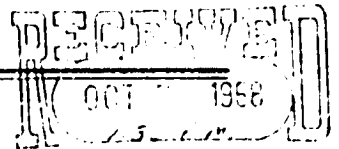


1623-3

1. Considered 12-4, 1969
2. Name of Applicant William S. Brown
3. Post Office Address Haven
4. Amount of water claimed 85
5. Source of water supply Ground Water (P. 500)
6. Water to be used for IRRIGATION
- Acres to be irrigated 60
7. Water to be diverted and used in Harper county
about 2 miles 5 of Haven
8. Proof of Publication Received _____
Not Received 105
9. Application Approved _____
Subject to _____
Not Approved _____
Action deferred _____
10. Remarks:



No. 11623-3

Water Division No. 3 MISSOURI RIVER District STATE WATER RESOURCES COUNCIL
(Blanks to be Filled by the Engineer for the W. R. C.) PIERRE, SOUTH DAKOTA

APPLICATION FOR PERMIT

To Appropriate Water within the State of South Dakota

(NOTE—Draw a line through items not applicable.)
Willard Zweber

1. Name of applicant _____
Postoffice address Hoven, County Potter, State So. Dak.

- I. If a corporation _____
- (a) Name of same _____
 - (b) Date and place of incorporation _____
 - (c) Amount of capital stock _____
 - (d) Amount paid in _____
 - (e) Names and addresses of directors _____

(NOTE—A certified copy of articles of incorporation must accompany the application.)

II. Method of accomplishing the work and financial resources of the applicant:

(a) Method of accomplishing work (Whether by contract, employment of others, or by direct labor)
Contract and Direct Labor

(b) Cash on hand, \$ adequate (c) Treasury stock, \$ _____
(d) Bonds to be issued, \$ _____ (e) Other resources, \$ _____

2. Name of diversion work Zweber Irrigation Project #2
3. Amount of water claimed .85 cubic feet per second _____
4. Source of water supply ground water (dugout)
5. Location of point of diversion NE $\frac{1}{4}$ NE $\frac{1}{4}$, Section 17, T120N, R74W
_____ on _____ bank Potter County.
6. Annual period or periods during which water is to be used April thru October
7. To be used for:

I. Irrigation or domestic use: Gravity, overhead sprinkling or combination system? Sprinkler

(a) Number of acres to be irrigated 60 acres.
(b) Legal subdivisions to be irrigated S $\frac{1}{2}$ NE $\frac{1}{4}$, Sec. 17, T120N, R74W

(NOTE—A list of lands to be irrigated, giving each subdivision and fraction with acreage thereof, should be written here, or may be appended as a part of this application. Same must also be shown on accompanying map.)

(c) Statement as to domestic use (giving location, etc.) _____

II. Stockwatering, mining, milling, power, fish culture, fire protection and public recreation.

(a) Nature of use _____
Name any of the above uses claimed

(b) Amount of power to be generated _____ horse power.
Amount claimed for engine cooling _____

(c) Location of plant _____

(d) Method of developing power _____

(e) Point where water will be returned to stream _____ rods On property owned by others _____ rods

Map No 1169-3

8. Estimated cost of work:
- (a) Head Gates, \$-----

(c) Fluming, \$-----

(e) Other structures -----
- (b) Pumping plant, \$-----

(d) Canal-earth, \$-----

Total, \$-----
- Rock, \$-----

9. Description of diversion works:

I. Nature of works: (Reservoir, dam, ditch, flume, pumping plant, etc.)

Dugout, pump, main line and Sprinkler system

II. Dimensions of works.

- (a) Dam: Height-----feet; length at bottom ----- feet; length at top -----feet; thickness at bottom ----- feet; thickness at top -----feet; slope at front water face -----; slope at back face -----material used in construction -----
- (b) Reservoir: Capacity when filled -----acre feet. Surface area at highwater mark-----acres.

DEPTH AT OUTLET-FEET	SURFACE AREA AT EACH DEPTH AT OUTLET--ACRES	ACRE-FEET CAPACITY

- (c)* Head gate: Width-----feet; height -----feet; Material -----
- (d) Canal: Total length -----miles.

LOCATION BELOW HEADGATE	DEPTH	BOTTOM WIDTH	WIDTH AT WATER-LINE	GRADE PER MILE
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet

(Give dimensions where reductions in size are made.)

10. Time required for completion of work ----- five -----years.
11. Time required for complete application of water to the proposed beneficial use ----- four ----- years.
12. Choice of newspaper for publication of notice of intention to appropriate -----
Hoven Review, Hoven, S.D.

STATE OF SOUTH DAKOTA

County of Hughes

} ss.

I, Willard Zweber, being first duly sworn on my oath depose and say: That my relation to the above described undertaking is that of owner, that I have read the above foregoing statement, examined the map accompanying the same, and that I know of my own personal knowledge that the matters therein stated are shown are true.

Signed

7th

October

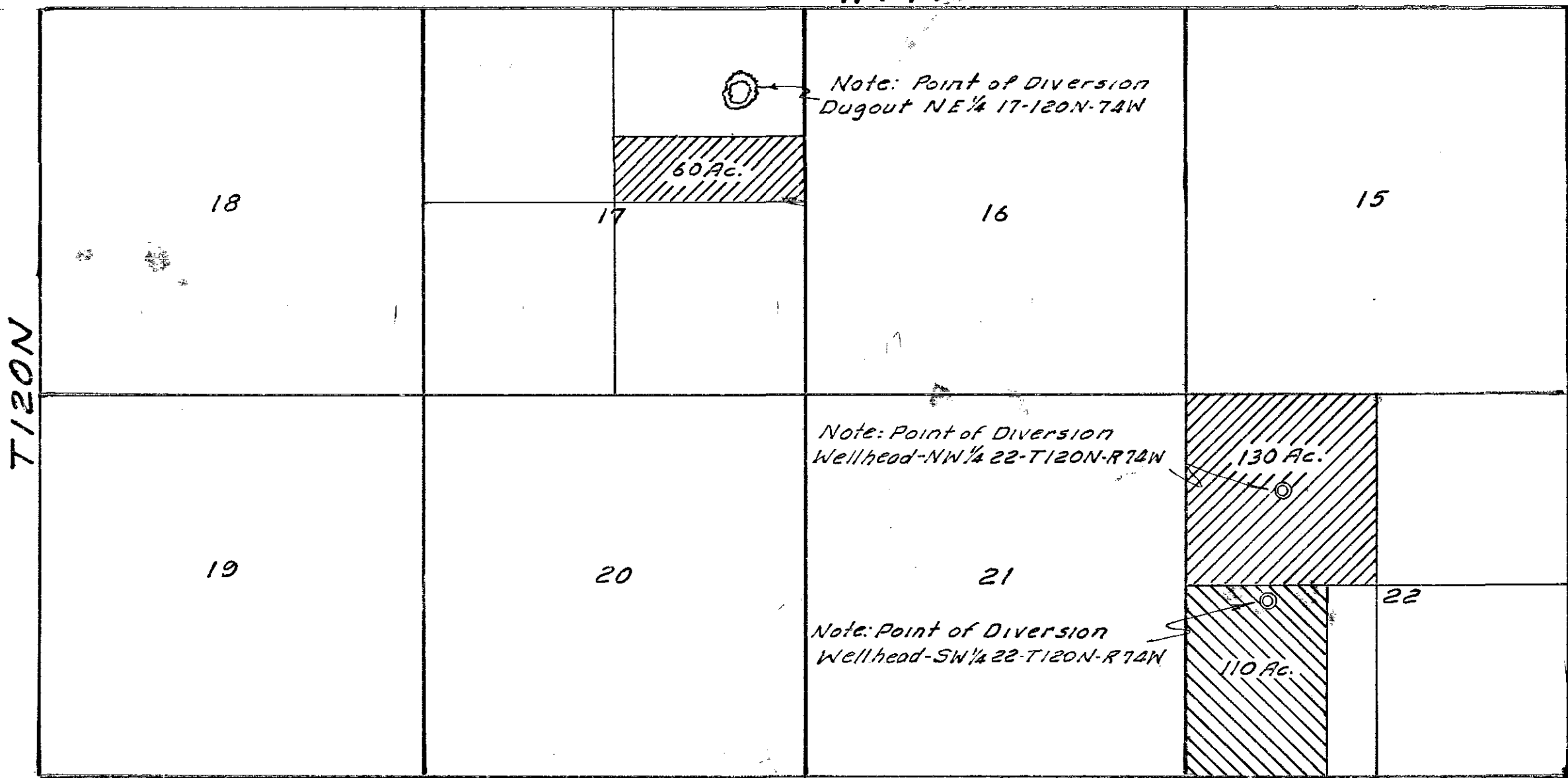
1968

Subscribed and sworn to before me this ----- day of ----- 19-----

Notary Public (or other qualified officer.)

*Each diversion must have a headgate or measuring device

R74W



Mrs. Rose Zweber } Owners
Willard Zweber }

SURVEYOR'S CERTIFICATE

and Willard Zweber

I, MAYNARD C. SOMMER, REGISTERED LAND SURVEYOR FOR THE STATE OF SOUTH DAKOTA, DO HEREBY CERTIFY THAT AT THE REQUEST OF MRS. ROSE ZWEBER, ~~THE~~ OWNERS I HAVE SHOWN THE LANDS PROPOSED TO BE IRRIGATED, WITHIN HER OWNERSHIP BOUNDARIES ON October 22nd, 1968 FOR WHICH APPLICATION FOR APPROPRIATIVE WATER RIGHT IS MADE AND THAT THIS MAP IS A TRUE REPRESENTATION THEREOF.

WITNESS MY HAND AND SEAL THIS 22nd DAY OF October, 1968.

Maynard C. Sommer
REGISTERED LAND SURVEYOR

STATE OF SOUTH DAKOTA

SS

COUNTY OF HUGHES

ON THIS 22nd DAY OF October, 1968, BEFORE ME THE UNDERSIGNED NOTARY PUBLIC, IN AND FOR THE STATE OF SOUTH DAKOTA, PERSONALLY APPEARED BEFORE ME MAYNARD C. SOMMER, KNOWN TO ME TO ME TO BE THE PERSON WHO EXECUTED THE FOREGOING SURVEYOR'S CERTIFICATE AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME.

WITNESS MY HAND AND SEAL THIS 22nd DAY OF October, 1968.

MY COMMISSION EXPIRES: January 19, 1975

AB Snell
NOTARY PUBLIC

Remarks by State Water Resources Commission:

STATE OF SOUTH DAKOTA
County of HUGHES } ss.

Pierre, South Dakota, DECEMBER 20, 1968

This is to certify that the foregoing application was received by the Commission at 1:30 o'clock
P.m. upon the 7TH day of OCTOBER, 1968

State Water Resources Commission

By:

Dustin J. [Signature]
for Chief Engineer, Executive Officer

Number of permit 1623-3

Date of first receipt of application OCTOBER 7, 1968

Date of return to applicant for correction, amendments or changes required as follows: _____, 19____

Date of receipt of corrected application _____, 19____

Date from which applicant may claim right OCTOBER 7, 1968

Approved DECEMBER 4, 1968 Recorded in Book 10 Page 295

This is to certify that we have examined the foregoing application for a permit to appropriate water of the State of South Dakota, and we hereby grant the same as stated herein, subject, however, to the following limitations and conditions:

1st. The equivalent of at least one-fifth of the work above specified is to be completed on or before JUNE 4, 1971

2nd. The whole of said work is to be completed on or before DECEMBER 4, 1973

3rd. The limit of time for proof of beneficial use of water appropriated in accordance herewith is

DECEMBER 4, 1977

4th. The water appropriated shall be used for the purpose of IRRIGATION

5th. 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.

6th. The amount of the appropriation herein granted shall not exceed .85 cubic feet per second; neither shall it exceed the capacity of the above described system of diversion works, nor the least amount of water that experience may hereafter indicate as necessary for the production of crops in the exercise of the best husbandry; and further, said appropriation must 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 DECEMBER 4, 1977; said water to be used during the following described annual period:

APRIL THRU OCTOBER
Witness my hand this 20TH day of DECEMBER, 1968

State Water Resources Commission

By:

Chief Engineer, Executive Officer

Certificate of Construction Issued MARCH 26, 1970

Water License Issued MARCH 26, 1970

Dugout 150 x 75 - 12'

9. (Continued)

III. Well Specifications

(a) Hole and casing

Size of drill hole or excavation _____, Depth _____

Type of casing _____
(wood, concrete, steel, etc.)

Size of casing _____, Thickness of casing _____

Length of casing _____. If collection gallery, length, size and depth of gallery _____

(b) Screens

Type of perforated screen _____

Size of perforated screen _____
(diameter) (length)

Thickness of gravel pack _____, length of gravel pack _____

(c) Water Bearing Materials

Distance to water 3 Character of water bearing materials _____
Sand and gravel

Thickness of water bearing material _____

(d) Pump and Motor

Type of pump HEXKE Berkeley
(centrifugal, propeller, mixed flow, etc.)

Name of pump _____, size _____

Kind of motor Electric
(gasoline, electric, diesel, etc.)

Horsepower _____, Name of Motor _____

(e) Complete well

Capacity _____ at drawdown of _____ Estimated cost _____

(f) Owner of land upon which well is located Rose Zweber
Name

Hoven, S.D.
Address

(g) Distance to nearest existing wells

On same owner's property _____ rods On property owned by others _____ rods

Permit No. 1623-3

Water Diversion No. 3 MISSOURI RIVER Water District

CERTIFICATE OF CONSTRUCTION

This is to Certify, That Willard Zweber

_____ the holder _____ of
Permit No. 1623-3, issued upon Application No. 1623-3, bearing date of priority of October 7,
1968 authorizing the diversion of .85 cu. ft. per second of the waters of _____
ground water County of Potter, State of South Dakota at _____
a point 1765' south and 1040' west of the N.E. Corner, Section 17, T120N, R74W
_____, for irrigation

purposes, has _____ complied with the provisions of the laws of the State of South Dakota relating to proof of
completion of the works of diversion set out and described in said Permit; that said works are found in satisfactory
condition for diverting and conveying to the place of intended use .85 cu. ft. per second of water.

Date March 26, 1970

WATER RESOURCES COMMISSION

By:

J.W. GRIMES, Executive Officer

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1623-3

(1) WHEREAS, On the 7th day of October, A. D. 19 68
Willard Zweber

made Water Right Application No. 1623-3 for a permit to use .85 cubic feet per second of the waters
of ground water

County of Potter, State of South Dakota, for Irrigation

_____ purposes; and

(2) WHEREAS, On the 20th day of December, A. D. 19 68

Permit No. 1623-3, with a date of priority of October 7, 1968

was issued to said applicant _____ for the diversion of said water, and provided for the completion of construction of the water
supply system therein described on or before the 4th day of December, A. D. 19 73 and for the
application to beneficial use of said water on or before the 4th day of December, A. D. 19 77

and:

(3) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
relating to completion of the construction of the water supply system and is entitled to divert .85 cubic feet
per second of water for beneficial use and,

(4) WHEREAS, It is hereby certified that the applicant has complied with the provisions of the laws of the State of South Dakota
relating to the application of water to beneficial use of the following extent:

for irrigating the following land in Section 17, T120N, R74W

SW 1/4 NE 1/4 30 acres

SE 1/4 NE 1/4 30 acres

Total 60 Acres

(5) NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota, We hereby grant and confirm to Willard Zweber

_____ of Hoven, South Dakota
the holder _____ and owner _____ of said permit No. 1623-3 a water right, dating from October 7, 1968
_____ to use of _____ .85 cubic feet per second of the waters
of ground water
in the County of Potter and State of South Dakota, or so much thereof as may be necessary for the
purposes hereinbelow mentioned, to be diverted at a point 1765' south and 1040' west of the NE Corner,
Section 17, T120N, R74W

and conduct to and upon 60 acres in the S $\frac{1}{2}$ NE $\frac{1}{4}$, Section 17, T120N, R74W, described on
the face of this license

for the purpose of irrigation

Subject to any limitations listed in Water Right Permit No. 1623-3 and subject to the laws of the State of South Dakota.

WITNESS, My hand and seal of our office at Pierre, South Dakota
this 26th day of March A. D.
Nineteen Hundred and Seventy

WATER RESOURCES COMMISSION

By:

Chief Engineer, Executive Officer, J.W. GRIMES

on or before November 7 19 68
(First Publication)

APPROPRIATION OF WATER

Office of State Water Resources Commission,

Pierre, S. Dak., October 9 19 68

Notice is hereby given that Willard Zweber whose postoffice address is Hoven S. Dak., has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use .85 cubic feet of water per second of time from the ground water (dugout) through the Zweber Irrigation Project #2, the point of diversion of which is to be located on ~~the~~ ~~bank of said stream~~ in the NE 1/4 of the NE 1/4 of Section 17 Twp. 120N Range 74W. Said water to be used for the purpose of providing irrigation on a portion of the following described land:

S 1/2 NE 1/4, Section 17, T120N, R74W

~~and/or~~ ~~XXXXXX~~

This application will be taken up by the State Water Resources Commission at their office at Pierre for consideration upon the 4th day of December 19 68, at 2:00 P.M. All interested persons may appear and be heard.

Appropriate action will be taken by the Water Resources Commission after suitable time has elapsed for the consideration of any or all information presented.

cc: Willard Zweber, Hoven, S.D.

State Water Resources Commission

By:

Chief Engineer, Executive Officer
Buxton F. Jones
Water Rights Specialist

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA }
County Porter } ss.Robert Senne being duly sworn, deposes and says the annexed printed copy of Notice of Intention to Appropriate Water was taken from theHoven Review a newspaper which during the whole time of publication of said notice herein after stated, has been and is printed and published in the Hoven Review of Porter County ofHoven and State of South Dakota; that the said notice was published in said newspaper on the following dates:October 24, 1968October 31, 1968November 7, 1968November 14, 1968In each and every issue of the full number thereof, the first publication being made on the 24th day of October1968 and the last publication on the 14th day ofNovember 1968, upon which days or times of publication aforesaid the newspaper was regularly published, and that during the whole time of said publication he was owner the printer and publisher of the said newspaper.Robert SenneSubscribed and sworn to before me this 15th day of November A. D. 1968RECEIVED
DEC 13 1968STATE WATER RESOURCES
PIERRE, SOUTH DAKOTA

APPROPRIATION OF WATER

Office of State Water Resources
Commission
Pierre, S. Dak. October 9, 1968

Notice is hereby given that Willard Zweber, whose post-office address is Hoven, S. D. has made an application in accordance with the provisions of the water laws of South Dakota for a permit to appropriate for beneficial use 85 cubic feet of water per second (or 1/4 acre from ground water (dugout) through the Zweber Irrigation Project No. 2, the point of diversion of which is to be located in the NE 1/4 of the NE 1/4 of Section 17, Twp. 120N Range 74W. Said water to be used for the purpose of providing irrigation on a portion of the following described land: S 1/4 NE 1/4 Section 17, T120N, R74W.

This application will be taken up by the State Water Resources Commission at their office at Pierre for consideration upon the 4th day of December, 1968, at 2:00 P. M. All interested persons may appear and be heard.

Appropriate action will be taken by the State Water Resources Commission after suitable time has elapsed for the consideration of any or all information presented.

cc: Willard Zweber, Hoven, S. D.
State Water ResourcesCommission
By: BURTON F. JONES
Water Rights Specialist

32-35c

Notary Public Porter County, S. D.

REPORT OF EXAMINATION OF WORKS
AND/OR APPLICATION OF WATER TO BENEFICIAL USE

DONALD DRISCOLL, Deputy Chief Engineer
Water Resources Commission

August 12, 1977

Mr. Willard Zweber
Hoven
South Dakota 57450

Dear Mr. Zweber:

The Water Rights Commission ordered that all permit holders in the "Hoven South" aquifer must install flow meters on their systems. This order was issued at the May 10, 1977 Special Meeting. A written copy of the Water Rights Commission's findings and order dated May 25, 1977 was sent to you.

During a field investigation July 14, 1977 Mrs. Zweber indicated that flow meters had not been installed.

It is believed a reasonable time has been allowed for you to install the required flow meters on your systems. Due to failure to comply with the Commission's order you are ordered to shut off your system until such time as the order is complied with. Please notify us as to when the meters are installed.

If you have any questions please contact our office.

Very truly yours,

VERN W. BUTLER
Secretary
Department of Natural Resource Development

VB/GS/hvr

On April 9, 1976, at the request of Willard Zweber, we checked at intervals during the day the four irrigation wells located on the West Half (W $\frac{1}{2}$) of Section 22, Township 120 North, Range 74, West of the 5th P.M., Potter County, South Dakota.

The first of the four wells beginning from the south we numbered No. 1, the next and main well No. 2 was about 600 feet to the north, the well No. 3 was about 700 feet further north, and the No. 4 well was about 700 feet further north. The wells are all connected by a six inch plastic pipe buried approximately 5 feet under ground; and the No. 1 well is equipped with a 5 horse, 175 gallon irrigation pump, the No. 2 or main well is equipped with a 60 horse, 350-800 gallon irrigation pump, the No. 3 well is equipped with a 3 horse, 125 gallon irrigation pump, and the No. 4 well is equipped with an 8 horse, 200 gallon irrigation pump.

The intervals that we checked the wells were as follows:

10:30 A.M. - Checked by Virgil Worm, Alfred Weber, Marvin Simon and Willard Zweber;

11:30 A.M. - Virgil Worm checked No. 2 main well as to draw and gallonage;

12:15 P.M. - Alfred Weber checked No. 2 main well as to draw and gallonage;

2:05 P.M. - Virgil Worm checked No. 2 main well as to draw and gallonage;

4:00 P.M. - Alfred Weber checked No. 2 main well as to draw and gallonage;

5:50 P.M. - Virgil Worm, Alfred Weber, Marvin Simon, and Willard Zweber checked No. 2 main well as to draw and gallonage.

The results of our check are as follows:

<u>Well No.</u>	<u>Depth of Well</u>	<u>Casing</u>	<u>Static Water level</u>	<u>Depth of Water</u>	<u>Water Remaining</u>
1.	74' 3"	18"	48' 6"	25' 9"	18'
2.	76' 3"	18"	51' 9"	24' 6"	14'
3.	73' 6"	18"	50' 6"	23' 0"	16'
4.	68'	15'	41' 3"	26' 9"	13'

When the pumps were operating the system produced approxi-

Page 2.

mately 747 gallons per minute and after all pumps were shut off, the water in the wells went back to its former level with a very slight variation, if any. In the main well after the first hour of pumping the water remained steady at 62 feet and we pumped the well for 7 hours 15 minutes and the water remained steady at 62 feet.

Virgil H. Worm
(Virgil Worm)

Alfred C. Weber
(Alfred Weber)

Marvin Simon
(Marvin Simon)

AFFIDAVIT OF WILLARD ZWIEBER

STATE OF SOUTH DAKOTA)
COUNTY OF BROWN) SS

Willard Zweber, being first duly sworn, deposes and states:

Affiant is a farmer, residing approximately one-half mile South and one and one-half mile East of the Junction of Highways 20 and 47, South of Hoven, South Dakota; that Affiant farms approximately 1280 acres, all of which he owns, the legal description of which is as follows:

The Northeast one-fourth of Section Seventeen (17); Section Twenty-two (22); the South one-half of Section Twenty-three (23); the Northeast one-fourth of Section Twenty-three (23); all in Township One hundred twenty (120) North, Range Seventy-four (74) West, Potter County, South Dakota;

that affiant is engaged in the production of wheat, corn, oats, and barley; that one hundred sixty (160) acres of said land is utilized for the growing of corn, one hundred forty (140) acres for the growing of wheat, one hundred ten (110) acres for the growing of oats, and sixty (60) acres for the growing of barley, the remaining land being devoted to alfalfa and hay; that affiant currently owns one hundred twenty (120) Angus cows, four Herford bulls, seventy (70) Chester-whites sows and five (5) Chester-whites boars; that affiant operates his farm as a partnership, and that his son, Frank, participates in the ownership and operation of the farm with affiant;

Affiant further states that affiant is the owner of three ground water use permits for the purpose of irrigation; said permits were issued on December 4, 1968, permit number 1622-3 authorized the withdrawal of 2.42 cubic feet per second to irrigate two hundred forty (240) acres located in Section 22, Township 120, Range 74, Potter County, South Dakota; Permit Number 1623-3 permitted the withdrawal of .85 cubic feet per

second of water to irrigate sixty (60) acres in Section 17, Township 120, Range 74, Potter County, South Dakota;

Affiant further states that pursuant to Permit Number 1623-3, affiant sunk one well in May, 1969, and purchased a pump, tow lines, and mainlines at a cost of six thousand five hundred dollars (\$6500), in order to enable him to commence irrigation on July 10, 1969; affiant did then, and does now, irrigate fifty-six (56) acres of farmland pursuant to Permit Number 1623-3, in Section 17, Township 120 North, Range 74 West, Potter County, South Dakota;

Affiant further states that affiant, pursuant to Permit Number 1622-3, sunk one well in the Fall of 1972, and two wells in the Spring of 1973, and purchased pumps and lines in the amount of \$33,686 to enable him to commence irrigation in the Spring of 1973; that, since the Spring of 1973, affiant has sunk an additional well and purchased additional equipment in the amount of \$7,300; that affiant, pursuant to Permit Number 1622-3, irrigates two hundred twenty acres in Section 22, Township 120 North, Range 74 West, Potter County, South Dakota;

Affiant further states that, pursuant to Permit Number 1622-3, for the years 1973-75, affiant pumped at the rate of six hundred (600) gallons per minute, twenty-four hours per day, for ten days in May, fifteen days in June, the entire months of July and August, and ten days in September; that, pursuant to Permit Number 1623-3, for the years 1970-75, affiant pumped water at the rate of 400 gallons per minute, twenty-two hours per day, for ten days in May, fifteen days in June, the entire months of July and August, and ten days in September;

Affiant further states that, in past years, the level of affiant's wells has always, in the Fall of the year, come up to its pre-irrigation level;

Affiant further states that, on most of his land, affiant has only two feet of top soil, beneath which is a porous sand; affiant's soil does not, therefore, retain water for any substantial period of time; without the continuous supply of water provided by irrigation, affiant's land is ill suited for the production of corn; in reliance, however, upon his years of dependable and successful irrigation, and in reliance upon the prospect of good corn crops, affiant purchased, in February 1975, hogs and essential hog raising equipment at a cost of \$27,000, and in August, 1975, purchased a Harvestore for the storage of wet corn for his hogs, at a cost of \$16,000; that, in further reliance upon the prospect of successful irrigation, affiant, in 1971, declined the opportunity to purchase additional land, and instead invested in the irrigation projects; that affiant has approximately \$5300 invested in well digging, \$12,000 in pumping apparatus, and \$30,000 in piping and disbursement apparatus;

Affiant further states that, in the year 1973, Mr. Jerome Klocker, and Mr. Elroy Kaiser, commenced irrigation of acreages located approximately five and six miles, respectively, North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1974, Mr. Vic and Dave VanWell commenced irrigation of acreage located approximately six miles North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1975, no new irrigation was commenced from the Aquifer; that, in the year 1976, Mr. Gillis Hageman, commenced irrigation of acreage located one-half mile to the Northwest of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1976, Mr. Clarence Frost commenced irrigation of acreage at a location approximately two and one-half miles to the North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1976, Mr. Vic and Dave VanWell commenced irrigation of acreages approximately five miles to the North of affiant's Section 22, Township 120 North, irrigation location; affiant further states that affiant's ground water use

permit was obtained prior to the permits for the irrigation projects mentioned above;

Affiant further states that affiant first encountered difficulties with his irrigation system when his well located on Section 17, Township 120 North, Range 74 West, fell, in June, 1976, preventing further irrigation and necessitating the excavation of a second well; affiant further noted, on the 10th day of July, 1976, that his domestic well, located on Section 22, Township 120 North, Range 74 West, had fallen significantly, seriously endangering his supply of domestic water and requiring him to lower his pump; that, on or about the 10th day of July, 1976, affiant noted that an old, partially caved in well which he had been utilizing as an observation well, and which was located on Section 17, Township 120 North, Range 74 West, had gone completely dry; that said observation well, in the past, had fallen a maximum of three feet;

Affiant further states that on the 14th day of July, 1976, affiant has occasion to observe the wells serving the City of Eken, South Dakota, and was told that the wells had gone down six feet in a period of two weeks during the peak of the irrigation season, and that, further, the City had pumped 260 gallons per minute in the Spring, but now could only pump 150 gallons per minute;

Affiant further states that, after having irrigated for a period of four weeks, Mr. Gillis Hageman, irrigating on Section 21, Township 120 North, Range 74 West, was forced to shut down his irrigation system almost every night; that at the end of July, Mr. Gillis Hageman was forced to install a third pump, and that even then he had problems keeping his irrigation system in operation; that, on or about August 25, 1976, Mr. Gillis Hageman's irrigation system was shut down, at a time when other irrigation systems in the vicinity were also shut off due to rain; at that time affiant's North well located on Section 22,

Township 120 North, Range 74 West, came back two feet, and that this occurrence was witnessed by Mr. Knecht from the Water Rights Commission Staff, Mr. Al Weber, Hoven, South Dakota, and Mr. Virgil Worm, Lebanon, South Dakota; affiant further states that affiant was informed that Mr. Gillis Hageman's system shut off automatically sixteen times on one day;

Affiant further states that, because of decreased water levels, during the 1976 growing season, on Section 22, Township 120 North, Range 74 West, affiant irrigated at the rate of 600 gallons per minute for 15 days during May, and twenty-five days during June; that, during July, affiant could irrigate for only twenty-four days at a rate of 500 gallons per minute, and that during August, affiant could irrigate for only 20 days at the rate of 350 gallons per minute;

Affiant further states that, due to the decreased water levels for the 1976 growing season, on Section 17, Township 120 North, Range 74 West, Affiant was forced to dig another well, on July 1, 1976, to facilitate the continuation of his irrigation operation;

Affiant further states that, affiant has, on numerous occasions, registered concern with the staff and members of the Water Rights Commission; that, at a meeting of the South Dakota Water Rights Commission, dated January 22, 1976, affiant registered his concern, and was informed that his irrigation wells were the first in time, and therefore had priority and that future applications for ground water use permits would be deferred until further study; that, on the 23rd day of July, 1976, Mr. Knecht, of the Water Rights Commission Staff visited with affiant about the problem, and indicated his opinion that other irrigators in the vicinity should be shut off to test the effects upon affiant's wells, but that this proposal was never implemented; that affiant's former attorney, Mr. Joe Neumayr, Gettysburg, South Dakota, called

Mr. Burton Jones during the July meeting of the Water Rights Commission in Winner, South Dakota, and reiterated affiant's concern, whereupon Mr. Jones indicated that he would raise the matter and emphasize affiant's concern before the Commission, since affiant was unable to attend personally;

Affiant further states that, at the current time, all irrigators except Mr. Gillis Hageman are shut off, that Mr. Hageman is having no trouble with his irrigation project, and that affiant's wells are coming back to their pre-irrigation levels;

Affiant further states that it is affiant's firm conviction that several water permits were granted by the Commission without adequate data, and without sufficient empirical study to assure that affiant, a prior irrigator, would not be affected by the granting of said permits;

WHEREFORE, based upon the foregoing facts, affiant respectfully requests:

1. That the Commission grant no more water permits until appropriate elevation tests and pump tests are run to determine the effect of subsequent irrigators upon all prior irrigators;
2. That all large volume water users be required to maintain records of water levels and of volumes drawn from the Aquifer;
3. That later irrigators be restricted from irrigating prior to July 1 of the growing year and be restricted to the irrigation of one quarter of land;
4. That the irrigation system of Mr. Gillis Hageman be shut down for the growing year 1977 to determine conclusively the effect of said irrigation upon the irrigation project of affiant;
5. That the irrigation system of Mr. Clarence Frost be restricted from irrigation prior to July 1, 1977, and, if affiant's irrigation problems persist after July 1, 1977, that the irrigation system of Mr. Clarence Frost be shut down for the entire growing year 1977.

6. That, if the drought conditions continue, the Commission give consideration to the total or partial restriction of other subsequent irrigators.

Dated this 21 day of Sept., 1976.

Willard Zweber
Willard Zweber

Subscribed and sworn to before me this 21st day of Sept, 1976.

Sharon H. H. H.
Notary Public, Brown County

(SEAL)

My Commission Expires: 7/25/82

Hedges further indicated that the Aquifer flows away from Mr. Zweber's property and that Mr. Zweber is located on the high point of the Aquifer; that Mr. Hedges further indicated his opinion that, if his observation was wrong, that if the Aquifer flows toward Mr. Zweber's property rather than away from it, Mr. Zweber could very possibly be correct in his argument that subsequent irrigators were affecting Mr. Zweber's irrigation; Hedges indicated that there are no elevation readings available to verify his opinion;

Affiant further states that affiant talked by phone to Mr. Hedges on August 24, 1976; that Mr. Hedges indicated that two things would be helpful in determining whether the water level in Mr. & Mrs. Zweber's irrigation wells were being affected by other irrigators; elevation studies of the entire Aquifer, and irrigation well water level records over a period of time;

Affiant further states that, on the 1st day of September, 1976, affiant talked by phone to Mr. Al Weber, who is currently supervising the city wells of the city of Hoven; Weber indicated that the City had excavated a new well which was fifty-one feet deep, and when they started pumping in the month of July, the static water level was twenty-four point four (24.4) feet; he further indicated that, after two weeks of pumping at the rate of 246 gallons per minute, the well leveled off to twenty-one feet deep; he further indicated that, from the 14th of July to the 28th day of July, the well was drawn down to fifteen point six (15.6) feet, having lost five point four (5.4) feet; on the 28th day of July forward, the pumping rate was dropped to one hundred eighty (180) gallons per minute, and was later again dropped back to one hundred fifty (150) gallons per minute; Weber further indicated that, when the pumping apparatus of an irrigator just North of town burned out for about one week, toward the middle of August, the well recovered to eighteen point seven (18.7) feet; Weber further indicated that the well had been pretested,

having been pumped at two hundred forty-six (246) gallons per minute for eight and one-half (8 1/2) hours; Weber further indicated that other people have been having trouble with their wells, but have been reluctant to complain because nobody wants to stir up trouble especially in an area such as Hoven where many of the families are interrelated; Mr. Weber further indicated his opinion that the volume of irrigation was affecting the water levels of the wells of the City of Hoven;

Affiant further states that, on the 9th day of September, 1976, affiant talked by phone to a farmer from the Hoven area who has three wells for domestic and livestock use; this individual indicated that he had no troubles with his wells prior to the winter of 1974; he further indicated that, for the winters of 1974 and 1975, he has been forced to haul water to provide adequately for his wintering livestock; he further indicated that he knows numerous others who are having trouble with their stock dams and water wells;

Affiant further states that, on the 9th day of September, 1976, affiant talked by phone to another individual who farms on rented land near Hoven, South Dakota; this individual indicated that he had been having trouble with his well all summer long; he further indicated that, in his opinion, other people were having trouble but were reluctant to complain because they didn't want to do any harm to those who had invested money in irrigation;

Affiant further states that, on the 9th day of September, 1976, affiant talked by phone to another individual who farms near Hoven, South Dakota, this individual indicated that he had no trouble with his wells prior to the Spring of 1976; he further indicated that, in past years, he had had adequate water to provide for his livestock, but that this year he will be forced to haul water for his cattle;

Affiant further states that affiant has neglected to indicate the names of the above individuals or the location of their farms out of courtesy to said individuals, and out of a concern, on the part of both affiant and his client, that no undue animosities result; if the Commission desires the names of these individuals affiant will first acquire their permission, and submit those names;

Affiant further states that on the 9th day of September, 1976, affiant talked by phone to Mr. Duane Martin, who is a well driller, and who has dug a number of irrigation wells and an additional number of test holes and domestic wells in the Aquifer in question; Mr. Martin indicated that, in his opinion, the Aquifer "comes from the North and flows on down South";

Affiant further states, that on the 9th day of September, 1976, affiant talked by phone to Mr. Virgil Worm, who is a well driller, and who has dug approximately twelve irrigation wells and innumerable domestic wells in the Aquifer in question; Mr. Worm indicated his firm conviction that the Aquifer flows from the Northwest to the Southeast, toward Mr. Zweber's property; Mr. Worm further indicated his opinion that the irrigation operation of Mr. Gillis Hageman is having a serious effect upon the water level of Mr. Zweber's wells; Mr. Worm further indicated that he had dug the first well for Mr. Zweber in 1969, located on Section 17, Township 120 North, Range 74 West and that, at that time, the well was eighteen inches to water; in 1976, Mr. Worm indicated that he dug a ditch right alongside the well, and had dug down six feet, and still had not struck water; Mr. Worm

further indicated that, in 1976, he dug a well 200 yards from that first well, and hit water at nine (9) feet; Mr. Worm further indicated that he had, at the request of Mr. Zweber, on or about April 9, 1976, checked the levels of irrigation wells located on the West one-half of Section twenty-two (22), Township one hundred twenty(120) North, Range seventy-four (74), West of the Fifth P.M., Potter County, South Dakota, at various time intervals, and executed a statement indicating the results of that check (Exhibit 1);

That Mr. Worm further indicated that, on August 25, 1976, Mr. Worm checked the North well of Mr. Zweber's wells located on Section 22, Township 120 North, Range 74 West, at a time when Mr. Gillis Hageman's system was shut off and when a number of the other irrigation systems were shut off, and determined that the said North well had come back two feet.

Dated this 21st day of September, 1976.

Rory King
Rory King

Subscribed and sworn to before this 21st day of September, 1976.

Sharon Hakech
Notary Public, Brown County

My Commission Expires: 7/25/82

(SEAL)

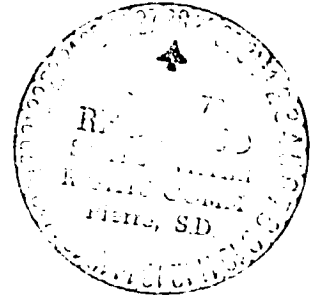
KING AND KING
ATTORNEYS AT LAW

Telephone:
Code 695
225-3783

Offices 402 — 403
Capitol Building
415 Main Street
Aberdeen, South Dakota 57401

Residential Phones
H. I. King — 225-7833
Rory King — 229-4389

September 22, 1976



Mr. Don Wagner, Chairman
Mr. William Richey, Vice-Chairman
Mr. Milton Fischer
Mr. Glen Garrett
Mr. Stanley Jensen
Mr. John Mickelson
Mr. Elvern Varliek

Department of Natural Resource Development
Division of Water Rights

Mr. Lynn Hedges:

Dear Sirs:

I have been retained to represent Mr. & Mrs. Willard Zweber relative to the difficulties which they have encountered this past summer with their irrigation well levels.

Mr. & Mrs. Zweber have had some severe problems with their irrigation well levels this summer, and are convinced that their troubles significantly derive from the volume of water drawn from the Aquifer by other irrigators who acquired their permits subsequent to the date upon which the Zwebers acquired their permits.

I contacted Mr. Burton Jones and requested that Zwebers be given an opportunity at the September 29, 1976, Commission meeting to present their position and requests. Mr. Jones indicated that Mr. & Mrs. Zweber could do so at 9:00 o'clock a.m. on September 29, 1976, one hour prior to the commencement of the regular meeting of the Commission.

To aid your understanding of that presentation, I have prepared two affidavits, the first executed by Mr. Zweber and the second executed by me, which are enclosed herein.

SDCL 47-5-7 provides:

As between appropriators, the first in time is the first in right. The priority of the appropriation shall date from the time of filing of the application therefor in the Office of the Water Resources Commission.

The South Dakota Supreme Court, in the case of Cundy vs. Weber, 68 SD 214, 300 N.W. 17 (1941) held that a paramount appropriator or user is entitled to that quantity of water within the limits of his appropriation as will satisfy his needs, even though the entire flow of the water is thereby exhausted. Regulation 52:01:05:02 of the South Dakota Water Rights Commission provides:

The spacing of large capacity wells, within or without a special ground water control area, shall be controlled so as to assure domestic use and other prior water supplies in adequate wells. Spacing of large capacity wells will be a criterion applied by the Commission in determining the availability of unappropriated water when considering individual applications for permits to appropriate ground water.

Regulation Number 52:01:05:03 of the South Dakota Water Rights Commission gives the Commission the power to act where the water supply of a prior appropriator is in danger. The regulation provides, in part, as follows:

During periods of water shortages, the Commission may restrict water withdrawals from an Aquifer by large capacity wells by limiting drawdown, limiting daily operating periods, reducing the rate of withdrawal, rotation of operating periods among wells, or other means by which adverse effects upon the Aquifer may be lessened in the degree necessary to conform with the provisions of law and these rules.

As is evident from the Affidavits submitted with this letter, it is the firm conviction of Mr. & Mrs. Zweber that their irrigation water supply is being affected by the water use of subsequent irrigator appropriators. Three new irrigation projects went into the Aquifer, in close vicinity to the irrigation project of Mr. Zweber, during the year 1976. Although he had never had trouble in the past with his irrigation wells, it soon became evident that his water levels were decreasing dangerously. He was forced to dig a new irrigation well on his

Section 17 Irrigation location; his domestic wells dropped, requiring him to drop his pump; the well which he had been using for an observation well went dry, although it had never done so before; on the Section 17 location, the well drillers, who, in 1969, had hit water at 18 inches, could find none at 6 feet. As a result of the decreased water levels, the extent of Mr. Zweber's irrigation decreased in volume application, in duration, and in coverage. His income will, as a result, be seriously affected.

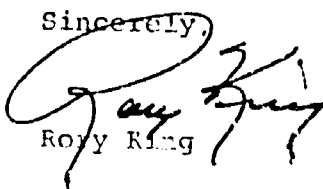
The argument that the Zweber's irrigation location is "in a pocket" and thereby isolated from any effects of subsequent irrigators is contradicted by a number of factors:

1. The fact that the Zwebers have always had sufficient quantities of water in the past;
2. The fact that their irrigation wells came back up when the systems of other irrigators were shut down;
3. The fact that Mr. Hageman's irrigation system is operating continuously and without difficulty now that the other irrigators have shut down for the Summer;
4. The fact that the City well fell significantly at the peak of the irrigation system, and that the well recovered when there was a shut down of a close irrigation system;
5. The opinion of Mr. Virgil Worm, an experienced well driller;
6. The opinion of Mr. Hedges that irrigation is having some effect and that, if the Aquifer flows toward Mr. Zweber, Mr. Zweber could be affected by other irrigators;
7. The fact that the water levels are currently coming back, even though there has been no rainfall to recharge the Aquifer.

The contention that the Aquifer is shallow to begin with does not affect Mr. Zweber's rights as a prior appropriator. He was given the right to withdraw a certain amount of water from the Aquifer. In the Summer of 1976 he was unable, because of decreased water levels, to withdraw that amount. It is his firm conviction that this is due, in part, to the volume of water taken from the Aquifer by subsequent irrigator appropriators, and that he is therefore entitled to a remedy.

Thank you for giving your attention to this matter.

Sincerely,


Roy King

RK:sh

ENC.

SOUTH DAKOTA
Department of Natural Resource Development

1622-3, (1623-3)
1704-3, 2271, 2595-3

Department of Natural Resource Development

WATER RIGHTS COMMISSION

Joe Foss Building, Pierre, South Dakota 57501

Phone 605/224-3151

April 6, 1977

Rory King, Attorney
415 South Main
Aberdeen, S.D. 57401

Ron Wheeler, Attorney
201 Farmers & Merchants Bank Bldg.
Huron, South Dakota 57350

Gentlemen:

The Water Rights Commission will not at this time, meet to reconsider their action taken March 24, 1977 concerning ground water Water Rights held by Messrs. Zweber, Frost, Turner and Hageman. Commission Members have been contacted and all are willing to hold a special meeting; however, they do not believe a meeting should be scheduled, unless new information can be presented.

The Commission Staff is to continue to monitor ground water levels in the Hoven area. If water levels show noticeable recovery, the Chief Engineer could authorize pumping by Messrs. Frost, Turner and Hageman on a restricted or full-time basis following contact with and agreement by Commission Members.

The Staff also intends to make final inspections for licensing of Water Rights held by Messrs. Zweber, Turner, Frost and Hageman. Since their permits are new, Messrs. Frost and Hageman are authorized up to five years to complete their projects. However, unless their projects are not complete, we would expect to make final inspections at this time. The permit holders are authorized, but not entitled to, a specified number of cubic feet per second (cfs) based upon the number of acres authorized. The amount of water licensed on each permit is based upon well capacity, providing the cfs is the same or less than the authorized cfs. We would expect that Mr. Zweber (No. 1622-3) will be licensed for four wells based upon his statements at the March 24, 1977 meeting, that Mr. Turner will be licensed for one well, Mr. Hageman for three wells and Mr. Frost for three wells. Any Additional wells would have to be either replacement wells for older abandoned wells or a new water right permit would be required before new wells could be pumped.

Mr. Rory King, Attorney
Mr. Ron Wheeler, Attorney
April 5, 1977

Page 2.

We also intend to recommend to the Commission that measurement devices be required for all irrigation projects in the Hoven South Aquifer to allow well production to be monitored. This would be done in accordance with SDCL 46-2-9 and 46-2-11.

Attached is a copy of the Excerpts from the March 23-24, 1977 Water Rights Commission meeting which pertain to the Willard Zweber matter. The Excerpts have not been approved by the Commission and are submitted for your information only.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Commission
Department of Natural Resource
Development
Foss Building
Pierre, South Dakota 57501

JH/bw
Encl: As stated
cc: Water Rights Commission
Willard Zweber
Allen Turner
Gillis Hageman
Clarence Frost

August 18, 1977

Memorandum :
Hoven Area

To: FILE
From: James Winterton
Division of Water Rights

1. Water levels checked in the observation wells.

SW-4 read 8.5 feet

SW-6A read 20.3 feet

Both wells were within the limits established by the Water Rights Commission for this particular area. This writer then gave authorization to the irrigators to again use their systems, but only if a flow meter had been installed on the system.

2. This writer contacted Mr. Gillis Hogeman and inspected his flow meter. He had just completed installing the meter that week. He was advised that he could go ahead and again use his system.
3. This writer called to Mr. Frost's place but he was not home, therefore a message was left that he could go ahead with his irrigation.
4. This writer then drove to Mr. Turner's place

and advised him of the situation. On this date he still had not installed a flow meter but it was on its way. This writer advised him that upon installing the meter, he was free to go ahead with the irrigation.

5. This writer then contacted Mr. Willard Zweber and told him the situation. On this date he was not operating his systems. When asked if he had installed a flow meter, he stated that he had not, however he would not be using his system for the remainder of the year. With the rains received over the past weekend, he felt he had all the water needed for the season. Mr. Zweber stated that he would be installing a flow meter before starting his irrigation the next spring.

Signed
James M. Antt

Potter

COUNTY, SOUTH DAKOTA

TOWNSHIP No. 120 N

RANGE No

74 W

29 November 1977

(With surrounding tier of sections of adjacent townships)

36	31	32	33	34	35	36	31
1	6	5	2598-3 4 Frost	3	2	1	6
12	7	8	9	10	11	12	7
13	18	1623-3 17 Zweber	161704-3 16 Hageman 21 2271-3	Turner 2276-3 15	14	13	18
24	19	20	21 Hageman 2271-3	22 Zweber 23 1623-3	24	19	19
25	30	29	28	27	26	25	30
36	31	32	33	34	35	36	31
1	6	5	4	3	2	1	6

1622-3

Priority date
7 October 1968Completion date
4 December 1973

1623-3

7 October 1968

4 December 1973

Licensed 1 well

1704-3

18 November 1969

7 January 1975

2276-3

1 May 1975

22 May 1978

2271-3

1 May 1975

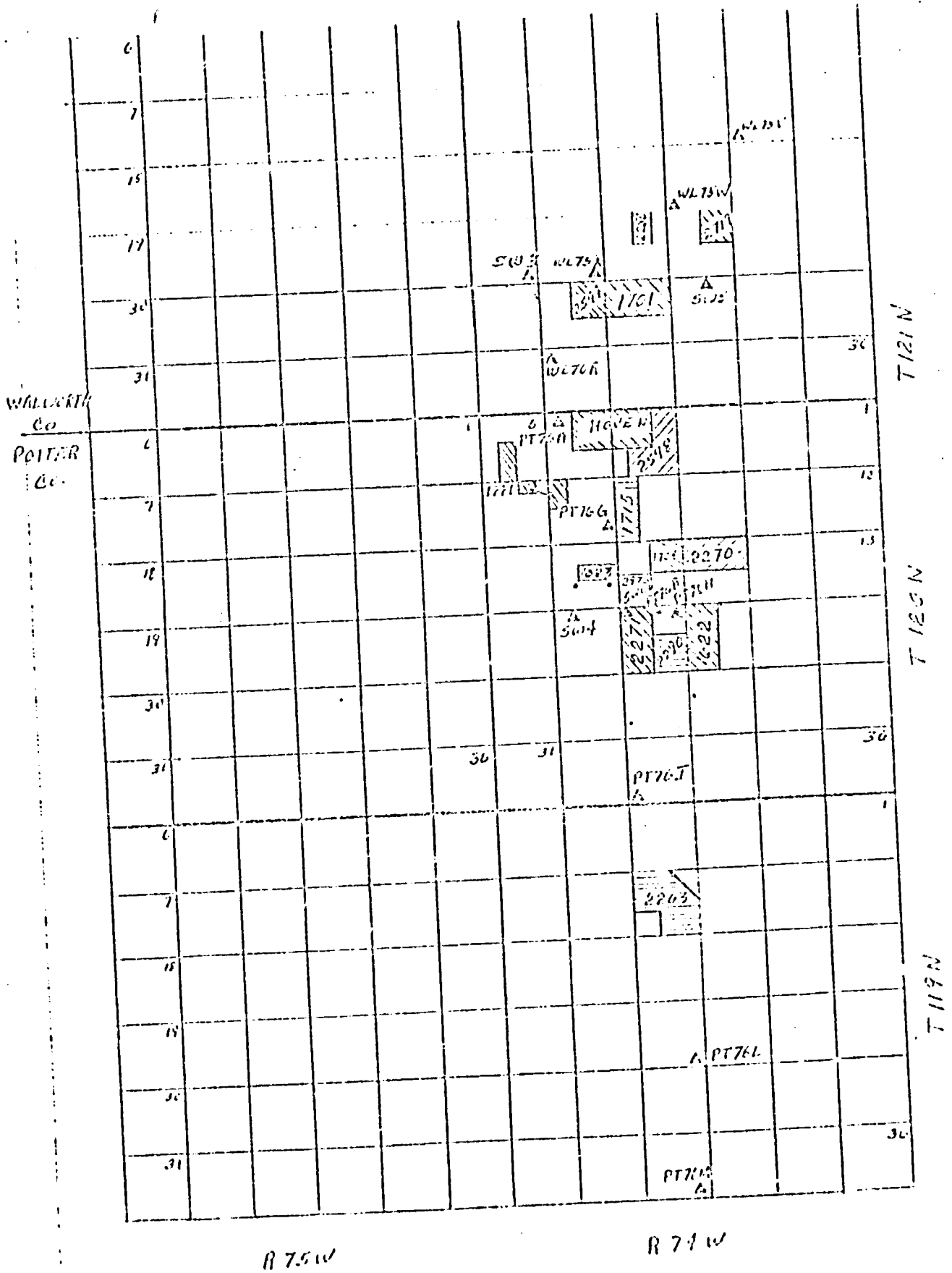
22 May 1978

2598-3

17 February 1976

15 March 1981

Exhibit



Well Number: SW4by PotterLegal location: BABB Section 20 T- 120 NXX R- 14 PR - WDepth of well 12.7 ft Mean Sea Level Elevation of Measuring Point 1872.49Pipe length above ground 2.2 ft. Date Drilled August 23 19 57Depth to top of aquifer 5 ft. Thickness of aquifer 5 ft.

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
11-15-57	5.8	1866.7	11-9-70	5.4	1867.1
3-17-58	4.8	1867.7	3-5-71	4.8	1867.7
6-24-58		1868.0	7-13-71	4.0	1868.5
12-5-58	5.9	1866.6	11-7-71	4.9	1867.6
3-11-59	5.2	1867.3	3-28-72	3.7	1868.8
7-21-59	6.5	1866.0	7-12-72	4.9	1867.6
11-6-59	6.8	1865.7	10-26-72	5.8	1866.7
5-12-60	5.2	1867.3	3-28-73	2.9	1869.6
7-15-60	5.8	1866.7	7-3-73	6.1	1866.4
11-30-60	5.1	1867.4	11-23-73	6.1	1866.4
3-1-61	3.6	1868.9	3-27-74	5.6	1866.9
7-6-61	5.6	1866.9	6-25-74	5.6	1866.9
10-26-61	6.5	1866.0	11-6-74	6.8	1865.7
3-2-62	5.7	1866.8	4-11-75	4.6	1867.9
7-2-62	4.2	1868.3	7-1-75	5.8	1866.7
11-1-62	5.8	1866.7	11-5-75	7.1	1865.4
3-14-63	4.7	1867.8	3-19-76	5.8	1866.7
7-11-63	5.0	1867.5	5-18-76	6.2	1866.3
11-20-63	5.4	1867.1	6-16-76	7.1	1865.4
3-19-64	5.1	1867.4	8-19-76	8.2	1864.3
6-23-64	2.8	1869.7	8-25-76	8.3	1864.2
11-13-64	6.0	1866.5	10-22-76	8.4	1864.1
3-8-65	5.3	1867.2	11-9-76	8.3	1864.2
7-1-65	4.4	1868.1	12-2-76	8.1	1864.4
11-8-65	5.7	1866.8	12-14-76	8.2	1864.3
7-5-66	5.0	1867.5	1-11-77	7.95	1864.5
11-14-66	4.8	1867.7	3/16/77	7.35	1865.14
4-3-67	4.3	1868.2	4/13/77	6.9	1865.59
7-7-67	4.1	1868.4	5/18/77	7.35	1865.15
11-3-67	5.7	1866.8	6/9/77	7.9	1864.6
3-28-68	3.4	1869.1	6/20/77	7.9	1864.6
7-2-68	3.3	1869.2	7/5/77	8.2	1864.3
10-22-68	5.2	1867.3	7/14/77	8.3	1864.2
3-25-69	3.6	1868.9	8/1/77	8.9	1863.6
7-8-69	3.7	1868.8	8 / 8/77	9.7	reading in error
11-10-69	5.4	1867.1	8/15/77	9.0	1863.5
3-6-70	4.0	1868.5	8/18/77	8.5	1864.0
6-25-70	3.9	1868.6	8/22/77	8.6	1863.9
			8/31/77	8.6	1863.9

SV4

Potter

Water Level Observation

Date	W/L Reading	Elevation	Date	W/L Reading	Elevation
9/12/77	8.7	1863.8			
9/28/77	8.6	1863.9			
10/26/77	8.4	1864.1			
11/22/77	8.1	1864.4			
11/28/77	8.0	1864.5			

Well Number: SW6A County Potter

Legal location: BBB Section 21 T- 120 N & R- 74 XX - W

Depth of well _____ Mean Sea Level Elevation of Measuring Point 1891.89

Pipe length above ground 2.2 Date Drilled _____ 19 _____

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
11-5-75	18.2	1873.7			
3-19-76	18.2	1873.7			
7-9-76	18.6	1873.3			
3-25-76	19.7	1872.2			
10-22-76	19.8	1872.1			
11-9-76	20.0	1871.9			
12-2-76	19.9	1872.0			
12-14-76	19.9	1872.0			
1-11-77	19.8	1872.1			
3/16/77	19.7	1872.19			
4/13/77	19.7	1872.19			
5/17/77	19.5	1872.4			
6/9/77	19.7	1872.2			
6/20/77	19.3	1872.1			
7/5/77	20.0	1871.9			
7/14/77	19.9	1872.0			
8/1/77	20.4	1871.5			
8/8/77	20.2	1871.7			
8/15/77	20.2	1871.7			
8/18/77	20.3	1871.6			
8/22/77	20.3	1871.6			
8/31/77	20.3	1871.6			
9/12/77	20.4	1871.5			
9/28/77	20.3	1871.6			
10/26/77	20.4	1871.5			
11/22/77	20.3	1871.6			
11/28/77	20.3	1871.6			

Well Number: PT76G County Potter

Legal location: ADDD Section 8 T- 12C NXX R- 74 XX - W

Depth of well _____ Mean Sea Level Elevation of Measuring Point 1868.36

Pipe length above ground 2.1 Date Drilled June 12, 19 76

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
7-9-76	6.6	1861.8			
7-23-76	6.8	1861.6			
8-19-76	7.1	1961.3			
10-22-76	6.8	1861.6			
11-9-76	6.8	1861.6			
12-2-76	6.7	1861.7			
12-14-76	6.6	1861.8			
1-11-77	6.6	1861.8			
3/16/77	5.8	1862.56			
4/13/77	5.35	1863.01			
5/18/77	6.0	1862.4			
5/9/77	6.3	1862.1.			
6/20/77	6.2	1862.2			
7/5/77	6.7	1861.7			
7/14/77	6.8	1861.6			
8/1/77	7.0	1861.4			
8/8/77	7.2	1861.2			
8/15/77	7.0	1861.4			
8/18/77	7.0	1861.4			
8/22/77	7.0	1861.4			
8/31/77	6.8	1861.6			
9/12/77	6.9	1861.5			
9/28/77	6.6	1861.8			
10/26/77	6.6	1861.8			
11/22/77	6.1	1862.3			
11/28/77	6.2	1862.2			

Well Number: PT76HCounty PotterLegal location: AAAA Section 21 T- 120 N R- 74 E - WDepth of well _____ Mean Sea Level Elevation of Measuring Point 1205.04

Pipe length above ground _____ Date Drilled _____ 19____

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
7-23-76	27.9	1877.1			
8-19-76	28.0	1877.0			
8-25-76	28.0	1877.0			
10-22-76	28.6	1876.4			
11-9-76	28.8	1876.2			
12-2-76	28.9	1876.1			
12-14-76	28.8	1876.2			
1-11-76	28.9	1876.1			
3/16/77	28.9	1876.1			
4/13/77	28.8	1876.2			
5/17/77	28.85	1876.15			
6/9/77	28.9	1876.1			
6/20/77	29.0	1876.0			
7/5/77	29.1	1875.9			
7/14/77	29.1	1875.9			
8/1/77	29.5	1875.5			
8/8/77	29.4	1875.6			
8/15/77	29.3	1875.7			
8/18/77	29.4	1875.6			
8/22/77	29.5	1875.5			
8/31/-7	29.5	1875.5			
9/12/77	29.7	1875.3			
9/28/77	29.7	1875.3			
10/26/77	29.7	1875.3			
11/22/77	29.6	1875.4			
11/28/77	29.8	1875.2			

1622-3 & 1623-3

Department of Natural Resource Development

WATER RIGHTS COMMISSION

Joe Foss Building, Pierre, South Dakota 57501

Phone 605/224-3151

November 22, 1977

TO: Persons Concerned With Actions Taken by the Water Rights Commission, July 27, 1977 in Regard to Additional Diversion Points Authorized Willard Zweber, Hoven, South Dakota

FROM: John Hatch, Chief Engineer, Water Rights Commission

SUBJECT: Notice of Reconsideration of Actions Taken July 27, 1977 Concerning Additional Diversion Points Authorized Willard Zweber

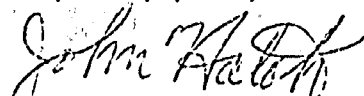
The Water Rights Commission will reconsider actions taken July 27, 1977 concerning additional diversion points authorized Willard Zweber under Water Right Permits Nos. 1622-3 and 1623-3, at 1:15 P.M., December 1, 1977 at the South Dakota Education Association Auditorium, 411 East Capitol, Pierre, South Dakota.

This reconsideration hearing will be conducted in accordance with the provisions of SDCL 46-1-1 thru 46-1-8; 46-2-9 thru 46-2-11, 46-2-13; 46-5-1 thru 46-5-8, 46-5-10 thru 46-5-22, 46-5-41, 46-6-3, 46-6-5, 46-6-6.1, 46-6-10, 46-6-14 and Commission Rules ARSD 52:01:01:01 thru 52:01:01:13.

The actions taken July 27, 1977 are being reconsidered due to the misapprehension of facts of which the Commission is in doubt.

After reconsideration of the actions taken July 27, 1977, the Commission can change, can not change, or rescind their actions of July 27, 1977.

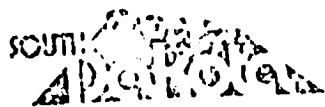
Very truly yours,



JOHN HATCH, Chief Engineer
Water Rights Commission

JH/bw

cc: Clarence Frost, Hoven, S.D. 57450
Allen Turner, Hoven, S.D. 57450
Gillis Hegeman, Hoven, S.D. 57450



Department of Natural Resource Development

WATER RIGHTS COMMISSION

Joe Foss Building, Pierre, South Dakota 57501
Phone 605/773-3151

August 18, 1978

WATER RIGHTS COMMISSION

Gentlemen:

August 16, 1978, Harvin Knecht of this office was in the Hoven area and measured water levels in the Zweber, Hageman, Frost, and Turner irrigation wells. We had somebody in the area August 7; however, the electric reader wire became entangled in one of Mr. Zweber's wells and the bottom portion of lead wire was broken off. Since our other electric readers had been used in the Carl Estabrook pump test and then for a pump test being supervised by the State Geological Survey, the broken reader was the only reader available. We were unable to get the electric reader repaired until August 11. The other electric readers have since been returned; however, in the meantime, Mr. Zweber contacted several Commission members.

Mr. Zweber had reported that Turner and Hageman were pumping air. Mr. Hageman, Mr. Turner, and Mr. Frost each reported they have had mechanical problems, not water shortage problems.

Measurements taken during 1978 have been as follows:

Zweber 1622-3 (Home place)							
date	gpm	Well #1 59' deep	Well #2 64' deep	Well #3 68' deep	Mair. Well #4	Well #5	Meter reading (gallons)
5-24		45.8'	47.1'	51.9'	55.3'	50.1'	not installed (zero)
not pumping 6-20	600 ⁺	(47.5' 10-25-76) 53.86'	(53.8' 10-25-76) 53.51'	60.12'	65.16'	61.96'	2,624,900
pumping 7-6	600	55.5'	54.2'	60.08'	65.3'	61.37'	4,492,500
pumping 8-7	600	57.32'	55.86'		wire caught in well		9,874,800
pumping 8-16	600	55.2'	61.01'	62.39'	69.1'		11,766,100
pumping		(pumping restricted because well pumping air)			(after gpm reduced to 580 gpm)		

Zweber 1623-3 (north permit)			
date	gpm	main well 30' deep	east well
5-24		4.10'	4.25'
not pumping 6-20		4.87'	6.58'
not pumping 7-6		3.91'	5.7'
not pumping			

meter reading
(gallons)
not installed
(zero)
229,900
499,000

Zweber 1623-3 (north permit) cont.

date	gpm	main well 30' deep	east well	meter reading (gallons)
8-7 (pumping)	450			3,833,400
8-16 (not pumping)		7.43'	8.28'	4,982,900

Hageman 2271-3

date	gpm	main well	SE of main well	NW of main well	South (infield)	meter readings (gallons)	observation wells near main well used for pump test	
5-24		15.3'	18.4'	15.7'	18.4'	not installed	South (closest)	North
not pumping							15.6'	15.1'
6-20	600	31.95'	25.26'	33.44'	25.49'	11,666,500	21.54'	20.1'
pumping						15,970,500		
7-6								
not pumping								
8-7	600					32,182,800		
pumping								
8-16		19.2'	21.9'	19.23'		36,591,100	19.25'	18.81'
not pumping								

Frost 2598-3

date	gpm	#1 north well	#3 1st well SE pivot	#4 2nd well SE of pivot	#2 NW of pivot	#5 SE of pivot	meter readings (gallons)
5-24		48.6'	50.2'	53.0'	40.2'	50.8'	not installed
not pumping							
6-20	600	56.77'	wire hangup- no reading	60.0'	50.0'	63.83'	41,158,300
pumping							
7-6	600						47,834,300
pumping							
8-7	500						70,671,600
pumping							
8-16		52.01'	54.51'	56.15'	44.7'		74,771,700
not pumping							

Turner 1704-3

date	gpm	well	meter reading (gallons)
5-24		28.4'	not installed
not pumping			(zero)
6-20		26.63'	4,027,400
pump pulled (acidizing well)			
7-6 (not pumping)			4,567,300
8-7	400		13,934,400
pumping			
8-16 (not pumping)		28.25'	17,277,900

Observation Well Measurements

PT 76H located corner of Zweber's home place between Zweber's and Hageman's land.

1-9	29.8'
3-22	no reading
4-11	29.5'
6-12	29.2'
6-20	29.5'
7-6	29.6'
8-7	29.8'
8-16	29.5'

PT 76B located about $\frac{1}{2}$ mile west of PT 76H and Northeast from Hageman's wells
(this well is within the Hageman irrigation wells cone of influence)

1-9	18.8'
3-22	no reading
4-11	18.2'
6-1	18.3'
6-12	18.1'
6-8	18.6'
6-12	18.1'
6-20	19.0'
6-28	19.3'
7-6	19.2'
7-10	18.9'
7-25	19.5'
8-7	20.0'
8-16	20.2'

SW 6A located on corner west of Hageman's (Hageman, Turner, & Frost to be shut
off if water level drops to 21.5')

1-9	20.3'
3-22	18.7'
4-11	19.4'
6-12	19.4'
6-20	19.5'
7-6	19.5'
8-7	19.8'
8-16	19.7'

SW 4 (Hageman, Turner & Frost to be shut off if waterlevel drops to 9.0')
located west of SW-6A

1-9	7.8'
3-22	7.2'
4-11	5.3'
6-12	6.4'
6-20	7.0'
7-6	6.2'
3-7	7.1'
8-16	7.3'

August 18, 1978

James River Irrigators

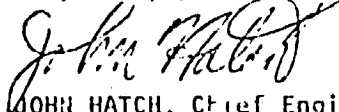
page 4

Information thus far indicates that Mr. Zweber's water shortage problems at the home place are within his own well field. If other irrigation pumping was affecting Mr. Zweber's pumping, then observation well PT 76H should be dropping also. In order to maintain the 600 gpm he needs for his center pivot, the water levels in his wells have continued to drop even though the water level in PT 76H has not dropped.

At this time, even if Frost, Hageman and Turner were shut off, Mr. Zweber would still experience the same water shortage conditions. During those years when ground water levels are high, the water levels in Mr. Zweber's wells will still drop and if he were to pump enough water we would still expect him to experience water shortage problems even though PT-76H would still reflect the higher water levels.

The primary problem is that the sand and gravel materials in the Zweber well field are not the type that high capacity wells can be developed in to provide the amount of water necessary for sustained pumping at the continuous rate necessary for irrigation with a center pivot.

Very truly yours,



JOHN HATCH, Chief Engineer
Water Rights Commission

JH/gy

March 20, 1980

Mr. & Mrs. Willard Zweber
Hoven, SD 57450

Dear Mr. & Mrs. Zweber:

November 26, 1979, you requested that we make final inspections of your Water Permits. During a review of deferred applications, we note that you have two deferred applications Nos. 4062-3 & 4063-3 for additional diversion points (wells) for your existing permits. As I recall, when 4062-3 and 4063-3 were considered, the former Water Rights Commission deferred the applications, but allowed, by motion, additional wells.

Before making final inspections, I want to have the Attorney General's Office review this matter.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights, WMD

JH/gy



Joe Foss Building
Pierre, South Dakota 57501

Department of
Water & Natural Resources

Division of Water Rights
605 773-3352

January 12, 1980

TO: People Interested in Hoven Area Water Supplies & Deferred Applications
FROM: John Hatch, Chief Engineer, Water Rights Division
SUBJECT: Review of Water Status and Reconsideration of Deferred Applications

The Water Management Board will reconsider deferred water permit applications in the Hoven Area in Potter & Walworth Counties at 8:30 am on January 29, 1981 at Meeting Room #1, Kneip Building, Church & Illinois, Pierre SD.

This reconsideration hearing will be conducted in accordance with the provisions of SDCL 46-1-1 thru 46-1-9; 46-1-14; 46-2-9 thru 46-2-11; 46-2-13; 46-5-1 thru 46-5-8; 46-5-10 thru 46-5-22; 46-5-41; 46-6-3; 46-6-5; 46-6-6.1; 46-6-10; 46-6-3.1; 46-6-14 and Board Rules ARSD 52:01:01:01 thru 52:01:01:13.

These applications were previously deferred by the Board pending staff investigation. A report on the deferred applications has been prepared by the Water Rights Staff and is enclosed.

After reconsideration of the deferred applications the Board can approve, conditionally approve, defer, or deny all or part of the Applications.

This hearing is an adversary proceeding. Any person has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised at the hearing. Decisions of the Board may be appealed to the Courts as provided by law.

You are also notified that SDCL 1-26 provides any interested party the opportunity to meet informally with the Water Rights Division Staff to discuss proposed recommendations by the staff to the Board prior to the scheduled hearing. If we do not hear from you, we will assume that the opportunity for an informal meeting is being waived and you wish to proceed directly to the hearing on the applications before the Board.

Any handicapped person wishing to attend this hearing can contact the Water Rights Division, DWRN, Joe Foss Building, Pierre SD, prior to the hearing date for assistance to assure access to the hearing.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

kw

enclosure

Equal Opportunity Employer

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF ADDITIONAL POINTS)
OF DIVERSION FOR WATER PERMIT NO.)
1623-3)

FINDINGS OF FACT
CONCLUSIONS OF LAW
FINAL DECISION

Having heard and considered all the evidence presented before the Board in the above-entitled matter on January 29, 1981 at the Richard B. Kneip Building, Pierre, South Dakota, the Board hereby makes the following:

FINDINGS OF FACT

1. That on October 7, 1968 application for Water Permit No. 1623-3 was received by the Water Resources Commission from Willard Zweber.
2. That Application No. 1623-3 specified one point of diversion to withdraw .85 c.f.s. of water for irrigator purposes.
3. That the application was duly advertised in the Hoven Review on October 24, October 31, November 7, and November 14, 1968.
4. That the Water Resources Commission considered and approved the application at its meeting on December 4, 1968.
5. That within the five-year construction period allowed under the permit, one well was drilled on the lands covered by this permit.
6. That the five-year construction period terminated on December 4, 1973.
7. That at the July 27 and 28, 1977 meeting of the Water Rights Commission, Mr. Zweber orally requested an additional point of diversion for Permit 1623-2.
8. That the additional point of diversion was already constructed prior to Zweber's request.
9. That this request was not advertised, nor was an application submitted to the Commission.
10. That there was no evidence offered of engineering, physical, or legal difficulties to explain the reasons for not fully constructing the system within five years.
11. That the Commission granted Zweber's request for an additional diversion point for Permit 1623-3.

12. That at the same meeting, the Commission decided to reconsider at a later meeting its action permitting the additional diversion point.

13. At the Commission's November 30 and December 1, 1977 meeting this action was reconsidered, but deferred until January 16, 1978 when the Commission again failed to take action.

14. That all interested parties were notified that the action approving the additional point of diversion would be reconsidered at the meeting of the Water Management Board on January 29, 1981.

CONCLUSIONS OF LAW

1. That the Water Management Board has jurisdiction to reconsider the approval of water permits.

2. That all parties were duly notified that the Board would reconsider the granting of additional points of diversion on Water Permit 1623-3.

3. That the application by Zweber for an additional diversion point under 1623-3 did not follow the requirements of South Dakota law.

4. That the request for an additional diversion point did not constitute an application for an extension of the construction period of Water Permit No. 1623-3.

5. That a request for an extension of the construction period must be made before the construction period has terminated.

6. That there were insufficient grounds for granting an extension of the construction period of Permit No. 1623-3.

7. That a water permit holder is limited to the number of points of diversion on the application as approved by the Board.

8. That a water permit holder may change the plans of construction with the approval of the Board to include additional points of diversion, but only within the permitted construction period.

9. That a right to use water is limited by the amount of water applied to beneficial use by a water right holder within the term of construction.

10. That a change in point of diversion is not the equivalent of adding additional diversion points under a permit.

11. That to change a point of diversion, application must be made to the Water Management Board and notice must be published before the Board can consider the request.

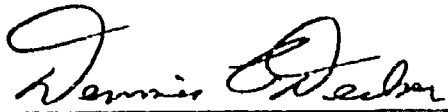
12. That the Water Rights Commission was without legal authority to approve the additional diversion point requested on Permit No. 1623-3 in 1977.

13. That the Board must rescind the action taken by the Water Rights Commission at its July 27 and 28, 1977 meeting which granted the additional diversion point to Permit 1623-3.

FINAL DECISION

That action of the Water Rights Commission in approving one additional point of diversion under Permit 1623-3 is hereby rescinded.

Dated this 26th day of March, 1981.



CHAIRMAN



SECRETARY

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ad3503kw

Potter-Walworth Counties
Water-Table-Aquifer
December 17, 1980

The following report will address water right problems in T118-119-120N R74W of Potter County and Townships 121 and 122 North Range 74 West of Walworth County.

The history of the water rights and associated problems will be presented in chronological order, data on the hydrology and geology will be presented thru prior reports, additional work will be cited and conclusions and recommendations will be given.

<u>History:</u> May, 1956	Report No. 80 "Geology and Shallow Water Resources of the Blue Blanket Valley and Hoven Outwash, Potter County, S.D. by K.Y. Lee was published.
May, 1957	Report No. 83 "Geology and Shallow Water Resources Between Hoven and Bowdle, South Dakota" by K.Y. Lee was published. Report covers T 121,122,123N R73 and 74W.
Oct. 7, 1968	(Hoven South Aquifer) Application 1622-3 for Mr. Willard Zweber was received and advertised for a permit to appropriate 3.42 cubic feet per second of ground water from two points of diversion located in the center of the NW 1/4 and the NW 1/4 of the SW 1/4 section 22 T120N R74W. Application 1623-3 for Mr. Willard Zweber was received and advertised for a permit to appropriate 3.42 cubic feet per second from a point of diversion located in the NE 1/4 section 17 T120N R74W.
Dec. 4, 1968	Applications 1622-3 and 1623-3 were approved by the Water Resources Commission.
May, 1969	One well was drilled for permit 1623-3.
Nov. 18, 1969	Application 1704-3 for Mr. Allen Turner was received and advertised for a permit to appropriate 1.38 cubic feet per second of water from a point of diversion located in the NE 1/4 NE 1/4 of Section 16 T120N R74W to irrigate a portion of the NE 1/4 Section 16 T120N R74W.
Jan. 7, 1970	(Hoven South) Application 1704-3 was approved by the Water Resources Commission.
March 12, 1970	(Hoven South) Application 1742-3 for Mr. Clarence J. Frost was received and advertised for a permit to appropriate 3.39 cubic feet per second of water from two points of diversion located in the NW 1/4 SE 1/4 Section 4 T120N R74W to irrigate the S 1/2 Section 4 T120N R74W.

- March 26, 1970 (Hoven South) Permit 1623-3 for Mr. Willard Zweber was licensed to divert 0.85 cubic feet per second from 1-30 ft. well to irrigate 60 acres in Section 17 T120N R74W.
- Fall 1972 Mr. Zweber had one well drilled for permit 1622-3.1
- Spring 1973 Mr. Zweber had two wells drilled for permit 1622-3.
- May 1, 1975 (Hoven South) Application 2270-3 for Mr. Allen Turner was received and advertised for a permit to appropriate 4.3 cubic feet per second of water from two points of diversion located in the NE 1/4 NW 1/4 and SE 1/4 NW 1/4 of Section 15 T120N R74W to irrigate the N 1/2 Sec. 15 T120N R74W.
- May 1, 1975 (Hoven South) Application 2271-3 for Mr. Gillis Hageman was received and advertised for a permit to appropriate 4.3 cubic feet per second of water from two points of diversion located in the NW 1/4 NW 1/4 and NW 1/4 SW 1/4, Section 21, T120N, R74W to irrigate the W 1/2 of Section 21, T120N, R74W.
- May 22, 1975 Applications 2270-3 and 2271-3 were approved by action of the Water Rights Commission.
- Jan. 1976 Mr. Willard Zweber appeared before the Water Rights Commission to express his concern about water levels in the Hoven area. Mr. Zweber indicated that his domestic well was 65 or 67 feet deep with a water level of 52 feet below ground. Mr. Zweber also stated that he was concerned with additional applications being approved to the north of his system.
- The Commission staff advised the Commission that there was a general lack of information in the Hoven area and additional applications should be carefully considered.
- Feb. 17, 1976 (Hoven South) Application 2598-3 for Mr. Clarence Frost was received and advertised for a permit to appropriate 3.5 cubic feet per second of water from 3 points of diversion located in the NW 1/4 SE 1/4 and SE 1/4 NW 1/4, Section 4, T120N, R74W to irrigate the S 1/2 Section 4, T120N, R74W.
- March 18, 1976 Application 2598-3 for Mr. Frost was approved by action of the Water Rights Commission and permit 1742-3 for Mr. Clarence Frost was cancelled for non-development.

¹See attachments from Affidavit of Willard Zweber dated 21 Sept. 1976 presented to Water Rights Commission 29 Sept. 1976 by Mr. Zweber's attorney Mr. Rory King.

Summer & Fall 1976 Mr. Lynn Hedges, South Dakota Geological Survey supervised a study of the Hoven and Lebanon aquifer system. The study consisted of 3000 feet of test drilling, three 72 hour pump tests (aquifer tests) and the placement of six permanent observation wells. Two of the three aquifer tests were conducted in the Lebanon aquifer, Fall 1976, and one was conducted in the Hoven South aquifer, January 1977.

March 23-24, 1977 Mr. Hedges and this writer presented reports to the Commission (see attachments). The following actions were taken on applications:

2855-3 City of Hoven, 2 wells approved, two wells deferred (Hoven South).

1703-3 Dean Giese, cancelled for non-construction (Hoven South).

1715-3 Robert L. Simon, cancelled for non-construction (Hoven South).

2290-3 Bill Zweber, cancelled for non-construction (Hoven South).

3124-3 Mrs. Carl Dahlquist, application deferred (Lebanon).

3694-3 Randall E. Simon, application deferred (Lebanon).

2899-3 Arlyn Spindler, application deferred (Hoven North).

3693-3 Donovan Brehmer, application deferred (Hoven North).

3710-3 Joe Stuwe, application deferred (Hoven North).

2973-3 Dean Giese, application denied based on location to prior permits (Hoven South).

The Committee also passed the following motion:

"That all pumping from large capacity wells in the Hoven south aquifer except for permits No. 1622-3 and No. 1623-3 shall stop until the water level comes back in the aquifer."

April, 1977

The permit holders affected by the shut-off order appealed the Commission's decision to the Sixth Judicial Circuit Court. Robert Miller, the presiding Circuit Judge, found

"that the Commission's decision was procedurally defective in that: a) improper notice of the hearing was given, (b) that the hearing conducted was defective under the requirements of Chapter 1-26 and e) that the Commission erred in failing to make findings of fact and conclusions of law as required by SDCL 1-26-25."

Judge Miller then ordered the Commission to conduct a "contested case" hearing on or before May 13, 1977.

May 10, 1977

A contested case hearing² was held on May 10, 1977. After lengthy presentations and questioning, the Commission moved that pumping under permits Nos. 2598-3, 2271-3 and 1704-3 be allowed to continue under the following conditions:

1. that all wells involved were to be metered, including Zweber's.
2. that when either observation well SW-4 reaches a level of nine feet below the soil top or SW6A reaches a level of twenty-one and a half feet below the pipe, pumping by the three junior appropriators shall be restricted to prevent withdrawals in excess of the average annual recharge.
3. that a constant study of the area be conducted by the Commission staff and a full report be made to this Commission concerning this study prior to the 1978 irrigation season.

July 11, 1977

Applications 4062-3 for Mr. Willard Zweber was received and advertised for a permit to appropriate no additional water from two points of diversion located in the NW 1/4 Sec. 22 T120N R74W to irrigate the W 1/2 Sec. 22 T120N R74W.

Application 4063-3 for Mr. Willard Zweber was received and advertised for a permit to appropriate no additional water from one point of diversion located in Sec. 17 T120N R74W to irrigate the S 1/2 of NE 1/4 Sec. 17 T120N R74W.

July 27, 28, 1977

Action on applications 4062-3 and 4063-3 for Mr. Willard Zweber was deferred by action of the Commission.

²Transcript not included due to length, on file at Division of Water Rights, Pierre, South Dakota.

The Commission then passed a motion allowing additional points of diversion on Sections 17 and 22 under the original (1622-3 and 1623-3) permits.

The Commission then moved to reconsider the first motion at the November 30 and December 1, 1977 meeting (minutes attached pages X-95).

- Aug. 8, 1977 A water level measurement of 9.7 feet was measured in observation well SW-4. The staff ordered permit holders 1704-3, 2271-3 and 2598-3 to cease pumping in accordance with the Commission's order of May 10, 1977.
- Aug. 12, 1977 A field investigation showed that metering devices had not been installed on permits 1622-3, 1623-3, 1704-3 and 2771-3. The above permits were ordered not to use the systems until the May 10, 1977 Commission order was complied with.
- Aug. 18, 1977 The water level measurement of well SW-4 was measured at 8.5 feet. Mr. Hageman and Mr. Frost had complied with the May 10, 1977 order and were allowed to operate their systems. Mr. Turner and Mr. Zweber had not complied with the order and were ordered to remain off.
- Nov. 30 &
Dec 1, 1977 The Commission attempted to reconsider the action taken at the 27-28 July 1977 meeting. After considerable discussion the Commission passed a motion that the matter be reconsidered at another meeting and that all persons concerned be notified (minutes attached, pages X-101).
- Jan. 16, 1978 A report was presented to the Commission on the Hoven area irrigation as directed by Commission action May 10, 1977. A motion was passed: "that the Commission prohibit all 1978 irrigation pumping by any of the irrigators until the May 1978 water levels in each irrigation well and initial meter readings have been recorded by the staff."
- The Commission failed to take any action on the reconsideration of the July 1977 motion to allow additional points of diversion on Mr. Zweber's permits (minutes and report attached, pages X-103).
- March 28-29, 1978 Mr. Zweber appeared before the Commission to request a rehearing of the January action of the Commission (minutes attached, p X-120).
- May 25-26, 1978 Mr. Zweber appeared before the Commission requesting that observation well data be presented to the Commission (minutes attached p X-121).

- March 28-29, 1979 Mr. Zweber appeared before the Commission and questioned why work had not been completed at Hoven. Mr. Hatch stated that the measuring had been completed as requested by the Commission. The Commission directed the staff to present information at the May meeting (minutes attached, p X-126).
- 24-25 May 1979 Mr. Hedges presented a brief explanation and comparison of the aquifers in the Hoven area. After hearing the presentation, the Commission passed the following motion:
- "to change the water level that observation well SW-4 could drop from nine feet to seven feet which was established at the special hearing held May 10, 1977. When observation well SW-4 reaches seven feet below the top of the well, the three junior appropriators shall be shut down." (Minutes attached, p X-129.)
- June 27, 1979 Findings of Fact and Conclusions of Law on the 24-25 May 1979 motion were adopted.
- July 30, 1979 Appeal filed with Sixth Judicial Circuit Court by Mr. Wheeler for Mr. Frost, Mr. Hagenen, and Mr. Turner concerning the decision in the findings of fact and conclusions of law adopted 29 June 1979. (Appeal attached p X-148.)
- July 30, 1979 Cross-appeal filed by Mr. Roy King for Mr. Zweber concerning the findings adopted 29 June 1979.
- August 1, 1979 Appeals considered by Circuit Court Sixth Judicial Circuit. The Court ordered "that this contested case be remanded to the Water Management Board for rehearing on the merits of the matter,....." (Order attached.)
- Sept. 28-29, 1979 Mr. Smith stated that both parties voluntarily moved to dismiss the case for the time being and that Mr. Zweber intends to hire a private consultant, and independently analyse the data from the wells (Minutes attached pages X-152).
- Motion was passed by the Board of Water Management "that the case be DISMISSED."
- Jan. 30-31, 1980 Application 2270-3 for Mr. Allen Turner was extended to May 22, 1980 for completion of works due to the fact that the system was not developed because of the uncertainty of water rights in the Hoven area.
- July 24, 1980 Application 4531-3 for Mr. Jerome Klocker for a permit to irrigate 320 acres from three 48 foot

wells with 4.57 cubic feet per second of water was deferred by action of the Board.

- July 28, 1980 Mr. Merwyn Walter telephoned the staff and stated that Mr. Zweber had called him Saturday July 26, 1980. Mr. Walter stated that Mr. Zweber said he was having problems with water and wanted water levels measured. Mr. Walter wanted the staff to check-out the complaint. This writer measured the wells and talked with Mr. Zweber 29 July 1980.
- Aug. 12, 1980 Mr. Walter called the staff and stated Mr. Zweber had called and stated that the staff had refused to measure one of their production wells. (Explanation attached by Ms. Jeanne Goodman).
- Sept. 25-26, 1980 The staff informed the Board that we have deferred applications in the Hoven area that should be handled. The staff questioned the Board as to their desires on a complete report from the beginning or a condensed version. The Board requested the past information.

Hydrologic Work Completed Since Last Report

An additional five observation wells were constructed, developed, and measured in June, 1979 (PT80A-E). These five wells along with 26 other observation wells located throughout the hydrologic system have been measured on a two-week schedule except during the winter months. Production wells have been measured during the irrigation season and flow meter reading have been recorded.

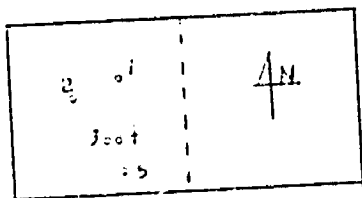
Water level measurements have been reviewed and updated and hydrographs for the wells have been plotted and are attached.

ad2302KW

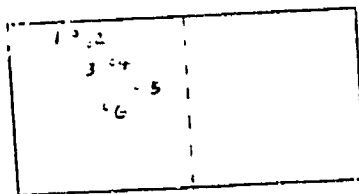
WATER USE DATA:

Aquifer	Storage		Amount Appropriated		Amount Utilized				Amount Deferred	
	Ac-ft.		Ac-ft	% Storage	Ac-ft.	% Storage			% Ac-ft	
	Min.	Max.			1976	1979	1976	1979		% If all Approved
Lebanon	24000	36000	1326.3	4%	0	0	0	0	2% 744.4	6%
Hoven South	30000	36000	3204.3	10%	989.14	335.15	3.0	1.0	2% 585.5	12%
Hoven North	25000	35000	2554.5	9%	1450.4	292.6	5.0	1.0	5% 1560.2	14%
Bowdle	30000	40000	339.2	1%	0	0	0	0	3% 1197.8	4%

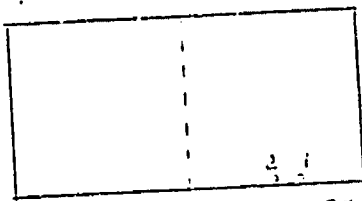
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S 1/2 Sec 4 T120N R74W
Permit 2598-3
Clarence Frost

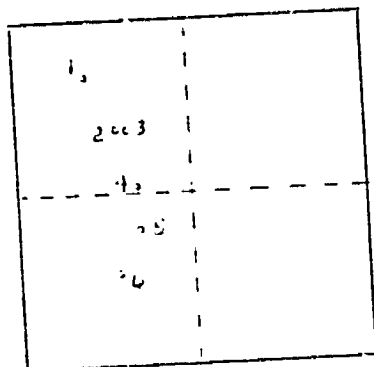


N 1/2 Sec 21 T120N R74W
Permit 2271-3
G.I.I.S. Hageman

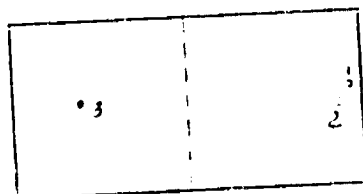


N 1/2 Sec 17 T120N R74W
Permit 1623-3
Willard Zweber

2. Production well location and Number



Sec 22 T120N R74W
Permit 1622-3
Willard Zweber



NE 1/4 Sec 16 NW 1/4 Sec 15
T120N R74W
Permits
1704-3 2270-3
Allen Turner

Zweber
1623-3

Date	Well Number		Meter Reading	
	1	2	Acre-feet	Rate
May 24, 1978	4.25	4.10		
June 8, 1978	5.7	3.91		
June 20, 1978	6.58	4.87		
July 6, 1978	5.7	3.91		
Aug. 16, 1978	8.28	7.13		
Nov. 9, 1978	7.30	5.71		
April 30, 1979	5.92	4.3		
June 11, 1979	6.90	5.1		
June 25, 1979	18.5	4.1		
July 10, 1979	6.8	5.0		
July 24, 1979	7.7	5.3		
Aug 6, 1979	19.0	15.1	CH	435 gpm
Aug. 23, 1979	7.1	5.3	88.560	
Sept. 11, 1979	6.8	5.1	88.560	
Oct. 1, 1979	7.0	5.3	88.560	
April 7, 1980	6.3	4.6		
May 12, 1980	6.7	4.8	88.567	
May 27, 1980	19.2	15.8	CH	94.738
June 9, 1980	5.9	4.1	97.001	
June 30, 1980	18.9	16.9	115.278	
July 29, 1980			142.162	470 gpm
Aug. 11, 1980	20.3	15.9	159.478	

Frost
2593-2

Date	Well Number					Meter Readings	
	1	2	3	4	5	Gals.	Rate
May 24, 1978	48.6	40.2	50.2	53.0	50.3		
Aug. 16, 1978	52.01	44.57	54.51	56.15			
Sept. 11, 1978	51.32	43.7		53.32	55.48		
April 30, 1979	49.1	41.04	50.71	52.48	51.27		
June 11, 1979	64.9	64.05	64.95	61.2	64.45		500 gpm
June 25, 1979	51.2	43.2	53.8	54.8	53.2		
July 10, 1979	64.2	53.5	64.0	62.0	64.8		
July 24, 1979	65.0						500 gpm
Aug. 6, 1979	62.5	63.8	61.1	53.7	65.6	46,052,700	500 gpm
Aug. 23, 1979	51.5	46.7	53.4	55.0	53.4	48,594,300	
Sept. 11, 1979	52.4	44.1	54.2	55.9		51,951,200	
Oct. 1, 1979	50.6	42.5	52.3	54.0	52.7	51,951,200	
April 7, 1980	49.5	41.4	60.1	52.7	51.6	51,951,200	OFF
May 12, 1980	48.6	60.2	61.5	59.2	64.4	55,021,300	CN
May 27, 1980	65.6	51.2	64.6	61.9	64.2	66,765,600	OFF
June 9, 1980	68.1	60.1	62.4	51.0	65.0		CN
June 30, 1980		66.0			52.7	81,498,300	CN
July 29, 1980						101,673,200	550 gpm
Aug. 11, 1980	56.7		59.6	60.8		109,762,200	

Hageman
2271-3

Date	Well Number						Meter Readings	
	1	2	3	4	5	6	Gals.	Rate
Nov. 9, 1976	16.62	16.05	16.26	16.10	19.13			
Jan. 12, 1977			15.49	15.75	18.49			
May 24, 1978	15.7	15.1	15.6	15.3	18.4	18.4	OFF	
June 20, 1978	33.44	20.1	21.54	31.95	33.44	25.49	CN	600 gpm
Aug. 7, 1978							CN	600 gpm
Aug. 16, 1978	19.23	18.81	19.25	19.2	21.9			
Sept. 11, 1978	18.47			18.57	20.3	21.26		
April 30, 1979	16.09			15.71	18.76	18.61		
June 11, 1979	18.4	15.49	15.71	18.05	20.4	20.6		
June 25, 1979	17.3			17.0	20.0	20.0		
July 10, 1979	17.6			17.4	20.0	20.2		
July 24, 1979	28.3			33.5		31.4	CN	625 gpm
Aug. 6, 1979	26.8		19.3	32.0	16.9	31.0	58,824,900	600 gpm
Aug. 23, 1979	17.0	15.8	17.3	17.0	20.0	20.0	64,127,700	
Sept. 11, 1979	17.9	16.2	17.6	17.7	20.2	20.2	66,874,400	
Oct. 1, 1979	16.7	16.1	16.4	16.3	19.4	19.3	66,874,100	
April 7, 1980	16.0	15.6	15.3	15.6	18.7	18.6		
May 12, 1980	15.9	15.4	15.7	15.7	18.5	18.7	OFF	
May 27, 1980	33.8	19.7	21.4	34.5	21.5	26.8	CN	74,322,200
June 9, 1980	16.8		16.7	16.5	19.5	19.5	OFF	75,484,600
June 30, 1980	18.8			18.5	20.5	20.7	OFF	81,088,800
July 17, 1980			18.9	18.9			OFF	
July 29, 1980				29.3	22.3	27.2	CN	92,485,550 600 gpm
Aug. 11, 1980	19.6	20.0	20.3	19.6	21.9		OFF	99,113,800
Aug. 13, 1980	34.04	11.63	21.4	35.52	24.08		CN	100,084,000

Turner

Date	1704-3		2270-3	
	Well # 3	Meter Reading Gals. Rate	Well Production 1	4" Service 2
Jan. 20, 1976			19.0	
May 24, 1978	28.4		19.3	18.5
Aug. 16, 1978	28.25			
Sept. 11, 1978	26.35			
April 30, 1979	26.13			
June 11, 1979	26.3			
June 25, 1979	26.3		19.0	18.5
July 10, 1979	27.5		19.0	18.6
July 24, 1979	47.7	325 gpm	19.0	18.5
Aug. 6, 1979	26.5	24,900,300	18.5	18.0
Aug. 23, 1979	26.1	24,900,300	18.7	18.2
Sept. 11, 1979	26.3	24,900,300	19.0	18.2
Oct. 1, 1979	26.2	24,900,300	19.2	18.3
April 7, 1980	26.3		Plugged with trash	
May 12, 1980	26.1		No longer measured	
May 27, 1980	48.0	CN 28,002,600		
June 9, 1980	26.6	OFF 29,171,100		
June 30, 1980	55.4	CN 34,485,100		
July 17, 1980	28.5	OFF 38,449,300		
July 29, 1980		CN 42,814,200	375 gpm	
Aug. 11, 1980	28.3	OFF 47,099,800		

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Aquifer	Permit	Amount Reported Being Pumped				Ac. Ft. 1980	Comments
		1976	1977	1978	1979		
Lebanon	2263-3	No System	No System	N.R.*	No System		
	2274-3	No System 0	No System 0	N.R. 0	No System 0		
Hoven South	1622-3	189.53		147.14	92.15		
	1623-3	70.00		55.04	18.31		
	1704-3	163.34	89.32	41.96	26.29		
	1741-3	N.R.	N.R.	N.R.	No		
	2270-3		No Irriga- gation at Comm. Request	No System	No System		
	2271-3	402.44	125.29	131.88	69.50		
	2598-3	162.83	74.68	79.99	128.90		
		989.14	289.29	456.01	335.15		
Hoven North	362-3	N.R.	N.R.	No	No		
				Irrigation	Irrigation		
	1701-3	835.24	415.78	371.21	278.41		
	2280-3	221.79	130.50	N.R.	N.R.		
	2544-3	118.93	106.32	N.R.	N.R.		
	2719-3	274.44	230.59	306.47	N.R.		
	2806-3	N.R.	N.R.	127.28	7.07		
	3373-3			130.81	7.07		
		1450.40	883.10	35.77	292.55		
Bowling	1743-3	N.R.	N.R.	N.R.	N.R.		
		0	0	0	0		

*No Report
ad2406kw

Deferred Applications:

Aquifer	Application No.	Name	Priority	CFS
Lebanon	3124-3	Mrs. Carl Dahlquist	4 Oct. 76	2.00
	3694-3	Randall H. Simon	21 Oct. 76	2.17
				4.17
Hoven South	2855-3	City of Hoven	13 July 76	1.11 2 wells Def.
	3917-3	Robert L. Simon	29 April 77	2.17
	4062-3	Willard Zweber	11 July 77	No. Addl.
	4063-3	Willard Zweber	11 July 77	No. Addl.
				3.28
Hoven North	2899-3	Arlyn Spindler	29 June 76	2.0
	3693-3	Donovan Brehmer	27 Oct. 76	1.93
	3710-3	Joe Stuwe	3 Jan. 77	1.67
	4531-3	Jerone Klocker	9 June 80	1.57
	4540-3	Jerone Klocker	19 Aug. 80	1.57
				6.74
Bowdle	2165-3	Vincet + Hoven	7 Jan. 75	4.57 Granted Temp. Permit 1976-77
	4199-3	Collins Herford Ranch	20 April 76	2.14
				6.71

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APPROVED APPLICATIONS

Aquifer	No.	Name	Priority	CFS	Comments
Lebanon	2263-3	Richard Simon	4/28/75	1.90	
	2674-3	Morrie E. Simon	4/22/76	5.53	
			Total	7.43	
Hoven South	1622-3	Willard Zweber	10/7/68	3.42	
	1623-3	Willard Zweber	10/7/68	0.85	
	1704-3	Allen Turner	11/18/69	1.38	
	1741-3	Norbert Hericks	3/12/70	3.33	Surface
	2270-3	Allen Turner	5/1/75	4.50	
	2271-3	Gills Hageman	5/1/75	4.30	
	2598-3	Clarence Frost	2/17/76	3.50	
			Total	17.95	
Hoven North	362-3	Marlan Rausch	12/6/56	0.83	
	1701-3	Jerome Klocker	10/13/69	3.0	
	2280-3	Van Well Brothers	4/30/75	1.14	
	2514-3	Van Well Brothers	2/18/76	1.14	
	2719-3	Elroy Kalser	4/30/76	1.93	
	2806-3	Dale R. Belber	6/4/76	3.27	Surface
	3373-3	Dale R. Belber	12/10/76	3.00	Surface
			Total	14.31	
Bowdle	1743-3	Ruben Bollinger	3/12/70	1.90	
			Total	1.90	

Sample Calculation:

Amount water appropriated for ninety days continuous use.

$$\text{Ac-ft.} = ((1.90 \text{ ft}^3/\text{sec})(8.64 \text{ E+4 sec/day})(90 \text{ days } (43560 \text{ ft}^3/\text{ac-ft.})) = 339.2 \text{ Ac-ft.}$$

Percent of storage utilized using ave. of minimum and maximum storage.

$$\text{Amount utilized} = (339.2 \text{ Ac-ft.}/(36000 + 24000)) = 1\%$$

cd2:05kw

Questions

1. How many points of diversion are authorized and can be used for permit holders in the Hoven South Aquifer?
2. Should the Water Rights Commission's action taken at the July 1977 meeting to allow two additional points of diversion under permits 1622-3 and 1623-3 be allowed to stand?
3. Can additional points of diversion be allowed in the Hoven South Aquifer?
4. Can deferred applications in the Lebanon Aquifer be approved?
5. Can deferred applications in the Hoven North Aquifer be approved?
6. Can deferred applications in the Bowdle aquifer be approved?
7. Should the Water Rights Commission's decision to shut-off junior appropriators when observation well SW-4 has a water level of 9.0 feet and SW6A has a water level of 21.5 feet be rescinded?

Discussion:

Question 1: The permits when approved were subject to the data presented with the application. This data includes a map with the location of the points of diversion. (SDCL 46-5-11). The Board may amend the applications, but cannot extend the construction time beyond 5 years from the date of the permit (SDCL 46-5-26). Therefore, it is the opinion of the staff that if the 5 year construction period is up and no extension has been granted the number of points of diversion with the original priority date is the number stated in the original applications. In the Hoven South Aquifer the allowed points of diversion would be:

		<u>5 Year Period Up</u>
1622-3	3 points	Dec. 4, 1973
1623-3	1 point	Dec. 4, 1973
1704-3	1 point	Jan. 7, 1975
2270-3	1 point	May 22, 1980
2271-3	2 points	May 22, 1978
2598-3	3 points	March 18, 1981

Question 2: Permit 1623-2. The 5 year construction period was up Dec. 4, 1973 therefore under 46-5-24 the motion to allow the additional point of diversion should not be allowed. In addition, permit 1623-3 was licensed, under 46-5-29 and 46-5-30 the rights granted under the water license cannot be extended, therefore the action to allow the additional point of diversion was contrary to South Dakota statute.

Permit 1622-3. Here again the 5 year construction period is long past therefore again citing 46-5-24 the motion to allow additional points of diversion for the permit was contrary to statute.

- Question 3: One application was denied in the Hoven South Aquifer based on the location of the application with respect to existing permits. This denial stated that unappropriated water was not available at that site (SDCL 46-5-22). The recommendation to deny the application was not intended to shut off all irrigation in the Hoven South Aquifer. Hydrologic data indicates that the annual average recharge value is being approached, but has not been exceeded at this time, therefore upon application additional points of diversion could be allowed for existing permits with new priority date.
- Question 4: The hydrologic data indicates that unappropriated water is available for the two deferred applications, therefore, the deferred applications can be approved.
- Question 5: The hydrologic data shows that unappropriated water is not available in the Hoven North Aquifer. Based on hydrologic data available additional applications cannot be approved in the Hoven North System.
- Question 6: Hydrologic data shows that unappropriated water is available for applications in the Bowdle aquifer.
7. The Commission's action to shut-off irrigation when a certain water-level was reached in observation wells was an attempt to place a value on the average annual recharge. The values placed on SW-4 and SW-6A were reached after 12 hours of lengthy discussion and by a very tired group.

Well SW-4 is located in a drainage area where any precipitation will directly affect the water level readings.

Well SW-6A is located within the cone of depression of Mr. Hageman's well field, therefore Mr. Hageman must control his pumping to maintain the 21.5 fee water level set by the Commission. In addition the water level of 21.5 feet is 0.1 feet lower than the total depth of the well.

With the above discussion taken into account, the motion to establish a base water level was a good idea in theory, but the values placed on wells with respect to depth and location is not practical. Therefore; the staff suggests that this motion be rescinded.

Conclusions:

1. The Commission's action to allow additional points of diversion under the original permits (1622-3 and 1623-3) is not valid.

2. Unappropriated water is available in the Lebanon and Bowdle aquifers.
3. Unappropriated water is available in the Hoven South and North Aquifer but location with respect to existing permits governs whether an application should be approved or denied.
5. Unappropriated water is not available in the Hoven North Aquifer.
6. The Commission's action establishing water levels on SW-4 and SW-6A is not valid due to location and depths of the wells.

Recommendations:

1. That Permits 2263-3, Richard Simon, 1741-3, Norbert Herricks, 1743-3, Ruben Bollinger be cancelled for non-construction.

Lebanon

2. 3694-3, Randall H. Simon, for appropriation of 2.17 cubic feet per second to irrigate 152 acres in the SW1/4 Sec 34 T119N R74W from a series of 30 foot wells be approved with the following qualification:

"the irrigation wells approved under this permit will be located near domestic wells and other irrigation wells which 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".

Application 3124-3, Mrs. Carl Dahlquist has been withdrawn by the applicant.

3. Hoven South

- a) That the deferred portion of Permit 2855-3, City of Hoven, for two wells be approved with the following qualifications:
 - a) "the well approved under this permit will be located near domestic wells and irrigation wells which obtain water from the same aquifer. The well owner, under this permit, shall control water withdrawals so there is not a reduction of needed water supplies in existing domestic wells or in irrigation wells having prior water rights".
 - b) That the irrigation questionnaire be completed and returned every year.
- b) That Application 3917-3, Robert L. Simon, to appropriate 2.17 cubic feet per second of water from 1 point of diversion to irrigate W 1/2, N 1/2, Sec 9, T120N, R74W, based upon the location of the well with respect to prior rights, the

anticipated adverse affects on prior rights and the availability of water be denied.

- c) That the action allowing Mr. Zweber the additional points of diversion under his original applications be rescinded.
- d) If the action in c) above is rescinded, applications 4063-3 and 4062-3 for Mr. Zweber can be considered.

Application 4063-3, Mr. Willard Zweber, is for an additional point of diversion for Section 17, T120N, R74W, with no additional water. Based on location within the aquifer with respect to denied applications, and possible adverse affects on prior rights, the Staff recommends application 4063-3 be denied. The Staff further recommends that Mr. Zweber be ordered to cease use of this point of diversion.

- e) That Application 4062-3, Mr. Zweber, for two additional points of diversion in Section 22, T120N, R74W, for no additional water be approved with the following qualifications:
 - e.1.) That the water diverted from these points of diversions be delivered to the irrigation system by means of a manifold system, surge tank or any method other than the present system of pumping four wells to and down a fifth well, back to the surface to the system. Presently Mr. Zweber pumps from four wells to and down a fifth well, back to the surface and then to the center pivot. If the permit is granted with this qualification, the overall efficiency of the system will increase and the well which is being used as a storage tank will produce water.
 - e.2.) The well interference qualification.
- f) That the action on water levels in SW-4 and SW-6A for use as shut-off wells be rescinded.

Hezen North

- 4. a) That Application 2899-3, Mr. Arlyn Spindler, for appropriation of 2.0 cubic feet per second of water from three forty foot wells located in the center of the NW 1/4 Section 22, center SW 1/4 Section 15, and the north edge of SW 1/4 Section 15, T121N, R74W to irrigate the SW 1/4 Section 15 and NW 1/4 Section 22, T121N, R74W be denied.
- b) That Application 3693-3, Mr. Donovan Brember, for appropriation of 1.93 cubic feet per second of water from three, 60 foot wells, located in the SE 1/4, SW 1/4, Section 22, T121N, R74W, to irrigate the SW 1/4, Section 22, T121N, R74W be denied.
- c) That Application 3710-3, Mr. Joe Stuwe, for appropriation of 1.67 cubic feet per second of water from one, forty-eight foot

well located in the center SE 1/4, Section 21, T121N, R74W, to irrigate the SE 1/4, Section 21, T121N, R74W be denied.

- d) That Application 4531-3, Mr. Jerome Klocker, for appropriation of 1.57 cubic feet per second from two 48 foot located in NE 1/4, Section 28, T121N, R74W to irrigate the N 1/2, 28, 121, 74. This application will be utilized in conjunction with permit 1701-3 for one point of diversion in the NE 1/4 28 to irrigate the N 1/2 28, T121N, R74W be denied.
- e) That Application 4540-3, Mr. Jerome Klocker, for appropriation of 1.57 cubic feet per second of ground water from one-36 foot well located in the approximate center of the S 1/2, N 1/2 Section 28 - T121N, R74W be approved with the following qualifications:
 - e.1.) The use of this well will be in conjunction with other applications. The combined water usage cannot exceed two acre feet per year on the irrigated lands.
 - e.2.) The well interference qualification.

This well is to be used in conjunction with permit 1701-3.
This diversion point is from a deeper formation then the above applications.

5. Rowdle

- a) That Application 2185-3, Vincent Hoven, for appropriation of 4.57 cubic feet per second of ground water from two-45 foot wells located in the center of NE 1/4 and center of SE 1/4, Section 12, T122N, R74W to irrigate the 1/4 and NE 1/4, Section 12, T122N, R74W be approved with the well interference clause.
- b) That Application 4199-3, Collins Hereford Ranch, for appropriation of 2.14 cubic feet per second of ground water from two-73 foot wells, located in the NE 1/4, NE 1/4, Section 25, T122N, R74W, to irrigate the NE1/4, Section 25, T122N, R74W be approved with the well interference clause.

ad2407kw

AFFIDAVIT OF WILLARD ZWEBER

STATE OF SOUTH DAKOTA)
COUNTY OF BROWN) SS

Willard Zweber, being first duly sworn, deposes
and states:

Affiant is a farmer, residing approximately one-half mile South and one and one-half mile East of the Junction of Highways 20 and 47, South of Hoven, South Dakota; that Affiant farms approximately 1280 acres, all of which he owns, the legal description of which is as follows:

The Northeast one-fourth of Section Seventeen (17); Section Twenty-two (22); the South one-half of Section Twenty-three (23); the Northeast one-fourth of Section Twenty-three (23); all in Township One hundred twenty (120) North, Range Seventy-four (74) West, Potter County, South Dakota;

that affiant is engaged in the production of wheat, corn, oats, and barley; that one hundred sixty (160) acres of said land is utilized for the growing of corn, one hundred forty (140) acres for the growing of wheat, one hundred ten (110) acres for the growing of oats, and sixty (60) acres for the growing of barley, the remainder of said land being devoted to alfalfa and hay; that affiant currently owns one hundred twenty (120) Angus cows, four Herford bulls, seventy (70) Chester whites cows and five (5) Chester-whites boars, that affiant operates his farm as a partnership, and that his son, Frank, participates in the ownership and operation of the farm with affiant;

Affiant further states that affiant is the owner of three ground water use permits for the purpose of irrigation; said permits were issued on December 4, 1968, permit number 1622-3 authorized the withdrawal of 2.42 cubic feet per second to irrigate two hundred forty (240) acres located in Section 22, Township 120, Range 74, Potter County, South Dakota; Permit Number 1623-3 permitted the withdrawal of .85 cubic feet per

second of water to irrigate sixty (60) acres in Section 17, Township 120, Range 74, Potter County, South Dakota;

Affiant further states that pursuant to Permit Number 1623-3, affiant sunk one well in May, 1969, and purchased a pump, tow lines, and mainlines at a cost of six thousand five hundred dollars (\$6500), in order to enable him to commence irrigation on July 19, 1969; affiant did then, and does now, irrigate fifty-six (56) acres of farmland pursuant to Permit Number 1623-3, in Section 17, Township 120 North, Range 74 West, Potter County, South Dakota;

Affiant further states that affiant, pursuant to Permit Number 1622-3, sunk one well in the Fall of 1972, and two wells in the Spring of 1973, and purchased pumps and lines in the amount of \$33,686 to enable him to commence irrigation in the Spring of 1973; that, since the Spring of 1973, affiant has sunk an additional well and purchased additional equipment in the amount of \$7,300; that affiant, pursuant to Permit Number 1622-3, irrigates two hundred twenty acres in Section 22, Township 120 North, Range 74 West, Potter County, South Dakota;

Affiant further states that, pursuant to Permit Number 1622-3, for the years 1973-75, affiant pumped at the rate of six hundred (600) gallons per minute, twenty-four hours per day, for ten days in May, fifteen days in June, the entire months of July and August, and ten days in September; that, pursuant to Permit Number 1623-3, for the years 1970-75, affiant pumped water at the rate of 400 gallons per minute, twenty-two hours per day, for ten days in May, fifteen days in June, the entire months of July and August, and ten days in September;

Affiant further stated that, in past years, the level of affiant's wells has always, in the fall of the year, come up to its pre-irrigation level;

Affiant further states that, on most of his land, affiant has only two feet of top soil, beneath which is a porous sand; affiant's soil does not, therefore, retain water for any substantial period of time; without the continuous supply of water provided by irrigation, affiant's land is ill suited for the production of corn; in reliance, however, upon years of dependable and successful irrigation, and in reliance upon the prospect of good corn crops, affiant purchased, in February 1975, hogs and essential hog raising equipment at a cost of \$27,000, and in August, 1975, purchased a Harvestore for the storage of wet corn for his hogs, at a cost of \$16,000; that, in further reliance upon the prospect of successful irrigation, affiant, in 1971, declined the opportunity to purchase additional land, and instead invested in the irrigation projects; that affiant has approximately \$5300 invested in well digging, \$12,000 in pumping apparatus, and \$30,000 in piping and disbursement apparatus;

Affiant further states that, in the year 1973, Mr. George Klocker, and Mr. Elroy Kaiser, commenced irrigation of acreages located approximately five and six miles, respectively, North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1974, Mr. Vic and Dave VanWell commenced irrigation of acreage located approximately six miles North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1975, no new irrigation was commenced from the Aquifer; that, in the year 1976, Mr. Gillis Hageman, commenced irrigation of acreage located one-half mile to the Northwest of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1976, Mr. Clarence Frost commenced irrigation of acreage at a location approximately two and one-half miles to the North of affiant's Section 22, Township 120 North, irrigation location; that, in the year 1976, Mr. Vic and Dave VanWell commenced irrigation of acreages approximately five miles to the North of affiant's Section 22, Township 120 North, irrigation location; affiant further states that affiant's ground water use

permit was obtained prior to the permits for the irrigation projects mentioned above;

Affiant further states that affiant first encountered difficulties with his irrigation system when his well located on Section 17, Township 120 North, Range 74 West, fell, in June, 1976, preventing further irrigation and necessitating the excavation of a second well; affiant further noted, on the 10th day of July, 1976, that his domestic well, located on Section 22, Township 120 North, Range 74 West, had fallen significantly, seriously endangering his supply of domestic water and requiring him to lower his pump; that, on or about the 10th day of July, 1976, affiant noted that an old, partially caved in well which he had been utilizing as an observation well, and which was located on Section 17, Township 120 North, Range 74 West, had gone completely dry; that said observation well, in the past, had fallen a maximum of three feet;

Affiant further states that on the 14th day of July, 1976, affiant has occasion to observe the wells serving the City of Hoven, South Dakota, and was told that the wells had gone down six feet in a period of two weeks during the peak of the irrigation season, and that, further, the City had pumped 260 gallons per minute in the Spring, but now could only pump 150 gallons per minute;

Affiant further states that, after having irrigated for a period of four weeks, Mr. Gillis Hageman, irrigating on Section 21, Township 120 North, Range 74 West, was forced to shut down his irrigation system almost every night; that at the end of July, Mr. Gillis Hageman was forced to install a third pump, and that even then he had problems keeping his irrigation system in operation; that, on or about August 25, 1976, Mr. Gillis Hageman's irrigation system was shut down, at a time when other irrigation systems in the vicinity were also shut off due to rain; at that time affiant's North well located on Section 22,

Township 120 North, Range 74 West, came back two feet, and that this occurrence was witnessed by Mr. Knecht from the Water Rights Commission Staff, Mr. Al Weber, Hoven, South Dakota, and Mr. Virgil Worm, Lebanon, South Dakota; affiant further states that affiant was informed that Mr. Gillis Hageman's system shut off automatically sixteen times on one day;

Affiant further states that, because of decreased water levels, during the 1976 growing season, on Section 22, Township 120 North, Range 74 West, affiant irrigated at the rate of 600 gallons per minute for 15 days during May, and twenty-five days during June; that, during July, affiant could irrigate for only twenty-four days at a rate of 500 gallons per minute, and that during August, affiant could irrigate for only 20 days at the rate of 350 gallons per minute;

Affiant further states that, due to the decreased water levels for the 1976 growing season, on Section 17, Township 120 North, Range 74 West, Affiant was forced to dig another well, on July 1, 1976, to facilitate the continuation of his irrigation operation;

Affiant further states that, affiant has, on numerous occasions, registered concern with the staff and members of the Water Rights Commission; that, at a meeting of the South Dakota Water Rights Commission, dated January 22, 1976, affiant registered his concern, and was informed that his irrigation wells were the first in time, and therefore had priority and that future applications for ground water use permits would be deferred until further study; that, on the 23rd day of July, 1976, Mr. Knecht, of the Water Rights Commission Staff visited with affiant about the problem, and indicated his opinion that other irrigators in the vicinity should be shut off to test the effects upon affiant's wells, but that this proposal was never implemented; that affiant's former attorney, Mr. Joe Newmyr, Gettysburg, South Dakota, called

Mr. Burton Jones during the July meeting of the Water Rights Commission in Winner, South Dakota, and reiterated affiant's concern, whereupon Mr. Jones indicated that he would raise the matter and emphasize affiant's concern before the Commission, since affiant was unable to attend personally;

Affiant further states that, at the current time, all irrigators except Mr. Cillis Hageman are shut off, that Mr. Hageman is having no trouble with his irrigation project, and that affiant's wells are coming back to their pre-irrigation levels;

Affiant further states that it is affiant's firm conviction that several water permits were granted by the Commission without adequate data, and without sufficient empirical study to assure that affiant, a prior irrigator, would not be affected by the granting of said permits;

WHEREFORE, based upon the foregoing facts, affiant respectfully requests:

1. That the Commission grant no more water permits until appropriate elevation tests and pump tests are run to determine the effect of subsequent irrigators upon all prior irrigators;
2. That all large volume water users be required to maintain records of water levels and of volumes drawn from the Aquifer;
3. That later irrigators be restricted from irrigating prior to July 1 of the growing year and be restricted to the irrigation of one quarter of land;
4. That the irrigation system of Mr. Cillis Hageman be shut down for the growing year 1977 to determine conclusively the effect of said irrigation upon the irrigation project of affiant;
5. That the irrigation system of Mr. Clarence Frost be restricted from irrigation prior to July 1, 1977, and, if affiant's irrigation problems persist after July 1, 1977, that the irrigation system of Mr. Clarence Frost be shut down for the entire growing year 1977.

6. That, if the drought conditions continue, the Commission give consideration to the total or partial restriction of other subsequent irrigators.

Dated this 21 day of Sept., 1976.

Willard Zweber
Willard Zweber

Subscribed and sworn to before me this 21st day of Sept, 1976.

Notary Public, Brown County

(SEAL)

My Commission Expires: 7/25/82

SUMMARY

Re: Complaint of Willard Zweber to Water Rights Commission
Date: March 18, 1977



It is the purpose of this Summary to clearly and concisely state the position of Willard Zweber and to set forth the factors which support that position. To aid in the preparation of this Summary, a conference was held with Mr. Lynn Hedges relative to the factual findings of his recent hydrologic study.

Two questions are posed by Mr. Zweber's Complaint:

(1). Whether the volume of irrigation from the Hoven South Aquifer has diminished the authorized irrigation capacity of Mr. Zweber's system and thereby deprived Mr. Zweber of a vested appropriative water right?

(2). Whether the irrigating of Mr. Gillis Hageman has had a direct diminishing effect upon the irrigation capacity of Mr. Zweber's system and therefore deprived Mr. Zweber of a vested appropriative water right?

There is substantial evidence to support Mr. Zweber's position on both of the above issues. It should not be incumbent upon Willard Zweber, however, to shoulder the burden of proving that other irrigators are affecting his irrigation capacity. Mr. Zweber has a vested right to the water authorized by his permits by virtue of SDCL 16-5-7. He has placed before the commission substantial evidence that subsequent irrigators are having an effect upon his irrigation potential and are thus infringing upon his vested water right. It should therefore be incumbent upon the Staff of the Water Rights Commission to prove to the Commission that subsequent irrigators are not having an effect.

A description of Mr. Zweber's farming operation and his irrigation systems is contained in the previously filed affidavits

and will not be reiterated here. Suffice it to say that Mr. Zweber has invested everything in the future of irrigation on his farm. He was the first in the area to make use of ground water irrigation. He performed the experiments and made the mistakes which smoothed the way for the success of the subsequent irrigators. He acted in reliance upon the well established legal principal that the right of a prior appropriator to the use of an available ground water supply takes precedence to all subsequent appropriators, except for domestic and municipal users. This legal principal was quoted to him on numerous occasions by both the Water Rights Commission and Staff.

There can be no doubt that the level of the Hoven South Aquifer diminished during the year 1976, and that a substantial percentage of that diminishment is attributable to irrigation. According to Mr. Hedges, between 1975 and 1976, the Bowdle North Aquifer, from which there is no irrigation, went down 2.5 feet and the Lebanon Aquifer, from which there is no irrigation, went down 2.9 feet. However, the Hoven North Aquifer, which is developed by irrigation, went down 4 feet, and the Hoven South Aquifer, which is developed by irrigation, went down 5.5 feet. A comparison of the aquifers reveals, therefore, that irrigation accounted for almost one-half of the diminishment of the overall level of the aquifer. According to Mr. Hedges, at the current use and drought conditions, there will be water available in the Hoven South Aquifer for only a few more years. For this reason, Mr. Hedges is recommending a complete moratorium for permits in both the Hoven North and the South Aquifers until further data is available and until there is further recharge.

Mr. Hedges' calculations are confirmed by the observations and measurements made by the Zwebers themselves. The Zweber wells in 1976 were down 2 feet from their 1975 levels, and

in 1977, were down 1.6 feet from their 1976 levels. In addition, their domestic well dropped in 1976 requiring the lowering of their pump, an observation well located on Section Seventeen went completely dry, and they were forced to dig a second well on their Section Seventeen system location. At that Section Seventeen location, they dug 6 feet without hitting water at a place where they had to go only 18 inches to water in 1969. Zwebers were forced to severely curtail the duration and coverage of their irrigation on both system locations, as is reflected by the previously filed affidavits. As is also indicated by the previously filed affidavits, other irrigation systems and other domestic wells in the Hoven South Aquifer reflected the significant diminishment of the water level.

That the diminishment in the overall water level of the Aquifer was substantially contributed to by the irrigators is further reflected by other observations made by the Zwebers. On August 25, 1976, at a time when all irrigators except the Zwebers were shut down because of a rainstorm, the Zweber wells increased in gallonage. During 1976, Mr. Gillis Hageman had much difficulty keeping his system in operation because of the lack of a sufficient water supply. In late summer and early fall, when the other irrigators had shut off, Mr. Hageman had much less difficulty with his system. When an irrigator located North of the City of Hoven shut down for a period of time, the Hoven City Well recovered from the level of 15.6 feet to 18.7 feet.

Mr. Hedges indicated that, for every drop of one foot in the overall level of the aquifer, the individual irrigation system would decrease in efficiency by five percent (5%). If the aquifer has dropped 5.5 feet over the past two years, the Zweber well has decreased in efficiency by 27.5%. Where the Zweber wells were not operating at maximum authorized capacity at the outset, this decrease is a significant infringement

upon the vested water right of the Zwebers.

Two factors are thus evident: (1). irrigation has caused a substantial portion of the diminishment of the water level of the aquifer; and (2). the system of Zwebers was operating well below authorized capacity during 1976. These two factors demand a conclusion that the irrigation systems of those who acquired their permits after the Zwebers should be shut down until the water level attains a sufficient increase. Those permits were granted upon the basis that they would be subject to curtailment if the rights of prior appropriators were endangered. Mr. and Mrs. Zweber refrained from formally objecting to the subsequent permits, even though they feared a water shortage, because they were told and it was their understanding that they would have first claim to a diminishing water supply.

Mr. Zweber also contends that the irrigation system of Gillis Hageman, in combination with the other irrigation systems on the Hoven South Aquifer, is having a direct effect upon the capacity of his irrigation system. It is Mr. Hedges' recommendation that the irrigation systems in the Hoven South Aquifer be spaced a minimum of one mile apart. According to Mr. Hedges, under perfect conditions of transmissibility and uniform aquifer sand, the Hageman and Zweber wells would begin having an effect upon each other after fifty days of irrigation. Mr. Hedges' pump test was of only seventy two hours duration and of only one irrigation well. Mr. Hedges' calculations only take into account the cone of depression made by one Hageman well and do not take into account the cones of depression made by the other wells and systems on the Hoven South Aquifer. More importantly, Mr. Hedges' calculations assume that the aquifer sand surrounding the Hageman and Zweber wells extends uniform distances and is of uniform quality. Mr. Hedges admits that there may be "boundaries" surrounding either the Hageman wells or the Zweber wells, or both, which

boundaries would result in a situation where the cones of depression spread far more rapidly, and where the effect of one system upon the other is far more severe. The existence of these "boundaries" is evident from a number of facts:

(1). At the October, 1976, meeting of the Commission, Mr. Virgil Worm concluded that the aquifer between the Zweber and Hageman wells ran in a narrow channel; (2). Test holes dug in a line extending South and West from the Hageman system reveal that there is very little aquifer sand in those directions; (3). Mr. Zweber knows that there is no appreciable aquifer sand South or East of Mr. Zweber's system; (4). From the pump tests run on one of the wells in Mr. Hageman's System, it was learned that the system could not sustain pumping at the rate of 380 g/p/m, indicating that the amount of aquifer sand from which Mr. Hageman had to draw is limited; (5). Mr. Hedges admittedly did not know where the boundaries are for either the Hageman or the Zweber systems; (6). On or about August 25, 1976, when Mr. Hageman's system and the other systems on the Hoven South Aquifer, with the exception of the Zweber system, were shut down due to rain, the well of the Zweber system increased in gallonage.

The conclusion of the Hoven Area Report and of Mr. Hedges that the system of Gillis Hageman has no effect upon the system of Willard Zweber is therefore highly suspect. It is based upon speculation in that it does not take into account either the existence of boundaries bordering the Hageman and Zweber systems nor the effect of all systems in combination with the Hageman system. Further, it does not take into account the objective observations and experience of Mr. and Mrs. Zweber and of Virgil Worm.

The Report of the Staff ignores other factors. It ignores the comparison of the irrigated aquifers and the non-irrigated aquifers relating to water level declines. It ignores the fact

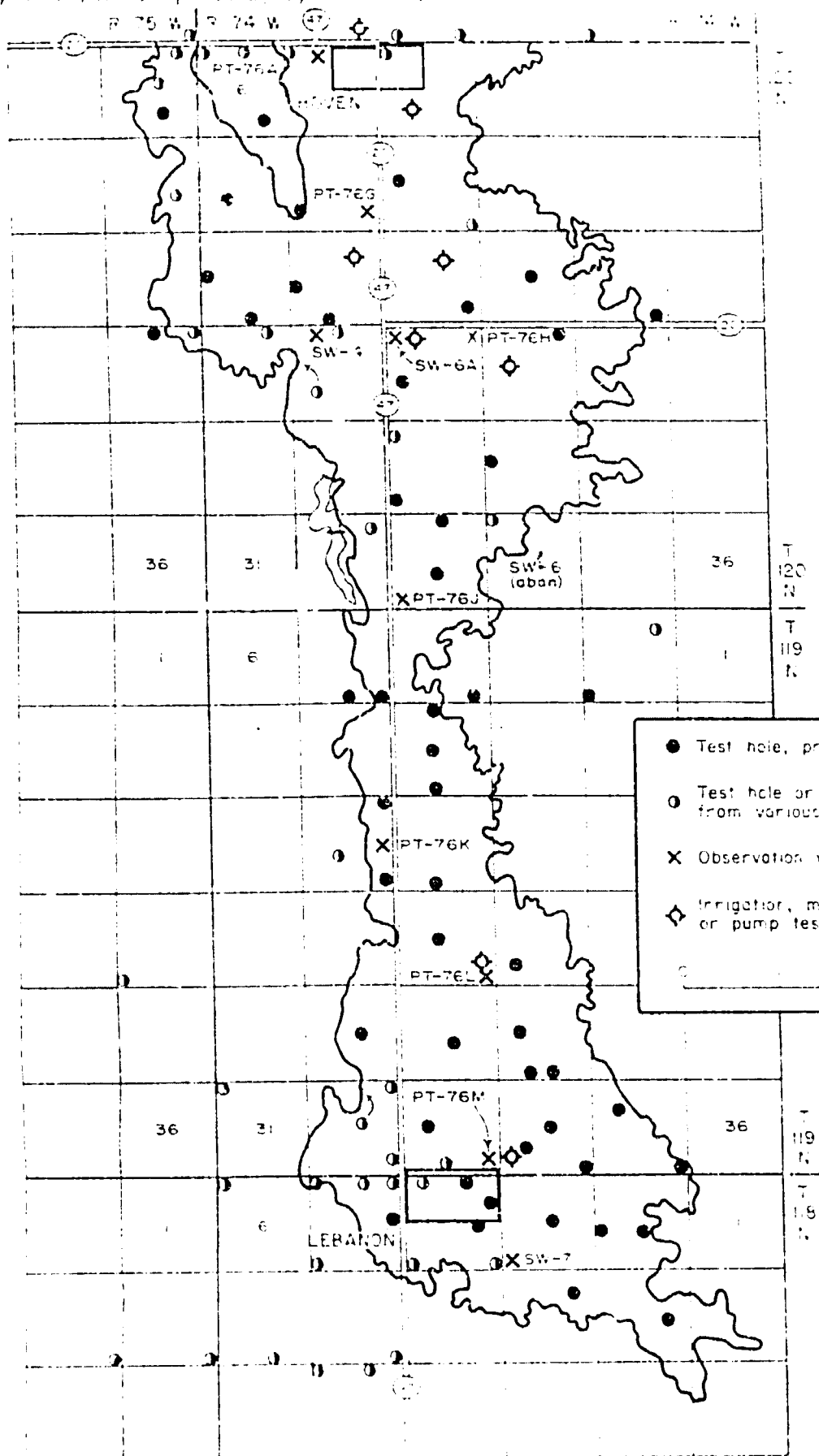
that all 30,000 acre feet of water are not available for use by irrigators. Only that quantity is available which can be used without affecting domestic wells, municipal wells, and prior appropriators. The Report of the Staff contains no information as to the amount of precipitation necessary to raise the level of the aquifer by a certain measurement. Without data of this kind, the decision of the Commission is made extremely difficult, if not impossible.

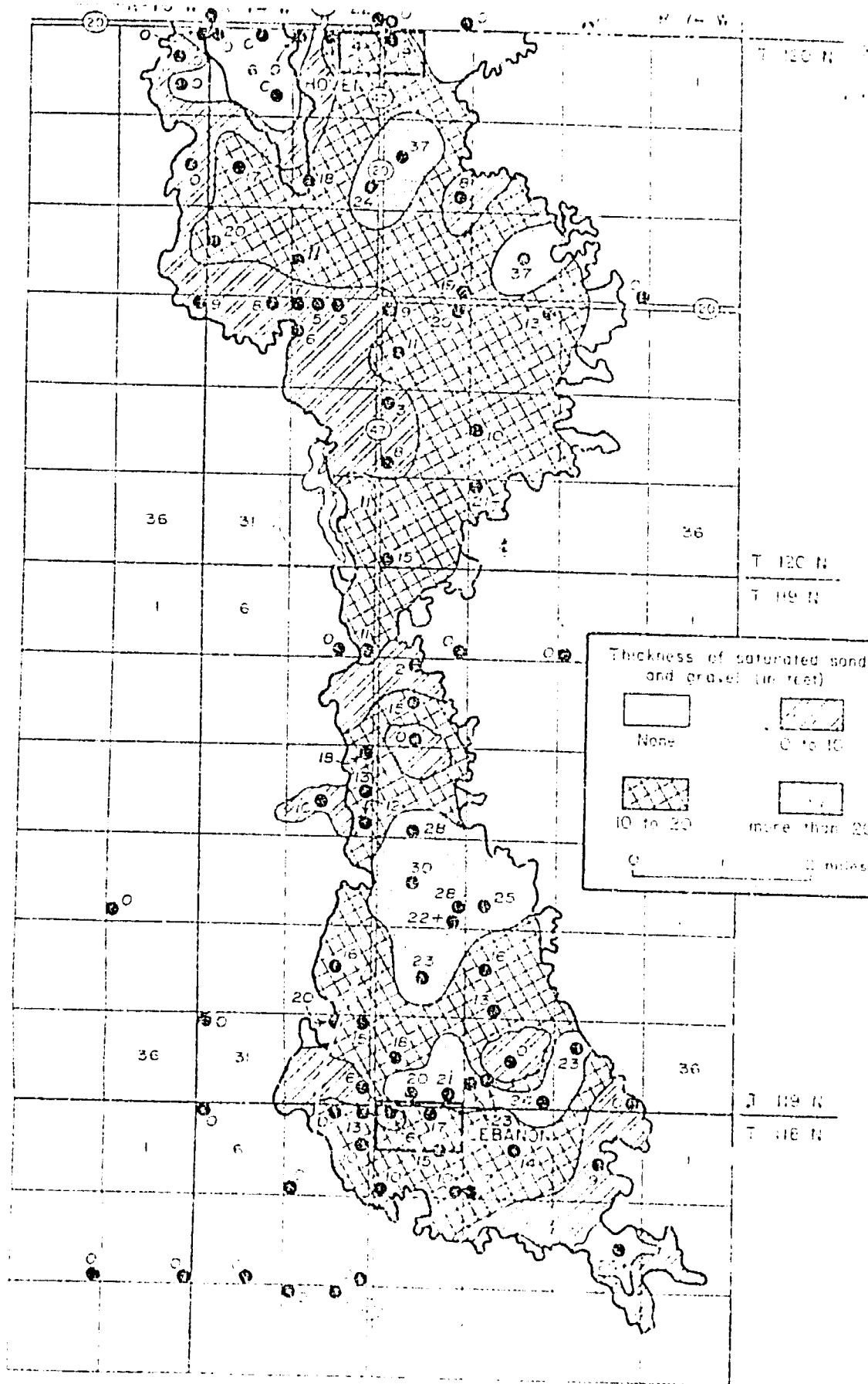
There is a final important factor which both the Report and the recommendations of Mr. Hedges do not take into account. As a well is being pumped and the water level drawn downward, there is a certain point at which the draw down begins to accelerate much more rapidly. According to Mr. Hedges, this draw down point cannot be exactly determined, but its location can only be estimated by analyzing the behavior of the well as it is being drawn down. The behavior of the Zweber wells has been described in the previously filed affidavits. It is the feeling of Mr. Zweber that it is very possible that this "accelerated draw down point" for the Zweber systems was reached during the year 1976. It is further the contention of Mr. Zweber that there is a substantial possibility that the other systems on the aquifer pushed the Zweber systems past that "accelerated draw down point".

The South Dakota Legislature has adopted the Doctrine of "Appropriation" to govern the right to and the use of ground water. SDCL 46-1-3. The South Dakota Legislature has ordained that the allotment by the Water Rights Commission of ground water must be regulated according to beneficial use and priority of appropriation, SDCL 46-2-11, and that, between appropriators, the first in time is the first in right. SDCL 46-5-7. Garton, South Dakota System of Water Management and its Relation to Land Use and Economic Development, 21 S. D. L. Rev. 1, 14 (Winter, 1976). The Legislature has specifically mandated that the regulation of the use of large

capacity wells must assure reasonable domestic needs and the needs of prior appropriators. This Common Law and Legislative Doctrine of "Appropriation" was designed to give prior appropriators a vested right in a certain quantity of ground water. That right was defeasible or diminishable only where domestic users, municipal users, or prior appropriators were threatened, and the diminishment was not to exceed what was necessary to provide for the needs of domestic users, municipal users, and prior appropriators. Laws, regulations, or other state actions which interfere with a vested water right are unconstitutional as deprivations of property without due process. Saint Germain Ditch Irrigating Company vs. Hawthorne Ditch Company, 32 S. D. 260, 143 N. W. 124 (1913).

The Legislative Doctrine of "Appropriation" was designed to give a landowner a measure of predictability in the availability of a water supply. The doctrine is indispensable for a state such as South Dakota where water is a scarce commodity and where the supply can often fluctuate extensively. By giving the landowner a measure of predictability, the Legislature desired to encourage the landowner to invest in irrigation and to make the maximum use of the water supply, for the benefit of both the landowner and for the benefit of the entire state. Where that element of predictability is eliminated, where the landowner cannot depend upon his prior appropriation of ground water during times when the water supply is diminishing, the Legislative Policy is undermined. Landowners are going to be very reluctant to irrigate if they know that someone else could start irrigating five years later and be in the same position as the prior irrigator in the time of diminishing water level.





Aquifer storage (S=20)					Net water level change from 1973 high to Jan, 1977				
Aquifers	Total Acres	feet water in Storage	Estimated minimum Storage	Estimated maximum Storage	Observation well number	Water level change		Net change	Avg. change
						High	Low		
Bowdle Sept., 1975	11,655	34,120	30,000	40,000	SW-1	2.6	4.7	-2.1	-2.7
Bowdle August, 1976		34,620			SW-2	8.6	11.9	-3.3	
Hoven north Sept., 1975	9,080	27,022	25,000	35,000	SW-3	8.5	12.2	-3.7	-4.0
Hoven north August, 1976		25,890			SW-5	22.9	27.2	-4.3	
Hoven south July, 1976	11,904	30,400	30,000	36,000	SW-4	0.7	6.2	-5.5	-5.5
Lebanon July, 1976	10,149	29,691	24,000	36,000	SW-7	14.0	16.9	-2.9	-2.9
Total		120,000	109,000	137,000					

	1974	1975	1976	% of 2 ft drop by each
Zweber	2	2	2	55
Turner	1	1	1	27
Frost			1	9
Hageman			1	9
Total acre feet	660	660	1100	2420
Aquifer decline (ft.)	(-) .55	(-) .55	(-) .90	(-) 2.0
Percent of total	27	27	46	100

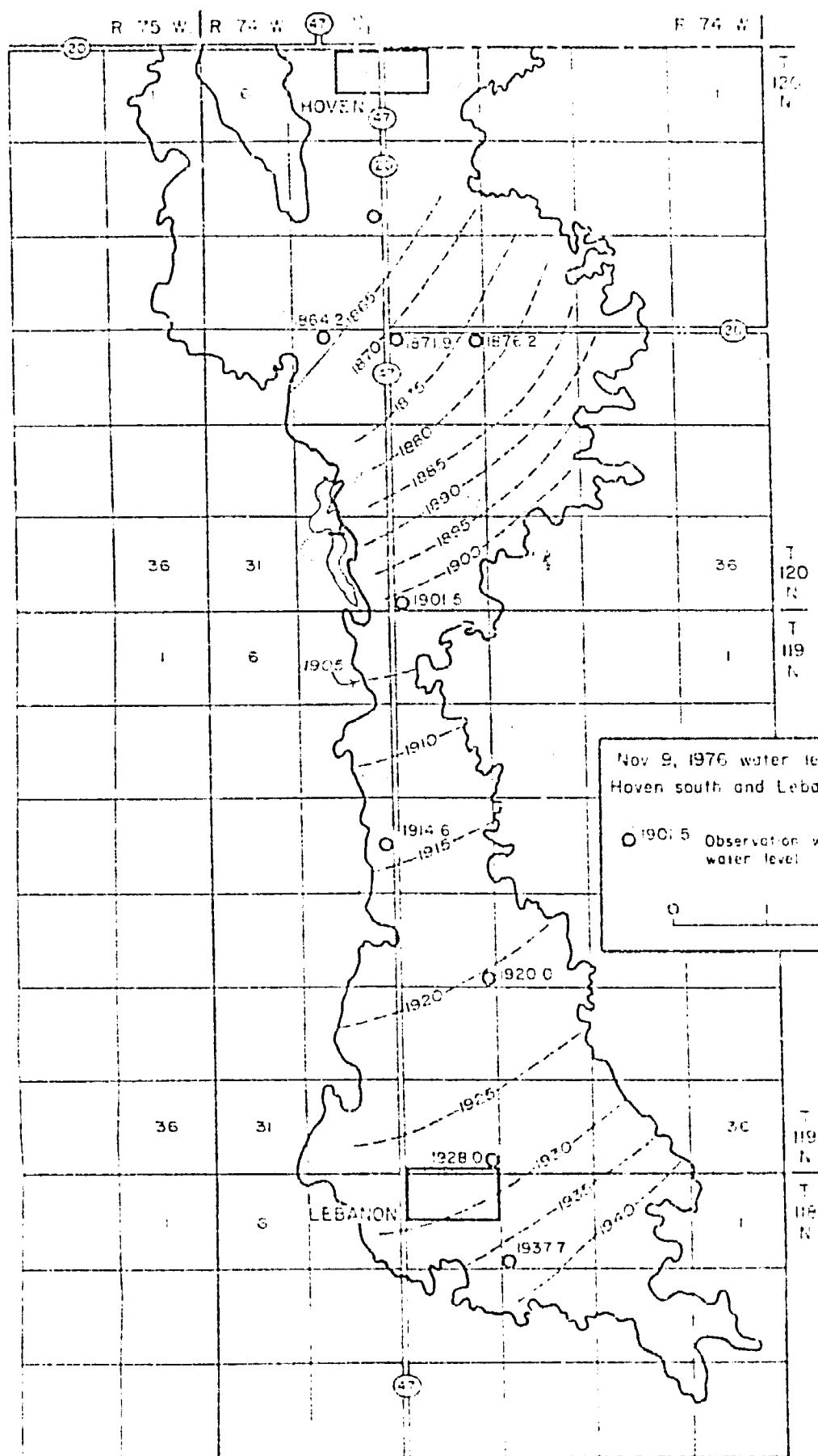
Water use and level decline in the Hoven south aquifer during 1974, 1975, and 1976.

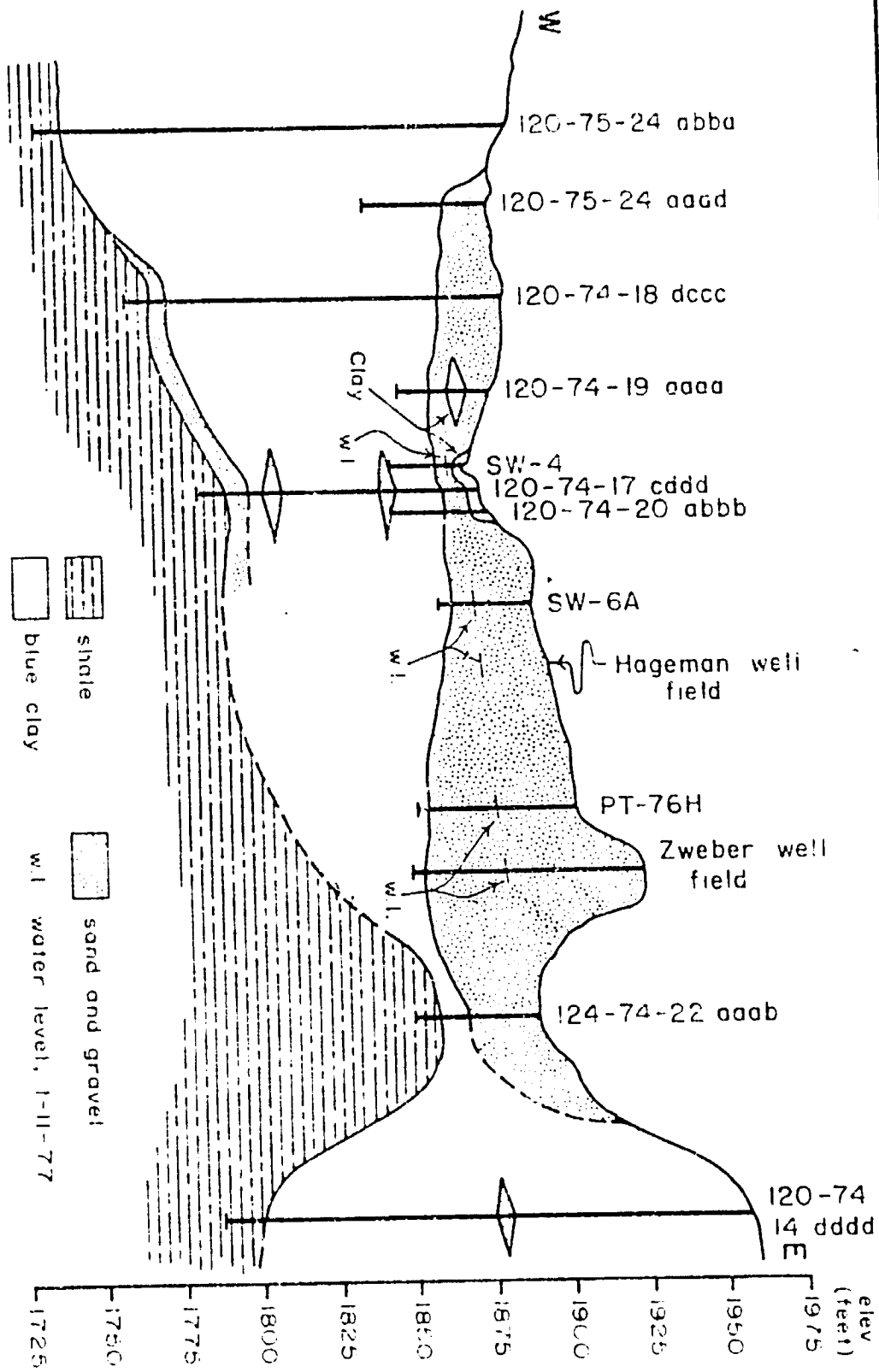
One system pumping 500 gpm for 100 days = 220 acre feet water or 18 inches per year on 140 acres

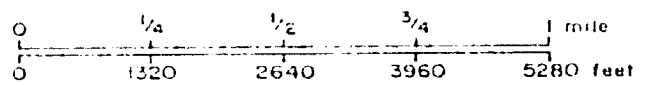
2,420 acre feet of water used in three years amounts to 0.2 foot of water. If storage coefficient of 0.1 is used, water level decline due only to irrigation is 2 feet

		Change in water level since 9/1/76 to 12/76 or 1/11/76	Maximum drop in water level since 6/1/76
HOVEN SOUTH	PT-76-A	0	*0.50+
	PT-76-G	+0.20	*2.30+
	SW-4	+0.50	1.70
	SW-6A	+0.20	1.80
	PT-76-H	-0.20	*2.3+
	PT-76-J	-0.70	*0.70+
LEBANON	PT-76-K	-0.40	*0.40+
	PT-76-L	-0.30	0.70
	PT-76-M	-0.30	1.00+
	SW-7	-0.50	0.80
HOVEN NORTH	W-75-V	-0.50	0.70
	W-75-W		
	SW-5	-0.40	1.40
	W-75-X	+0.40	2.70
	SW-3	-0.80	1.05
	WL-76-R	-0.50	*
BOWDLE	W-75-P	-0.90	2.70
	WL-76-A	*	*
	SW-1	-0.30	1.0
	E-75-R	-0.30	0.80
	E-75-S		
	W-75-T	+0.30	1.80
	W-75-U	-0.20	0.15
	SW-2	-0.60	0.90

* No record or incomplete records for time indicated.

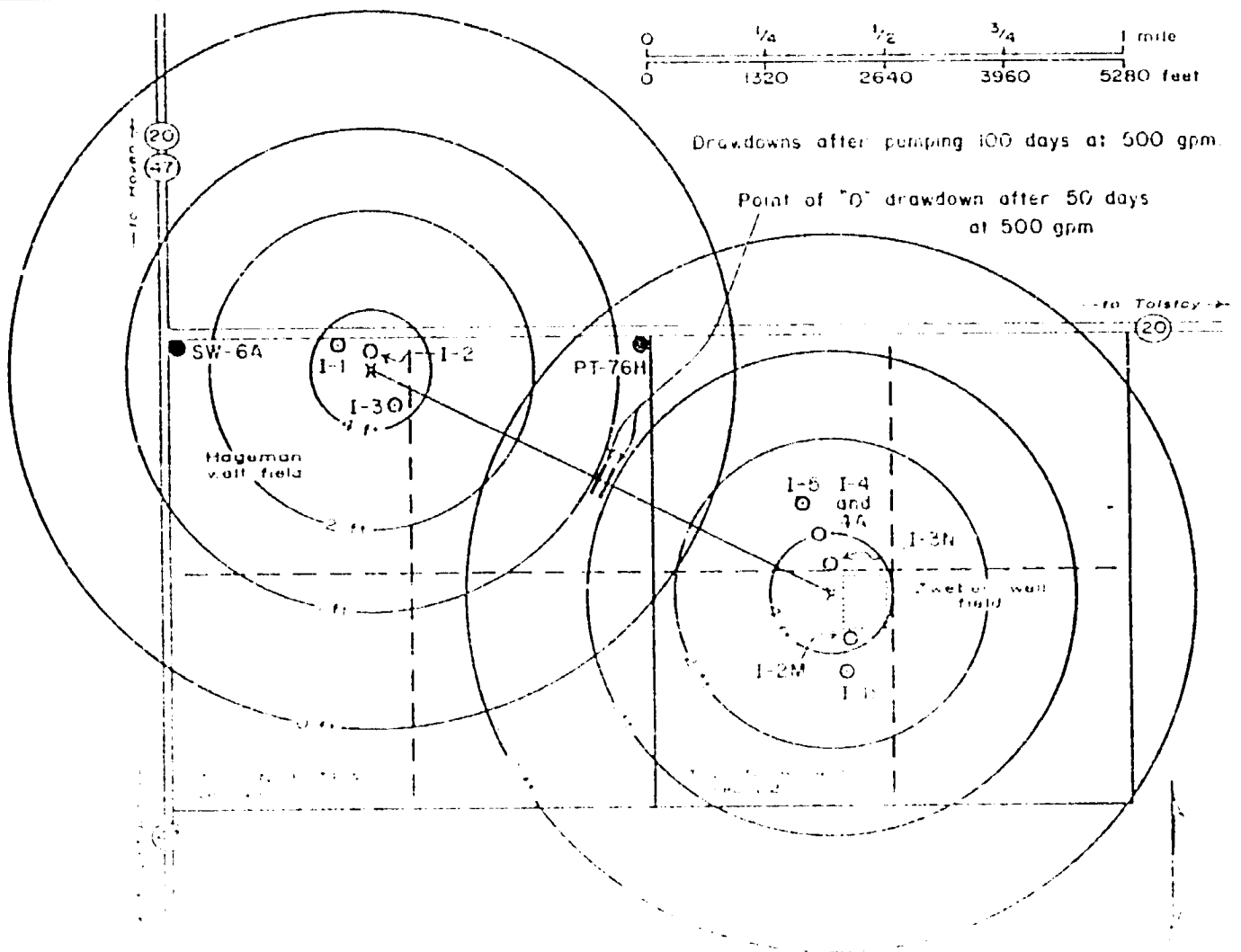






Drawdowns after pumping 100 days at 500 gpm.

Point of "0" drawdown after 50 days
at 500 gpm



HOVEN AREA DISCUSSION

Lynn Hedges, a geologist from the State Geological Survey in Vermillion presented a report on the Bowdle, Hoven North, Hoven South and Lebanon ground water aquifer. (Handout on file)

Figure No. 1 Data map of the Hoven South and Lebanon aquifers.

Mr. Hedges stated that the map shows the location of test holes, observation wells, irrigation, municipal wells and pump test wells.

Figure No. 2 Thickness of saturated sand and gravel.

Mr. Hedges explained that for development of large capacity irrigation wells, the areas with the best potentials have more than 20 feet of saturated sand and gravel. This does not mean the other areas can not have a large capacity well system. A different type of irrigation system would have to be used.

Figure No. 3 Aquifer storage comparison of four aquifers. (left part)

Mr. Hedges stated that he was in charge of the field work covered by his report. Mr. Hedges stated that the investigation showed that geologically and hydrologically the four aquifers were almost identical. They are shallow broad depressions in the land surface. They all had very small drainage basins. The four aquifers have no method of recharge, except for precipitation. There was no recharge from under flow into the aquifers.

Figure No. 4 A large illustration and not included in the handout.

Figure No. 4 showed water level graphs for the past 20 years from a series of observation wells in the area.

Mr. Hedges explained that periods of maximum precipitation to periods of minimum precipitation were shown. The normal water fluctuation level for all four aquifers is between 1 to 2 feet on a year to year basis. This gives a good indication of what the precipitation is doing for the recharge in the aquifer. In the 1950's there was a period of low water. In 1966 there was a general rise in the water levels of 2 or 3 feet which continued to 1973 and 1974, when the drought period started. The water levels then began to decline. According to the water table graphs the water problem is not any more serious now than it has been in the past.

Figure No. 3 Net water level change. (right part)

The water levels in the Bowdle and the Lebanon aquifers where irrigation is not practiced have dropped 2½ to 3 feet in the past

three years. The water levels in the Hoven North and the Hoven South aquifers where irrigation is practiced have dropped between 4 and 5.5 feet. This suggests that during the 3 year period the influence of irrigation, on those aquifers used for irrigation, is a drop of 1 to 2 feet.

Figure No. 5 Water use and level decline.

Mr. Hedges explained that pump test information came from 3 pump tests in the Hoven South aquifer and Lebanon aquifer. See Figure 10. Using the figures from the pump tests and applying them to actual situation in the area, the overall and individual effects on the aquifer are obtained. This can be figured by using the aquifer coefficient from the pump test. The water level decline due to irrigation is 2 feet, from the five systems, over a three year period. This two foot decline is very similar to what the actual records indicate on the water level graphs previously shown. The theoretical figures are very close to what the actual data has shown.

Figure No. 6 List of all observation wells in the area.

Mr. Hedges explained that Figure No. 6 shows the changes in water levels and the maximum drop in the water levels. The water levels in all of the observation wells outside the zone of influence of irrigation wells or in the aquifers without irrigation continued to decline all fall, 1976 and into mid winter, 1977. The only observation wells showing a rising trend are those that are in the zone of influence of irrigation wells. It is simply a recovery of the cone of depression that was created during the irrigation pumping. It is not recharge to the aquifer because if the aquifer was being recharged the other observation wells would be rising too.

Figure No. 7 Water Level Map.

Mr. Hedges explained that the water table map is drawn on the basis of measurements taken in the existing observation wells from which elevations were determined by a survey instrument. The water levels clearly show that water movement in the Lebanon and Hoven South aquifer. The water table is definitely sloping from the south to the north and from east to the west. The water flowing from the Lebanon aquifer into the Hoven South aquifer is approximately 50,000 gallons per day. This figure is roughly 25 gallons per minute, 56 acre feet per year or $\frac{1}{4}$ of the total amount of water on irrigation well that pumped about 500 gallons per minute, continuous for 100 days. The actual loss or transfer of water from one aquifer to another was quite small.

Figure No. 8 Geologic Cross Section.

Mr. Hedges explained that the cross section shows how the sand

and gravel lays in the formation. The position of the water level shows a definite hydrologic grade from the east to the west. Less than half of the sand and gravel body is saturated with water.

Figure No. 9 Drawdown Graph.

Mr. Hedges stated that after 50 days of continuous pumping at 500 gallons per minute, the cones of depression will start to cause mutual interference. During the first 50 days, one system would have no effect on the other system. At the end of one hundred days there would be an overlap of the cones of depression as indicated by the circles. Between 50 and 100 days there would be mutual interference between the two systems. The amount of interference can not be calculated in terms of well decline for each individual, but it would be a very small percentage. To illustrate this, if the cone of depression on the Hageman well would extend far enough to encompass the entire Zweber well field, and the cone of depression would fall on the one foot line, then you could say that Mr. Zweber's well was reduced in capacity to the extent of the loss of capacity which could be attributable to lowering the water level in the well one foot. Since this is not the case, the actual effect of the one system on the other would be minute during the pumping period, if there is, indeed, any effect at all. All irrigation systems contribute to the total decline in the water table which after one season would drop a foot or two. The next season assuming no recharge, they would have a foot or two less to start with and to that extent they are each affecting the other. As long as the water level continues to decline, the production capability of each well will be less.

Gale Selken presented an explanation of his report. (Report on file) Mr. Selken stated that the aquifer is recharged by precipitation only, according to the observation and test wells in the area. The Hageman well field would not cause direct interference with the Zweber well field. Mr. Selken reported that Mr. Zweber has five wells within his well field with one abandoned well. Within the well field instead of perfect concentrical circles, the circles will be somewhat oblong. Mr. Selken stated that the construction of a well has a great effect on how much water can be obtained from a well. Poor spacing of wells will cause the wells to interfere with themselves more than interfering with someone elses.

In answer to a question from Mr. Garrett, Mr. Selken stated that Mr. Zweber has a portable sprinkler, tow line, on his west well field. Mr. Hageman and Mr. Zweber each have a center pivot. Mr. Turner has a portable sprinkler, tow line. Mr. Zweber's Permits No. 1622-3 and No. 1623-3 have priority in the Hoven South aquifer.

Mr. Selken than stated his conclusions and recommendations for the Hoven area. See written report. He also recommended Permit No. 2290-3 for Bill Zweber be cancelled due to non-development.

Mr. Mickelson questioned the reason for the recommendation on Permit No. 2290-3 for Bill Zweber. Mr. Hatch indicated that the application stated that 1/5 of the work be completed before January 24, 1977, because the original request for completion of work was only 3 years.

Mr. Selken also reported that Mr. Zweber's west Permit No. 1623-3 is licensed for only one well. He presently has two wells in his system.

Meeting recessed at 10:05 a.m.

Meeting reconvened at 10:15 a.m.

Rory King, Attorney stated that he was representing Mr. Zweber.

Mr. Mickelson MOVED, SECONDED by Mr. Richey THAT MR. KING BE GIVEN WHATEVER TIME HE NEEDS TO PRESENT HIS CASE. MOTION CARRIED.

Mr. King stated that in Section 22 there are currently 4 wells being pumped and used for irrigation. The other 2 wells are not being use. There are no extentions or pumps to the center pivot.

Mr. King indicated he was going to trace the history of Mr. Zweber's complaint. On January of 1976, Mr. Zweber appeared before the Commission and expressed his concern about the diminishing water table in the Hoven South aquifer. He was told by the Commission at that time, not to worry because he was first in priority. He was told if he had any problems with his water system and irrigation he should call immediately so something could be done before it got serious. Comments were made by the staff at that meeting, that the Commission should be careful in granting of permits in the area because of the lack of data. Mr. Zweber was given the impression that the Commission was going to defer all permits in the aquifer until more data could be obtained. Subsequent to that, one permit was granted to Mr. Frost. Mr. Zweber's position was that he had been told that he was first in time and therefore first in right. That being the reason, Mr. Zweber did not object to the Hageman permit granted in 1975. Mr. Zweber started having trouble with his wells in July of 1976 when Mr. Frost started his pumping. The July meeting was held in Wirner, at which time Mr. Zweber could not attend. He called the office and relayed a message to Mr. Jones expressing

his concern about the problem, but the Commission never received the message. At the October meeting a moratorium was called until further information could be obtained on the subsequent irrigators. Mr. Zweber feels that he is an adversary of the staff. They register a complaint, they are vested holders of a water right, according to the laws in the State of South Dakota and their feeling of this adversary type of relationship should be communicated because it is relevant to the situation. The staff also has a vested interest in this situation because the permits are granted on the advice of the staff. The staff's contention is that the depletion of the aquifer is not affecting Mr. Zweber's system and that Mr. Hageman is not having a direct effect on them. Mr. Zweber feels that if he has another year like 1976 there is a possibility that he will lose his farm. He has invested very heavily his irrigation. Mr. Zweber was the first irrigator in the area and he helped the others by his mistakes.

In July of 1976, after Mr. Frost started irrigating Mr. Zweber's gallonage was reduced from 600 to 500 gpm and in August from 500 to 350 gpm. Days of coverage dropped from 30 to 20 days and hours of coverage dropped from 24 to 20 hours compared to the previous year. Mr. Zweber's contentions are that the diminishment of the over-all aquifer is having an effect on Mr. Zweber's system and the subsequent irrigators are counting for a substantial portion of that overall diminishment of the aquifer. Therefore, Mr. Zweber is asking that Mr. Hageman and Mr. Frost be shut down. Mr. Hageman's well is having a direct effect on the overall diminishment of water in the aquifer.

Mr. King stated he was going to go over the deficiencies in the reports of Mr. Hedges and Mr. Selken. The original report of Mr. Selken's contains no mention of the comparison of the Bowdle or the Lebanon aquifers to the Hoven North and South aquifers with respect to the amount of diminishment. The Bowdle aquifer decreased about 2.7 feet from 1973 to 1977 and the Lebanon aquifer decreased about 2.9 feet, whereas the Hoven North decreased about 4 feet and the Hoven South about 5.5 feet. This indicated that the irrigators are responsible for about 2 feet of drop in that period of time which is about 2/5 of the total drop. Some of the trouble is caused by the drought, but a portion is also caused by the subsequent irrigators. According to the figures of Mr. Hedges, Mr. Frost's and Mr. Hageman's irrigation account for 18% of the total drawdown in the aquifer caused by irrigators. Mr. Zweber does not want Mr. Turner shut down, just Mr. Hageman and Mr. Frost, to see if the levels come back. Some inconsistencies were also found in the report. At one point in the report, it states that there has been no recharge in the past 3 years and the other report indicated that the irrigators account for a .9

foot drop per year in the aquifer. The conclusion for those two facts is that there does not appear to be any depletion of the aquifer. The figures show that it has been depleted 5.5 feet and 2 feet is accounted for by the irrigators. Mr. King presented a diagram of the Hoven North and South aquifer. Permits were granted right next to each other and it appears that the staff went overboard in the granting of the permits. Another deletion from the report was that no domestic or municipal users were contacted, to determine how much trouble they were having. Mr. Zweber has made some contacts and some domestic users were having water trouble. No contact was made with the well driller, for instance Virgil Worm. Mr. Worm was at the September 1976 meeting and indicated from his experience in the area, that between Mr. Hageman and Mr. Zweber runs a narrow channel through which the water passed. Mr. Hageman was having a direct effect on Mr. Zweber's well field. Mr. King stated he did not feel that this conclusion was inconsistent to what Mr. Hedges said. Mr. Hedges conducted a pump test for only 72 hours and he projected 50 and a 100 days of effect out from the well from a 72 hours of pump testing. Mr. Hedges pump test did not carry out the variables, the most substantial being the boundaries of the well fields. If there was a boundary between the well fields, the cones of depression would extend farther out. Mr. King thought his drawing was a more realistic depiction of the situation even though it was not to scale. Mr. King indicated that Mr. Worm felt there was a channel between the two well fields. Mr. Hageman's wells are located in the far corner of his quarter when he owns the entire half section. The well is not located in the middle because test holes were drilled across the half section and there wasn't enough water bearing sand to dig in. Mr. Zweber from his considerable experience in the area, estimates that the actual boundary is around the two systems. There are other indications of the same thing. Mr. Hageman's system did not produce during 1976. The pump test was run on his well yielded about 380 gpm for about 72 hours and it almost drew down to the point of pumping air; therefore, he had to reduce gallonage. This indicated that there is not that much sand for him to draw from and would indicate a boundary on Mr. Hageman's land. This would indicate that the concentric circles are oblong and extend out. If everything was uniform there would be no effect in 50 days. If they were oblong there is a substantial effect in 50 days and a tremendous effect in 100 days. The cones of depression from the Hageman well during the irrigation season will go right into Mr. Zweber's well and have an effect. Mr. Zweber's observations bear this out. When Mr. Hageman's system was shut down due to rain, his gallonage increased. When Mr. Hageman and Mr. Frost were both pumping, Mr. Zweber's gallonage went down considerably. Only one of Mr. Hageman's wells was pump tested, whereas during the

irrigation season he pumped from three, Mr. Zweber pumped from four wells. This would have a more serious effect than when just one well is being pumped in each system. Mr. Paul King another well driller in South Dakota stated that he agreed that where a number of wells are being pumped within a system the effect would be sooner and more serious than it would be if just one well would be pumping in each system.

Another point not mentioned in the report is that Mr. Hageman and Mr. Frost are both digging test holes, which would indicate their fear that there is going to be water trouble this summer. If there is going to be trouble Mr. Zweber deserves to suffer last. According to Mr. Hedges, when draw down reaches a certain point the draw down accelerates more rapidly. This can be caused by a number of factors, among which are the level of the aquifer as opposed to the effect of other nearby systems upon the well system. It is possible that Mr. Zweber's well did reach this accelerated drawdown point last year; therefore, making the effect that much more serious.

In March of 1976, the Zweber's were in Pierre and brought his maps and records that were all in order. All the logs of the wells went into Pierre when they were supposed to and the extra well was necessary for the water he needed. He wasn't getting the water he was entitled to by his permit. He did not know he needed another permit for a well in that location. Mr. King then questioned if it was fair to Mr. Zweber to place a moratorium on permits in the area because Mr. Zweber was the first irrigator in the area. They are asking that the Commission make an exception on the moratorium on this aquifer.

Mr. King and Mr. Zweber both feel that the report by the staff is deficient and therefore the conclusion drawn by the staff is deficient. Primarily this factor being that the aquifer has diminished by 5.5 feet over a three year period of time. Irrigators accounted for 2 feet of the decline. That being the reason, Mr. Zweber would like to see the subsequent irrigators shut down. Mr. King stated that Mr. Hageman and Mr. Frost applied for three permits at a time when they knew that a study was in process on the Hoven South aquifer. The point of poor well construction and spacing was not in the recommendations made to them.

In answer to a question from Mr. Garrett, Mr. King stated that Mr. Zweber requests that the subsequent permit for Mr. Turner be shut down also. Mr. Selken stated when a permit is approved it's for a certain number of cfs of water. The number of wells was not specified in this case. Mr. Selken stated that the original application

for Mr. Zweber's west well field, was for a dugout but one well was authorized on the license.

Mr. King stated according to Mr. Hedges, for every 1 foot drop in an aquifer there would be a 5% decrease in efficiency for each irrigation system. If there was a 5.5 foot drop in the aquifer, Mr. Zweber's system would decrease in efficiency by 25% and 10 to 15% of that can be accounted for by the subsequent irrigators.

In answer to a question from Mr. Varilek, Mr. Jones stated that the staff did not reduce the pumping on any of the permits during the summer when Mr. Zweber filed his complaint.

Mr. Jones stated that the City of Hoven applied for a permit last fall. The City has a permit application on file. Mr. Butler stated that the City has submitted an application, but it was deferred until the area could be checked into. Mr. Selken stated that the wells were right in the Hoven area.

Mr. King stated that another conclusion drawn from Mr. Hedges report is that under current conditions and use, if they continue as they have been in the past few years, there won't be any water in the aquifer for use by anyone. That is assuming there is no recharge.

Mr. Clarence Frost stated that he has a farm just south of Mr. Hageman's and 1½ miles from Mr. Zweber. Last summer, Mr. Frost measured his shallow well which is about 28 feet deep, and it had 2 feet of water. On February 19, 1977 he measured his one well and it had 32 inches of water.

Allen Turner stated that he has a test well about ¼ mile north east from his place and this well did not vary over 2 inches all summer. A new well has a depth of 60 feet and is 19 feet and 8 inches to the water level. Mr. Turner stated that he has a permit for this well, but he has only test pumped the well.

Mr. King stated that the observation well PT-76J which is located south of Mr. Frost had decreased 8 feet from August 1976 to January 1977.

Mr. Hedges stated that this particular observation well was installed this past summer. It was installed and left to set idle without development for a period of time. Later they went back in and developed the well. After development of the observation well, there was a change in the water level.

Mr. Selken stated that Mr. Knecht and himself developed the well

in August. They took a reading on August 19, 1976 which showed a reading of 21.0 which would be an inaccurate reading because the well was not developed. The first reading which shows a decline of 8 feet was obtained before the well was developed and an accurate reading can not be obtained from an undeveloped well.

In answer to a question from Mr. Zweber, Mr. Selken stated that he reported all the wells that had been installed.

Mr. King stated that there is no information before the Commission to indicate how much rainfall is needed to recharge the aquifer.

Mr. Hedges stated that when figuring how much water is needed to recharge an aquifer it is best to go by the records of the observation wells over a period of years. These records show the variation in water table level due to variations in precipitation. When you start developing an aquifer for irrigation and using large quantities of water from it, a couple things take place. One part of the water being used, is water that is normally lost through natural means of discharge. Another effect of such pumping is that the capability of the aquifer to recharge is increased. These are known facts. The capacity for recharge is increased and some of the water that is being used for irrigation would otherwise be lost by natural means. The drought has created a great impact on the Hoven South aquifer due to lack of recharge the past three years.

In answer to a question from Mr. Zweber, Mr. Hedges stated that when the specific capacity for a particular well is 35 gallons per minute per foot of drawdown, and the water level is reduced by one foot, each well is going to be reduced in capacity. So the reduction in yield from each well could vary depending on what each individual figure for specific capacity is. On an average well in that area the specific capacity varies from about 15 to 35 gallons per minute. Mr. Zweber stated that his well could be reduced 75 gallons per minute by a reduction of 5 feet in the water table. Mr. Hedges stated that this was correct.

Mr. Butler stated that one of Mr. Kings items of concern is whether the Hageman well system has a direct effect upon the Zweber system and asks that the system be shut down because he contends that it does have. The other question Mr. King brought up was the diminishment of the over all aquifers water level and its reduction on the pumpage of all the wells and therefore, any later permits should be shut down. Mr. Butler stated that through the records of the Geological Survey there was about a 5.5 foot drop in the over all aquifer, of which roughly, two feet is due to irrigation. One half of that two feet is from Zwebers irrigation and the other one half is from the other irrigators.

One foot of drawdown indicates a 5% loss in capacity of a well or a 15 to 35 gallon per minute loss in well capacity. The issue before the Commission is whether or not one specific system interferes with the other. There is a contention as to whether or not this is a perfect aquifer where the pump tests show that there would be no interference. Or is it an imperfect aquifer, dealing with a series of channels and boundary conditions where there may be an effect. Another question being asked, is the over all withdrawal out of the aquifer sufficient to interfere with the initial withdrawal.

Mr. Hedges stated that the test drilling does not indicate any deep narrow channel in the aquifer in which wells are being developed. However, it is not known what happens between the test holes. Mr. Hedges stated on Figure No. 8 of his report, a cross section is shown which indicates that there is a change in saturated thickness. It is due primarily to the natural water table gradient in the sand and gravel body. It is not confined to anything that Mr. Hedges would consider a deep narrow channel. The area of the aquifer in which the irrigation is being developed and where it does have the greatest saturated thickness is more or less in a continuous band, but it is not confined on the sides by a channel boundary. The amount of decline can be broken up. It can be determined whether a significant effect was made on those observation well reading from a boundary condition. The water level measurements in the observation wells would reflect any drastic boundary conditions in the area. By looking and analyzing the records it can be determined whether a significant boundary was there.

In answer to a question from Mr. Varilek, Mr. Zweber stated that he began to irrigate in 1969. Mr. Varilek stated that the domestic well and well interference clauses are put on a permit to protect the irrigator. Mr. Zweber started irrigating in 1969 and there was no problems until 1975 when the Commission issued more permits in the aquifer. Mr. Varilek stated he felt the other permits should be restricted.

Mr. Varilek MOVED, SECONDED by Mr. Jensen THAT ALL PUMPING FROM LARGE CAPACITY WELLS IN THE HOVEN SOUTH AQUIFER EXCEPT FOR PERMITS NO. 1622-3 AND NO. 1623-3 SHALL STOP UNTIL THE WATER LEVEL COMES BACK IN THE AQUIFER.

Mr. Hatch than asked about the one Zweber well that was not authorized and licensed.

Mr. Varilek stated the motion allows Mr. Zweber to pump only the wells authorized by his two permits.

Mr. Butler stated for clarification purposes, that the Commission was restricting all pumping from high capacity wells in the Hoven South Aquifer, except for Permits No. 1622-3 and No. 1623-3 until such time as the water levels come back. This does not mean that the Commission is denying future pumping, but the Commission will continue to monitor ground water levels.

Mr. Hedges questioned how the Commission would determine when the aquifer water level was normal.

Mr. Butler stated the staff would have to continue to monitor observation wells until they reach a level that would be about average over what has been recorded over the past 20 years.

Mr. Varilek stated that a year from now it might be necessary to shut Mr. Zweber's wells off also, if the water levels continue to decline.

In answer to a question from Mr. Mickelson, Mr. Hedges stated that you are mining water when more water is taken out of an aquifer on an average annual basis than was received in recharge on an average annual basis. Irrigation withdrawals have not exceeded the average annual recharge to the Hoven South Aquifer. Mr. Hedges also stated there are 20 years of records, but from only one or two observation wells per aquifer. Those observation wells indicated there is approximately $1\frac{1}{2}$ feet of recharge per aquifer per year. When withdrawals reach that point or exceed it over an extended period of time, you are mining the water. As the water level declines, the aquifer is subject to more rapid recharge.

Mr. Hatch stated that if the motion passed it would be effective immediately.

Mr. Al Weber, a mechanical contractor, from the City of Hoven, stated he felt the City of Hoven should be represented. Mr. Weber stated that the City of Hoven does have a water problem. Before the city's new well was dug a year ago, the City was without water. Hoven people have been pumping water for a hundred years and they have a right to the domestic use of water. The City has three wells that have very little water. The new well is a very high producer. Mr. Weber stated that he installed the pump and pumped the well for about

14 days. It was logged for about 30 days. The well pumped about 180 gpm. The last 14 days drawdown was measured at 5 feet and 4 inches. Until the well was put in, the City of Hoven did not have adequate water.

Mr. Jones stated that the City of Hoven did not apply for a vested right but had submitted application on the existing wells.

Chairman Wagner questioned the Commission as to whether or not sufficient time had been allocated to all individuals.

Mr. Mickelson stated while he was on the Commission every person appearing on a subject will be subject to the same or no restrictions.

Chairman Wagner called for a vote on the previous motion.
MOTION CARRIED.

2855-3, City of Hoven, Hoven, South Dakota

Application is for 1.11 cfs of water from four 60 foot deep wells for municipal use.

Mr. Fischer MOVED, SECONDED by Mr. Kleinlein that the two North wells, in the Hoven North Aquifer, for the City of Hoven be APPROVED and that the two other South wells be DEFERRED with the qualification that the irrigation wells 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. MOTION CARRIED.

Water Permit No. 1703-3 was issued to Dean Giese of Hoven on January 7, 1970 for 2.28 cfs of ground water to irrigate 160 acres. The system has not been constructed. Mr. Giese was notified of the scheduled cancellation consideration.

Mr. Jensen MOVED, SECONDED by Mr. Mickelson that Water Permit No. 1703-3 be CANCELLED for non-construction. MOTION CARRIED.

Water Permit No. 1715-3 was issued to Robert L. Simon of Hoven on March 18, 1970 for 2.17 cfs of ground water to irrigate 152 acres. The system has not been constructed. Mr. Simon was notified of the scheduled cancellation consideration.

Mr. Fischer MOVED, SECONDED by Mr. Varilek that Water Permit No. 1715-3 be CANCELLED for non-construction. MOTION CARRIED.

Water Permit No. 2290-3 was issued to Bill Zweber of Hoven on July 24, 1975 for 2.22 cfs of water from one 43 foot deep well to irrigate 160 acres. One fifth of the system has not been constructed in the time allowed. Mr. Zweber was notified of the scheduled cancellation consideration.

Mr. Mickelson MOVED, SECONDED by Mr. Jensen that Water Permit No. 2290-3 be cancelled because at least one-fourth of the work was not completed in accordance with the January 24, 1977 date specified in the permit. MOTION CARRIED.

3124-3, Mrs. Carl Dahlquist, Lebanon, South Dakota

Application is for 2.00 cfs of water from two 56 foot deep wells to irrigate 160 acres. Affidavit of publication received.

Mr. Varilek MOVED, SECONDED by Mr. Kleinlein that Application No. 3124-3 be APPROVED with the qualification that the irrigation wells 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. MOTION LOST with Mr. Jensen, Mr. Garrett, Mr. Mickelson and Mr. Richey voting NO.

Mr. Mickelson MOVED, SECONDED by Mr. Richey that Application No. 3124-3 be DEFERRED. MOTION CARRIED with Mr. Wagner voting NO.

3694-3, Randall E. Simon, Lebanon, South Dakota

Application is for 2.17 cfs of water from a series of 30 foot deep wells to irrigate 152 acres. Affidavit of publication received.

Mr. Garrett MOVED, SECONDED by Mr. Mickelson that Application No. 3694-3 be DEFERRED. MOTION CARRIED.

2899-3, Arlyn Spindler, Hoven, South Dakota

Application is for 2.0 cfs of water from three 40 foot deep wells to irrigate 260 acres. Affidavit of publication received.

Mr. Kleinlein MOVED, SECONDED by Mr. Mickelson that Application No. 2899-3 be DEFERRED. MOTION CARRIED.

3693-3, Donovan Brehmer, Hoven, South Dakota

Application is for 1.93 cfs of water from three 60 foot deep wells to irrigate 135 acres. Affidavit of publication received.

Mr. Mickelson MOVED, SECONDED by Mr. Varilek that Application No. 3693-3 be DEFERRED. MOTION CARRIED.

3710-3, Joe Stuve, Hoven, South Dakota

Application is for 1.67 cfs of water from one 48 foot deep well to irrigate 117 acres. Affidavit of publication received.

Mr. Fischer MOVED, SECONDED by Mr. Mickelson that Application No. 3710-3 be DEFERRED. MOTION CARRIED.

2973-3 Dean Giese, Hoven, South Dakota

Application is for 2.28 cfs of water from one 36 foot deep well to irrigate 160 acres. Affidavit of publication received.

Mr. Hatch stated that the staff is recommending denial of this application, because unappropriated water is not available.

Mr. Kleinlein MOVED, SECONDED by Mr. Jensen that Application No. 2973-3 be DENIED. MOTION CARRIED.

Randy Simon from Lebanon stated that he was located 10 miles from Zwebers well. His permit was one that was deferred.

Mr. Mickelson stated that according to Mr. Hedge's report that aquifer dips down in that direction and they do not want the aquifer to drop any more.

Morris Simon from Lebanon stated that he had been issued a permit a year ago, but had not started his project because he was waiting for the report to be finished. Mr. Hatch stated he could be granted an extension of time, if there are circumstances over which the applicant does not have control. Mr. Simon stated he felt that this was the same situation of some of the permits that were just cancelled. Mr. Hatch stated that those particular permits were subject to cancellation.

Mr. Hatch stated that an existing authorized well can be replaced if the old well is abandoned.

Meeting recessed at 12:00 noon.

Meeting reconvened at 1:00 p.m.

HOVEN AREA REPORT

March 3, 1977

The Water Rights Commission has deferred action on all water right applications in Potter and Walworth Counties in the area surrounding Hoven, South Dakota. This action was taken after written affidavits and letters were submitted to the Commission by Mr. King, Attorney representing Mr. Willard Zweber. The affidavit contends that the Commission has approved applications which have adversely affected Mr. Zwebers prior water right.

After extensive test drilling by the South Dakota Geological Survey, the general boundaries of the aquifers in question have been established. The sand and gravel formations constitute a series of aquifers extending from south of Lebanon to Bowdle, located in Edmonds County. There are four aquifers (designated Lebanon, Hoven South, Hoven North and Bowdle) which function separately, but are hydraulically connected during periods of high ground water levels.

The transient storage in the four aquifers as calculated by the Geological Survey assuming a uniform storage coefficient of 0.2 through-out are as follows:

TABLE I

Aquifer	Acre-Feet of Water		1976
	Minimum	Maximum	
Lebanon	24,000	36,000	29,000
Hoven South	30,000	36,000	30,000
Hoven North	25,000	35,000	27,000
Bowdle	30,000	40,000	34,000

The figures in Table I reflect a minimum and maximum transient storage in terms of acre-feet of water (one acre-foot equals 325,850 gallons of water). Because of the variation of the storage coefficient throughout an aquifer due to the variation in type of formation, a precise figure for transient storage would be very difficult to obtain.

Hoven Area Report, Continued

Page 2.

From an estimated storage of 30,000 acre-feet of water in the Hoven South Aquifer in 1976, the Water Rights Commission has approved applications for 24.62 cubic feet per second. Of the 24.62 cubic feet per second presently approved 13.45 c.f.s. are developed and 11.17 c.f.s. are subject to cancellation under Sections 46-5-21 and 46-5-25 of the South Dakota Water Law.

Assuming a pumping season of 90 days at 24 hours per day, the maximum amount of water withdrawn from the Hoven South Aquifer would be 2400 acre-feet or approximately eight per cent of the total transient storage. Besides the irrigation withdrawals, the City of Hoven is using approximately 1.11 c.f.s. and domestic users withdraw an undetermined amount for domestic use. This 2400 acre-feet is the maximum amount assuming that each permit is pumped at maximum allowed cubic feet per second. In reality the four developed permits during 1976 probably only pumped 1100 acre-feet of water which would give a decline of 0.9 feet in the overall level of water in the Hoven South Aquifer, assuming no recharge to the area. The 1100 acre-feet can be assumed because the permit holders did not pump continuously for 90 days and reported that they did not pump at the maximum allowed cubic feet per second.

The aquifers in question are recharged by direct precipitation and surface run-off. This fact can be shown by comparing water levels in observation well SW4 with rainfall data compiled by the National Weather Service. (see attachment) Observation well SW4 was used for the comparison because of the twenty years of data for that well, any well with sufficient data could have been used. Because of the lack of precipitation in the last three years, the Hoven South Aquifer has not been recharged to any extent. This is reflected by the water levels in observation wells which show a net lowering of the aquifer of approximately four feet from what is considered normal during the 1960's.

A pump test was conducted by the Geological Survey and the Commission Staff in January of 1977. The test was conducted on one of Gillis Hagemen's production wells, Water Right No. 2271-3, with six observation wells being monitored for 72 hours of draw-down and 72 hours of recovery. The results of the test showed a calculated transmissibility of 50,000 gallons per day per foot of aquifer. Using this transmissibility, the lowering of the aquifer one foot would reduce the capacity of each well by 35 gallons per minute.

The results of the pump test, also showed that Gillis Hagemen's well field would not cause interference with Mr. Zweber's well field, as Mr. Zweber contends in his complaint. However, pumping by all authorized high capacity wells in the Hoven South Aquifer would contribute to an overall lowering of the aquifer. This lowering of the aquifer should not be considered to be depleting the ground water unless the average annual recharge to the aquifer is exceeded. A withdrawal of 1100 acre-feet annually or even the full water right permit amount of 2400 acre-feet annually does not appear to be depleting the aquifer.

In addition to the overall effect of lowering the aquifer, the maintenance of wells and the location of wells within the area covered by an individual permit could have a much greater effect on well production than the lowering of the aquifer by all authorized irrigation. The effect of placing high capacity wells too close together is that the water table in the immediate area would be lowered to a point where the capacity of each well is diminished considerably.

APPROVED APPLICATIONS IN HOVEN SOUTH AQUIFER

Priority Date	Water Right Number	Name	C.F.S.	Wells	Remarks
10/ 7/68	1622-3	Willard Zweber	3.42	6	Developed
10/ 7/68	1623-3	Willard Zweber	0.85	2	Developed
11/18/69	1703-3	Dean Giese	2.28	-	Subject to Cancellation
11/18/69	1704-3	Allen Turner	1.38	1	Developed
12/17/69	1715-3	Robert Simon	2.17	-	Subject to Cancellation
3/12/70	1741-3	Norbert Hericks	3.33	Dugouts	Creek & Dugouts
5/ 1/75	2270-3	Allen Turner	4.50	-	Partially Developed
5/ 1/75	2271-3	Gillis Hageman	4.30	3	Developed
5/27/75	2290-3	Bill Zweber	2.22	-	Not Developed
2/17/76	2598-3	Clarence Frost	3.50	3	Developed

DEFERRED APPLICATIONS

Priority Date	Water Right Number	Name	C.F.S.	Wells	Remarks
7/13/76	2855-3	City of Hoven	1.11	4	Hoven-South & North
6/29/76	2899-3	Arlyn Spindler	2.00		Hoven North
8/ 4/76	2973-3	Dean Giese	2.28		Hoven South
10/ 4/76	3124-3	Carl Dahlquist	2.17		Lebanon
10/21/76	3694-3	Randall Simon	1.93		Lebanon
10/24/76	3693-3	Donovan Brehmer	2.00		Hoven North
1/ 3/77	3710-3	Joe Stuwe	1.63		Hoven North

CONCLUSIONS AND RECOMMENDATIONS:

1. Willard Zweber Complaint:

It is the conclusion of the Commission Staff that the diminishing capacity of the Willard Zweber wells is due to the lack of recharge. The interpretation of the pump

Hoven Area Report, Continued

Page 4. . . .

test indicates that pumping by Gillis Hageman would not affect Mr. Zweber's pumping capacity directly as Mr. Zweber contends. It is the Staff's recommendation that no action be taken on the complaint.

2. City of Hoven's Application:

The City of Hoven is presently using four wells for which they do not have a permit. The Staff also recommends that the City of Hoven's application No. 2855-3 be approved with a 2640 foot spacing requirement between different permit wells.

3. Permits Nos. 1703-3, 1715-3:

The Staff recommends cancellation of Water Rights Nos. 1703-3, 1715-3, due to non-construction as provided by Statute.

4. Lebanon Aquifer:

The Staff recommends approval of Carl Dahlquist Application No. 3124-3 and Randall Simon Application No. 3694-3 with a 2640 foot spacing requirement between individual permit wells.

5. Hoven South Aquifer:

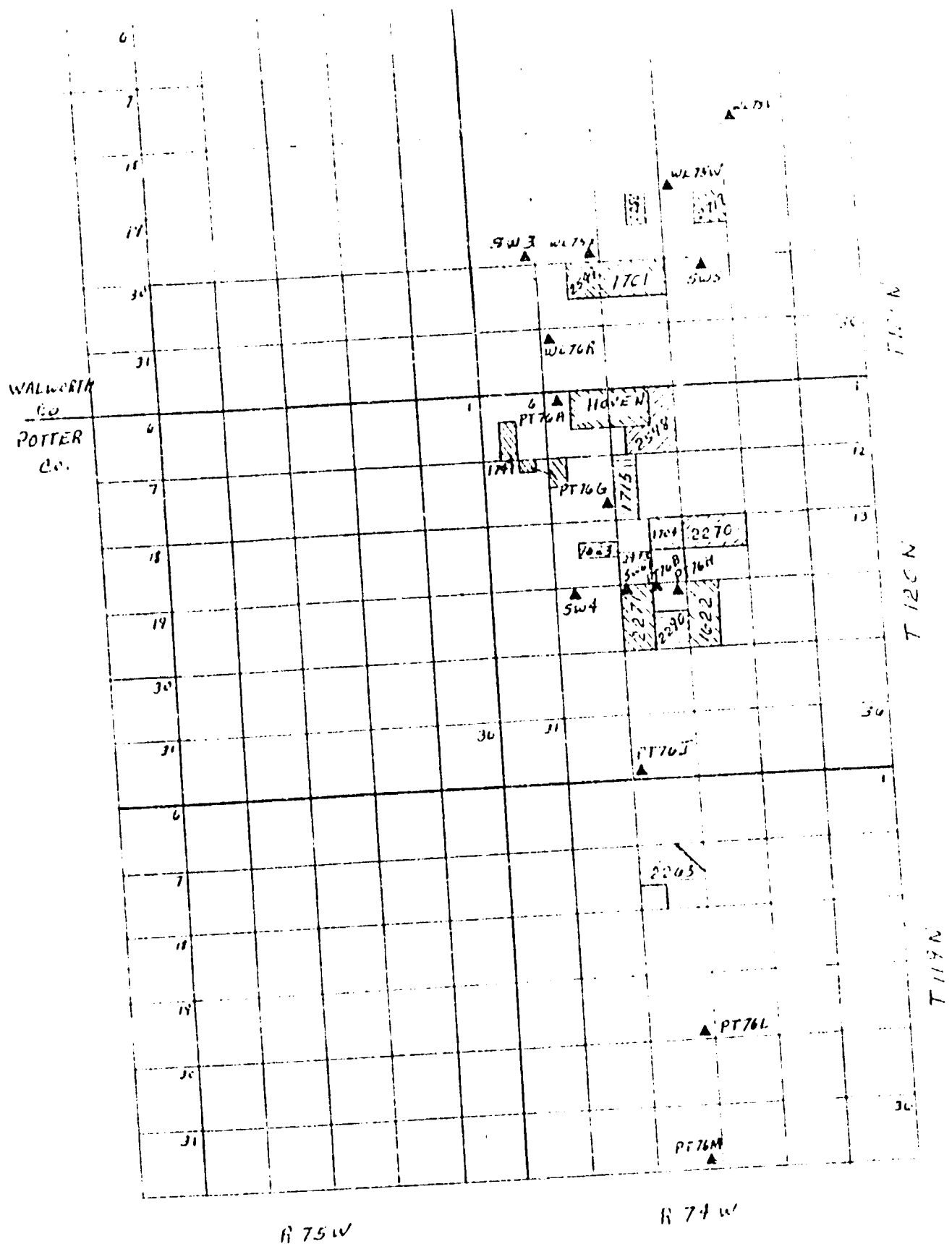
The Staff recommends denial of Water Right Application No. 2973-3 for Mr. Dean Giese. The Staff makes this recommendation because of the location of the application and the interference effects that this permit would have on Water Rights Nos. 2271-3, 1704-3 and 1623-3.

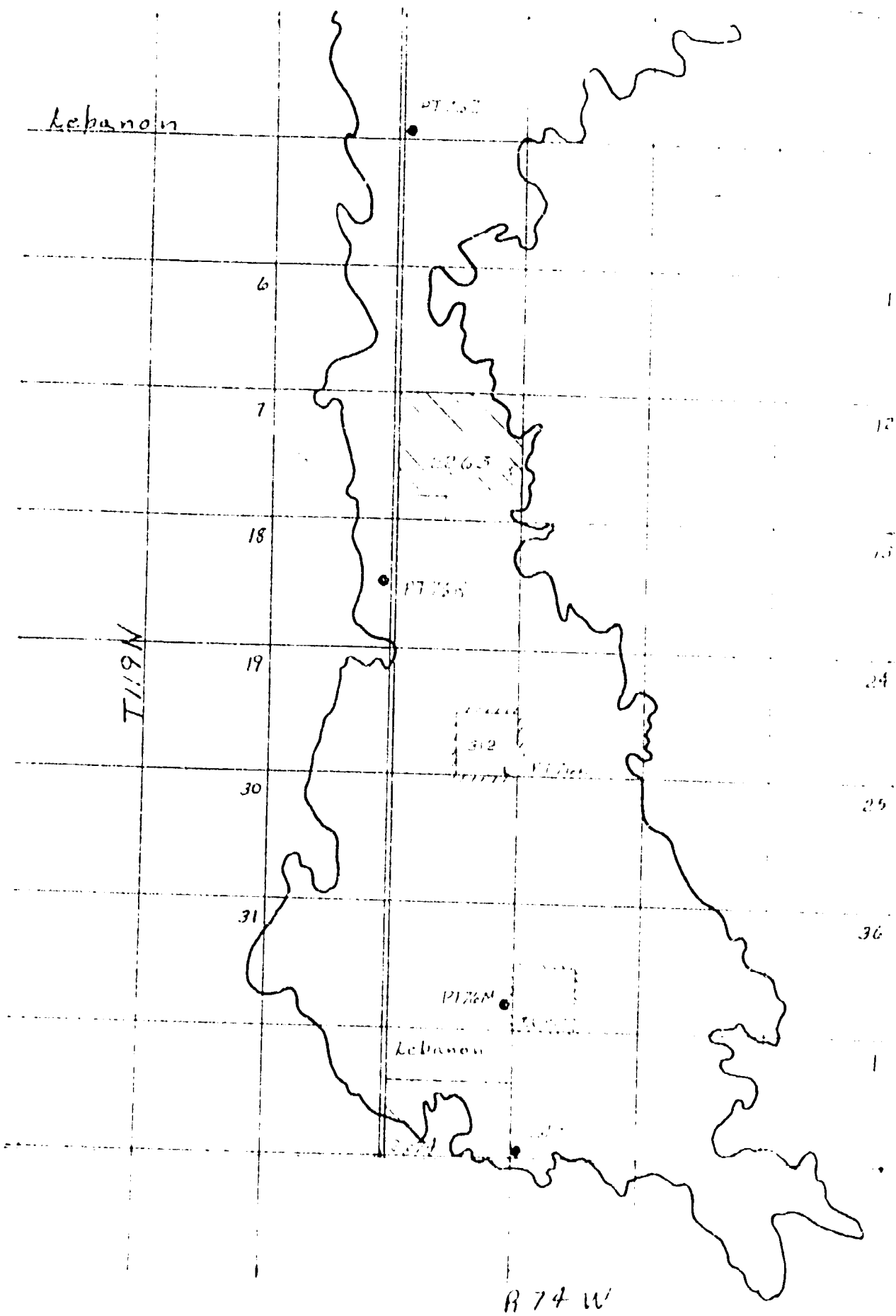
Mr. Willard Zweber has Water License No. 1623-3 for one thirty foot well. During the field investigation it was noted that there are two operating wells. The Staff recommends that the Commission require the Water Right holder to cease use of the additional well until a permit can be approved.

6. Hoven North Aquifer:

Presently there are three water right applications advertised, No. 2899-3, No. 3693-3 and No. 3710-3. The Staff recommends that these water right applications be deferred to allow the effects of pumping authorized by existing permits to be monitored and because of the location of the proposed permits.

GALE N. SELKEN
Water Resources Engineer I





Hoven South

T 120 N

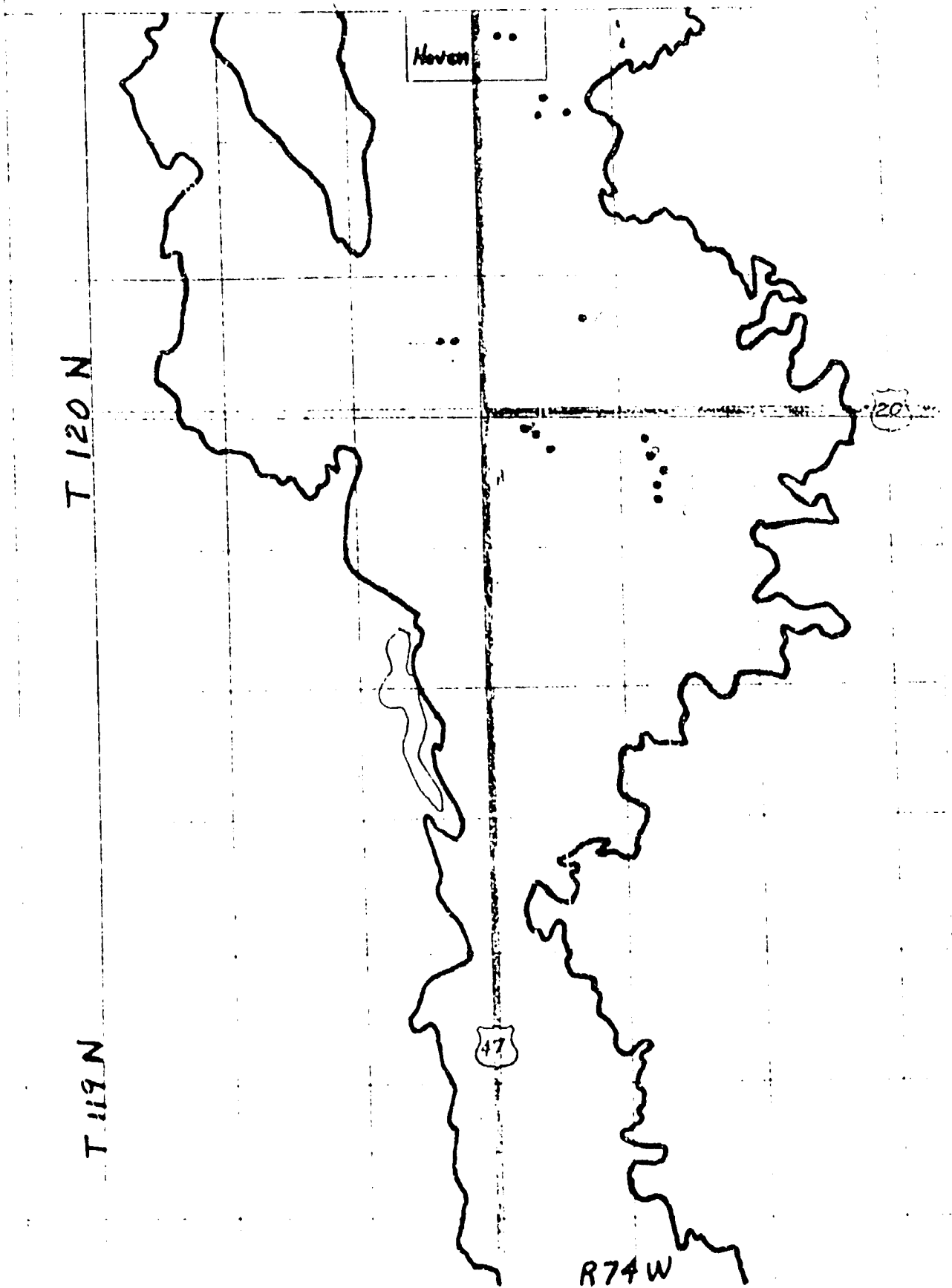
T 119 N

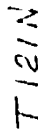
Hoven

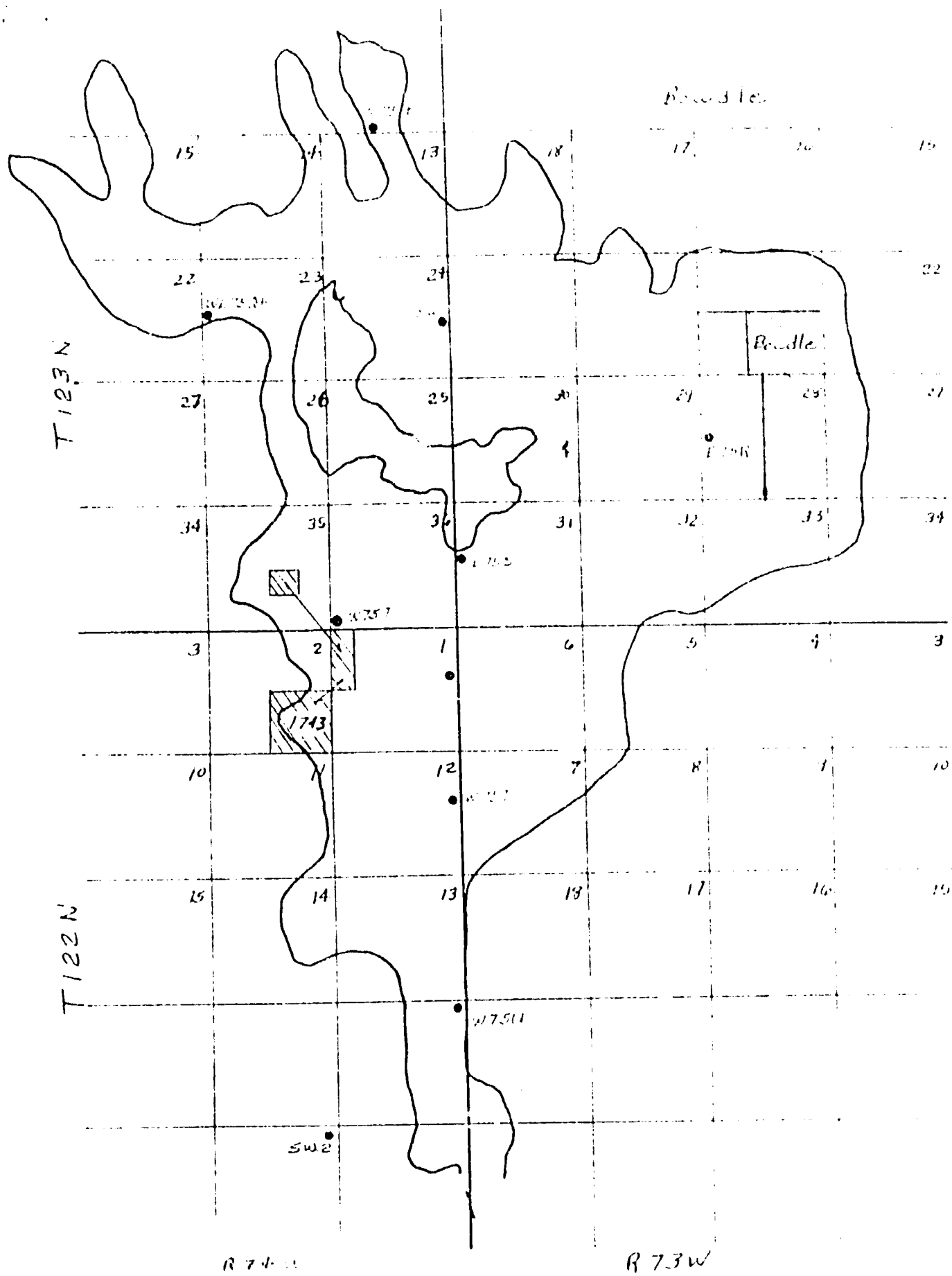
47

20

R 74 W







MONTHLY PRECIPITATION IN INCHES

STATE 79

NUMBER 3294 GOTTESBURG

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1931			1.55	0.75	1.82	1.97	0.40	2.33	0.55
1932	0.40	0.15	0.30	4.70	3.42	2.79	1.58	1.89	0.90
1933	T	0.25	1.57	0.69	3.44	2.70	1.70	0.75	0.60
1934	T	0.15	0.63	0.10	0.65	1.49	1.32	1.03	0.88
1935	0.01	0.40	1.25	3.35	1.37	1.13	1.51	0.31	0.11
1936	0.39	0.37	1.15	1.67	1.49	1.18	0.19	1.82	1.14
1937	0.66	0.45	0.92	0.54	2.20	2.24	4.95	0.88	0.30
1938	0.30	0.60	0.91	2.13	2.42	3.19	1.33	0.57	3.30
1939	0.78	0.62	T	0.96	1.38	6.63	1.62	1.23	0.54
1940	T	0.59	1.24	2.73	0.41	2.19	1.79	1.43	T
1941	0.31	0.32	0.60	3.01	1.59	5.98	2.61	1.55	2.46
1942	T	0.87	2.60	1.86	4.08	4.63	4.34	0.61	1.95
1943	0.52	0.17	0.31	0.11	3.03	5.41	0.91	1.47	1.13
1944	0.52	0.46	0.61	1.04	2.02	4.62	2.90	2.99	0.90
1945	0.54	0.43	0.97	0.48	3.04	4.25	2.74	1.23	2.11
1946	T	0.23	2.38	1.90	2.59	4.60	2.46	1.89	2.93
1947	0.41	0.10	0.59	1.86	0.89	4.64	0.34	0.32	1.31
1948	0.25	0.38	0.60	3.29	0.45	4.95	1.55	2.24	0.96
1949	1.34	0.19	0.70	1.08	2.60	1.69	1.55	2.05	1.24
1950	0.56	0.83	1.41	1.63	4.30	0.57	2.17	1.51	1.28
1951	0.05	0.73	0.52	1.25	4.12	1.92	0.85	4.97	0.64
1952	0.59	2.06	0.57	0.03	1.32	7.55	0.98	3.33	0.61
1953	0.58	0.55	1.66	3.23	2.27	5.70	2.63	4.10	0.52
1954	0.16	0.15	0.72	0.60	1.25	5.70	1.14	1.57	1.15
1955	0.10	0.44	0.23	1.57	2.25	3.60	1.28	0.66	1.93
1956	0.17	0.14	0.72	0.71	5.24	5.18	3.88	2.06	1.11
1957	0.16	0.34	0.18	2.89	6.27	4.26	2.12	3.40	1.59
1958	0.52	1.27	0.12	2.84	2.11	2.26	2.24	2.02	0.09
1959	0.27	0.75	0.21	0.54	2.92	1.70	1.22	0.73	3.73
1960	0.72	0.82	0.66	1.97	4.30	4.07	1.39	4.61	0.54
1961	0.21	0.23	0.46	1.06	4.13	0.92	1.59	0.51	2.17
1962	0.51	0.33	0.55	0.72	1.63	3.78	1.37	5.74	1.21
1963	0.52	0.34	0.55	2.62	2.27	2.90	4.78	2.27	2.17
1964	0.10	0.14	0.49	3.94	2.50	5.52	1.14	1.07	0.49
1965	0.14	0.25	0.44	3.45	4.57	1.10	3.25	1.34	2.83
1966	0.17	0.67	2.97	1.75	1.27	2.58	3.64	3.75	1.52
1967	0.47	0.62	0.36	2.73	1.03	6.60	0.62	1.11	1.00
1968	0.29	0.16	0.20	4.23	1.32	1.67	2.11	3.47	0.56
1969	1.07	1.49	0.33	0.46	1.77	3.14	1.31	1.50	1.74
1970	0.18	0.41	0.59	4.77	2.81	1.63	2.01	2.04	0.93
1971	0.23	0.46	0.15	3.96	2.30	4.37	0.61	0.34	0.05
1972	0.38	0.33	0.62	1.16	5.80	1.45	2.44	2.27	1.43
1973	0.49	0.19	1.82	1.34	3.50	1.32	1.17		

STATE 35

MONTHLY PRECIPITATION IN INCHES

NUMBER 0834 ROWDLE

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1931	0.10	0.43	1.55	1.09	3.31	2.79	0.83	2.21	0.74	1.17	0.70	1.00
1932	0.40	0.50	1.10	4.59	4.96	2.19	2.34	3.00	1.26	1.13	0.10	0.30
1933	0.32	0.25	1.03	1.79	3.34	3.96	1.89	1.00	1.15	0.10	0.20	0.54
1934	0.05	0.05	0.51	0.03	0.40	2.40	1.27	0.04	1.42	2.19	0.23	0.15
1935	0.02	0.98	1.43	4.13	1.78	3.71	2.81	1.23	0.28	0.09	0.34	0.39
1936	0.48	0.33	0.66	1.15	1.86	0.44	0.25	1.39	0.33	0.41	0.51	0.09
1937	1.14	0.28	1.53	0.70	2.87	4.37	1.93	1.34	0.87	0.09	0.10	0.31
1938	0.45	0.70	0.90	0.79	2.40	3.79	0.97	0.95	1.64	0.18	0.48	0.18
1939	0.43	0.79	0.03	0.82	2.18	6.57	1.74	2.09	0.49	1.23	0.00	0.19
1940	0.08	0.88	1.12	3.31	0.59	1.83	1.35	2.04	0.42	0.97	0.31	0.05
1941	0.55	0.04	0.40	2.23	1.24	6.00	1.30	1.46	2.91	1.33	0.10	T
1942	T	0.31	1.74	1.78	5.82	5.98	4.03	2.23	1.54	0.59	0.12	0.13
1943	0.87	0.22	0.89	0.07	2.24	7.04	1.45	2.17	1.16	1.68	0.96	T
1944	0.78	0.28	0.41	1.33	2.31	4.30	8.00	4.25	0.66	0.47	2.03	0.19
1945	0.38	0.92	0.91	1.22	1.71	3.99	2.65	1.00	2.55	0.03	T	0.19
1946	0.31	0.45	2.30	1.99	1.56	3.74	2.26	3.89	3.38	2.41	0.69	T
1947	0.48	0.22	0.58	2.17	0.71	5.93	0.44	0.20	0.71	2.07	2.48	0.13
1948	0.34	0.79	0.86	5.54	0.42	5.77	3.23	1.57	0.88	1.02	0.47	0.12
1949	1.42	0.14	0.54	0.84	4.29	2.15	3.35	2.36	1.82	2.73	0.50	0.84
1950	2.44	0.55	0.96	0.55	4.70	0.66	0.91	1.41	0.98	0.46	0.12	0.31
1951	0.29	1.02	0.73	0.56	3.28	5.29	2.03	3.90	1.00	2.84	0.02	1.41
1952	0.33	0.79	0.51	0.30	1.26	2.33	0.85	1.59	0.99	0.06	1.35	0.07
1953	1.58	0.39	1.83	2.95	3.54	6.94	3.64	3.01	0.93	0.69	0.34	0.39
1954	0.40	0.16	0.91	0.78	1.48	6.03	1.74	2.22	1.82	1.23	0.31	0.23
1955	0.25	0.80	0.29	2.37	2.76	2.21	1.12	2.65	1.19	0.13	0.72	0.32
1956	0.58	0.28	0.97	0.61	2.32	2.71	3.69	3.71	1.70	1.29	4.05	0.21
1957	0.23	0.38	0.17	4.34	6.77	4.94	2.40	3.96	1.60	1.54	0.89	0.15
1958	0.71	0.65	0.53	2.13	2.29	3.95	2.39	2.23	0.71	1.15	1.24	0.35
1959	0.32	0.79	0.22	0.59	3.52	1.58	0.15	0.15		0.76		
1960	D 0.41	0.39	0.60	1.00	5.93	2.56	0.85	5.17	1.05	0.26	0.29	0.65
1961	0.00	0.14	0.32	1.40	4.08	1.04	1.45	1.50	4.33	0.18	0.09	0.51
1962	0.82	0.76	0.47	0.52	5.94	3.58	4.22	1.00	1.98	0.31	0.47	0.25
1963	0.33	0.39	0.94	1.84	2.92	4.13	5.28	2.56	1.50	1.43	0.32	0.21
1964	0.15	0.07	0.49	4.18	3.05	11.48	0.53	0.97	0.59	0.00	0.37	0.31
1965	0.43	0.28	0.72	4.24	5.48	2.33	0.64	2.69	2.26	0.95	0.17	0.54
1966	0.16	0.50	4.20	1.42	1.15	2.44	3.80	3.63	1.20	1.03	0.53	0.03
1967	0.27	0.63	0.02	2.98	3.63	5.40	1.01	0.71	0.49	1.32	0.10	0.71
1968	0.40	0.03	3.03	4.58	3.13	6.58	2.02	2.19	1.82	0.35	1.06	1.01
1969	1.31	1.80	0.48	0.23	1.60	3.73	4.71	1.98	0.74	1.01	0.16	1.25
1970	0.41	0.35	0.83	3.12	3.15	2.47	3.29	0.78	2.05	1.29	2.07	0.60
1971	0.41	0.66	0.18	3.56	2.41	6.85	1.57	0.70	0.92	3.23	0.94	0.95
1972	E 0.65	D 1.35	0.77	1.18	7.22	2.24	1.48	0.74	0.06	1.79	0.29	1.12
1973	0.35	0.11	3.11	1.22	2.10	0.86	0.31	0.53	1.94	1.75	0.52	0.70

Well Number: SW4County PotterLegal location: BABB Section 26 T- 120 N- 33 R- 74 E- WDepth of well 12.7 ft. Mean Sea Level Elevation of Measuring Point 1872.49Pipe length above ground 2.2 ft. Date Drilled August 23 19 57Depth to top of aquifer 5 ft. Thickness of aquifer 5 ft.

Remarks: _____

Water Level Observations

Date	W/I Readings	Elevation	Date	W/L Readings	Elevation
11-15-57	5.8	1866.7	11-9-70	5.4	1867.1
3-17-58	4.8	1867.7	3-5-71	4.8	1867.7
6-24-58	4.5	1868.0	7-13-71	4.0	1868.5
12-5-58	5.9	1866.6	11-7-71	4.9	1867.6
3-11-59	5.2	1867.3	3-28-72	3.7	1868.8
7-21-59	6.5	1866.0	7-12-72	4.9	1867.6
11-3-59	6.8	1865.7	10-26-72	5.8	1866.7
5-12-60	5.2	1867.3	3-28-73	2.9	1869.6
7-15-60	5.8	1866.7	7-3-73	6.1	1866.4
11-30-60	5.1	1867.4	11-23-73	6.1	1866.4
3-1-61	3.6	1868.9	3-27-74	5.6	1866.9
7-6-61	5.6	1866.9	6-25-74	5.6	1866.9
10-26-61	6.5	1866.0	11-6-74	6.8	1865.7
3-2-62	5.7	1866.8	4-11-75	4.6	1867.9
7-2-62	4.2	1868.2	7-1-75	5.8	1866.7
11-1-62	5.8	1866.7	11-5-75	7.1	1865.4
3-14-63	4.7	1867.8	3-19-76	5.8	1866.7
7-11-63	5.0	1867.5	5-18-76	6.2	1866.3
11-20-63	5.4	1867.1	6-16-76	7.1	1865.4
3-19-64	5.1	1867.4	8-19-76	8.2	1864.3
6-23-64	2.8	1869.7	8-25-76	8.3	1864.2
11-13-64	6.0	1866.5	10-22-76	8.4	1864.1
3-8-65	5.3	1867.2	11-9-76	8.3	1864.2
7-1-65	4.4	1868.1	12-2-76	8.1	1864.4
11-13-65	5.7	1866.8	12-14-76	8.2	1864.3
7-5-66	5.0	1867.5	1-11-77	7.95	1864.5
11-14-66	4.8	1867.7			
3-1-67	4.3	1868.2			
7-7-67	4.1	1868.4			
11-3-67	5.7	1866.8			
3-28-68	3.4	1869.1			
7-2-68	3.3	1869.2			
10-22-68	5.2	1867.3			
3-25-69	3.6	1868.9			
7-8-69	3.7	1868.8			
11-10-69	5.4	1867.1			
3-6-70	4.0	1868.5			
6-25-70	3.9	1868.6			

Well Number: SW6ACounty PotterLegal location: BBBB Section 21 T- 120 N X R- 74 XX - WDepth of well _____ Mean Sea Level Elevation of Measuring Point 1891.89Pipe length above ground 2.2 Date Drilled _____ 19 _____

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
11-5-75	18.2	1873.7			
3-19-76	18.2	1873.7			
7-9-76	18.6	1873.3			
8-25-76	19.7	1872.2			
10-22-76	19.8	1872.1			
11-9-76	20.0	1871.9			
12-2-76	19.9	1872.6			
12-14-76	19.9	1872.0			
1-11-77	19.8	1872.1			

Well Number: PT76HCounty PotterLegal location: AAAA Section 21 T- 120 N E R- 74 X - WDepth of well _____ Mean Sea Level Elevation of Measuring Point 1905.04

Pipe length above ground _____ Date Drilled _____ 19 _____

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
7-23-76	27.9	1877.1			
8-19-76	28.0	1877.0			
8-25-76	28.0	1877.0			
10-22-76	28.6	1876.4			
11-9-76	28.8	1876.2			
12-2-76	28.9	1876.1			
12-14-76	28.8	1876.2			
1-11-76	28.9	1876.1			

Well Number: PT76G

County Potter

Legal location: ADDD Section 8 T- 120 NXX R- 74 SE - W

Depth of well _____ Mean Sta Level Elevation of Measuring Point 1868.36

Pipe length above ground _____ Date Drilled _____ 19 _____

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks: _____

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
7-9-76	6.6	1861.8			
7-23-76	6.8	1861.6			
8-19-76	7.1	1861.3			
10-22-76	6.8	1861.6			
11-9-76	6.8	1861.6			
12-2-76	6.7	1861.7			
12-14-76	6.6	1861.8			
1-11-77	6.6	1861.8			

Well Number: PT 76J

County Potter

Legal location: CCCC Section 33 T- 120 NMS: R- 74 NY - W

Depth of well _____ Mean Sea Level Elevation of Measuring Point 1943.4

Pipe length above ground _____ Date Drilled _____ 19__

Depth to top of aquifer _____ Thickness of aquifer _____

Remarks:

Water Level Observations

Date	W/L Readings	Elevation	Date	W/L Readings	Elevation
8-19-76	21.0	1922.4			
10-22-76	27.4	1916.0			
11-9-76	27.5	1915.9			
12-2-76	27.5	1915.9			
12-14-76	28.2	1915.2			
1-12-77	28.1	1915.3			

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ATTORNEYS AT LAW

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H. I. King — 225-7833
Rory King — 229-4389

March 29, 1977

Water Rights Commission Staff
Attention Mr. Burton Jones

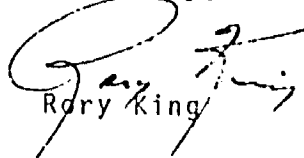


Dear Mr. Jones:

Mr. and Mrs. Zweber have informed me that I made a mistake in my presentation before the Commission on March 24, 1977. In response to the recommendation of the Staff that the second well on Section Seventeen be shut down, I indicated that the Zwebers had come to the Commission in March, 1976, and that you had reviewed their maps and records and had indicated that everything was in order. The second well on Section Seventeen was dug when the water ran short in July, 1976. In March, 1976, when you reviewed their records, there was only one well on Section Seventeen.

This error was entirely mine, and I sincerely apologize.

Sincerely,


Rory King

RK:pf
cc Mr. John Wagner
Chairman
Water Rights Commission

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES)

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zeebar.

NOTICE OF HEARING AND
TEMPORARY RESTRAINING ORDER

Upon reading and filing the Motion of
Clarence Frost, Allen Turner and Gillis Egeeman, appellants herein, the
attached Affidavits, and upon good cause shown, the Motion of appellants
that the decision of the South Dakota Water Rights Commission in the
above-entitled matter, dated March 24, 1977, be stayed without the
necessity of filing undertaking or security until the appeal on each
matter is completed in this Circuit Court, shall be heard before the
Honorable Robert A. Miller at the Hughes County Courthouse in the City
of Pierre, State of South Dakota, on the 5th day of April, 1977, at
3:30 P.M., or as soon thereafter as counsel can be heard, and it is
further

ORDERED, ADJUDGED AND DECREED that pending
a determination of those matters to be heard at the above time and place,
a stay of all proceedings under such order of the South Dakota Water
Rights Commission, dated March 24, 1977, shall continue and remain in
effect pending the further order of this court; and it is further

ORDERED, ADJUDGED AND DECREED that the
attorney for Clarence Frost, Allen Turner and Gillis Egeeman, appellants
herein, shall forthwith serve copies of its Motion, Affidavits, and

this Notice of Hearing and Temporary Restraining Order on all parties
of record.

Dated this 31st day of March, 1977.

s/ Robert A. Miller
Circuit Judge

ATTEST:

Ernest C. [Signature]
Clerk of Court
(Seal)

STATE OF SOUTH DAKOTA
CIRCUIT COURT, HUGHES CO.
FILED

MAR 31 1977

Ernest C. [Signature] Clerk
by _____ Deputy

CERTIFICATE OF COPIES
STATE OF SOUTH DAKOTA
COUNTY OF HUGHES

I, *Ernest C. [Signature]* Clerk of
Court, do hereby certify that the foregoing
attached instrument is a true and correct copy of
the original. *Robert A. Miller*
Ernest C. [Signature]
Now appearing before me and of record in the office of
the Clerk of Court and of the County of
HUGHES, South Dakota, I have personally told my
hears and signed the seal of this Court and
this day of *March* 1977.
Ernest C. [Signature]
Clerk of Court

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES) ss

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT.

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zueber.

MOTION FOR STAY OF PROCEEDINGS AND
FOR TEMPORARY RESTRAINING ORDER

TO THE COURT ABOVE NAMED:

The appellants, Clarence Frost, Allen Turner
and Gillis Hageman, through their counsel, Ronald J. Wheeler, Huron, South
Dakota, hereby move this Court as follows:

1. For its order immediately staying all
proceedings under that certain Decision and Order of the South Dakota
Water Rights Commission dated March 24, 1977, temporarily, and until
such time as all parties can be heard, and

2. Upon said hearing, for the Order of
this Court staying all proceedings under said Decision and Order during
the pendency of this appeal and until further order of this Court, and

3. For the order of this Court granting
said stay without the necessity of the appellants filing any undertaking
or security herein.

This motion is made upon all of the files
and records herein and upon the attached affidavits of Clarence Frost,
Allen Turner and Gillis Hageman.

Dated the 31st day of March, 1977.

Respectfully submitted,

s/ Ronald J. Wheeler
Ronald J. Wheeler
of Churchill, Hannolis, Wheeler & Freeman
Attorneys for Appellants
201 Farmers & Merchants Bank Building
Huron, South Dakota 57350

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES)

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zweber.

NOTICE OF APPEAL

TO: WATER RIGHTS COMMISSION OF THE
DEPARTMENT OF NATURAL RESOURCES DEVELOPMENT
STATE OF SOUTH DAKOTA
Pierre, South Dakota 57501

YOU WILL PLEASE TAKE NOTICE that Clarence
Frost, Allen Turner and Gillis Hageman, appellants herein, do hereby
appeal to the Circuit Court of Hughes County, South Dakota, from the
Decision and Order of the Water Rights Commission of the State of South
Dakota in the above-entitled matter, dated March 24, 1977, pursuant to
the Complaint of Willard Zweber, stopping the pumping of large capacity
wells by Clarence Frost, Allen Turner and Gillis Hageman in the Hoven
South Aquifer, and for the whole of said Order. This appeal is made
upon the grounds that the Decision and Order of said Commission is un-
supported by substantial evidence on the whole record and is arbitrary
or capricious and characterized by abuse of discretion or clearly un-
warranted exercise of discretion.

Dated the 31st day of March, 1977.

Respectfully submitted,

/s/ Ronald J. Wheeler
Ronald J. Wheeler
of Churchill, Henricks, Wheeler & Freeman
Attorneys for Appellants
201 Farmers & Merchants Bank Building
Huron, South Dakota 57350

STATE OF SOUTH DAKOTA)
 : ss
COUNTY OF HOGUES)

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zweber.

AFFIDAVIT

STATE OF SOUTH DAKOTA)
 : ss
COUNTY OF POTTER)

Clarence Frost, after being first duly sworn,
on his oath deposes and states that he is one of the appellants in the
above-entitled matter and makes this Affidavit in support of the Motion
by the appellants herein for a temporary restraining order and stay of
proceedings of the Order of the Water Rights Commission of the State of
South Dakota, dated March 24, 1977, stopping your affiant from pumping
his large capacity wells for irrigation purposes in the Hoven South
Aquifer until the water level comes back.

That your affiant states that there is
considerable misunderstanding and misapplication of information by the
Commission in connection with their deliberation on the Complaint of
Willard Zweber, and further, that pursuant to the notice sent to your
affiant by Mr. John Hatch, Chief Engineer of the Water Rights Commission,
as to the hearing, a copy of which notice is attached hereto and by
reference made a part hereof, there was no indication ever given to
your affiant in the notice that any consideration would be given by the
Water Rights Commission to the stopping of pumping by your affiant or
any other party. That, therefore, your affiant did not have sufficient

information or notice as to the subsequent actions taken by the Commission on March 24, 1977.

Further, that it would cause irreparable harm and damage to your affiant if he is not allowed to continue pumping water from his wells for irrigation purposes. That your affiant farms 800 acres of farm ground in Potter County, and of that he irrigates 220 acres, half of the irrigated acres being in corn and half being in alfalfa. That your affiant raises hogs, cattle and sheep, and he feeds much of what he produces from his land to his livestock.

That it is imperative that your affiant know within the next two or three weeks whether or not he can plan to farm using irrigation or whether he must plan to dry land farm.

That if the Order of the Commission continues, your affiant stands to lose a substantial investment in that he has approximately \$81,200 invested in the Valley electric center pivot irrigation system, plus pipe and the drilling of three wells. That this system was put in in 1976 and was only used for one season. That additionally your affiant is required to pay a minimum in electricity charges of \$1,324 regardless whether or not he uses the system, and he has to make a \$4,500 payment to the Farmers Home Administration to cover the annual payments on the system that he has presently put in for irrigation.

That in 1976 your affiant from dry land farming produced nothing in the way of corn and alfalfa because of the severe drought. That if your affiant is allowed to irrigate 220 acres, he would have 120 acres of corn which would produce 125 bushels per acre on the average from irrigated land, and at \$3 per bushel there would be a net to your affiant of \$45,000. Further, that your affiant would have an additional 100 acres of alfalfa which would produce approximately four tons per acre, and at \$50 per ton this would mean

an additional \$20,000. That if your affiant is not allowed to irrigate the land that he has made an investment on, he stands to lose \$65,000 in the one growing season for 1977.

Therefore, your affiant states that it would cause irreparable harm and damage to himself if the Order of the Commission is not stayed until final disposition of all the matters herein, including possible re-hearing by the Water Rights Commission.

Dated this 31st day of March, 1977.

s/ Clarence Froot
Clarence Froot

Subscribed and sworn to before me this 31st day of March, 1977.

s/ Ronald J. Wheeler
Ronald J. Wheeler, Notary Public
My commission expires September 21, 1979.

(SEAL)

No. 2598-3

Department of Natural Resource Development

WATER RIGHTS COMMISSION

Joe Foss Building, Pierre, South Dakota 57501

Phone 605/224-3151

March 16, 1977

Clarence Frost
Hoven, South Dakota 57450

Dear Mr. Frost:

Existing Water Rights, Deferred Applications, and Advertised Applications in the Hoven Area will be discussed and deferred or advertised applications will be considered by the Water Rights Commission during their March 23-24, 1977 meeting, at 9:00 A.M.; March 2, 1977. Any comments concerning the attached Hoven Area Report or the applications can be presented at this hearing.

The Commission will be meeting in the South Dakota Education Association Auditorium, 411 E. Capitol, Pierre, S.D.

Please advise if you have any questions concerning the hearing.

Very truly yours,

John Hatch
JOHN HATCH, Chief Engineer
Water Rights Commission

JH/bw

STATE OF SOUTH DAKOTA)
 : ss
COUNTY OF BUCHANAN)

IN CIRCUIT COURT

SIXTH JUDICIAL CIRCUIT

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zweber.

AFFIDAVIT

STATE OF SOUTH DAKOTA)
 : ss
COUNTY OF POTTER)

Allen Turner, after being first duly sworn,
on his oath deposes and states that he is one of the appellants in the
above-entitled matter and makes this Affidavit in support of the Motion
by the appellants herein for a temporary restraining order and stay of
proceedings of the Order of the Water Rights Commission of the State of
South Dakota, dated March 24, 1977, until further order of the court.

That your affiant states that he received
identical notice to that received by Mr. Clarence Frost and the same
in no way advised your affiant or informed him that consideration would
be given to terminating his pumping of his high capacity wells out of
the Hoven South Aquifer. Therefore, your affiant was not properly pre-
pared for the hearing, and if the order of the Water Rights Commission
continues, it will cause irreparable harm and damage to your affiant.

That your affiant farms approximately 640
acres of farm ground of which he irrigates 97 acres of corn and grain.

That your affiant put in his irrigation
system in 1970 and it is a tow-line system, the cost of which including
the wells and pipe was \$14,000. That your affiant has to pay approximately

\$500 per year in electricity charges even though he does not use the system, and further, he has annual payments of \$1,200, principal and interest, on the system, plus the costs of insurance.

That there would be no crops at all to your affiant without irrigation based on last year's performance, and further because your affiant's soil is sandy and he cannot raise corn on the soil unless he has a substantial amount of water.

That your affiant raises hogs and uses most of his production from the fields to feed his hogs, and that your affiant states that he could produce approximately 6,000 bushels of corn off of the land he irrigates; and at \$3 per acre that would show the potential return to your affiant of \$18,000 on his corn. Further, your affiant could produce about 3,500 bushels of oats at a \$1.50 per bushel with a return of \$5,250.

Given last year's drought, there was absolutely no production off of your affiant's land that was not irrigated; and therefore, if your affiant is not permitted to irrigate this coming year, he stands to incur substantial damages and loss.

That it is imperative that your affiant know within the next two or three weeks whether or not he can plan to farm using irrigation or whether he must plan to dry land farm.

Dated this 31st day of March, 1977.

s/ Allen Turner
Allen Turner

Subscribed and sworn to before me this 31st day of March, 1977.

(SEAL)

s/ Ronald J. Wheeler
Ronald J. Wheeler, Notary Public
My commission expires September 21, 1978

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT

In the Matter of the Complaint of Willard Zweber.

That if the Order of the Water Rights Commission continues, your affiant will suffer irreparable harm and damage in connection with his farming operation. Your affiant must know within the next two or three weeks whether or not he will be dry land farming or able to farm with his irrigation system in operation.

That your affiant farms approximately 1,100 acres of farm ground, 240 acres of which are irrigated in corn and wheat. That he raises hogs and feeds most of the corn and wheat grown to his livestock. That in 1976 your affiant put in a Valley center pivot water drive irrigation system, which cost approximately \$60,000 including the pipes and wells, and which your affiant must pay \$5,100 per year to lease the same. That your affiant must make his lease payments annually even though he is not able to run the irrigation system. That your affiant made his investment in the irrigation system based on the fact that he did receive his water permit from the Water Rights Commission in May of 1975.

That additionally, your affiant will incur costs and expenses, including the payment to the R.E.A. of a minimum of \$1,187.50 for electricity even though his irrigation system is not in operation, in addition to other costs including insurance.

That your affiant intends to irrigate 120 acres of corn and according to average annual yield for irrigated land in Potter County, your affiant stands to make approximately 125 bushels of corn per acre; and at \$3 per bushel, your affiant's net would be \$45,000. Additionally, your affiant would have 120 acres of wheat that would be under irrigation and would stand to receive an average of 45 bushels per acre; and at \$2.75 per bushel, that would show a net to your affiant of \$15,408 for the irrigated wheat.

That last year, your affiant received nothing from dry land farming because of the severe drought, and no the less and irreparable harm and damage to your affiant if he is unable to irrigate the land that he has is substantial.

Therefore, your affiant respectfully prays that the court issue its temporary restraining order and further order

a stay of all proceedings under the Order and Decision of the Water Rights Commission, dated March 24, 1977, until further order of the court.

Dated this 31st day of March, 1977.

s/ Gillis Hagaman
Gillis Hagaman

Subscribed and sworn to before me this 31st day of March, 1977.

s/ Ronald J. Wheeler
Ronald J. Wheeler, Notary Public
My commission expires September 21, 1977.

(SEAL)

Copy of Judge Miller's order Issued April 28, 1977

(Taken from 8.52.1 Hoven Area-Potter County file)

STATE OF SOUTH DAKOTA)

COUNTY OF HUGHES

SS

IN CIRCUIT COURT

SIXTH JUDICIAL CIRCUIT

APR 28 1977

DEPT. OF NATURAL
RESOURCE DEVELOPMENT

APPEAL FROM THE DEPARTMENT
OF NATURAL RESOURCES DEVELOP-
MENT, WATER RIGHTS COMMISSION,
OF THE STATE OF SOUTH DAKOTA;

IN THE MATTER OF THE COMPLAINT
OF WILLARD ZWEBER.

MEMORANDUM
DECISION

This is an appeal from an administrative decision of
the South Dakota Department of Natural Resources Development,
Water Rights Commission [hereinafter cited as Commission]
which terminated the appropriative ground water rights of
the appellants [Clarence Frost, Allen Turner, and Gillis
Hageman]. The appellants along with Willard Zweber all
have water permits to appropriate water from the Hoven South
Aquifer. The Commission stopped all pumping from the aquifer
except for Zweber, as his appropriative right was first in
priority. (See SDCL 46-5-7.)

On appeal the appellants contend, and all other parties agree, that the Commission's decision was procedurally defective in that (a) improper notice of hearing was given; (b) that the hearing conducted was defective under the requirements of chapter 1-26; and (c) that the Commission erred in failing to make findings of fact and conclusions of law as required by SDCL 1-26-25. (It was represented to the court at the hearing that the Commission failed to comply with the administrative procedures statutes despite advise to the contrary by their counsel.) The appellants additionally assert that the Commission's decision is unsupported by substantial

evidence. After a review of the scanty administrative record this Court must agree that the Commission has failed completely to meet the procedural and substantive requirements of chapter 1-26. Accordingly, I have no choice but to reverse the Commission's decision and remand it with the instructions outlined below.

In South Dakota it is well settled that the right to use of water may be acquired by appropriation and is a subject of private property. SDCL 46-1-3; St. Germain Irrigating Ditch Co. v. Hawthorne Ditch Co., 32 S.D. 260, 143 N.W. 124 (1913). Before those property rights (the use of water) can be terminated our State and Federal Constitution require that persons being adversely affected by state action be afforded due process of law. Chapter 1-26 provides those constitutionally mandated requirements. They include (a) the right to timely and adequate notice; (SDCL 1-26-17.) (b) a hearing at which all parties are given an effective opportunity to present sworn oral and documentary evidence and to cross-examine adverse witnesses; (SDCL 1-26-19.) (c) the right to appear at the hearing individually and through counsel; (d) the right to have a decision based upon the evidence adduced at the hearing by an impartial Commission; (SDCL 1-26-23.) and (e) a written decision in which the Commission's findings of fact and conclusions of law are separately stated. (SDCL 1-26-25.) Additionally, the Commission should include in their decision a finding on all basic or underlying facts upon which its ultimate findings of fact are based. Lenke v. Rabenberg's Inc., S.D., 233 N.W.2d 336 (1975).

Time is of the essence in this action. The parties must know what their irrigation rights are immediately so that they can plan their planting operation. Therefore, the Commission is directed to conduct a "contested case" hearing on or before the 13th day of May, 1977. In giving timely notice of that hearing the notice should include:

- (a) a statement of the time, place and nature of the hearing;
- (b) a statement of the legal authority under which the hearing is held;
- (c) a statement of the matters asserted and the issues involved and to be decided. (See SDCL 1-26-17.)

At the hearing the Commission shall administer oaths and shall afford all parties an opportunity to appear and present evidence and to cross-examine adverse witnesses. (See SDCL 1-26-18, 1-26-19 and 1-26-19.1.) It shall then make a decision based upon the evidence adduced at the hearing and shall submit findings of fact and conclusions of law. (See SDCL 1-26-23 and 1-26-25.) If the case is then appealed, compliance with SDCL 1-26-21 is required.

This Court is mindful that this decision and order may place some administrative burdens and time constraints on the individual members of the Commission. The Commission members have, however, placed themselves in that position by not fulfilling their constitutional and statutory obligations, even though their counsel has apprised them of the necessity of doing so. Had they followed their counsel's advice further hearings might well have been avoided. The State and Federal Constitutions require that the above procedures be complied with. If these requirements are ignored

for the sake of administrative convenience, then our Constitutional safeguard of due process of law is rendered a nullity. Accordingly, the decision of the Commission is reversed and remanded with instructions.

Counsel for the appellants is directed to prepare an appropriate order consistent with this opinion.

Dated this 28th day of April, 1977.

BY THE COURT:



Robert A. Miller
Presiding Circuit Judge

ATTEST:

Clerk of Courts

Mr. Varilek MOVED, SECONDED by Mr. Wagner that Application No. 4013-3 be APPROVED with the qualification that the irrigation well approved under this permit is located near domestic 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. MOTION CARRIED.

4018-3, John A. Anderson, Wilmot, South Dakota

Application is for .91 cfs of water from a 14 foot deep dugout to irrigate 64 acres. Affidavit of publication received.

Mr. Fischer MOVED, SECONDED by Mr. Kleinlein that Application No. 4018-3 be APPROVED. MOTION CARRIED.

3977-3, City of Flandreau, South Dakota

Application is for 5.0 cfs of ground water for future municipal use. Affidavit of publication received.

Mr. Mickelson MOVED, SECONDED by Mr. Kleinlein that Application No. 3977-3 be APPROVED with the qualification that at such times as definite plans are made, specific applications for all or any part of the water granted under this withdrawal must be submitted prior to construction of facilities. MOTION CARRIED.

4562-3, Willard Zweber, Hoven, South Dakota

Application is for no additional water from two 68 foot deep wells to irrigate 240 acres. Affidavit of publication received. Mr. and Mrs. Willard Zweber were present.

Mr. Hatch stated that the Commission had denied a permit in the area.

Mr. Zweber stated that at the present time he is pumping. Mr. Zweber stated he has 5 wells which produce 500 gpm and he has replaced some of the wells.

In answer to a question from Mr. Jensen, Mr. Butler stated that at the Zweber hearing the Commission established the depth to which two observations wells could be drawn down. At that point the priority is followed in allowing pumping. Mr. Zweber was issued a permit for a certain amount of water several years ago. His 4 wells have not been able to produce that particular diversion rate, he can put in a fifth well and get that diversion rate. Which would be an additional diversion point.

In answer to a question from Mr. Varilek, Mr. Zweber stated that some of his wells are replacement wells.

Mr. Hatch stated that originally Mr. Zweber was granted a certain amount of water and no limit to the number of wells. The completion date for the permit in Section 17 is past and the license has been issued. The completion date for the permit in Section 22 was December, 1973 although the final inspection has not been completed and the license has not been issued. When a permit is granted, the permit does not guarantee a certain amount of water, but rather the amount that can be developed during the five year construction period in accordance with the project proposed, up to the amount authorized based upon the acreage in this case. There are three limits involved with a permit: (1) the approved diversion rate, (2) the actual developed delivery capacity, and (3) the acreage irrigated. The statutes (SDCL 46-1-8) specify that beneficial use is the basis, the measure and the limit of a water right not the amount authorized.

Mr. Butler stated the question before the Commission is the regulation of existing water rights or issuing new water rights for these particular wells.

Mr. Wagner stated because they have denied the one application he felt they cannot grant this permit.

Mr. Jensen stated he felt that some of the information before the Commission was not accurate.

Mr. Wagner MOVED TO DENY Application No. 4062-3. Motion died for lack of a second.

Mr. Varilek MOVED, that the Commission authorize Mr. Garrett to investigate the situation in the area and report back to the Commission. Motion died for lack of a second.

Mr. Wagner MOVED, SECONDED by Mr. Mickelson that Application No. 4062-3 be DEFERRED. MOTION CARRIED with Mr. Varilek voting NO.

Mr. Jensen MOVED, SECONDED by Mr. Garrett to allow an additional point of diversion in Section 17 of the Zweber permit.

Mr. Varilek questioned whether or not you can change the point of diversion for one person and they deny someone else and remain consistent.

Chairman Richey called for a hand vote on the previous motion with four voting YES, 2 voting NO. MOTION CARRIED with Mr. Varilek passing.

Mr. Jensen MOVED, SECONDED by Mr. Garrett to allow an additional point of diversion in Section 22 of the Zweber permit. MOTION CARRIED with Mr. Mickelson, Mr. Garrett, Mr. Jensen and Mr. Richey voting YES. Mr. Wagner and Mr. Fischer voting NO. Mr. Varilek passed.

4063-3, Willard Zweber, Hoven South Dakota

Application is for no additional water from one 30 foot deep well to irrigate 60 acres. Affidavit of publication received.

Mr. Garret MOVED, SECONDED by Mr. Kleinlein that Application No. 4063-3 be DEFERRED. MOTION CARRIED with Mr. Varilek voting NO.

Mr. Butler stated that the Zweber's are bringing a formal complaint to the Commission asking for a change in the policy of regulating existing permits in the area based on first in time, first in right. The Commission had formally adopted the policy which indicated that when the observation wells reached a certain level, those junior permits would be shut off. Mr. Zweber has testified that his 'yield has dropped off.'

Mr. Fischer MOVED, SECONDED by Mr. Wagner that the Commission recognize the Zweber complaint asking for a change in policy, of regulation of existing permits in the area, of first in time first in right, but stay with the original decision of the Contested Hearing Case. MOTION CARRIED with Mr. Wagner, Mr. Kleinlein and Mr. Fischer voting YES. Mr. Garrett voting NO. Mr. Mickelson, Mr. Jensen and Mr. Varilek passed because they were not present at the Contested Case Hearing.

4019-3, J. W. Parson, Inc., Viborg, South Dakota

Application is for 3.42 cfs of water from three 96 foot deep wells to irrigate 240 acres. Affidavit of publication received. Jay Parsons was present.

Mr. Jones stated the application was 3 or 4 miles from existing irrigation.

Mr. Mickelson MOVED, SECONDED by Mr. Varilek that Application No. 4019-3 be APPROVED with the qualification that the irrigation wells 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. MOTION CARRIED.

3988-3, H. F. Jacobs & Son Construction, Aberdeen, South Dakota

Application is for .57 cfs of water from a gravel pit or 30 foot deep well to irrigate 40 acres. Affidavit of publication received. Mr. Jones stated a letter had been received from the City of Aberdeen.

Mr. Mickelson MOVED, SECONDED by Mr. Varilek that Application No. 3988-3 be APPROVED with the qualification that the irrigation

Chairman Richey called for a vote on the previous motion.
MOTION CARRIED.

Anne Kunze read testimony from Cecil Duncan of Mitchell, pertaining to prior Indian water rights and disposal of Missouri River water. (copy of testimony on file) Mrs. Kunze stated that she supports this testimony.

Mr. Varilek MOVED, SECONDED by Mr. Kleinlein that the Commission strike the testimony given by Anne Kunze from the record.

Mr. Varilek stated it is unfair to accept testimony before we have the scheduled hearing and the hearing is scheduled for the following day.

Ms. Pearson stated that the written testimony can be submitted at any time.

Ms. Kunze then submitted her written testimony to the Commission. (copy of testimony on file)

Mr. Varilek and Mr. Kleinlein withdrew their motion and second to strike the testimony of Anne Kunze.

Maxine McKeown, Bushnell, South Dakota stated she was not in opposition of permits, she just wanted to place a few facts before the Commission. The granting of the permits for the large blocks of water are precedent setting. When these applications were submitted, Mrs. McKeown did not feel they complied with the law. Mrs. McKeown submitted a copy of the Preliminary Investigation on the soil/water Compatibility for selected irrigation sites prepared by the Conservation Commission. (copy of report on file) Also copies of the original applications as submitted to the office were presented. Mrs. McKeown also submitted a statement in favor of granting the application for Rolland Colony, which would be brought before the Commission for consideration the following day. (copy of statement on file)

Meeting recessed at 7:00 p.m.

Meeting reconvened at 8:15 a.m., July 28, 1977 in the Starolite Inn, Brookings, South Dakota.

Mr. Hatch stated he was concerned with the decision of the Commission on the Willard Zweber applications. With the decision made by the Commission, they are setting a precedent. The question is whether or not a new diversion point can be issued with the old priority date.

Meeting recessed at 8:25 a.m.

Meeting reconvened at 8:45 a.m.

Mr. Mickelson MOVED, SECONDED by Mr. Wagner that the Commission send notice to Mr. Zweber that the Commission will reconsider at the November 30 and December 1, 1977 meeting, the actions taken July 27, 1977 concerning the additional diversion points authorized for Mr. Zweber. The purpose of the reconsideration being the misapprehension of facts of which the Commission is in doubt. MOTION CARRIED.

Mr. Jones stated that Waldo Hofer was present and he would like the Commission to reconsider the deferral action taken the previous day on Application No. 4057-3. The application is located in Spink County and at the south end of the irrigating area.

Mr. Wagner MOVED, SECONDED by Mr. Kleinlein that no action be taken on the application. MOTION CARRIED.

4061-3, William Bennett, Elkton, South Dakota

Application is for 2.98 cfs of water from three 50 foot deep wells to irrigate 217 acres. Affidavit of publication received.

Mr. Fischer MOVED, SECONDED by Mr. Kleinlein that Application No. 4061-3 be APPROVED with the qualification that the irrigation wells 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. MOTION CARRIED.

4001-3, City of Colton, South Dakota

Application is for .22 cfs of water from one 38 foot deep well for municipal use. Affidavit of publication received.

Mr. Mickelson MOVED, SECONDED by Mr. Wagner that Application No. 4001-3 be APPROVED with the qualification that the irrigation well approved under this permit is located near domestic 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. MOTION CARRIED.

4002-3, City of Brandon, South Dakota

Mr. Jones stated the affidavit of publication had not been received. No action was taken on the application.

Copies of Excerpts of November 30, December 1, 1977 Board Meeting held in Pierre

Mr. Keith Kuchenbecker stated that he helped Mr. Smith prepare the application. On July 1 the letter and water maps were sent to the State Water Rights Commission, on July 7 the soil conservation district sent the letter with soils information to the Conservation Commission. Mr. Smith sent in the water quality sample to Brookings and understood that was all he needed. After the October meeting in Spearfish, Mr. Smith discovered form WI-1, which was soil information that the Conservation Commission already had was not submitted. Mr. Smith would like the Commission to consider the application priority date as July 5, 1977.

Mr. Fischer asked how many application were in ahead of Mr. Smith's

Mr. Kuchenbecker answered that the 10 approved at this meeting are ahead of Mr. Smith. The Conservation Commission never did notify Mr. Smith that they needed additional information.

Mr. Varilek MOVED, SECONDED by Mr. Walter that Application No. 1617-2 be APPROVED with the July 5, 1977 priority and the qualification that diversion of water under this permit is contingent upon water supplies being first available to the prior water rights downstream on the Cheyenne River. Flow records show that there are occasional years when the flows of the Cheyenne River are definitely and recognizably lower than usual during the months of July, August and September. Diversions of water are not to be made under this permit during such low flow periods. MOTION CARRIED.

Meeting recessed at 1:08 p.m.

Meeting reconvened at 1:20 p.m.

WILLARD ZWEBER

Mr. Hatch stated that at the July Water Rights Commission Meeting, Mr. and Mrs. Zweber were present. At the time the Commission allowed two additional wells, one which was for a licensed water right and one was an additional well for a water right which is not licensed. At that time, two applications for additional wells were deferred. The Commission allowed an additional diversion point for each of the existing permits, without any application. The following morning, the Commission then stated that they had misapprehensions about their previous action as far as the facts that were involved. The Commission then voted to reconsider the action taken at November meeting of the Commission. Prior to that meeting, the staff was to make a determination of how many

wells the four irrigators in the area had. The irrigators were Mr. Hageman, Mr. Frost, Mr. Turner and Mr. Zweber.

Mr. Selken distributed a copy of a map showing placement of the wells he had counted in the Hoven South Aquifer. (copy on file) Mr. Zweber was not home at the time, so Mr. Selken counted his wells from the road. There were five wells on land irrigated under water right No. 1622-3 and two wells on lands irrigated under No. 1623-3, Mr. Hageman had four wells (No. 2271-3), Mr. Frost had five wells (No. 2598-3) and Mr. Turner had one well (No. 1764-3) Mr. Selken did not see one well on land authorized by No. 2270-3 although Mr. Turner stated he did not have a pump installed yet. The maps also included priority dates for the applications and completion dates. The attached information was for observation wells in the area.

Mr. Varilek asked if Mr. Selken found any wells that the Commission was not aware of.

Mr. Selken stated that originally he thought Mr. Frost had three, but after the field investigation he found five wells. Mr. Hageman has four.

Mr. Varilek asked how many of these wells were under permit.

Mr. Selken stated that Mr. Hageman's permit was issued for groundwater. Mr. Selken stated that the problem in this area is that the permits are issued for groundwater wells, on earlier permits did not specify the number of wells. The only one that has been licensed is 1623-3. It was licensed for one well. The original application was for a dugout. It used to be that whatever number of wells were developed, was the number licensed. Now the number specified in the application is all that is allowed. On the original application for No. 2271-3, the source of water specifies wells and the Minutes of the Water Rights Commission specify wells and not the number of wells. The source of water for No. 1622-3 is groundwater. After the five year completion date, a permit owner is not allowed to dig any more wells. Other than that only replacement wells can go in.

In response to a question from Mr. Jensen, Mr. Selken stated that at the Brookings meeting, the Commission allowed Mr. Zweber additional diversions on both permits. Permit No. 1623-3 has been licensed for one well. The question is; can an additional point of diversion be granted without a new application once it has been licensed? Mr. Selken stated that there has been one application denied in the area, in section 16.

The Commission questioned why so many wells were being dug.

Mr. Selken stated that in the case of Mr. Frost, he went for low capacity wells and pumps them into a surge tank. Which, in this formation is better than one high capacity well.

Chairman Richey administered the oath to Mr. Zweber.

Mr. Zweber stated that he had the first irrigation well in that area 9 years ago. He stated that since more irrigation wells have been added he is having interference with his wells. Mr. Zweber contends that extra wells are being added because the water table is dropping. Mr. Zweber stated that he believes there is no water to the South of Mr. Hageman and he is drawing water from the East and Mr. Zweber's aquifer.

Mr. Jensen asked if there was an observation well between Mr. Zweber's wells and Mr. Hageman's wells.

Mr. Selken gave the numbers of the observation wells and locations between Mr. Hageman's and Mr. Zweber's wells. Mr. Selken stated that the new observation wells show only one year of readings. The only information obtained from these wells is the drawdown information from the 1977 pumping season.

Mr. Jensen asked Mr. Zweber if he dug the additional well as a replacement well? Had he abandoned the original well?

Mr. Zweber stated that he dug the second well because the water table had dropped. He needs the two wells to have the amount of water necessary. In response to a question from Mr. Selken, Mr. Zweber stated the second well was dug in July 1976.

Mr. Walter asked Mr. Zweber if he is not receiving enough water to do his irrigation.

Mr. Zweber replied that on Section 22 he is not, but on Section 17 he is.

Mr. Butler asked if on Section 22 five wells would be adequate. Mr. Zweber replied it would not. Mr. Butler asked if two or three more wells would make any difference in that Section. Mr. Zweber replied he did not know, he did not feel he could afford to drill any more wells.

Chairman Richey administered the oath to Mr. Hageman.

Mr. Varilek asked Mr. Hageman if he had enough water out of his four wells.

Mr. Hageman replied that he was getting enough water. He is presently pumping out of three wells.

In response to a question from Mr. Varilek, Mr. Hageman stated that he has a meter on the wells and he is pumping 754 gallons. Mr. Hageman stated the problem in the area is fine sand. When his well was test pumped it first pumped 580 gallons a minutes, after the well was pumped longer it did not pump that amount.

Mr. Varilek asked why Mr. Hageman's wells were clustered so close together.

Mr. Zweber stated that the water level at his place before the problems started was 48 feet. He has checked observation well SW4 and it was 7.8. On Section 17, when he dug the first well, the water was within 17 inches of the top. Mr. Zweber stated it was 8.6 when he ran out of water this year.

Mr. Jensen asked Mr. Zweber if his corn made 200 bushels an acre?

Mr. Zweber answered no, he had some late corn that made 175. His early corn did not amount to that much.

Chairman Richey administered the oath to Clarence Frost.

Mr. Frost stated that Mr. Zweber stated he dug his well on Section 17 in July. Mr. Frost stated that he did not start irrigating until July. He made one circle and started sometime in June. He is two miles away from the two wells after that one circle he shut off for two weeks. The well in Section 20 was an inch higher than it was in May. Mr. Frost stated the reason he has five wells is, one was a crooked hole and he could not get a large pump in so he put in a smaller pump.

Mr. Jensen asked how the decision was reached to stop irrigation at 9 feet.

Mr. Butler stated the decision was made that when that observation well reached 9 foot, irrigation was to be stopped. Mr. Butler stated that he did not feel that was the question before the Commission at this time. He stated the question is what does the Commission recognize, in terms of the wells that are there. What will be done in terms of future wells? It does not settle

all the questions as far as management of the aquifer, but would settle this particular issue. In view of the fact that the original permits were granted without the number of wells designated, the Commission could take action recognizing the number of wells as noted on the map. Including the one on Zweber's permit No. 1623-3, recognizing that this is an addition to what was licensed there and state that any future wells must come under the new well policy adopted November 30, 1977.

Mr. Jensen stated that he does feel Mr. Zweber was interfered with. Mr. Jensen wondered if the Commission failed to protect Mr. Zweber.

Mr. Butler stated he understood Mr. Jensen's concern, but the question also comes up as to how much water a well can produce in this particular area, whether that affected the lowering. The Commission has stated that once the water level dropped to the 9 foot level, the Hageman, Turner and Frost are shut off. Whether he has one or two wells, Mr. Butler did not feel it was that much of a question. If it affects one well it will affect the other well.

Mr. Jensen asked Mr. Zweber how many wells he had when he first started irrigation?

Mr. Zweber stated he started with three wells. He used the pivot system, the same as he has now.

Mr. Varilek stated that Mr. Zweber started irrigation in 1968, Mr. Turner in 1969, and Mr. Hageman in 1975.

Mr. Zweber stated that was true and in 1975 is when he started having problems.

Mr. Hageman stated that before anyone else was irrigating he heard Mr. Zweber was having problems. He asked Mr. Zweber what the problem was and Mr. Zweber told him he did not have enough water.

In response to a question from Mr. Walter asking for clarification of the matter, Mr. Hatch stated that the Commission made the decision that all of the irrigators, Mr. Frost, Mr. Turner and Mr. Hageman would be shut down at the same time if the observation well went to 9 feet. This occurred late this summer. Mr. Walter asked if there was any recovery. Mr. Hatch stated that some recovery was shown. Mr. Butler stated that in SW4 there was about a foot of recovery since the middle of August until the end of November.

Mr. Varilek stated that he feels the priority system should

be honored. Since Mr. Zweber was the first irrigator and his wells are 23 feet above the rest of the wells, should the priority be determined on the lower level or the higher level?

Mr. Varilek stated that he did not see how Mr. Zweber got any water with the water level in his well 23 feet above the others and with the water level in their wells at 8 feet.

In response to a question from Mr. Varilek, Mr. Zweber stated his deepest well is about 75 feet.

Mr. Selker stated there is a cross section of the aquifer that was distributed at another meeting. Mr. Selken stated the surface elevation that is being talked about at this time has no meaning to a test well. The gradient on the aquifer is approximately 16 feet per mile from east to west and towards the north. The depth of the aquifer varies with the deepest portion about 55 feet.

Mr. Jensen MOVED, SECONDED by Mr. Varilek that this matter be reconsidered at another meeting and all persons concerned be notified of the time of the meeting. MOTION CARRIED.

EXTENSION OF TIME

1011-1, Mcleod & Smith Ranches, Nisland, South Dakota

This is a request for an extension of time to the nine year limit.

Mr. Jensen MOVED, SECONDED by Mr. Varilek that Application No. 1011-1 be EXTENDED. MOTION CARRIED.

1137-2, Clifford R. Sieh, Wasta, South Dakota

Mr. Sieh is requesting an extension of time to the full nine year period.

Mr. Jensen MOVED, SECONDED by Mr. Varilek that Application No. 1137-2 be EXTENDED. MOTION CARRIED.

1880-3, City of Brookings, South Dakota

The City of Brookings is requesting an extension of time to the nine year period.

Mr. Jensen MOVED, SECONDED by Mr. Varilek that Application No. 1880-3 be EXTENDED. MOTION CARRIED.

3820-3, Richard D. Wilde, Jr., Lake Preston, South Dakota

Mr. Wilde has requested an extension of time to the nine year period.

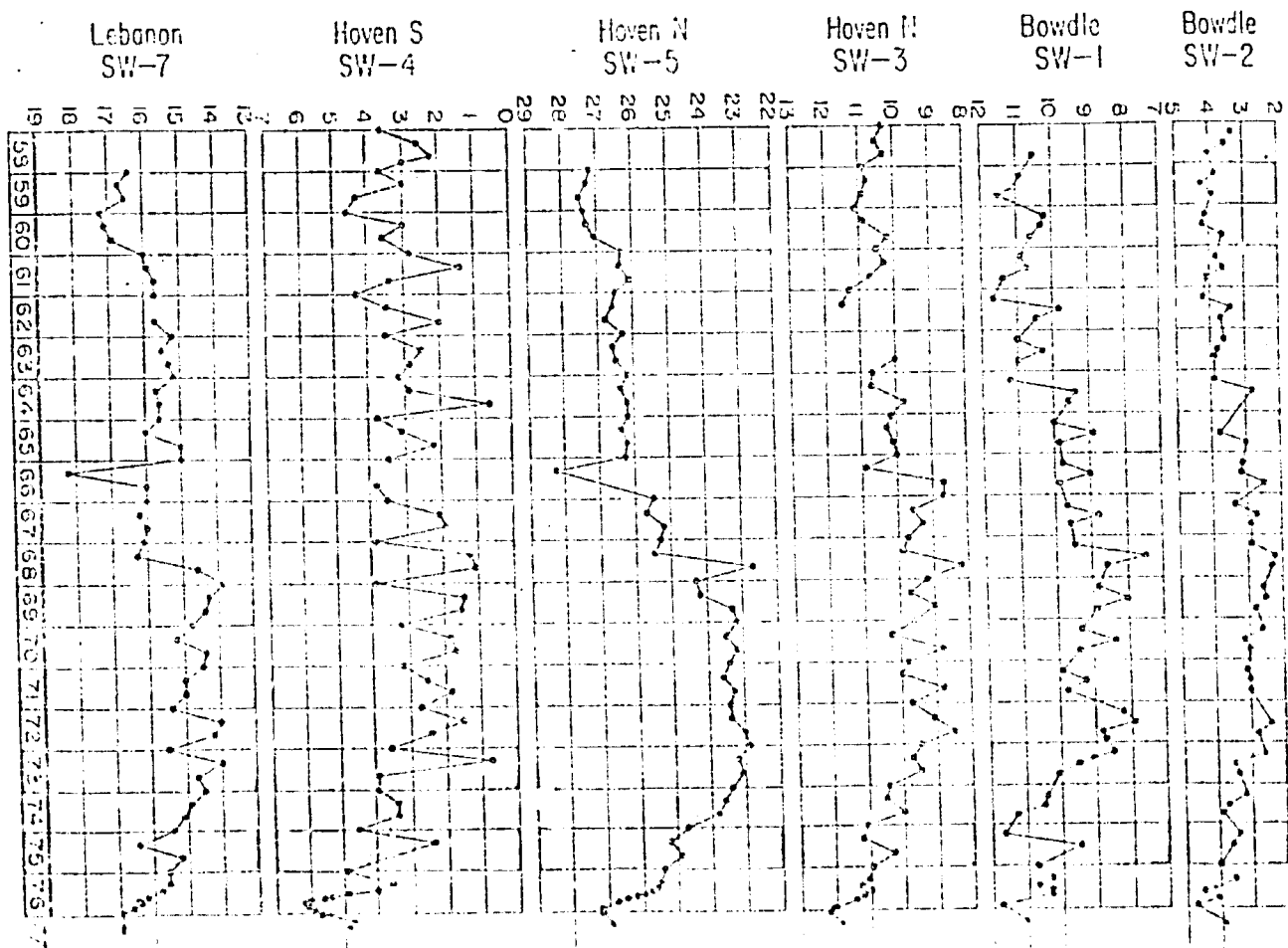


Fig. 4

Mr. Mickelson stated that the staff can pump because they will be conducting the experiments necessary to find out what is going on in the aquifer. That is provided for in the motion; nothing can be done by the staff.

Mr. Butler stated that Aurora County is in the schedule for a wide study in that particular area. The fact is, the study started this past year and one year of test hole drilling has been completed in the area. That is why US Geological Survey and Geological Survey were in the area last summer. They have two years of work in that particular county. There are some adjacent areas with the Niobrara Chalk formations that they will also be doing some work in. In these particular county studies quite often pumps are not run. In some cases, where there are special conditions, tests are run.

Mr. Jensen stated that if there are Dakota Formation wells run and told to be shut off, he would have to have them checked to ensure this has been done.

Mr. Jensen called for the motion.

MOTION CARRIED with Mr. Wagner abstaining.

Mr. Walter MOVED, SECONDED by Mr. Mickelson that Application No. 6-3 be DEFERRED for further investigation. MOTION CARRIED.

Meeting recessed at 12:25 noon.

Meeting reconvened at 1:35 p.m.

Hoven South Aquifer

Mr. Butler stated that he had received a phone call from Mrs. Zweber and because of the weather they would not be able to attend the Commission meeting. Mrs. Zweber asked if the hearing could be delayed until the next scheduled Water Rights Commission meeting. Mr. Butler informed her that he would bring her request before the Commission.

Mr. Ron Wheeler, representing Clarence Frost, Gillis Hageman, and Allen Turner, asked that the minutes show his clients were present for the hearing.

Mr. Jensen and Chairman Richey indicated that Mr. Zweber has been ill and in the hospital, which might be one reason why they could not come to the hearing. Mr. Butler stated he did not know, but Mr. Zweber was home the day of the telephone call, January 25.

Mr. Selken reviewed the report on Hoven South Aquifer and distributed a copy to the Commission (copy on file). Mr. Selken stated that the map on page 8 of the report is the one Mr. Zweber stated is not shown to the Commission. Mr. Selken explained the reason there is a discrepancy between the map on page 8 and page 9 was because the geologist had additional data when he drew the map on page 9. Mr. Selken noted that the cross section shows that most of the area is underlain with sand and gravel and that there is not just a narrow channel between Mr. Zweber's well field and Mr. Hageman's well field as was once contended. Mr. Selken went through the options available to the Commission.

Mr. Selken noted the number of wells each permit owner had and permit completion dates. Mr. Selken stated he left the number of wells for Mr. Zweber's Permit No. 1622-3 blank because he did not know how many wells were constructed prior to the end of the construction period. In response to a question from Mr. Mickelson, Mr. Selken stated these wells were at the home place. Permit No. 1623-3 is licensed for 1 well and Mr. Selken stated that at the last Commission meeting Mr. Zweber indicated he dug another well in 1976. This permit is also the one Mr. Selken felt the Commission would be in violation if it approved another point of diversion. Mr. Turner's Permit No. 1704-3 was approved for one well, and there is one well on this permit. Mr. Turner's Permit No. 2270-3 was issued for groundwater and has one well with no pump. Mr. Turner's Permit No. 2271-3 was issued for groundwater and has four wells and this is the permit Mr. Zweber feels affects him. Mr. Frost's Permit No. 2598-3 was approved for 3 wells and Mr. Frost presently has five wells. Mr. Mickelson asked what No. 1623-3 was approved for. Mr. Selken stated it was originally approved for a dugout and licensed for one well. Mr. Zweber never applied for a well. Mr. Selken stated it was his understanding that a dugout was never used for irrigation, only a well.

Mr. Jensen asked which observation wells had been designated by the Commission to use for shutting off irrigation.

Mr. Selken stated that the two wells that the Commission established shut off levels in are SW-6A and SW-4. SW-6A is on the NW corner of the section, it is not between the two systems. The other is a mile west of this observation well. Mr. Selken stated that both of the observation wells are poor wells; however, these are the wells with historical data.

Chairman Richey asked if there were new wells between Mr. Zweber and Mr. Hageman.

Mr. Selken stated that PT76H and PT76B were between Mr. Zweber and Mr. Hageman. In response to a question from Mr. Jensen, Mr. Selken stated these two wells were not used because these two wells are new wells and it was impossible to establish a level on them last spring.

Mr. Butler stated SW4 is a well with about 20 years of records and SW6A has, he believed, two or three years of records.

Mr. Jensen stated if the water is flowing to the northwest and the observation well is on the other side of the person irrigating, would that be as accurate as the wells between the two systems?

Mr. Butler stated it would be better to use the two wells between, but there were no records on these wells when the levels were established.

Mr. Walter asked what the fluctuation was on the two new observation wells.

Mr. Selken replied that PT76H had a high reading on 7/23/76 of 27.9 and on 1/9/78 a low of 29.8. In response to a question from Mr. Jensen for the readings during irrigation, Mr. Selken stated that on 6/20 it was 29.0; 8/1 it was 29.5; 8/22 it was 29.5; 9/12 it was 29.7; 10/26 it was 29.7. Mr. Hickelson noted that for all practical purposes PT76H has not fluctuated. For PT76B on 5/17 the high reading was 17.95 and the low reading 8/1/77 was 20.1 feet. Mr. Selken stated this well does fluctuate with Mr. Hageman's pumping, it is within his cone of depression. On 1/9/78 it was 18.8 feet. On SW6A the high was 18.2 feet on 11/5/75 and the low on 8/1/77 was 20.4 feet. This well also fluctuates with Mr. Hageman's pumping. On 5/17/77 it was 19.5 feet and on 1/9/78 it was 20.3 feet. In response to a question from Mr. Jensen, Mr. Selken stated Mr. Hageman's wells are in one corner and Mr. Hageman lives west of the wells.

In response to a question from Mr. Jensen, Mr. Hageman stated he does have a well where he lives.

Mr. Selken stated that there has been speculation that these people's wells have been losing 200 to 300 gpm over the summer. He would like to be able to measure every irrigation well this spring before any of the wells are turned on and measure the water levels and take a meter reading. Once the wells are turned on he would like to establish the gallons per minute the wells are putting out and the water levels they are at. He would like to monitor the wells this summer. Mr. Selken stated he would also like the Commission to order the irrigators to notify the staff before they begin irrigation this summer so he can make these readings.

Mr. Fischer asked if all of the wells were used during irrigation last summer. Mr. Selken replied that except for No. 2270-3, all irrigation wells were used all summer except for 4 days when the wells were shut off.

Mr. Jensen asked Mr. Hageman what the depth of his domestic well was on his place. Mr. Hageman replied it was about 11 feet and it is a dug well. Mr. Walter asked how much water he got from the well. Mr. Hageman stated he pumps it all day long. He has about 600 to 700 head of hogs and about 300 head of cattle using it. Mr. Jensen asked why the four wells were so close together. Chairman Richey asked how close together the irrigation wells were. Mr. Hageman stated they were 400 to 500 feet.

Mr. Selken went through the four recommendations he made in his report. Mr. Wheeler stated it was his understanding that when Mr. Frost made application on 2598-3 he was asked how many wells he thought he would need and he had told the staff three. It turned out he needed more. Mr. Mickelson asked when the Commission started specifying the number of wells on the applications. Mr. Hatch stated it has been approximately 5 years.

Chairman Richey stated he felt the first thing the Commission should do is get the wells in order. One time the Commission gives approval of the well and then turns around and takes it away. Where is the man going to think he is at? The same with the other wells in question. The Commission noted that on No. 1623-3 permission for an additional well was given after the well was dug.

Mr. Hatch stated that the staff has presented the Commission with four recommendations. The staff feels the Commission should go with recommendations 3 & 4 for this coming irrigation season and then eventually deal with recommendations 1 & 2. The shut off levels should be retained that were used last irrigation season. Any pumping should be prohibited until water levels are measured, monitor water levels during the pumping season and gather additional information. The staff has never been able to provide an answer to the complaint by Mr. Zweber of loss of production. The staff believes they can answer his complaint if this procedure is followed. Mr. Hatch stated that at the July Commission meeting, the voting was not unanimous in approving an additional well for No. 1623-3. The next morning the Commission decided to reconsider their actions because of misapprehension of the facts. In November, Mr. Selken went to the Hoven area to count the wells before the November Commission meeting and the Commission was not ready at the November meeting to make a final decision. Action was deferred until the January meeting.

Mr. Fischer noted that Mr. Zweber has claimed that his water has been taken away from him, but in looking at the observation well readings this may not be true. Speculation can only be made as to why Mr. Zweber's wells are affected.

Mr. Wheeler stated that for the record, Mr. Turner, Mr. Hageman and Mr. Frost support the recommendations of the staff. In considering the amount of money invested by these men there has to be some specific recommendations. They do not wish to come before the Commission every six months to answer allegations by Mr. Zweber. They felt the decision made by the Commission setting the water levels would answer the problem but it has not. They ask that the recommendations by the staff be followed so the situation can be brought to a head. There is nothing to support the contention that these men's wells are interfering with Mr. Zweber. In response to a question from Mr. Jensen, Mr. Wheeler stated he meant there was nothing to support the contention that the men's wells were affecting Mr. Zweber's ability to pump water. The monitoring of the wells should support his client's contentions. The Hoven aquifer does recharge, there has been no effect in that respect.

Mr. Jensen pointed out that Mr. Zweber did have the first permit.

Mr. Wheeler stated he realized that; however, Mr. Turner was the first as far as construction is concerned.

Chairman Richey stated that he would think one well should be shut down to see if it was bothering the other one. He realized when it involved two different people this was a problem.

Mr. Goodman stated an aquifer test was run last winter on Mr. Hageman's well. Chairman Richey asked if they lowered Mr. Zweber's wells. Mr. Goodman replied that it did not.

Mr. Wheeler stated it is important to note that Mr. Hageman's wells are closest and Mr. Turner's are two miles away, and Mr. Frost's are four miles away and physically that cannot happen.

Mr. Jensen asked Mr. Hageman how many wells he pumped when he irrigated.

Mr. Hageman stated he was pumping three and put in the fourth last summer, a small jet pump.

Mr. Jensen asked if that would not make a difference if four were pumped rather than pumping one.

Mr. Selken stated that not if aquifer characteristics were being determined. If the over all output of the system was to be determined all four would be run. The staff was trying to determine the aquifer characteristics and from there determine if there would be interference between wells.

Mr. Mickelson asked how much water was pumped out of Hageman's well.

Mr. Hageman stated he believed the figure was 385 gpm.

Mr. Wheeler stated that at the May Commission meeting all of Mr. Zweber's neighbors were brought in to testify that none of their domestic wells were affected by the pumping.

Mr. Jensen stated that if there is that much water there, why can't the shut off level be set at 8 feet, he should not be affected.

Mr. Hedges stated that the neighbors' wells are close enough to be affected by the zones of influence of the pumping wells.

Mr. Selken stated that these domestic wells are within the irrigation wells' cones of influence. Chairman Richey asked if the water level went down to 8 feet, if Mr. Hageman would be out of water? Mr. Jones stated it would give him one foot more water than he has now. The rest of the Commission could see no reason to change the shut off level. Chairman Richey noted that 8.0 feet is lower than the wells have ever been until this summer. This is the first time they have ever got down that far. Zweber has been out of water for a couple years, before it gets that low he is out of water. Mr. Wagner stated it has

never been proven as to why he runs out of water. Mr. Walter stated that is what confuses him, he wondered what the construction of the wells were. Mr. Selken stated that the new wells had fiberglass screens, there was a well driller there last fall. Mr. Walter asked if the other gentlemen's wells were constructed the same. Has the same well driller done all of the work?

Mr. Frost stated that Duane Martin has dug wells for him and also for Mr. Zweber. He did not know about Mr. Zweber's wells, but four of his wells have plastic screens.

Mr. Mickelson MOVED, SECONDED by Mr. Jensen that the Commission prohibit any 1978 irrigation pumping by any of the irrigators until the May 1978 water levels in each irrigation well and initial meter readings have been recorded by the staff. MOTION CARRIED.

Mr. Chuck Suthulane appeared before the Commission and stated he understood his application No. 4199-3 before the Commission yesterday was deferred and wondered what the reason was for deferral.

Mr. Hatch stated it was deferred because it is in the Hoven North Aquifer and there are other deferred applications in the same aquifer and the Commission approves according to priority.

Mr. Suthulane stated he understood the location was in the Bowdle South Aquifer. He is 12 miles north of Hoven.

The location of the application was shown on the map.

Mr. Hedges stated he did not know if this application was in the Hoven North Aquifer. It is possible it is a sand that could be connected to it, but without the geologic maps and test drilling he could not say for sure. It would be more connected with the Hoven North than with the Bowdle.

Mr. Hatch stated that with so many applications deferred in the area that until definite information is obtained, the Commission should probably not approve any additional applications.

Mr. Mickelson MOVED, SECONDED by Mr. Wagner that based upon the evidence presented, the Commission, prior to approval of the Water Rights Applications considered January 25 and January 26, 1978, had determined that unappropriated water is available, that the projects have been determined to be feasible and that the applications are in the public interest. MOTION CARRIED.

Mr. Mickelson MOVED, SECONDED by Mr. Wagner that the meeting be ADJOURNED. MOTION CARRIED.

Meeting adjourned at 2:48 p.m.

William Richey, Chairman

Milton Fischer, Secretary

HOVEN SOUTH AQUIFER

X-109

January 16, 1978

INTRODUCTION AND HISTORY

In January 1976, Mr. Willard Zweber appeared before the Water Rights Commission to express his concern about the water levels in the Hoven area. Mr. Zweber indicated that his domestic well was 65 or 67 feet deep with a water level of 52 feet below ground level. Mr. Zweber also stated that he was concerned with additional applications being approved to the north of his system. The Commission Staff advised the Commission there was a general lack of information in the Hoven area and additional applications should be carefully considered.

At the March 17-18, 1976 meeting, the Commission approved Application No. 2598-3 for 3.5 cubic feet per second of water from three 55 foot wells for Clarence Frost.

During the summer and fall of 1976, the South Dakota Geological Survey conducted a ground water study in the Hoven area. The study consisted of test drilling and three aquifer tests.

At the March 23-24, 1977 Commission meeting, Lynn Hedges, a geologist with the State Geological Survey presented a report on the ground water study in the Hoven area. The Commission Staff also presented a report on the Hoven South Aquifer and made the following recommendation:

"It is the conclusion of the Water Rights Commission Staff that the diminishing capacity of Willard Zweber's wells is due to the lack of recharge. The interpretation of the pump test indicates that pumping by Gillis Hageman would not affect Mr. Zweber's pumping capacity directly, as Mr. Zweber contends. It is the Staff's recommendation that no action be taken on this complaint."

Mr. Zweber, represented by Rory King, presented arguments against the study and which represented Mr. Zweber's interpretation of the area. After much discussion the Commission moved:

"That all pumping from large capacity wells in the Hoven South aquifer except for Permit Nos. 1622-3 and 1623-3 shall stop until the water level comes back in the aquifer."

The affected permit holders appealed the Commission's decision to the Sixth Judicial Circuit Court. Robert Miller, the presiding circuit judge, found "that the Commission's decision was procedurally defective in that (a) improper notice of the hearing was given (b) that the hearing conducted was defective under the requirements of Chapter 1-26 and (c) that the Commission erred in failing to make findings of fact and conclusions of law as required by SDCL 1-26-25." Judge Miller then ordered the Commission to conduct a "contested case" hearing on or before May 13, 1977.

Hoven South Aquifer

A "contested case" hearing was held on May 10, 1977. After lengthy presentations and discussions, the Commission moved that pumping under Permits Nos. 2598-3, 2771-3 and 1704-2 be allowed to continue on the following conditions:

1. That all wells involved be metered including the Zweber wells.
2. That when water levels of either observation well SW-4 reaches a level of 9.0 feet below the pipe top or SW-6A reaches a level of 21.5 feet below the pipe top, pumping by the three junior appropriators shall be restricted to prevent withdrawals in excess of the average annual recharge.
3. That a constant study of the area be conducted by the Commission Staff and that a full report be made to the Commission concerning this study prior to the 1978 irrigation season.

At the July 27-28, 1977 Commission meeting, Mr. Zweber had applications Nos. 4062-3 and 4063-3 (for two additional wells) deferred by action of the Commission.

The Commission then passed motions allowing additional points of diversion on Sections 17 and 22 under the original (Nos. 1622-3 and 1623-3) permits. The Commission, on July 28, 1977 passed a motion to reconsider the above action at the November 30 and December 1, 1977 meeting.

On August 8, 1977, a water level measurement of 9.7 feet was measured in Observation Well SW-4 by a member of the Staff. The Staff then ordered permit holders Nos. 1704-2, 2771-3 and 2598-3 to cease pumping, as directed by the Commission.

On August 12, 1977 the owners of Permits Nos. 1622-3, 1623-3, 1704-3 and 2771-3 were advised that they could not use their irrigation systems until a metering device had been installed as ordered by the Commission. On this date, the question was raised as to the validity of the August 8, 1977 readings.

On August 15, 1977 water level measurements were taken and SW-4 was measured at 9.0 feet. The irrigators remained shut off until August 18, 1977, at which time the water level was found in SW-4 to be 8.5 feet. A flow meter had been installed on Mr. Hageman's system and he was authorized to pump. Mr. Turner had not obtained his flow meter and he was told that he could not start his system until the flow meter was installed. Mr. Frost was informed that his system could be turned back on since a flow meter was installed. Mr. Zweber at this time was shut down as he had not obtained a flow meter. He was informed that he would not be allowed to use his system until a flow meter was installed. He stated he would not be irrigating for the rest of the year because he had all the water necessary with a recent rain. A flow meter would be installed prior to the next irrigation season.

During the November 30 and December 1, 1977 meeting, the Commission attempt to reconsider the action allowing additional points of diversion without a permit. The Staff recommended to the Commission that the action allowing additional points of diversion without a permit be rescinded. After considerable discussion on the area, the Commission passed a motion that the matter be reconsidered at another meeting and that all persons concerned be notified.

COMMENTS ON PREVIOUS ACTIONS:

At the March 23-24, 1977 meeting, the Commission ordered all pumping to cease except pumping authorized by Water Rights Nos. 1622-3 and 1623-3. This action was not necessarily supported by the technical data presented by the Geological Survey and the Commission Staff.

During the "contested case" hearing May 10, 1977, minimum water levels were established for wells SW-4 and SW-6A (at 9.0 and 21.5 feet respectively). Again the technical data did not support the establishment of these levels. The established levels, when reached, were to reflect the point in time when the average annual recharge to the Hoven South Aquifer was exceeded. Average annual recharge is a value calculated from observation well measurements taken over a series of years including years of above and below average precipitation. With the data presently available in the Hoven South Aquifer, the average annual recharge would be very difficult to determine.

If the Commission is to be consistent and follow the multiple well policy previously adopted the motion allowing Mr. Zweber additional points of diversion without a permit should be rescinded.

DISCUSSION OF DATA:

The Hoven South Aquifer is a relatively shallow water table aquifer. The aquifer has a natural hydraulic gradient from southeast to northwest.

Figure 1. shows a general outline of the Hoven South and Lebanon aquifers. The Figure shows the location of observation wells, irrigation wells and test holes from the study by the South Dakota Geological Survey. (Page 7.)

Figures 2. and 3. Pages 8 and 9, show the thickness of saturated sand and gravel. The numbers beside the test hole locations are the amount of saturated material found at that site. The map shows that the areas with irrigation have at least twenty feet of saturated material.

The two maps vary in Section 16, T120N, R74W. This variation is due to the fact that Figure 3. was drawn based only on the data available. Figure 2. was drawn based on additional data and using the geologist's interpretation of the area.

Figures 4. and 5. are cross-sections of the Hoven South Aquifer. The cross-section X - X' (Figure 3.) is from east to west including Mr. Zweber's and Mr. Hageman's well fields. The X - X' cross-section also shows the hydraulic gradient which indicates that the table slopes from east to west. Cross-section Y - Y' follows Highway 47 (north and south). These cross-sections show that most of the area is underlain with sand and gravel and that there is not just a narrow channel between Mr. Zweber's well field and Mr. Hageman's well field as was once contended.

The rainfall from May thru August 1977 was approximately 12 inches. This precipitation shows little recharge to the aquifer because of the short duration, amounts at one time, and the fact that rainfall came during the growing season when crop needs were at a peak. The aquifer will recharge in measureable amounts only when abnormally large amounts of water fall in a short time span or from spring snowmelt.

Hoven South Aquifer

COMMISSION OPTIONS:

The Commission has several options available in the Hoven South Aquifer:

1. The Commission could retain the established water level shut-offs for observation wells SW-4 and SW-6A. This would be with respect to the original permits and well numbers.
2. The Commission could approve applications for Mr. Zweber (Nos. 4062-3 and 4063-3), but this action would be in violation of the first in time first in right doctrine. Therefore Nos. 4062-3 and 4063-3 should remain deferred or be denied.
3. The Commission could establish water levels on better/suited wells than SW-4 and SW-6A, but with the limited historical data the level would be very hard to establish.
4. The Commission can rescind its actions authorizing additional points of diversions for Mr. Zweber at the July 27-28, 1977 Commission meeting.
5. The Commission could recognize all the wells in existence at the present time. This action would not be in accordance with SDCL 46-5-30 which provides "the Commission may only issue a license to appropriate water to the extent and under the conditions of the actual application thereof to beneficial use, but in no manner extending the rights described in the permit."

In the past the Commission has followed this section of the statute by requiring permit holders who need additional wells to submit applications for said wells.

6. The Commission could recognize only those wells constructed prior to the end of the construction period except in the case of Mr. Frost, whose water right specifies and was approved for three wells. The other permits did not specify a certain number of wells. The number of wells and completion dates are as follows:

1622-3	— wells December 4, 1973
1623-3	1 well December 4, 1973
1704-3	1 well January 7, 1975
2270-3	May 22, 1978
2271-3	May 22, 1978
2598-3	3 wells March 18, 1981

FINAL COMMENTS:

A comparison of the Hoven South Aquifer observation well measurements with the Lebanon Aquifer observation well measurements where there is no irrigation pumping, shows that the season fluctuations of both aquifers was approximately one foot. This indicates that any losses due to pumping from the Hoven South Aquifer was replenished by recharge.

Mr. Zweber contends that he was affected by irrigation pumping in the Hoven South Aquifer. The data obtained by the Staff does not substantiate Mr. Zweber's contention.

The Staff believes all wells should be measured and meters read before the 1978 pumping season with monitoring during the irrigation season and final measurements and meter readings made at the end of the season. This data should indicate actual water levels in the irrigation wells. Comparing this information with observation well records should provide final answers to the questions raised by Mr. Zweber.

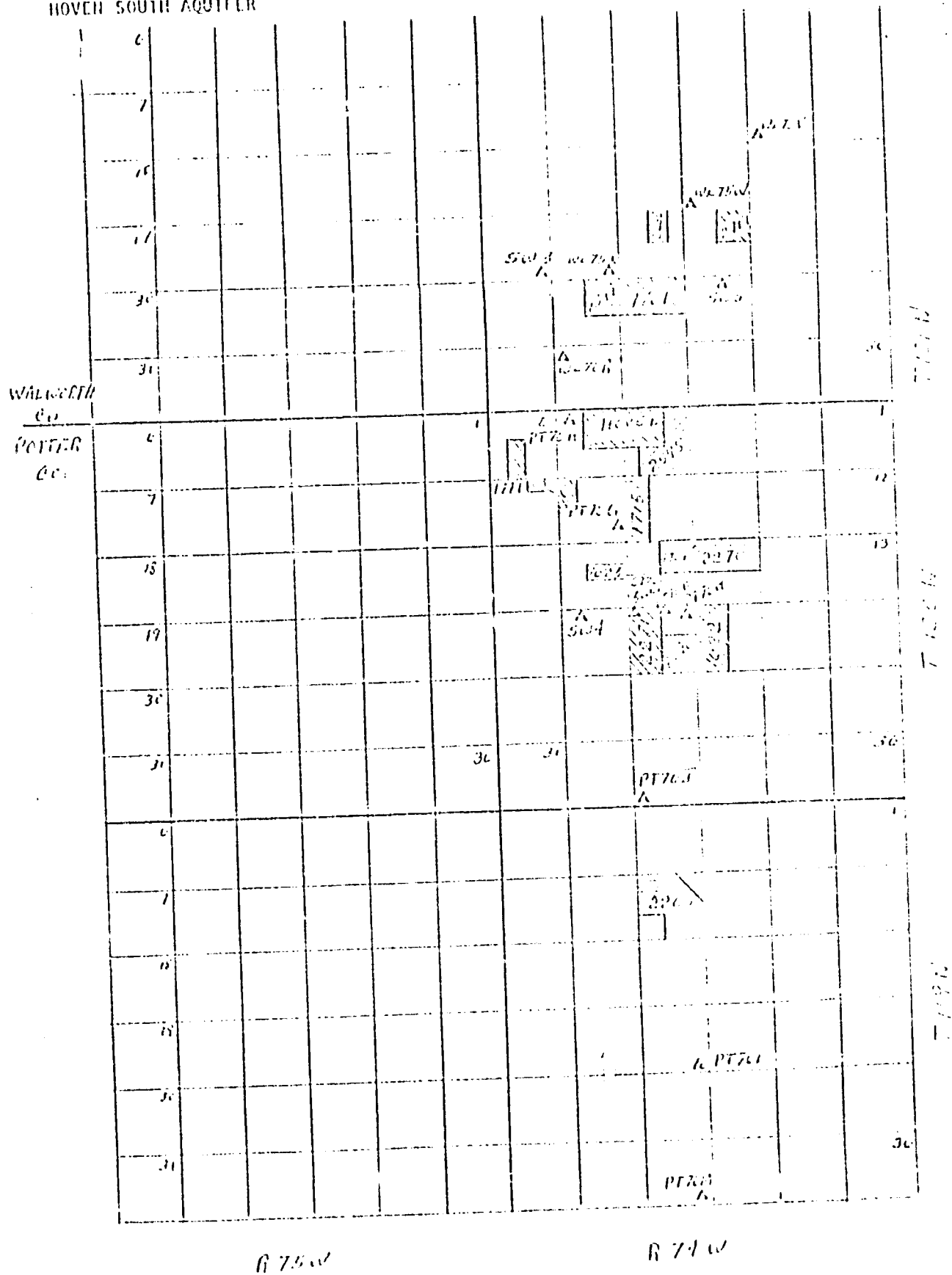
RECOMMENDATIONS:

1. Rescind actions taken at the July meeting concerning additional points of diversion for Mr. Zweber.
2. Adopt Option 6, specifying the number of wells authorized.
3. Retain the established observation well level shut-offs of 9.0 feet and 21.5 feet for SW-4 and SW-6A respectively.
4. Prohibit any 1978 irrigation pumping by any of the irrigators until the May 1978 water levels in each irrigation well and initial meter readings have been recorded by the Staff.

GALE N. SELKEN
Hydrologist

JOHN HATCH, Chief Engineer
WATER RIGHTS COMMISSION

HOVEN SOUTH AQUIFER



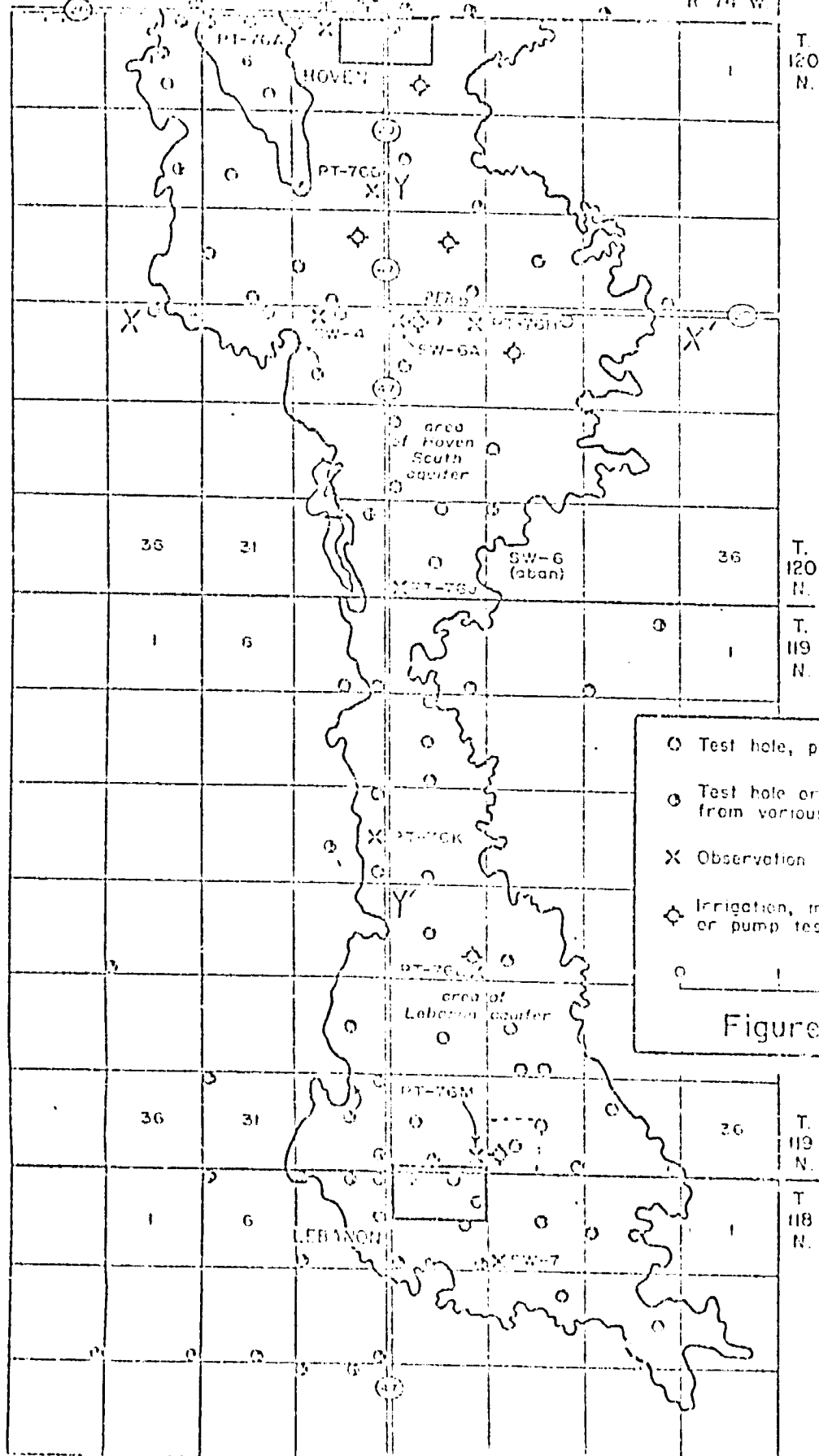
HOVEN SOUTH AQUIFER

R. 75 W. R. 76 W.

R. 74 W.

PAUL 7

1-10



- Test hole, present study
- Test hole or well log from various sources
- × Observation well
- ◆ Irrigation, municipal, well, or pump test well

0 1 2 miles

Figure 1

FIGURE 1.

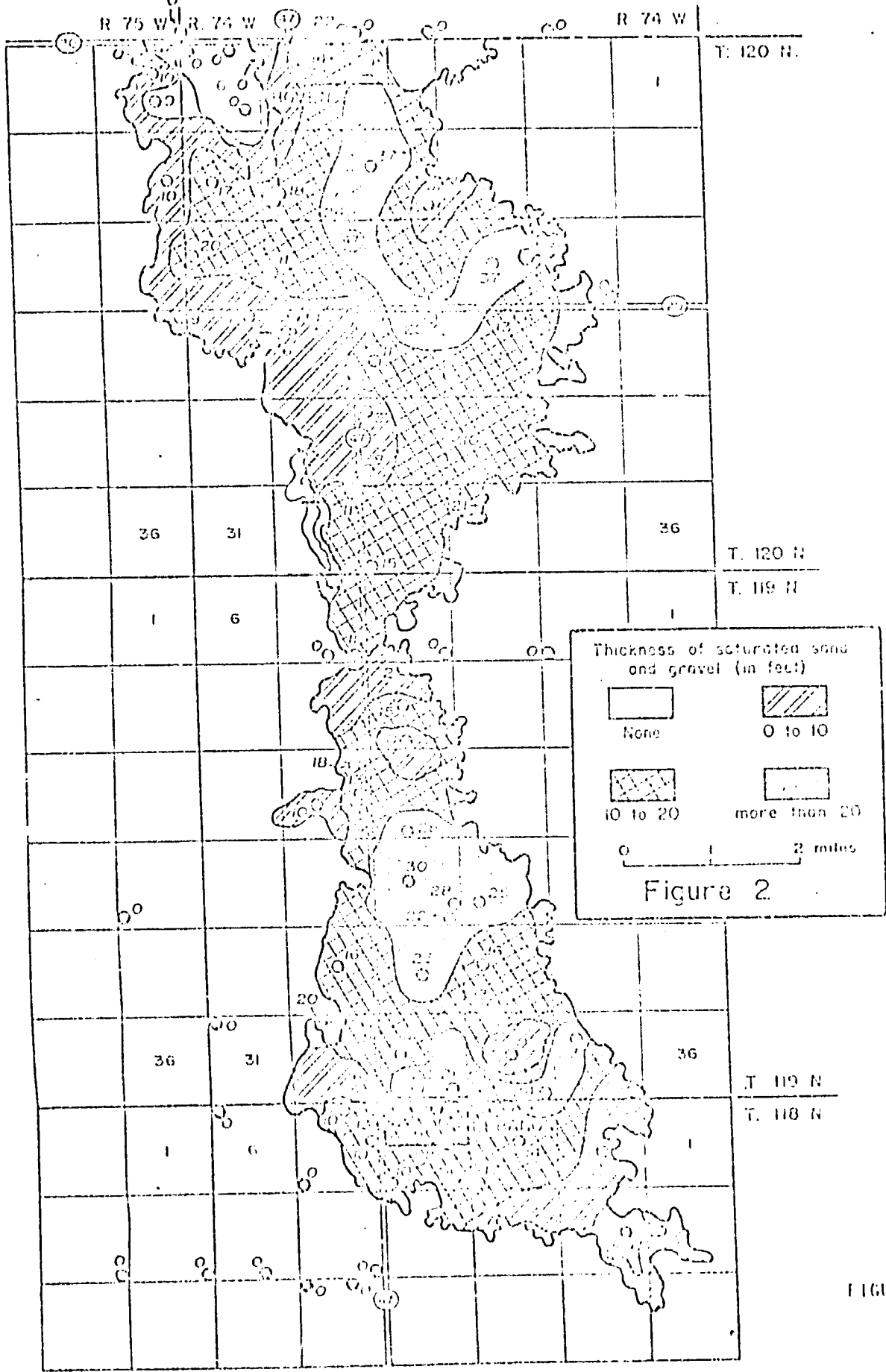


FIGURE 2.

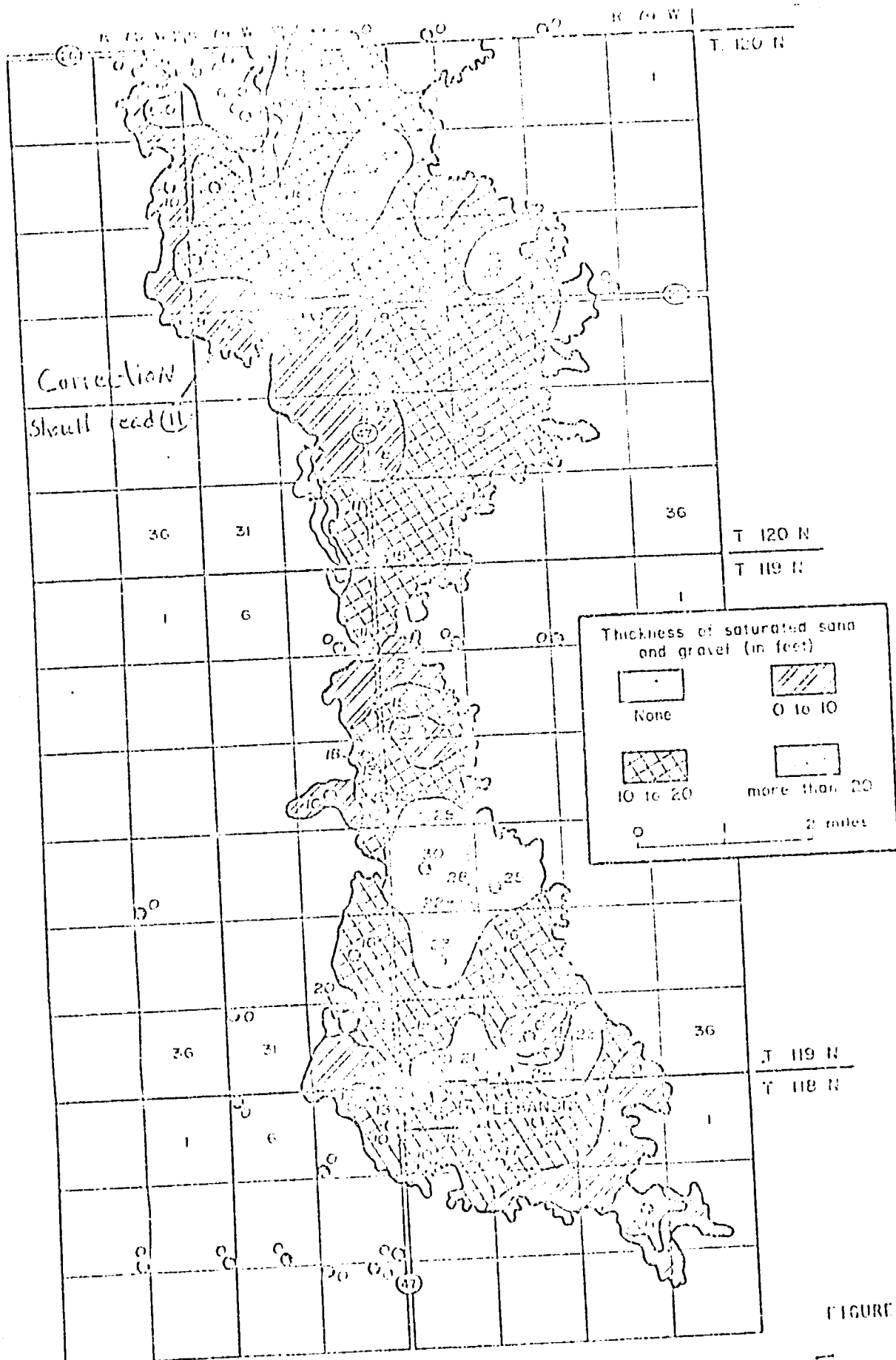


FIGURE 3.

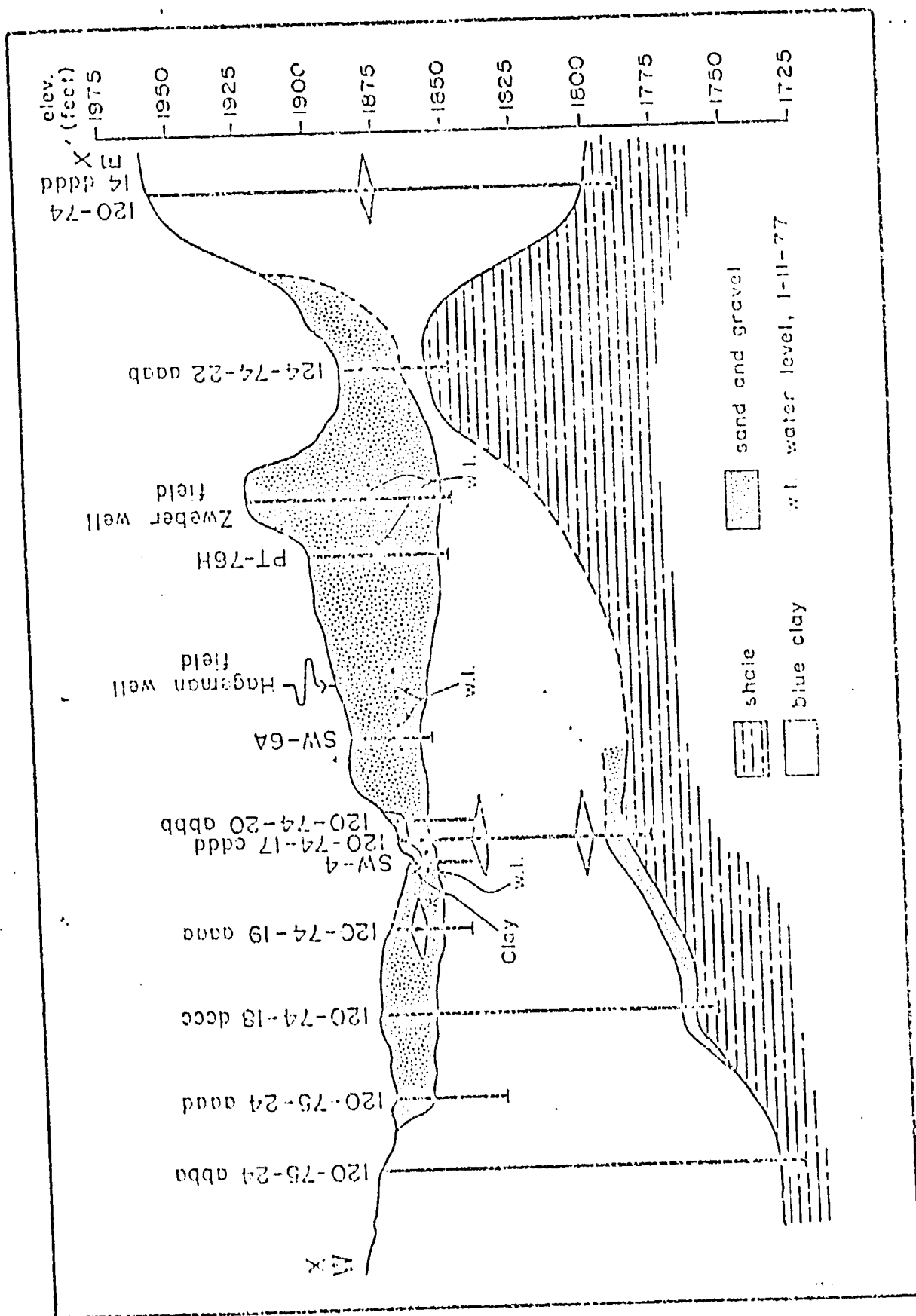
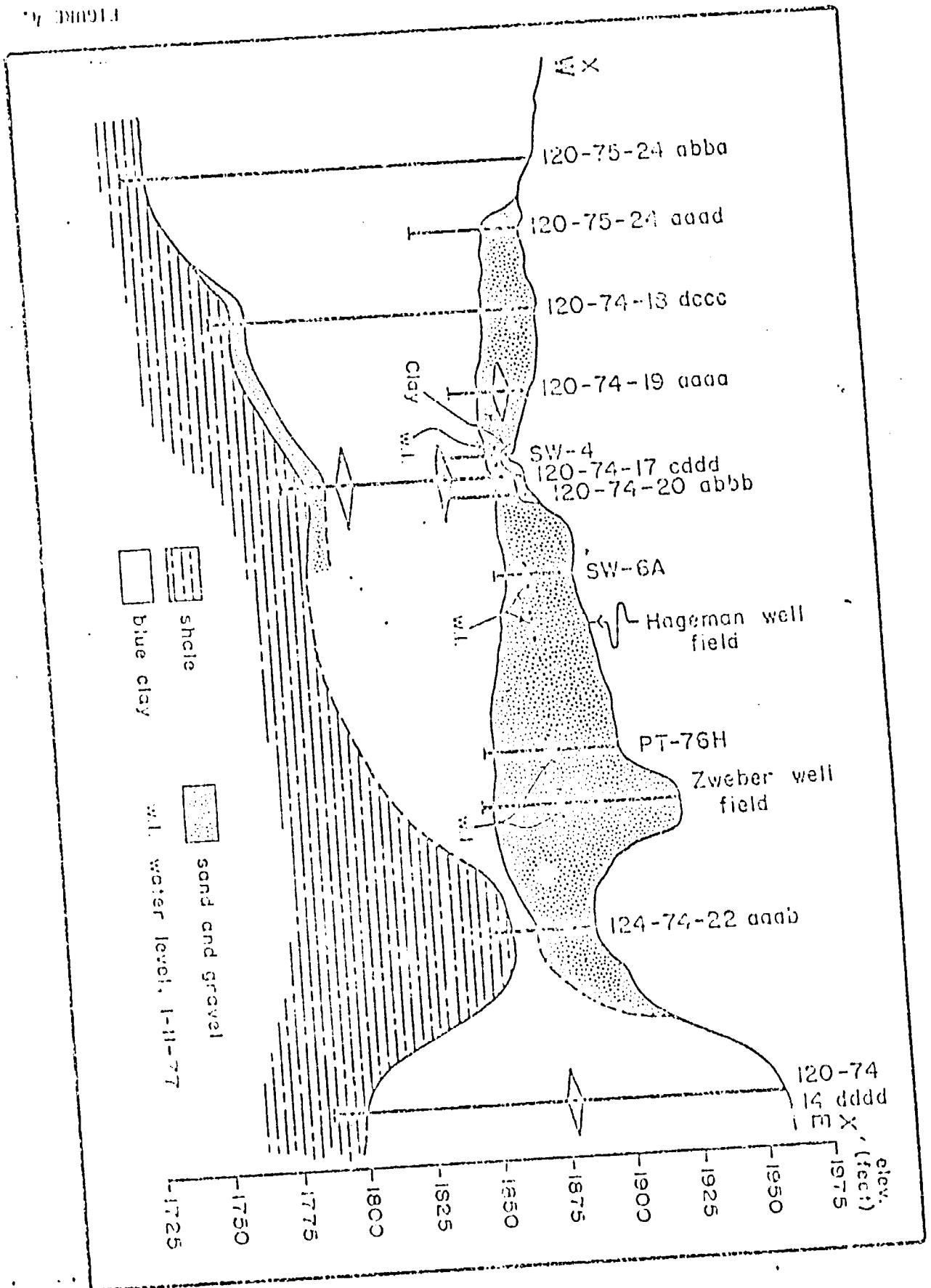


FIGURE 4.



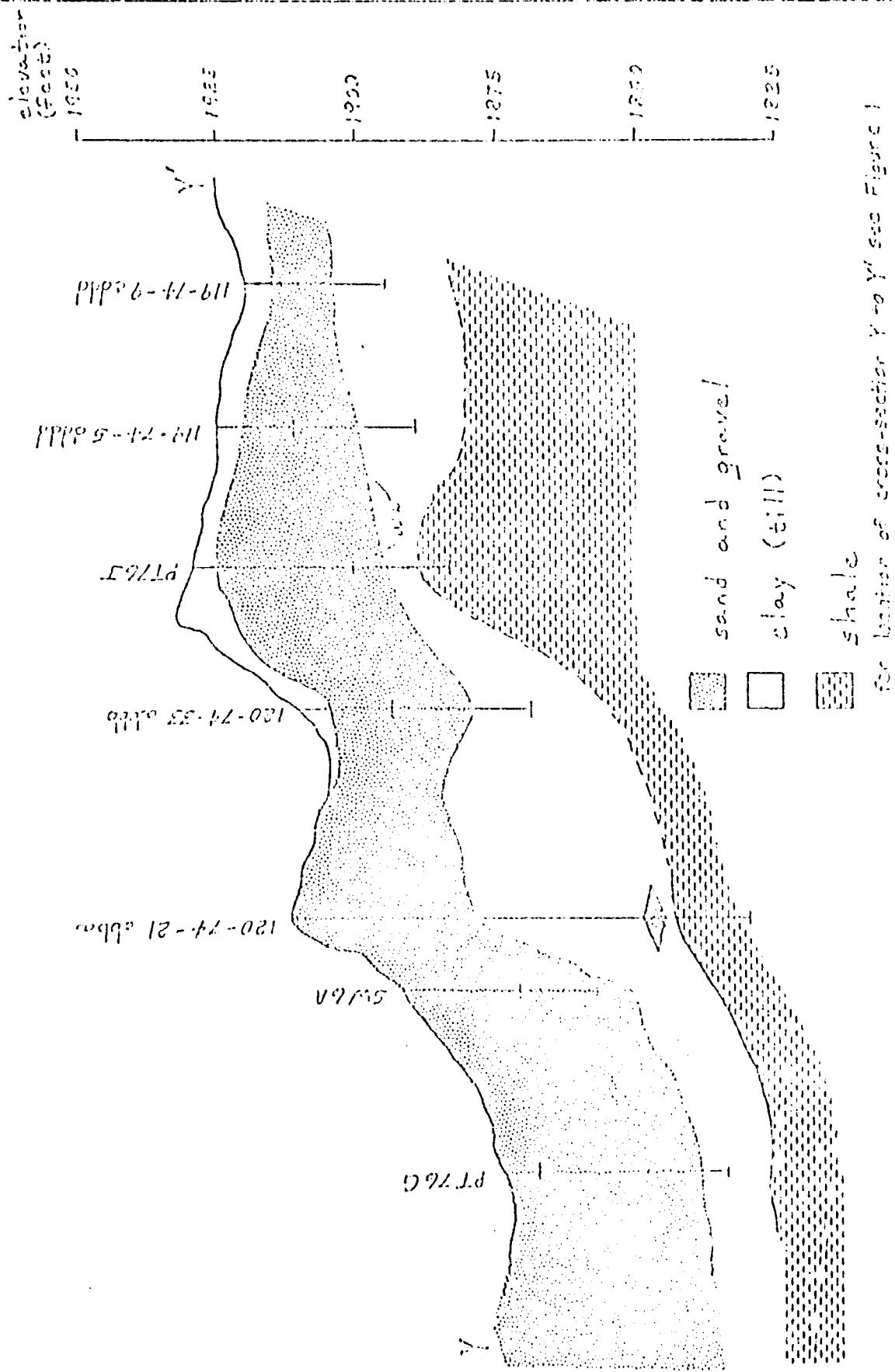


FIGURE 5.

Copy of excerpts from the March 28-29, 1978 Board Meeting held in Watertown, SD.

WILLARD ZWEBER'S REQUEST FOR A REHEARING ON ACTION TAKEN AT JANUARY MEETING

Willard Zweber appeared before the Commission requesting a rehearing of the action taken by the Commission at the January meeting. Mr. Zweber stated he felt some new information had been obtained pertaining to the matter.

Mr. Butler stated if the Commission decided to rehear the matter, it would have to be scheduled for the next meeting in order that all concerned parties could be contacted.

After a brief discussion on the matter, it was the general consensus of the Commission to remain with the motion made at the January meeting pertaining to the Hoven South Aquifer, which stated that the Commission prohibit any 1978 irrigation pumping by any of the irrigators until the May 1978 water levels in each irrigation well and initial meter readings have been recorded by the Staff.

4250-3, Pickard Farms Inc., Brookings, SD

Application is for 2.00 cfs of water from two 70 foot deep wells to irrigate 139 acres. Affidavit of publication received. James Pickard was present.

Vice-chairman Jensen administered the oath to James Pickard.

Mr. Hatch stated that the staff is recommending deferral.

Mr. Pickard stated he was not located in the Sioux River Aquifer but in Deer Creek.

Mr. Hatch stated that in Deer Creek there is little irrigation pumping, but this pumping contributes to the over all withdrawal from the aquifer.

Mr. Wagner MOVED, SECONDED by Mr. Varilek that Application No. 4250-3 be DEFERRED. MOTION CARRIED.

4231-3, City of Sioux Falls, SD

Application is for .83 cfs of water from one 39 foot deep well for use on a golf course to irrigate 50 acres. Affidavit of publication received. Ken Munro was present representing the City of Sioux Falls.

Vice-chairman Jensen administered the oath to Ken Munro.

Mr. Jones stated that the City of Sioux Falls has future use rights on the Skunk Creek area, however, the proposed well is outside the city's future use area.

Mr. Fischer MOVED, SECONDED by Mr. Wagner that Application No. 4231-3 be APPROVED with the qualification that the irrigation well approved under this permit is located near domestic 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. MOTION CARRIED.

Copy of Excerpt from May 25-26, 1978 Board Meeting held in Pierre, SD

X-121

subject to Review by the Water Rights Commission as to accomplishment thereunder, upon expiration of seven years. Priority date for this Permit is established under Future Use Permit No. 1688-3. MOTION CARRIED.

4092-3, Floyd H. Peterson, Hitchcock SD

Application is for 1.21 cfs of water from the overflow from Lake Dudley to irrigate 185 acres. Affidavit of publication received.

Chairman Richey administered the oath to LeRoy Mernaugh.

Mr. Mernaugh gave a report on the application. (copy on file).

Mr. Fischer MOVED, SECONDED by Mr. Mickelson that Application No. 4092-3 be DEFERRED. MOTION CARRIED.

Mike McHugh appeared before the Commission requesting that his deferred Application No. 2330-3 which was to be reconsidered on the following day be reconsidered at this time. The application was deferred because there was no instream storage.

Ms. Pearson stated that the protestors to the application must be notified when the application is going to be reconsidered and they were notified for the following day so the application must be reconsidered, then.

Willard Zweber and his son Frank appeared before the Commission requesting that the observation well readings in their area be made known to the Commission.

Mr. Selken stated that he had measured the wells the previous day. Mr. Frost was the only irrigator that had installed a meter on his well. Observation well SW-4 measured 5.7 on 5/24/78 and 7.35 on 5/18/77. SW-6A measured 19.4 on 5/24/78 and 19.5 on 5/17/77. PT-76B measured 18.2 on 5/24/78 and 17.95 on 5/17/77. PT-76G measured 4.95 on 5/24/78 and 6.0 on 5/18/77. PT-76H measured 29.3 on 5/24/78 and 28.85 on 5/17/77. Mr. Selken stated that observation well PT-76G and SW-4 are both located in a natural drainage area. The remainder of the observation wells are located on higher ground.

Frank Zweber stated they wanted the Commission to know that the water levels had not come back as the staff had expected in the area.

1171-1, Walter Doerr, Hettinger ND

Mr. Jones stated the affidavit of publication had not been received, therefore, action could not be taken on the application.

1172-1, Ralph Bachand, Sturgis SD

Application is for 1.06 cfs of water from the Belle Fourche River to irrigate 74 acres. Affidavit of publication received.

Mr. Varilek MOVED, SECONDED by Mr. Garrett that Application No. 1172-1 be APPROVED with the qualification that the diversion of water under this permit is con-



Department of Natural Resource Development

WATER RIGHTS COMMISSION

Joe Foss Building, Pierre, South Dakota 57501
Phone 605/773-3151

August 18, 1978

WATER RIGHTS COMMISSION

Gentlemen:

August 16, 1978, Marvin Knecht of this office was in the Hoven area and measured water levels in the Zweber, Hageman, Frost, and Turner irrigation wells. We had somebody in the area August 7; however, the electric reader wire became entangled in one of Mr. Zweber's wells and the bottom portion of lead wire was broken off. Since our other electric readers had been used in the Carl Estabrook pump test and then for a pump test being supervised by the State Geological Survey, the broken reader was the only reader available. We were unable to get the electric reader repaired until August 11. The other electric readers have since been returned; however, in the meantime, Mr. Zweber contacted several Commission members.

Mr. Zweber had reported that Turner and Hageman were pumping air. Mr. Hageman, Mr. Turner, and Mr. Frost each reported they have had mechanical problems, not water shortage problems.

Measurements taken during 1978 have been as follows:

Zweber 1622-3 (Home place)							
date	gpm	Well #1 59' deep	Well #2 64' deep	Well #3 68' deep	Main Well #4	Well #5	Meter reading (gallons) / not installed (zero)
5-24		45.8'	47.1'	51.9'	55.3	50.1	
not pumping		(47.5' 10-25-76)	(53.8' 10-25-76)				
6-20	600	53.86'	53.51'	60.12'	65.16'	61.96'	2,624,900
pumping							
7-6	600	55.5'	54.2'	60.08'	65.3'	61.37'	4,492,500
pumping							
8-7	600	57.32'	55.86'		wire caught in well		9,874,800
pumping							
8-16	600	55.2'	61.01'	62.39'	69.1'		11,766,100
pumping		pumping restricted because well pumping air)			(after gpm reduced to 580 gpm)		

Zweber 1623-3 (north permit)			
date	gpm	main well 30' deep	east well meter reading (gallons)
5-24		4.10'	4.25'
not pumping			not installed (zero)
6-20		4.87'	6.58'
not pumping			229,900
7-6		3.91'	5.7'
not pumping			499,000

August 18, 1978
James River Irrigators
page 2

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Zweber 1623-3 (north permit) cont.

date	gpm	main well 30' deep	east well	meter reading (gallons)
8-7 (pumping)	450			3,833,400
8-16(not pumping)		7.43'	8.28'	4,982,900

Hageman 2271-3

date	gpm	main well	SE of main well	NW of main well	South (infield)	meter readings (gallons)	observation wells near main well used for pump test	
5-24		15.3'	18.4'	15.7'	18.4'	not installed	South(closest)	North
not pumping							15.6'	15.1'
6-20	600	31.95'	25.26'	33.44'	25.49'	11,666,500	21.54'	20.1'
pumping						15,970,500		
7-6								
not pumping								
8-7	600					32,182,800		
pumping								
8-16		19.2'	21.9'	19.23'		36,591,100	19.25'	18.81'
not pumping								

Frost 2598-3

date	gpm	#1 north well	#3 1st well SE pivot	#4 2nd well SE of pivot	#2 NW of pivot	#5 SE of pivot	meter readings (gallons)
5-24		48.6'	50.2'	53.0'	40.2'	50.8'	not installed
not pumping							
6-20	600	56.77'	wire hangup-	60.0'	50.0'	63.83'	41,158,300
pumping			no reading				47,834,300
7-6	600						70,671,600
pumping							
8-7	500		pump motor				
pumping			defective				
			well out				
			of service				
8-16		52.01'	54.51'	56.15'	44.7'		74,771,700
not pumping							

Turner 1704-3

date	gpm	well	meter reading (gallons)
5-24		28.4'	not installed
not pumping			(zero)
6-20		26.63'	4,027,400
pump pulled			
(acidizing well)			
7-6 (not pumping)			4,567,300
8-7	400		13,984,400
pumping			
8-16(not pumping)		28.25'	17,277,900

Observation Well Measurements

PT 76H located corner of Zweber's home place between Zweber's and Hageman's land.

1-9	29.8'
3-22	no reading
4-11	29.5'
6-12	29.2'
6-20	29.5'
7-6	29.6'
8-7	29.8'
8-16	29.5'

PT 76B located about $\frac{1}{2}$ mile west of PT 76H and Northeast from Hageman's wells (this well is within the Hageman irrigation wells cone of influence)

1-9	18.8'
3-22	no reading
4-11	18.2'
6-1	18.3'
6-12	18.1'
6-8	18.6'
6-12	18.1'
6-20	19.0'
6-28	19.3'
7-6	19.2'
7-10	18.9'
7-25	19.5'
8-7	20.0'
8-16	20.2'

SW 6A located on corner west of Hageman's (Hageman, Turner, & Frost to be shut off if water level drops to 21.5')

1-9	20.3'
3-22	18.7'
4-11	19.4'
6-12	19.4'
6-20	19.5'
7-6	19.5'
8-7	19.8'
8-16	19.7'

SW 4 (Hageman, Turner & Frost to be shut off if waterlevel drops to 9.0')
located west of SW-6A

1-9	7.8'
3-22	7.2'
4-11	5.3'
6-12	6.4'
6-20	7.0'
7-6	6.2'
8-7	7.1'
8-16	7.3'

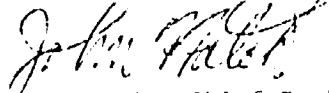
August 18, 1978
James River Irrigators
page 4

Information thus far indicates that Mr. Zweber's water shortage problems at the home place are within his own well field. If other irrigation pumping was affecting Mr. Zweber's pumping, then observation well PT 76H should be dropping also. In order to maintain the 600 gpm he needs for his center pivot, the water levels in his wells have continued to drop even though the water level in PT 76H has not dropped.

At this time, even if Frost, Hageman and Turner were shut off, Mr. Zweber would still experience the same water shortage conditions. During those years when ground water levels are high, the water levels in Mr. Zweber's wells will still drop and if he were to pump enough water we would still expect him to experience water shortage problems even though PT-76H would still reflect the higher water levels.

The primary problem is that the sand and gravel materials in the Zweber well field are not the type that high capacity wells can be developed in to provide the amount of water necessary for sustained pumping at the continuous rate necessary for irrigation with a center pivot.

Very truly yours,



JOHN HATCH, Chief Engineer
Water Rights Commission

JH/gy

Excerpt from March 28-29, 1979 Board Meeting held in Pierre, SD

X-12a

Mr. Decker MOVED, SECONDED by Mr. Varilek that based upon the evidence presented, the Commission, prior to approval of the Water Right Applications considered March 28 & 29, 1979, had determined that unappropriated water is available, that the projects have been determined to be feasible and that the applications are in the public interest. MOTION CARRIED.

Willard Zweber from Hoven, South Dakota appeared before the Commission stating that last fall and spring the Commission agreed that all the irrigators in his area had to install flow meters which would be checked along with the observation wells throughout the summer. Mr. Zweber questioned why this hadn't been done. Mr. Hatch stated he felt the staff had done the measuring as requested by the Commission, but Mr. Zweber did not feel that it was adequate.

It was the general consensus of the Commission that some information be gathered and Mr. Zweber's request be placed on the agenda for the May meeting.

Mr. Decker MOVED, SECONDED by Mr. Varilek that the meeting be adjourned. MOTION CARRIED. Meeting adjourned at 4:55 p.m.

Glen Garrett, Vice-chairman

Merwyn Walter, Secretary

Mr. Selken stated the application was previously deferred because of the question of some sub-irrigated land. The staff is recommending approval of the application.

Mr. Richey MOVED, SECONDED by Wagner that Application No. 3329-3 be APPROVED with the qualification that 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.

MOTION CARRIED.

3967-3, Greenwood Farmers Coop., Delmont SD

Application is for 2.2 cfs of water from one 180 foot deep well to irrigate 160 acres. Affidavit of publication received.

Mr. Jones stated this application was over looked at the last meeting when the rest of the applications for Charles Mix County were approved. The application is located 2 to 2½ miles from existing wells. Mr. Jones stated there should not be adverse interference.

Mr. Wagner MOVED, SECONDED by Mr. Decker that Application No. 3967-3 be APPROVED with the qualification that 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. MOTION CARRIED.

Mr. Mickelson MOVED, SECONDED by Mr. Varilek that Findings of Fact and Conclusions of Law be prepared on Application No. 3329-3, James Kerr. MOTION CARRIED.

Mr. Wagner MOVED, SECONDED by Mr. Richey that based upon the evidence presented the Commission, prior to approval of the Water Right Applications considered May 24 and 25, 1979, had determined that unappropriated water is available, that the projects have been determined to be feasible and that the applications are in the public interest. MOTION CARRIED.

HOVEN AREA

Lynn Hedges, Geological Survey, gave a brief explanation and comparison of the aquifers in the Hoven Area.

Mr. Hedges stated that in the Hoven area from 1968 to 1972 the water levels were very high, with 1968 having the highest water levels. At the end of 1977 the aquifer reached an all time low. Recharge in the aquifer takes place from rainfall and snowmelt depending on the time of year and duration. Mr. Hedges then addressed the question of what happened between the high period and the low period. During the period of time from 1973 through 1977 there was a gradual decline in the water levels throughout the system. The Hoven north aquifer declined about 3.5 feet to 4.6 feet. The Hoven south aquifer had a decline of about 6 feet. In most cases, there was a rise in the water levels in the observation wells in the hydrologic systems from the low reading in 1977 or early 1978 to the low reading in 1978. Mr. Hedges stated there was a rise in the water levels of all the observation wells except where the Zweber irrigation system is located. In answer to a question of why the water levels continue to decline in the Zweber area and not the rest,

Mr. Hedges stated there is no one definite answer. The water table slopes from the east to the west. Mr. Zweber is located in the east margin of the aquifer. Most recharge comes from underflow which come from a distance and from the east and south. Since there is a boundary east of Zwebers there is little area for underflow recharge to his well field. There is 40 to 50 feet of unsaturated gravel in the aquifer in the Zweber well field, thus recharge from vertical leakage is minimal. The water west of Zweber is down gradient. There is a mutual affect on the aquifer system on a year to year basis, but little or no interference during a pumping season.

Mr. Hedges stated from the records available, the total use of water for irrigation from 1973 to 1978 was 3500 acre feet. Over the same period of time, approximately 2.9 feet of the total decline could be attributed to pumping the 3500 acre feet of water used by irrigators. The Zweber wells caused a decline of 1.4 feet, the Hageman wells a decline of 0.4 feet, the Frost well's a decline of 0.5 feet, and the Turner well caused a decline of 0.6 feet of the 2.9 feet overall decline.

Chairman Jensen administered the oath to Willard Zweber.

Mr. Zweber stated that in observation well SW-4 the water level had a 4 foot drop. The last reading taken on April 30, was 6.2 feet lower.

Chairman Jensen administered the oath to Allen Turner.

Mr. Turner stated that he did not pump the east well last summer.

Mr. Selken gave the water level reading in the production wells in the area as of May 24, 1978. The overall water levels were two feet higher than they were a year ago this time. There had been no pumping as of May 24 of this year. The water levels in the Zweber No. 1 well which is located to the northwest was 45.8 feet May 24, 1978 and 46.04 feet April 30, 1979. The drawdown was approximately $\frac{1}{2}$ foot.

Mr. Hedges stated if there was no pumping of the other wells Zweber's wells could not be affected. The water for Zweber's wells comes from the east. The water level in PT 76H showed a decline from the low in 1977 to the low in 1978.

In answer to a question from Mr. Mickelson, Mr. Hedges stated there was about a six foot drop in elevation per mile in the aquifer.

In answer to a question from Mr. Hatch, Mr. Hedges stated that Mr. Zweber is not pumping more than the local recharge of the area. To increase the water levels there needs to be a lot of rainfall in the area.

Mr. Zweber questioned why the observation wells were not measured. Mr. Hatch stated the wells were measured when the staff was in the area. Some of the irrigation wells were not measured.

Chairman Jensen administered the oath to Gillis Hageman.

Mr. Hageman stated he did not have any problems last summer. He did not stop irrigating because of the drop in the water levels.

Mr. Zweber stated he would like an engineer to check the wells.

Mr. Selken stated that on July 6, 1978 and August 16, 1978 the systems in the area except for Zwebers were shut off. There was water in the wells.

Mr. Wagner questioned if the aquifer was filled completely if that would make a difference?

Mr. Hedges stated when the aquifer is at it's fullest it can barely maintain the high capacity wells. There is a general decline on a aquifer basis.

Mr. Jensen questioned if nobody irrigated but Mr. Zweber, would there be a problem?

Mr. Hedges stated there was an overall $3\frac{1}{2}$ foot decline in the water levels in the area.

Mr. Zweber stated he would like to have the wells to be checked when they are pumping the water.

Chairman Jensen administered the oath to Clarence Frost.

Mr. Frost stated he does not pump when they get rain.

Mr. Hedges stated the area of the Zweber's well is marginal.

Mr. Selken stated that the pumps were operating on June 20, 1978 and August 7, 1978. The meter readings were Hageman, June 20-600 gpm, August 7-600 gpm, 1622-3 Zweber June 20-600 gpm, August 7-600 gpm; 1623-3 Zweber, June 20-off, August 7-450 gpm; Turner, June 20-off, August 7-400 gpm; Frost June 20-600 gpm, August 7-500 gpm.

Mr. Varilek stated that Frost's pumping rate shows a 20% decrease.

Mr. Frost stated he has five wells which pump into a surge tank then thru the pivot. The decrease in pumping rate can be explained because the pivot was pumping on the east quarter which is higher causing an increased pumping head; therefore, a decreased pumping rate.

Mr. Hedges stated in the Hoven area there is a water table aquifer. By pumping the water you have created a situation where the potential of wells has been decreased because as the cone of depression increases, the thickness of saturated matter from which water can be withdrawn decreases.

In answer to a question from Mr. Richey, Mr. Hedges stated it would take a period of wet years to recharge the aquifer if it were pumped a lot. Mr. Richey stated that Mr. Zweber's well would be the last to recharge. (Mr. Hedges stated that part of the water level would return with the irrigation pumping and part of it would not.)

Mr. Wagner then questioned at what level was the setting that the water could not be pumped below. Mr. Wagner was informed that it was at the nine foot level in SW-4 that the water level could not go below or the other irrigators in the area would be forced to quit pumping.

Mr. Jensen suggested that the nine foot level could be raised.

Mr. Mickelson MOVED, SECONDED by Mr. Garrett to change the water level that observation well SW-4 could drop from nine feet to seven feet which was established at the special hearing held May 10, 1977. When observation well SW-4 reaches seven foot below the top of the well, the three junior appropriators shall be shut down. MOTION CARRIED.

Mr. Wagner MOVED, SECONDED by Mr. Mickelson that Findings of Fact and Conclusions of Law be prepared on the action taken by the Commission. MOTION CARRIED

MINUTES OF THE SPECIAL MEETING OF THE SOUTH DAKOTA WATER RIGHTS
COMMISSION DULY CALLED BY CHAIRMAN STANLEY JENSEN
AND HELD IN ROOM 408, CAPITOL BUILDING, PIERRE, SOUTH DAKOTA

June 27, 1979

There were present, Commissioners Glen Garrett, Stanley Jensen, John Rickelson, William Richey, Donald Wagner, Herwyn Walter, Elvern Varick. Members of the staff were Warren Huefeld, John Hatch, Burt Jones, Betty Westlund, Marya Inert, Dale Selken, Jeanne Christensen, Peggy Hillmer and Karen Bernemann. John Seltzer, Tom Gubin and Lonnie Bryan, Assistant Attorney General were also present.

Other registered in attendance for the Special Water Rights Commission meeting were:

Persons interested in South Hoven Aquifer

Mr. & Mrs. Willard Zwaber, Hoven SD

Rory King, Aberdeen SD

Roe J. Wheeler, Huron SD

Gillis Hageman, Hoven SD

Clarence J. Frost, Hoven SD

Allen Turner, Hoven SD

W. R. Application No. 4405-3, Carl Estabrook

Carol Estabrook, Mt. Vernon SD

Lawrence Larson, Plankinton SD

Wynn Sudtelgte, Division of Conservation, Pierre SD

Lori Shryock, Division of Conservation, Pierre SD

Roxanne Giedd, Attorney General's Office, Pierre SD

Pevane L. Johnson, Letcher SD

Lawrence Reeska, Plankinton SD

Dale Fraser, Plankinton SD

Wilbur Bathis, Plankinton SD

Tim Larson, Plankinton SD

William F. Rake, Plankinton SD

Glen Mulf, Plankinton SD

Carl Estabrook, Mt. Vernon SD

Joe Ellingson, Winner SD

The meeting was formally called to order by Chairman Jensen at 1:12 p.m. in Room 408, Capitol Building, Pierre, South Dakota.

APPROVAL OF MINUTES

Mr. Wagner MOVED, SECONDED by Mr. Rickelson to APPROVE the portions of the minutes of the May 24 & 25, 1979 meeting pertaining to the Hoven Area 27 & 28 and the Carl Estabrook Application No. 4405-3 as presented. ALL IN FAVOR.

HOVEN SOUTH AQUIFER

Mr. Smith stated that the findings prepared by the Attorney General's Office, were based on the Commission's decision at the May meeting that due to the irrigation pumping of the respondents, Gillis Hageman, Clarence Frost and Allen Turner, the overall level in the aquifer had been declining over the past few years. The findings

recognize the fact that some of the decline has been due to natural causes, such as the drought and attribute a portion of the decline to the pumping by the irrigators. The Conclusions were based on what Mr. Smith felt was the intent of the Commission as stated at the last meeting including amendment of the prior decision of the Commission in May, 1977 accordingly. Mr. Smith stated a change made from the decision made at the last meeting, was to include the limit relative to observation well SW-6A. The Commission's intent was to raise the shut off water level in SW-4 two feet. Mr. Smith stated that he assumed when the Commission set the original level, that SW-6A and SW-4 would be used together to monitor the water level on an aquifer basis.

Mr. Smith further stated that the order which he set forth, states when the Staff determines that the water levels in either SW-6A or SW-4 drop to the limit set, that the three irrigators will be shut off. Any further pumping by them will not commence until further orders are given. Mr. Smith stated that included in the order is a provision that the Chief Engineer can limit the rates of pumping by the three irrigators. A study is to be undertaken throughout the summer, and a report made prior to April 1, 1980 to the Board of Water Management.

Mr. Wheeler representing junior priority irrigators, Haggen, Frost and Turner, in the Hoven South Aquifer gave an explanation of his proposed final decision including findings and conclusions (copy on file). In May, 1977 the Commission made a decision on the water levels in the two wells in question. The Commission has already made a decision based on extensive testimony. Mr. Wheeler stated that his decision states that the Commission has determined that there is not sufficient evidence presented at the May 1979 meeting to change the shut off level for the two wells.

Mr. Wheeler stated that from the records, if the water level in SW-6A is raised two feet or to the 19.5 foot level, this level could be higher than the highest level measured in the well. They could never irrigate because the water level has never been any higher than that. It would have the same effect as shutting them down forever. SW-4 fluctuates substantially. Mr. Wheeler stated there was not sufficient information for the Commission to make the arbitrary decision of a two foot change in both wells. The Commission has made the assumption, that by the fact that they are pumping, they are interfering with the yield of Mr. Zacher because they are lowering the aquifer. Mr. Wheeler further stated he felt the decision made by the Commission before was a fair, just decision and there was no new evidence to justify the arbitrary drop of two feet in both wells. The decision made at the May, 1977 meeting should be left to stand.

Mr. Hatch stated water level in SW-6A measured June 25, 1979 was 19.8 feet. The water levels stay between 19 and 20 feet. The carrier reading of 12 feet was before the well was developed.

Mr. Rickelson stated that observation well SW-6A was never mentioned at the May meeting.

Mr. Knecht stated SW-4 was the west well located about 1/8 of a mile from SW-6A.

Mr. Hatch stated the water level in SW-4 June 20, 1979 was 5.4 feet. June 13, 1979 it was 5.1 feet. The irrigators had been pumping before the 31st of June.

Mr. Wheeler stated there are provisions in the law which provide for a Water Users Board to be appointed by the Commission for the irrigation district. For the

of the aquifer on a priority basis. Mr. Wheeler stated he felt this would be a fair and equitable way to make the determination on the use of the water by the four irrigators. The Commission could set up the guidelines for each individual's pumping.

Mr. King representing Mr. Zweber stated there is no Board that would be as conversant with the facts as this Commission is. Further problems will be created by appointing a Board to resolve disputes. Mr. Wheeler stated that Mr. Zweber would like to have one well triggering the shutting off of the other systems than to have none. Mr. Zweber is willing to forego any contention with respect to SW-6A, but would like to hold the guidelines set on SW-4.

Mr. King gave an explanation of his findings (copy on file). Mr. King stated his findings incorporate most of the Attorney General's findings with the addition of a few more. There is no question about the diminishment of the water in the aquifer by the other irrigators. If Mr. Zweber's production can be increased by shutting off the other irrigators, the evidence supports completely shutting off the other users. The Commission has just set trigger levels in two wells. The evidence supports both of the trigger levels set. From reviewing the readings taken last summer, the evidence also shows that Mr. Zweber is not the only one having problems irrigating.

In reference to a statement made by Mr. King, Mr. Wheeler stated the water level in Mr. Turner's well is 24 feet according to the driller's well log, not 12 feet as was estimated in the application.

Mr. Wagner MOVED to accept the well log as information.

Mr. Wagner WITHDREW his motion.

Mr. Hatch stated by monitoring SW-6A the irrigators could be shut off. By monitoring SW-4 at seven feet, the irrigators would pump some of the time and some of the time they would not. To get the picture of the aquifer, several wells must be monitored in the area. SW-4 was selected originally because it had a long record of measurement. SW-4 does fluctuate with the rainfall. SW-6A would more accurately reflect the level of the aquifer on a longer term basis.

Mr. Wheeler stated that using SW-6A would be more accurate. If the levels were raised higher than 19.5 feet. It is closer to the pumping projects.

Mr. Rickelson MOVED, SECONDED by Mr. Walter to AMEND the Findings of Fact and Conclusions of Law as prepared by the Attorney General's office by striking the 19.5 feet and inserting 20.0 feet for observations well SW-6A.

Mr. Rickelson stated that they are changing the water level of SW-6A which the Commission did not formally set at the last meeting; 20 feet is more accurate to the actual conditions.

Chairman Jensen called for a vote on the motion to AMEND. MOTION CARRIED WITH Mr. Wagner Voting NO.

Mr. Walter MOVED, SECONDED by Mr. Richey to ACCEPT the Attorney General's Findings, Conclusions and Final Decision as amended.

Mr. Wagner stated from the testimony given by Mr. Hedges, there is an increase in the raising of the water level in the aquifer from a low point. There was no indication from the information given that raising the level in SW-4 from nine to seven would solve any problems. Mr. Wagner further stated, that if the continued study to be done by April, 1980 shows a mistake was made in shutting all of the people off, Mr. Wagner stated he would hate to see what would happen.

Chairman Jensen called for a vote on the motion. MOTION CARRIED with Mr. Wagner voting NO.

Mr. Richey MOVED, SECONDED by Mr. Vanier, to reject the other Findings of Fact and Conclusions of Law because they are inconsistent with the final decision accepted. MOTION CARRIED.

4405-3, Carl Estabrook Mt. Vernon SD

Mr. Guhin showed the Commission copies of Mr. Estabrook's applications (copies on file).

Mr. Guhin stated there was a legal question that the Commission did not answer at its meeting in May. Mr. Guhin stated he prepared two sets of findings of fact and conclusions of law. The first set allows Mr. Estabrook 3.71 cfs of water to irrigate 250 acres. The second set of findings allows him to irrigate 120 acres. The question is whether the Conservation Commission approved all of his lands or part of his lands in the soil water compatibility. Mr. Guhin gave a brief explanation of the situation. Mr. Guhin stated the Commission can look at the findings prepared by the Conservation Commission and say that they are the last documents that the Water Rights Commission has received. It is the information that will be used, because the Water Rights Commission can not go behind the back of the Conservation Commission. Or the Commission can say that the two documents do not purport to be an irrigation permit, therefore we do not include all the land and go back to the original application. Mr. Guhin stated the argument could be made that the amendments to the soil water compatibility came out as a result of the amended water rights application.

Mr. Richey stated he felt the Conservation Commission was acting on a new permit.

Mr. Guhin stated he was inclined to say that the March 1979 application is the permit.

Mr. Nielson MOVED, SECONDED by Mr. Garrett to ADOPT the Findings of Fact and Conclusions of Law labeled #A as prepared by the Attorney General's, based on the entire record.

Joe Ellingson representing the opponents to the application submitted Findings of Fact and Conclusions of Law (copy on file).

Mr. Ellingson stated he did not feel that Mr. Guhin had addressed the question. At the last meeting the question was whether or not it was a new or an old application.

Mr. Guhin stated according to Statutes 46-1-14 and 46-3-16 the Commission could add an amendment to his findings by adding the statement on amending application.

STATE OF SOUTH DAKOTA
WATER RIGHTS COMMISSION

IN THE MATTER OF THE) FINAL DECISION
COMPLAINT OF WILLARD ZWEBER)

This matter was brought on for hearing before the commission on May 25, 1979, on the complaint of Willard Zweber. Notice of the hearing was sent to the complainant, Willard Zweber, and to respondents Clarence Frost, Allen Turner, and Gillis Hageman on May 9, 1979. The complainant, Willard Zweber, and the respondents Clarence Frost, Allen Turner, and Gillis Hageman appeared in person, and the Department of Natural Resource Development appeared through the chief engineer of the water rights commission, John Hatch. Having heard and considered the evidence presented by the parties at such hearing, the commission hereby makes its final decision consisting of the following:

FINDINGS OF FACT

1. Willard Zweber, Allen Turner, Gillis Hageman, and Clarence Frost are all farmers in the Hoven, South Dakota area, and all have been issued permits to appropriate water for the purpose of irrigation from the Hoven South Aquifer as follows.

<u>NAME</u>	<u>WATER RIGHT NO.</u>	<u>PRIORITY DATE</u>	<u>C.F.S.</u>
Willard Zweber	1622-3	10/07/68	3.42
Willard Zweber	1623-3	10/07/68	0.85
Allen Turner	1704-3	11/18/69	1.33
Allen Turner	2270-3	5/01/75	4.50
Gillis Hageman	2271-3	5/01/75	4.30
Clarence Frost	2598-3	2/17/76	3.50

Over the last two years, all of the above have in fact diverted water for irrigation from the Hoven South Aquifer from high capacity wells.

2. Following a hearing held on May 10, 1977, on a previous complaint of Willard Zweber, the commission issued a decision requiring Allen Turner, Gillis Hageman, and Clarence Frost to restrict pumping from their high capacity irrigation wells when

either the water level in observation well #SW4 reaches a level of 9 feet below the pipe top or the water level in observation well #SW6A reaches a level of 21.5 feet below the pipe top. The decision further required all four individuals to equip their wells with flow meters.

3. Willard Zweber appeared before the commission on March 29, 1979, and complained that pumping from the Hoven South Aquifer by irrigators junior in right to himself had caused a decline in the water level in the aquifer in his area and had seriously impaired his rights and that the staff had not been diligent in monitoring the water levels in wells #SW4 and #SW6A and the pumping rates of the irrigators in the aquifer pursuant to the commission's decision of May 25, 1977.

4. On May 9, 1979, notice was served on Gillis Hageman, Clarence Frost, Allen Turner and Willard Zweber that a hearing would be held on May 25, 1979, at the Howard Johnson Hotel in Rapid City to address Mr. Zweber's complaints. Willard Zweber, Clarence Frost, Allen Turner, and Gillis Hageman appeared in person at that May 25, 1979 hearing.

5. In the period from 1968 to spring of 1973, the static water level in the Hoven South Aquifer was higher than at any other time in recorded history. By August of 1977, the aquifer had declined to an all time low; in the vicinity of complainant's wells, the aquifer experienced a decline of about six feet. Since September of 1977, water levels in all observation wells in the Hoven South Aquifer except in the area of complainant's wells, have slightly recovered.

6. The drop in the overall water level in the Hoven South Aquifer corresponds with a period of low precipitation experienced over the last several years in that area. The principal reason for the failure of the water levels in complainant's area to recover at the same rate as other areas is the slope of the aquifer from east to west. Since complainant is located in the east margin

of the aquifer, recharge to his area must come from a limited area on the eastern fringe of the aquifer.

7. The pumping of high capacity irrigation wells in the Hoven South Aquifer has significantly contributed to the decline in static water level observed in the aquifer. Although an aquifer test conducted by the commission's staff in January, 1977, indicated that the cones of depression of respondent's high capacity wells should not directly interfere with complainant's well, respondents' pumping, at least in years of below average precipitation, can cause a decline or significantly exaggerate a naturally occurring decline in the static water level over the entire Hoven South Aquifer.

8. A decline in the water level of a water table well reduces the amount of water that the well will yield. Under the water levels established for the Hoven South Aquifer by the commission's decision of May 25, 1977, complainant has been unable to obtain the quantity of water to which he has rights pursuant to his Permits Nos. 1622-3 and 1623-3.

9. Raising the cut-off levels in observation well #SW4 to 7 feet below the pipe top and in observation well #SW6A to ^{20.0}~~19.5~~ feet below the pipe top should eventually result in an increase in the water level in the area of complainant's wells which should in turn allow complainant to obtain the quantity of water to which his permits entitle him.

WHEREFORE, the commission makes the following:

CONCLUSIONS OF LAW

I.

All notices required by law in this matter have been duly given.

II.

The parties to this action are Willard Zweber, complainant, and Allen Turner, Gillis Hageman, and Clarence Frost, respondents.

III.

The Water Rights Commission has jurisdiction over the parties to this action and over the subject matter of this action pursuant to ARSD 52:01:05-03.

IV.

Complainant's rights under Permits Nos. 1622-3 and 1623-3 are senior to respondents' rights under their respective permits.

V.

Complainant Willard Zweber's rights under Permits Nos. 1622-3 and 1623-3 have been impaired by respondents' diversions under the limits established in the commission's Decision of May 25, 1977.

VI.

The commission hereby ORDERS that pumping by the respondents Allen Turner, Gillis Hageman and Clarence Frost shall cease when either the water level in observation well #SW4 declines to a level of 7 feet below the pipe top or the water level in observation well #SW6A declines to a level of ^{20.0 (22)} ~~19.7~~ feet below the pipe top, in order to prevent the water level in the Hoven South Aquifer in the area of complainant's wells from declining to the point where his rights under Permits Nos. 1622-3 and 1623-3 are impaired.

VII.

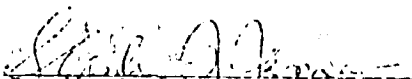
The commission FURTHER ORDERS that it shall be the responsibility of the commission staff to monitor observation wells #SW4 and #SW6A to insure that the levels fixed in paragraph VI are not exceeded. The chief engineer of the Water Rights Commission shall cause observation wells #SW4 and #SW6A to be measured with sufficient frequency to insure that the aforementioned levels are

not exceeded. If the chief engineer, from such measurements, shall determine that the levels set in paragraph VI. for either observation well #SW4 or observation well #SU6A has reached the level set in paragraph VI., he shall immediately order the respondents to cease pumping until such time as they shall receive a further order from the chief engineer. When the chief engineer shall determine that respondents may resume pumping at the levels fixed in their permits or at such lesser level to be fixed by the chief engineer, the chief engineer shall issue an order permitting pumping by the respondents at a rate, up to the rates specified in their permits, that the chief engineer determines can safely be maintained without reaching the limits fixed in paragraph VI.

VIII.

The commission FURTHER ORDERS that the commission staff shall conduct a continuing study of the Hoven South Aquifer in conjunction with the South Dakota Geological Survey and make a full report to the commission prior to April 1, 1980.

Dated this 27th day of June, 1979.


Stanley Jensen, Chairman
Water Rights Commission
State of South Dakota

Submitted by Rory King, Attorney, June 27, 1979 Board Meeting

STATE OF SOUTH DAKOTA
WATER RIGHTS COMMISSION



* * * * *
In the Matter of the Complaint
of WILLARD ZWEBER.

AFFIDAVIT

* * * * *
STATE OF SOUTH DAKOTA I
COUNTY OF BROWN I

Rory King, being first duly sworn, deposes and states that Affiant is the attorney for the Complainant, Willard Zweber, in the above entitled matter, and that he served the Final Decision, Findings of Fact and Conclusions of Law, a copy of which is attached hereto, upon Mr. Ronald Wheeler, the attorney for the Respondent, Clarence Frost, Allen Turner and Gillis Hageman, upon Mr. John Smith, Assistant Attorney General, State of South Dakota, and that Affiant filed the same with the Water Rights Commission, State of South Dakota, by personally delivering said Final Decision, Findings of Fact and Conclusions of Law to the above named individuals and to the Water Rights Commission on the 27th day of June, 1979, in Pierre, South Dakota.

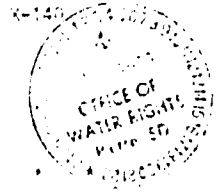
Rory King

Subscribed and sworn to before me this 27th day of July, 1979.

Notary Public, South Dakota

(Notary Seal)

STATE OF SOUTH DAKOTA
WATER RIGHTS COMMISSION



In the Matter of the Complaint
of WILLARD ZWEBER.

FINAL DECISION

This matter was brought on for hearing before the Commission on May 25, 1979, on the complaint of Willard Zweber. Notice of the hearing was sent to the Complainant, Willard Zweber, and to Respondents Clarence Frost, Allen Turner, and Gillis Hageman on May 9, 1979. The Complainant, Willard Zweber, and the Respondents Clarence Frost, Allen Turner, and Gillis Hageman appeared in person, and the Department of Natural Resource Development appeared through the Chief Engineer of the Water Rights Commission, John Hatch. Having heard and considered the evidence presented by the parties at such hearing, the Commission hereby makes its Final Decision consisting of the following:

FINDINGS OF FACT

1. Willard Zweber, Allen Turner, Gillis Hageman, and Clarence Frost are all farmers in the Hoven, South Dakota, area, and all have been issued permits to appropriate water for the purpose of irrigation from the Hoven South Aquifer as follows:

<u>Name</u>	<u>Water Right No.</u>	<u>Priority Date</u>	<u>C.F.S.</u>
Willard Zweber	1622-3	10/07/66	3.42
Willard Zweber	1623-3	10/07/68	0.85
Allen Turner	1704-3	11/18/69	1.38
Allen Turner	2270-3	5/01/75	4.50
Gillis Hageman	2271-3	5/01/75	4.30
Clarence Frost	2598-3	2/17/76	3.50

Over the last two years, all of the above have in fact diverted water for irrigation from the Hovan South Aquifer from high capacity wells.

2. Following a hearing held on May 10, 1977, on a previous complaint of Willard Zweber, the Commission issued a decision requiring Allen Turner, Gillis Hageman, and Clarence Frost to restrict pumping from their high capacity irrigation wells when either the water level in observation well #SW4 reaches a level of 9 feet below the pipe top or the water level in observation well #SW6A reaches a level of 21.5 feet below the pipe top. The decision further required all four individuals to equip their wells with flow meters, and required the Commission staff to monitor the flow meter measurements.

the well measurements to water, and the pumping rates on a continuing basis.

3. Willard Zweber appeared before the Commission on May 29, 1979, and complained that pumping from the Hoven South Aquifer by irrigators junior in right to himself had caused a decline in the water level in the aquifer in his area and had seriously impaired his rights and that the staff had not been diligent in monitoring the water levels in wells #SW4 and SW6A and the pumping rates of the irrigators in the aquifer pursuant to the Commission's decision of May 25, 1977.

4. On May 9, 1979, Notice was served on Gillis Hageman, Clarence Frost, Allen Turner and Willard Zweber that a hearing would be held on May 25, 1979, at the Howard Johnson Hotel in Rapid City to address Mr. Zweber's complaints. Willard Zweber, Clarence Frost, Allen Turner and Gillis Hageman appeared in person at that meeting.

5. In the period from 1968 to the spring of 1973, the static water level in the Hoven South Aquifer was higher than at any other time in recorded history. By August of 1977, the aquifer had declined to an all-time low; in the vicinity of complainant's wells, the aquifer experienced a decline of about six feet. Since September of 1977, water levels in all observation wells in the Hoven South Aquifer except in the area of complainant's wells have slightly recovered.

6. When Zweber started irrigating in 1972, there were approximately 48 feet from the water level to the pipe top in his main well (Permit #1622-3). At the start of the 1978 irrigation season, April 20, 1978, there were 55.5 feet from the water level to the pipe top, which is a drop of 7.5 feet.

7. When Allen Turner dug his main irrigation well in 1969 or 1970 there were approximately 12 feet from the water level to the pipe top in his main well (Permit #1704-3). At the start of the 1978 irrigation season, April 20, 1978, there were 26 feet 1 1/2 inches from the water level to the pipe top, which is a drop of 14 feet, one inch.

8. During the course of the 1978 irrigation season, out of five occasions upon which the Water Rights Commission staff inspected the wells of the irrigators, Hageman's irrigation system was shut off three times, Frost's was shut off twice, and Turner's was shut off four times.

9. Between June 20, 1978, and September 11, 1978, (83 days) Gillis Hageman pumped an average of .58 C.F.S. whereas he is authorized to pump 4.30 C.F.S.
10. Between those same dates, Clarence Frost pumped an average of .82 C.F.S., whereas he is authorized to pump 3.50 C.F.S.
11. Between those same dates, Allen Turner pumped an average of .26 C.F.S., whereas he is authorized to pump 1.38 C.F.S.
12. Between those same dates, Willard Zweber pumped his main wells an average of .22 C.F.S., whereas he is authorized to pump them 3.42 C.F.S.
13. The Hoven South Aquifer is a shallow aquifer, and when it is completely filled to capacity, it can barely maintain high capacity wells.
14. The pumping of high capacity irrigation wells in the Hoven South Aquifer has significantly contributed to the decline in static water level observed in the aquifer. Pumping by Frost, Hageman and Turner has caused a decline in the static water level over the entire Hoven South Aquifer. Thus, on a year-to-year basis, irrigation pumping by Frost, Hageman and Turner diminishes the production of Zweber's wells.
15. A decline in the water level of a water table well reduces the amount of water that the well will yield. Under the water levels established for the Hoven South Aquifer by the Commission's decision of May 25, 1977, complainant has been unable to obtain the quantity of water to which he has rights pursuant to his Permits #1622-3 and 1623-3.
16. Raising the cut-off levels in observation well #SW4 to 7 feet below pipe top or in observation well #SW6A to 19.5 feet below the pipe top should eventually result in an increase in the water level in the area of complainant's wells which should in turn allow complainant to obtain the quantity of water to which his permits entitle him.

WHEREFORE, the Commission makes the following:

CONCLUSIONS OF LAW

I.

All notices required by law in this matter have been duly given.

II.

The parties to this action are Willard Zweber, Complainant, and Allen Turner, Gillis Hageman, and Clarence Frost, Respondents.

III.

The Water Rights Commission has jurisdiction over the parties to this action and over the subject matter of this action pursuant to ARSD 52:01:05:03.

IV.

Complainant's rights under Permits #1622-3 and 1623-3 are senior to Respondents' rights under their respective permits.

V.

Complainant Willard Zweber's rights under Permits #1622-3 and 1623-3 have been impaired by Respondents' diversions under the limits established in the Commission's Decision of May 25, 1977.

VI.

The Commission hereby ORDERS that pumping by the Respondents Allen Turner, Gillis Hageman and Clarence Frost shall cease when either the water level in observation well #SW4 declines to a level of 7 feet below the pipe top or the water level in observation well #SW6A declines to a level of 19.5 feet below the pipe top, in order to prevent the water level in the Hoven South Aquifer in the area of Complainant's wells from declining to the point where his rights under Permits #1622-3 and 1623-3 are impaired.

VII.

The Commission FURTHER ORDERS that it shall be the responsibility of the Commission staff to monitor observation wells #SW4 and SW6A to insure that the levels fixed in paragraph VI are not exceeded. The Chief Engineer of the Water Rights Commission shall cause observation wells #SW4 and SW6A to be measured with sufficient frequency to insure that the aforementioned levels are not exceeded. If the Chief Engineer, from such measurements, shall determine that the levels set in paragraph VI. for either observation well #SW4 or observation well #SW6A has reached the level set in paragraph VI., he shall immediately order the Respondents to cease pumping until such time as they shall receive a further order from the Chief Engineer. When the Chief Engineer shall determine that Respondents may resume pumping at the levels fixed in their permits or at such lesser level to be fixed by the Chief Engineer, the Chief Engineer

shall issue an Order permitting pumping by the Respondents at a rate, up to the rates specified in their permits, that the Chief Engineer determines can safely be maintained without reaching the limits fixed in paragraph VI.

VIII.

The Commission FURTHER ORDERS that the Commission staff shall conduct a continuing study of the Hoven South Aquifer in conjunction with the South Dakota Geological Survey and make a full report to the Commission prior to April 1, 1980.

Dated this _____ day of _____, 1979.

Stanley Jensen, Chairman
Water Rights Commission
State of South Dakota

Submitted by Ronald J. Wheeler, Attorney in behalf of Frost, Hageman & Turner at the
June 27, 1979 Board Meeting

X-145

STATE OF SOUTH DAKOTA
WATER RIGHTS COMMISSION

IN THE MATTER OF THE) FINAL DECISION
COMPLAINT OF WILLARD ZWEBER)

This matter brought on for hearing before the commission on May 25, 1979, on the complaint of Willard Zweber. Notice of the hearing was sent to the complainant, Willard Zweber, and to respondents Clarence Frost, Allen Turner, and Gillis Hageman on May 9, 1979. The complainant, Willard Zweber, and the respondents Clarence Frost, Allen Turner, and Gillis Hageman appeared in person, and the Department of Natural Resource Development appeared through the chief engineer of the water rights commission, John Hatch. Having heard and considered the evidence presented by the parties at such hearing, the commission hereby makes its final decision consisting of the following:

FINDINGS OF FACT

I

Willard Zweber, Allen Turner, Gillis Hageman, and Clarence Frost are all farmers in the Hoven, South Dakota area, and all have been issued permits to appropriate water for the purpose of irrigation from the Hoven South Aquifer as follows:

<u>NAME</u>	<u>WATER RIGHT NO.</u>	<u>PRIORITY DATE</u>	<u>C.F.S.</u>
Willard Zweber	1622-3	10/07/68	3.42
Willard Zweber	1623-3	10/07/68	0.85
Allen Turner	1704-3	11/18/69	1.38
Allen Turner	2270-3	5/01/75	4.50
Gillis Hageman	2271-3	5/01/75	4.30
Clarence Frost	2598-3	2/17/76	3.50

Over the last two years, all of the above have in fact diverted water for irrigation from the Hoven South Aquifer from high capacity wells.

II

Following a hearing held on May 10, 1977, on a previous complaint of Willard Zweber, the commission issued a decision requiring Allen Turner, Gillis Hageman, and Clarence Frost to restrict

pumping from their high capacity irrigation wells when either the water level in observation well #SW4 reaches a level of 9 feet below the pipe top or the water level in observation well #EW6A reaches a level of 21.5 feet below the pipe top. The decision further required all four individuals to equip their wells with flow meters.

III

Willard Zweber has continued to complain to the commission that the other irrigators in Hoven South Aquifer are interfering with his water rights.

IV

That the results of the pump test conducted by the staff of the Water Rights Commission in January, 1977 indicated that there is no significant interference with the Zweber wells by any of the other irrigators.

V

That the evidence presented at the hearing of May 25, 1979 does not indicate any significant interference by Clarence Frost, Allen Turner and Gillis Hageman with the wells of Willard Zweber.

VI

That the results and information from the well known as #SW4 are not reliable because of the constant fluctuation in the water levels of such well due to the location of the well.

VII

That any decline of the static water level of the Aquifer is due substantially to the pumping of the Zweber wells and not from the wells of Frost, Turner or Hageman.

Based upon the foregoing Findings of Fact the Commission makes the following Conclusions:

CONCLUSIONS OF LAW

I

That there was not sufficient new evidence presented at the May 25, 1979 hearing to indicate any significant decrease in the static water level of the Aquifer by the actions of Clarence Frost, Allen Turner or Gillis Hagaman so as to significantly interfere with the wells of Willard Zweber.

II

That this commission lacks jurisdiction over the parties to this action since the matter was previously considered and determined by this commission on May 10, 1977 and therefore, this proceeding and any said decision herein would be res judicata.

III

The commission hereby ORDERS that its decision of May 10, 1977 will remain in full force and effect.

Dated this _____ day of June, 1979.

Stanley Jensen, Chairman
Water Rights Commission
State of South Dakota

Copy of Ron Wheeler's Notice of Appeal submitted to Circuit Court, July, 1979
(Filed in Willard Zweber Complaint file)

STATE OF SOUTH DAKOTA) IN CIRCUIT COURT
: ss
COUNTY OF HUGHES) SIXTH JUDICIAL CIRCUIT

Appeal from the Department of Natural Resources
Development, Water Rights Commission, of the
State of South Dakota;

In the Matter of the Complaint of Willard Zweber.

NOTICE OF APPEAL

TO: WATER RIGHTS COMMISSION OF THE
DEPARTMENT OF NATURAL RESOURCES DEVELOPMENT
STATE OF SOUTH DAKOTA

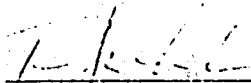
WILLARD ZWEBER
HOVEN, SOUTH DAKOTA

RORY KING, HIS ATTORNEY
ABERDEEN, SOUTH DAKOTA

YOU WILL PLEASE TAKE NOTICE that Clarence
Frost, Alton Turner and Gillis Hageman, appellants herein, do hereby
appeal to the Circuit Court of Hughes County, South Dakota, from the
Final Decision of the Water Rights Commission of the State of South
Dakota in the above entitled matter, dated June 27, 1979.

Dated this 27th day of July, 1979.

Respectively submitted,



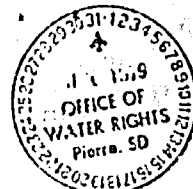
Ronald J. Wheeler
of Churchill, Manolis, Wheeler & Freeman
Attorneys for Appellants
201 Farmers & Merchants Bank Building
Huron, South Dakota 57350

STATE OF SOUTH DAKOTA
COUNTY OF HUGHES

IN CIRCUIT COURT
SIXTH JUDICIAL CIRCUIT

Cross-Appeal from the Department of Natural
Resources Development, Water Rights Commis-
sion, of the State of South Dakota;

In the Matter of the Complaint of Willard
Zweber.



NOTICE OF CROSS-APPEAL

TO: WATER RIGHTS COMMISSION OF THE
DEPARTMENT OF NATURAL RESOURCES DEVELOPMENT
STATE OF SOUTH DAKOTA

RONALD J. WHEELER
HURON, SOUTH DAKOTA
ATTORNEY FOR CLARENCE FROST,
ALLEN TURNER AND GILLIS HAGEMAN,
APPELLANTS HEREIN

YOU WILL PLEASE TAKE NOTICE that Willard Zweber, Appellee
herein, does hereby cross-appeal to the Circuit Court of Hughes
County, South Dakota, from the Findings of Fact and Conclusions of
Law of the Water Rights Commission of the State of South Dakota in
the above entitled matter, which Findings and Conclusions adversely
affect Appellee, and which Findings and Conclusions are dated June
27, 1979, and were served upon Appellee on June 29, 1979.

Dated this 27th day of June, 1979.

SIEGEL, BARNETT, SCHUTZ, O'KEEFE, JEWETT
& KING

Attorneys for Appellee Willard Zweber
500 Capitol Building
P. O. Box 1269
Aberdeen, South Dakota 57401

The undersigned, attorneys for Appellee Willard Zweber,
hereby certify that on the 27th day of June, 1979, a
true copy of the foregoing NOTICE OF CROSS-APPEAL was mailed by
first-class mail to the Water Rights Commission, Department of
Natural Resource Development, Joe Foss Building, Pierre, South
Dakota 57501; and to the attorney for Appellants, Ronald J. Wheeler,
Churchill, Manolis, Wheeler & Freeman, 201 Farmers & Merchants
Bank Building, Huron, South Dakota 57350.

Dated this 27th day of June, 1979.

SIEGEL, BARNETT, SCHUTZ, O'KEEFE, JEWETT
& KING

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES) SS

IN CIRCUIT COURT X-150
SIXTH JUDICIAL CIRCUIT

IN THE MATTER OF THE COMPLAINT)
OF WILLARD ZWEBER)

ORDER

This matter was brought on for hearing before the Court on August 1, 1979, on the motion of appellants for a stay of proceedings pending appeal and for a trial de novo on the merits. Appellants and cross-respondents, Gillis Hageman, Clarence Frost, and Allen Turner, appeared through their attorney Ronald Wheeler; respondent and cross-appellant, Willard Zweber, appeared through his attorney, Rory King; and respondent and cross-respondent Department of Water and Natural Resources appeared through its attorney, John J. Smith, Assistant Attorney General. The Court having heard and considered the admission of the DWR that the tape recording of the Water Rights Commission meeting of May 25, 1979, from which this appeal was prosecuted, was destroyed through the mechanical failure of the recording device and that accurate minutes of such hearing can not be recreated from other sources and having heard and considered the arguments of counsel on the reviewability of such record, and the Court having concluded at law that it can not conduct a proper review of the Water Rights Commission's decision upon such a record, it is hereby

ORDERED that this contested case be remanded to the Water Management Board for rehearing on the merits of the matter, that the Water Rights Division of the DWR continue to monitor the hydrology of the Hoven South Aquifer, and that the evidence thus obtained be made available to the Water Management Board and the parties herein for use at the rehearing held pursuant to this order.

Dated this ____ day of August, 1979.

BY THE COURT:

Honorable Robert A. Miller
Circuit Court Judge

ATTEST: _____
Clerk of Courts

(-151

er 5, 1979

WATER RIGHTS
Page 30

WATER RIGHTS
page 54

Page 50

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★

* * * * *

- Complainant, by and through his attorney, further moves the Board to order a continued monitoring of the hydrology of the Hoven South aquifer, with a view toward determining the existence and cause of problems with the various irrigation systems pumping from the aquifer.

SIEGEL, BARNETT, SCHUTZ, O'KEEFE, JEWETT
& KING

Attorneys for Complainant

FUTURE MEETING DATES

It was the general consensus of the Board that the January meeting be held in Pierre on January 30-31, 1980.

Mr. Timm stated that the letter of reprimand that the Board requested at the last meeting to be sent to Mr. Estabrook needs approval at this time. The letter should be signed and a copy sent to Mr. Estabrook, and the original be placed in his file.

Mr. Rylance MOVED, SECONDED by Mr. Walter that the letter of reprimand be APPROVED. MOTION CARRIED.

WATER RIGHT ACTIVITIES

STATUS & REVIEW OF WATER RIGHTS LITIGATION

Mr. Smith stated in the matter of South Lincoln Rural Water System, the case is still pending in Circuit Court awaiting a decision.

Mr. Smith stated that he is involved in two appeals in the Supreme Court, one of which is Hiens vs Harts. The basic issue in the case is whether or not the Hiens took their appeal to the Circuit Court in time and the issue there is whether or not the Hiens could collaterally attack a decision of the Board, which would more or less prove that our decisions here are subject to attack everytime.

The other case involving the Supreme Court is Reetz vs Baukol, in which the state is amicus curiae. The judge ruled in that case that you cannot have a dam with a drainage area in excess of 160 acres regardless of the use of the water. The Water Rights Staff has always construed that in another way, in that if the dam is used for stockwatering purposes or domestic use, the dam can have any size drainage area; if it has a drainage area of 160 acres or more, a location notice must be filed for a domestic use dam, if for any other use than domestic use, it has to have an appropriative water right.

Mr. Timm stated that the Pankratz case was remanded by the Circuit Court in Lyman County back to the Board of Water Management for entry of formal findings of Fact and Conclusions of Law. Also, notice of appeal was given for the same case, only this time in Turner County.. Mr. Timm stated he has written to the attorney for the case and questioned how it would be possible to have two appeals for the same case before two different circuit courts, the latter one being the one which should be dismissed.

In answer to a question by Mr. Walter concerning the Hoven area matter, Mr. Smith stated that both parties voluntarily moved to dismiss the case for the time being. Mr. Zweber intends to hire a private consultant, and independently analyse the data from the wells, take his own measurements, run his own calculations, make his own judgements and if he comes to the same conclusions as the Geological Survey came too, then he will not press the matter any further. Mr. Smith stated that it would be best to let the case rest until it comes up for hearing again, as the other parties are not present. The basic allegations by Mr. Zweber were

1) Gillis Hageman's wells were causing direct interference with Mr. Zweber's wells, 2) that the combined pumping of all the irrigators in the area were exceeding the annual average recharge of the areas, and 3) that the aquifer is small, even though it wasn't depleting the aquifer in the sense of average annual recharge, that it was causing interference on a year to year basis, and that by the combined draw down, that draw down of the entire aquifer was interference.

Mr. Rylance MOVED, SECONDED by Mr. Walter that the complaint be DISMISSED. MOTION CARRIED.

Mr. Guhin stated that one other case in litigation at the present time was the Carl Estabrook case. The first issue is whether or not the Soil Conservation Commission granted Soil/Water Compatibility on all the lands which we were to grant a water permit on. The second issue is whether or not this Board abused its discretion regarding the permit which cut off artesian pressure. The decision should be handed down by the circuit court in a couple of weeks.

CANCELLATION CONSIDERATIONS

Permit No. 1013-1, for Philip Hinckley was approved May 15, 1974. The affidavit of publication was never received, the time limit lapsed, and therefore, it is subject to cancellation. Mr. Hinckley was notified of the cancellation consideration.

Mr. Walter MOVED, SECONDED by Mr. Rylance that Permit No. 1013-1 be CANCELLED. MOTION CARRIED.

Permit No. 495-3, was issued to the City of Volga on February 13, 1958. The shallow wells formerly used for fire protection are no longer in use and the permit is subject to cancellation. Steve Meyer, a representative of the City of Volga was notified of the cancellation consideration.

Mr. Walter MOVED, SECONDED by Mr. Rylance that Permit No. 495-1 be CANCELLED. MOTION CARRIED.

Permit No. 502-3, was issued to the Iowa Public Service Company on October 25, 1957. A staff investigation indicated that the plant had been phased out and the water not used for more than three years; therefore, the permit is subject to cancellation. Russell Christiansen, Vice-President, was notified of the cancellation consideration.

Mr. Rylance MOVED, SECONDED by Mr. Walter that Permit 502-3 be CANCELLED. MOTION CARRIED.

Permit No. 1313-3, was issued to Laurence Donnelly on November 10, 1966. A staff investigation indicated that the system was never constructed and the lands under this permit were covered under Permit No. 3920-3, and therefore, subject to cancellation. Laurence Donnelly was notified of the cancellation consideration.

Mr. Walter MOVED, SECONDED by Mr. Rylance that Permit No. 1313-3 be CANCELLED. MOTION CARRIED.

August 11, 1980

Left Pierre at 1:00 and traveled to Lebanon, where I spoke with Mrs. Virgil Worm. I measured several observation wells and then irrigation wells #1 - #4 at Zweber's home place. When I drove into Zweber's yard and parked, Mrs. Zweber came out to speak to me. When I inquired as to the location of the #5 irrigation well, she asked if I was going to take a measurement of the #6 well, also. I replied that I hadn't planned on it. She informed me that this office was supposed to read all the wells, so I asked her if she could tell me where the #6 well was located. (Since I had never been to Zwebers before, I didn't plan on reading the #6 well because it is somewhere out in the cornfield, and I had no idea how to find it). She told me the #6 well was somewhere further out in the field and that I would probably get lost trying to find it. I told her I would measure the wells I could, and that I would see that she would be sent the latest two observation well readings. With that, she went back to the house.

I located the #5 well but I could not take a water level reading because the opening was too small for the electric reader line to pass through. I then took a meter reading and made the decision not to attempt to find #6 well since the system was running, and I had no idea where to start looking for the well.

I then went on to measure other observation wells and the Turner well, Hageman's wells, Zweber's wells on Permit No. 1623-3, and Frost's wells. I measured #1 - #5 wells of Hageman's between approximately 4:00 - 4:30 p.m. The system was not running. I returned past Hageman's system at 8:30 p.m. The system was running and had moved about a 10-15° arc.

August 13, 1980

At approximately 9:30, I drove past Hageman's field and the system was running. It had moved approximately 120° from the original stopped position of 8-11-80. I measured wells #1 - #5.

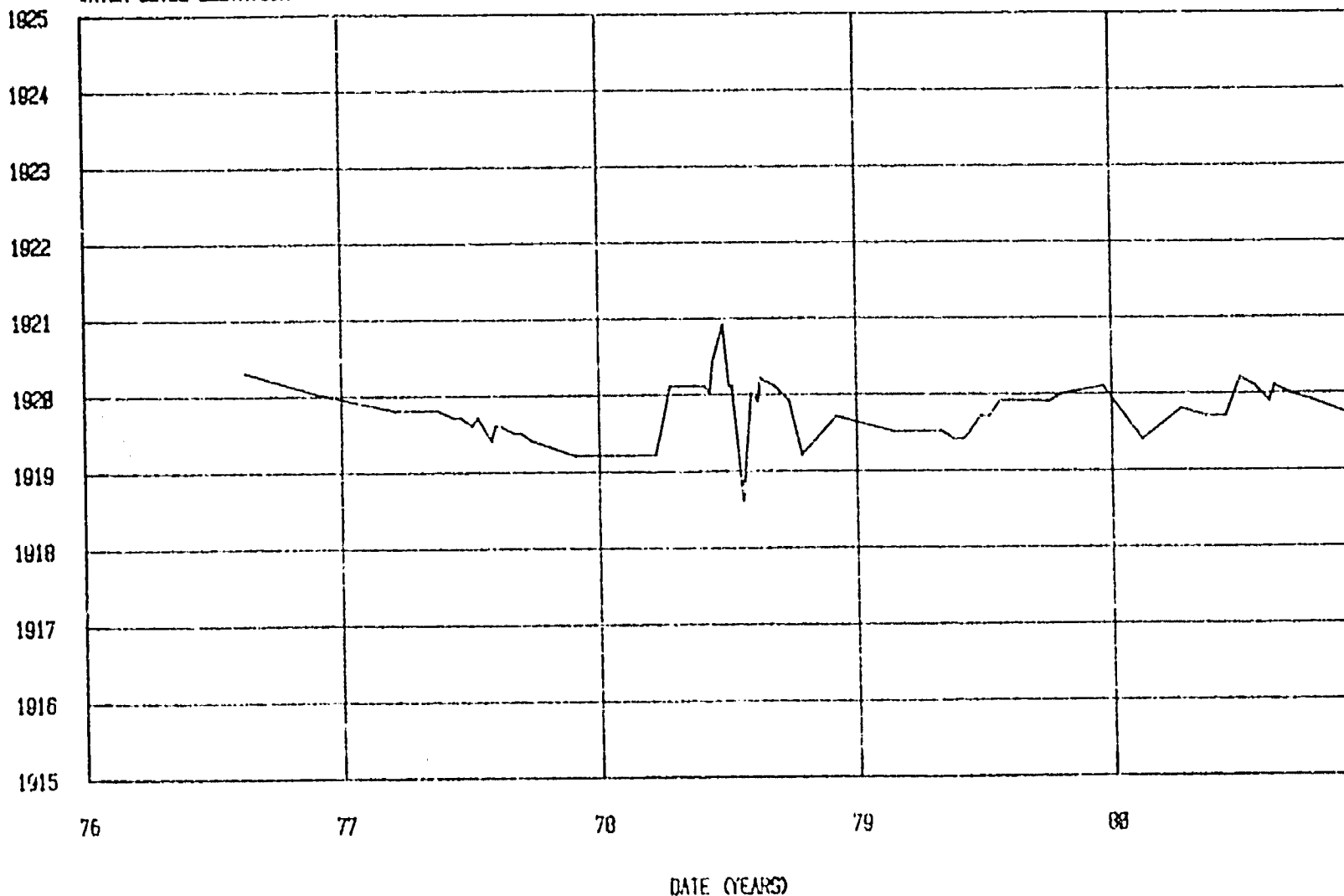
All systems were running except system on 1623-3.

JEANNE GOODMAN

POTTER COUNTY OBSERVATION WELLS

WELL PT-76-L

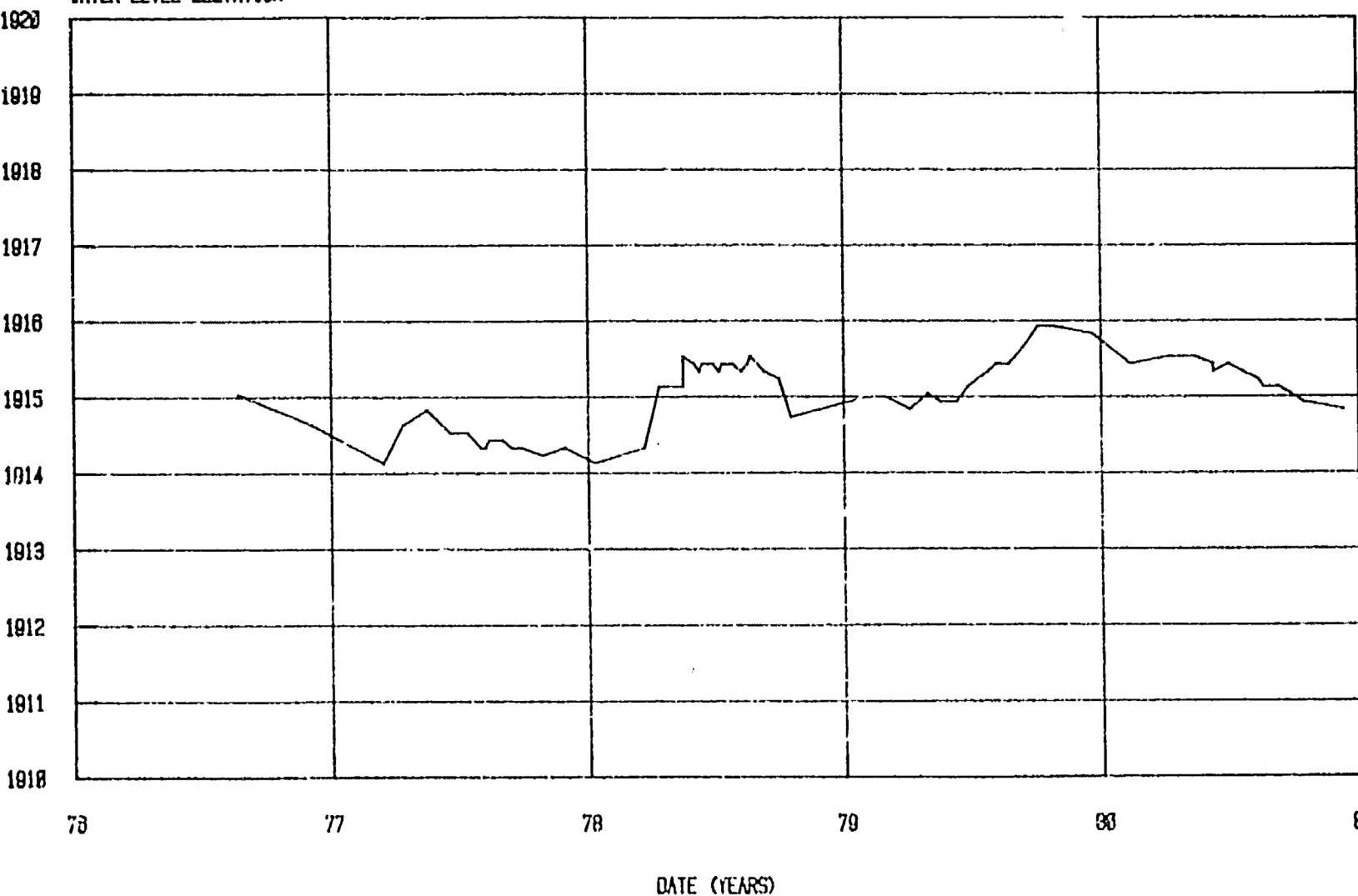
WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

WELL PT-70-K

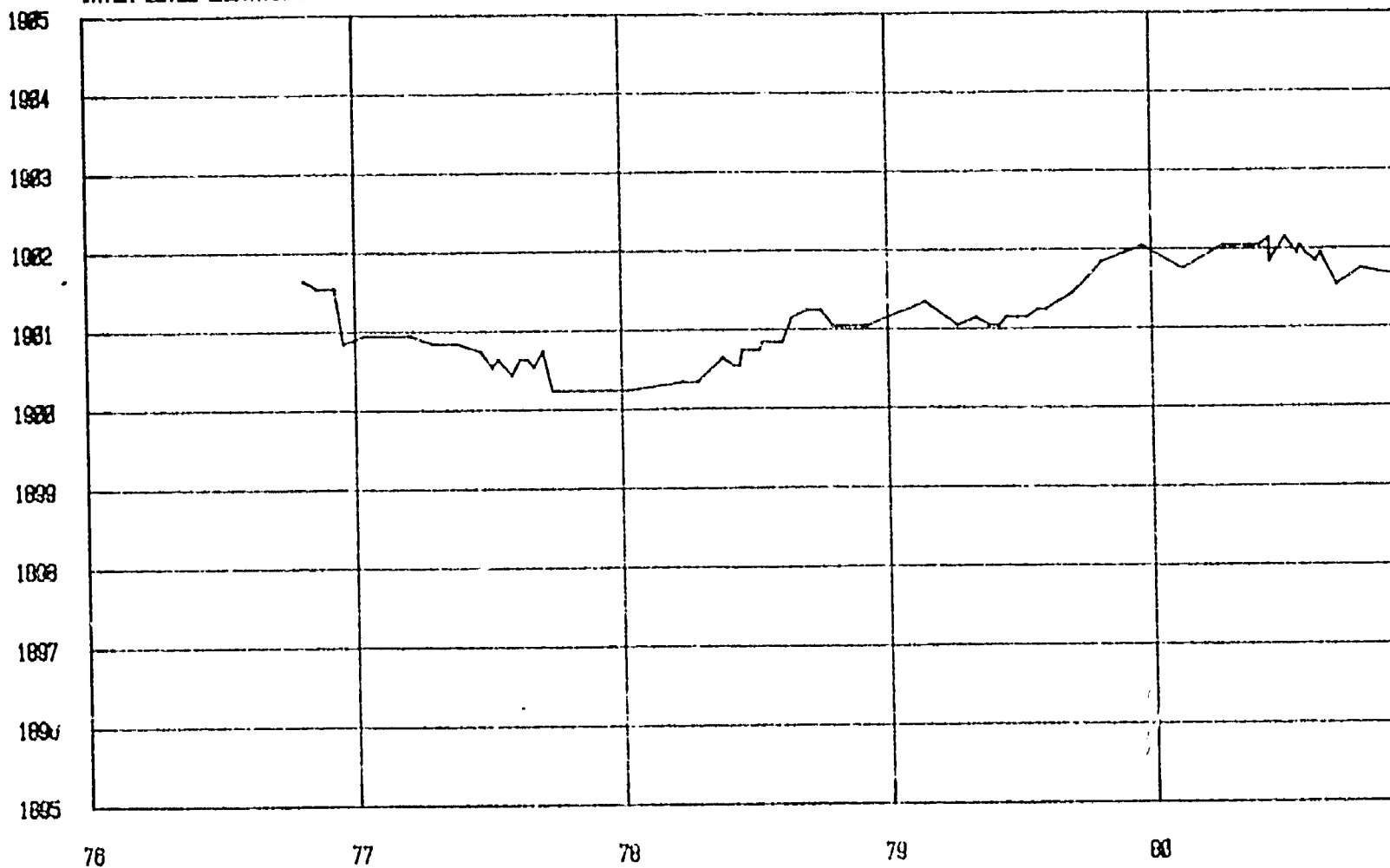
WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

WELL PT-78-J

WATER LEVEL ELEVATION

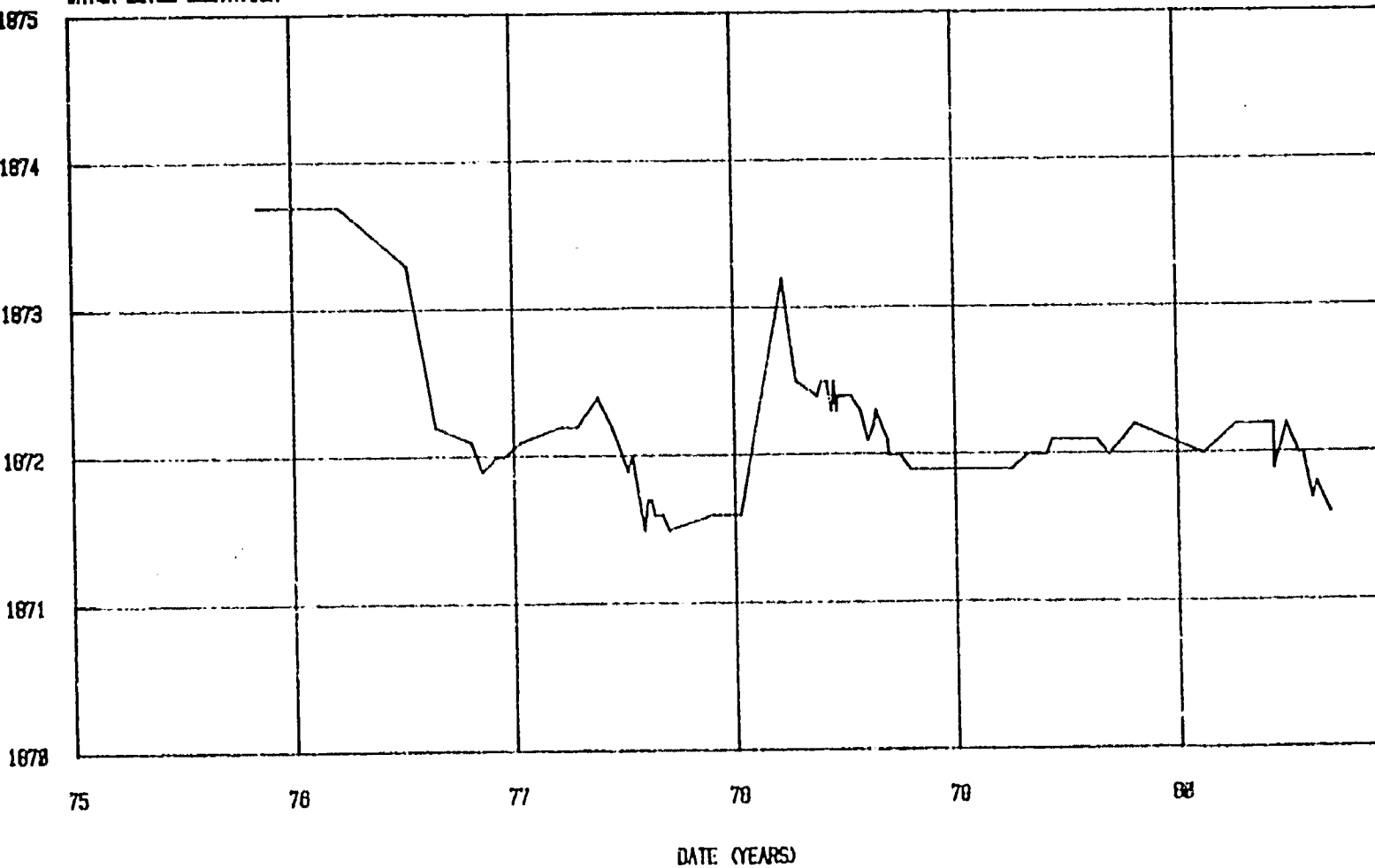


DATE (YEARS)

POTTER COUNTY OBSERVATION WELLS

WELL PT-75-A (SV-8-A)

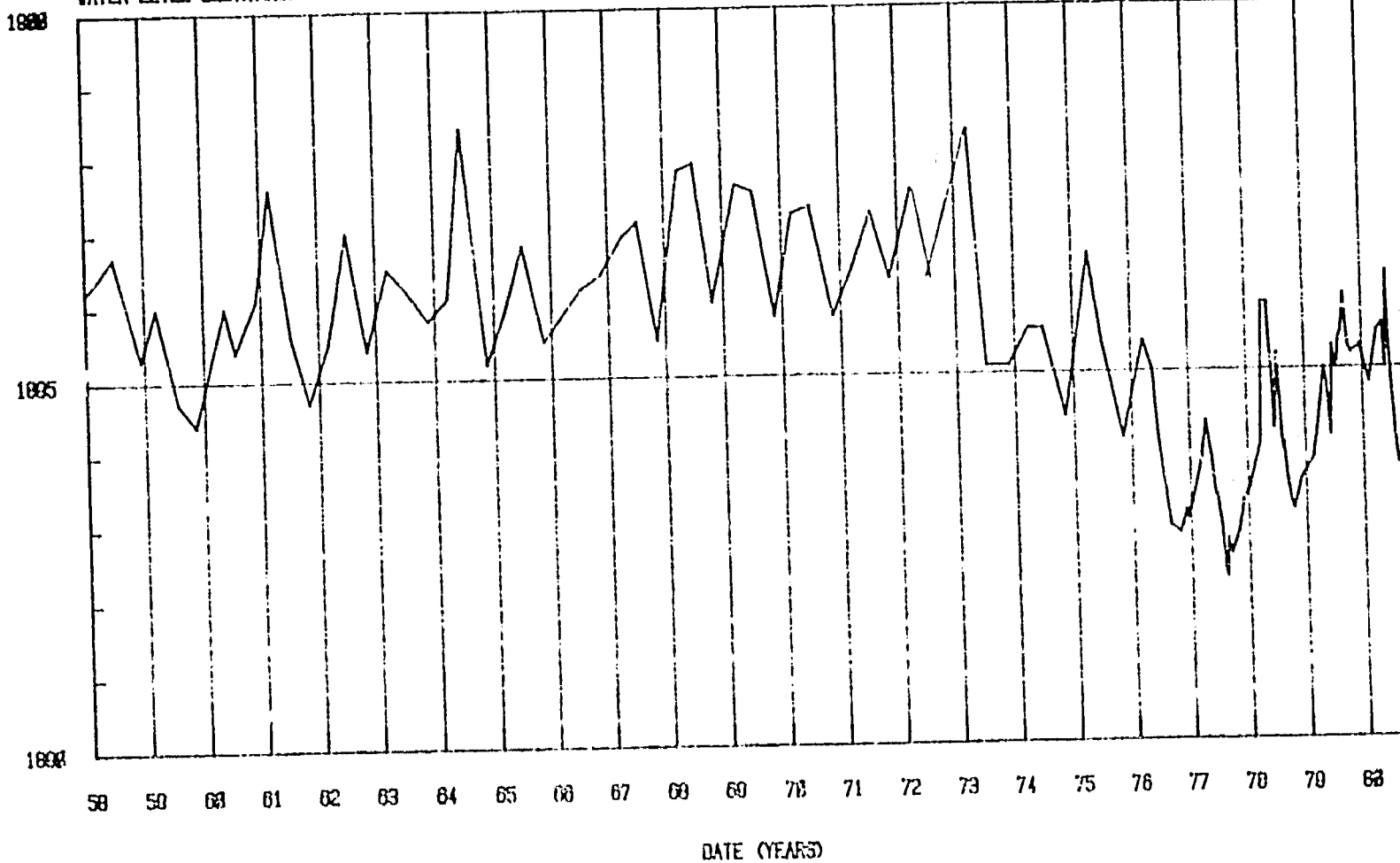
WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

WELL PT-57-A (SV-4)

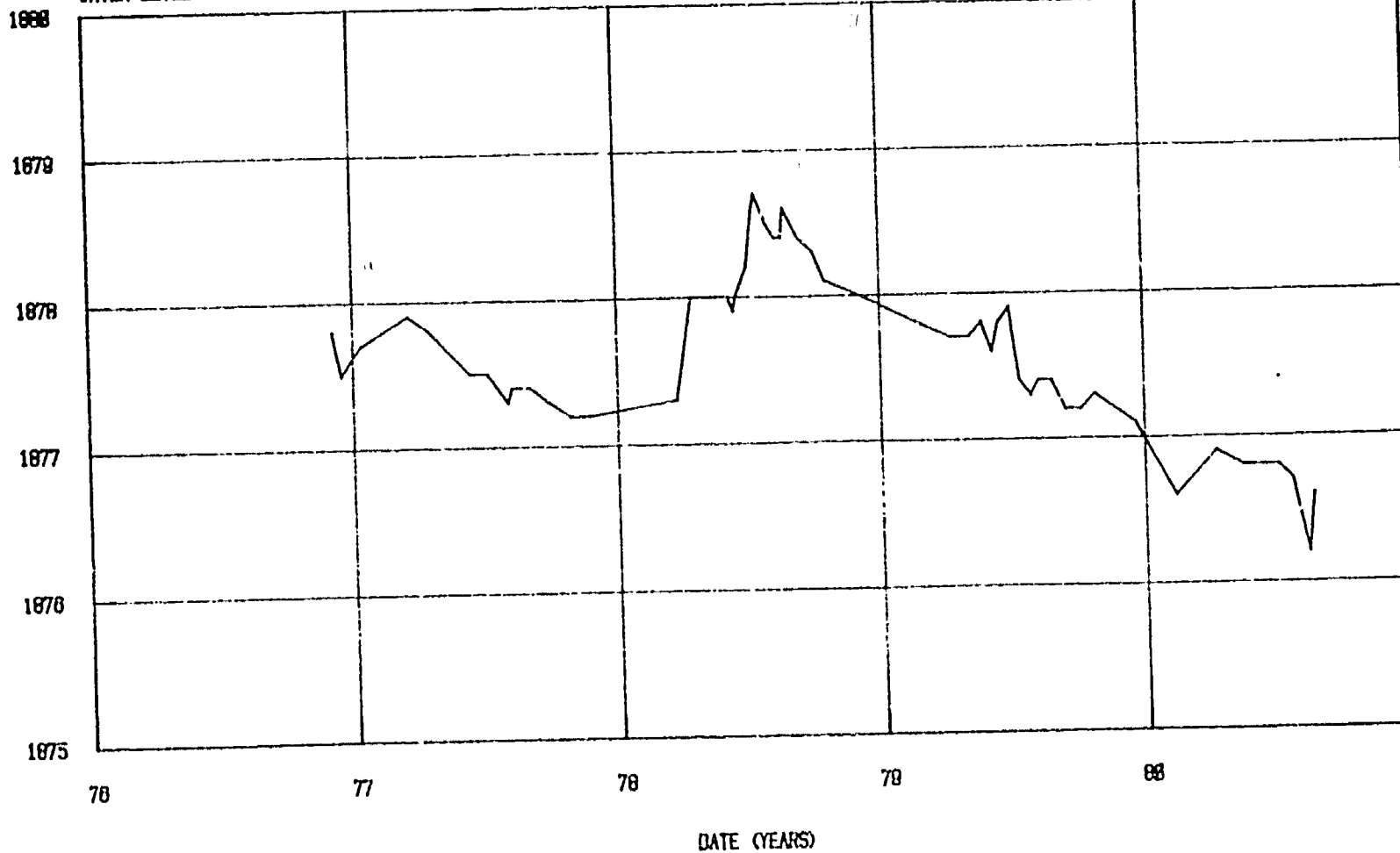
WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

WELL PT-70-A

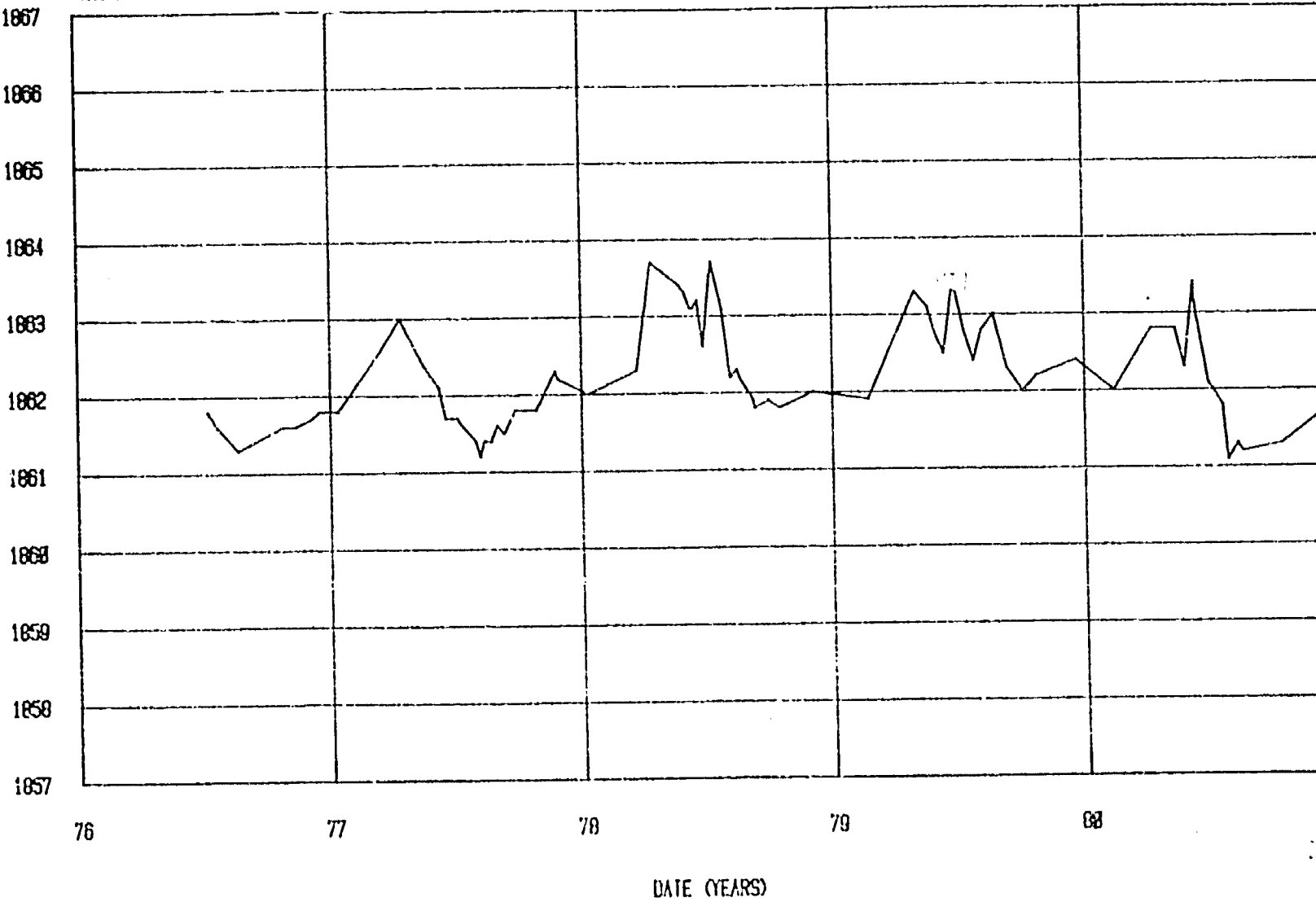
WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

WELL PT-78-G

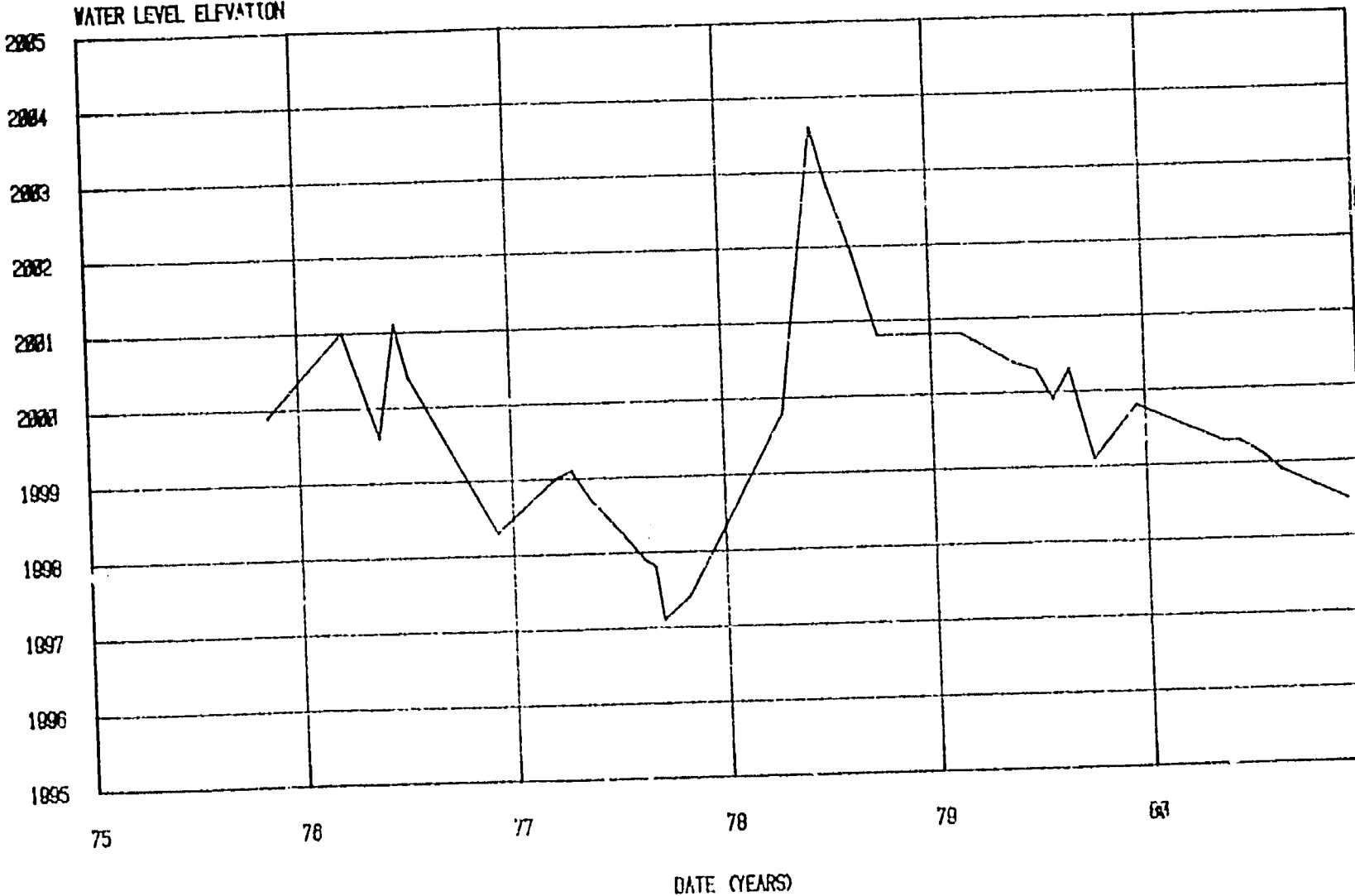
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-75-P

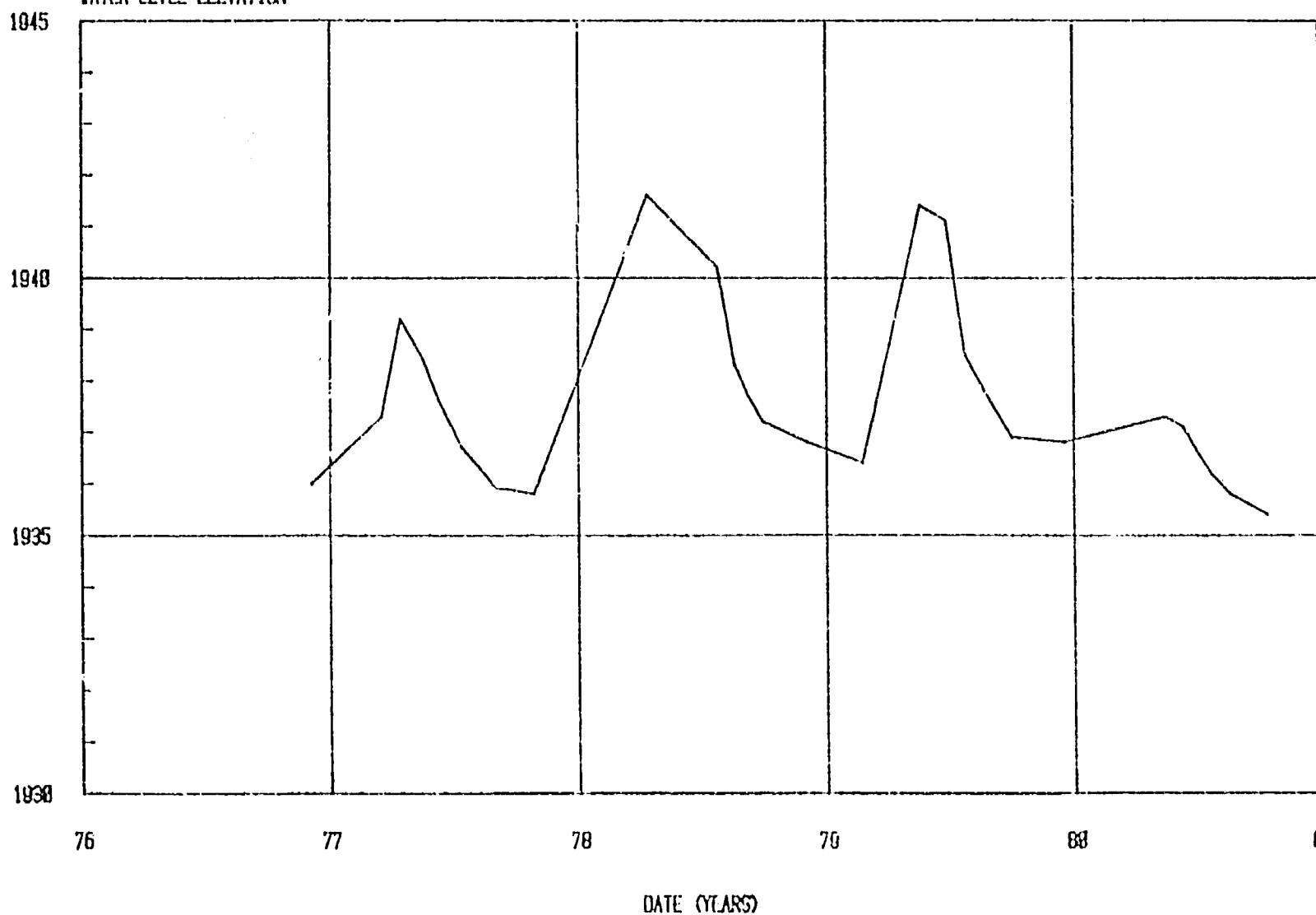
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-75-01A

WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-50-A (SY-1)

WATER LEVEL ELEVATION

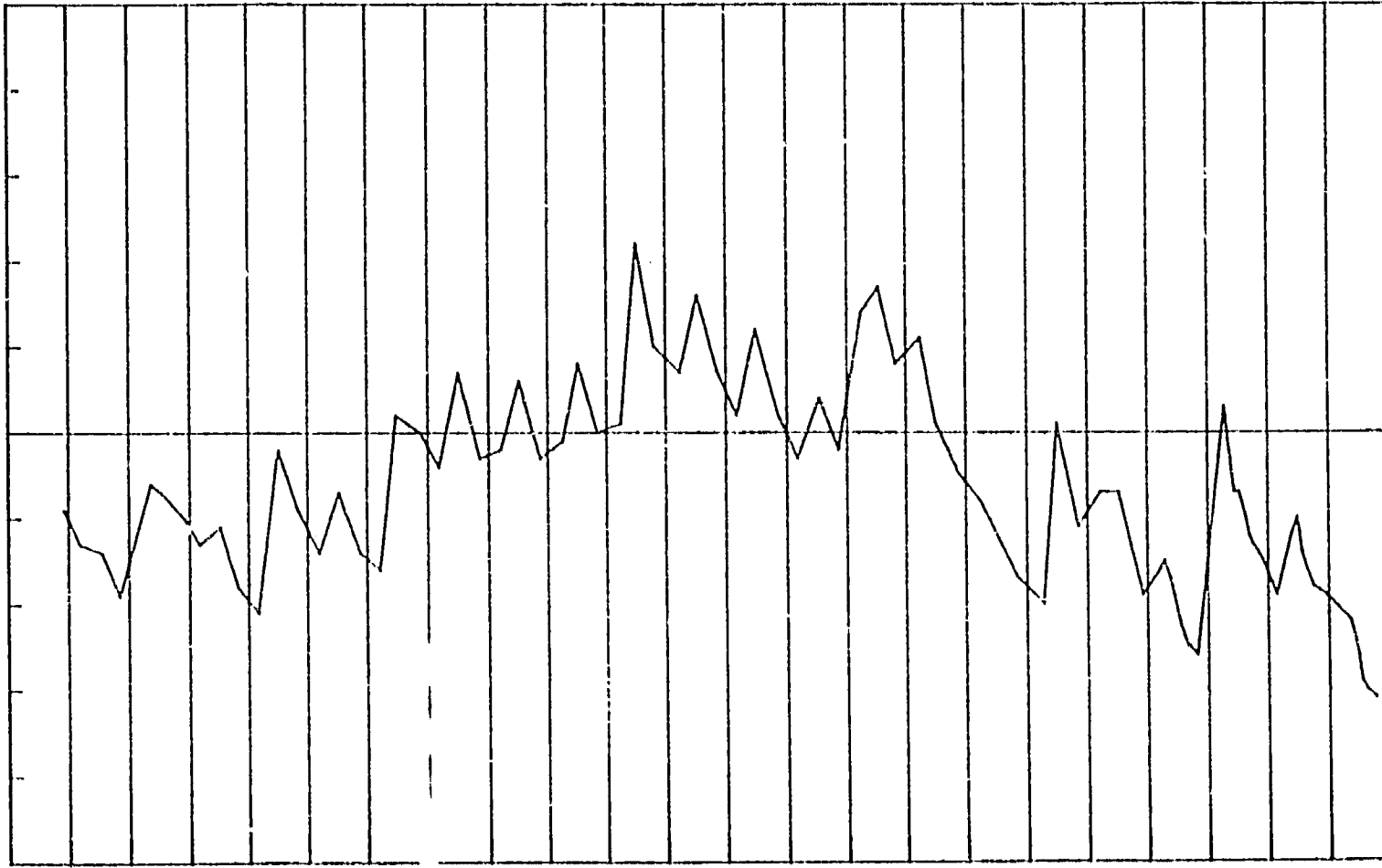
1975

1978

1905

58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

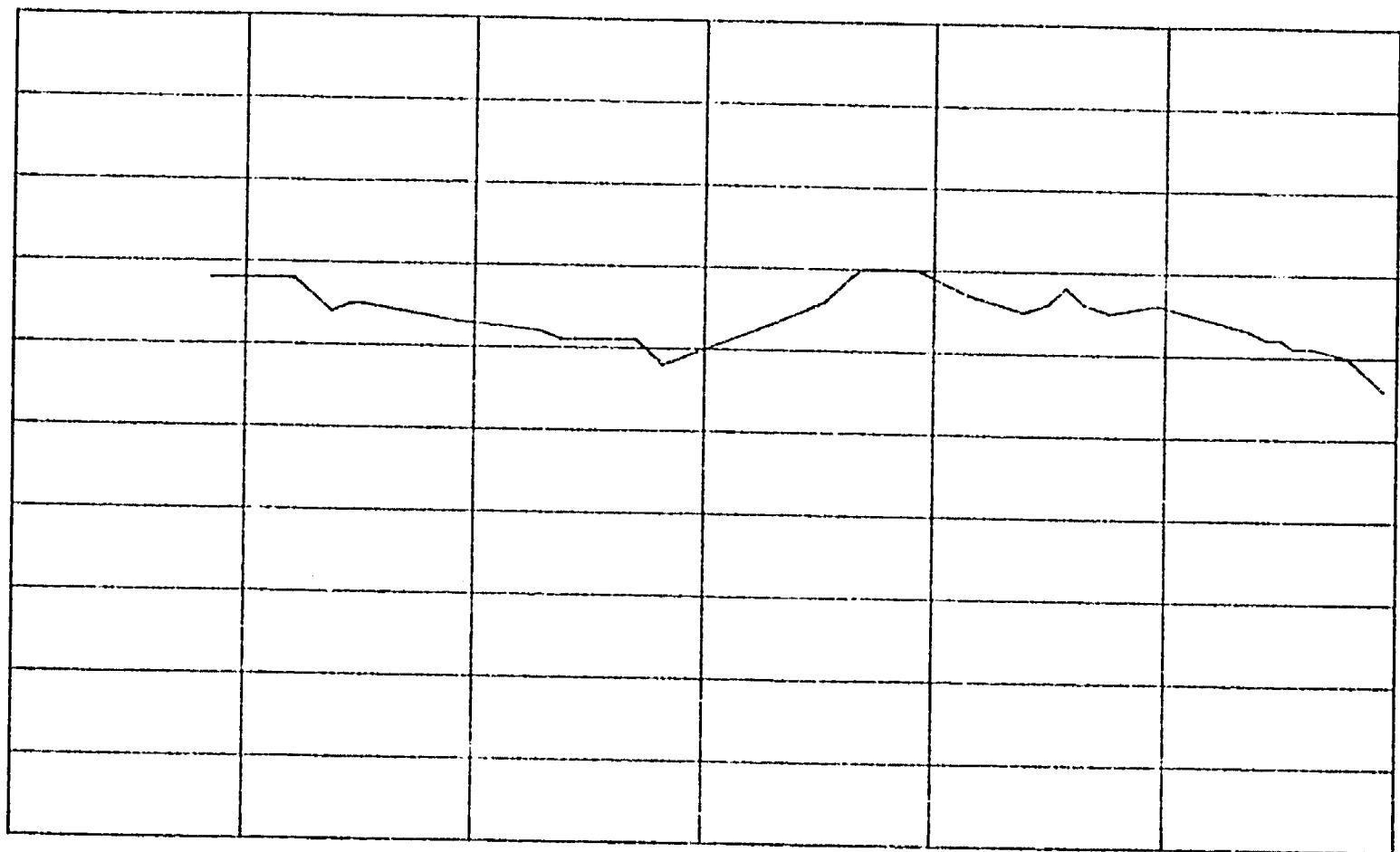
DATE (YEARS)



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-75-U

WATER LEVEL ELEVATION



75

76

77

78

79

80

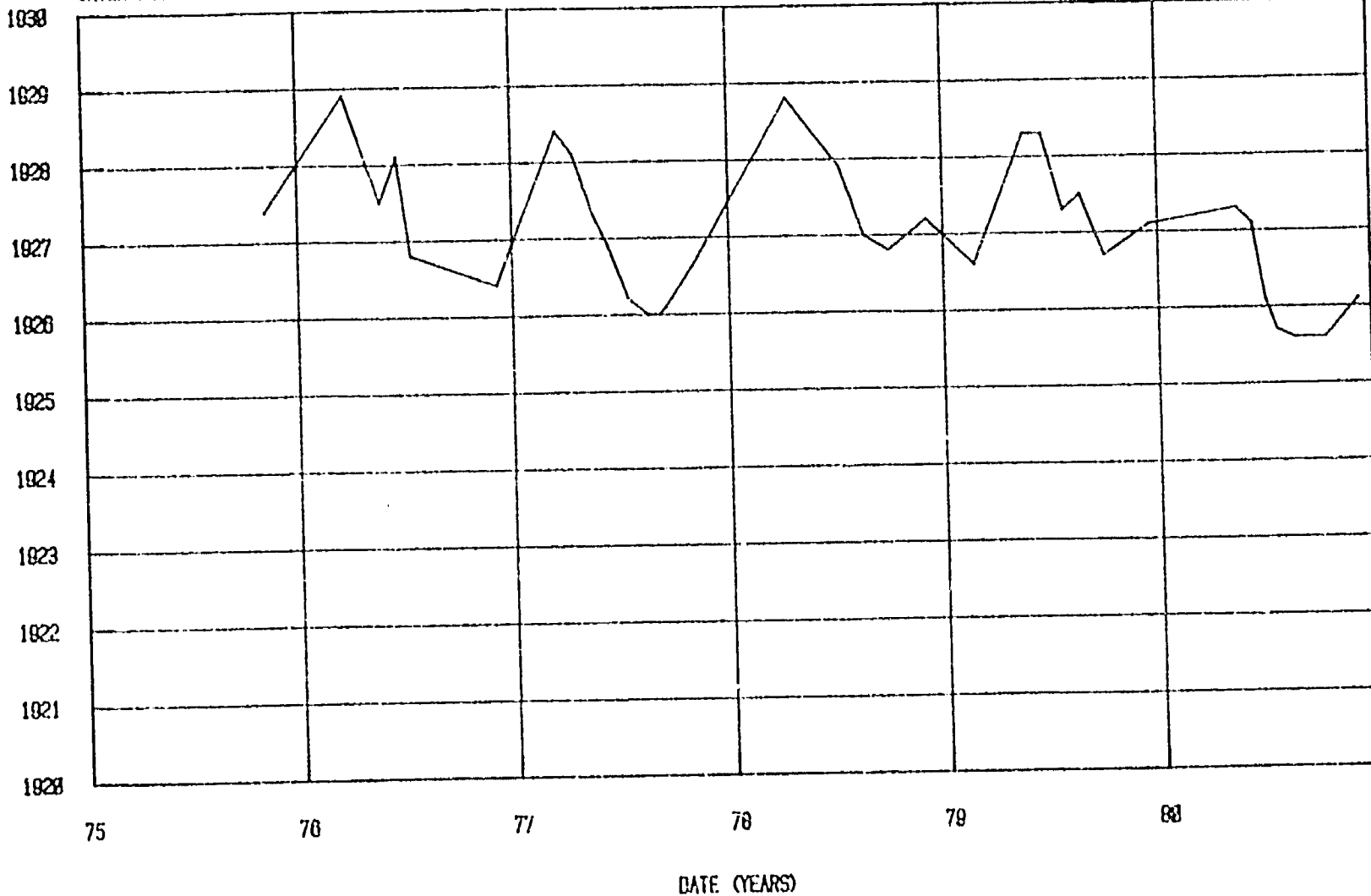
81

DATE (YEARS)

WALWORTH COUNTY OBSERVATION WELLS

WELL WL-75-T

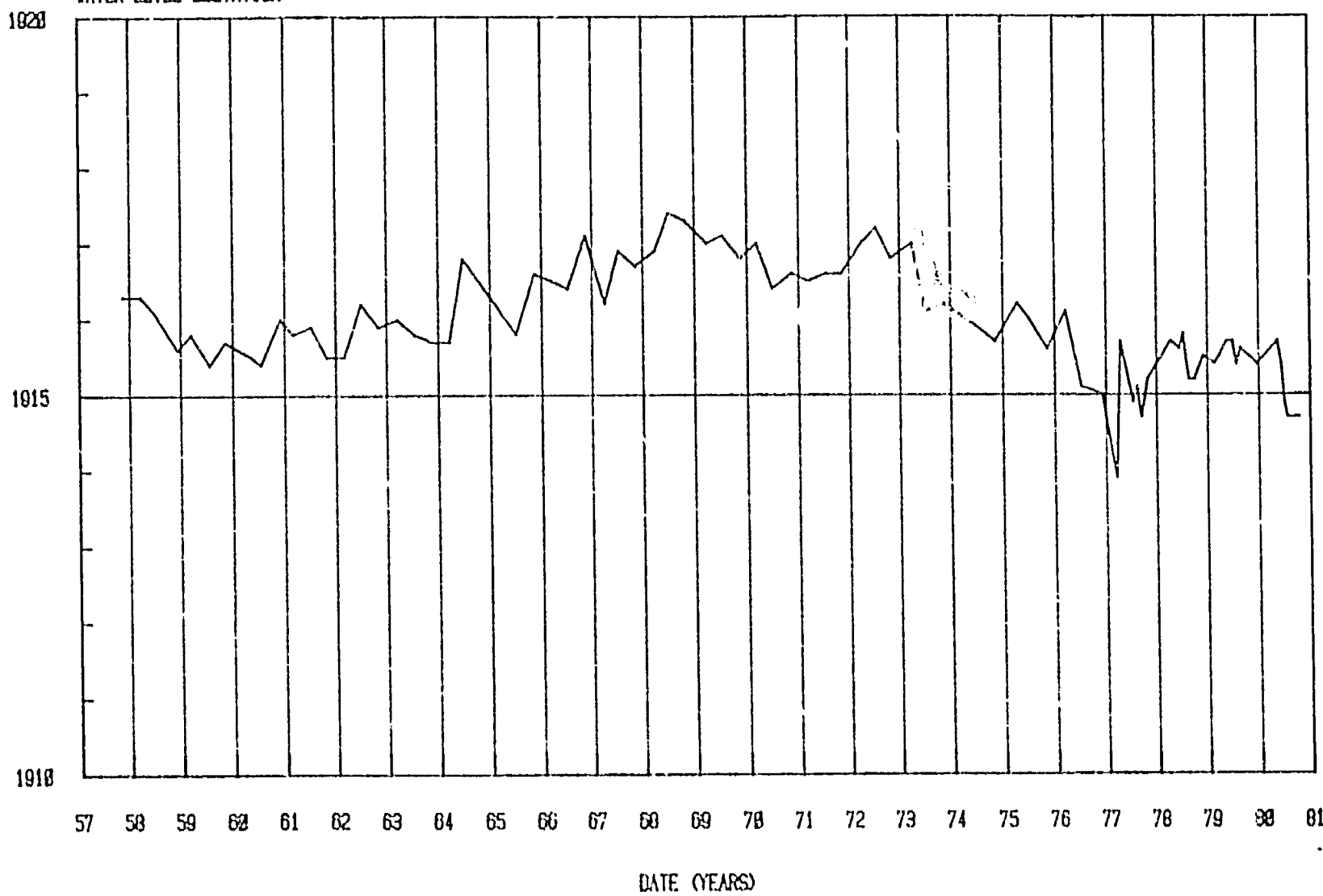
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

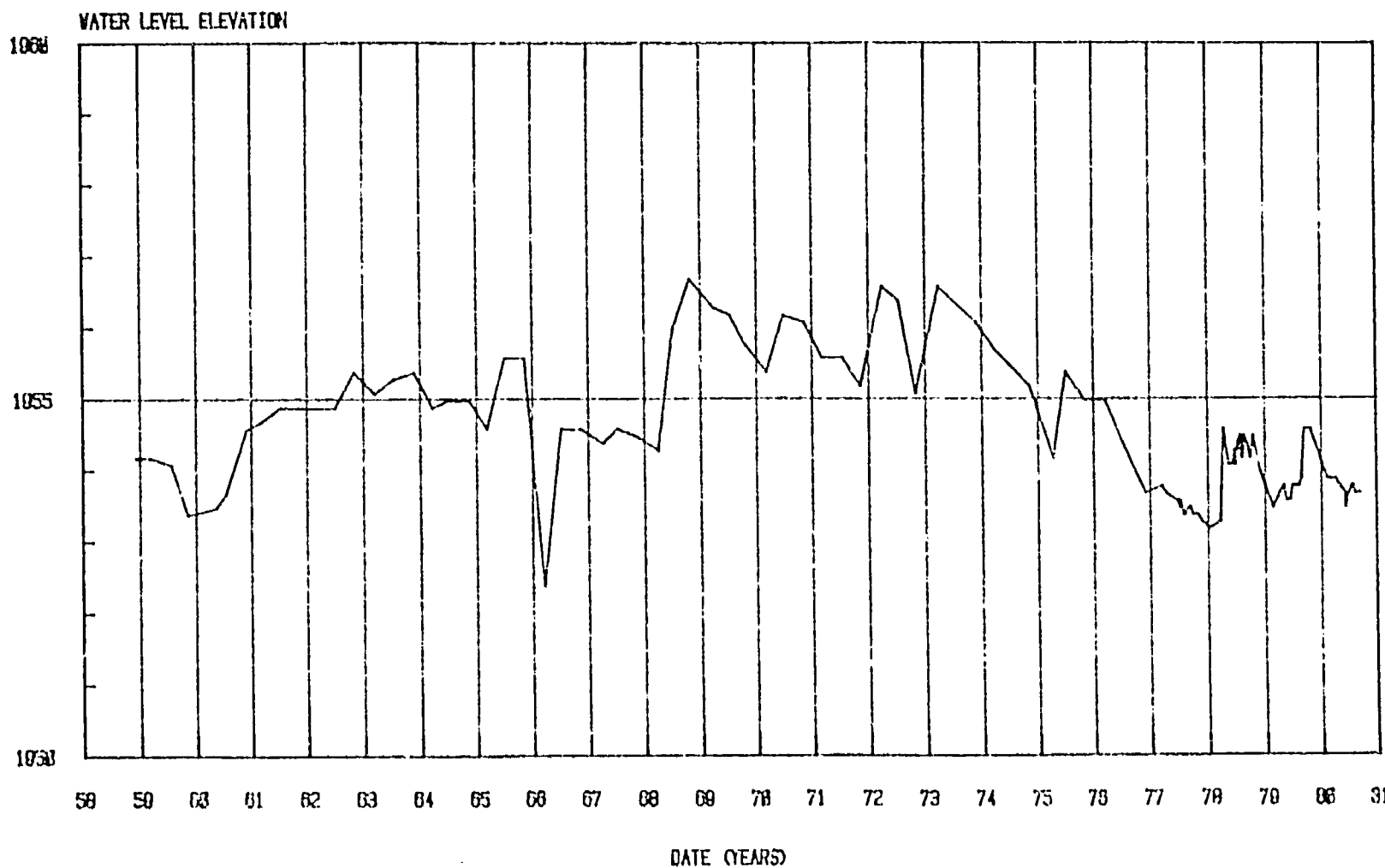
WELL VL-57-A (SY-2)

WATER LEVEL ELEVATION



POTTER COUNTY OBSERVATION WELLS

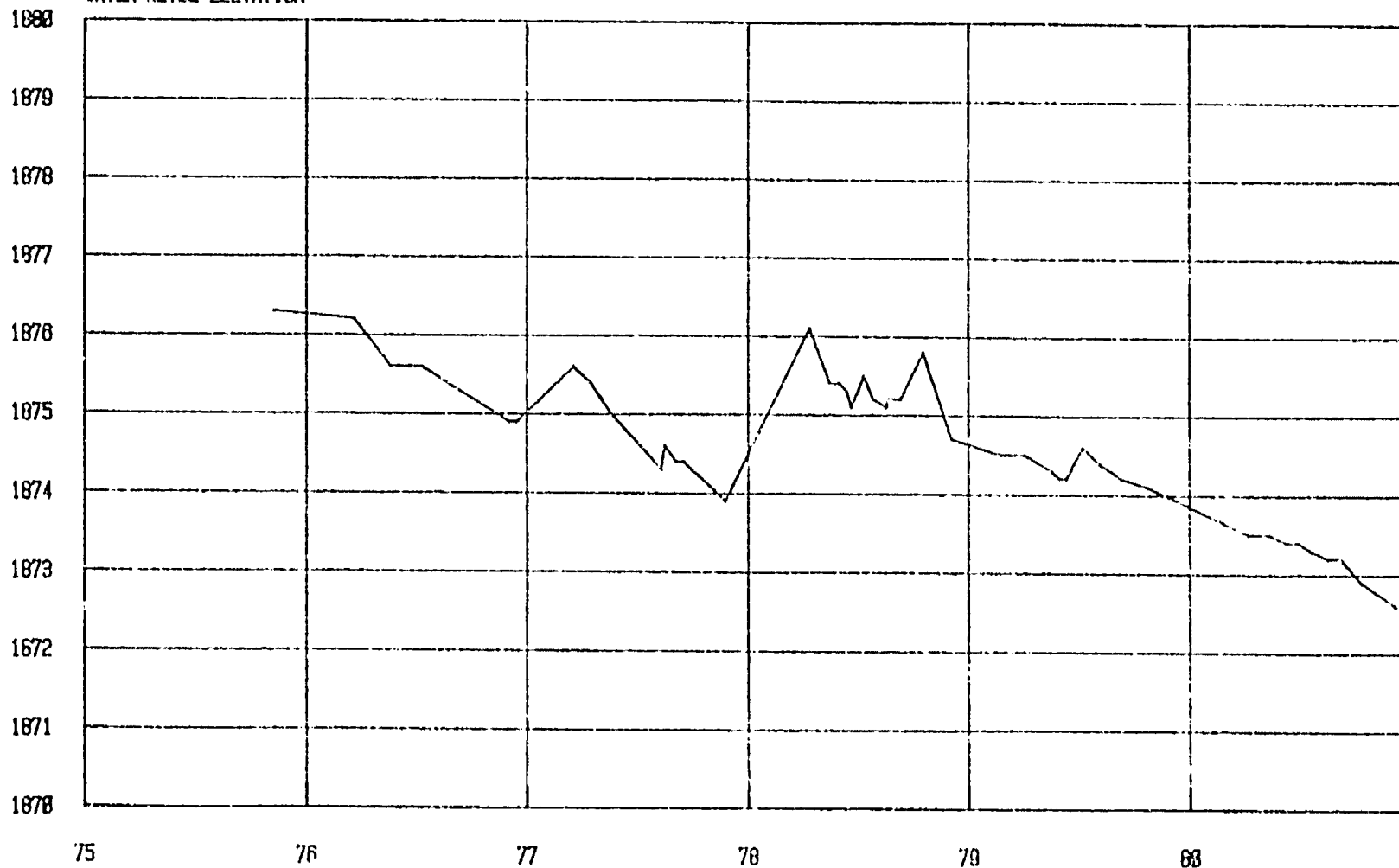
WELL PT-57-A (SY-7)



WALWORTH COUNTY OBSERVATION WELLS

WELL NO. 75-V

WATER LEVEL ELEVATION

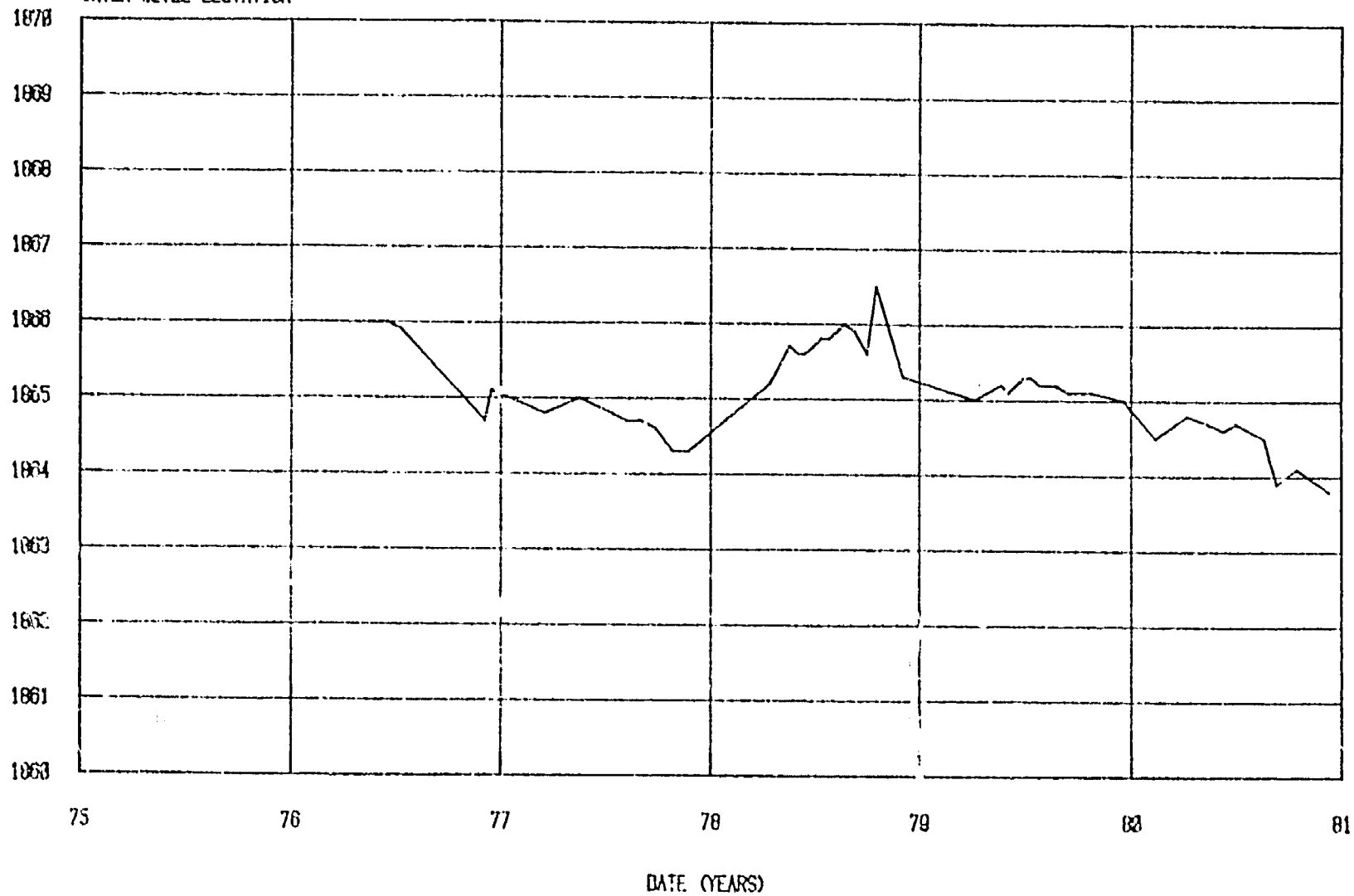


DATE (YEARS)

WALWORTH COUNTY OBSERVATION WELLS

WELL WL-75-V

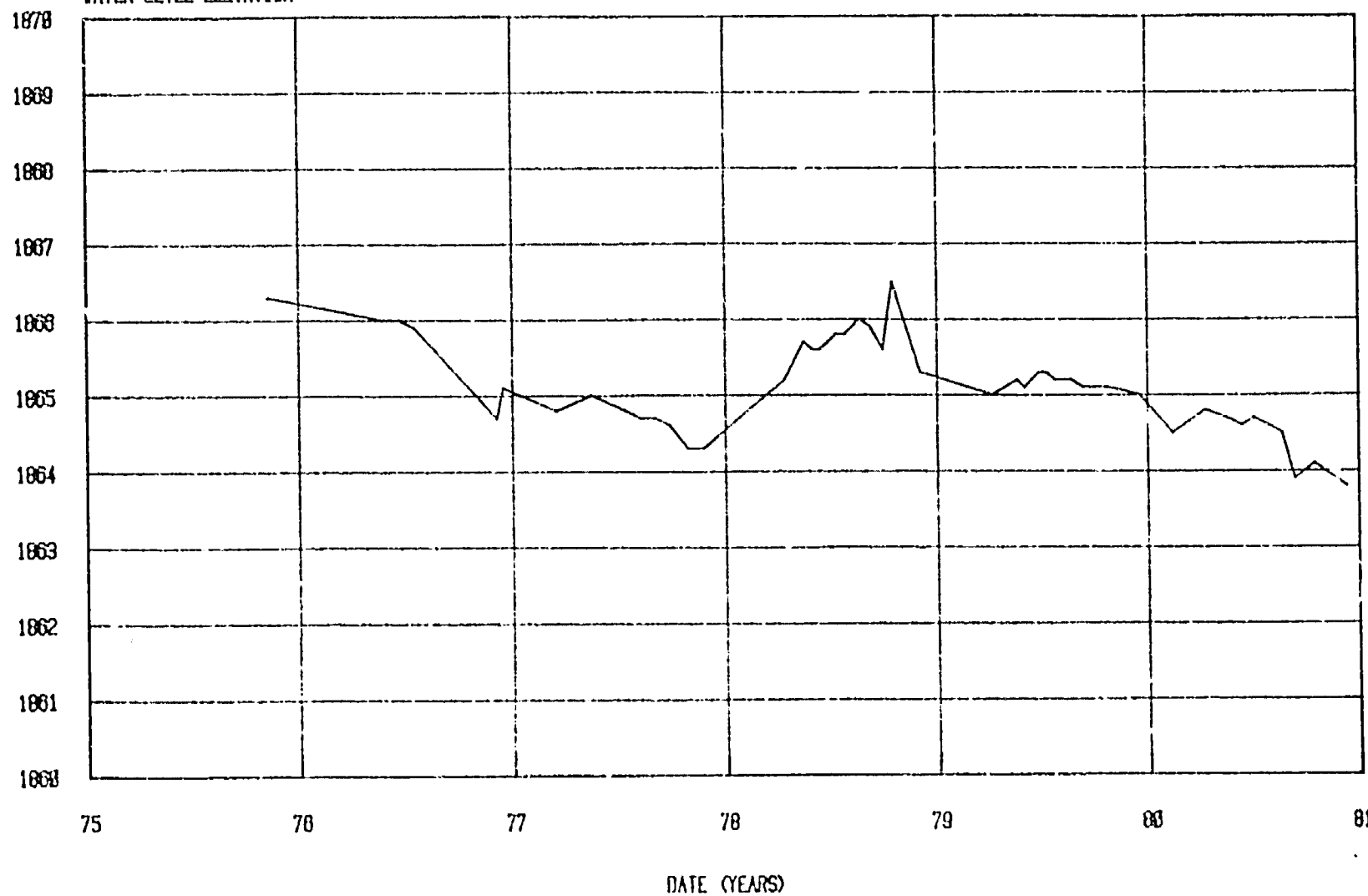
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL VL-75-X

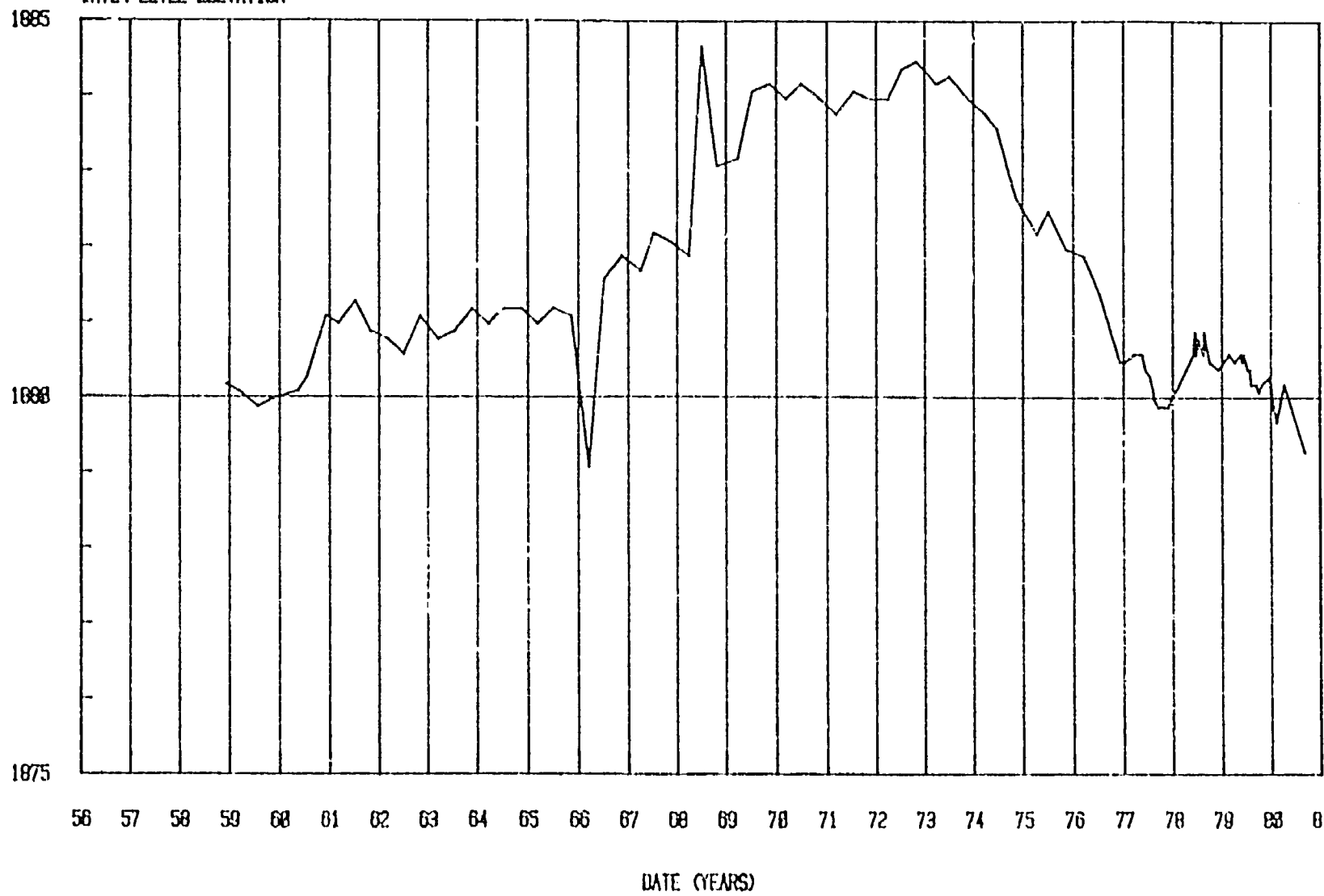
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-50-B (SV-5)

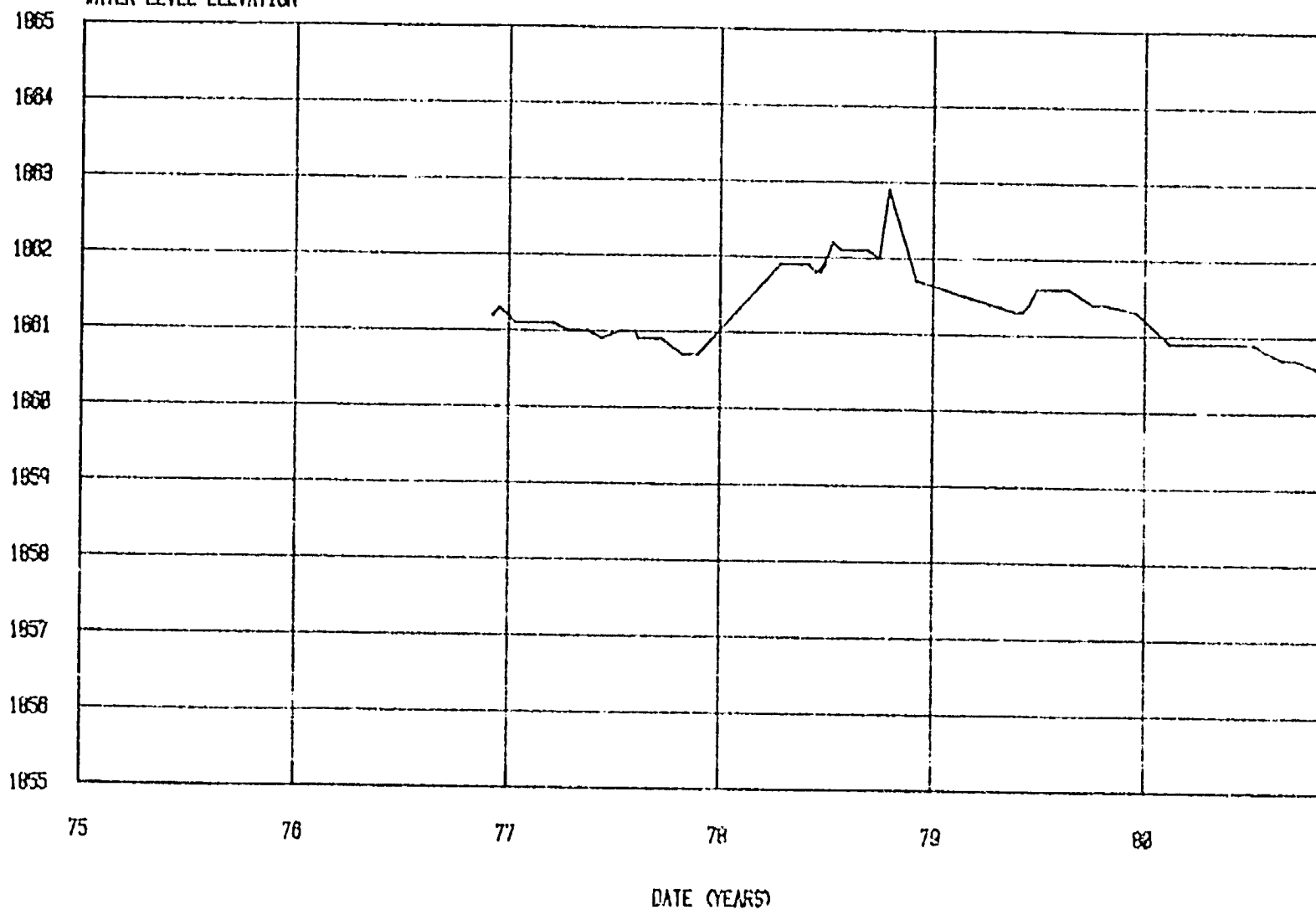
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-78-R

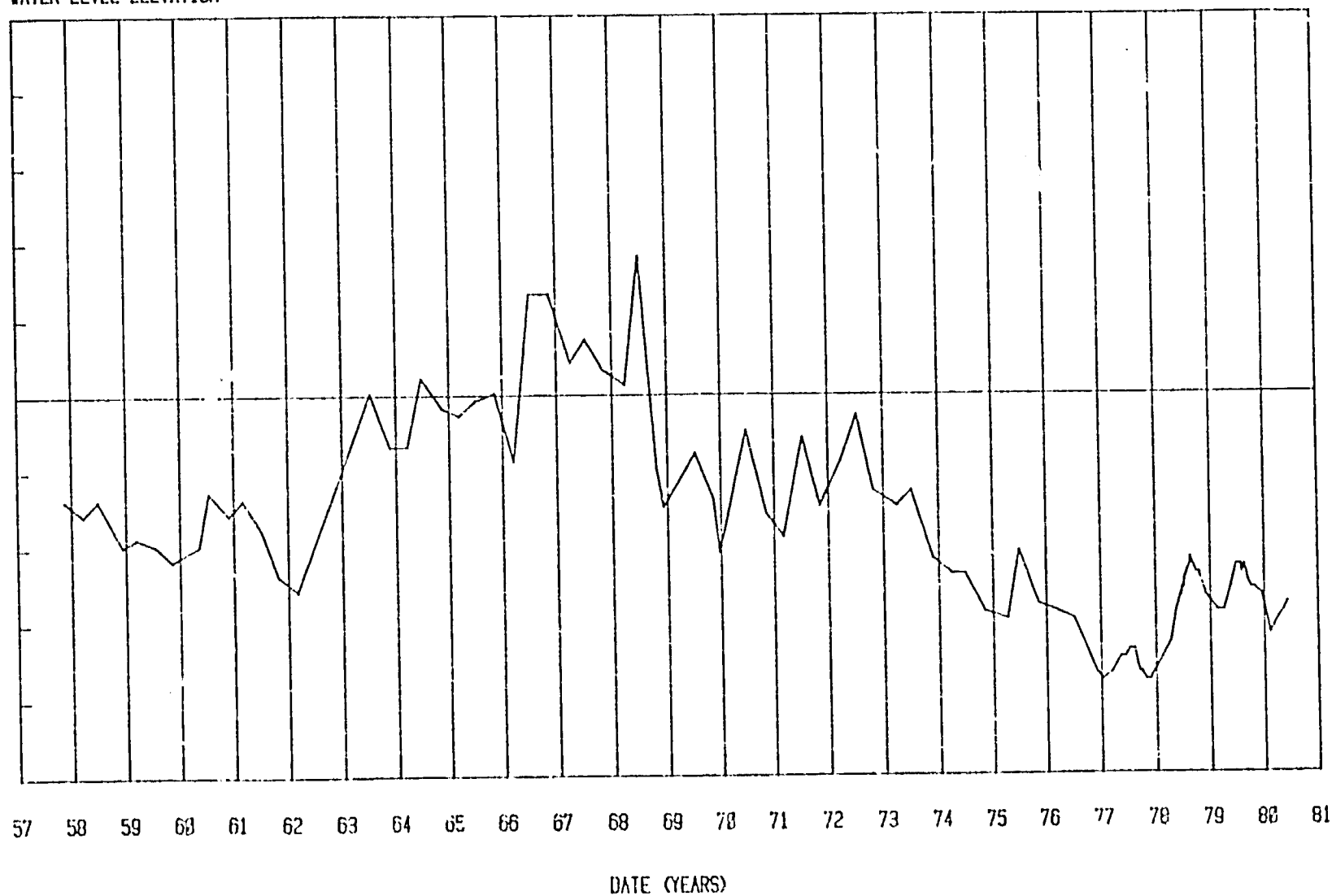
WATER LEVEL ELEVATION



WALWORTH COUNTY OBSERVATION WELLS

WELL WL-57-B (SY-3)

WATER LEVEL ELEVATION



TURNER COUNTY OBSERVATION WELLS

WELL TU-56-A

WATER LEVEL ELEVATION

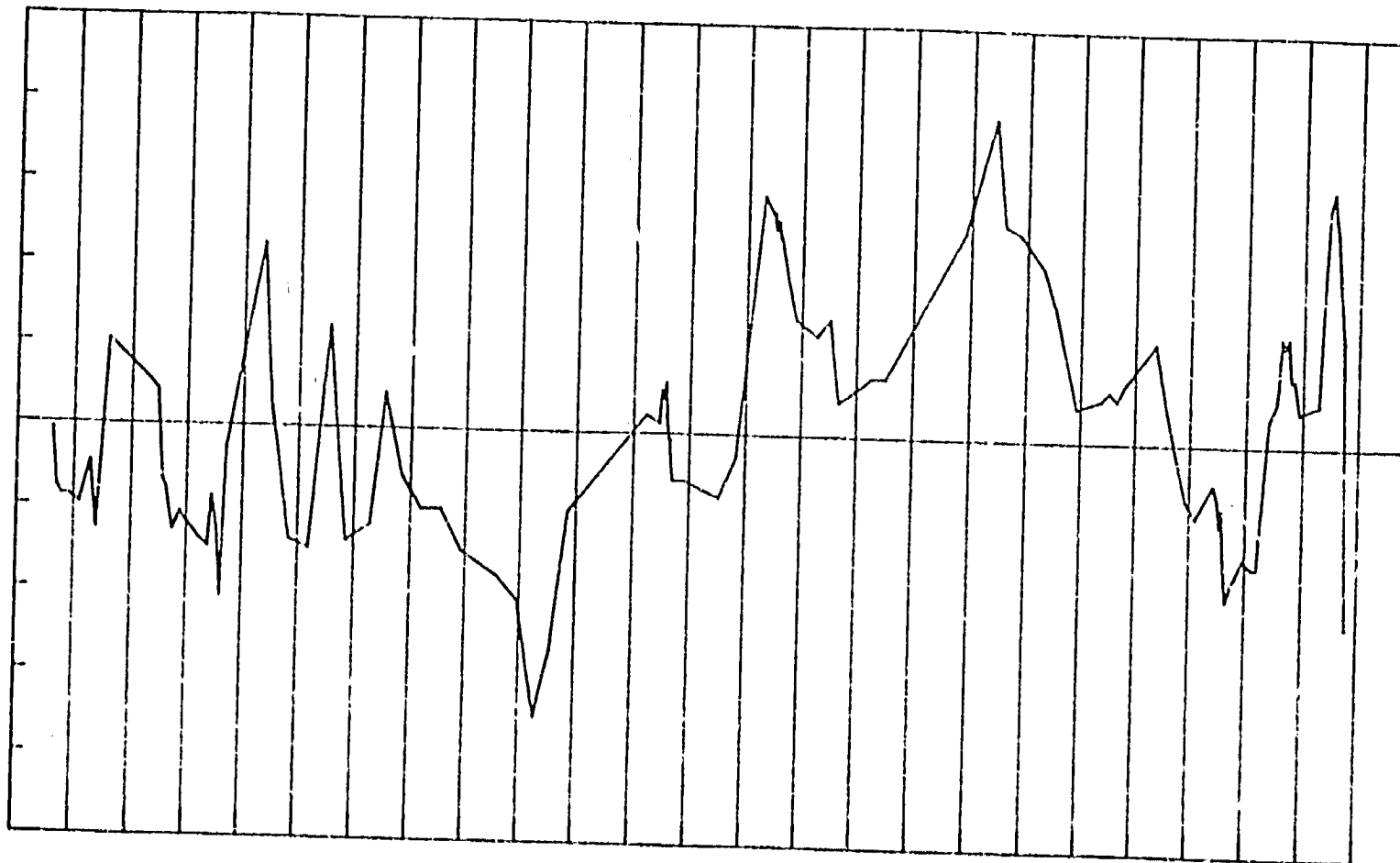
1285

1280

1275

56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80

DATE (YEARS)





14.23-

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3121

DEC 18 1995

Willard Zweber
RR 1, Box 106
Hoven, SD 57450

4063-3

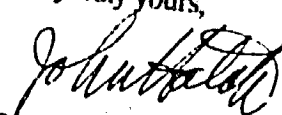
Dear Mr. Zweber:

Enclosed is Water License No. 4063-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 414033 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. 4063-3, 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 Program
(605) 773-3352

rd
enclosures

NOTE: The applicable portions of Water Right No. 1623-3 have been incorporated into Water License No. 4063-3.

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 4063-3 FOR IRRIGATION

(1) Willard Zweber of RR 1, Box 106, Hoven SD 57450 made Application No. 4063-3, July 11, 1977 for a water permit to appropriate no additional cubic feet of water per second from groundwater (one well), Potter County, South Dakota for irrigation purposes. Permit No. 4063-3, with a priority date of July 11, 1977 was approved March 26, 1981 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 26, 1984 and for the application to beneficial use of said water on or before March 26, 1984.

Water Permit No. 4063-3 authorized an additional well to irrigate the same acreage covered by Water Right No. 1623-3 with no increase in the diversion rate. The applicable portions of Water Right No. 1623-3 have been incorporated into Water License No. 4063-3.

Permit No. 4063-3 was readvertised January 6 and 13, 1994 to correct an error on the original notice of hearing in the legal description of the irrigate acres. The land was described as being in the SE 1/2 NE 1/4 and should have been S 1/2 NE 1/4. The readvertisement of the original notice of hearing did not authorize an increase in the acreage or developed diversion rate.

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.85 cubic feet of water per second for beneficial use. The location of the diversion points are 776 feet W and 1765 feet S (SE 1/4 NE 1/4 -- Well No. 1) and 1040 feet W and 1765 feet S (SE 1/4 NE 1/4 -- Well No. 2); both from the NE corner Section 17-T120N-R74W.

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate the following land:

Section 17-T120N-R74W	SW 1/4 NE 1/4	33 acres
	SE 1/4 NE 1/4	27 acres
	Total	60 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 Willard Zweber of RR 1, Box 106, Hoven SD 57450 the holder and/or owner of Incorporated Water Permit No. 4063-3 is issued a license to appropriate water, the right to use 0.85 cubic feet of water per second from groundwater (two wells) with priority dates of July 11, 1977 (Well No. 1) and October 7, 1968 (Well No. 2) from the location specified in (2) of this license. The water to be conducted to and upon lands specified in (3) of this license for the purpose of irrigation. This license is subject to any limitations or qualifications listed in Incorporated Water Permit No. 4063-3 and subject to South Dakota State Law.


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

DEC 18 1995

date





16.53-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

DEC 18 1995

4063-3

Willard Zweber
RR 1, Box 106
Hoven, SD 57450

Dear Mr. Zweber:

Enclosed is Water License No. 4063-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 414033 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. 4063-3, 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 Program
(605) 773-3352

rd
enclosures

NOTE: The applicable portions of Water Right No. 1623-3 have been incorporated into Water License No. 4063-3.