

2458-3

1. Considered 1-22, 1976
2. Name of Applicant TOWN OF HARROLD
3. Post Office Address _____
4. Amount of water claimed .22
5. Source of water supply GROUND WATER (3-45' DEEP WELLS)
6. Water to be used for MUNICIPAL USE
Acres to be irrigated _____
7. Water to be diverted and used in HUGHES county
about 15 miles _____ of HARROLD
8. Proof of Publication
Received 12-31-75
Not Received _____
9. Application
Approved _____
Subject to _____
Not Approved _____
Action deferred _____

10. Remarks:

No. 2455-3Map No. 1822-3 Water Division No. 3 MISSOURI RIVER District 1
(Blanks to be Filled by the Engineer for the W. R. C.)

APPLICATION FOR PERMIT

To Appropriate Water within the State of South Dakota

(NOTE - Draw a line through items not applicable)

1. Name of Applicant Town of Harrold
 Post-office address _____, State South Dakota
 If a corporation show date and place of incorporation _____
2. Method of accomplishing work (contract employment of others, or by direct labor) _____
Harrold Municipal Wells
3. Name of diversion work _____
4. Amount of water claimed (cubic feet per second) .22
5. Source of water supply ground water SE⁴ NE⁹
6. Location of point of diversion at three points in the ~~2455-3~~, Sec 16, T112N, R74W

- County Hughes
7. Annual period or periods during which water is to be used continuously
8. Use to be made of water. (Irrigation, industrial, municipal, commercial, recreation, etc.) Municipal
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 5 years. Additional time required to complete application of water to the proposed beneficial use 4 years.
11. Choice of newspaper for Notice of Intent to Appropriate Water publication ☒ Capitol Journal, Pierre, S.D.
12. Principal Features of the Proposed Water Supply System.

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

Three 45 foot deep wells

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

Mainline to Town

C. Works proposed to apply water to beneficial use.

Hook-up to existing town water distribution system

Estimated Total Cost \$ _____

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 HUGHES)

I, James Rivenour 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 James RivenourSubscribed and sworn to before me this 5th day of November 19 75

Notary Public (or other qualified officer)

Betty Westlund
Betty Westlund, Water Clerk II

WATER RIGHT APPLICATION APPROVAL

The Water Rights Commission hereby approves Water Right Application No. 2455-3TOWN OF HARROLD

(Applicant)

(Post Office Address)

SOUTH DAKOTA 57536

(State)

With the following modifications:

Date of first receipt of application NOVEMBER 5, 1975Date of return to applicant for correction, amendments or changes required —, 19—Date of receipt of corrected application —, 19—Approved JANUARY 23, 1976, Recorded in Book 14 Page 213WATER RIGHT PERMIT NO. 2455-3The Water Rights Commission hereby grants and issues this Water Right Permit No. 2455-3 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as modified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is NOVEMBER 5, 1975
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before JULY 23, 1978
3. The whole of said work is to be completed on or before JANUARY 23, 1981
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is JANUARY 23, 1985
5. The water appropriated shall be used for the purpose of MUNICIPAL USE
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 .22 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 ~~irrigation and if for the irrigation purpose said appropriation must be limited to the amount of water that can be put to beneficial use and be limited to not more than one-seventh (1/70) of one cubic foot of water per second of time for a number of months which water is~~
USED FOR MUNICIPAL PURPOSES
actually and beneficially applied for irrigation on or before JANUARY 23, 1985; said water to be used during the following described annual period: CONTINUOUSLY

Witness my hand this 29TH day of JANUARY, 1976

WATER RIGHTS COMMISSION

By:

Chief Engineer, Executive Officer

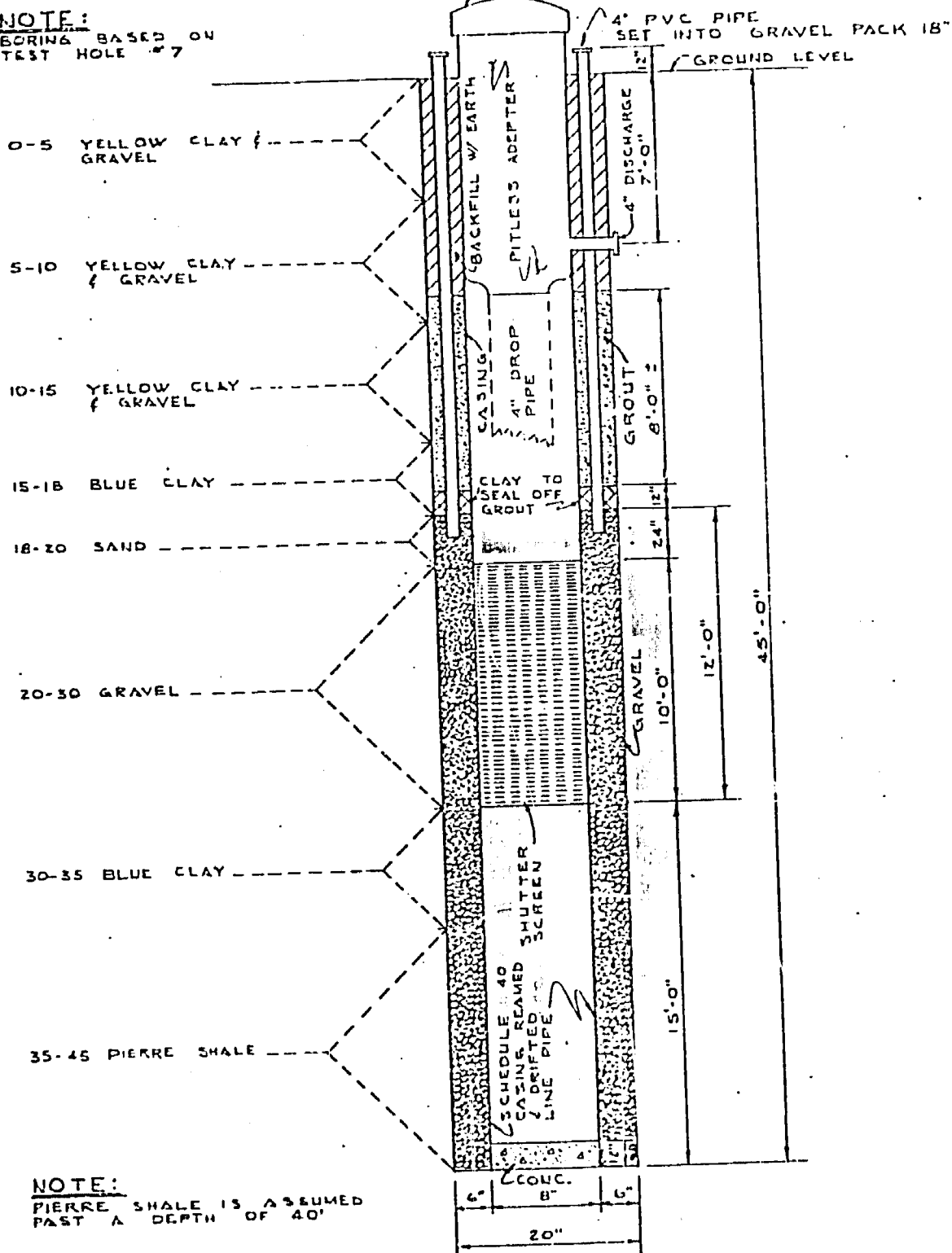
Certificate of Construction Issued —, 19—Water License Issued —, 19—

WELL CONSTRUCTION DETAIL

HARROLD SOUTH DAKOTA

STANDARD HEIGHT
ABOVE GROUND IS 12"

NOTE:
BORING BASED ON
TEST HOLE #7



NOTE:
PIERRE SHALE IS ASSUMED
PAST A DEPTH OF 40'

NO SCALE

Form 6 - Notice of Intent to Appropriate Water

Publish first publication, on or before

January 3, 1976

NOTICE
INTENT TO APPROPRIATE WATER

Pierre, South Dakota 57501

December 22, 1975

Notice is hereby given that the town of Harrold

whose post office address is Harrold, South Dakota, has made an application in accordance
the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use

.24 cubic feet of water per second of time from the ground water through the

3 wells, the point of diversion of which is to be located in the

SE 1 NE 1

of Section 16, Twp. 112N, Range 74W. Said water to be used for the purpose
portions of
of providing irrigation on the following described land:

municipal supplies for the Town of Harrold

This application No. 245-3 will be considered by the Water Rights Commission at their office at
Pierre upon the 22nd day of January, 1976, at 2:30 Pm M. All interested
persons may appear and be heard.

WATER RIGHTS COMMISSION

By:

BURTON F. JONES
Water Rights Specialist

BFJ/bw
cc: Town of Harrold

No. 2455-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Hughes) ss.

I, John H. Hinkle hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Daily Capital Journal

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 _____ Pierre _____

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

December 22, 1975;

December 29, 1975.

John H. Hinkle
(Signature)

Business Manager
(Title)

December 30, 1975
(Date Signed)

Legal Notice

No. 3287 - 21 dly Dec. 22 - 29

No. 2455-3

NOTICE

INTENT TO

APPROPRIATE WATER

Notice is hereby given that the
Town of Harrold, Harrold, South
Dakota, has made an application
in accordance with the provisions
of the water laws of South Dakota
for a permit to appropriate for
beneficial use .22 cubic feet of
water per second of time from the
ground water through the 3 wells,
the point of diversion of which is
to be located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ of
Section 18, Twp. 112N, Range
74W. Said water to be used for the
purpose of providing irrigation on
portions of the following des-
cribed land: municipal supplies
for the Town of Harrold.

This application No. 2455-3 will
be considered by the Water
Rights Commission at their office
at Pierre upon the 22nd day of
January, 1976, at 2:30 P.M. All
interested persons may appear
and be heard.

WATER RIGHTS COMMISSION

By: BURTON F. JONES
Water Rights Specialist

STATE OF SOUTH DAKOTA
Richard Kneip, Governor

DEPARTMENT OF NATURAL RESOURCE DEVELOPMENT
Vern W. Butler, Secretary

GEOLOGICAL SURVEY
Duncan J. McGregor, State Geologist

Special Report 62

**GROUND-WATER INVESTIGATION FOR THE CITY OF
HARROLD, SOUTH DAKOTA**

by

Ronald Helgersen

Science Center
University of South Dakota
Vermillion, South Dakota
1975

This publication was printed at a cost of 33 cents per copy. A total of 250 copies were printed for dissemination of geologic information.

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INTRODUCTION

This report contains the results of a special investigation conducted by the South Dakota Geological Survey from May 13 to May 16, 1975, in and around the city of Harrold, Hughes County, South Dakota. It is the 62nd in a continuing series of investigations to assist the cities in South Dakota in locating future water supplies.

Harrold now obtains water from a single well one-half mile south of the city. This well yields water from the alluvium and outwash in the floodplain of the South Fork of Medicine Knoll Creek.

Included in the survey of the Harrold area were: (1) geologic mapping of the area, (2) drilling of 10 auger test holes, (3) a well inventory, and (4) collection and analyses of 8 water samples.

ACKNOWLEDGMENTS

The cooperation of the residents of Harrold and the surrounding area is appreciated. The project was funded by the city of Harrold, the Oahe Conservancy Sub-District, and the South Dakota Geological Survey.

LOCATION AND EXTENT OF STUDY AREA

Harrold is located in central South Dakota in Hughes County in the Missouri du Coteau division of the Great Plains physiographic province (fig. 1). The Harrold study area as used in this report includes a region that measures 2 miles north-south by 2 miles east-west.

GENERAL GEOLOGY

Surficial Deposits

Surficial deposits of the Harrold area include recent alluvium, glacial outwash, and glacial till (fig. 2). The glacial deposits in this area were formed during the last part of the Pleistocene Epoch of geologic time. These deposits can be divided into two basic groups, till and outwash. Till is deposited directly from the glacial ice and consists of sand, pebbles, and boulders randomly distributed in a matrix of clay. Outwash is a more homogenous deposit consisting primarily of sand and gravel with minor amounts of silt and clay that is deposited by streams flowing out from the melting glacial ice. Till and outwash are collectively known as glacial drift.

Recent alluvium is the material which has been deposited since the end of the Pleistocene Epoch. It consists of a thin veneer of sand, silt, and clay deposited on the floodplains of streams. The

combined thickness of drift and alluvium ranges from approximately 40 to 100 feet. Drillers' logs of the auger test holes which were drilled are listed in appendix A.

Subsurface Bedrock

No bedrock is exposed in the study area but available data from drill holes indicate an approximate thickness of 2,500 feet of Cretaceous and older rocks overlying the Precambrian basement rocks. The Cretaceous Dakota and Fall River Formations are the two major bedrock aquifers in the area and several wells are developed in these formations. The Dakota is encountered at a depth of approximately 1,400 to 1,500 feet and the Fall River from approximately 1,800 to 2,000 feet.

The bedrock which lies directly under the glacial drift is the Pierre Shale. It consists of a dark-gray silty clay and is a very poor aquifer.

QUALITY OF GROUND WATER

Table 1 is a compilation of the chemical analyses of water samples collected in the Harrold area (for map location, see fig. 3). Samples 1 through 5 were collected from alluvium and glacial outwash in the South Fork of Medicine Knoll Creek. This included a sample of the present Harrold city well. All of these samples contain more than the recommended amount of manganese; samples 2 (Harrold city well) and 5 contain more than the recommended amount of iron; and sample 5 also contains more chlorides, sulfates, sodium, and total dissolved solids than recommended. The present city well is one of the best quality samples taken in the South Fork of Medicine Knoll Creek aquifer having the lowest total dissolved solids content (615 ppm).

Sample 6 was obtained from a Fall River Formation well which is 1,985 feet deep. This sample was over the recommended limit of iron and contained over twice the recommended limit of total dissolved solids (2,100 ppm).

Samples 7 and 8 were taken from Dakota Formation wells which were 1,470 and 1,520 feet deep. Both of these wells were over the recommended limits of chlorides, iron, manganese, sodium, and total dissolved solids.

In conjunction with the sampling program, a well interview was conducted in the Harrold area, the results of which are compiled in appendix B.

CONCLUSIONS AND RECOMMENDATIONS

As was stated earlier the alluvium and outwash in

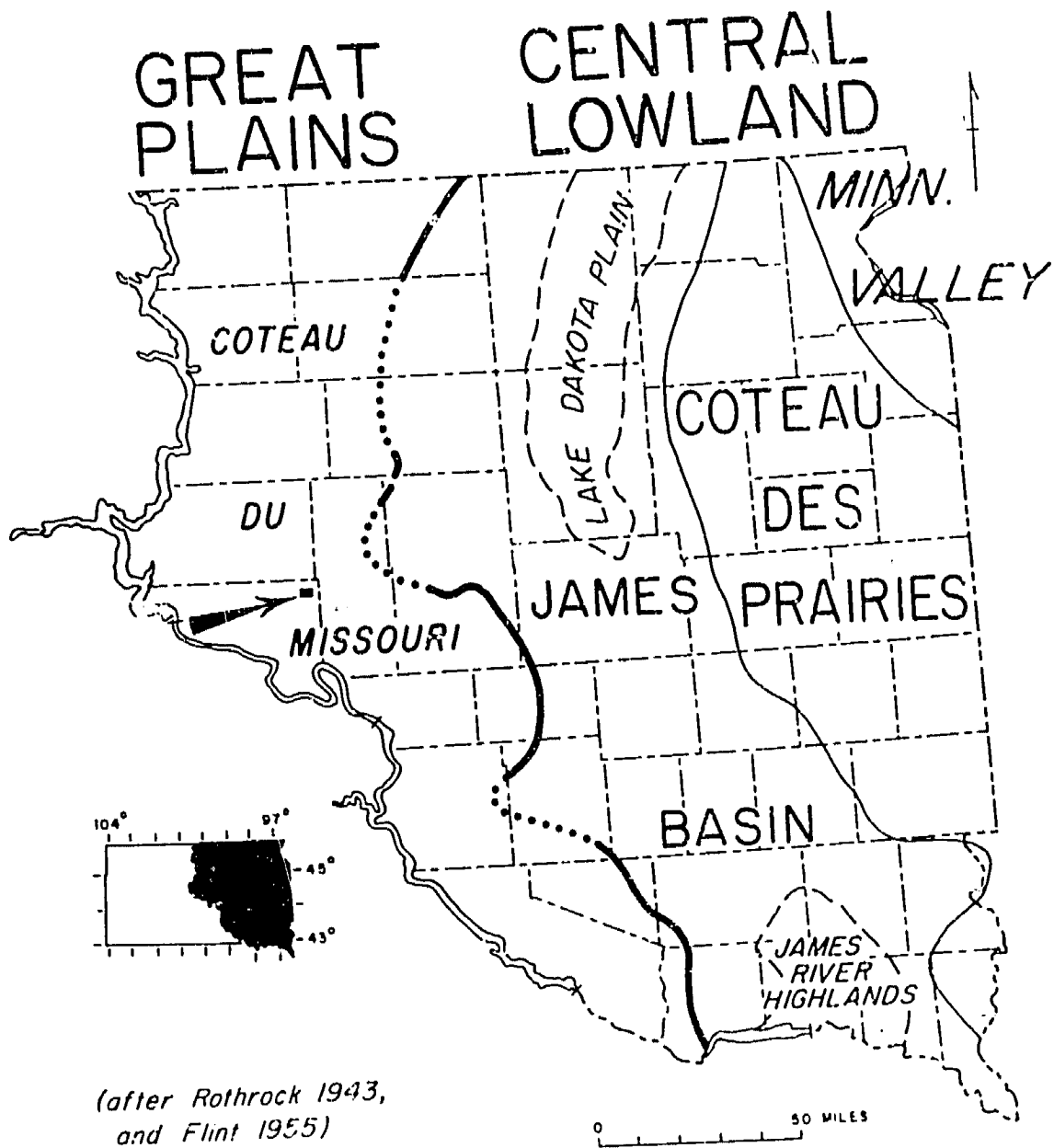


Figure 1. Map of eastern South Dakota showing the major physiographic divisions and location of the Harroid area.

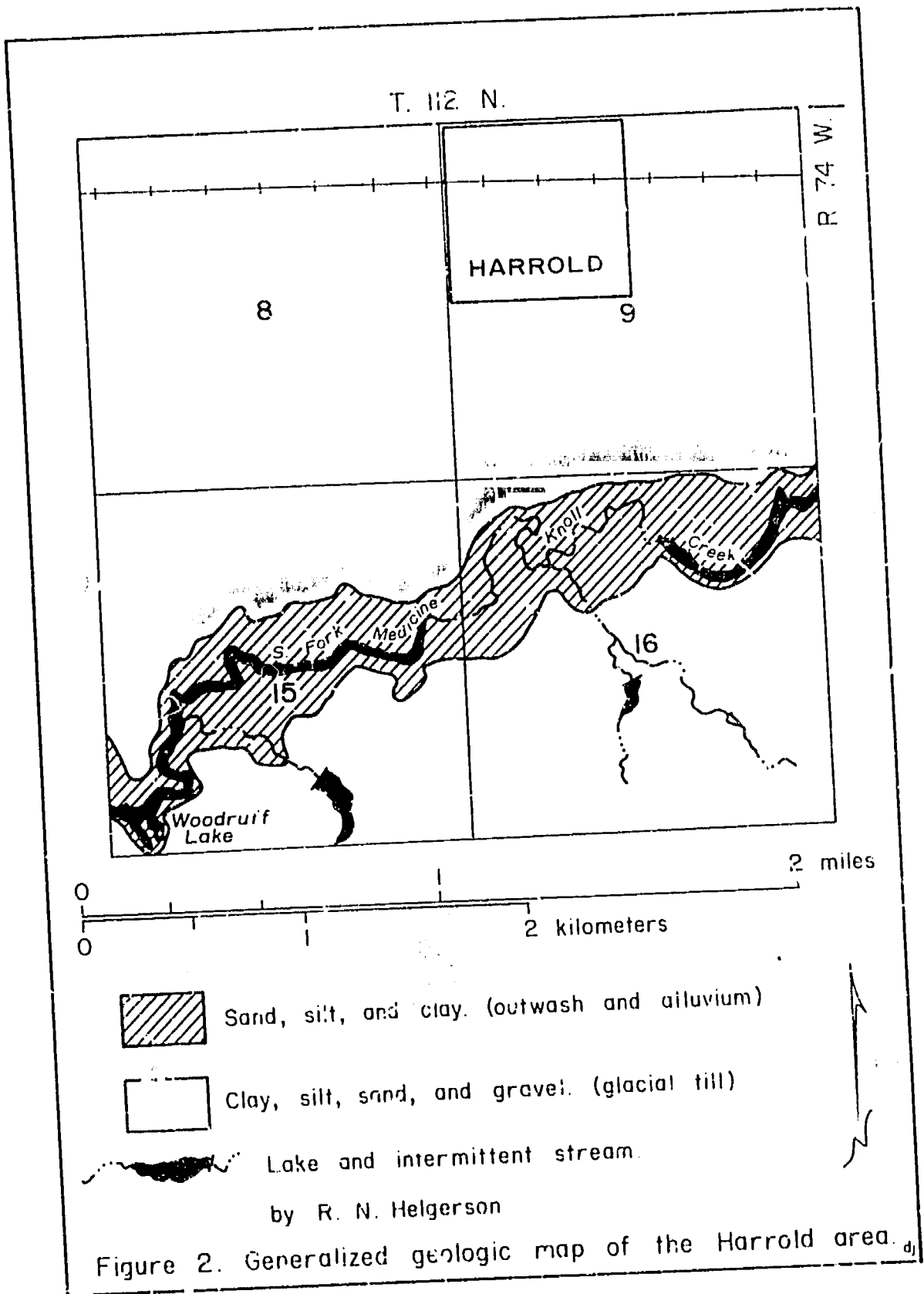


TABLE 1. Chemical analyses of water samples from the Harrold area

Sample	Depth of well in feet	Parts Per Million									Location
		Calcium	Sodium	Magnesium	Chlorides	Sulfate	Iron	Manganese	Nitrate Nitrogen	Total Solids	
A		-----	270 ¹	-----	250	500 ²	0.3	0.05	10.0	1000 ²	
1	18	250	60	40	55	< 20 ?	< 0.05	1.70	9	692	SE¼SE¼SE¼SE¼ sec. 11, T. 112 N., R. 74 W.
2	40	150	60	20	10	< 20	2.0	0.50	< 0.5	615	NE¼SE¼NE¼NW¼ sec. 16, T. 112 N., R. 74 W.
3	60	40	350	< 10	170	< 20	0.30	0.40	< 0.5	760	SW¼NE¼SW¼NE¼ sec. 17, T. 112 N., R. 74 W.
4	40	200	80	30.3	40	250	< 0.05	0.25	6	764	SE¼NE¼SW¼NE¼ sec. 17, T. 112 N., R. 74 W.
5	30	470	660	140	287	1080	0.50	0.75	2.5	3650	SE¼SW¼NW¼NE¼ sec. 13, T. 112 N., R. 75 W.
6	1985	560	60	90	65	320	1.0	< 0.05	< 0.5	2100	NE¼NE¼NE¼SE¼ sec. 1, T. 112 N., R. 75 W.
7	1470	130	460	15	360	300	2.6	0.50	< 0.5	1265	NE¼NE¼NE¼SE¼ sec. 8, T. 112 N., R. 74 W.
8	1520	20	750	15	660	270	1.0	0.10	2.0	1760	NW¼NW¼NW¼SW¼ sec. 21, T. 112 N., R. 74 W.

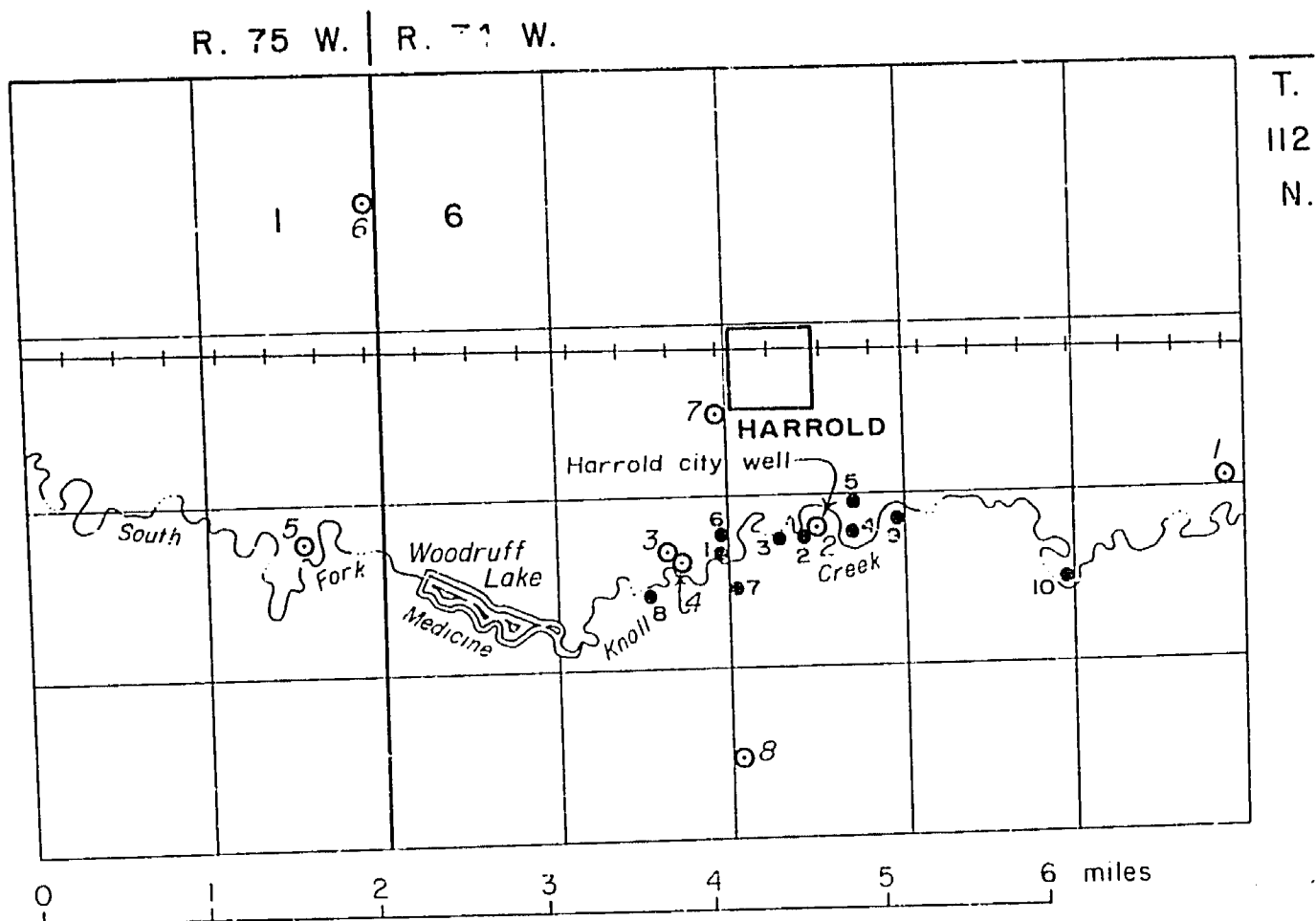
A — Drinking water standards, U.S. Public Health Service (1962)

¹Proposed upper limit for sodium.

²Modified for South Dakota by the Department of Health (written communication, Water Sanitation Section, September 24, 1968).

All samples were analyzed by the South Dakota Geological Survey Laboratory.

Samples 1-5 were collected from the South Fork Medicine Knoll Creek Aquifer, sample 6 from the Fall River Formation, and samples 7 and 8 from the Dakota Formation.



by R. N. Helgerson

Figure 3. Test hole and water sample site location map for Harrold.

South Fork of Medicine Creek is approximately 50 feet thick and is the current source of water for the city of Harrold. It is recommended that this outwash be developed further in order to augment the city water supply. Test hole 2 (app. A) indicated the presence of 19 feet of relatively clean, saturated sand from 16 to 35 feet below ground surface. In addition to this, from 35 to 63 feet below ground surface clayey, silty sand is indicated, although this material is not as good as the overlying material, it may prove to be of sufficient quality to merit development. This is in the same depth range as the current city well and water taken from this zone can be expected to have similar chemical characteristics. Interference of a new well developed in the vicinity of test hole 2 is expected to be negligible. A possible problem with further development of this aquifer is that an extended severe drought may cause a depletion of the aquifer to a point at which a sufficient volume of water could not be obtained.

A second alternative to further development of the South Fork of Medicine Knoll Creek aquifer would be the construction of a deep well to either the Dakota or Fall River Formation. This is a secondary recommendation due to the poor chemical quality of the water obtained from these two aquifers and the high cost of this type of well.

A third alternative would be to explore the possibility of developing a well in the South Fork of

Medicine Knoll Creek aquifer further east. The aquifer increases in thickness and areal extent approximately 5 miles east of Harrold. This recommendation is third in that the costs of constructing a delivery system of this length would be quite high.

If the city should decide to test the South Fork Medicine Knoll Creek aquifer for additional water, it is recommended that an engineering firm licensed in South Dakota be hired to coordinate the drilling of a pilot test hole in the vicinity of test hole 2. If the data on the pilot hole shows suitable materials to conduct a pump test, the pilot hole should be converted to a pump test hole. A pump test should be conducted for approximately 24 hours before completion of the well. Water samples should be collected and chemically analyzed. The South Dakota Geological Survey will provide technical assistance and supervise the conducting of the pump test. Recommendations of future well spacing will be based on the results of the pump test.

Before a permanent well is drilled, the city officials should contact the Division of Water Rights, Department of Natural Resource Development, to obtain water rights and a permit to drill a municipal well and the South Dakota Environmental Protection Agency to determine the biological and chemical suitability of the water.

APPENDIX A

Logs of test holes in the Harrold area (For map location, see fig. 3)

Test Hole 1 (Auger Hole)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 112 N., R. 74 W.
Surface Elevation: 1742 feet

0- 4	Clay, brown (topsoil)
4- 5	Clay, brown, sandy
5- 7	Sand, brown, silty
7- 10	Clay, brown, silty
10- 19	Silt, brown, clayey, saturated
19- 24	Silt, medium gray, saturated
24- 30	Sand and gravel, coarse, saturated
30- 39	Clay, medium-gray, shaley, saturated

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Test Hole 2 (Auger Hole)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 112 N., R. 74 W.
Surface Elevation: 1761 feet

0- 7	Clay, gray-brown, silty with coarse gravel
7- 12	Gravel, brown, silty
12- 16	Clay, brown, pebbly, saturated
16- 35	Sand, brown, medium-fine, some clay, saturated
35- 63	Sand, dark-brown, medium-fine, silty, clayey, saturated
63- 78	Shale, reworked
78- 80	Pierre Shale

....

Test Hole 3 (Auger Hole)

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 112 N., R. 74 W.
Surface Elevation: 1744 feet

0- 3	Clay, dark-brown, silty clay (topsoil)
3- 12	Clay, dark-brown, silty
12- 34	Silt, dark-brown, clayey, saturated
34- 40	Sand, dark-brown, silty, clayey, saturated
40- 48	Sand, gray, silty, clayey, saturated
48- 55	Clay, gray, reworked shale
55- 64	Pierre Shale

....

Test Hole 4 (Auger Hole)

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 112 N., R. 74 W.
Surface Elevation: 1753 feet

0- 3	Clay, dark-brown, silty (topsoil)
3- 9	Silt, brown, clayey
9- 10	Sand, brown

Test Hole 4 -- continued.

10- 22	Silt, brown, clayey
22- 39	Silt, gray, clayey, saturated
39- 42	Sand, medium and silt, gray, saturated
42- 49	Pierre Shale

....

Test Hole 5 (Auger Hole)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 16, T. 112 N., R. 74 W.
Surface Elevation: 1772 feet

0- 2	Silt, brown, clayey (topsoil)
2- 5	Silt, brown
5- 18	Silt, brown, with some gravel
18- 22	Sand, brown, silty
22- 38	Silt, brown, clayey, saturated
38- 62	Clay, gray, silty, saturated
62- 69	Pierre Shale

....

Test Hole 6 (Auger Hole)

Location: NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T. 112 N., R. 74 W.
Surface Elevation: 1780 feet

0- 3	Silt, brown, clayey (topsoil)
3- 6	Clay, brown, silty
6- 11	Clay, light-brown, silty
11- 27	Silt, light-brown, clayey
27- 39	Clay, gray, silty

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Test Hole 7 (Auger Hole)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 16, T. 112 N., R. 74 W.
Surface Elevation: 1803 feet

0- 3	Silt, brown, clayey (topsoil)
3- 17	Clay, brown, silty
17- 34	Clay, dark-brown, silty
34- 39	Clay, brown, sandy, silty

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Test Hole 8 (Auger Hole)

Location: NW $\frac{1}{4}$ NW $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 17, T. 112 N., R. 74 W.
Surface Elevation: 1748 feet

0- 3	Sand and gravel, brown
3- 5	Sand, brown, medium, saturated
5- 6	Clay, red-brown, pebbly, saturated
6- 33	Clay, dark-gray, saturated
33-	Pierre Shale

....

Test Hole 9 (Auger Hole)
Location: NE¼SE¼NE¼NE¼ sec. 16, T. 112 N., R. 74 W
Surface Elevation: 1758 feet

0- 3 Silt, brown, clayey (topsoil)
3- 11 Clay, dark brown, silty
11- 13 Clay, brown, silty, sandy
13- 20 Silt, brown, sandy, saturated
20- 28 Sand, brown, silty, saturated
28- Pierre Shale

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Test Hole 10
Location: SE¼SE¼SE¼NE¼ sec. 15, T. 112 N., R. 74 W.
Surface Elevation: 1761 feet

0- 3 Silt, brown, sandy (topsoil)
3- 4 Sand, brown, silty
4- 15 Clay, brown, sandy, pebbly
15- 30 Sand, brown, medium, silty, saturated
30- 35 Silt, brown, sandy, saturated
35- 38 Silt, gray, sandy, saturated
38- 40 Shale, reworked
40- 44 Pierre Shale

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APPENDIX B

Well Records in the Harrold Area

Use: D, domestic; S, stock

Source: SD, glacial sand; GVL, glacial gravel; DF, Dakota Formation; FR, Fall River

Depth to water: F, flowing well

Name	Location	Depth of Well (feet)	Depth to Water (feet)	Source	Use	Sample
Hoffman, E	NW¼NW¼SW¼NW¼ sec. 4, T. 112 N., R. 74 W	1547	10	DF	S,D	
Hobert O	NE¼NE¼NE¼SE¼ sec. 8, T. 112 N., R. 74 W.	1470	60	DF	S	no 7
Stiefel, R.	SE¼SE¼SE¼SE¼ sec. 11, T. 112 N., R. 74 W	18	9	SD & GVL	S,D	no 1
Hoffman, O	NW¼NW¼NW¼SW¼ sec. 15, T. 112 N., R. 74 W.	1500	50	DF	S,D	
Harrold City Well	NE¼SE¼NE¼NW¼ sec. 16, T. 112 N., R. 74 W	40	18	SD & GVL	D	no 2
Reding, S	SW¼NE¼SW¼NE¼ sec. 17, T. 112 N., R. 74 W	60		SD & GVL	S,D	no 3
Reding, S	SE¼NE¼SW¼NE¼ sec. 17, T. 112 N., R. 74 W	40		SD & GVL	S	no 4
Pfeil, R.	SE¼SW¼NW¼NE¼ sec. 13, T. 112 N., R. 75 W	30		SD & GVL	S,D	no 5
Hobert, J	SW¼SW¼NW¼SW¼ sec. 19, T. 112 N., R. 74 W.	1500	20	DF	S,D	
Hobert, O	NW¼NW¼NW¼SW¼ sec. 21, T. 112 N., R. 74 W	1520		DF	S,D	no 8
Gregg, G	NE¼NE¼NE¼SE¼ sec. 1, T. 112 N., R. 75 W	1985	F	FR	S,D	no 6

TOWN OF HARROLD

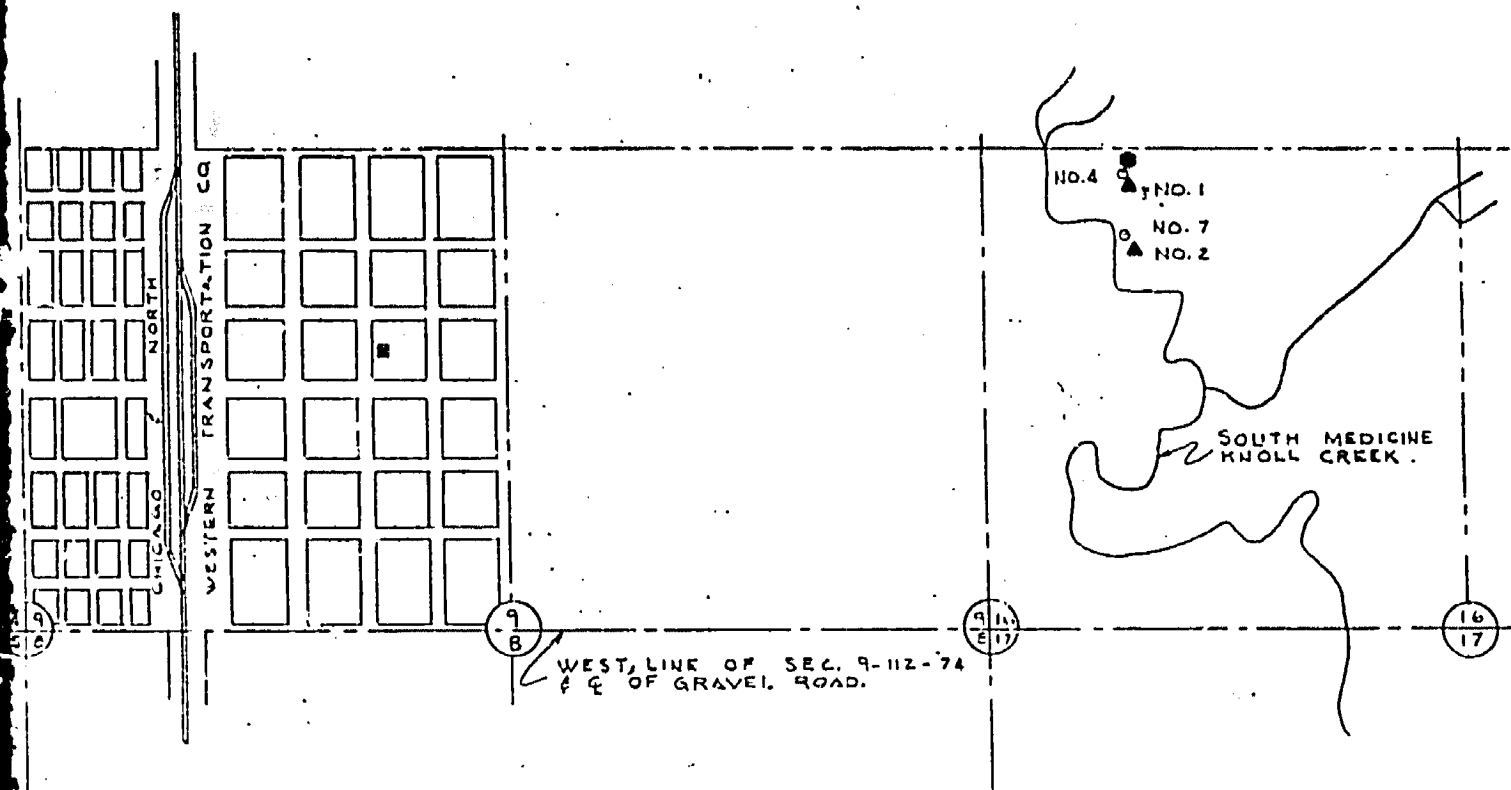
WELL LOCATION MAP

SCALE 1" = 1000'

SCHOELL & MADSON INC.
ENGINEERS & SURVEYORS
HURON SOUTH DAKOTA

SYMBOLS

- EXISTING WATER TOWER
- ▲ PROPOSED WELLS 1 & 2
- EXISTING WELL / PUMP HO
- TEST HOLES 4 & 7



MAP NO 1822-3 APPL NO 2455-3

Permit No. 2455-3

Missouri River Water District

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

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

I have this day made a thorough examination of the water use system constructed by the Town
of Harrold holder of
Permit No. 2455-3, bearing the priority of November 5 1975 authorizing
the diversion of 0.22 cu. ft. per second of the waters of Groundwater
for Municipal purposes, in Hughes County.

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

A. Works used to divert the water: Well #1 - 44 feet deep, 16" steel casing, 4 in. submersible 3 Hp, 35gpm
Well #2 - 45 feet deep, 16" steel casing, 4 inch sub, 3Hp-35gpm

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

City distribution system

C. Works used to apply water to beneficial use:

The system is in the following condition good

The point of diversion is located Both wells located 2300 feet East and 600 feet south of NW corner of section 16 T112N-R74W

The works are capable of diverting and conveying to the place of use 0.16
cu. ft. per second of water which is to be used for municipal water supply

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

~~_____~~ the license should be issued for 0.16 cfs

Appl cable permit qualifications have been complied with X Yes No

Exceptions to compliance are: _____ Date 5-4-85

Kevin C. Jarson

NOTICE OF WELL CONSTRUCTION

(1) WELL CONSTRUCTION

Location of well: E 1/4 1/4 1/4 Section 1 Township 112 Range 74
 Well owner City of Harold Harold, D.
 Date well drilling completed Dec 3-75 Purpose of well (domestic, irrigation, municipal, industrial, other)

WELL LOG

Layers, top to top, in feet	Description of layer	Depth to top of water producing aquifer _____ ft.
<u>0-2</u>	<u>Top Soil</u>	Depth to static water level: <u>101</u> <u>101</u> ft.
<u>2-10</u>	<u>Yellow Clay</u>	Name of producing aquifer (if known) _____
<u>10-18</u>	<u>Sandy Clay</u>	Total depth of drill hole <u>45</u> ft.
<u>18-20</u>	<u>Sand</u>	Depth to bottom of casing <u>45</u> ft.
<u>20-31</u>	<u>Water Sand</u>	Casing information: In the space below show kind, size, weight, length per diameter, etc., for production casing and surface casing, if used.
<u>31-45</u>	<u>Shale</u>	
_____	_____	<u>16" Johnson Stainless Steel</u>
_____	_____	<u>10' 100 Slott</u>
_____	_____	<u>Top Screen is from Ground level</u>
_____	_____	Screen information: In the space below show length of screen below bottom of casing, diameter and kind of screen or casing perforations.
_____	_____	
_____	_____	<u>16" Steel Casing .236 well</u>
_____	_____	If flowing well, flow of completed well _____ GPM.
_____	_____	

Attach sheet if more space is needed

Dakota Spring Co.
 Name of Drilling Contractor
Larrell Oaks

(2) PUMP INSTALLATION

Company name and size of pump _____ HP 3
 Type of pump Sub Capacity of installed pump 35 GPM
 Depth of pump placement 40 ft. Date of pump installation Jan.

(3) WATER SURFACE MEASURING TUBE

On some wells an air-tight water surface measuring tube is required. See Section 46 408 of Chapter 46 4, MINIMUM WELL CONSTRUCTION STANDARDS.

Show exact vertical length of water surface measuring tube, when installed _____ ft. tube diameter _____
 tube material _____

 Name of Pump Installation Contractor

NOTICE OF WELL CONSTRUCTION

(1) WELL CONSTRUCTION

Location of well: N2 1/4 NE 1/4 NW Section 16 Township 112 Range 2
 Well owner City of Harold Harold D. (Name) (Address)
 Date well drilling completed 23 Dec 1976 Purpose of well _____
 (domestic, irrigation, municipal, industrial, other)

WELL LOG

Layers, top to 'sp in feet	Description of layer	Depth to top of water producing aquifer _____ ft.
0-2	Top Soil	Depth to static water level <u>17</u> ft.
2-10	y clay	Name of producing aquifer (if known) _____
10-15	Sandy Clay	Total depth of drill hole <u>44</u> ft.
15-17	Sand	Depth to bottom of casing <u>24</u> ft.
17-25	Sand water	Casing information: In the space below show kind, size, weight, lengths per diameter, etc., for production casing and surface casing, if used. <u>16" Steel Casing</u> <u>236 Well</u>
25-27	B Clay	
27-44	Shale	
		Screen information: In the space below show length of screen below bottom of casing, diameter and kind of screen or casing perforations. <u>16" Johnson Stainless Steel</u> <u>10" 100 Steel</u> <u>Top of screen is 18' from Ground level</u> If a flowing well, flow of completed well _____ G.P.M.

Attach sheet if more space is needed

Dakota Boring Co.
 Name of Drilling Contractor
Dayrell Onks

(2) PUMP INSTALLATION

Company name and size of pump _____ HP _____
 Type of pump Sub Capacity of installed pump 75 G.P.M.
 Depth of pump placement 40 ft., Date of pump installation June 1, 76

(3) WATER SURFACE MEASURING TUBE

On some wells an air-tight water surface measuring tube is required: See Section 46.402 of Chapter 46.4, MINIMUM WELL CONSTRUCTION STANDARDS.

Show exact vertical length of water surface measuring tube, when installed _____ ft., tube diameter _____, tube material _____

Ediot Corbin
 Name of Pump Installation Contractor

State of South Dakota
Water License No. 2455-3

(1) The Town of Harrold
of P.O. Box 141, Harrold, South Dakota
made Application No. 2455-3, November 5, 1975 for a water permit to appropriate
0.22 cubic feet per second of water from groundwater (three wells),
Hughes County, South Dakota for municipal purposes.
Permit No. 2455-3, with a priority date of November 5, 1975
was approved January 23, 1976 and issued to applicant(s) for diversion of water with construction of the described
water supply system to be completed on or before January 23, 1981 and for the application to beneficial use of said
water on or before January 23, 1985.

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 0.16 cubic feet per second of water
for beneficial use. The location of the diversion point(s) is are 2300 feet E and 600 feet S of the NW
Corner of Section 16, T112N, R74W (P. 1)

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 city's distribution system.

(4) Pursuant to §46-5-30.1 the town of Harrold
of Box 141, Harrold, South Dakota
the holder(s) and/or owner(s) of Water Permit No. 2455-3 is issued a license to appropriate water, the right to use
0.16 cubic feet per second of water from groundwater (two wells) with a priority date
of November 5, 1975 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 municipal use

This license is subject to any limitations or qualifications listed in Water Permit No. 2455-3 and subject
to South Dakota State Law.


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

JOHN HATCH

DEC 20 1985



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Division of Water Rights
605 773-3352

No. 2455-3

October 29, 1985

Town of Harrold
Norman Galinat, Town President
PO Box 141
Harrold, South Dakota 57536

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 No. 2455-3 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 the inspection and issuing of the Water License. Upon receipt of the \$50.00 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. Please contact us if you have any questions.

Sincerely,

Maxine Stirling
Staff Assistant

ms/

NOTE: On form of payment, please include the number of the water permit.
This insures proper handling of the fee.

RECEIPT

Division of Water Rights

No 410228

South Dakota Department of Water and Natural Resources

Pierre, November 7, 1965

RECEIVED OF Town of Harrold, Harrold, SD 57536

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. 2-155-3	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		

By John Hatch
Chief Engineer JOHN HATCH (S)

No. 2455-3



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

WATER RIGHTS DIVISION
Phone (605) 773-3352

DEC 20 1985

Town of Harrold
Box 141
Harrold, South Dakota 57536

Dear Sir:

Enclosed herewith is, Water License No. 2455-3. 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,

A handwritten signature in cursive script, reading "John Hatch".

JOHN HATCH, Chief Engineer
Water Rights Division

JH:ms

Enclosures

January 17, 2001

2000 South Dakota Water Use Questionnaire

To:

TOWN OF HARROLD
TOWN PRESIDENT, PO BOX 141
HARROLD SD 57536

Address correction requested:

Town of Harrold
Attn: President of Board
Box 46
Harrold, SD. 57536-0152

One questionnaire is being provided for each permitted water source. The following information is based on Water Permit/Right No. 2455-3. If you have other permits/rights in the same water source, also include water use under those permits/rights on this questionnaire.

Water Source: GROUNDWATER
Aquifer: HIGHMORE-BLUNT
Management Unit: NOT APPLICABLE

County: HUGHES
Pumping Pt. Legal: SEC 16-T112N-R74W
Type of Water Use: MUNICIPAL

- 1) Please estimate your year 2000 water use from the above water source: 1000 gallons
2) If no water use in 2000, please list the reason(s) why in the comments section.

Comments: We are now hooked up to Mid Dakota
and only use the well here to
fill for skating pond & misc trucks
for street maintenance and misc use

Contact Person: Ken Schilling

Telephone No: 875-3412 ^{or} 852-2687
Anytime around 10 and 3pm

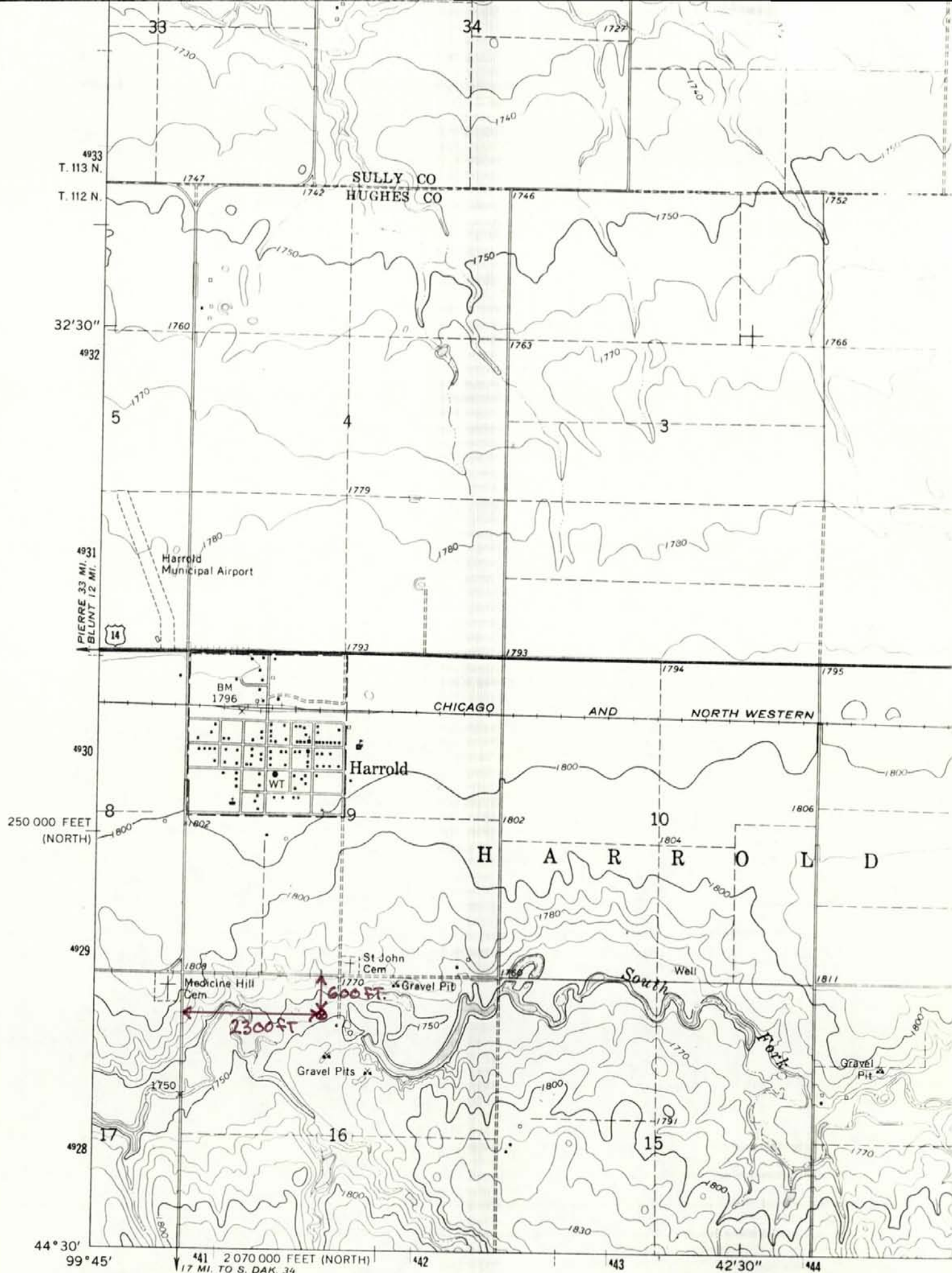
Questions? Please call Mark Rath or Ron Duvall at 605 773-3352 for assistance.



Thank you for completing the 2000 water use questionnaire.

Water Rights on the Web: www.state.sd.us/denr/wr





Mapped, edited, and published by the Geological Survey
as part of the Department of the Interior program
for the development of the Harrold River

2455-3