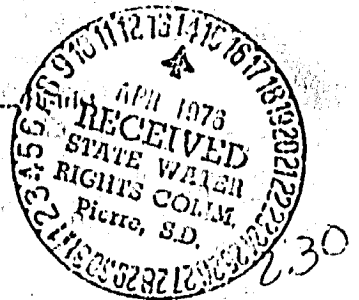


2700-3

1. Considered MAY 20, 1976
2. Name of Applicant LLOYD TERZILL, JR.
3. Post Office Address CLARK
4. Amount of water claimed 4.4
5. Source of water supply 110' WELL
6. Water to be used for IRRIGATION
Acres to be irrigated 307
7. Water to be diverted and used in CLARK county
about 5W, 5S miles of CLARK
8. Proof of Publication Received 5-14-76
Not Received _____
9. Application Approved _____
Subject to _____
Not Approved _____
Action deferred _____
10. Remarks:

No. 2700-3
 Map No. 2062-3 Water Division No. 3 JAMES RIVER
 (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)

- Name of Applicant Lloyd Texrill Jr
 Post-office address Clark State South Dakota 57225
- If a corporation show date and place of incorporation _____
- Method of accomplishing work (contract, employment of others, or by direct labor) Contract & Direct Labor
- Name of diversion work Lloyd Texrill Irrigation Project H2
- Amount of water claimed (cubic feet per second) 4.4
- Source of water supply Well
- Location of point of diversion 1850' N 86° W of SE corner sec 31-116-58

- County Clark
- Annual period or periods during which water is to be used April through October
- Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) Irrigation
- For irrigation use, Total number of acres to be irrigated 307

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 SW 1/4 sec 31-116-58	39	NW 1/4 of SE 1/4 sec 31-116-58	40
NE 1/4 " " " "	40	NE 1/4 " " " "	39
SW 1/4 " " " "	38	SW 1/4 " " " "	34
SE 1/4 " " " "	39	SE 1/4 " " " "	38

Attach sheet if more space is needed

- Time required to complete construction of water supply system Five year(s) Additional time required to complete application of water to the proposed beneficial use Three years.
- Choice of newspaper for Notice of Intent to Appropriate Water publication Huron Plainsman
- Principal Features of the Proposed Water Supply System.

A. Works proposed to divert water from its natural source. well with electrically driven deep well turbine

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

C. Works proposed to apply water to beneficial use. center pivot irrigation machine

Estimated Total Cost \$ 42,000

Attachments: Attach Form 2A if diversion from a well or d. 2000, or if storage of water is proposed. Attach map. (See instructions concerning preparation.)

STATE OF SOUTH DAKOTA

County of Brookings

I, Lloyd Texrill Jr, 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 Lloyd Texrill Jr

Subscribed and sworn to before me this 13 day of April 1976

John J. Williams
 Public or other qualified officer.
 P. E. 15 1976

WATER RIGHT APPLICATION APPROVAL

The Water Resources Commission hereby approves Water Right Application No. 700-3.LLOYD TERRILL, JR.
(Applicant)CLARK
(Post Office Address)SOUTH DAKOTA 57225
(State)

With the following modifications:

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 APRIL 14, 19 76

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

Date of receipt of corrected application APRIL 28, 19 76Approved MAY 20, 19 76, Recorded in Book 15 Page 146WATER RIGHT PERMIT NO. 2700-3

The Water Resources Commission hereby grants and issues this Water Right Permit No. 2700-3 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 APRIL 14, 19 76
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before NOVEMBER 20, 19 78
3. The whole of said work is to be completed on or before MAY 20, 19 81
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is MAY 20, 19 84
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 4.4 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 MAY 20, 19 84; said water to be used during the following described annual period: APRIL THRU OCTOBER

Witness my hand this 8TH day of JUNE, 19 76

WATER RESOURCES COMMISSION

By:

John Hatch
Chief Engineer, Executive Officer

Permit of Construction issued _____, 19 _____

Water License issued _____, 19 _____

1-10-80

MR TERRIL WAS IN THE
OFFICE - HAS CONTRACT
TO DRILL PRODUCTION WELL
IN FALL OF 80 - HAS BEEN
MONITORING 4" WELL &
HOLDING OFF TO SEE
RESULTS -

W&W I&D I&D I&D I&D

IRRIGATION DRILLING CO., INC.

R.R. 1

Frankfort, South Dakota 57440

Phone 542-0384

SOLD
TO

• L.S. Terrill, Jr.
• Clark, South Dakota 57225
•

• Job Location

• Shown Below
•

Job Date	July 12, 1977	Foreman	Allen Kretzschmar	
Terms	Net 10 Days	Invoice Date	July 22, 1977	

Quantity	Description	Unit Price	Net Amount	
	NE 28-116-55 - Clark			
190'	Test Hole Boring	\$ 2.50	\$ 475	00
190'	Test Hole Boring	2.50	475	00
	SE 31-116-53 - Clark			
140'	Test Hole Boring	2.50	350	00
138'	Boring For Casing, 4"	4.50	621	00
118'	Casing, Plastic, 4"	3.00	354	00
20'	Screen, Plastic, 4"	3.00	60	00
	2% Tax - Material		\$ 2,335	00
	Total Invoice		\$ 2,343	28

Thank you for your continued interest in our company.

W. Ron Wipf - Pres.
A. Allen Wipf - Sec. Treas.

1% Service Charge after 10 days - per 30 day period.

W M P N E

IRRIGATION DRILLING CO.

FRANKFORT, SOUTH DAKOTA

PHONE 472-0204

AK
KB

DRILLING REPORT

Location of Well: Lin. Twp. 1/4, SE 1/4, Section 31, Township 116, Range 58
 Well to be drilled for: Lloyd Terrill Jr. (Name) Clark (Address) S. Dak. (State)
 Date well drilling started: 7-12-77 Finished: _____
 Purpose of well: For Supply Well (domestic, irrigation, industrial, other)

Depth: 141 ft. Casing Diameter: 138 inches
 Slot Size: _____ Screen Size: _____
 Screen Depth: From 119 ft. to 138 ft.
 Remarks: _____
 1 Mile

NORTH

REPORT OF FINAL PUMPING TEST Write Additional Times and Readings on Back of Page

Elapsed Time From Start of Pumping		Water Level		Discharge
0 hr.	0 min.	26 ft.	in.	(Static)
hr.	min.	ft.	in.	GPM
hr.	min.	ft.	in.	GPM
hr.	min.	ft.	in.	GPM
hr.	min.	ft.	in.	RECOVERY

Formation: Clay, Silt, Sand, Gravel, Color, Hard or Soft, etc.	Depth (ft.)		Formation (Continued)	Depth (ft.)	
	From	To		From	To
Top Soil	0	2			
Clay	2	4			
Fine Sand	4	13			
Silt	13	113			
Med. Sand	113	138			
Shale	138	140			
Supply Well					

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 or Estimates

- (1) Drill Hole, Diameter 30", Depth 110'
(2) Casing, Type steel (wood, concrete, steel, etc) Diameter 16" Thickness 1/4"
(3) Perforated Screen, Type continuous slot, Diameter 16", Length 30'
(4) Gravel Pack, Thickness 6", Length of gravel pack 30'

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 0' to 85' clay, 85' to 110' water bearing sand; over 110' is clay

Depth to top of water bearing material 85'
Depth to bottom of water bearing material 110'
Thickness of water bearing material 25'
Depth to water (ground surface to water level) 18'

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

On same owner's property 30 rds. On property owned by others 100 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.

L. S. Jewell Jr.
Signature of Applicant

April 26, 1976

Mr. Lloyd Terrill, Jr.
Clark, SD 57225

Dear Mr. Terrill:

The water analysis on your sample submitted here April 12 has now been completed. The original copy of the report of this analysis is enclosed for you to keep. I am also enclosing the receipt for your payment. Thank you.

Enclosed also is a copy of AES publication #13 with a water quality chart on the outside back cover. I have plotted the approximate quality of your water sample for irrigation purposes by means of a red cross in the chart on the outside back cover. The sample you sent is in the high salinity, low sodium category, although it is on the very upper edge of the high salinity and nearly in the very high salinity category. This means that this sample has a relatively severe hazard for the salt content on which it is used. It is imperative that soils that receive this water have good internal drainage. This means there must be free movement of water down and out of the root zone so that salts can be periodically leached out of the soil. This requires either very open glacial till or else sand or gravel below the rooting zone of crops. It is impossible for me to tell from the soils information which is available on Clark County what the situation is, but I presume that all of them are deep, friable soils from the fact that they are class 2 or better land. There is one little bit of class 4 or 6 land, especially in the very southwestern corner or the southwest quarter, and also in the north edge of the southeast quarter. These two areas of soil will not respond favorably to irrigation and should be avoided.

With the high hazard of salt accumulation present in this water, you should undertake irrigation only with the full knowledge that you will be needing to apply excessive water once every 3 or 4 years to cause drainage. You should also undertake to irrigate this land only with the understanding that water should be applied infrequently (less than 3 times in most growing seasons) and in large amounts. By large amounts I mean a quantity of 3 inches or more, preferably 4 or 5 inches, so that the entire rooting depth of the soil profile is refilled with water upon each irrigation. If this practice is not observed, you will rapidly concentrate the salts in this water in the upper portion of the soil profile and within a matter of 4 to 6 years, you will see a detrimental effect rather than a beneficial effect on crop yields. It will take a long time for natural leaching effects of rainwater



Mr. Terri ll
April 26, 1976
Page 2

to reduce this salt once you've caused the build-up and give rise to the problem.

For these reasons, I recommend that you undertake this irrigation only with full awareness of the management practices that will be required in order for it to be successful. Haphazard irrigation or frequent, light irrigation as are so often the temptation with a center pivot system, will not be satisfactory for this water.

A copy of this letter, and the WI-1 form, and a copy of the water analysis are being sent to the State Conservation Commission for their action.

Sincerely yours,

L. O. Fine

L. O. Fine
Water Quality Lab

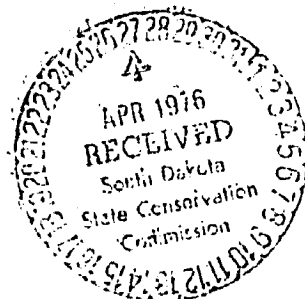
LOF:ckb

Enclosures

cc: State Conservation Commission

D. Pahl

George Schanck, County Extension Agent



CONSERVATION
COMMISSION
FORM W1 #1

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 Lloyd Terrill Jr.
ADDRESS Clark S.D.
COUNTY Clark Co.

LEGAL DESCRIPTION

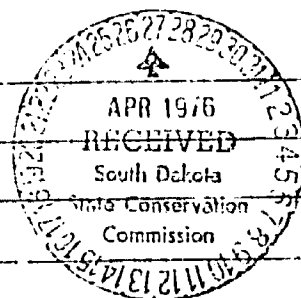
1. WELL LOCATION: 5 1/4 Sec 31, 116-58
2. LOCATION OF AREA TO BE IRRIGATED 5 1/2 Sec 31, 116-58

TYPE OF IRRIGATION

3. GRAVITY _____ TOWLINE _____ CENTER PIVOT ☒ GUN _____
4. CROPS TO BE IRRIGATED Corn & Alfalfa

WATER QUALITY

5. SAMPLE NUMBER 76-331
6. SALINITY (EC X 10⁶) 2197 (high)
7. SODIUM (SAR) 2.67 (low)
8. RESIDUAL SODIUM CARBONATE (meq/l.) 0



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 _____ Conservation District,
County Extension office or Soil Conservation Service.
and:
that the legal description for the location of the well and land to be irrigated is true
and correct.

Lloyd Terrill Jr.
APPLICANT'S SIGNATURE

SUBSCRIBED AND SWORN BEFORE ME THIS
13 DAY OF April 1976.

John L. Williams
(TITLE OR SEAL)
2, 27, 1976

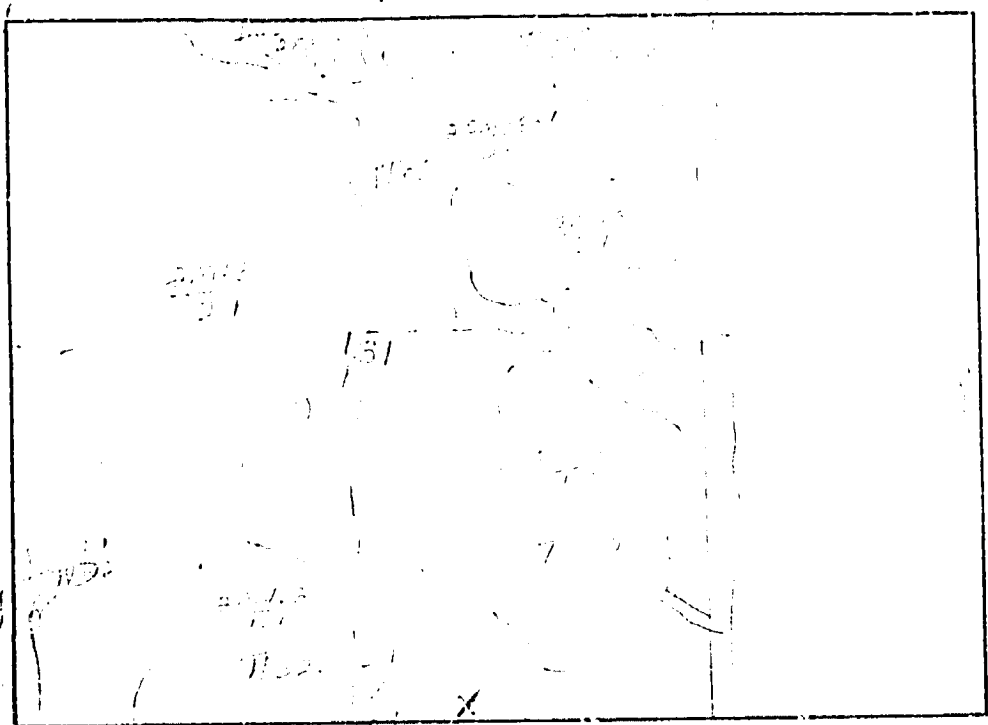
Alfred J. Hefner
APPROVED/RECORDED

(SOILS INFORMATION ON REVERSE SIDE)

1 Mile

N MAP

1 Mile



S

NARRATIVE

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

Submitted by: Lloyd Terrill

Date Rec'd: April 12, 1976

Address: Clark, SD 57225

Sample No. 76-331

Identification: 1011-110*

SEA, Sec. 31, T 116N, R 53E

WATER ANALYSIS

Calcium (Ca)	300	ppm*	15.00	me/l**
Magnesium (Mg)	86	ppm	2.05	me/l
Sodium (Na)	204	ppm	8.87	me/l
Potassium (K)	16	ppm	0.43	me/l
Sulfate (SO ₄)	1068	ppm	22.20	me/l
Nitrate (as N)		ppm		me/l
Chloride (Cl)	52	ppm	1.47	me/l
Bicarbonate (HCO ₃)	356	ppm	5.84	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)	292	ppm (as CaCO ₃)		
Alkalinity (Phenolphthalein)	0	ppm (as CaCO ₃)		
Electrical Conductivity	2197	micromhos per cm at 25° C.		
Sodium Adsorption Ratio	2.67			
Sodium	25.82	% of cations		
Residual sodium carbonate	0.00	me/l		
pH	7.06			
Others:				

*ppm=parts per million

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

**me/l=millequivalents per liter

COMMENTS: Total cations 31.35 me/l
Total anions 29.51 me/l



By: Shirley Littman

Service Performed	Amount Due
Irrigation analysis	\$8.00 PAID

Make checks payable to: Water Quality Laboratory

Cut along dotted line and return the lower portion with payment

Sample No. 76-331

Amount Enclosed \$

Signe

No. 2700-3

Publish first publication, on or before May 6, 19 76

**NOTICE
INTENT TO APPROPRIATE WATER**

Pierre, South Dakota 57501

April 30, 19 76

Notice is hereby given that Lloyd Terrill, Jr.
whose post office address is Clark, 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
4.4 cubic feet of water per second of time from ~~the~~ ground water through the
Terrill Project #2, the point of diversion of which is to be located in the _____

SW 1/4 SE 1

of Section 31, Twp. 116N, Range 58W. Said water to be used for the purpose
of providing irrigation on ^{portions of} the following described land:

S 1/2, Section 31, T116N, R58W

This application No. 2700-3 will be considered by the Water Rights Commission at their office at
Pierre upon the 20th day of May, 19 76, at 1:00 P. M. All interested
persons may appear and be heard.

WATER RIGHTS COMMISSION

By:

BURTON F. JONES
Water Rights Specialist

BFJ/bw

cc: Lloyd Terrill, Jr., Clark, S D. 57225

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Clark) ss.

I, Port Moritz hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Clark County Courier

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 Clark

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

May 6, 1976

May 13, 1976

B. F. Jones
(Signature)

Publisher
(Title)

May 14, 1976
(Date Signed)

NOTICE OF INTENT TO
APPROPRIATE WATER

Pierre, South Dakota 57501

April 30, 1976

Notice is hereby given that
Lloyd Terrill, Jr. whose post
office address is Clark, 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 4.4 cubic feet of
water per second of time from
ground water through the Terrill
Project No. 2, the point of
diversion of which is to be located
in the SW¹/₄, SE¹/₄ of Section 31,
Twp. 116N, Range 58W. Said
water to be used for the purpose
of providing irrigation on por-
tions of the following described
land: S¹/₂, Section 31, T116N,
R58W.

This application No. 2700-3 will
be considered by the Water
Rights Commission at their office
at Pierre upon the 20th day of
May, 1976, at 1:00 p.m. All
interested persons may appear
and be heard.

WATER RIGHTS COMMISSION
By: Burton F. Jones
Water Rights Specialist



#1776-3

#1898-3

#1899-3

#2700-3

#3013-3

#5039-3



Department of Water & Natural Resources

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

February 17, 1989

Lloyd S. Terrill Jr.
RR 2, Box 101
Clark, SD 57225

Dear Mr. Terrill:

On October 6, 1988, the Water Management Board adopted rules to implement a 1988 law for application of chemicals through irrigation systems. The rules establish equipment standards, performance standards and installation requirements for irrigation systems that apply chemicals (fertilizers, insecticides, or herbicides) with irrigation water.

You have indicated on your 1988 Water Management Board Irrigation Questionnaire that you do apply chemicals with irrigation water. A copy of the new rules for chemigation are enclosed for your information.

The new standards include:

- * a check valve between the irrigation pump and the point of chemical injection;
- * a vacuum relief valve on top of the pipeline between the irrigation pump and the irrigation pipeline check valve;
- * a low-pressure drain on the bottom of the pipeline between the irrigation pump and the irrigation pipeline check valve;
- * a chemical injection line check valve between the chemical injection pump and the point at which the chemical is injected into the irrigation line; a second check valve is required if the chemical injection pump is not a positive displacement pump;
- * an interlock system which ensures that the chemical injection pump will stop whenever the irrigation pump stops;
- * an inspection port between the irrigation pump and the check valve on the irrigation line;

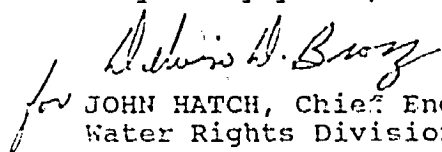


Each of these equipment requirements are discussed more thoroughly in Sections 74:02:09:05 through 74:02:09:10 of the enclosed rules. Appendix A contains diagrams of the arrangements of these anti-pollution devices.

The equipment must be installed according to the manufacturer's specifications, calibrated, and maintained in good working condition. All chemical product labels must be followed and warning signs must be posted. These rules also require reporting of all spills, accidents, and system malfunctions. A 24-hour telephone number is provided.

The chemigation rules contain notification and record keeping requirements. Prior to using chemigation, notification must be given to the Chief Engineer on the enclosed Form 1C. Information that must be provided in this notification includes the water permit or right number, the name, address, and telephone number of the water permit or right holder and of the system operator, and the legal description of the lands on which the system is located. A record of the name, quantity, dates and hours of each chemical application must be provided to the Chief Engineer on Form 2C. A copy of this form is also enclosed for your information. It will be mailed with the annual irrigation questionnaire and must be returned with the questionnaire by the date specified. If you have any questions regarding these rules or need additional copies of the forms, please contact Susan Bowar, Water Rights Engineer (605-773-3352).

Very truly yours,


for JOHN HATCH, Chief Engineer
Water Rights Division

South Dakota

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

GREAT FACES. GREAT PLACES.

FEB 19 1992

5039-3

Lloyd Terrill, Jr.
RR 2, Box 101
Clark, SD 57225

Dear Mr. Terrill:

Enclosed is Water License No. 5039-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 412914 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. 5039-3, 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 No. (2700-3) are incorporated into Water License No. 5039-3.

Point of Diversion - 1850' N86°W of SE corner Sec 31 - 116-58

Acres Irrigated - 307

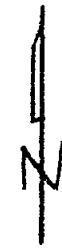
Water Claimed - 4.4 cfs

LLOYD TERRILL

Irrigation Project #2

Clark 57225 S. Dak

Clark County



Surveyor's Certificate

I, John L. Wiersma, do hereby certify that this map identifies a reasonably accurate record of the land of:

Lloyd Terrill

Clark

57225

South Dakota

Clark County

4-13-76

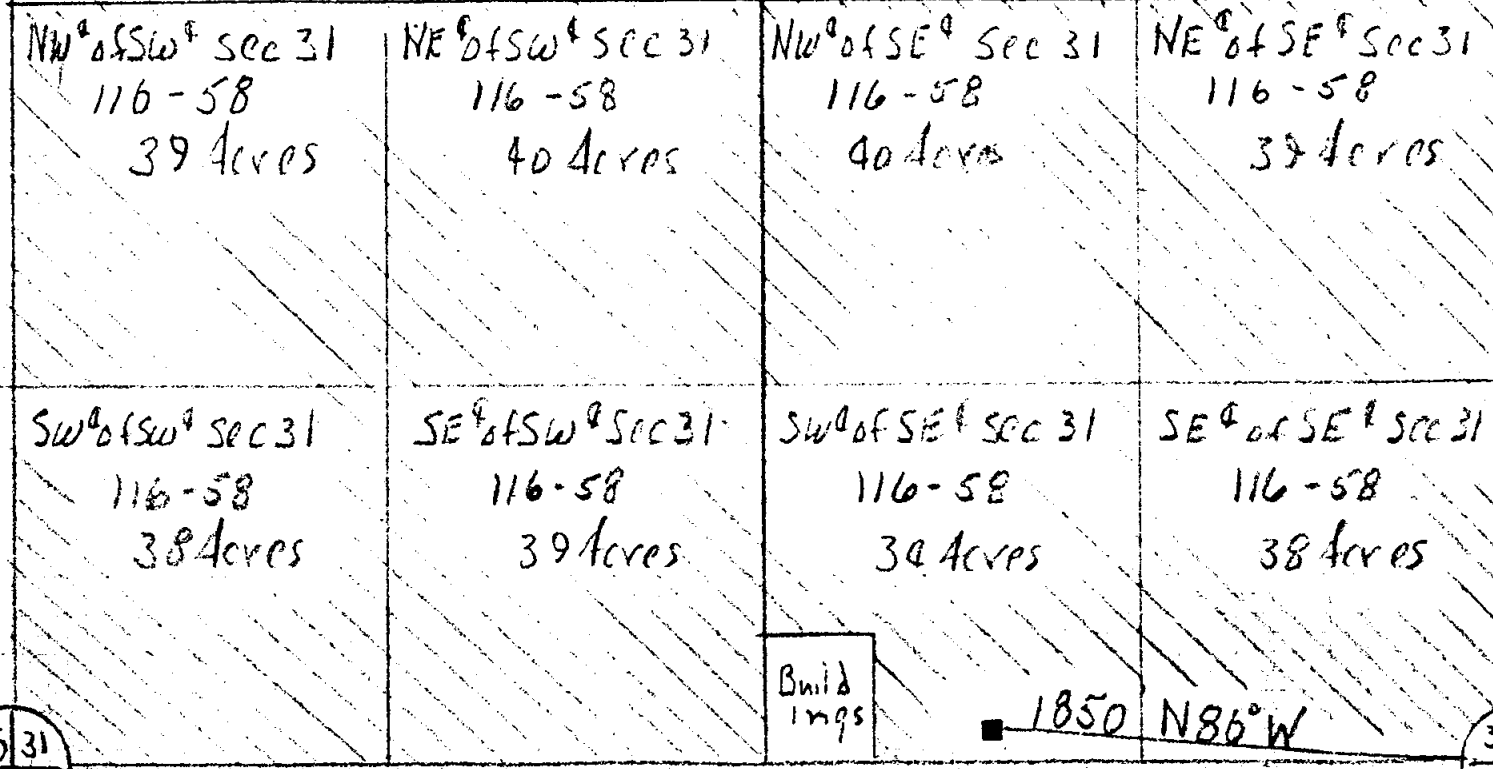
Drawn by J.L.W.

P.E.#1916

John L. Wiersma

Brookings
S.D.

MAP NE 2062-3 (APPL N° 2700-3)



Scale - 8" = 1 Mile