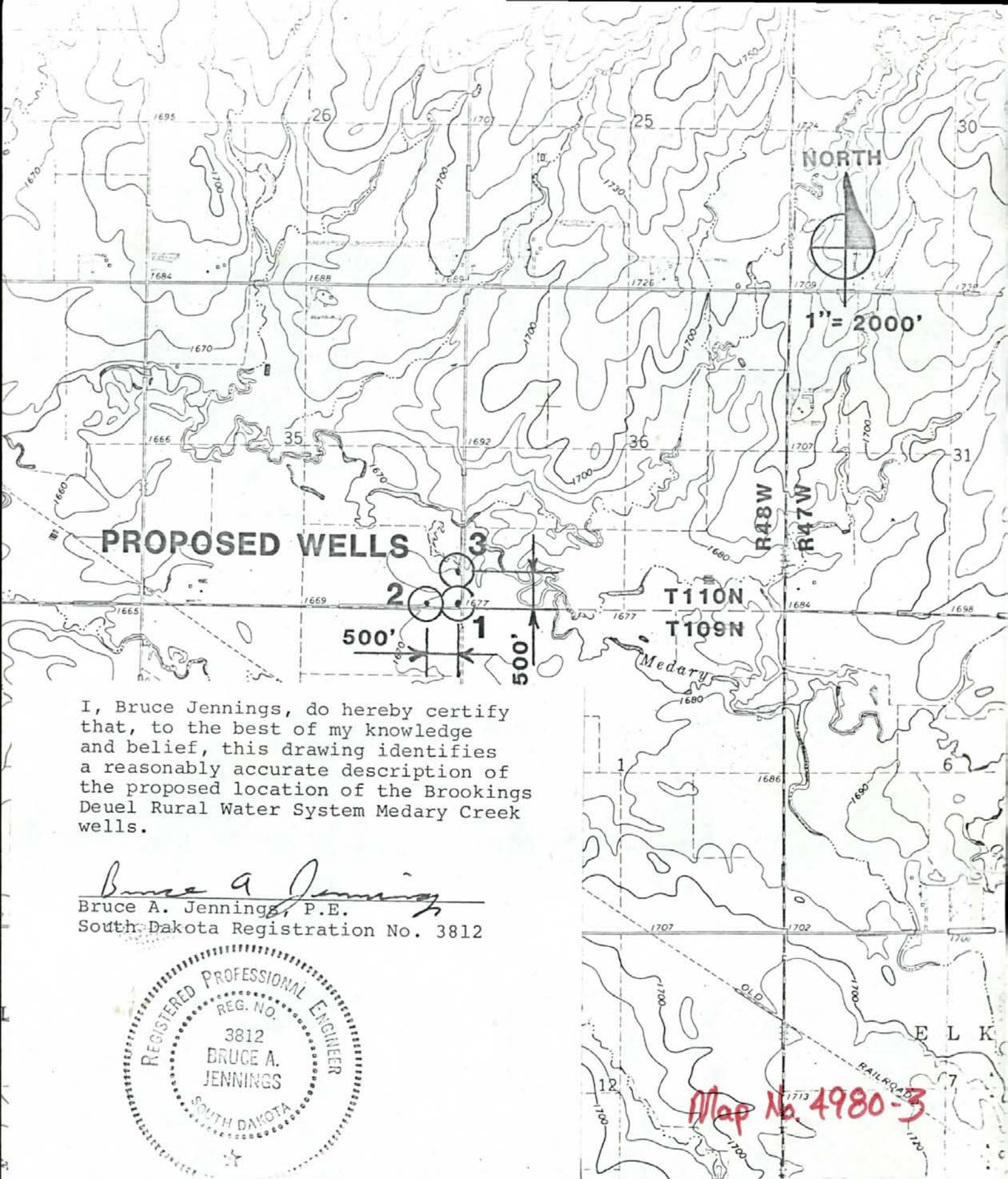


JOHN HATCH, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

OCT 17 1996

date





PROPOSED WELLS

I, Bruce Jennings, do hereby certify that, to the best of my knowledge and belief, this drawing identifies a reasonably accurate description of the proposed location of the Brookings Deuel Rural Water System Medary Creek wells.

Bruce A. Jennings
Bruce A. Jennings, P.E.
South Dakota Registration No. 3812



STANDARD BLUE, OMAHA 11508

DeWid Grant Racker & Associates Co.
Architecture Engineering Planning
Rock Rapids, Iowa
Sioux City, Iowa
Sioux Falls, South Dakota

Date 10-10-83
Drawn By DPK
Approved
Revised

**GENERAL LOCATION PLAN
MEDARY CREEK WELL FIELD
BROOKINGS - DEUEL
RURAL WATER SYSTEM**

MAP SHOWING SATURATED

THICKNESS OF SHALLOW SAND AND GRAVEL ALONG MEDARY CREEK

- ²⁶
X - TEST HOLE → SATURATED THICKNESS
²⁰
⊗ - OBSERVATION WELL → SATURATED THICKNESS
 - - - - - CONTOUR INTERVAL (10 FEET)

109-117, 124 - TEST HOLES AND OBSERVATION WELLS CONSTRUCTED FOR THE BROOKINGS - DEUEL RURAL WATER SYSTEM

