

No. 1473-3Water Division No. 3 BIG SIOUX RIVER District
(Blanks to be filled by the Engineer for the W. R. C.)

DEC 11 1967

VESTED RIGHT
APPLICATION FOR PERMIT**To appropriate Water within the State of South Dakota**

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

1. Name of applicant South Dakota Department of Game, Fish and Parks
Post office address Pierre, County Hughes, State South Dakota

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)

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

2. Name of diversion work CLEAR LAKE - Deuel County
As required to fill lake to outlet level approximately 1740
3. Amount of water claimed acre feet per year cubic feet per second _____
4. Source of water supply Dry Draw
5. Location of point of diversion One point in the watershed located in the NE 1/4, Sec. 23,
T. 115, R. 49 on bank DEUEL County.
6. Annual period or periods during which water is to be used continuously
7. To be used for:

1. Irrigation or domestic use: Gravity, overhead sprinkling or combination system? _____

- (a) Number of acres to be irrigated _____ acres.

- (b) Legal subdivisions to be irrigated _____

(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.) To the ordinary high water mark
of the inundated portion of Sec. 13, 14, 23, 24, T. 115, R. 49

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

- (a) Nature of use
- public recreational purposes
-
- 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 _____

v/r.

8. Estimated cost of work:

(a) Head Gates, \$..... (b) Pumping plant, \$.....
 (c) Fluming, \$..... (d) Canalearth, \$..... Rock, \$.....
 (e) Other structures \$..... Total, \$.....

9. Description of diversion works:

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

II. Dimensions of works. Information requested not applicable. Clear Lake is a
 meandered lake. Maximum depth is approximately 6 feet
 (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 1392.0 acre feet. Surface area at highwater
 mark 580 acres.

DEPTH AT OUTLET- FEET	SURFACE AREA AT EACH FEET 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 years.

11. Time required for complete application of water to the proposed beneficial use years.

12. Choice of newspaper for publication of notice of intention to appropriate

STATE OF SOUTH DAKOTA

County of Hughes } ss.

I, R. A. Hodgins, 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 and shown are true.

Signed

R. A. Hodgins

Subscribed and sworn to before me this 8th day of December 1967.

Notary Public (or other qualified officer.)

*Earl. Diversion must have a headgate or measuring device.

Remarks by State Water Resources Commission:

"VESTED RIGHT" CLAIMED

STATE OF SOUTH DAKOTA
County of HUGHES } ss.

Pierre, South Dakota, FEBRUARY 7, 1968

This is to certify that the foregoing application was received by the Commission at 11:00 o'clock
a.m. upon the 11TH day of DECEMBER, 1967

State Water Resources Commission

By: Burton J. [Signature]

Chief Engineer, Executive Officer

Number of permit 1473-3

Date of first receipt of application DECEMBER 11, 1967

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 1889, 19—

Approved JANUARY 10, 1968, Recorded in Book 10 Page 79

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~~ —

2nd. The whole of said work is ~~to be~~ completed ~~on or before~~ —, 19—

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

COMPLETED —

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

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 1790 ACRE FEET ANNUALLY, ~~and shall not exceed~~; 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 example of the best husbandry and further, said appropriation is not to be used for any other purpose~~ seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually USED FOR PUBLIC RECREATION was

and beneficially ~~applied to irrigation~~ on or before JUNE 30, 1966; said water to be used during the following described annual period:

CONTINUOUSLY

Witness my hand this 7TH day of FEBRUARY, 1968

State Water Resources Commission

By: [Signature]

Chief Engineer, Executive Officer

Certificate of Construction issued FEBRUARY 7, 1968

Water License issued FEBRUARY 7, 1968

Permit No. 1473-3

Water Division No. 3 BIG SIOUX RIVER Water District

Certificate of Completion of Works

TO ALL WHOM IT MAY CONCERN:

This is to Certify, That the Department of Game, Fish and Parksof Pierre, County of Hughes, and State of South Dakota, the holder Vested Right of Permit No. 1473-3, Issued upon ApplicationNo. 1473-3 bearing date of priority of 1889, authorizing the diversion of 1740 Acre Feet Annually ~~cu ft per second~~ of the waters of dry placeCounty of Deuel, State of South Dakota, at a point in the NE 1/4 NE 1/4, Section 23, T115N, R49Wfor public recreation

purposes, has fully 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 recognized as ~~found~~ in satisfactory 1740 acre feet annually ~~cu ft~~ for diverting and conveying to the place of intended use

~~for~~ of water; and that the lands ~~proposed to be irrigated by the~~ use of said water are described as follows, to-wit: to be used in place for public recreation

Witness my hand this 7th day of February A. D. 1968

State Water Resources Commission

By:

J. W. GRIMES
Chief Engineer, Executive Officer

STATE OF SOUTH DAKOTA

WATER LICENSE No. 1473-3

WHEREAS, On the 11th day of December A. D. 1967
the Department of Game, Fish and Parks

of Pierre County of Hughes and State of
South Dakota duly made application (No. 1473-3) to us for a permit to use 1740 acre feet
annually of the waters of dry draws
County of Deuel, State of South Dakota, for public recreation
purposes; and

WHEREAS, On the 7th day of February A. D. 1968
Vested Right recognizing
Permit No. 1473-3 was issued to said applicant for the diversion of said water, and for the
completion of the works of diversion therein described prior to the day of
and for the application to beneficial use of said
water on or before the day of
and,

WHEREAS, On the 11th day of December A. D. 1967
the holder of said permit duly made proof of the completion of adequate works for the diversion of 1740 acre
feet annually of said waters, as evidenced by our Certificate No. 1473-3
dated February 7, 1968 confirming the completion of works of sufficient capacity for
diverting and conveying to the place of intended use 1740 acre feet annually
priority of 1889 and,

WHEREAS, On the 11th day of December A. D. 1967
proof was duly made of the application to beneficial use of 1740 acre feet annually
to be used in place for public recreation purposes.

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 the Department of Game, Fish and Parks
of Pierre the holder and owner of said Vested Right Permit No. 1473-3
a water right, dating from 1889 to the use of 1740 acre feet
annually
~~XXXXXX~~ of the waters of dry draws
In the County of Deuel and State of South Dakota, or so much thereof as may be
necessray for the purposes herebelow mentioned, to be diverted at a point in the NE 1/4 NE 1/4
Section 23, T115N, R49W
and ~~conducted to and upon~~ stored in place

for the purpose of public recreation, subject to any limitations listed
in the Permit to Appropriate Water, and

subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and seal of our office at Pierre, South Dakota,
this 7th day of February A. D. Nineteen
Hundred and Sixty-eight.

State Water Resources Commission

By:

J. C. GRINES
Chief Engineer, Executive Officer

Location No.

Water Division No. Water District

Proof of Application of Water to Beneficial Use**PETITION OF HOLDER**

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. South Dakota Department of Game, Fish and Parks, Pierre, South Dakota

Ques. 2. If acting in behalf of a corporation, state its name, principal place of business (if a foreign corporation, give name and postoffice of statutory agent,) your position with reference to same, and your authority for appearing in its behalf.

Ans.

Ques. 3. State date of posting and date of recording notice of appropriation.

Ans.

Ques. 4. State source of water supply and give exact location of point of diversion.

Ans. Dry Draw - one point in the watershed located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$, Sec. 23,
T. 115, R 49

Ques. 5. Describe your works of diversion giving length and height of each dam and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use, and date of completion of same.

Ans. A meandered lake - depth 6 feet - 580 acres

Ques. 6. State for what purpose water is used and describe place of use. (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have ACTUALLY been irrigated with said water.)

Ans. Fish and wildlife propagation, conservation and recreation

Ques. 7. If for other than irrigation purpose, state how applied, amount of horse power generated, etc.

Ans. Used in place in lake or reservoir

Ques. 8. What is the minimum amount of water required for the use specified above?

Ans. As required to fill lake to outlet level - approximately 1740 acre feet
per year

Ques. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans.

Ques. 10. State when, how, in what amount and to what extent, the water diverted under above mentioned permit has been used.

Ans. ~~XXXXXXX~~ A moderated lake, Used by the public for uses specified except
for that amount lost by evaporation and seepage

(Sig 1)

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Pierre, County of Hughes

State of South Dakota, on this 8th day of December, A. D. 1967.

Witnesses:

H. E. Bowers, Notary Public

By Commission Expires

I, the undersigned, do hereby certify that I am a duly qualified elector residing in the immediate vicinity of the diversion works designated in the foregoing testimony, that I have no interest in the works, water or land above described, that I have read the foregoing testimony and that I know of my own personal knowledge that the matters therein stated are true.

1473-3

M E M O

TO: Bob Hanten, Game, Fish and Parks Dept.
FROM: John Hatch, Chief Engineer, Water Rights Division
SUBJECT: Proposed Easement Form
DATE: June 30, 1983

John Hatch

We have the following comments on the proposed Easement form prepared by Gordon Gunderson, Attorney, City of Clear Lake.

1. If any State Agency is to be named in the Easement, I believe the Agency should be the Department of Game, Fish & Parks because of your statutory Wildlife and Recreational Resource Management responsibilities.
2. The referenced 1774.0 elevation is the ordinary high water mark. The required outlet elevation is 1773.5. If the outlet elevation is to be raised above 1773.5, an application for a water permit to do so must be submitted to the Water Management Board for approval. The outlet can be reconstructed to elevation 1773.5 under the existing Water Right for Clear Lake.
3. If I correctly understand the proposed channel changes, the change in channel will require approval of an application for a permit from the Water Management Board.

JH:ks

GUNDERSON & EVENSON
ATTORNEYS AT LAW
CLEAR LAKE, SOUTH DAKOTA
57288

HARVEY A. GUNDERSON (1912-1978)
GORDON GUNDERSON
DENNIS D. EVENSON

AREA CODE 605
TEL. NO. 674-2111

TOOD D. BOYO, ASSOCIATE
June 15, 1983

Mr. Jack Opitz
Watertown
South Dakota 57201

Dear Jack:

I am enclosing for you a draft copy of a proposed easement that we discussed over the phone. Obviously, the names of the owners have been left out and the legal descriptions have been left out because it is our intention to have one of these easements prepared as to all of the landowners who would be affected. We are submitting this to you at this time for your consideration before we finalize them.

Yours very truly,

GUNDERSON & EVENSON


Gordon Gunderson

GG/jek
Encl.

EASEMENT

THIS INDENTURE, made this _____ day of June, 1983, between

_____, parties of the first part and City of Clear Lake, a subdivision of State Government, of Clear Lake, South Dakota, and Department of Natural Resources of the State of South Dakota, Pierre, South Dakota, party of the second part, WITNESSETH:

WHEREAS, the parties of the first part are the owners in fee simple of a parcel of land described as:

and whereas the City of Clear Lake and the South Dakota Department of Natural Resources in the exercise of their police powers and particularly by reason of the above described real property being within the corporate limits of the City of Clear Lake desire to make certain improvements necessary for the health, safety and general welfare of the residents of the said City and for the public generally, and whereas there will be mutual benefits accruing to the parties of the first part as well as the parties of the second part by reason of construction and improvements to be made, and

WHEREAS, there being in existence at the present time a water course which was heretofore artificially constructed and that there likewise was heretofore established and constructed a dam which has subsequently been destroyed, said dam being located at the outlet of the lake known as Clear Lake and said outlet being near the southeast corner of Section Twenty-three (23), Township One Hundred Fifteen (115) North, Range Forty-nine (49) West of the 5th P.M., and

WHEREAS, the Department of Natural Resources of the State of South Dakota has established a high water mark level of said lake known as Clear Lake at 1,774 feet above sea level, and it is desired to correct the problems created by the previous construction of the water course above referred to by diverting the water to its natural course as well as to reconstruct the dam where the dam previously located had been destroyed, now therefore in consideration of the payment of \$1.00 and other valuable considerations including mutual benefits to be derived by the parties hereto, it is AGREED:

I.

The parties of the first part grant to the City of Clear Lake and the South Dakota Department of Natural Resources an easement authorizing said City of Clear Lake and said Department of Natural Resources to reroute the old water course as shown on the attached engineer's map by creating a dike and by filling in and restoring to

its original state the artificial water course presently existing such filling of the old water course requiring approximately yards of fill dirt and, by establishing a new water course as shown on the attached map and also by constructing a dam as shown on the attached map at the outlet from the lake known as Clear Lake, at a level of not to exceed 1774 feet above sea level.

II.

The parties of the first part grant to the party of the second part the right to enter upon the said premises for the purpose of carrying out the foregoing project, to do and in all things necessary to accomplish the work above referred to, to maintain, and if necessary, to make such repairs as may from time to time be necessary and particularly to permit the establishment and maintenance of the lake level at 1774 feet by the construction and maintenance of the dam above referred to.

III.

The parties of the first part hereby covenant with the party of the second part that this agreement shall be binding upon the heirs, assigns and successors in interest of the parties to this agreement.

IN TESTIMONY WHEREOF, the parties of the first part have executed this agreement by subscribing their hands and seals the day and year above written.

Parties of the First Part

Parties of the Second Part

STATE OF SOUTH DAKOTA)
COUNTY OF DEUEL) SS

On this the ____ day of May, 1983, before the undersigned officer, personally appeared

____, known to me or satisfactorily proven to be the persons whose names are subscribed to the within instrument and acknowledged that they executed the same for the purposes therein contained.

In witness whereof I have hereunto set my hand and official seal.

Notary Public, South Dakota

My Commission expires:

BEST IMAGE POSSIBLE
FROM POOR ORIGINAL



Water Rights Division - DWR

File No. 1473-3

Conversation or File Documentation

NAME OF PERSON OR FILE: SD Dept. of Game, Fish and Parks - Clear Lake

ADDRESS: _____ COUNTY _____

DATE: _____ TELEPHONE _____

RE: Ordinary High Water Mark Determination

COMMENTS:

April 14 & 15, 1983 - Water Management Board Minutes

Mr. Rylance MOVED, SECONDED by Mr. Walter that the ordinary high water mark for
Clear Lake be established at an elevation of 1774.0 feet msl and that Vested
Right No. 1473-3 be clarified to require the outlet structure for Clear Lake
to be maintained at an elevation of 1773.5 feet msl. MOTION CARRIED.

For more information see OHWM file.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

4/82

NAME: _____

 **Department of
Water & Natural Resources**

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

JUN 13 1939

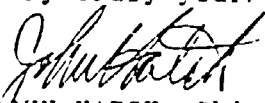
Ron Koth
Department of Game, Fish and Parks
Anderson Building
Pierre SD 57501

Dear Mr. Koth:

The Water Management Board has validated the enclosed Vested Water Right Nos. 880-3, 890-3, 1468-3, (1473-3, 5049-3. These validations give legal status to the claims and are the final documents for your vested rights.

As long as you use the water beneficially, as stated in the validation, State Water Laws provide that you have a continuing right to use the water.

Very truly yours,


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

enclosure



SOUTH DAKOTA

VALIDATION OF VESTED WATER RIGHT CLAIM NO. 1473-3

Date Claim Accepted For Filing December 11, 1967.

Date of Validation May 10, 1989.

Pursuant to SDCL 46-2A-17 the Water Management Board validated Vested Water Right Claim No. 1473-3 for the South Dakota Department of Game, Fish and Parks, 445 E Capitol, Pierre, South Dakota 57501 with the following limitations, conditions and qualifications:

1. Vested Water Right No. 1473-3 is for sufficient runoff water annually to fill Clear Lake in Deuel County to the outlet elevation of 1773.5 feet above mean sea level (msl). The outlet elevation was established at the April 14-15, 1983 Water Management Board Meeting. Clear Lake is located in Sections 13, 14, 23, 24 and 25; T115N, R49W.
2. The appropriated water is used for maintaining water levels in Clear Lake and may not exceed the amount of water needed for beneficial use for public recreation purposes.

The water is to be used during the following annual period:
January 1 - December 31.
3. The priority date of the Vested Water Right is: November 2, 1889.
4. The water use system has been constructed and water has been applied to beneficial use.
5. Water Rights obtained in compliance with the laws of the State of South Dakota must not be unlawfully impaired by this appropriation.

REMARKS

An Ordinary High Water Mark was established for Clear Lake at an elevation of 1774.0 feet msl at the April 14-15, 1983 Water Management Board Meeting.

WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer
Division of Water Rights
Dept. of Water and Natural Resources

JUN 13 1989

date

1473-3

South Dakota
Department of
Water & Natural Resources

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

September 21, 1988

Richard Beringson, Secretary
Department of Game, Fish and Parks
Anderson Building
445 E Capitol
Pierre SD 57501

Dear Mr. Beringson:

I am writing to notify you that pursuant to the Notice of Intent to Validate Vested Water Right Claims dated June 20, 1988 that I intend to oppose validation of all Department of Game, Fish and Parks Vested Water Right Claims for lakes for the following reasons:

1. Until the outlet elevation for each lake is surveyed and the outlet elevation is set by the Water Management Board.
2. To allow the Vested Water Right Claim to be amended, if necessary, as follows:
 - a) Include the outlet elevation;
 - b) To correct the amount of water claimed;
 - c) To add the qualification that a vested claim is subject where necessary to installation of a concrete outlet structure to assure retention of the outlet as the established elevation; and
 - d) To add any amendments and qualifications necessary to clarify a Vested Right Claim.

Also, that I intend to oppose validation of all Department of Game, Fish and Parks Vested Water Right Claims for dams to allow the Vested Water Right Claim to be amended, if necessary, as follows:

1. To include the spillway elevation;
2. To correct the amount of water claimed; and
3. To add any amendments and qualifications necessary to clarify a Vested Right Claim.

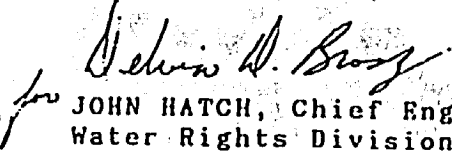


September 21, 1988
Richard Reringson, Secretary
Page 2

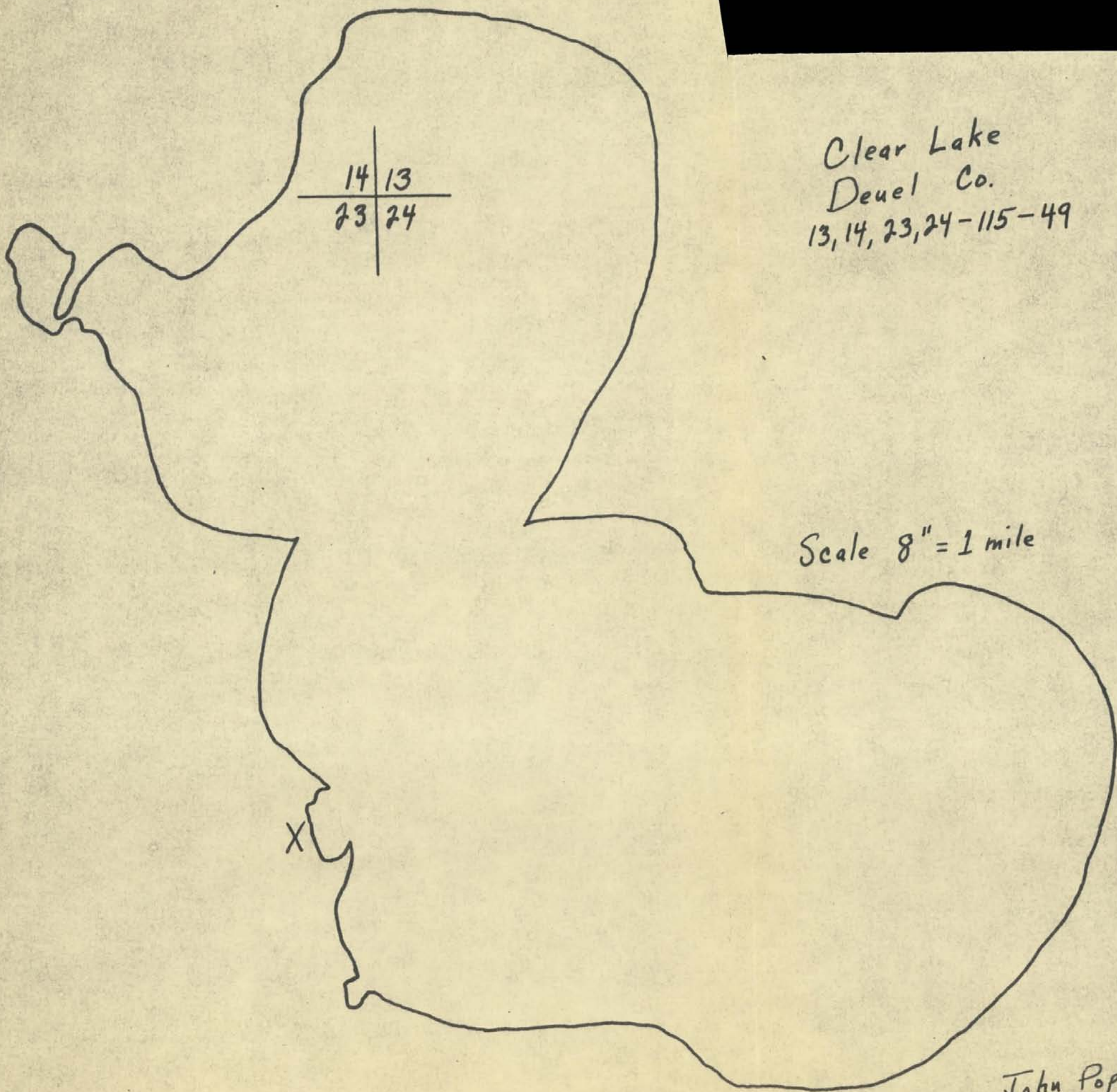
We will be working with your staff on these validations. We have already discussed setting outlet elevations before validating claims for lakes. Although the work necessary to complete the validation process will take several years to complete, the results should be of benefit to the public and to your Department. As the work is completed to validate each claim, the claim will be presented to the Water Management Board for validation.

Please advise if you have any questions.

Very truly yours,


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

cc: Ron Koth, Department of Game, Fish and Parks



Clear Lake
Deuel Co.
13, 14, 23, 24 - 115-49

Scale 8" = 1 mile

John Popowski
Feb. 2, 1959

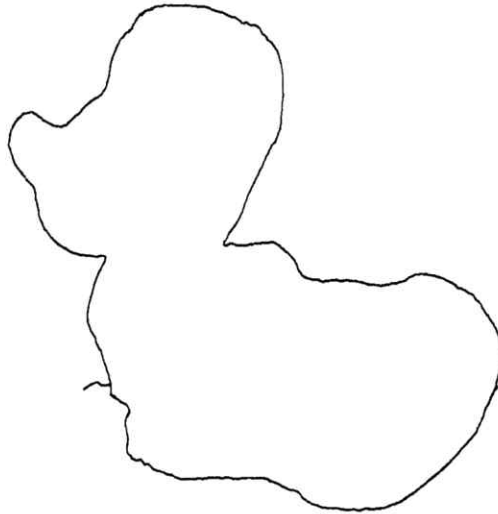
1473-3

Clear Lake

1473-3

ORDINARY HIGH WATER MARK INVESTIGATION FOR

CLEAR LAKE



DEUEL
COUNTY



**Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

March, 1983

REPRODUCTION: REDUCTION 25:1 ROLL NO. 60 DATE MICROFILMED 1-2-83 CAMERA OPERATOR

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RESEARCH REPORT

1962

ROLL NO.

12

DATE MICROFILMED

OPEN TO PUBLIC

CLEAR LAKE

ABSTRACT

This report contains the results of an investigation performed to determine the Ordinary High Water Mark (OHWM) for Clear Lake in Deuel County. The primary factors involved in calculating the OHWM were: Clear Lake's hydrological characteristics and elevations of erosion lines and trees found at the upper limit of its lake bed.

Based on the findings in this report, the OHWM for Clear Lake has been determined to have been established at an elevation of 1774.0 feet mean sea level (msl).

REPRODUCTION OF THIS DOCUMENT IS UNLIMITED
7-75
DATE MICROFILMED
OPERATOR

INVESTIGATION

Location

Clear Lake is located in Deuel County within Sections 13, 14, 23, 24 and 25 of T115N, R49W. (See Appendix A)

Lake Characteristics

Clear Lake is located in the Big Sioux Watershed. It has a surface area of 600 acres and a watershed of 25,000 acres. Clear Lake received its recharge water mainly from surface run-off. There is a moderate aquifer connection which has been reduced by sedimentation. Overflow water from Clear Lake flows to the southwest, down Hidewood Creek, entering the Big Sioux River approximately two miles northwest of Estelline, in Hamlin County.

Elevation References

Elevations in this report are references to a Coast and Geodetic Survey bench mark. The bench mark is located in the northwest corner of Section 23, T115N, R49W. It is a standard disk, stamped "A56 RESET 1935", at a concrete bridge, in the southwest handrail, set at an elevation of 1793.965 feet msl.

OHWM Indicators

A. Shoreline Trees

Trees, which are the largest and most permanent expression of upland growth, are used to determine a relationship between the growth characteristics of the trees at various elevations and the OHWM elevation. Records of ordinary high water levels are reflected in the well established trees growing along the upper limits of a lake's bed. Cottonwood, ash, and willow are the most predominant trees that grow along the shores of South Dakota's lakes. Experimentation and research have shown that most trees will not survive if water levels exceed one half to one tree diameter below the base elevation of the tree for more than 25% of the growing season. Consideration must be given to the characteristics of the soil, slope of the ground, and the effects of water and ice on the shoreline and bank.

B. Tree Categories

The trees along the shoreline of Clear Lake are divided into three categories:

1. The first category of trees are those where their lakeside base elevation (the elevation where the soil meets the trunk of the lakeside of the tree) is below the OHWM (see Appendix B). This is apparent in the erosion of the soil and the destruction and decay of the tree. The destruction and decay is caused by the zone of soil saturation smothering part of the root system. These trees survive because part of their root system is above the zone of saturation.
2. The second category of trees are those where their lakeside base elevation is from zero to one half foot above the OHWM (see Appendix C).

RECOMMENDATIONS

The Water Rights Division recommends to the Water Management Board:

1. That the Ordinary High Water Mark for Clear Lake be established at an elevation of 1774.0 feet msl.
2. That Vested Right No. 1473-3 be clarified to allow the water level at Clear Lake to be maintained at an elevation no higher than 1773.5 feet msl.

Jerry E. Steffen

Jerry E. Steffen, Natural Resources Engineer
Water Rights Division
Department of Water and Natural Resources

For information regarding OHWM bench marks established at Clear Lake, contact the Department of Water and Natural Resources, Water Rights Division, Pierre, South Dakota 57501.

STATE OF SOUTH DAKOTA)
COUNTY OF HUGHES)ss

Sworn to, before me, this 11th day of April, 1983

Carolyn Jorgensen
Notary Public

CAROLYN JORGENSEN
My Commission Expires
June 13, 1983

RECORDS, REDUCTION 25.1 ROLL NO. 6 DATE MICROFILMED 2-22-90

Appendix A

Clear Lake Data

Surface Area.....600 acres¹
Watershed Area.....25,000 acres¹
Maximum Depth.....6 feet¹
Mean Depth.....4 feet¹
Volume.....2,400 acre feet¹
Total Dissolved Solids.....470 mg/l²
Aquifer Connection.....Moderate²
Outlet Elevation.....1773.5 feet msl
OHWM Elevation.....1774.0 feet msl
Water Right.....No. 1473-3
Held by Game, Fish and Parks
Dept., for the annual recharge
of 1740 acre-feet with a priority
date of 1889

BIBLIOGRAPHY

¹Ronald M. Koth, South Dakota Lakes Classification and Inventory, South Dakota Department of Water and Natural Resources, Office of Water Quality, July 1, 1981, pp 274-279.

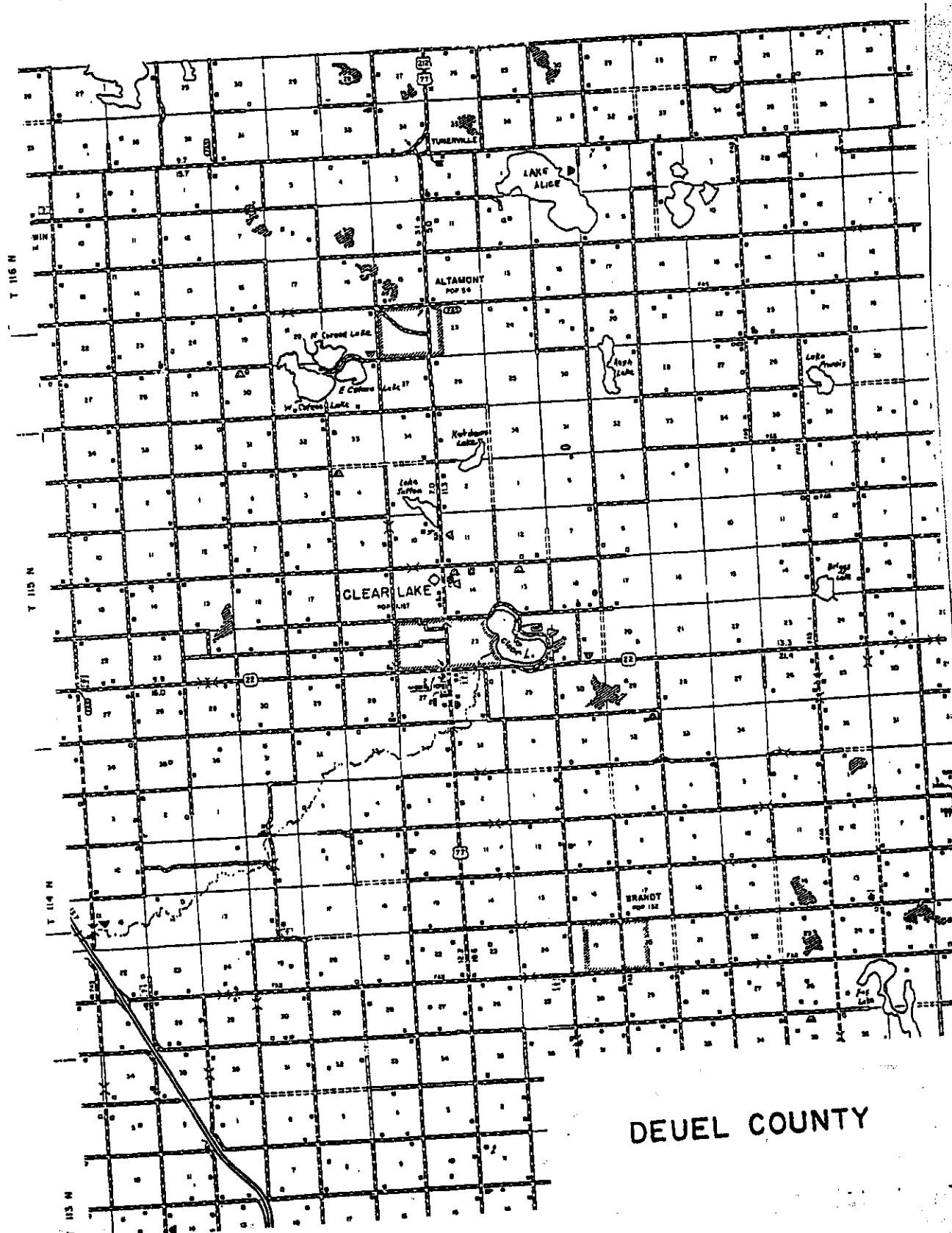
²State Lakes Preservation Committee, A Plan for the Classification, Preservation, and Restoration of Lakes in Northeast South Dakota, July 1977, p. 77.

C30103Js.wr

REPRODUCTION: REDUCTION 25:1
ROLL NO. 10
DATE MICROFILMED 4-22-79
CIVIL OPERATOR

REPRODUCTION, REDUCTION 25:1 ROLL NO. 10

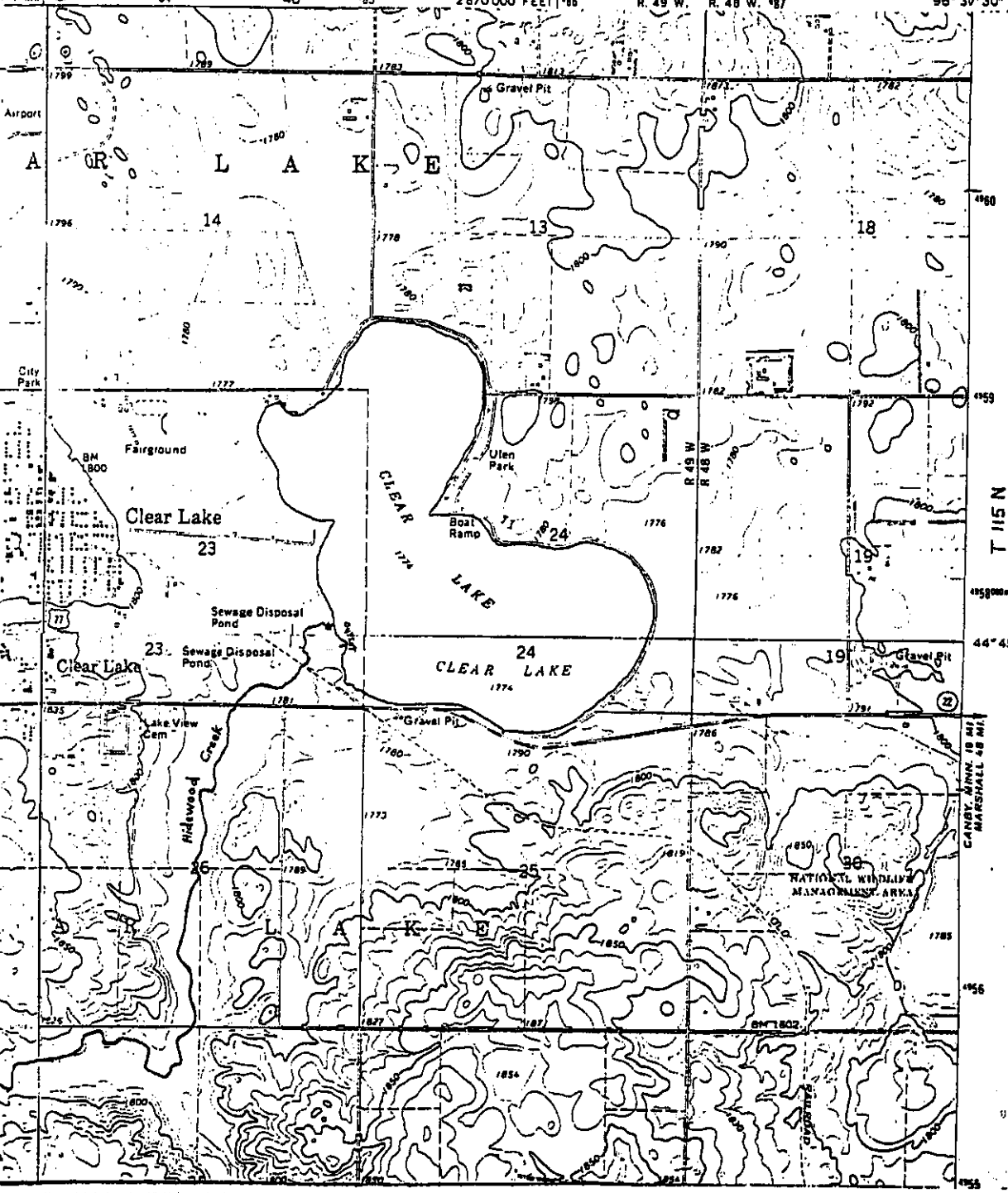
DATE MICROFILMED 11-11-76



DEUEL COUNTY

7.5 MINUTE SERIES (TOPOGRAPHIC)

96° 37' 30"



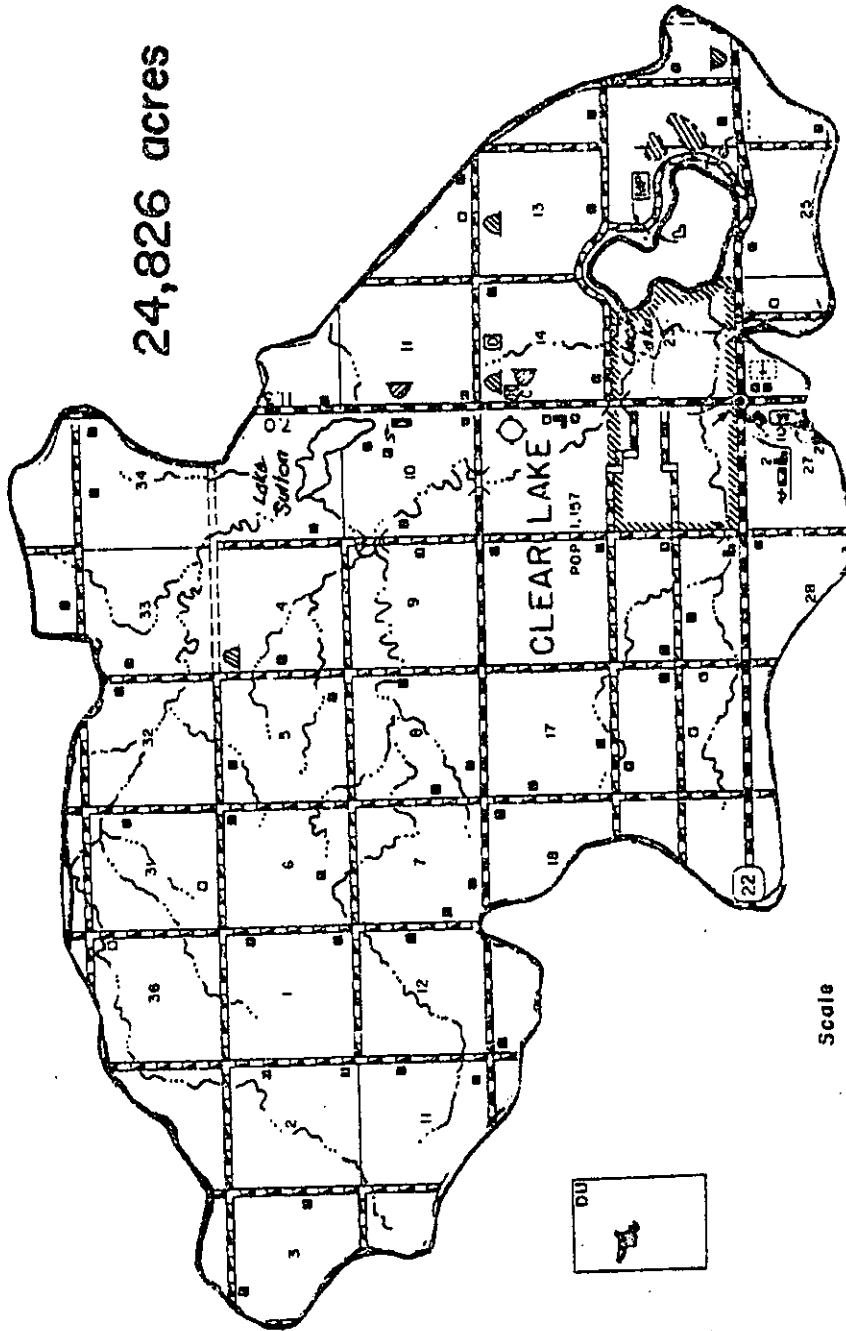
24

CAMERA OPERATOR

7

Clear Lake

24,826 acres



REPRODUCTION: REDUCTION 25% / ROLL NO 10 / DATE MICROFILMED 11-11-66 / CAMERA OPERATOR

APPENDIX B
TREES GROWING BELOW THE OHWM



PHOTO NO. 1 Description: Cottonwood, Dia. 2.5 ft, Age 75 years
Base Elevations: Lakeside----1773.6
 Landside----1775.9



PHOTO NO. 2 Description: Ash, Dia. 0.9 ft, Age 40 years
Base Elevations: Lakeside----1773.8
 Landside----1776.0

REPRODUCTIONS, REDUCTION 2 1/2" x 3 1/2" ROLL NO.

DATE MICROFILMED

CAMERA OPERATOR



PHOTO NO. 3 Description: Cottonwood, Dia 1.0 ft, Age 30 years (left tree)
 Cottonwood, Dia 2.0 ft, Age 60 years (right tree)
 Base Elevations for both trees:
 Lakeside----1773.9
 Landside----1776.7



PHOTO NO. 4 Description: Ash, Dia. 0.8 ft, Age 35 years
 Base Elevations: Lakeside----1774.0
 Landside----1776.4

REPRODUCTIONS

REDUCTION

ROLL NO

DATE MICROFILMED

CAMERA OPERATOR

APPENDIX C
TREES GROWING AT THE OHWM



PHOTO NO. 5 Description: Cottonwood, Dia. 2.5 ft, Age 75 years
Base Elevations: Lakeside----1773.9
 Landside----1777.5



PHOTO NO. 6 Description: Ash, Dia. 0.8 ft, Age 35 years
Base Elevations: Lakeside----1773.9
 Landside----1775.1

REPRODUCTIONS,

REDUCTION

ROLL NO.

DATE MICROFILMED

CAMERA OPERATOR

REPRODUCTIONS.

REDUCTION

ROLL NO

DATE MICROFILMED

CAMERA OPERATOR



PHOTO NO. 7 Description: Cottonwood, Dia. 1.6 ft, Age 55 years
Base Elevation----1774.0



PHOTO NO. 8 Description: Ash, Dia 1.3 ft, Age 55 years
Base Elevations: Lakeside----1774.3
Landside----1775.5

APPENDIX D
TREES GROWING ABOVE THE OHWM



PHOTO NO. 9 Description: Ash, Dia. 1.8 ft, Age 65 years
Base Elevations: Lakeside----1774.8
 Landside----1776.4

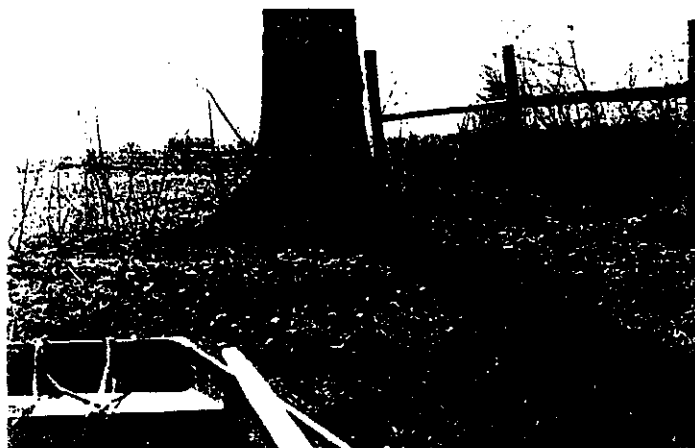


PHOTO NO. 10 Description: Cottonwood, Dia. 2.0 ft, Age 60 years
Base Elevation----1775.0

REPRODUCTIONS

REDUCTION

ROLL NO

DATE MICROFILMED

CAMERA OPERATOR

APPENDIX E
EROSION LINES



PHOTO NO. 11 Erosion Line Elevations:

(SW corner along dyke south to north)

1773.8
1773.7
1773.8
1773.9
1773.7
1773.5
1773.5
1773.6

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LAW 1774. IT IS FURTHER CERTIFIED THAT THE PHOTOGRAPHIC PROCESS USED FOR MICROFILMING OF THE ABOVE RECORDS WAS IN ACCORDANCE WITH THE STANDARDS FOR PERMANENT MICROFILMING AND ON MICROFILM WHICH MEET THE RECOMMENDED REQUIREMENTS OF THE NATIONAL BUREAU OF STANDARDS FOR PERMANENT MICROFILMING REPRODUCTIONS. REDUCTION 25:1 ROLL NO. 12 DATE MICROFILMED 2-22-90 CAMERA OPERATOR [Signature]

APPENDIX F
OUTLET STRUCTURE



PHOTO NO. 12 Outlet Structure
Elevation---1773.5

REPRODUCTIONS.

REDUCTION

35:1

ROLL NO.

10

4-6-76
DATE MICROFILMED

1.1.10
CAMERA OPERATOR



DENR
SOUTH DAKOTA

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

Memo to File

Clear Lake in Deuel County

VWR No. 1473-3

The OHWM was set by the Water Management Board on April 14 & 15, 1983.

OHWM elevation 1774.0 fmsl NGVD29

The outlet elevation was set by the Water Management Board on April 14 & 15, 1983.

Outlet elevation 1773.5 fmsl NGVD29

The Water Management Board validated Vested Water Right No. 1473-3 on May 10, 1989