

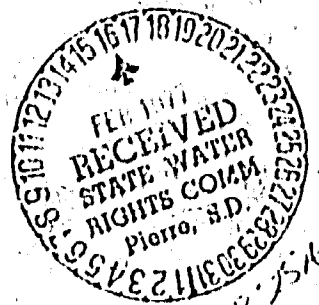
Water Right Number 1547-2

1. Considered 3-24, 19 77
2. Name of Applicant JOHN L. MARKUS
3. Post Office Address CROOKSTON, NB.
4. Amount of Water claimed 1.90
5. Source of Water supply 300' WELL
6. Water to be used for ~~IRR.~~ IRR.
- Acres to be irrigated 132
7. Water to be diverted and used in TODU County
about 12.5, 8 W miles of MISSION
8. Proof of Publication Received 3-14-77
Not Received _____
Approved _____
Subject to _____
Not Approved _____
Action Deferred _____
9. Application
10. Remarks:

Form 2 - Application for Permit to Appropriately Water (Original (Includes Approval and Permit))

No. 1547-2

Map No. 1318-2 Water Division No. 2 LITTLE WHITE RIVER District
(Blanks to be filled by the Engineer for the W. H. C.)



APPLICATION FOR PERMIT

To Appropriately Water within the State of South Dakota

(NOTE - Draw a line through items not applicable)

1. Name of Applicant John L. Markus
Postoffice address Cassoklon State Nebraska 69512
If a corporation show date and place of incorporation _____
2. Method of accomplishing work (contract, employment of others, or by direct labor) _____
3. Name of diversion work _____
4. Amount of water claimed (cubic feet per second) 1.9
5. Source of water supply well
6. Location of point of diversion NE 1/4 Sec 36-37-30

- County Todd
7. Annual period or periods during which water is to be used May 1st - Sept. 15th
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 132

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.
<u>NE 1/4 - NE 1/4 - 36-37-30</u>	<u>33</u>		
<u>SE 1/4 - NE 1/4 - 36-37-30</u>	<u>33</u>		
<u>NW 1/4 - NE 1/4 - 36-37-30</u>	<u>33</u>		
<u>SW 1/4 - NE 1/4 - 36-37-30</u>	<u>33</u>		

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 5 years.
11. Choice of newspaper for Notice of Intent to Appropriately Water publication Todd County - 171.55.611
12. Principal Features of the Proposed Water Supply System.

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

well

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

center pivot

C. Works proposed to apply water to beneficial use.

sprinkler

Estimated Total Cost \$50,000.

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 Todd

I, John Markus the applicant, certify that I have read the foregoing application and have examined the attached map and that the matters herein stated are true and correct and am able to complete the necessary construction.

Subscribed and sworn to before me this



day of

John Markus
Keith Allard
Notary Public (or other qualified officer)

WATER RIGHT APPLICATION APPROVAL

The Water Rights Commission hereby approves Water Right Application No. 1547-2
JOHN L. MARKUS CROOKSTON
 (Applicant) (Post Office Address)
NEBRASKA 69212 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 adequate domestic wells or in irrigation wells having prior water rights.

Date of first receipt of application FEBRUARY 16, 1977
 Date of return to applicant for correction, amendments or changes required —, 19 —
 Date of receipt of corrected application FEBRUARY 18, 1977
 Approved NOVEMBER 30, 1977, Recorded in Book 19 Page 165

WATER RIGHT PERMIT NO. 1547-2

The Water Rights Commission hereby grants and issues this Water Right Permit No. 1547-2 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 FEBRUARY 16, 1977
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before MAY 30, 1980
3. The whole of said work is to be completed on or before NOVEMBER 30, 1982
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is NOVEMBER 30, 1982
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 1.9 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 NOVEMBER 30, 1982; said water to be used during the following described annual period: MAY 1 - SEPTEMBER 15

Witness my hand this 6TH day of DECEMBER, 1977

WATER RIGHTS COMMISSION

By:

John Halch
 Chief Engineer, Executive Officer

Certificate of Construction Issued _____, 19 _____

Water License Issued _____, 19 _____

REPRODUCTION, REDUCTION 25-1
 ROLL NO. 12
 DATE MICROFILMED 1-26-82
 SERIALIZED 12-26-82
 C. A. S. A. OPERATOR

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 3.2, Depth 300
- (2) Casing, Type Steel (wood, concrete, steel, etc), Diameter 16 in, Thickness 1/4 inch
- (3) Perforated Screen.
Type metal slat, Diameter 1/4 inch, Length 3 inch
- (4) Gravel Pack, Thickness 6 inches, Length of gravel pack 300 ft

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 130

Depth to bottom of water bearing material 320

Thickness of water bearing material 190

Depth to water (ground surface to water level) 130

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

On same owner's property 200 rds. On property owned by others 320 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.

John Markus
Signature of Applicant

February 3, 1977

Mr. John L. Markus
Crookston, NB 69212

Dear Mr. Markus:

Your water sample (Lab. No. 77-158) 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 ALS 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.

Your water, as indicated by this analysis, is satisfactory for use on the soils you indicate will be irrigated. If a salt problem or a water table problem should develop, contact extension personnel for assistance.

The WI-1, soils information, and a copy of the water analysis are being forwarded to the State Conservation Commission for their action.

Sincerely yours,

L. O. Fine

L. O. Fine
Water Quality Lab

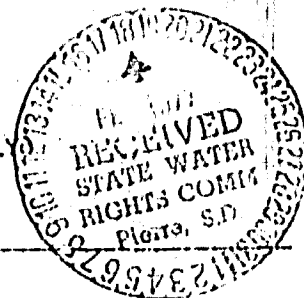
LOF:ckb

Enclosures

cc: State Conservation Commission

P.S. This letter pertains to NR 1/4 36. Soil areas T1E, VaE and the steepest parts of H1C and AmC should be kept in a permanent productive forage, such as grass-alfalfa to minimize erosion and machinery twisting, slippage, etc.

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



NAME John L. Markus

ADDRESS Crookston, Nebraska 69212

COUNTY Todd Co., So. Dak.

LEGAL DESCRIPTION

1. WELL LOCATION NE 1/4 36-37-20

2. LOCATION OF AREA TO BE IRRIGATED Approximately 133 acres located in NE 1/4 36-37-20

TYPE OF IRRIGATION

3. GRAVITY _____ TOWLINE _____ CENTER PIVOT X GUN _____

4. CROPS TO BE IRRIGATED Corn

WATER QUALITY

5. SAMPLE NUMBER 77-158

6. SALINITY (EC X 10⁶) 360 (medium)

7. SODIUM (SAR) 0.16

8. RESIDUAL SODIUM CARBONATE (meq/l.) 0.17

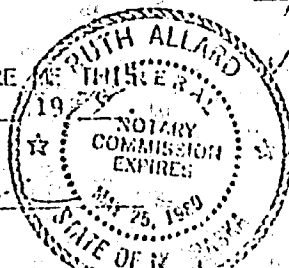
I do hereby certify that a chemical analysis of the ground water representative of that used to irrigate shall be acquired from South Dakota State University and; the soils information has been acquired from Todd Co. Conservation District, County Extension office or Soil Conservation Service.

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

John L. Markus
APPLICANT'S SIGNATURE

SUBSCRIBED AND SWORN BEFORE
25 DAY OF June

Notary Public
(TITLE OR SEAL)



Robert A. Hoffert
APPROVED/DETERMINED

(SOILS INFORMATION ON REVERSE SIDE)

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

Submitted by: John L. Morris Date Rec'd: January 31, 1977
 Address: Crookston, Nebraska 69212 Sample No.: 77-158
 Identification: Well
NE, Sec. 36, T 37N, R 30E

WATER ANALYSIS

Calcium (Ca)	57	ppm*	2.85	me/l**
Magnesium (Mg)	12	ppm	0.93	me/l
Sodium (Na)	5	ppm	0.22	me/l
Potassium (K)	17	ppm	0.18	me/l
Sulfate (SO ₄)	0	ppm	0.00	me/l
Nitrate (as N)		ppm		me/l
Chloride (Cl)	2	ppm	0.06	me/l
Bicarbonate (HCO ₃)	244	ppm	4.00	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)	203	ppm (as CaCO ₃)		
Alkalinity (Phenolphthalein)	0	ppm (as CaCO ₃)		
Electrical Conductivity	360	micromhos per cm at 25° C.		
Sodium Adsorption Ratio	0.16			
Sodium	5.20	% of cations		
Residual sodium carbonate	0.17	me/l		
pH	7.51			

Others:

*ppm=parts per million

**me/l=millequivalents per liter

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

COMMENTS: Total cations 4.33 me/l
 Total anions 4.06 me/l

By: Shirley Mitten

Service Performed

Amount Due

Irrigation analysis

\$15.00

Make checks payable to: Water Quality Laboratory

Cut along dotted line and return the lower portion with payment

Sample No. 77-158

Amount Enclosed \$

Signed

SARGENT IRRIGATION CO.

BROKEN BOW
(308) 872-6151

GOTHENBURG
(308) 537-3625

WASSETT
(402) 684-3323

GRANT
308) 352-4379

NEIGH
(402) 887-4112

TEST WELL LOG

TO: _____

DATE: 11/11/2011

ADDRESS: _____

0	20
20	40
40	60
60	80
80	100
100	120
120	140
140	160
160	180
180	200
200	220
220	240
240	260
260	280
280	300
300	320
320	340
340	360
360	380
380	400
400	420
420	440
440	460
460	480
480	500
500	520
520	540
540	560
560	580
580	600

Form 6 - Notice of Intent to Appropriate Water

No. 1547-2

Publist. first publication, on or before March 20, 19 77

NOTICE
INTENT TO APPROPRIATE WATER

Pierre, South Dakota 57501

March 4, 19 77

Notice is hereby given that John L. Markus

whose post office address is Crookston, Nebr., ~~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 1.0

_____ cubic feet of water per second of time from the ground water through the

J. L. Markus #1, the point of diversion of which is to be located in the _____

Center of NE $\frac{1}{4}$

of Section 36, Twp. 27N, Range 30W. Said water to be used for the purpose of providing irrigation on the following described land:
NE $\frac{1}{4}$, Section 36, T37N, R30W

This application No. 1547-2 will be considered by the Water Rights Commission at their office at Pierre upon the 24th day of March, 19 77, at 10:00 A. M. All interested persons may appear and be heard.

WATER RIGHTS COMMISSION

By:

Water Rights Specialist

BFJ/bw
cc:

John L. Markus, Crookston, NB 69212

No. 1547-2

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Butte) ss.

I, Lenette H. H. H. hereby
certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Butte County Tribune

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 Missouri

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

March 10, 1977

March 17, 1977

Lenette H. H. H.
(Signature)

Bookkeeper
(Title)

March 10, 1977
(Date Signed)

Notice of Intent to Appropriate Water

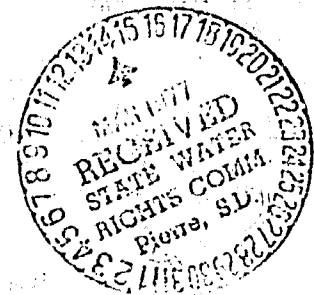
Notice is hereby given that John L. Markus whose post office address is Crookston, Nebr., has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use 1.9 cubic feet of water per second of time from ground water through the J. L. Markus No. 1, the point of diversion of which is to be located in the Center of NE 1/4 of Section 36, Twp. 37N, Range 30W. Said water to be used for the purpose of providing irrigation on portions of the following described land: NE 1/4, Section 36, T37N, R30W.

This application No. 1547-2 will be considered by the Water Rights Commission at their office at Pierre upon the 24th day of March, 1977, at 10:00 a.m. All interested persons may appear and be heard.

WATER RIGHTS COMMISSION

By: James Winterton
Water Rights Specialist

Publ.: March 10 and 17.



No. 1949-2

1187-2
1547-2

**SOUTH DAKOTA Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

WATER RIGHTS DIVISION
Phone (605) 773-3352

July 23, 1936

John or Cathy Markus
HC 78, Box 33
Crockston NE 69212

Dear Mr. & Mrs. Markus:

Enclosed herewith is, Water License No. 1949-2. 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
JOHN HATCH, Chief Engineer
Water Rights Division

JH:ks

Enclosures

Applicable portions of Water Permits No. 1187-2 and 1547-2 have been incorporated into this Water License No. 1949-2.

WNR-817 3/83
Transmittal of Water License

PRELIMINARY PLAN MAP

TODD CO. EXTENSION SERVICE
Todd Co., So. Dak.

8" equals 1 mile

Date: 2-14-77

Prepared by

Carroll Gehring
County Extension Agent

Prepared for John Markus

