

No. 911-3
 Water Division No. 3 Big Sioux River District
 (Blanks to be filled by the Engineer for the W. R. C.)

TESTED 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
 Postoffice address Pierson, 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 LAKE ALBERT - Kingsbury County
As required to fill lake to outlet level - approximately 10,200
 3. Amount of water claimed acres feet per year cubic feet per second _____
 4. Source of water supply DEY DRAW -
Two points located in the watershed in the SW $\frac{1}{4}$ SW $\frac{1}{4}$, 12, T 112
 5. Location of point of diversion R. 53 & SW $\frac{1}{4}$ SW $\frac{1}{4}$, 26, T. 112, R. 53

_____ on _____ bank _____ County.

6. Annual period or periods during which water is to be used continuously

7. To be used for:

- I. 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 portions of Sec. 1, 2, 3, 10, 11, 12, 14, 15, T. 112, R. 53 and Sec. 35
T 113, R 53

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 _____

8. Estimated cost of work:

(a) Head Gates, \$----- (b) Pumping plant, \$-----
 (c) Fluming, \$----- (d) Canal-earth, \$----- 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. Lake Albert is a
 meandered lake. Maximum depth is approximately 10 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 ----- acre feet. Surface area at highwater
 mark ----- 3400 ----- acres.

DEPTH AT OUTLET-FEET	SURFACE AREA AT EACH DEPTH AT OUTLET--ACRES	FEET	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. Not applicable - a meandered lake
 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, ----- Walter L. Fillmore -----, 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 -----
 Subscribed and sworn to before me this ----- 7 ----- day of ----- 1961

 Notary Public (or other qualified officer.)

(WR # 911-3)

HAMLIN CO.
KINGSBURY CO.



LAKE
ALBERT

IN

IN

112 - 53
KINGSBURY CO.
DEPT. GAME, FISH & PARKS
Pierre, South Dakota

Water Right No 911-3

Remarks by State Water Resources Commission:

"Vested right" Claimed

STATE OF SOUTH DAKOTA
County of Hughes } ss.

Pierre, South Dakota, JANUARY 24, 1963

This is to certify that the foregoing application was received by the Commission at 3:30 o'clock
... 2 m. upon the 12th day of JANUARY December, 1961.

State Water Resources Commission

By: [Signature]

for Chief Engineer, Executive Officer

Number of permit 911-3

Date of first receipt of application DECEMBER 12, 1961

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 24, 1963, Recorded in Book 7 Page 348

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~~ ---

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

completed 12

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 10,200 acre feet annually
~~either less or more; 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~~
used for public recreation
was

and beneficially ~~applied to irrigation~~ on or before June 30, 1955; said water to be used during the following described annual period:

continuously

Witness my hand this 24th day of JANUARY, 1963.

State Water Resources Commission

By: [Signature]

Chief Engineer, Executive Officer

Certificate of Construction Issued JANUARY 24, 1963

Water License issued JANUARY 24, 1963

STATE OF SOUTH DAKOTA

WATER LICENSE No. 911-3

WHEREAS, On the 12th day of December A. D. 1961
the South Dakota Department of Game, Fish and Parks

of Pierre County of Hughes and State of
South Dakota duly made application (No. 911-3) to us for a permit to use 10,200 acre feet
annually ~~XXXXXX~~ of the waters of dry draws
County of Kingsbury, State of South Dakota, for public recreation
purposes; and

WHEREAS, On the 24th day of January A. D. 1962
Vested Right /Permit No. 911-3 was issued to said applicant... for the diversion of said water, ~~and providing for~~ recognizing
completion of the works of diversion therein described ~~on or before the~~ ~~XXXXXX~~ day of
XXXXXX and for the application to beneficial use of said
water ~~on or before the~~ ~~XXXXXX~~ and,
and,

WHEREAS, On the 12th day of December A. D. 1961
the holder... of said permit duly made proof of the completion of adequate works for the diversion of 10,200 acre
feet annually ~~XXXXXX~~ of said waters, as evidenced by our Certificate No. 911-3
dated January 24, 1962 confirming the completion of works of sufficient capacity for
diverting and conveying to the place of intended use 10,200 acre feet annually
priority of 1889 ~~XXXXXX~~ of water, with date of
and,

WHEREAS, On the 12th day of December A. D. 1961
proof was duly made of the application to beneficial use of 10,200 acre feet annually
to be used in place for public recreation ~~XXXXXX~~ of said water;

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 South Dakota Department of Game, Fish and Parks
 of Pierre the holder and owner of Vented Right of said permit No. 911-3
 a water right, dating from 1889 to the use of 10,200 acre feet
annually of the waters of dry draws
 in the County of Kingsbury and State of South Dakota, or so much thereof as may be
 necessary for the purposes hereinbelow mentioned, to be diverted at points in the SW $\frac{1}{4}$ Section 12,
T. 112N., R. 53W., and in the SW $\frac{1}{4}$ Section 26, T. 112N., R. 53W.
 and ~~xxxxxx~~ stored in place
 for the purpose of public recreation

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 24th day of January A. D. Nineteen
 Hundred and Sixty-Three

State Water Resources Commission

By:

J. W. GRIMES

Chief Engineer, Executive Officer

STATE OF SOUTH DAKOTA

Water License No. _____

To _____

Source of Supply _____

County _____

Am't _____ c. f. s.

Point of Diversion _____

Place of Use _____

Purpose _____

Date of Priority _____

Recorded _____

In Book _____ of _____ Page _____

Permit No. 911-3Water 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 South Dakota Department of Game, Fish and Parksof Pierre, County of Hughes, and State of South Dakota, the holder Vested Right of Permit No. 911-3, issued upon ApplicationNo. 911-3, bearing date of priority of 1389, authorizing the diversion of 10,200 acre feet annuallyof the waters of dry draws
County of Kingsbury, State of South Dakota, at points in the SW¹ SW¹
Section 12, T112N, R53W and SW¹ SW¹ Section 26, T112N, R53W
for public recreation^s
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 satisfactory for diverting and conveying to the place of intended use 10,200 acre feet annually 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 recreationWitness my hand this 24th day of January A. D. 1963

State Water Resources Commission

By: J. W. GRIMES
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 - two points in the watershed located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 12, T 112, R 53 and SW $\frac{1}{4}$ SW $\frac{1}{4}$, Sec. 26, T 113, R 53

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 10 feet - 3400 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 out' t level - approximately 10,200 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. A meandered lake. Used by the public for uses specified except for that
amount lost by evaporation and seepage

(Sign) W. M. Moore

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 7 day of December A. D. 1961

James A. Johnson
Witnesses. 11-6-65

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.

Location No. -----	
PROOF OF APPLICATION OF WATER TO BENEFICIAL USE	
PETITION OF HOLDER	
Amount of Water ----- c. f. s.	
Source -----	
County -----	
Purpose -----	
Place of Use -----	
Date of recording -----	
Received and filed -----	

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.

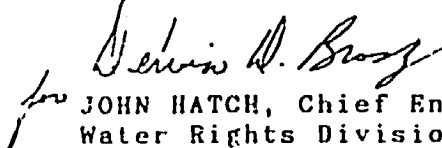


September 21, 1988
Richard Beringson, Secretary
Page 2

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,


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

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

911-3

**REPORT ON
LAKE ALBERT - HAMLIN/KINGSBURY COUNTY
ORDINARY HIGH WATER MARK INVESTIGATION**



**WATER RIGHTS PROGRAM
January 29, 2004**

South Dakota Department of
Environment and Natural Resources



Protecting South Dakota's Tomorrow ... Today

**Department of Environment and Natural Resources
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181**

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ABSTRACT

Richard J. Helsper, Attorney at Law, 100 22nd Avenue, Brookings, SD 57006, on behalf of his clients, has requested the Water Management Board to establish an Ordinary High Water Mark (OHWM) for Lake Albert in Hamlin/Kingsbury County.

In response to the request and pursuant to SDCL 43-17-1, 43-17-21, 43-17-24 and 43-17-28, an investigation was conducted by the South Dakota Department of Environment and Natural Resources, Water Rights Program acting on behalf of the Water Management Board.

This report contains the results of the field investigation conducted the summer and fall of 2003.

During the field investigation of Lake Albert, the following easily recognizable characteristics were used in recommending an elevation for the OHWM and outlet:

Erosion, changes in the character of the soil, boulder lines, changes in slope, and terrestrial vegetation.

Based on the finding in this report, the recommended elevations for the Lake Albert OHWM and outlet are 1652.9 and 1650.2 feet above mean sea level respectively.

INTRODUCTION

On December 10, 2002, the Water Rights Program received a written request for the establishment of an Ordinary High Water Mark elevation for Lake Albert from a group of riparian landowners represented by Richard Helsper, Attorney at Law. The list of riparian landowners consists of Lonnie Henriksen, Richard Henriksen, Mark Jensen, Dale Pedersen, Alan Pedersen, and Russell Schultz. Based on the request, an investigation was conducted to determine elevations to be recommended for the Ordinary High Water Mark (OHWM) and outlet.

OHWM is defined by SDCL 43-17-20(2), which states:

“Ordinary high water mark,” the term as defined in decisions rendered by the courts of this state.

An OHWM is established by the processes of nature. The Water Management Board’s (Board) setting thereof is merely a formal recognition of the mark established by nature.

State law (SDCL 43-17-2) provides that all navigable rivers and lakes are public highways within 50 feet landward from the water’s edge, provided that the outer boundary of such public highway may not expand beyond the OHWM and may not contract within the Ordinary Low Water Mark (OLWM). Thus, the public has the right to use a strip of land up to 50 feet wide, below the OHWM, beginning at the water’s edge or the OLWM for public purposes.

Further, while the public may use the 50 foot strip of land for only “public” purposes, the private adjoining landowner may use the land for any purpose not inconsistent with the rights of the public. Such purposes ordinarily would include, but not limited to, the right to graze and water livestock, to hay, or to build a boat dock.

An exception applies to the 24 lakes with OHWM’s set prior to 1985; the public highway exists from the waters edge or the OLWM to the OHWM.

South Dakota Codified Law (SDCL) 43-17-23 states that in determining the OHWM, natural factors take precedence. Man-made influences, either those that have been constructed to lower the mark or those constructed to raise the mark, shall be disregarded unless the influences have been lawfully constructed or have existed and been accepted for a period of time determined by the Board to be the equivalent of natural conditions.

When requested to do so, the Board is required by SDCL 43-17-21 and 43-17-28 to establish the OHWM for public lakes. SDCL 43-17-1 provides that the ownership of land below the OHWM, and of land below the water of a navigable lake or stream, is regulated by the laws of the United States or by such laws of the state as the Legislature may enact.

A lake is “navigable” if its waters constitute “public waters” (Flisrand v. Madson 35 S.D. 457, 152 N.W. 796, (1915)). A lake is also “navigable” when, if maintained at the high-water mark, it is suitable for rowing, fishing, fowling and bathing (Anderson v. Ray (1916) 37 S.D. 17, 156 N.W. 591).

“Ordinary” according to SDCL 43-17-20(2) is defined in decisions rendered by the courts of this state. In the case of Flisrand v. Madson, 35 S.D. 457, 152 N.W. 796, (1915) the court wrote:

Neither high or low water mark means the highest or lowest point reached by the waters of a lake during periods of extreme and continued freshets, or periods of extreme and continued drought, but does mean the high and low points of variation of such waters under ordinary conditions, unaffected by either extreme.

In the case of Anderson v. Ray, 37 S.D. 17, 156 N.W. 591 (1916) the South Dakota Supreme Court wrote:

In the case of freshwater rivers and lakes - in which there is no ebb and flow of the tide, but which are subject to irregular and occasional changes of height, without fixed quantity of time, except that they are periodical, recurring with the wet or dry seasons of the year - high water mark, as a line between the riparian owner and the public, is to be determined by examining the bed and banks, and ascertaining where the presence and action of the water are so common and usual, and so long-continued in all ordinary years, as to mark upon the soil of the bed a character distinct from that of the banks, in respect to vegetation, as well as respects the nature of the soil itself.

In the Waubay Lake decision, issued on January 17, 1986, the South Dakota Supreme Court stated the determination of these water marks is to be done on a case by case basis. The Court stated that:

"... under ordinary circumstances, the Ordinary High Water Mark will be set at a level where there is a distinct mark which evidences erosion, and changes in the character of the soil, and destruction of terrestrial vegetation, which have occurred under the ordinary and continuous conditions of the lake, disregarding periods of extreme and periodic freshets, and disregarding the highest water mark which does not evidence erosion and soil changes and destruction of vegetation occasioned under ordinary conditions. If a single distinct mark, occasioned under ordinary circumstances and evidencing all of the factors delineated above does not exist, i.e., there is conflicting evidence of the role of the Ordinary High Water Mark, it is the level where significant major, and substantial terrestrial vegetation ends, that the OHWM is to be set." (cites omitted)

MEANDER LINE

A meander line, as the name implies, is a line that meanders and is not at a constant topographic elevation. An OHWM is at a constant topographic elevation. Hence, a meander line is not and cannot be associated with an OHWM. A meander line survey is established by man for surveying and mapping purposes and to establish the number of acres subject to sale. A meander line is not a property line. OHWM's are established by nature and defined by man.

In the case of Flisrand v. Madson, 1915, the South Dakota Supreme Court wrote:

"The fact alone that the lake in question was meandered by the government survey, does not directly control this matter, as a meander line is not considered a boundary line, but merely serves to define the sinuosities of the bank of the lake and a means of ascertaining the amount of land in the fractional tract subject to sale, which is to be paid for by the purchaser. St. Paul Ry. Co., Shurmeier 7 Wall 272, 19 L. Ed. 74, and note page 972."

The meander line was surveyed around Lake Albert in 1873 (see Attachment No. 2A).

GENERAL INFORMATION

Lake Albert is located in south central Hamlin County and northeastern Kingsbury County 10 miles north of the city of Arlington. Lake Albert is located in Sections 25, 26, 27, 34, 35 and 36 of T113N, R53W and Sections 1, 2, 3, 10, 11, 12, 13, 14, 15 and 22 of T112N, R53W. The outlet is located in the NE¼ SW¼ SW¼ Section 25, T113N, R53W and the outlet channel to Lake Poinsett is located in the S½ Section 25, T113N, R53W and SW¼ Section 30, T113N, R52W (see Attachment No.1). Lake Albert has a watershed area of approximately 69 square miles and a surface area of approximately 3,700 acres at the outlet level.

All elevations in this report are referenced to a United States Department of Commerce, Environmental Sciences Services Administration, Coast and Geodetic Survey benchmark with a 1929 sea-level datum described as follows:

The benchmark is located 1 mile north and 1 mile east of the town of Badger; T112N, R53W, at the corner of Sections 15, 16, 21 and 22; 31 feet north, 169 feet east and 2 feet lower than the crossroads; 1.5 feet north of a fence; 1.5 feet south of a power pole, a standard disk stamped "72 KEE 1964" and set in the top of a concrete post.

The Water Rights Program established temporary benchmarks along the perimeter of Lake Albert. Temporary benchmark locations and elevations are available from the Water Rights Program upon request.

WATER RIGHTS

Vested Water Right Claim No. 911-3 held by the South Dakota Department of Game, Fish and Parks (GF&P) is for water stored in Lake Albert for recreational purposes. The claim holds an 1889 priority date for sufficient water from local drainage to maintain Lake Albert water level to the outlet elevation, approximately 10,200 acre-feet annually. Vested Water Right Claim No. 911-3 states that Lake Albert diversions are located in the SW¼ SW¼ of Section 26, T113N, R53W and in the SW¼ SW¼ Section 12, T112N, R53W. On December 7, 1961, the Department of Game, Fish and Parks estimated a surface area of 3,400 acres and a depth of 10 feet, when full. These figures are only estimates and may not be the actual lake storage or surface area at the OHWM. (Water Rights files, 2003)

Vested Water Right Claim No. 911-3 will need to be validated for sufficient water to maintain the ordinary high water mark.

GEOLOGY

Hamlin County has an area of 520 square miles and Kingsbury County has an area of 814 square miles, both counties lie within the Coteau des Prairie division of the Central Lowland province. The Coteau is a flatiron-shaped highland 200 miles in length and 75 miles in width created by the action and subsequent melting of glacial ice. The surface of Hamlin and Kingsbury Counties is characterized by undulating to hammocky glacial plains and thousands of shallow lakes, ponds and marshes.

Underlying Lake Albert is the Big Sioux Aquifer composed of well-sorted, very permeable glacial outwash sand and gravel. In the Lake Albert area the aquifer is approximately 10 to 20 feet thick and

is composed of collapsed outwash. Collapsed outwash is the result of layers of ice melting and the material in the ice falling out to form an uneven rolling surface. The collapsed outwash contains ice-block basins which are now occupied by lakes (Beissel and Gilbertson, 1987).

HYDROLOGY

Lake Albert's water levels appear to fluctuate with the water levels of the Big Sioux aquifer that occur in the area. The Water Rights Program monitors wells in the portion of the Big Sioux aquifer that underlies Lake Albert. The closest observation well is well HN-76E which lies just east of Lake Mary and 2 miles north of Lake Albert. General fluctuations in the water levels in the well follow measured lake levels for Lake Albert over the last 20 years; see Attachment No. 5 and 6. There exists limited groundwater recharge between Lake Albert and the underlying aquifer (Hamilton, 1989).

Water levels in Lake Albert are most influenced by yearly precipitation and evaporation. A graph of the lake level measurements for Lake Albert has the same shape as the yearly precipitation graph for the period of lake level measurements. See Attachment Nos. 5 and 9.

Lake Albert is part of a chain of lakes that ultimately flows to the Big Sioux River. The chain of lakes starts with Lake Marsh to the north and continues south through Lake Norden, Lake Mary, Lake St. John, Lake Albert and Lake Poinsett. Typically water level measurements on Lake Mary, St. John, Lake Albert and Lake Poinsett are within one half of a foot. Lake Albert also receives flow from the south by way of Badger and Thisted lakes. Lake Albert's watershed area is approximately 88 square miles when lakes Mary and St. John are included. A contributing watershed area of approximately 300 square miles comes from lakes Marsh and Norden. Lake Poinsett receives a majority of its flow from the west through Lake Albert. (Wittmuss, 1995)

WATER LEVEL MEASUREMENTS

Available water level measurements for Lake Albert are shown in Attachment No. 4. The Water Rights Program has taken water level measurements for Lake Albert since the fall of 1983. Water level measurements were also taken by the East Dakota Conservancy Sub-District between the years 1965 and 1978. Recorded measurements show that water levels in Lake Albert have varied as much as 8 feet. The lowest level measured by the Water Rights Program was 1648.8 fmsl in May of 1990 and the highest measurement was 1656.9 fmsl in May of 1986.

Significant spring melt events have occurred in the Lake Albert area. Spring runoff in 1969 added 4.7 feet of water to lakes Mary, St. John and Albert to an elevation of 1654.3 fmsl. In the spring of 1972, 1985, 1993 and 1994, lake levels reached 1654.1 to 1654.9 fmsl. Runoff in 1986 produced the peak in a trend of rising lake levels since 1984. Lakes Mary, St. John and Albert reached 1656.9 fmsl, the highest level measured by the Water Rights Program. Measured lake levels reached 1655.3 in 1995. Two recent runoff events in 1997 and 2001 mimicked the event of 1969. Though lake levels were higher than in 1969, 1656.4 and 1655.6 fmsl, the runoff events had similar increases in lake levels, 4.9 and 5.1 feet.

In contrast, Lake Albert has experience low water levels in response to reduced precipitation and runoff. Low lake levels have occurred in 1968, 1973, 1975 – 1977, 1988 – 1990 and most recently in 2003. Lakes Mary, St. John and Albert experienced water levels at or below 1649.5 in the years mentioned above.

CLIMATOLOGICAL DATA

Climatological data for Lake Albert is included in this report as Attachment No. 9. The climatological data is discussed in detail in the following section.

RUNOFF FACTORS

Soil moisture conditions refer to the degree that a soil is saturated with water. During a "dry" year(s), the soil moisture becomes depleted due to plant use, evaporation, and natural drainage. Runoff volume from a rainfall event during depleted soil moisture conditions would be reduced due to the rain soaking into the ground. On the other hand, during a "wet" year(s), the soil becomes saturated with water and isn't capable of absorbing the rainfall event. Hence, the identical rainfall event during "wet" years will produce a much larger runoff volume than during "dry" years. The more saturated the soil profile becomes, the larger the runoff volumes generated during a particular rainfall event.

A single rainfall event whose duration is spread over a number of days or weeks can generate a relatively small runoff volume. Conversely, a single rainfall event whose duration is only a few minutes or hours could generate a relatively large runoff volume. Hence, the runoff volume generated by any given rainfall event is also dependent upon the amount and intensity.

The potential for the largest runoff volumes for any drainage basin (Lake Albert or any other lake) are generated when saturated soil moisture conditions are present going into the winter. The ground then freezes nearly solid and becomes impermeable due to winter temperatures below 32 degrees Fahrenheit. Snow accumulations coupled with cold winter temperatures set the scene for a major runoff event the following spring.

A rapid temperature rise in the spring quickly melts the previous winters snow accumulation. The still frozen/saturated soil is not able to soak up any of the snow melt-water, hence, nearly all snow melt-water arrives at terminal locations such as depressions, dams and lakes or discharge to streams.

As previously shown, yearly runoff entering Lake Albert is dictated by a complicated set of circumstances that include general climatic factors, soil moisture conditions, and snow melt.

MAN MADE INFLUENCES

Natural factors are given precedence in determining the ordinary high water mark. Man-made influences, either those that have been constructed to lower the mark or those constructed to raise the mark, shall be disregarded unless the influences have been lawfully constructed or have existed and been accepted for a period of time determined by the Board to be the equivalent of natural conditions (SDCL 43-17-23).

There appears to be manmade influences at Lake Albert and as on many other lakes some of the influences are in the inlet and outlet areas. Roads and culverts have replaced portions of the natural inlet and outlet channels for Lake Albert.

Man-made influences have apparently had an affect on the OHWM but have been in place for such a time they probably constitute natural conditions.

FIELD INVESTIGATION

BENCH MARK ESTABLISHMENT AND COLLECTION OF FIELD DATA

Temporary benchmarks were established around Lake Albert. The locations and elevations for the temporary bench marks are available from the Water Rights Program upon request.

Field data for Lake Albert was collected in the summer and fall of 2003. The data collected can be found in Attachment Nos. 7 and 8.

ORDINARY HIGH WATER MARK EVIDENCE

Distinct physical evidence used in identifying the OHWM are: erosion, changes in the character of the soil, boulder lines, change in slope, growth and destruction of terrestrial vegetation (FLISRAND V. MADSON, 1915; ANDERSON v. RAY, 1916; S.D. WILDLIFE FEDERATION v. WATER MGT. BD., 1986; Red Lake, Brule County Ordinary High Water Mark and Ordinary Low Water Mark, and Outlet Elevation Investigation Report).

Erosion

Distinct erosional features around Lake Albert are summarized in Attachment No. 8. Also see photos in Attachment No. 10. Erosional features at Lake Albert consist of cutbanks, slope changes, and washed root systems. These features were found at a variety of elevations on the bank: 1650.6 to 1651, 1651.5 to 1652.2, and 1653.4 to 1653.7 for top of sand ridges; 1654.0, 1654.5 to 1655.1, and 1656.0 to 1656.3 for base of cutbanks.

There are several slope changes, minor changes occurred on the beach at 1650.6 to 1651.5, and 1652.0 fmsl. More significant changes in slope occurred from 1652.5 to 1653.0. The most obvious changes in slope are the toe and top of cut banks and steep slopes (found listed above as erosion and cutbank elevations). Other significant changes in slope occurred at the base and top of boulder lines, they will be dealt with under Boulder Lines/Ice Pushed Ridges. There were washed root systems along the shore, they will be dealt with under Terrestrial Vegetation.

Erosional features around a lake indicate where water has acted upon the shore long enough to leave a distinct mark. The time in which it takes water to leave an erosion mark can be fairly short. High water levels in Lake Albert have left several erosional features above the recommended OHWM.

Changes in the character of the soil

Soil stratification occurs around a lake when wave action washes the lake shore and leaves the larger parent materials (pebbles, cobbles, boulders) relatively stationary while the fine grained materials (sand, silts, clays, peats) are transported the greatest distance into the lake. An idealized lake shore progression would start with backshore boulder sized materials and terminate with clay and peat materials deposited in the deepest portions of the lake. Historical lake levels can be inferred by locating areas showing remnant soil stratification.

The soil characteristics observed were found at elevations of 1650.0 to 1551.4 and 1653.3 to 1657.3 fmsl for bands of washed pebbles; 1649.2 to 1650.8 fmsl for bands of small cobble; 1651.0 to 1653.0 and 1654.0 to 1655.1 fmsl for bands of large cobble. Washed pebbles were found among the cobble and boulder lines. Distinct surficial changes in the character of the soil at Lake Albert can be found in Attachment No. 8. Also see photos in Attachment No. 10.

Boulder Lines/Ice Pushed Ridges

In the spring lake shores can be acted upon by ice sheets and wind action which form ice pushed ridges. The lake ice melts first near the shores because of the relatively rapid heating of the earthy material of the shore and the shallow bottom. An open lane of water is formed which is further widened by a rise in lake level from the water added by the melting snow of the surrounding slopes. If strong winds develop before the ice becomes rotten, the ice is blown about from side to side by the winds and pushed on the shores with almost irresistible force. The direction of shove is related to that of the winds and may vary along any shore even during a jam, if the winds shift considerably. The force of the push depends on the firmness and momentum of the ice, the latter being determined by the velocity and duration of the wind, the weight of the ice and to some extent the distance through which the ice is free to move. (Dionne, 1979)

Ice pushed ridges/boulder lines can be composed of foreshore and backshore materials. There are boulder lines present around Lake Albert. The boulder lines present are related to ice action and wave erosion acting upon the lake bank. The boulder lines are found at the base and along the slopes of steeply sloping hillsides as residuum. Some boulder lines on Lake Albert occur on more gentle slopes along the shore.

Boulder lines are summarized in Attachment No. 8. Base elevations of boulder lines range from 1650.6 to 1652.0, 1652.5 to 1652.9 fmsl. The top of the boulder lines exists at or near elevations 1652.7 to 1653.1, 1653.7 to 1654.6, and at 1655.6 fmsl. . Large individual boulders occurred at elevations 1651.1 to 1651.8, 1652.7 to 1652.9, and 1653.6 fmsl. See photos in Attachment No. 10.

Terrestrial Vegetation

The tree population observations in this report are limited to easily recognizable characteristics such as diameter and elevation. The tree population around Lake Albert consists of live trees, predominantly cottonwood and elm, on the lake bank. Some trees show signs of inundation but not long enough to succumb to flooding.

Growth of terrestrial vegetation around Lake Albert is summarized in Attachment No. 8. Also see photos in Attachment No. 10.

Certain species of trees are able to survive periods of flooding better than others. Elm, cottonwood, ash and russian olive trees are most likely the predominant trees on Lake Albert's shore. Elm trees are considered intermediately tolerant to flooding. This means an elm tree with good vigor can survive occasional inundation between 20 and 30 percent of the growing season. Cottonwood and ash trees are considered tolerant to flooding. This means a cottonwood or ash tree with good vigor is able to survive when flooded more than 30 percent but less than 40 percent of the growing season. (Hightshoe, 1988)

The ability for certain trees to survive occasional flooding may be due to the formation of lateral roots at or just above the waterline (Gill).

Using trees on a lake without other OHWM evidence would suggest that the OHWM elevation lies close to the elevation of predominant destruction of terrestrial vegetation. Trees observed began at elevation 1653.6 fmsl. Three foot diameter live trees were found at or near the top of the lake bank at elevation 1655.9 and 1657.2 fmsl. Live trees were found at these elevations on both gentle and steep slopes. The elevations of the tree population will play a part in the recommended OHWM elevation.

Trees measured at Lake Albert with trunk diameter greater than two feet have grown at elevations 1654.0, 1655.9, and between 1657.2 and 1657.5 fmsl. Trees with trunk diameters one foot to two feet in diameter were found at elevations of 1654.4 to 1654.9, 1655.3 to 1655.6, and at 1657.2 fmsl. Trees with trunk diameters less than one foot were found at elevations of 1653.6 to 1654.2 and at 1654.7 fmsl. The largest trees measured, 2.5 and 3 feet in diameter, were found at elevations 1654.0, 1655.9, 1657.2, and 1657.5 fmsl. The lowest terminal elevation observed for live trees at Lake Albert is 1653.6 fmsl.

Washed root systems are indicative of wave action at the base of trees. The elevations of the top of the exposed roots can also indicate the ground elevation prior to the erosion. Washed root systems for trees greater than two feet in diameter were observed at elevations 1654.0, 1656.6, and 1657.8 to 1658.0 fmsl on Lake Albert's shore.

OUTLET

The outlet for Lake Albert is located on the northeast side of the lake in the NE¼ SW¼ SW¼ Section 25, T113N, R53W (see Attachment No. 1). The outlet consists of three 4.5 foot culverts and a natural channel leading east to Lake Poinsett. The overflow elevation of the culverts is 1649.5 fmsl however survey data indicates that the control is a natural ground elevation in the outlet channel. A cross section of the outlet channel approximately 150 feet downstream of the culverts reveals a flow elevation of 1650.2 fmsl. See Attachment No. 3.

In South Dakota most of the lakes with OHWM's have outlets that are six inches to one foot below the OHWM. The recommended OHWM for Lake Albert is 2.7 feet above the overflow elevation of the outlet. Water flows from Lake Albert through a flat wide channel into Lake Poinsett. Lake Poinsett flows to the Big Sioux River through another flat wide channel. Lake Albert's outlet-channel pools in areas and is congested with reeds and silt, see Attachment No. 3 and Photo No. 5. These conditions lead to OHWM's more than one foot above the outlet and water levels above the OHWM during times of extreme precipitation and runoff.

CONCLUSIONS

1. The term "Ordinary" for any given lake, as defined by established OHWM's can be synonymous with average, normal and yearly. "Ordinary" can also take into consideration periodic fluctuating water levels based upon prevailing climatic conditions and watershed characteristics.
2. A meander line is not at a constant elevation and is not considered in determining the OHWM for any given lake.
3. Measured water levels since April 18, 1965, indicate that Lake Albert has experienced 8 feet of fluctuation.
4. Man made influences caused by road construction and culvert installation over and in the outlet and inlet channels may have affected the Lake Albert OHWM, but have been in existence long enough to constitute natural conditions.
5. Based upon the field data summarized in Attachment No. 8, a recommended OHWM elevation for Lake Albert is 1652.9 fmsl. Soil characteristics such as boulder lines, washed cobble and individual large boulders afforded strong evidence with supportive evidence from terrestrial vegetation and erosional features. OHWM's are not associated with the highest limits of a lake bank but are associated with the upper limits of a lake bank. The majority of the indicators show the OHWM exists at the elevation of 1652.9 fmsl; it is recommended that the OHWM be established at 1652.9 fmsl.
6. It is recommended that the outlet elevation for Lake Albert be established at 1650.2 fmsl.
7. Vested Water Right Claim No.911-3 should be validated for sufficient water to maintain the ordinary high water mark.



Lynn Beck
Natural Resources Engineer Specialist
Water Rights Program



Gale N. Selken, P.E.
Natural Resources Engineer Director
Water Rights Program

**AGENDA
WATER MANAGEMENT BOARD**

May 12, 2004

**Scheduled hearing times are Central Time
and are estimates that may be delayed
due to prior agenda items.**

**Community Room
Chamber of Commerce, 800 West Dakota Ave
Pierre SD 57501**

- 8:30 AM** Call to Order
Approve March 3, 2004 Board Minutes
July 7 - 8, 2004 meeting location (Pierre suggested)
Status and Review of Water Rights Litigation – John Guhin
Administer Oath to Department of Environment and Natural Resources Staff
- Request Permission to Advertise Public Hearing on Drinking Water Regulations – Darron Busch
Request Permission to Advertise Public Hearing on Ground Water Discharge Permit and Ground
Water Quality Standards – Gary Haag
Request Permission to Advertise Public Hearing on Well Construction Standards – Ken Buhler
- Well Driller and Pump Installer Failure to Obtain Continuing Education – Ken Buhler
- 9:00 AM** Establishment of an Ordinary High Water Mark and Outlet Elevation for Lake Albert –
Lynn Beck
- 10:00 AM** New Water Permit Applications
- Application Nos. 6460-3, 6461-3, 6462-3 and 6463-3, Gary Marshall/Marshall Brothers – Jim
Goodman
- Requests to Rescind Suspension of Permits/Rights for Failure to Submit Annual Irrigation
Questionnaire – Genny McMath
- Cancellation Considerations – Eric Gronlund
- 10:30 AM** Review of Temporary Water Permit No. 6262-3, Larry Husman – Stacy Johnson
- 11:00 AM** Qualifications to Water Permit No. 6382-3, William St. Clair – Eric Gronlund
- 11:30 AM** Senator Frank Kloucek's Petition to Amend Administrative Rules of South Dakota
- LUNCH**
- 1:00 PM** Motion to Supplement the Record and Reconsideration in the matter of Water Right No. 2995-3,
Roland Kleinschmidt
- 1:15 PM** Water Permit Application No. 1735-1, Steve Bauer – Don Stroup
- Adjourn**

Chairman Holzbauer requested board action.

Motion by Gunderson, seconded by Rollag, to renew the following licenses for 2004 with the qualification no licenses will be renewed in 2005 unless the required continuing education credits are earned acquired by the license holder: 3D Ditching; Air, Soil, Water & Assoc.; B&B Foundation Service; Chester Hardware; Ginsbaugh Plumbing & Heating; Graf Drilling; Hanson Construction; Gary Herman Well Repair; Reiners Well Drilling; K&K Well Drilling; Marion Well Drilling; Mayer Plumbing; McLaury Flannery Engineering; Milbrook Industries; Action Pump Repair; Wallace Well Service; Robert Wang; and Wild Goose Well Drilling.

Ms. Gunderson commented that all well drillers should be members of the Well Drillers Association. She noted that it is the association's responsibility to notify the well drillers of opportunities for continuing education.

Chairman Holzbauer administered the oath to Victor Wang.

Mr. Wang stated that he is a licensed insurance agent in South Dakota. He said the board adopted and is enforcing the continuing education rules, but it does not offer the well drillers opportunities to receive continuing education.

Chairman Holzbauer requested board action on the motion.

The motion carried.

ESTABLISHMENT OF AN ORDINARY HIGH WATER MARK AND OUTLET ELEVATION FOR LAKE ALBERT: Chairman Holzbauer opened the hearing at 9:45 a.m.

Diane Best, assistant attorney general, represented the Water Rights Program. She provided the board with a copy of the statutes for ordinary high water marks. Ms. Best noted that 89 years ago the South Dakota Supreme Court ruled that Lake Albert is a public lake.

Ms. Best offered DENR Exhibit I, the department's file for this matter, and DENR Exhibit 2, Lynn Beck's curriculum vita. The exhibits were accepted into the record.

Lynn Beck presented the board with copies of her report.

Ms. Beck reported that Richard Helsper, on behalf of his clients, submitted a written request to the Water Management Board for the establishment of an Ordinary High Water Mark (OHWM) for Lake Albert.

In response to this request, an investigation was conducted in the summer and fall of 2003 to determine elevations to be recommended for the OHWM and outlet elevation.

Water Management Board
May 12, 2004, Meeting Minutes

The meander line was surveyed around Lake Albert in 1873. A meander line is a line that meanders and is not at a constant topographic elevation. An OHWM is at a constant topographic elevation.

Lake Albert is located in the southern central portion of Hamlin County and the northeastern portion of Kingsbury County. The lake is about 10 miles north of Arlington, SD. Lake Albert has a watershed area of approximately 69 square miles and a surface area of about 3,700 acres at the outlet level. Ms. Beck noted that the elevations referenced in her report are from 1,929 sea level datum.

The Department of Game, Fish and Parks (GFP) holds Vested Water Right Claim No. 911-3 for water stored in Lake Albert for recreational purposes. The claim holds an 1889 priority date. This claim will need to be validated for sufficient water to maintain the OHWM.

Lake Albert is part of a chain of lakes that flow into the Big Sioux River. Attachment No. 1 is a map showing the chain of lakes. The chain of lakes starts with Lake Marsh to the north and continues south through Lake Norden, Lake Mary, Lake St. Johns, Lake Albert, and Lake Poinsett. Ms. Beck noted that Lake Albert also receives flow from the south by way of Badger and Thisted lakes. When including Lakes Mary and St. John, Lake Albert's watershed area is about 88 square miles. These three lakes share much the same lake levels and channel elevations. Attachment No. 5 shows lake levels for Lake Albert and a group of lakes that lie fairly close to Lake Albert. Attachment No. 6 shows a graph of Observation Well HN-76E.

Attachment No. 4 shows available water level measurements for Lake Albert. The Water Rights Program has taken water level measurements for Lake Albert twice a year, once in the spring and once in the fall, since 1983. The East Dakota Conservancy Subdistrict took water level measurements between the years of 1965 and 1978. Recorded measurements show that water levels in Lake Albert have varied as much as eight feet. The lowest level measured by the Water Rights Program was 1,648.8 fmsl in May 1990 and the highest measurement was 1,656.9 fmsl in May of 1986.

There have been significant spring melt and runoff events in the Lake Albert area. In the spring of 1969, 1997, and 2001, the spring runoff events added as much as five feet to the lake levels. This resulted in lake levels between 1,654.5 fmsl and 1,656.5 fmsl. There have been other significant runoff events that resulted in high lake levels, but did not add that much volume to the lake.

Lake Albert experienced levels at or below 1,649.5 fmsl in 1968, 1973, 1975, 1976, 1988, 1989, 1990, and 2003.

Manmade influences around the lake are roads and culverts that have replaced portions of natural inlet and outlet channels for Lake Albert. Ms. Beck stated that to her knowledge, these structures were put in place legally and have been in place, in some cases, for decades, and constitute natural conditions.

Erosional features around Lake Albert, which are summarized in Attachment 8, consisted of cutbanks, slope changes, and washed root systems.

There are several slope changes, with the most significant changes occurring at the toe of steep banks or washed and cut banks. Some of the more gentle changes in slope occurred along the beach and latter portions of the lake shore.

Erosional features around a lake indicate where water has acted upon the shore long enough to leave a distinct mark.

An idealized lake shore progression would start with backshore boulder sized materials and terminate with clay and peat materials deposited in the deepest portions of the lake. However, at Lake Albert, washed pebbles and cobbles occur amongst boulder lines, so it was not stratified quite as distinctly as other lakes have been.

The boulder lines that were present at Lake Albert were the result of ice action or erosion due to wave action. There were boulder lines present and found at the base and along the slopes of steeply sloping hillsides. Some boulder lines on Lake Albert occur on more gentle slopes along the shore. Boulder lines are summarized in Attachment 8.

Attachment No. 9 is a graph showing yearly precipitation totals from the Arlington and Castlewood stations in Hamlin County. Lake Albert is most influenced by yearly precipitation and evaporation.

Ms. Beck discussed Attachment 10, which includes photographs of the outlet, inlet, and OHWM evidence.

Trees were observed to begin at elevation 1,653.6 fmsl. Larger trees with diameters of two and one half to three feet were found at elevation 1,654 fmsl to 1,657.5 fmsl. Tree elevations that were surveyed represented the general elevations that trees were occurring at around the lake.

Washed root systems are indicative of wave action at the base of trees. The elevations of the top of the exposed roots can also indicate the ground elevation prior to the erosion. Washed root systems for trees greater than two feet in diameter were observed at elevations 1,654, 1,656.6, and 1,657.8 to 1,658 fmsl on Lake Albert's shore.

The outlet for Lake Albert is located on the northeast corner of the lake. The outlet consists of three four and one half foot culverts and a natural channel leading east to Lake Poinsett. The overflow elevation of the culverts is 1,649.5 fmsl, however survey data indicates that the control is a natural ground elevation in the outlet channel. A cross section of the outlet channel approximately 150 feet downstream of the culverts reveals a flow elevation of 1,650.2 fmsl.

Most South Dakota lakes with OHWM's have outlets that are six inches to one foot below the OHWM. The recommended OHWM for Lake Albert is 2.7 feet above the overflow elevation of the outlet. Water flows from Lake Albert through a flat wide channel into Lake Poinsett. Lake Poinsett flows to the Big Sioux River through another flat wide channel. Lake Albert's outlet channel pools in areas and is congested with reeds and silt. These conditions lead to OHWM's more than one foot above the outlet and water levels above the OHWM during times of extreme precipitation and runoff.

The chief engineer recommended that the Ordinary High Water Mark for Lake Albert be established at elevation 1,652.9 fmsl, that the outlet for Lake Albert be established at elevation 1,650.2 fmsl, and validation of Recognized Water Right Claim No. 911-3 for sufficient water to maintain the Ordinary High Water Mark of 1,652.9 fmsl.

Richard Helsper, attorney from Brookings, represented the petitioners, a group of riparian landowners who requested the establishment of an Ordinary High Water Mark at Lake Albert. Mr. Helsper requested that the board adopt the chief engineer's recommendation.

Lyle Johnson, Brookings, Chairman of the Brookings Hamlin Sioux Water Project District (WPD), was administered the oath by Chairman Holzbauer.

Mr. Johnson stated that the water project district board hired Carey Bretsch, Civil Design, Inc. to review and comment on Lynn Beck's report for the Lake Albert OHWM. Mr. Johnson said the water project district is concerned with flooding issues, water storage, and aquifer levels.

Carey Bretsch, Design Inc., Brookings, was administered the oath by Chairman Holzbauer. He presented Civil Design, Inc.'s comments and review of the report on the OHWM for Lake Albert. Mr. Bretsch stated that at the request of the Brookings Hamlin Sioux Water Project District, he reviewed and commented on a report by Lynn Beck entitled "Report on Lake Albert – Hamlin/Kingsbury County Ordinary High Water Mark Investigation" dated January 29, 2004.

Mr. Bretsch offered Brookings Hamlin Sioux WPD Exhibit 1, Civil Design, Inc.'s comments and review of the report. The exhibit was accepted into the record.

Mr. Bretsch stated that he is the president of Civil Design, Inc. (CDI), which is a consulting engineering firm. Mr. Bretsch has a Bachelor's Degree and Master's Degree from South Dakota State University. He is a registered professional engineer and has been working in the consulting business for over 10 years. Mr. Bretsch said CDI reviewed all data, statements, and conclusions within Ms. Beck's report with the intent of either confirming or refuting the conclusions of the report. CDI analyzed DENR data to verify the report data and to support its own conclusions.

Mr. Bretsch noted that Black's Law Dictionary defines "ordinary" as regular, usual, normal, common; often recurring; normal the normal or average. CDI looked at all of the data

included in Ms. Beck's report. There was very good data referencing the elevation of the lake. From a statistical point of view, CDI applied a normal distribution and established an unbiased mean, or standard deviation, and created trim values. CDI tried to create a band that would be normal or usual for Lake Albert by trimming off the top and bottom values that represent three standard deviations from the mean and finding the average using statistical information.

Mr. Bretsch said CDI also looked at the influence of waves using a formula from the American Society of Engineers for shallow inland lakes. A normal wave for a 45 mile per hour wind is 2.85 feet. So from the information Ms. Beck presented, there could be influence on any of those lake elevations of an additional 2.85 feet due to wave action.

Mr. Bretsch stated that using the results of the statistical analysis, CDI is suggesting that the OHWM be established at 1,651.6 fmsl. This represents the normal or average value of the lake level.

Mr. Bretsch said Ms. Beck's report suggests an outlet elevation of 1,650.2 fmsl, which is represented by a high point in the channel approximately 150 feet downstream of the culvert structures. In 1997, those culverts washed out and the deposit of the material from the road would typically land approximately 150 feet downstream. CDI tried to get into the outlet channel to do sampling to see if the material would be representative of what would typically be found in a roadway because the channel has never been cleaned since that event. The landowner would not allow CDI to enter his property to conduct the sampling.

Mr. Bretsch said CDI's contention is that the outlet elevation is established by the culverts as being the highest point in the channel. The channel itself is approximately 74 feet long and there is one foot of drop from the top to the bottom end. So Ms. Beck's establishment of a long flat channel is supported in this regard because it is a very long and very flat channel.

CDI concluded that the outlet elevation should be established at 1,649.4 fmsl.

Mr. Bretsch said the difference between CDI's recommended OHWM and outlet elevation is approximately the same as what DENR recommended.

In considering the long flat channel, CDI would tend to believe that the establishment of the OHWM would be very close to that of Lake Poinsett because they would tend to, by gravity, go to their outlet elevations. The OHWM at Lake Poinsett is 1,651.5 fmsl and CDI's recommended OHWM for Lake Albert is 1,651.6 fmsl.

Mr. Bretsch said CDI recommended that the board set the OHWM for Lake Albert at 1,651.6 fmsl and the outlet elevation at 1,649.4 fmsl.

Mr. Bretsch answered questions from the board members, Ms. Best and Mr. Helsper.

Following Mr. Bretsch's testimony, Ms. Best recalled Ms. Beck.

Ms. Beck testified that the statistical analysis offered by Mr. Bretsch is not a generally accepted method for establishing an OHWM. She said the only case she is aware of that the board used statistical analysis in establishing the OHWM was Lake Poinsett. The Lake Poinsett OHWM was set in 1973, which was before the Waubay lakes decision issued by the Water Management Board.

Ms. Best asked Ms. Beck if she disagrees with CDI's wave action calculations. Ms. Beck answered that she does not disagree with these calculations. The evidence on the shoreline that is used in determining an OHWM is deposited on the shore due to wave action and lake levels.

Ms. Best offered DENR Exhibit 3, a May 30, 1965, USDA aerial photograph, and DENR Exhibit 4, a July 16, 1971, USDA aerial photograph. The exhibits were admitted into the record.

Ms. Beck said the lake levels were measured on May 26, 1965. In general, the lake levels were approximately 1,651.5 fmsl and parts of the channel were dry.

Ms. Beck noted that Exhibit 4 shows that lake levels at Lake Albert between June 1971 and August 1971 were 1,652.2 fmsl and dropped to 1,651.8 fmsl. Lake Poinsett was a bit lower at 1,651 fmsl. She said the aerial photographs show there is a history of the outlet elevation of Lake Albert being influenced by an elevation higher than the 1,649.5 fmsl, which is the flow line elevation of the culverts at the lake.

Ms. Best asked if the outlet elevation advocated by Mr. Bretsch is followed whether a clean out of the outlet channel would be required. Ms. Beck answered that it would need to be cleaned out and it would also have to be maintained. Changing the outlet elevation may change the recommended OHWM elevation.

Mr. Bretsch said the elevation at Lake Poinsett was 1,651.44 fmsl in the 1965 photograph and the OHWM is set at 1,651.5 fmsl. The photograph shows Lake Albert at 1,651.6 fmsl, which is what CDI is proposing for the OHWM. He asked Ms. Beck how she can tell from the photograph if there is water in the channel.

Ms. Beck answered that there is a lower section in the outlet where the water ponds. Beyond that, it appears to be dry for a short distance until it gets closer to the highway. An elevation of 1,651.4 fmsl would be quite a bit higher than the outlet of 1,649.5 fmsl. Ms. Beck said she did not view the channel in 1965, but did view the channel in the summer of 2003. Beyond the ponded area to the west it was indicative of the channel bottom soils with not much vegetation.

Mr. Bretsch stated that in both 1965 and 1971 the difference in the elevations are relatively the same. These photos show no evidence that you can see water in the channel.

Ms. Beck noted that Attachment 5 in her report shows the lake levels.

Merle Walter, Arlington, was administered the oath by Chairman Holzbauer. He asked whether the culverts were at the same elevation when Ms. Beck conducted her investigation as they are now. He said the same contractor that is doing the project on Lake Albert has also been doing a project on Lake Poinsett, which affect both the outflow of Lake Albert and the inflow of Lake Poinsett. Mr. Walter said he is concerned that this waterway is not altered in any way that would affect the water flow from Lake Albert to Lake Poinsett.

Ms. Beck stated that when she first surveyed the culvert inverts were at 1,649.5 fmsl. In the meantime, some construction work occurred and Ms. Beck discovered that the culverts had been raised. As a result, the department issued a notice to lower the culverts back to the original elevation. This was done and the culverts are again at 1,649.5 fmsl.

After Ms. Best and Mr. Helsper provided closing statements, Chairman Holzbauer requested board action.

Motion by Gunderson, seconded by Loucks, that the Ordinary High Water Mark for Lake Albert be established at elevation 1,652.9 feet mean sea level, that the outlet for Lake Albert be established at elevation 1,650.2 fmsl, and validation of Recognized Vested Water Right Claim No. 911-3 for sufficient water to maintain the Ordinary High Water Mark of 1,652.9 fmsl. Motion carried.

The board asked Harold Deering to prepare the Findings of Fact, Conclusions of Law and Final Decision.

REQUESTS TO RESCIND SUSPENSION OF PERMITS/RIGHTS FOR FAILURE TO SUBMIT ANNUAL IRRIGATION QUESTIONNAIRE: Genny McMath presented her reports on suspended water permits/rights.

On October 17, 2003, 2,927 annual irrigation questionnaires were sent by First Class Mail. The permit holders were given until December 2, 2003, to return the forms.

On January 14, 2004, 228 notices were mailed to those irrigators who had not returned their irrigation questionnaires. All of the notices were sent "signature confirmation requested."

On March 3, 2004, the Water Management Board suspended 22 water permits/rights for one year, suspended one water right for three years, and amended 16 water permits/rights to include the mandatory irrigation questionnaire qualification.

The following water right/permit holders have requested the Water Management Board rescind the suspensions:



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

Lake Albert in Kingsbury/Hamlin Counties

VWR No. 911-3

The OHWM was set by the the Water Management Board on May 12, 2004.

OHWM elevation 1652.9 fmsl NGVD29

The outlet elevation was set by the Water Management Board on May 12, 2004.

OHWM elevation 1650.2 fmsl NGVD29

The Water Management Board validated Vested Water Right No. 911-3 on May 12, 2004.