

Water Right Number 3023-3

1. Considered 10-21, 19 76
2. Name of Applicant Howard Rierson
3. Post Office Address Pollock
4. Amount of water claimed 3.50
5. Source of water supply 175' deep well
6. Water to be used for irrigation
Acres to be irrigated 280
7. Water to be diverted and used in Campbell County
about 15 SE Miles 1 of Pollock
8. Proof of Publication Received 10-19-76
Not received _____
9. Application Approved _____

10. Remarks:

N
A

7-7-77.
Howard Rierson
Pollock, OK

Ready for
inspection on his
water rights

1776-1230 - 3023-3
or 3883-3

No. 3023-3
 Map No. 2349-3 Water Division No. 3 MISSOURI RIVER District
 (Intake to be filled by the Engineer for the W. R. C.)

APPLICATION FOR PERMIT

1:30pm

To Appropriate Water within the State of South Dakota

(NOTE—Draw a line through items not applicable)

1. Name of Applicant HOWARD REIERSON
 Post-office address POLLOCK State S.D. 57648
 If a corporation show date and place of incorporation _____
 2. Method of accomplishing work (contract, employment of others, or by direct labor) CONTRACT
 3. Name of diversion work H. REIERSON & SONS IRRIGATION UNIT #1
 4. Amount of water claimed (cubic feet per second) 3.5 cu. ft./sec.
 5. Source of water supply IRRIGATION WELL
 6. Location of point of diversion NW 1/4 of NW 1/4 Sec. 29 T. 128 N., R. 77 W
 _____ County CAMPBELL
 7. Annual period or periods during which water is to be used MAY 1 - NOV. 1
 8. Use to be made of water (irrigation, industrial, municipal, commercial, recreation, etc.) IRRIGATION
 9. For irrigation use, Total number of acres to be irrigated 280

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.
NW 1/4 of NW 1/4 S. 20, 128, 77	40	N 1/2, SW 1/4 S. 20, 128, 77	80
NE 1/4 " " " "	40	SW 1/4 " " " "	40
SE 1/4 " " " "	40	N 1/2 of S 1/2, SW 1/4 S. 20 "	40
SW 1/4 " " " "	40		

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 1 years.
 11. Choice of newspaper for Notice of Intent to Appropriate Water publication: POLLOCK PIONEER
POLLOCK, S.D. 57648
 12. Principal Features of the Proposed Water Supply System:

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

IRRIGATION PUMP & WELL

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

IRRIGATION PIPE

C. Works proposed to apply water to beneficial use

BIG GUN AND/OR CENTER PIVOT
IRRIGATIONEstimated Total Cost \$ 50,000.00

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

County of CAMPBELL

I HOWARD REIERSON 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

Subscribed and sworn to before me this

Signed Howard Reiersen
9th day of August 1976

Fred W. Reiger Registrar of Deeds
 Notary Public (or other qualified officer)

WATER RIGHT APPLICATION APPROVAL

The Water Rights Commission hereby approves Water Right Application No. 3023-3

HOWARD PEIERSON
(Applicant)

POLLOCK
(Post Office Address)

SOUTH DAKOTA 57648 With the following modifications.
(State)

The irrigation well approved under this Permit will be located near domestic wells and other irrigation wells which may obtain water from the same aquifer. The irrigation well owner, under this Permit, shall control his irrigation withdrawals so there is not a reduction of needed water supplies in existing domestic wells or in irrigation wells having prior water rights.

Date of first receipt of application OCTOBER 4, 19 76

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

Date of receipt of corrected application ---, 19 ---

Approved OCTOBER 21, 19 76, Recorded in Book 16 Page 129

WATER RIGHT PERMIT NO. 3023-3

The Water Rights Commission hereby grants and issues this Water Right Permit No. 3023-3 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 OCTOBER 4, 19 76
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before APRIL 21, 19 79
3. The whole of said work is to be completed on or before OCTOBER 21, 19 81
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is OCTOBER 21, 19 85
5. The water appropriated shall be used for the purpose of IRRIGATION

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 3.5 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 the irrigation purposes said appropriation must be limited to not more than 3 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 OCTOBER 21, 19 85; said water to be used during the following described annual period: MAY 1 - NOVEMBER 1

Witness my hand this 1ST day of DECEMBER, 19 76

WATER RIGHTS COMMISSION

By:

John H. H. H.
Chief Engineer, Executive Officer

Certificate of Construction Issued ---, 19 ---

Water License Issued ---, 19 ---

- ... Next Well Log

Log Soil - 2 feet

Gravel - 2' - 12'

Silt - 12' - 103'

Clay with sand - 103' - 126'

Sand, gravel & coal - 126' - 175'

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

D Well Information or Estimates

- (1) Drill Hole Diameter 1 1/2", Depth 175'
- (2) Casing Type PLASTIC Diameter 1 1/2" Thickness 1/4"
(wood, concrete, steel, etc)
- (3) Perforated Screen
Type STAINLESS STEEL, Diameter 1 1/2", Length 20'
- (4) Gravel Pack Thickness 1', Length of gravel pack 175'

E Dugout Information or Estimates

- (1) Surface dimensions _____, Depth _____

F Fill out for Either a Well or a Dugout.

- (1) Water Bearing Materials (Please attach a copy to test well log if available.)

Character of Water bearing materials _____

Depth to top of water bearing material _____
Depth to bottom of water bearing material _____
Thickness of water bearing material _____
Depth to water (ground surface to water level) _____

see enclosed test well log.

- (2) Distance to nearest existing household or livestock watering wells.

On same owner's property 160 rds. On property owned by others 160 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, maximum water depth, surface area and storage capacity of each storage dam. The location of each water storage dam should be shown on the water right map.

Harold R. Reason
Signature of Applicant

9023-3

April 1900

April 1900

1900 July 31

George White

George White

George White

George White

George White

3881-1

July 1900

STATE CONSERVATION COMMISSION
SUPPORTING INFORMATION
FOR APPROPRIATION OF GROUND WATER IN ACCORDANCE
WITH SDCL 46-6-3 AS AMENDED
(This Form Required for Proposed Well Irrigation Only)

FOR COMMISSION USE ONLY

Irrigation System: _____

Water Quality: _____

Soils Capability: _____

Approved: Alex Higgs
2/28/75

Disapproved: _____

NAME: HOWARD REIERSON

ADDRESS: POLLOCK, SOUTH DAKOTA

COUNTY: CAMPBELL

LEGAL DESCRIPTION

1. WELL LOCATION: NW 1/4 NW 1/4
SECTION-26-128-77

2. AREA TO BE IRRIGATED: SECTION-26-128-77

TYPE OF IRRIGATION

3. GRAVITY SPRINKLER (Indicate Type): SPRINKLER

4. CROPS TO BE IRRIGATED: CORN, ALFALFA + WHEAT

LAND CAPABILITY FOR IRRIGATION

5. PERCENTAGE OF SLOPE: 0.2 %

6. PHYSICAL SOILS CLASSIFICATION FOR IRRIGATION: Coarse Clay loam
Irrigation - suitable

WATER QUALITY (TO BE COMPLETED BY COMMISSION)

7. SAMPLE NO.: 75-097

8. SALINITY: Electrical Conductance = 1849-micro-mhos/cm (high)

9. SODIUM: Sodium Absorption Ratio = 9.19

Residual Sodium Carbonate = 9.99 m.e. per Liter
Could Be Very Hazardous

I do hereby certify that a chemical analysis of the ground water to be acquired for irrigation from South Dakota State University and:

the land capability for irrigation information has been acquired from

SOIL CONSERVATION SERVICE, HERREID, S.D.

and:

that the legal description for the location of the well and land to be irrigated is true and correct.

Harold R. Riemann

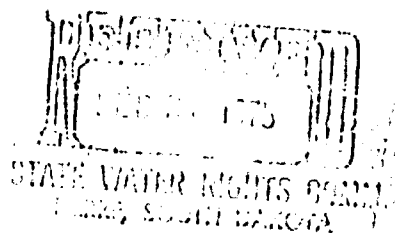
Subscribed and sworn before me this

15th day of Feb. 1975.

Walter A. Foster

City Comm. Expiry 11-15-76

(Title)



REPORT OF ANALYSIS
Water Quality Laboratory
Water Resources Research Institute
South Dakota State University
Brookings, South Dakota 57006

Submitted by: Howard Peterson
 Address: Collock, SD 57648

Date Rec'd: February 18, 1974
 Sample No.: 75-097
 Identification: Well-200
NW 1/4, Sec. 20, T. 128N, R. 77E

WATER ANALYSIS

Calcium (Ca)	97	ppm*	4.35	me/l**
Magnesium (Mg)	30	ppm	2.46	me/l
Sodium (Na)	390	ppm	16.96	me/l
Potassium (K)	14	ppm	0.36	me/l
Sulfate (SO ₄)	205	ppm	3.26	me/l
Nitrate (as N)		ppm		me/l
Chloride (Cl)	2	ppm	0.07	me/l
Bicarbonate (HCO ₃)	1025	ppm	16.80	me/l
Carbonate (CO ₃)		ppm		me/l
Iron (Fe)		ppm		me/l
Fluoride (F)		ppm		me/l
Hardness (EDTA as CaCO ₃)		ppm		g.p.g.***
Alkalinity (Methyl Orange)	840	ppm (as CaCO ₃)		
Alkalinity (Phenolphthalein)	0	ppm (as CaCO ₃)		
Electrical Conductivity	1849	micromhos per cm at 25° C.		
Sodium Adsorption Ratio	9.19			
Sodium	70.23	% of cations		
Residual sodium carbonate	9.99	me/l		
pH	7.16			
Others:				

*ppm=parts per million
 **me/l=milliequivalents per liter

***g.p.g.=grains per gallon

COMMENTS: Total cations 24.13 me/l
 Total anions 21.13 me/l

By: Shirley Litten

Service Performed	Amount Due
Irrigation analysis	\$6.00
Make checks payable to: Water Quality Laboratory	
Cut along dotted line and return the lower portion with payment	

Sample No. 75-097

Amount Enclosed \$

Signed

February 24, 1975

Mr. Howard Reiersen
Pollock, S.D. 57648

Dear Mr. Reiersen:

Enclosed please find the original copy of the report of analysis of the water sample submitted here February 18. Also please find a copy of Extension Circular 654 with the approximate quality of this water for irrigation purposes designated by an encircled red cross on the outside back cover.

The water which you have is classified as high salinity, medium sodium as far as the potential hazards to agriculture are concerned. This means that there is a fairly good chance that there will be from time to time accumulations of salt in the surface soil or in the root zone of most crops, sufficient to interfere with germination of some sensitive crops and also interfere with the final yield of quite a few crops. A second hazard lies in the fact that a very high proportion of the total salts present are sodium salts. This is indicated by a sodium percentage of 70.28 and a sodium adsorption ratio of 9.19. In addition to this fact a large fraction of the anion constituents in the water are bicarbonate. This means that there is a tendency for the calcium and magnesium to precipitate out of the solution when the irrigation water becomes the soil solution and leave the water largely a sodium water. The exact importance of this has not been fully evaluated for South Dakota conditions, but there seems to be some reason to be concerned about residual sodium carbonate in many areas of the state. This is particularly true if the internal drainage of the soil is restricted.

Under these circumstances I recommend that this supply of water be developed for irrigation only with two recommended circumstances or conditions. First, that the irrigation applications be made in very large quantities and rather infrequently to minimize the buildup of soluble and exchangeable sodium in the surface soil. If you irrigate in large quantities, and especially if you fill the soil root zone up with water late in the fall or very early in the spring, you increase the chances for dilution effects and leaching and the movement of harmful salts and sodium down and out of the root zone.

The second recommendation I would make is that you use cropping systems which lean heavily on alfalfa, grass mixtures and use row crops only to a limited extent. Under these circumstances the opportunity for roots

Mr. Howard Reiersen

February 24, 1975

Page 2.

of deep growing crops such as alfalfa and grass to take calcium from the lower soil zones and bring it to the surface is the greatest, and this will reduce the potential of sodium accumulation in the surface soil.

A copy of this letter of recommendation and the WI-1 form and a copy of the water analysis are being forwarded to the State Conservation Commission.

Sincerely yours,

L. O. Fine

L. O. Fine
Water Quality Lab

LOF:MRB

Enclosures

cc: State Conservation Commission
Mr. James Kanable, Campbell County Agent
Darrel Pahl



September 22, 1976

Mr. Howard Reiersen
Pollock, SD 57648

Dear Mr. Reiersen:

Your water sample (Lab. No. 76-1263) has been analyzed and the results are reported on the accompanying sheet, which is your copy to keep.

I am also enclosing a copy of AES pamphlet #13 for your use. The quality of your water for irrigation use is plotted approximately by means of the red cross in the chart on the outside back cover.

This water is marginal for use on the soils you intend to irrigate and should be considered for use only under the following conditions:

(1) It will be used no more than 3 times (preferably less) in any growing season.

(2) The soil will be completely filled with water so natural leaching can occur, by irrigating in the late fall just before freeze-up, at least one year out of 3.

(3) Water applications will be made each irrigation to completely re-wet the entire depleted soil within the rooting zone of the crop being grown. This may require 3-5 inches of water each irrigation with fine soils.

(4) If a salt problem or soil dispersion occurs, contact extension personnel or this office for management recommendations.

Sincerely yours,

L. O. Fine

L. O. Fine
Water Quality Lab

LOF:ckb
Enclosures
cc: State Conservation Commission

STATE CONSERVATION COMMISSION
SUPPORTING INFORMATION
FOR APPROPRIATION OF GROUND WATER IN ACCORDANCE
WITH SDCL 46-6-3 AS AMENDED
(THIS FORM REQUIRED FOR PROPOSED GROUND WATER IRRIGATION ONLY)

NAME HOWARD REIERSON

ADDRESS POLLOCK, S.D. 57648

COUNTY CAMPBELL

LEGAL DESCRIPTION

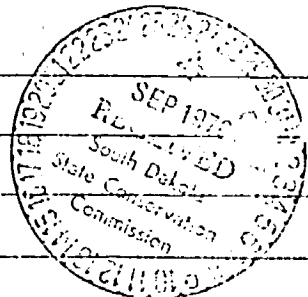
1. WELL LOCATION _____
2. LOCATION OF AREA TO BE IRRIGATED NW 1/4 S 20, T. 128, R. 77W
PARTS OF SW 1/4 S. 20, T. 128, R. 77W.
PARTS OF NW 1/4 S. 29, T. 128, R. 77W

TYPE OF IRRIGATION

3. GRAVITY _____ TOWLINE _____ CENTER PIVOT ☒ GUN ☒
4. CROPS TO BE IRRIGATED CORN AND ALFALFA

WATER QUALITY

5. SAMPLE NUMBER 76-1253
6. SALINITY (EC X 10⁶) 1118
7. SODIUM (SAR) 6.75
8. RESIDUAL SODIUM CARBONATE (meq/l.) 6.49



I do hereby certify that a chemical analysis of the ground water representative of that used to irrigate shall be acquired from South Dakota State University and; the soils information has been acquired from CAMPBELL CO. Conservation District, County Extension office or Soil Conservation Service.
and: WAYNE NOBLE, D.C.
that the legal description for the location of the well and land to be irrigated is true and correct.

Approval does not imply that this project can be carried out successfully in all circumstances. Individual management will, to a large degree, determine the relative success of this venture.

SUBSCRIBED AND SWORN BEFORE ME THIS
9th DAY OF August 19 76.

Howard R. Rierson
APPLICANT'S SIGNATURE

Approved Albert J. [Signature]

Terrell Hale, Registrar of Deeds
APPROVED DATE/RECEIVED

(TITLE OR SEAL)

REPORT OF ANALYSIS
 Water Quality Laboratory
 Water Resources Research Institute
 South Dakota State University
 Brookings, South Dakota 57006

Submitted by: Howard Reierston Date Rec'd: September 7, 1976
 Address: Collock, SD 57648 Sample No.: 76-1283
 Identification: Well-
Red, Sec. 20, T. 122N, R. 77E

WATER ANALYSIS

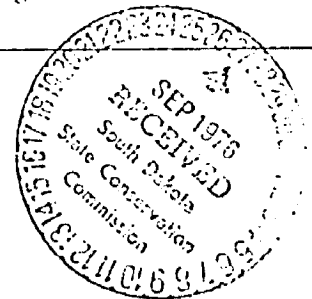
Calcium (Ca)	41	ppm*	2.05	me/l**
Magnesium (Mg)	10	ppm	0.32	me/l
Sodium (Na)	186	ppm	8.09	me/l
Potassium (K)	6	ppm	0.16	me/l
Sulfate (SO ₄)	169	ppm	2.26	me/l
Nitrate (as N)		ppm		me/l
Chloride (Cl)	17	ppm	0.48	me/l
Bicarbonate (HCO ₃)	571	ppm	9.36	me/l
Carbonate (CO ₃)		ppm		me/l
Iron (Fe)		ppm		me/l
Fluoride (F)		ppm		me/l
Hardness (EDTA as CaCO ₃)		ppm		g.p.g.**
Alkalinity (Methyl Orange)	468	ppm (as CaCO ₃)		
Alkalinity (Phenolphthalein)	0	ppm (as CaCO ₃)		
Electrical Conductivity	1118	micromhos per cm at 25° C.		
Sodium Adsorption Ratio	6.75			
Sodium	72.75	% of cations		
Residual sodium carbonate	6.19	me/l		
pH	7.22			

*ppm=parts per million

**me/l=millequivalents per liter

**g.p.g.=grains per gallon

COMMENTS: Total cations 11.12 me/l
 Total anions 12.10 me/l



By: Shirley Nitten

Service Performed

Amount Due

Irrigation analysis

68.00

Make checks payable to: Water Quality Laboratory

Cut along dotted line and return the lower portion with payment

Sample No. 76-1283

Amount Enclosed \$

Signed

J. 3023-3

Publish first publication, on or before October 11, 19 76

**NOTICE
INTENT TO APPROPRIATE WATER**

Pierre, South Dakota 57501

October 4, 19 76

Notice is hereby given that Howard Rierson

whose post office address is Pollock, 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

3.5 cubic feet of water per second of time from ~~the~~ ground water through the

H. Rierson & Sons # 1, the point of diversion of which is to be located in the

Center of the NW 3/4

of Section 23, Twp. 12 3N, Range 77E. Said water to be used for the purpose of providing irrigation on ^{portions of} the following described land:

NW 1/4, N 1/2 SW 1/4, N 1/2 SE 1/4, Section 20, T12N, R77E

This application No. 3023-3 will be considered by the Water Rights Commission at their office at Pierre upon the 21st day of October, 19 76, at 1:00 P.M. All interested persons may appear and be heard.

WATER RIGHTS COMMISSION

By:

BURTON F. JOHNS
Water Rights Specialist

BFJ/bw

cc: Howard Rierson, Pollock, S. D. 57648

No. 3023-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Campbell) ss.

I, E. C. McKay hereby
certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Pollock Project

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

Town of Pollock

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

Oct 7 1976

Oct 14 1976

E. C. McKay
(Signature)

Editor & Publisher
(Title)

Oct 18 1976
(Date Signed)

NOTICE OF INTENT
TO APPROPRIATE
WATER
I, Howard Relerson, whose post office
address is Pollock, South Dakota 58501
has made an application in ac-
cordance with the provisions of
the water laws of South Dakota
for a permit to appropriate for
beneficial use 3.5 cubic feet of
water per second of time from
ground water through the H. Rel-
erson & Sons, Inc. the point of
diversion of which is to be located
in the center of the W 1/2, W 1/2 of
Section 29, Twp. 128N, Range 77W.
Said water to be used for the pur-
pose of providing irrigation for
portions of the following described
land: NW 1/4, NE 1/2 SW 1/4, NE 1/2 S 1/2
SW 1/4, Section 20, T128N, R77W.
This application No. 3023-3 will
be considered by the Water Rights
Commission at their office at Pier-
re upon the 21st day of October,
1976, at 1:00 p.m. All interested
persons may appear and be heard.
WATER RIGHTS COMMISSION
By: Burton F. Jones
Water Rights Specialist





3023-3

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

AUG 18 1992

5566-3

Howard Reiersen
RR 1, Box 10
Pollock, SD 57648

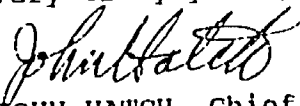
Dear Mr. Reiersen:

Enclosed is Water License No. 5566-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 413100 in the amount of \$50.00 which you paid for the inspection and issuance of the Water License.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 5566-3, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

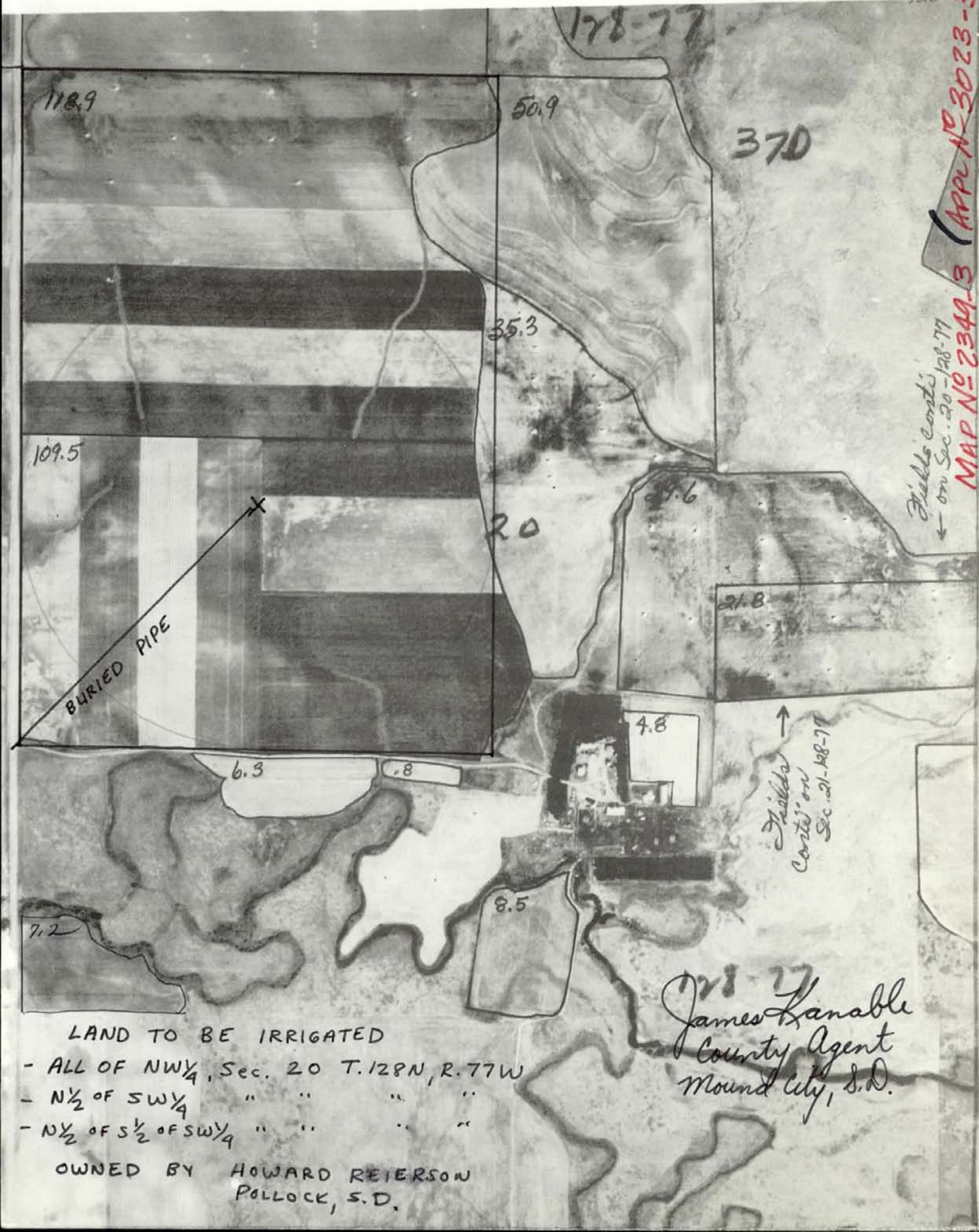
As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Very truly yours,


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

enclosures

NOTE: The applicable portions of Water Permit Nos. (3023-3) and 3883-5 are incorporated into this Water License No. 5566-3.



LAND TO BE IRRIGATED

- ALL OF NW $\frac{1}{4}$, Sec. 20 T. 128N, R. 77W
- N $\frac{1}{2}$ OF SW $\frac{1}{4}$ " " " "
- N $\frac{1}{2}$ OF S $\frac{1}{2}$ OF SW $\frac{1}{4}$ " " " "

OWNED BY HOWARD REIERSON
POLLOCK, S.D.

James Kanable
County Agent
Mound City, S.D.

Fields cont'd
on Sec. 20-128-77

Fields
cont'd on
Sec. 21-128-77

MAP No 2349-3 (App. No 3023-3)

NOT TO SCALE

99.0

25.7

22.1

62.2

Well

LOCATION

NW $\frac{1}{4}$, S. 29

T 128 N, R 77 W

HOWARD REIERSON
POLLOCK, S.D.

29

153.5

63.8

57.8

128-77

James Kanable
County Agent
Mound City, S.D.

132.2

61.1

20.3

8.3