

Considered: _____

WATER PERMIT NO. 5186-3

MAP No. same 983-5636

Name of Applicant Kingbrook Rural Water System, Inc.

Post Office Address Drawer 299, Arlington SD 57212

Amount of Water Claimed 0.7 cfs Total Acres NA

Source of Water Supply 1 well

Water to be used for rural water system use County MA, MC, MR, LK, MY, BE, KE, CK, HM

About 1 1/2 miles N of De Smet

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F. & C.L. Adopted _____ Not Approved _____ Deferred _____

PRIORITY _____ Date Received Mar 29, 1988 Fee \$300.00 Remarks _____

3/29/88

Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

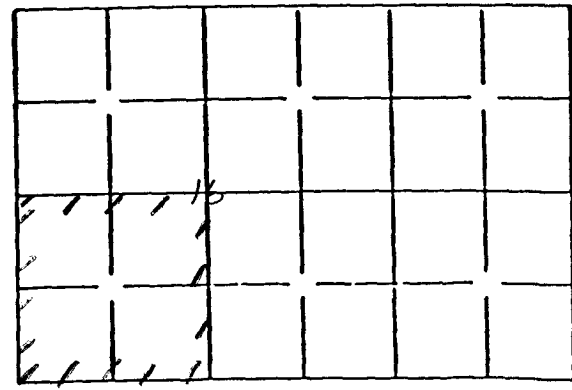
WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

WI-1 Description same as Application YES _____ NO _____ REMARKS _____

Diversion Point well: SW 1/4 section 16 - T111N -

R56W

Land to be Irrigated NA



Well Log: Driller not constructed Licensed YES _____ NO _____

Depth of Well 50 feet REMARKS _____

Type of Map plat PREPARED BY Gary Patton Reviewed and the Number

assigned on March 29, 1988 By Don Swall

No. 5186-3 Hydrologic Unit 10170103
 Map No. same Basin Vermillion River
 Newspaper see attached sheet - (9 papers)

Application For Permit To Appropriate Water Within The State Of South Dakota

Check use of water: Industrial ☐ Commercial ☐ Municipal ☐ Other Common Distribution System ☐
 Rural Water System ☒ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
 Domestic ☐ (above 18gpm) Other ☐

Type of Application: Check one or more of the following

New ☒ Vested Right ☐ Future Use ☐ Change Use ☐

☐ Amend Permit No. _____ with old priority date retained

Change diversion point(s) ☐ Add diversion point(s) ☐ Other ☐

☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____

☐ Construction to use water reserved by Future Use Permit No. _____

1. Name of Applicant Kingbrook Rural Water System, Inc. Phone No. (605) 983-5636

Post Office Address Drawer 299, Arlington, South Dakota State 57212
(Street, RR or Box) (City) Zip Code

2. Amount of water claimed (c.f.s.) 0.7cfs

3. Source of water supply 1 Well groundwater

4. Location of point of diversion Southwest Quarter of Section 16, T111N, R56W

County Kingsbury

5. Counties where water will be used Kingsbury, Miner, Lake, Minnehaha, McCook, Moody, Brookings, Hamlin, Clark

6. Annual period during which water is to be used Continuously Jan 1 - Dec 31

7. Give a brief description of proposed project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Subproject 1 of Kingbrook New Member Addition project:

Addition of one well, expansion of water treatment plant, construction of elevated tank and booster station, construction of approximately 48 miles of pipeline, and service connections to provide water service to 117 proposed new members.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

STATE OF SOUTH DAKOTA)
 County of Kingsbury)^{ss}

I, Kingbrook Rural Water System, Inc.

the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed

Larry S. Sterling
Chairman of Board

Subscribed and sworn to before me this 28th day of March 1988

Jolene King
 Notary Public

**SOUTH DAKOTA
WATER PERMIT**

Date of first receipt of application March 29, 1988

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

Date of receipt of corrected application _____

The Water Management Board approved Water Permit Application No. 5186-3

on May 11, 1988 for Kingbrook Rural Water System, Inc.

Drawer 299 Arlington SD 57212
(Street, RR or Box) (City) (State) (Zip Code)

authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 5186-3 appropriates 0.70 cubic feet of water per second from 1 well, 50 feet deep to be located in the SW 1/4 Section 16-T111N-R56W
2. The water appropriated shall be used for the purpose of supplying the Kingbrook Rural Water System and may not exceed the amount of water needed for beneficial use for rural water system use
3. The water is to be used during the following described annual period: Jan 1 - Dec 31
4. The date from which applicant may claim the right is March 29, 1988
5. One-fifth of the construction is to be completed on or before November 11, 1990
6. All construction is to be completed on or before May 11, 1993
7. Water is to be put to beneficial use on or before May 11, 1997
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized pursuant to this permit shall be constructed by a licensed well driller and construction shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04.

WATER MANAGEMENT BOARD

By: John H. Bates
Chief Engineer

Division of Water Rights
Dept. of Water and Natural Resources

DEC 1 1988

AMENDMENT OF PERMIT NO. 5186-3

Approval of Permit No. 5208-3 by the Water Management Board March 1, 1989 amended Permit No. 5186-3 with the following qualifications:

1. Maximum combined annual withdrawals under Permit No. 4137-3, 5186-3 and 5208-3 may not exceed 1,350 acre feet.

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

- a) Drill Hole Diameter 20" Depth 50'
- b) Casing Type Black steel Diameter 12" Thickness 0.375"
- c) Screen Type Stainless steel Diameter 12" Thickness 3/16"
- d) Gravel Pack Thickness 4" Length of Gravel Pack 30'
- e) Depth to Top of Water Bearing Material 5'
- f) Depth to Water (ground surface to water level) 10'
- g) Distance to nearest existing domestic well:
 On applicants property None On property owned by others 800'

2. Dugout Information Estimates

- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

3. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam please give their name and address

b) Freeboard _____

c) Crest Width _____

Crest Length _____

d) Height _____

e) Primary Outlet Capacity _____
 If Pipe, diameter _____

f) Secondary Spillway Capacity _____
 Spillway width _____

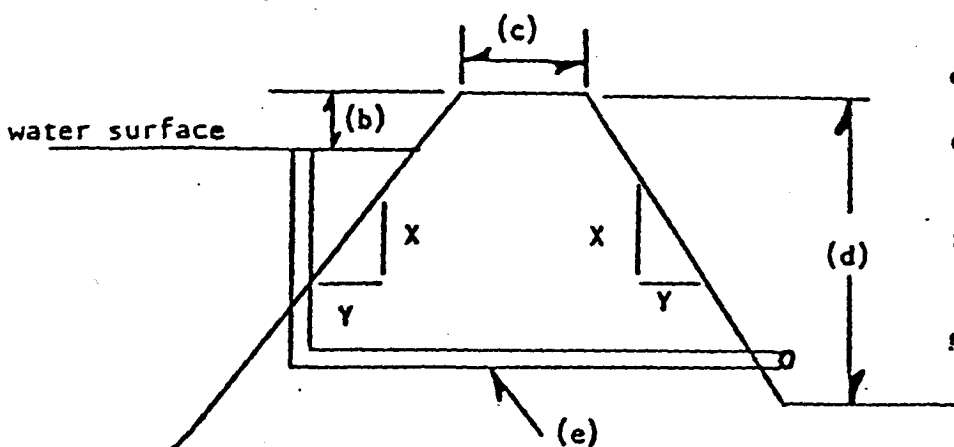
g) X & Y Slope
 Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Larry Sterling

Signature of Applicant

Chairman of the Board

RECEIPT

Division of Water Rights

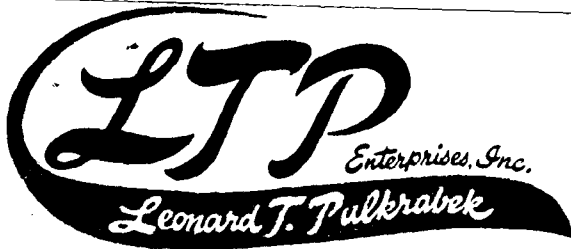
South Dakota Department of Water and Natural Resources

Pierre, March 29, 1988

RECEIVED OF Kingbrook Rural Water System, Inc., Drawer 299, Arlington, SD 57212
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>5186-3</u> to Appropriate Water, to construct works and to put water to beneficial use _____	300	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	300 00

By John Hatch
Chief Engineer JOHN HATCH RES.



Box 2131
FARGO, N. DAK. 58107

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. SD3137CA Commitment date _____ Call taken by Bid

Owner Kingbrook Rural Water Telephone 605-983-5079 Date 6-17-89

City Arlington, SD County _____ State South Dakota

Well No. #4 Location Well at De Smet

Well diameter 12" Well depth 61' Year Constructed 88 Did we drill Yes

Screen Diameter 12" P.S. Screen Length 18 Screen Material S.S. Screen Slot 45 Leader —

Static Level 11.9 Pumping Level 30.24 G. P. M. Tested 470 With what? Test Pump

Specific yield, 30.56 G. P. M. per feet of D.D. after 24 hours of pumping _____

Type of well- Filter wall X Naturally developed _____ Filter Sand Size 10-20

Additional information pertaining to well _____

Driller Dave Wiederholt Date completed 12-14-88

PUMP AND SYSTEM DATA

Type of Pump- Turbine _____ Submersible X Make Grundfos Model 3755200-3 Pump Serial No. 264-485

Size Motor 20 Hp Voltage 460 V Phase 3 Motor Serial No. B 89

Type of Column? Turbine _____ Submersible X Length of Column 31 Size of Column 4" Material Black

Size of Line- Shaft _____ Material of Shaft _____ Replacement No. of line shaft bearings _____

What type of System? Pressure _____ Elevated Tank _____ House _____ Pitless Unit monitor

Size Pitless Unit 12 x 14 Bury depth of Pitless Unit 8' Total pump setting from intake 42'

Air line length 45' Size 1/4" Material Plastic

Amperage under operating conditions- Line 1 _____ Line 2 _____ Line 3 _____

Additional information pertaining to pump and system _____

Date installed 6-14-89 By Company L.T.P. Enterprises, Inc. Operator Bruce Pulkrabek

COUNTY: KINGSBURY

LOCATION: 111N-56W-16BCCC

LEGAL LOCATION: SW SW SW NW SEC. 16, T. 111 N., R. 56 W.

LATITUDE: 44.2511

LONGITUDE: 97.3417

LAND OWNER:

PROJECT: KINGBROOK RURAL WATER

DRILLING COMPANY: SDGS

DRILLER:

DRILLER'S LOG:

GEOLOGIST: A. BARARI

GEOLOGIST'S LOG: X

DATE DRILLED: 06-00-1976

DRILLING METHOD: AUGER

GROUND SURFACE ELEVATION: 1708.00 T

TOTAL DRILL HOLE DEPTH: 39

TEST HOLE NUMBER: 47

USGS HYDROLOGICAL UNIT CODE: 10170103

ELECTRIC LOG INFORMATION:

SPONTANEOUS POTENTIAL:

SINGLE POINT RESISTIVITY:

NATURAL GAMMA:

EXTRA:

SAMPLES:

0 -	3	SILT, GRAY
3 -	5	SAND, BROWN, VERY FINE, SILTY
5 -	7	SAND, BROWN, MEDIUM, VERY SILTY
7 -	11	SAND, GRAY, COARSE, SILTY
11 -	15	SAND, SLIGHTLY SILTY; SOME FINE GRAVEL
15 -	30	SAND, MEDIUM TO COARSE; CLEAN
30 -	35	GRAVEL, FINE TO MEDIUM, SILTY
35 -	39	CLAY (TILL)

COUNTY: KINGSBURY LOCATION: 111N-56W-17DDDD
LEGAL LOCATION: SE SE SE SE SEC. 17, T. 111 N., R. 56 W.
LATITUDE: 44.2445 LONGITUDE: 97.3420
LAND OWNER:
PROJECT: KINGSBURY-BROOKINGS STUDY
DRILLING COMPANY: SDGS
DRILLER: M. YESKE DRILLER'S LOG:
GEOLOGIST: D. TOMHAVE GEOLOGIST'S LOG: X
DATE DRILLED: 06-29-1983 DRILLING METHOD: AUGER
GROUND SURFACE ELEVATION: 1712.00 T
TOTAL DRILL HOLE DEPTH: 68 TEST HOLE NUMBER: A2-83-13
USGS HYDROLOGICAL UNIT CODE: 10170103
ELECTRIC LOG INFORMATION:
SPONTANEOUS POTENTIAL: SINGLE POINT RESISTIVITY:
NATURAL GAMMA: EXTRA:
SAMPLES:

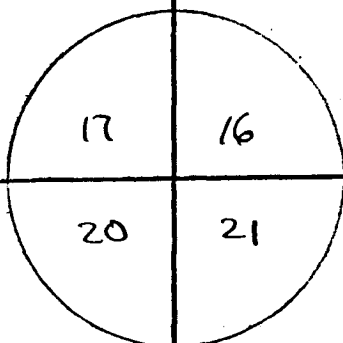
0 -	11	GRAVEL, RED-BROWN, COARSE, SANDY, SILTY; OXIDIZED, MOIST, SOME COBBLES
11 -	14	CLAY, DARK-BROWN, PEBBLY; OXIDIZED, MOIST, SATURATED AT 12 FEET
14 -	20	GRAVEL, RED-BROWN, COARSE
20 -	23	CLAY, GRAY, PEBBLY; UNOXIDIZED
23 -	60	SAND, COARSE, WELL-SORTED; UNOXIDIZED
60 -	68	CLAY, GRAY, PEBBLY; UNOXIDIZED, SATURATED

CALCULATIONS FOR

KINGBROOK RWS

SW 1/4, Sec. 16, T 111 N, R 56 W

Well to be located within SW 1/4.
Exact location to be verified with
additional drilling and test pumping.



I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota and that I am competent to prepare this document.
Registration No. 3612 Date 3/29/88
By Larry Patton

↑
N
1" = 500'

Appl. No. 5186-3

DEWILD

GRANT

RECKERT

& ASSOC.

ENGINEERS

ARCHITECTS

PLANNERS

CONSULTANTS

IN CHARGE

OF PROJECT

DEVELOPMENT

PRELIMINARY ENGINEERING REPORT

**KINGBROOK
RURAL WATER SYSTEM
NEW MEMBER ADDITIONS**

SEPTEMBER 1987

DeWild Grant Reckert & Assoc. Co.

PROJECT NO. 3729

PRELIMINARY ENGINEERING REPORT
KINGBROOK RURAL WATER SYSTEM
NEW MEMBER ADDITIONS

Board of Directors

Chairman - Larry Sterling
Vice-Chairman - Tom Gordon
Secretary/Treasurer - Dave Raw

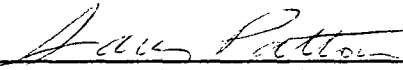
- Directors -

Lyle Johnson
Darwin Bjorklund
Lowell Gisselbeck
John Weidler
Harold Whirledge
Gale Nelson

Manager

Willis Nelson

I hereby certify that this plan, specification
or report was prepared by me or under my direct
personal supervision and that I am a duly Registered
Professional Engineer under the laws of the State
of South Dakota.

By 
Gary Patton, P.E.

Registration No. 3612

Date 9/28/87

DGR Project No. 3729

DEWILD GRANT RECKERT & ASSOCIATES COMPANY
ARCHITECTURE - ENGINEERING - PLANNING
ROCK RAPIDS, IOWA
SIOUX FALLS, SOUTH DAKOTA

PRELIMINARY ENGINEERING REPORT
KINGBROOK RURAL WATER SYSTEM
NEW MEMBER ADDITIONS

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PRELIMINARY ENGINEERING REPORT
KINGBROOK RURAL WATER SYSTEM
NEW MEMBER ADDITIONS

SECTION 1
INTRODUCTION AND SUMMARY

BACKGROUND:

The Kingbrook Rural Water System is a nonprofit corporation serving over 2200 rural customer-members in an area which encompasses parts of six counties in east central South Dakota. Water system facilities include three well fields and water treatment plants, five reservoirs and approximately 1200 miles of pipeline. The System office is located in Arlington.

The present number of customers on the Kingbrook System is approximately 25 percent more than the number included in the original system design. Most of the added users were hooked up during construction of the original system, which was completed in 1981. More customers would have been added in recent years were it not for water shortages and a moratorium on new hookups.

Water shortages have been experienced for several years in over two-thirds of the Kingbrook Rural Water System service area. These are the areas served by the System's DeSmet and Chester Water Treatment Plants. As a result, Kingbrook placed a moratorium on new service connections in these areas. Numerous inquiries for water service by rural residents, most of whom have serious problems with their private water supplies, have been received by Kingbrook over the past several years. Because of the moratorium, most of these people have had to be turned down. Additionally, rural residents in the areas not experiencing supply shortages who are not close to existing main lines cannot be added to the system unless they can afford to pay for the necessary main line extension themselves.

In February 1987 the Kingbrook Board of Directors decided to start an investigation into the feasibility of a new member addition project which would encompass the entire system. A signup campaign for new members was performed, including public announcements in the news media, public information meetings, contacts with county extension agents, and articles in Kingbrook's newsletter. A signup fee of \$50.00 was assessed to cover the cost of the feasibility study. By June of 1987, approximately 260 signups had been obtained.

The purpose of this study is to outline a program of water system improvements which will alleviate the existing water supply shortages and allow the addition of new members. The potential long-term growth of the system has also been considered. The improvements recommended herein have been designed so future growth can be accommodated cost effectively.

SUMMARY:

In addition to mainline extensions and service connections for 260 proposed new members, the project proposed herein includes major water system improvements to increase source, treatment, transmission and storage capacity. These improvements primarily consist of expansion of the water treatment plant located near DeSmet and the construction of transmission mains, a booster station and an elevated tank to extend the service area of this facility. Figure 1 shows the location of existing and proposed facilities, including pipeline of 4-inch diameter and larger. A set of distribution system maps showing individual user locations and all pipeline is bound separately.

The estimated total project cost for the proposed improvements is about \$4.5 million. In the event that financing for the entire project cannot be arranged in the near future, it has been divided into three sub-projects to allow phased financing and construction. These three sub-projects and their respective costs are listed below.

<u>Project 1:</u> Addition of one well, expansion of water treatment plant, construction of elevated tank and booster station, construction of approximately 47 miles of pipeline, and service connections to provide water service to 106 proposed new members.	\$1,725,000
--	-------------

<u>Project 2:</u> Construction of approximately 128 miles of pipeline and service connections to provide water service to 104 proposed new members.	\$1,847,000
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<u>Project 3:</u> Construction of ground storage reservoir and booster station, construction of approximately 51 miles of pipeline, and service connections to provide water service to 50 proposed new members.	<u>\$ 933,000</u>
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Total Project	\$4,505,000
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The three projects are designed to be completed in the order they are numbered, with the most critically needed improvements made in the early stages. Each project is roughly equivalent in terms of feasibility and none is dependent on subsequent projects for feasibility.

SECTION 2 EXISTING WATER SYSTEM

Kingbrook Rural Water System serves approximately 2,270 rural members in parts of Clark, Hamlin, Kingsbury, Miner, Lake and McCook counties. Kingbrook has water service contracts with the Cities of Lake Norden, Badger and Oldham. Figure 1, bound at the back of this report, shows the Kingbrook service area and major system facilities, including pipeline of 4-inch diameter and larger. A separately bound set of 15 distribution system maps shows all mainline and individual user locations.

Kingbrook's water sources consist of well fields and water treatment plants at three locations. The treatment plants remove iron and manganese and provide chlorination and fluoridation. From each water treatment plant, water is pumped to users in the immediate service area and to outlying ground storage reservoirs. High service pumps at each ground storage reservoir repump the water to the users in the reservoir's service area and, in some cases, to another outlying reservoir. In the absence of elevated storage, pressure is maintained throughout the Kingbrook system by constant-running high service pumps.

The Kingbrook Rural Water System was financed and constructed in three phases. Following is a brief description of each.

PHASE I:

Phase I is the northeast quadrant of the system and extends from the Lake Norden area to the Lake Campbell area. The water source for Phase I is a well field and water treatment plant north of Bruce. This facility also serves Phase I of the Brookings-Deuel Rural Water System and is jointly managed by the two systems. From the Bruce plant, water is pumped to 2 outlying ground storage reservoirs and pump stations located near Badger and Arlington.

PHASE II:

Phase II is the northwest quadrant of the Kingbrook system. It extends from Willow Lake to the Lake Thompson area. The Phase II water source is a well field and water treatment plant north of DeSmet. The DeSmet plant was originally designed to directly serve all Phase II customers, with no outlying reservoirs or pumping stations.

PHASE III:

The southern half of Kingbrook was developed as Phase III. The service area extends as far south as Interstate 90 in the Montrose area. The water source developed for this phase is a well field and water treatment plant located 3 miles northwest of Chester. Water is pumped from the Chester plant to 2 outlying ground storage reservoirs and pump stations near Orland and Junius.

The Oldham area at the north end of Phase III is much closer to the DeSmet water source than the Chester source. The design of Phase III therefore incorporated a ground storage reservoir and pumping station 3 miles south of Lake Preston to draw water from Phase II distribution lines and pump it south into the Phase III service area around Oldham.

SECTION 3 SYSTEM ANALYSIS

RURAL USER DEMANDS:

Monthly water sales and daily pumping station records were analyzed to determine water consumption patterns. Rural class consumption in the Kingbrook system averages about 12,000 gallons per user per month. From pumping station records, it is estimated that peak-day rural class consumption is about 600 gallons per user. Small town and cottage class consumption on peak days is estimated to be 300 gallons per user. Water loss averages about 15 percent of peak-day pumpage.

Table 1 shows existing and proposed numbers of connections in each service area of the system. Table 2 shows maximum (peak day) water demands in each service area based on existing and proposed conditions. As is discussed later in this report, proposed boundaries for several of the reservoir service areas are different than their existing boundaries.

MUNICIPAL DEMANDS:

The Cities of Lake Norden, Badger and Oldham currently have water service contracts with Kingbrook. Lake Norden has not been using Kingbrook water and City officials have informed Kingbrook that they do not intend to purchase water in the future. The City has recently been awarded a federal grant for supply source and water system improvements.

Kingbrook is looking into the possibility of terminating the Lake Norden water service contract, which provides for the supply of up to 90,600 gallons per day to the town. It has been assumed herein that Kingbrook will not have a future obligation to serve Lake Norden. The estimated water demands in Table 2 do not include supply to Lake Norden.

Although Badger and Oldham have not been purchasing water from Kingbrook, it is considered likely that they will in the future. Table 2 shows water demands on Kingbrook facilities with and without these municipal demands. The water demand included for Oldham is the contracted amount of 40,800 gallons per day. Since no maximum daily delivery is specified in the Badger contract, it was assumed that consumption would be similar to other small town customers. This implies a peak-day demand of about 12,000 gallons for Badger.

POTENTIAL FUTURE DEMANDS:

Table 2 shows future water demands in each service area if consumption per user increases by 25 percent. This would be equivalent to an increase from the existing 12,000 gallons per

month rural user consumption to 15,000 gallons per month. An increase in livestock numbers or the decreased use of private water supplies could cause such a growth in demand.

Surveys done by Kingbrook show that the system's users are becoming more dependent on their rural water system supply. In 1980, 33 percent of the users reported that they depended totally on Kingbrook for water. A 1985 survey showed that 51 percent of the respondents depended totally on Kingbrook. This percentage is expected to continue to increase in the future as private wells are abandoned in response to water quality concerns and to high maintenance and replacement costs.

SYSTEM CAPACITY:

Table 2 shows existing treatment capacities of each water plant and delivery capacities to each reservoir. Capacities are computed based on production and delivery for 22 hours per day in order to provide a small factor of safety. Of the existing Phase I facilities at Bruce, Badger and Arlington, only the Badger Reservoir is shown on Table 2 to have a capacity problem. This has been evidenced on a few occasions when the reservoir level at this station dropped low enough under high demands to lock out the high service pumps. Storage capacity at the Badger Reservoir is only about 30 percent of peak-day water demands in its service area. Transmission capacity to the Badger Reservoir and storage volume in the Badger service area should be increased to allow system growth.

Table 2 shows that existing water demands slightly exceed the reliable capacity of the DeSmet Water Treatment Plant. This supply shortfall would not allow Kingbrook to meet both rural and municipal demands if Oldham would start purchasing water. In 1983, a 6-inch transmission line was constructed from near the DeSmet Water Treatment Plant to the Lake Preston Reservoir. As a result, the supply capacity to the Lake Preston Reservoir (assuming capacity at the DeSmet W.T.P. is increased) is sufficient to support significant future growth in its service area.

In Phase III, the Orland and Junius Reservoirs have serious capacity problems. Transmission capacity to these facilities is inadequate to meet existing water demands. In the summer months the reservoirs are sometimes nearly emptied during day-time demands and cannot refill completely overnight. If consumption stays high the following day, a reservoir may reach the low level cutoff, shutting down the high service pumps. A service outage in the service area results. Water system customers have had to limit their usage and water system operators have had to open valves on interconnecting Phase I and II lines to maintain service on peak days.

SECTION 4 PROPOSED IMPROVEMENTS

It has been shown that peak water demands presently exceed the reliable delivery capacity of the water system in several service areas. At existing usage rates, total water consumption will increase by about 12 percent with the addition of 260 new members. An additional 3 percent increase could occur when the Cities of Oldham and Badger start using Kingbrook water.

A program of improvements to the Kingbrook system has been developed to address existing supply problems and to provide capacity for the proposed new members. The improvements in each Phase of the system are generally described below and are shown on Figure 1.

PHASE I:

A 300,000 gallon ground storage reservoir southeast of Lake Poinsett is proposed to alleviate the storage shortfall in Phase I. The reservoir would be located at the highest elevation available between the Bruce Water Treatment Plant and the Badger Reservoir. Eight-inch fill and draw lines would connect the new reservoir with the existing 8-inch transmission line to the Badger Reservoir. The water level in the Lake Poinsett Reservoir would "float" on the hydraulic gradient between the Bruce W.T.P. and the Badger Reservoir.

Installation of 2-1/2 miles of 6-inch pipe from the new reservoir to the existing distribution line around the south side of Lake Poinsett and a 4-inch crossing at Stone Bridge at the north end of the lake is recommended. This would allow average water demands in the low-pressure zone around the lake to be met directly from the new reservoir, eliminating the need to repump all this water at the Badger plant. Small booster pumps could be provided at the Lake Poinsett reservoir to meet peak lake-area demands.

Since the Lake Poinsett Reservoir would be an above-grade tank at one of the highest elevations in the Bruce and Badger service areas, it could provide minimal pressure across most of these service areas in the event of power failure at the pumping stations. Peak demands could not be met under power failure conditions, but less dewatering of pipeline would occur than at present with below-grade tanks at lower elevations.

Another major improvement recommended is installation of a 6-inch pipeline loop west of Bruce. This could eventually be connected to the existing 6-inch pipeline which runs east and south from the Arlington Reservoir. The 6-inch loop would initially serve a branch line northeast of the Arlington Reservoir which is now supplied from the Badger Reservoir. Included on this branch line are about 40 existing and proposed users.

Removal of the Lake Poinsett users from the Badger Reservoir service area and the future completion of the 6-inch line loop from the Bruce W.T.P. to the Arlington Reservoir service area would eliminate the need to increase transmission capacity to the Badger Reservoir.

PHASE II:

Inadequate capacity of Kingbrook's DeSmet Water Treatment Plant is one of the most serious supply problems in the system. The plant was originally designed to serve 305 rural Phase II customers. Add-ons during construction, subsequent add-ons, and addition of the Lake Preston Reservoir service area when Phase III was built, have increased the number of rural customers to over 500. Additionally, the City of Oldham is in the Lake Preston Reservoir service area.

This study has investigated the feasibility of addressing supply problems in both Phases II and III with improvements to the DeSmet W.T.P. and expansion of the DeSmet W.T.P. service area into the Howard and Ramona areas. These areas are presently served from the Chester W.T.P., through the Orland and Junius Reservoirs. Improvements proposed at the DeSmet facility include two new wells and associated raw water piping, expansion of the filtration plant to a 1 million gallon per day capacity, and construction of two above-ground storage reservoirs to increase clearwell capacity.

A 6-inch transmission main from the DeSmet W.T.P. south along Highway 25 and associated standpipe and pump station near Lake Thompson would provide water for 138 existing and proposed users in the Howard area. Capacity would be available in this line for future growth along Kingbrook's western edge. Western Kingsbury and Miner counties are not served by rural water systems and Kingbrook's DeSmet well field and water plant is ideally situated to provide service to these areas in the future. The DeSmet facility is at elevation 1730, while elevations in southwestern Kingsbury and western Miner counties range from 1300 to 1600. The elevation difference minimizes booster pumping requirements.

An expansion of the DeSmet source service area into the area around Ramona would take advantage of existing transmission capacity to the Lake Preston Reservoir. A booster station, elevated tank, and new 4-inch and 6-inch pipeline loops near Ramona would be required to add 73 existing and proposed users to the Phase II (DeSmet source) service area. The elevated tank south of Ramona could be located at one of the highest points in the Kingbrook system (ground elevation of 1875 feet). With emergency interconnections to other service areas, this tank could pressurize much of the Phase II and Phase III portions of the distribution system. The reliability of service to customers during power failures or other pump station outages would thus be greatly enhanced.

Transfer of the areas around Howard and Ramona from the Chester to the DeSmet supply source will result in reduced energy costs. The DeSmet well field is about 100 feet higher in elevation than the Chester well field, reducing the static lift required to pump water to these areas.

PHASE III:

The transfer of a large portion of the northern Phase III service area to the Phase II (DeSmet) water source would alleviate the existing Phase III supply problems. Addition of all the proposed new members in the remaining Chester water source service area would result in 84 fewer connections being served from the Chester, Orland and Junius facilities than are served at the present time. Except for main line extensions and services for new members, no initial improvements to the Chester-Orland-Junius service areas are proposed.

DELETIONS FROM PROJECT:

The estimated cost of all the improvements described above was considered to be too high for Kingbrook to finance without a significant increase in the average water bill of system members. Several of the improvements which would not be initially required to provide service to the proposed new members were therefore identified as possible deletions.

A portion of the pipeline loop west of Bruce could be deleted. Pipeline extended to new users in the area south of Lake Oakwood (see page 7 of the separately-bound distribution maps) should be 6-inch diameter to allow eventual completion of the loop. The 4-1/2 mile segment west of the town of Bruce would not be initially required, however.

Improvements at the DeSmet facility could be scaled back with the initial provision of one additional well and one new ground storage reservoir. The second well and ground storage reservoir could be added later as future capacity needs dictate.

Construction of the standpipe and pump station located southwest of Lake Thompson and 2-1/2 miles of 6-inch pipe east of the station could be delayed. This is dependent, however, on the continued serviceability of the existing 4-inch distribution line which is under water at the south end of Lake Thompson. Hydraulic analysis shows there would be low pressure problems under peak demand conditions if the noted 4-inch line is out of service.

It has been assumed that the above-described improvements will have to be deleted from the new member addition project for reasons of feasibility. The estimated cost of these improvements is listed in Table 4.

FUTURE IMPROVEMENTS:

Future improvements have also been identified which would increase the energy efficiency and reliability of the system, as well as meet future increases in water demands. These improvements and the improvements identified above as deletes from the initial add-on project are listed below and are shown on Figure 1.

Phase I:

1. 4-1/2 miles of 6-inch main west of Bruce.
2. Two miles of 6-inch main east of Arlington Reservoir (completion of Bruce-to-Arlington service area loop).
3. Arlington Tower.
4. Oakwood Booster Station.
5. Expansion of Bruce Well Field and Water Treatment Plant.

Phase II:

1. Expansion of DeSmet Well Field and additional clearwell storage at DeSmet Water Treatment Plant.
2. DeSmet Tower.
3. Tie-in of 6-inch Lake Preston Reservoir supply main with DeSmet area distribution lines.

Phase III:

1. Lake Thompson Pump Station and Standpipe.
2. Expansion of Chester Well Field and Water Treatment Plant.
3. Franklin Booster.
4. Montrose Tower.

SECTION 5
COST ESTIMATES, DEVELOPMENT PLAN AND FINANCING

COST ESTIMATES:

The estimated cost of the new member addition project is detailed in Tables 3A, 3B and 3C. The improvements listed in Table 3 do not include pipeline proposed in the revised reroute project (see Section 6), nor do they include items deleted from the original proposal. Table 4 lists the improvements deleted from the project and their estimated costs.

The total project cost to add 260 new members to the Kingbrook system and to provide the necessary increase in water delivery capacity is estimated at \$4,505,000.

RECOMMENDED DEVELOPMENT PLAN:

It is desirable to complete the proposed improvements and extend water service to the 260 new members as soon as possible. However, if financing cannot be secured within a reasonable time for the entire project, it could be divided into subprojects for phased development. A proposal for three subprojects is outlined in Table 5.

The three subprojects are designed to be completed in the order they are numbered, with the most critically needed improvements made in the early stages. Each project is roughly equivalent in terms of feasibility and none is dependent on subsequent projects for feasibility.

Subproject 1 would include the DeSmet water plant improvements and extension of the Phase 2 (DeSmet facility) service area to the Ramona area. These improvements would allow all proposed new members in the DeSmet service area (including those requiring main line extensions) to be added. The removal of the Ramona area users from the Phase 3 service area would allow proposed new members who are located on existing mains in the Chester, Orland and Junius service areas to be added. The proposed new members located on existing mains in the Phase I (Bruce, Badger and Arlington service area) could also be added in Subproject 1.

Subproject 2 would consist of the 6-inch transmission line from the DeSmet W.T.P. to the Howard area and mainline extensions and service to the rest of the proposed new members in Phase 3. Removal of Howard area water demands from the Phase 3 supply would provide the capacity required to serve the new members in the balance of the Phase 3 service area.

The Lake Poinsett Reservoir and Phase I mainline extensions for new members would be included in Subproject 3.

FINANCING:

Kingbrook's debt service on Farmers Home Administration (FmHA) loans totals approximately \$531,000 per year. This averages to \$19.90 per member per month. Including the 10 percent reserve to be maintained under FmHA guidelines, the total debt service and reserve payments amounts to \$21.90 per member per month.

Other costs of running the system, including operation, maintenance, capital improvements and administrative expenses, brought the total average water bill to about \$38.20 per month in fiscal year 1986-1987. The average water bill for the farm and rural residence class was about \$44.20 per month. The average cost of water to Kingbrook customers was \$4.05 per 1,000 gallons. A rate increase effective July 1, 1987 will raise the average cost of water this year to about \$39.70 per month per member (\$46.00 for the farm and rural residence class) and \$4.20 per 1,000 gallons.

Given the current level of water rates, the Kingbrook Board of Directors feels that existing customers should not have to subsidize the addition of new members to the system. The goal of the financing plan for the project is to increase average per member debt service only to the extent that it would be offset by lower average operation and maintenance costs.

At current water rates, the 260 proposed new members would generate an income of about \$40 per user per month. It is estimated that monthly operation and maintenance costs would increase by about \$10 per new member. This leaves about \$30 per new member per month for debt service and reserve. With a project consisting of 260 new members, this would amount to \$93,600 per year (\$85,000 debt service plus 10% reserve payment). Using the third quarter FmHA intermediate interest rate of 6.5 percent, the amount available for additional debt service would retire a 40-year loan of \$1,200,000.

It is proposed that the balance of the project be financed by hookup fees from the proposed new members and by grants from FmHA and the Community Development Block Grant (CDBG) program administered by the State of South Dakota. The recommended financing plan is as follows:

Application Contribution, \$700 x 260	\$ 182,000
FmHA Loan	1,200,000
FmHA Grant	1,500,000
CDBG Grant	<u>1,623,000</u>
Total	\$4,505,000

Kingbrook has submitted this project for inclusion in the 1988 State Water Plan and has submitted a Preapplication to FmHA. It is recommended that a CDBG application for the project be submitted to the State for the first round of the 1988 program.

SECTION 6
REROUTE OF INUNDATED PIPELINE

Kingsbury County has been awarded a CDBG grant on behalf of the Kingbrook Rural Water System for rerouting pipelines flooded by Lake Thompson and Lake Whitewood. Kingbrook is seeking additional financing from FmHA to complete funding arrangements for the \$332,000 project.

Subsequent to the development of the reroute project, the preliminary designs described herein for overall system improvements and new member additions have been completed. As a result, several modifications to the reroute project are recommended to provide for the more orderly development of the water system.

PROPOSED CHANGES TO REROUTE PROJECT:

The original proposal for rerouting the inundated pipelines involved a total of 20 miles of pipeline in the following areas:

1. 6 miles of 6-inch pipe to Lake Preston Reservoir.
2. 8 miles of 4-inch pipe and 1-1/4 miles of 2-inch pipe southwest of Lake Thompson.
3. 4 miles of 3-inch pipe and 3/4 mile of 2-inch pipe northwest of Oldham.

Background information on this project, cost estimates, and pipeline route maps are included in the March 1987 report entitled "Preliminary Design Report-Reroute of Pipeline Inundated by Lake Thompson and Lake Whitewood", by DeWild Grant Reckert and Associates Company.

Transmission Main to Lake Preston Reservoir:

About 2-1/2 miles of the existing 6-inch transmission main from the DeSmet Water Treatment Plant to the Lake Preston Reservoir is under water at the north end of Lake Thompson. The proposed replacement line would parallel Highway 14 for 3-1/2 miles west of Lake Preston and would parallel a county road for 2-1/2 miles south of Lake Preston, to the Lake Preston Reservoir. The existing transmission main and proposed reroute are shown in Figure 1.

No change is proposed to the planned reroute of this transmission main. The rerouted main would have the same capacity as the existing main, which is adequate to meet the water demands anticipated as a result of the new member addition project.

Pipeline Loop Southwest of Lake Thompson:

Approximately one mile of 4-inch pipeline at the south end of Lake Thompson is inundated. The proposed pipeline reroute to provide service to the users on the distribution branch southwest of Lake Thompson consisted of 5 miles of 4-inch pipeline along Highway 25 and 3 miles of 4-inch pipeline along a county road, from 9 miles west of Oldham to Highway 25. This would transfer service to the affected distribution branch from the Lake Preston Reservoir to direct supply from the DeSmet W.T.P.

As discussed earlier in this report, a new 6-inch transmission main south from the DeSmet W.T.P. along Highway 25 is planned for the new member addition project. Figure 1 shows proposed 6-inch pipeline along the same route proposed for the 4-inch reroute line.

If feasible, pipeline installed under the reroute project should be of sufficient size to meet future needs as identified in this new member addition study. It is necessary, however, to hold the cost of the reroute project to within the current budget. Both goals can be met if the larger pipeline is installed over a shorter route. A minimum of 3-1/2 miles of pipe is required to tie the 2-1/2-inch distribution branch southwest of Lake Thompson to 2-1/2-inch main line south of DeSmet.

Installation of 3-1/2 miles of 6-inch line in this area under the reroute project will not provide as much capacity as would the original proposal of 8 miles of 4-inch pipe (which would have paralleled existing 2-1/2-inch lines and tied into 3-inch lines at both ends). It would, however, provide a limited supply of water to the area southwest of Lake Thompson if the inundated main at the south end of the lake fails.

Also included in the reroute project was a 1-1/4 mile loop of 2-inch main north of Howard to allow a portion of the area southwest of Lake Thompson to be served from the south (Junius Reservoir service area). The proposed new member addition project will result in adequate service to this area from the DeSmet source, eventually making the 2-inch loop unnecessary.

Pipeline Loop Northwest of Oldham:

Approximately 3/4 mile of 4-inch pipeline at the west end of Lake Whitewood is inundated. Four miles of 3-inch pipeline northwest of Oldham was proposed to reroute service to the affected distribution area south of Lake Whitewood. Distribution system analysis conducted for the new member addition project showed that the new line loop for service to this area should be 4-inch. In order to minimize costs, 2 miles of 4-inch pipe could be installed initially under the reroute project. This would provide some emergency supply to the area south of Lake Whitewood in the event of failure of the inundated line. Installation of the other 2 miles of line would be needed to provide full service capacity to the area. The inundated line and the proposed pipeline reroute are shown in Figure 1.

The installation of 4-inch line would make the 3/4 mile loop of 2-inch pipe in the same area unnecessary.

Reroute of Slough Crossing Near Ramona:

A recommended addition to the reroute project in the Lake Preston Reservoir service area is the installation of approximately 3,500 feet of 4-inch pipeline southwest of Ramona (see Figure 1). A leak in existing pipeline through a slough has forced the isolation of the line on each side of the slough. The closure of this line prevents emergency transfers of water in this area between the Phase II and Phase III service areas.

REVISED COST ESTIMATES:

Construction costs for the reroute project as described in the proceeding section are estimated below:

Transmission Main to Lake Preston Reservoir:

31,800 L.F. of 6" CL 200 PVC @ \$3.60/L.F.	\$114,480
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Pipeline Loop Southwest of Lake Thompson:

18,550 L.F. of 6" CL 200 PVC @ \$3.60/L.F.	\$ 66,780
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Pipeline Loop Northwest of Oldham:

10,600 L.F. of 4" CL 200 PVC @ \$1.95/L.F.	\$ 20,670
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Reroute of Slough Crossing Near Ramona:

3,500 L.F. of 4" CL 200 PVC @ \$1.95/L.F.	<u>\$ 6,825</u>
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Total Pipe Cost	\$208,755
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Crossings, valves, tie-ins, clean-outs, ditch construction and other appurtenant work	<u>\$ 41,245</u>
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Total Estimated Construction Cost	\$250,000
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The construction cost of the reroute project as originally proposed was \$290,000, with no contingencies. It is recommended that the budget for the reroute project be revised to show \$250,000 in construction costs and \$40,000 in contingencies. With other project costs remaining unchanged, the total estimated project cost for pipeline reroutes would still be \$332,000.

SECTION 7
SERVICE TO CITY OF HOWARD

A preliminary feasibility report titled "Water Service to City of Howard From Kingbrook Rural Water System" was completed by DeWild Grant Reckert and Associates in July, 1987. The study was performed at the request of the East Dakota Water Development District for the purpose of determining the cost of including capacity in the Kingbrook system new member addition project to serve Howard.

Capital costs which would be assigned to the City of Howard for the two supply capacities considered are summarized as follows:

<u>Supply Capacity to Howard</u>	<u>Estimated Capital Cost Assigned to Howard</u>
360,000 gpd	\$1,634,000
240,000 gpd	\$1,206,000

Supply to Howard would be provided by increasing the capacity of the DeSmet Water Treatment Plant and the transmission pipeline along Highway 25. The larger pipeline size for service to Howard is noted on the Highway 25 transmission line on Pages 2-4 of the separately-bound distribution maps.

Subsequent to review of the study results with the Howard City Council, the City has not indicated an interest in obtaining water service from Kingbrook. Howard is reportedly seeking financing for a project to improve its water supply with construction of a new well. The improvements described in this report for the proposed new member addition project do not include capacity for the City of Howard.

TABLE 1

EXISTING AND PROPOSED NUMBER OF CONNECTIONS

Service Area	Existing			Proposed		
	No. of Retail Connections ³			No. of Retail Connections ⁴		
	Rural	Town & Cottage	Municipal Connections	Rural	Town & Cottage	Municipal Connections
Bruce W.T.P.	42	--	42	83	15	98
Lake Poinsett Res. ¹	--	--	--	10	409	419
Badger Res.	269	412	681	240	--	240
Arlington Res.	<u>221</u>	<u>42</u>	<u>263</u>	<u>268</u>	<u>44</u>	<u>312</u>
Subtotal	532	454	986	601	468	1,069
DeSmet W.T.P.	332	46	378	382	46	428
Lake Preston Res.	192	--	192	99	--	99
Ramona Tower ¹	--	--	--	166	--	166
Lake Thompson Res. ²	<u>--</u>	<u>--</u>	<u>--</u>	<u>138</u>	<u>--</u>	<u>138</u>
Subtotal	524	46	570	785	46	831
Chester W.T.P.	73	--	73	93	--	93
Orland Res.	341	20	361	372	22	394
Junius Res.	<u>424</u>	<u>30</u>	<u>454</u>	<u>285</u>	<u>32</u>	<u>317</u>
Subtotal	<u>838</u>	<u>50</u>	<u>888</u>	<u>750</u>	<u>54</u>	<u>804</u>
TOTAL	1,894	550	2,444	2,136	568	2,704

¹Proposed facilities.³Includes connections which are currently inactive.⁴Includes 260 proposed new members.

TABLE 2

WATER DELIVERY CAPACITIES AND DEMANDS, 1,000 gal. per day

Supply Facility	Existing Delivery Capacity	Maximum Demands, Existing Users		Proposed Delivery Capacity	Maximum Demands, Including Proposed Users	
		Present Use	Rate 25% Growth		Present Use	Rate 25% Growth
Bruce W.T.P. (Including City of Badger)	660 ³	523 (535)	654 (666)	660 ³	576 (588)	720 (732)
Lake Poinsett Reservoir ¹	-	-	-	185	148	185
Badger Reservoir (Including City of Badger)	475	494 (506)	617 (629)	365	318 (330)	398 (410)
Arlington Reservoir	200	167	209	200	200	250
DeSmet W.T.P. (Including City of Oldham)	360	377 (418)	471 (512)	1,000	558 (599)	697 (738)
Lake Preston Reservoir (Including City of Oldham)	235	132 (173)	166 (207)	235	183 (224)	229 (270)
Ramona Tower ¹	-	-	-	143	115	143
Lake Thompson Reservoir ²	-	-	-	95 ²	95	119
Chester W.T.P.	600	595	744	600	600	670
Orland Reservoir	425	545	681	425	472	590
Junius Reservoir	230	303	379	230	208	260

¹Proposed facilities.²Future facility (proposed delivery capacity to the service area south of this site assumes that the 4-inch main at the south end of Lake Thompson will remain in service).³Based on 500 gpm supply capacity to Kingbrook System.

TABLE 3A

PRELIMINARY COST ESTIMATE

DISTRIBUTION SYSTEM¹:

<u>PVC Pipe Size & Class</u>	<u>Estimated Cost Per Lineal Foot</u>	<u>Estimated Lineal Feet</u>	<u>Estimated Cost</u>
8" CL 200	\$5.50	10,600	\$ 58,300
6" CL 250	4.00	18,550	74,200
6" CL 200	3.60	135,150	486,540
6" CL 160	3.30	42,400	139,920
4" CL 200	1.95	82,680	161,226
4" CL 160	1.80	39,300	70,740
3" CL 200	1.50	63,600	95,400
3" CL 160	1.40	61,500	86,100
2-1/2" CL 250	1.40	18,550	25,970
2-1/2" CL 200	1.25	38,450	48,062
2-1/2" CL 160	1.20	75,200	90,240
2" CL 250	1.25	78,625	98,281
2" CL 200	1.20	327,725	393,270
2" CL 160	1.15	192,900	221,835
1-1/2" Service Line	1.40	78,000	<u>109,200</u>
Total Pipe Cost			\$2,159,284
Valves, Crossings, Appurtenances			393,716
Meter Pit Services and Service Line Valves, 260 @ \$800/ea.			<u>208,000</u>
Total, Distribution System			\$2,761,000

¹Pipeline proposed under the revised reroute project, as described in Section 6, is not included in these estimates.

TABLE 3B

PRELIMINARY COST ESTIMATE
(Continued)

<u>SOURCE & TREATMENT:</u>	<u>Estimated Cost</u>
One well at DeSmet Well Field, including exploratory drilling, well construction, pitless unit, pump, electrical and con- trols, and site work	\$ 40,000
Raw water pipeline and telemetry cable	27,000
Expansion of W.T.P. and Pump Station, increase capacity by 680,000 gpd	450,000
175,000 gal. reservoir, including piping and site work	<u>95,000</u>
Total, Source & Treatment	\$ 612,000
<u>RESERVOIRS AND PUMP STATIONS:</u>	
Lake Poinsett Reservoir/Pump Station	
300,000 gal. GSR	\$135,000
Pump station & control structure	<u>60,000</u>
Subtotal	\$ 195,000
Ramona Tower/Pump Station	
100,000 gal. tower and control structure	\$160,000
Pump station	<u>90,000</u>
Subtotal	<u>250,000</u>
Total, Reservoirs & Pump Stations	\$ 445,000
TOTAL CONSTRUCTION COST	\$3,818,000

TABLE 3C

PRELIMINARY COST ESTIMATE
(Continued)

		<u>Estimated Cost</u>
<u>OTHER PROJECT COSTS:</u>		
Administration		\$ 40,000
Land and Right-of-Way		40,000
Legal and Miscellaneous		40,000
Engineering Services		
Basic	\$286,000	
Additional	24,000	
Inspection	<u>77,000</u>	
Total		387,000
Inspection by Owner		77,000
Contingencies		<u>103,000</u>
Total, Other Project Costs		\$ 687,000
TOTAL PROJECT COST		<u>\$4,505,000</u>

TABLE 4
PROJECT DELETIONS

<u>Item No.</u>	<u>Description</u>	<u>Estimated Construction Cost</u>
1.	Delete 4-1/2 Miles of 6" Pipe West of Bruce:	
	10,600' 6" CL 200 @ \$3.60	\$ 38,160
	13,250' 6" CL 250 @ \$4.00	<u>53,000</u>
	Subtotal, Pipe Cost	\$ 91,160
	Valves, Crossings, Appurtenances	<u>13,840</u>
	Total	\$105,000
2.	Delete One Well at DeSmet Well Field:	
	Well, pitless unit, pump, elec- trical & controls & site work	\$ 40,000
	Raw water pipeline and telemetry cable	<u>45,000</u>
	Total	\$ 85,000
3.	Delete One 175,000 Gal. Reservoir at DeSmet W.T.P.:	\$ 95,000
4.	Delete Lake Thompson Standpipe/ Pump Station:	\$200,000
5.	Delete 2-1/2 Miles of 6" Pipe East of Lake Thompson Standpipe/Pump Station:	
	13,250' 6" CL 160 @ \$3.30	\$ 43,725
	Valves, Crossings, Appurtenances	<u>6,275</u>
	Total	\$ 50,000
	TOTAL, ALL DELETIONS	<u>\$535,000</u>

TABLE 5

PROPOSED SUBPROJECTS

	<u>Estimated Cost</u>
<u>SUBPROJECT 1:</u>	
Addition of one well at DeSmet Well Field and expansion of DeSmet W.T.P., including one reservoir	\$ 612,000
Ramona Tower/Pump Station	250,000
Mainline extensions in expanded Phase 2 service area* and addition of users system- wide located on existing mainline. Service connections to 106 added members.	<u>600,000</u>
Total Construction Cost	\$1,462,000
Other Project Costs	<u>263,000</u>
Total, SUBPROJECT 1	\$1,725,000
<u>SUBPROJECT 2:</u>	
6-inch transmission main to Howard area and mainline extensions, new users in Phase 3 service area. Service connections to 104 added members.	\$1,565,000
Other Project Costs	<u>282,000</u>
Total, SUBPROJECT 2	\$1,847,000
<u>SUBPROJECT 3:</u>	
Lake Poinsett Reservoir/Pump Station	\$ 195,000
Mainline extensions, new users in Phase 1 service area. Service connections to 50 added members.	<u>596,000</u>
Total Construction Cost	\$ 791,000
Other Project Costs	<u>142,000</u>
Total, SUBPROJECT 3	\$ 933,000
TOTAL PROJECT COST	<u>\$4,505,000</u>

*Excluding 6-inch transmission main to Howard area.

REPORT ON PERMIT APPLICATION No.5186-3
Kingbrook Rural Water System, Inc
April 13,1987

Permit Application No. 5186-3 proposes to appropriate 0.70 cubic feet of water per second from 1 well, 50 feet deep to be located in the SW⁴ Sec.16,T111N-R56W. Water is to be used to supply the Kingbrook Rural Water System.

Aquifer: Vermillion-East Fork

Geology and Aquifer Characteristics:

The Vermillion-East Fork aquifer is a surficial, glacial outwash aquifer, primarily under water-table conditions. The aquifer consists of fine to medium sand to a well-sorted coarse gravel. Estimates are not available for the recoverable water in storage in the aquifer, or the average annual recharge to the aquifer. There is no aquifer test data available for the Vermillion-East Fork Aquifer in this area. A preliminary map of the Vermillion-East Fork Aquifer prepared by Louis Hamilton a Hydrologist with the United States Geological Survey indicates the aquifer underlies approximately 1350 acres of Kingsbury County. The Division of Water Rights monitors three observation wells completed into the Vermillion-East Fork Aquifer within three miles of this proposed appropriation. Measurements indicate the water level of the aquifer has fluctuated with the precipitation patterns over the past 30 years, but there is no indication of a lowering of the potentiometric surface with increased appropriations from the aquifer. In fact, water levels were at the highest level for the period of record during 1987 (hydrographs included).

Review of Existing Water Rights:

The Division of Water Rights has record of several domestic wells completed into the Vermillion-East Fork Aquifer in this area. Appropriative water rights from this aquifer are primarily for municipal, rural water systems, commercial, and irrigation use. The largest appropriation is for irrigation. The 1986 Irrigation Report (Division of Water Rights,1987), identifies 23 irrigation permits from the Vermillion-East Fork aquifer in Kingsbury County, with a total annual appropriation from the management unit of approximately 10,160 acre-feet. The pumpage reported from the aquifer in Kingsbury County in 1986 was 553 acre-feet. There are 21 existing ground water Permits or Licenses within approximately 3 miles of this proposed diversion point, they include:

Permit #	Owner	Rate	Use
1487-3	Vern E Belzer	1.85	I(130)*
3961-3	Allen M Aughenbaugh	1.86	I(130)
4245-3	Allen M Aughenbaugh	1.44	I(190)
3312-3	Clarence Stubbe	2.28	I(132)*

Permit #	Owner	Rate	Use
3253-3	John Timp	1.42	I(100)*
3822-3	S Neal Meyer	2.28	I(160)
3825-3	Allen, Shirely-Trustee	2.28	I(160)
4137-3	Kingbrook RWS	3.00	RWS
3478-3	David W Pratt	2.20	I(160)
4187-3	Sheldon F Reese	2.20	I(160)
4541-3	Sheldon F Reese	no add'l	I(132)
3499-3	William Poppen	5.07	I(355.1)
77-3	Jim Lynott	1.38	I(105.4)*
1561-3	Jim Lynott	2.50	I(240)*
3937-3	Wendell Schubloom	0.41	I(28.7)
520-3	City of DeSmet	incorp w/4795	Municipal*
4795-3	City of DeSmet	2.11	Municipal*
1652-3	City of DeSmet	2.22	Municipal*
524-3	City of DeSmet	2.50	F/U
60-3	Arthur Geyer	0.86	I(60)*
5069-3	Moore's Lakeside RV Park	0.10	Commercial

* Denotes the Water Permit has been licensed

Note1: All of the above permits except No. 1652-3 appropriate water from the Vermillion-East Fork Aquifer, No. 1652-3 has been identified as appropriating water from the Prairie Coteau Aquifer

Note2: Permit No.'s 4245-3, 3822-3, and 3499-3 are qualified to require 660 feet between wells. All permits have the "Standard Well Interference Qualification"

Note3: Permit No.'s 4187-3 and 4541-3 are supplied by the same well.

Note4: See enclosed map for locations

Irrigation Pumpage From The Vermillion-East Fork Aquifer In This Area:(Division of Water Rights, 1988)

Permit No.	1983	1984	1985	1986	1987
1487-3	0	144.0	113.0	58.0	84.0
3961-3	53.86	0	49.0	57.0	147.0
4245-3	0	0	171.0	32.0	
3312-3	0	45.0	13.0	66.0	73.0
3253-3	81.76	14.0	0	0	0
3822-3	83.52	33.0	40.0	0	18.0
3825-3	0	0	0	56	no rtn.
3478-3	39.49	7.0	0	0	5.0
4541-3	144.96	14.0	0	0	40.0
3499-3	65.0	84.0	75.0	18.0	74.0
77-3	0	0	0	0	0
1561-3	0	0	0	0	0
3937-3	0	0	0	0	0
60-3	0	0	0	0	0

Conclusions:

1. Application No. 5186-3 proposes to appropriate 0.70 cfs from 1 well completed into the Vermillion-East Fork Aquifer. The water is to be used for Kingbrook RWS.
2. The Vermillion-East Fork is a viable aquifer in this area and water is available for this appropriation.
3. Well interference should not be a problem because the aquifer is under water table conditions in this area. However, this permit should be qualified with the "standard well interference" qualification.



KENT BUHLER
Natural Resources Engineer

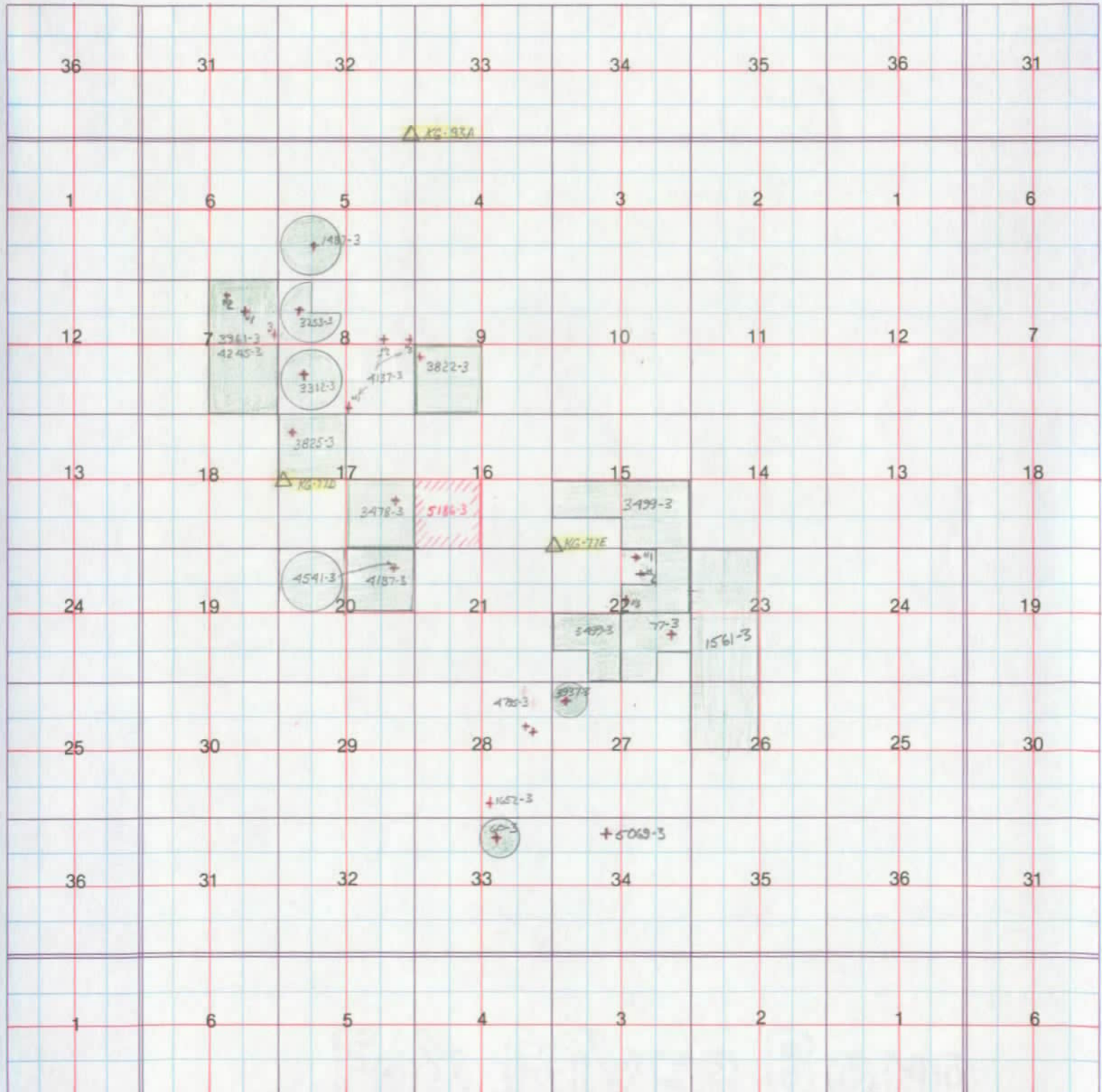
References:

- Division of Water Rights, 1988, "Domestic Well Log Files, Observation Well Files, and Water Permit Files",
DWNR-Division of Water Rights, Joe Foss Building, Pierre SD
- Division of Water Rights, 1987, " 1987 Irrigation Report",
DWNR-Division of Water Rights, Joe Foss Building, Pierre SD

COUNTY, SOUTH DAKOTA

TOWNSHIP No. 111NRANGE No. 56W

(With surrounding tier of sections of adjacent townships)



WELL NO.	OBSERVATION WELL WATER LEVEL		REMARKS
	LOCATION	DATE	
K5-770	111N-55W-175000	02/09/77	-40.5
K5-771	111N-55W-175000	11/07/77	-40.1
K5-772	111N-55W-175000	05/01/78	-40.1
K5-773	111N-55W-175000	05/20/78	-40.2
K5-774	111N-55W-175000	05/18/78	-40.5
K5-775	111N-55W-175000	05/27/78	-40.1
K5-776	111N-55W-175000	07/11/78	-40.9
K5-777	111N-55W-175000	01/01/79	-40.9
K5-778	111N-55W-175000	03/02/79	-47.4
K5-779	111N-55W-175000	05/12/79	-40.5
K5-780	111N-55W-175000	10/02/79	-40.7
K5-781	111N-55W-175000	11/04/79	-40.2
K5-782	111N-55W-175000	11/20/79	-40.2
K5-783	111N-55W-175000	12/11/79	-40.2
K5-784	111N-55W-175000	02/01/80	-47.0
K5-785	111N-55W-175000	02/07/80	-47.0
K5-786	111N-55W-175000	02/23/80	-47.4
K5-787	111N-55W-175000	03/07/80	-47.1
K5-788	111N-55W-175000	07/11/80	-47.5
K5-789	111N-55W-175000	07/25/80	-43.1
K5-790	111N-55W-175000	08/02/80	-48.5
K5-791	111N-55W-175000	08/20/80	-40.7
K5-792	111N-55W-175000	10/13/80	-40.4
K5-793	111N-55W-175000	09/25/80	-40.1
K5-794	111N-55W-175000	10/10/80	-40.5
K5-795	111N-55W-175000	12/10/80	-40.4
K5-796	111N-55W-175000	02/12/81	-40.5
K5-797	111N-55W-175000	04/02/81	-40.5
K5-798	111N-55W-175000	05/10/81	-40.0
K5-799	111N-55W-175000	07/02/81	-40.0
K5-800	111N-55W-175000	07/23/81	-40.7
K5-801	111N-55W-175000	07/22/81	-40.7
K5-802	111N-55W-175000	07/15/82	-45.1
K5-803	111N-55W-175000	07/23/82	-39.9
K5-804	111N-55W-175000	07/27/82	-39.5
K5-805	111N-55W-175000	10/05/82	-31.2
K5-806	111N-55W-175000	10/22/82	-30.8
K5-807	111N-55W-175000	12/03/82	-30.0
K5-808	111N-55W-175000	12/15/82	-30.5
K5-809	111N-55W-175000	01/02/83	-30.2
K5-810	111N-55W-175000	01/20/83	-30.2
K5-811	111N-55W-175000	01/27/83	-31.1
K5-812	111N-55W-175000	02/10/83	-31.5
K5-813	111N-55W-175000	02/25/83	-31.0
K5-814	111N-55W-175000	03/03/83	-30.5
K5-815	111N-55W-175000	04/20/83	-30.0
K5-816	111N-55W-175000	07/05/83	-30.1
K5-817	111N-55W-175000	07/21/83	-30.7
K5-818	111N-55W-175000	08/04/83	-31.7
K5-819	111N-55W-175000	08/10/83	-30.4
K5-820	111N-55W-175000	08/21/83	-30.5

12:04 THURSDAY, APRIL 12, 1984

WELL	DEPTH/STATION	WATER LEVEL DATE	READING
K2-770	111N-EGW-172000	05/01/02	-41.8
K2-770	111N-EGW-172000	10/02/02	-41.4
K2-770	111N-EGW-172000	04/05/02	-45.6
K2-770	111N-EGW-172000	03/11/02	-41.0
K2-770	111N-EGW-172000	02/04/02	-45.0
K2-770	111N-EGW-172000	05/02/02	-45.2
K2-770	111N-EGW-172000	05/07/02	-43.6
K2-770	111N-EGW-172000	05/21/02	-45.5
K2-770	111N-EGW-172000	07/07/02	-45.4
K2-770	111N-EGW-172000	07/11/02	-45.5
K2-770	111N-EGW-172000	05/12/02	-42.5
K2-770	111N-EGW-172000	02/05/02	-40.5
K2-770	111N-EGW-172000	05/12/02	-45.7
K2-770	111N-EGW-172000	11/09/02	-45.4
K2-770	111N-EGW-172000	04/05/04	-47.6
K2-770	111N-EGW-172000	05/15/04	-45.2
K2-770	111N-EGW-172000	05/05/04	-45.8
K2-770	111N-EGW-172000	05/12/04	-45.7
K2-770	111N-EGW-172000	05/03/04	-45.5
K2-770	111N-EGW-172000	07/15/04	-44.9
K2-770	111N-EGW-172000	07/04/04	-45.6
K2-770	111N-EGW-172000	05/07/04	-45.1
K2-770	111N-EGW-172000	01/01/04	-44.5
K2-770	111N-EGW-172000	05/12/03	-44.7
K2-770	111N-EGW-172000	12/04/04	-44.1
K2-770	111N-EGW-172000	04/02/05	-43.8
K2-770	111N-EGW-172000	04/04/05	-43.6
K2-770	111N-EGW-172000	05/21/05	-43.1
K2-770	111N-EGW-172000	05/04/05	-43.5
K2-770	111N-EGW-172000	05/17/05	-43.1
K2-770	111N-EGW-172000	07/02/05	-43.0
K2-770	111N-EGW-172000	07/15/05	-43.1
K2-770	111N-EGW-172000	07/21/05	-42.0
K2-770	111N-EGW-172000	06/12/05	-43.2
K2-770	111N-EGW-172000	01/02/06	-42.7
K2-770	111N-EGW-172000	07/17/05	-44.7
K2-770	111N-EGW-172000	12/15/05	-43.0
K2-770	111N-EGW-172000	02/25/05	-42.5
K2-770	111N-EGW-172000	04/01/06	-43.1
K2-770	111N-EGW-172000	07/01/06	-40.9
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K2-770	111N-EGW-172000	07/09/06	-41.2
K2-770	111N-EGW-172000	01/07/06	-41.4
K2-770	111N-EGW-172000	05/05/06	-42.7
K2-770	111N-EGW-172000	10/11/06	-41.9
K2-770	111N-EGW-172000	11/12/05	-43.3
K2-770	111N-EGW-172000	03/02/07	-43.2
K2-770	111N-EGW-172000	04/22/07	-42.9
K2-770	111N-EGW-172000	05/22/07	-42.8
K2-770	111N-EGW-172000	05/04/07	-42.5
K2-770	111N-EGW-172000	05/10/07	-44.3
K2-770	111N-EGW-172000	07/02/07	-42.1
K2-770	111N-EGW-172000	07/12/07	-41.8
K2-770	111N-EGW-172000	07/25/07	-43.2
K2-770	111N-EGW-172000	07/12/07	-45.5

10:00 TUESDAY, APRIL 10, 2006 1

INTERMEDIATE WELL LOWER LEVELS

10:04 TUESDAY, APRIL 15, 1988 3

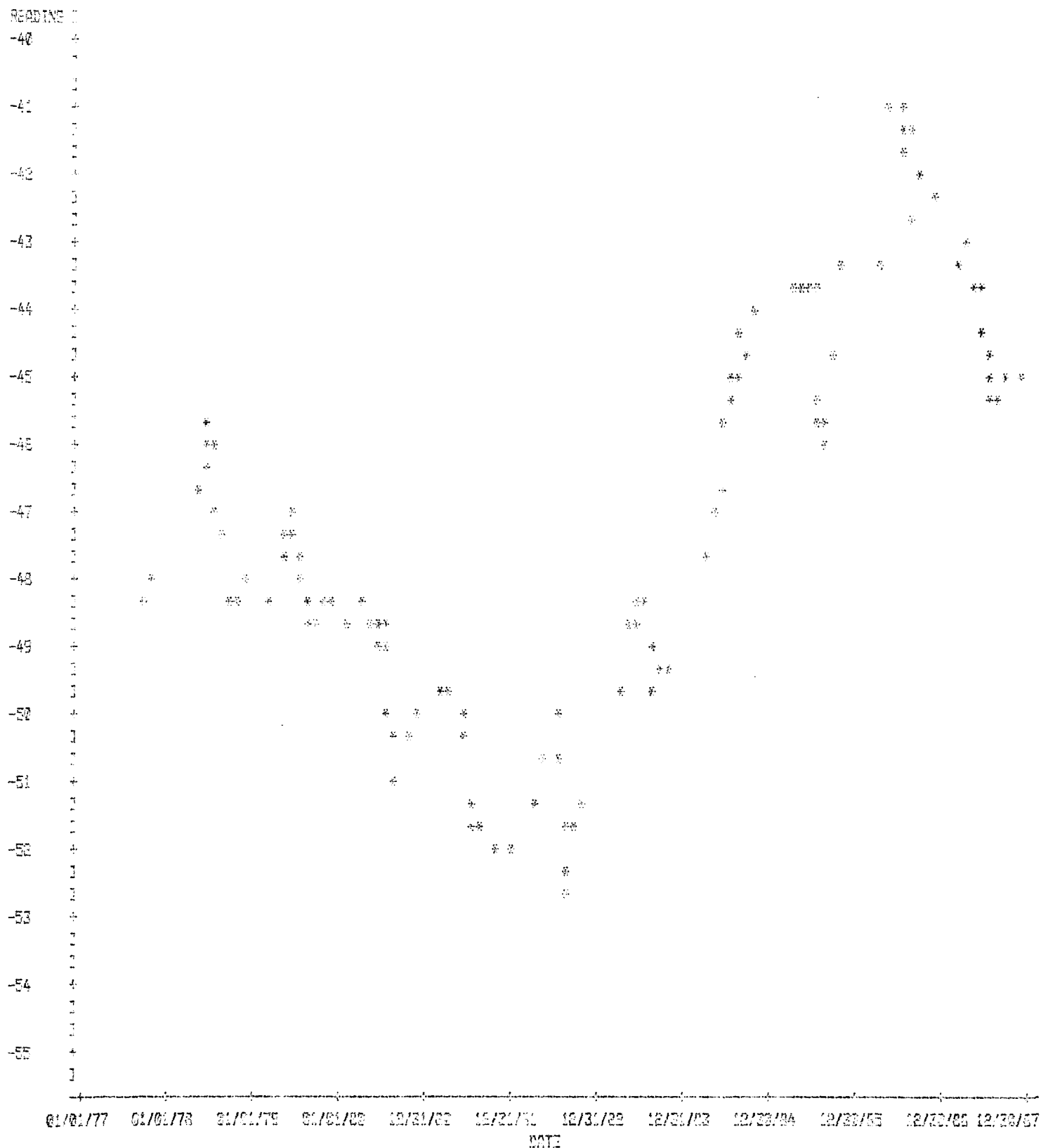
WELL NAME	LOCATION	DATE	DEPTH
AE-772	111X-75W-175000	05/27/87	-45.2
AE-773	111X-75W-175000	10/07/87	-45.2
AE-770	111X-75W-175000	11/15/87	-45.0

AE-770

INTERMITTENT WELL WATER LEVEL
003_WELL-40-710

10:04 TUESDAY, APRIL 15, 1968 4

PLOT OF READING/DATE SYMBOL USED IS *



NOTE: 10 OBS HIDDEN

0030000 - END OF DATA SET

WELL	OILFIELD WELL OTHER LAYERS		REMARKS
	LOCATION	DATE	
K2-772	111N-25W-222220	11/27/77	-5.9
K2-772	111N-25W-222220	02/02/78	-5.9
K2-772	111N-25W-222220	05/21/78	-6.7
K2-772	111N-25W-222220	05/10/78	-5.5
K2-772	111N-25W-222220	05/17/78	-5.3
K2-772	111N-25W-222220	07/11/78	-5.1
K2-772	111N-25W-222220	07/01/78	-7.1
K2-772	111N-25W-222220	12/02/78	-7.7
K2-772	111N-25W-222220	02/10/79	-7.2
K2-772	111N-25W-222220	02/02/79	-5.2
K2-772	111N-25W-222220	07/04/79	-5.2
K2-772	111N-25W-222220	11/20/79	-5.3
K2-772	111N-25W-222220	02/01/79	-7.0
K2-772	111N-25W-222220	02/01/79	-7.1
K2-772	111N-25W-222220	15/02/79	-5.5
K2-772	111N-25W-222220	05/05/79	-5.2
K2-772	111N-25W-222220	05/17/79	-5.2
K2-772	111N-25W-222220	07/11/79	-1.5
K2-772	111N-25W-222220	07/25/79	-7.1
K2-772	111N-25W-222220	07/03/79	-7.5
K2-772	111N-25W-222220	08/22/79	-7.5
K2-772	111N-25W-222220	07/02/79	-7.7
K2-772	111N-25W-222220	08/05/79	-2.1
K2-772	111N-25W-222220	10/12/79	-2.2
K2-772	111N-25W-222220	12/13/79	-7.5
K2-772	111N-25W-222220	02/12/80	-5.1
K2-772	111N-25W-222220	04/01/80	-7.7
K2-772	111N-25W-222220	05/19/80	-5.2
K2-772	111N-25W-222220	05/09/80	-7.2
K2-772	111N-25W-222220	05/10/80	-7.1
K2-772	111N-25W-222220	07/01/80	-5.2
K2-772	111N-25W-222220	07/15/80	-7.2
K2-772	111N-25W-222220	07/27/80	-7.7
K2-772	111N-25W-222220	08/12/80	-5.2
K2-772	111N-25W-222220	08/25/80	-7.2
K2-772	111N-25W-222220	10/03/80	-5.1
K2-772	111N-25W-222220	02/05/81	-5.2
K2-772	111N-25W-222220	04/12/81	-7.1
K2-772	111N-25W-222220	05/21/81	-5.0
K2-772	111N-25W-222220	05/12/81	-5.1
K2-772	111N-25W-222220	05/27/81	-5.1
K2-772	111N-25W-222220	07/10/81	-5.5
K2-772	111N-25W-222220	07/25/81	-5.5
K2-772	111N-25W-222220	08/05/81	-5.2
K2-772	111N-25W-222220	10/22/81	-2.2
K2-772	111N-25W-222220	12/20/81	-8.5
K2-772	111N-25W-222220	01/21/82	-7.2
K2-772	111N-25W-222220	04/22/82	-7.2
K2-772	111N-25W-222220	05/25/82	-5.5
K2-772	111N-25W-222220	07/03/82	-7.5
K2-772	111N-25W-222220	07/21/82	-7.2
K2-772	111N-25W-222220	08/24/82	-7.2
K2-772	111N-25W-222220	09/17/82	-5.2
K2-772	111N-25W-222220	02/21/82	-8.2

DETERMINATION OF WATER LEVEL
LOCATION DATE

LONG TUNNEL, CANAL NO. 1205 2

WELL	LOCATION	DATE	READING
K3-775	111N-55W-200020	7/21/01	-7.7
K3-775	111N-55W-200050	15/02/02	-5.5
K2-775	111N-55W-200050	04/05/03	-2.3
K3-775	111N-55W-200050	08/11/03	-5.4
K3-775	111N-55W-200050	03/04/02	-6.2
K3-775	111N-55W-200050	03/02/03	-5.7
K3-775	111N-55W-200050	05/07/02	-6.5
K2-775	111N-55W-200050	13/11/02	-5.5
K3-775	111N-55W-200050	07/07/02	-7.2
K3-775	111N-55W-200050	07/02/03	-7.4
K3-775	111N-55W-200050	02/11/02	-6.1
K3-775	111N-55W-200050	05/05/02	-6.4
K5-775	111N-55W-200050	11/05/02	-7.5
K3-775	111N-55W-200050	01/02/04	-6.2
K3-775	111N-55W-200050	05/12/04	-6.2
K3-775	111N-55W-200050	15/05/04	-5.4
K3-775	111N-55W-200050	05/10/04	-5.7
K5-775	111N-55W-200050	15/05/04	-4.4
K3-775	111N-55W-200050	07/12/04	-6.2
K3-775	111N-55W-200050	07/04/04	-2.3
K3-775	111N-55W-200050	15/07/04	-4.5
K3-775	111N-55W-200050	05/11/04	-5.5
K3-775	111N-55W-200050	05/10/04	-6.2
K3-775	111N-55W-200050	10/14/04	-2.1
K3-775	111N-55W-200050	04/10/02	-5.2
K3-775	111N-55W-200050	24/04/05	-2.1
K3-775	111N-55W-200050	12/01/05	-6.0
K3-775	111N-55W-200050	05/04/05	-5.5
K3-775	111N-55W-200050	15/17/05	-5.2
K3-775	111N-55W-200050	07/02/05	-5.2
K3-775	111N-55W-200050	07/12/05	-2.7
K3-775	111N-55W-200050	07/01/05	-5.5
K3-775	111N-55W-200050	03/12/05	-5.3
K3-775	111N-55W-200050	25/10/05	-5.2
K3-775	111N-55W-200050	15/17/05	-5.1
K3-775	111N-55W-200050	10/10/05	-5.5
K3-775	111N-55W-200050	02/05/05	-2.1
K3-775	111N-55W-200050	04/12/05	-5.5
K3-775	111N-55W-200050	05/01/05	-4.2
K3-775	111N-55W-200050	15/03/05	-4.5
K3-775	111N-55W-200050	07/02/05	-2.0
K3-775	111N-55W-200050	07/02/05	-2.3
K3-775	111N-55W-200050	07/05/05	-4.7
K3-775	111N-55W-200050	05/07/05	-2.2
K3-775	111N-55W-200050	02/10/05	-5.2
K3-775	111N-55W-200050	10/01/05	-2.1
K3-775	111N-55W-200050	11/15/05	-2.5
K3-775	111N-55W-200050	25/03/07	-2.4
K3-775	111N-55W-200050	04/02/07	-5.1
K3-775	111N-55W-200050	12/02/07	-2.2
K3-775	111N-55W-200050	11/04/07	-5.2
K3-775	111N-55W-200050	02/10/07	-5.7
K3-775	111N-55W-200050	07/02/07	-7.3
K3-775	111N-55W-200050	07/12/07	-5.2
K3-775	111N-55W-200050	07/05/07	-5.2

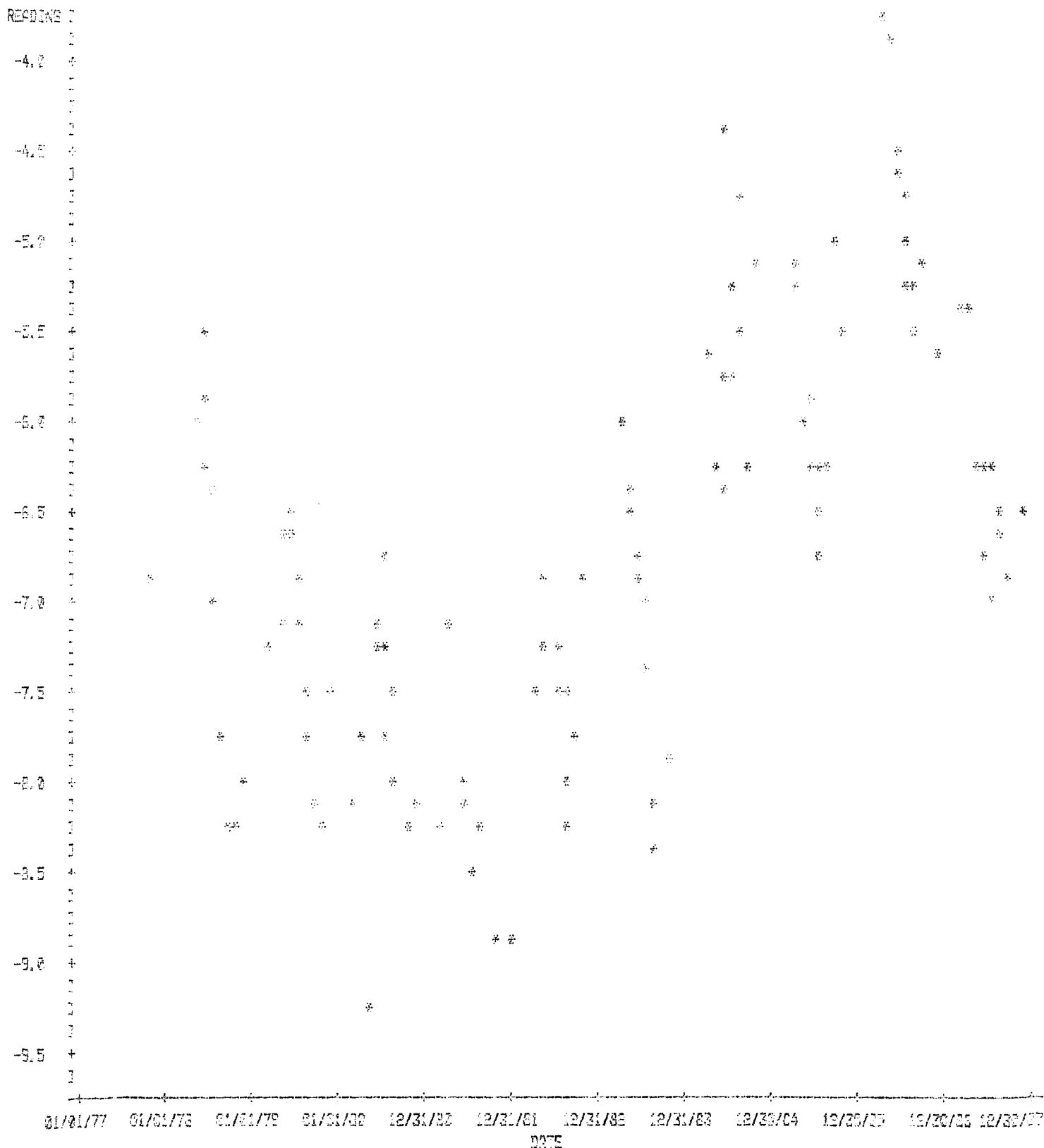
QPS_WELL	DESCRIPTION	DATE	READING
W-77E	MAIN-SEA-DECKED	21/07/67	-0.8
W-77E	MAIN-SEA-DECKED	18/07/67	-0.6
W-77E	MAIN-SEA-DECKED	15/07/67	-0.5
W-77E	MAIN-SEA-DECKED	12/06/67	-0.5

DE 115

OBSERVATION WELL WATER LEVELS
 100 WELLS-772

01/01/77 TO 12/31/87

PLAN OF OBSERVATION WELLS SYMBOL USED IS *



NOTE: 7 OBS. HIDDEN

UN200009 - END OF DATA SET

OBSERVATION WELL WATER LEVELS

WELL	LOCATION	DATE	READING
------	----------	------	---------

10:15 THURSDAY, APRIL 12, 1956 1

WE-02A	112N-55W-220000	2	21/02/57	-5.9
WE-02A	112N-55W-220000	2	22/02/58	-5.1
WE-02A	112N-55W-220000	2	05/03/58	-5.1
WE-02A	112N-55W-220000	2	11/03/58	-7.4
WE-02A	112N-55W-220000	2	02/02/59	-7.4
WE-02A	112N-55W-220000	2	07/07/59	-7.2
WE-02A	112N-55W-220000	2	11/07/59	-3.1
WE-02A	112N-55W-220000	2	05/02/60	-5.6
WE-02A	112N-55W-220000	2	11/02/60	-7.3
WE-02A	112N-55W-220000	2	02/07/62	-2.5
WE-02A	112N-55W-220000	2	07/01/61	-7.4
WE-02A	112N-55W-220000	2	11/01/61	-7.0
WE-02A	112N-55W-220000	2	04/02/62	-5.5
WE-02A	112N-55W-220000	2	07/02/62	-5.2
WE-02A	112N-55W-220000	2	02/03/62	-4.8
WE-02A	112N-55W-220000	2	02/07/62	-2.9
WE-02A	112N-55W-220000	2	07/05/62	-4.5
WE-02A	112N-55W-220000	2	11/05/63	-5.3
WE-02A	112N-55W-220000	2	05/05/64	-7.3
WE-02A	112N-55W-220000	2	07/07/64	-7.0
WE-02A	112N-55W-220000	2	12/05/64	-5.7
WE-02A	112N-55W-220000	2	04/02/65	-7.7
WE-02A	112N-55W-220000	2	11/02/65	-5.7
WE-02A	112N-55W-220000	2	05/01/66	-7.1
WE-02A	112N-55W-220000	2	07/03/66	-5.2
WE-02A	112N-55W-220000	2	02/01/67	-7.0
WE-02A	112N-55W-220000	2	07/09/67	-7.3
WE-02A	112N-55W-220000	2	11/02/67	-5.2
WE-02A	112N-55W-220000	2	02/05/68	-5.4
WE-02A	112N-55W-220000	2	07/02/68	-5.4
WE-02A	112N-55W-220000	2	10/05/68	-5.5
WE-02A	112N-55W-220000	2	04/02/69	-2.4
WE-02A	112N-55W-220000	2	03/04/69	-7.6
WE-02A	112N-55W-220000	2	10/31/69	-7.5
WE-02A	112N-55W-220000	2	04/01/70	-7.2
WE-02A	112N-55W-220000	2	07/02/70	-7.2
WE-02A	112N-55W-220000	2	11/04/70	-8.0
WE-02A	112N-55W-220000	2	02/05/71	-2.6
WE-02A	112N-55W-220000	2	07/07/71	-7.2
WE-02A	112N-55W-220000	2	11/05/71	-5.2
WE-02A	112N-55W-220000	2	04/04/72	-7.4
WE-02A	112N-55W-220000	2	07/07/72	-4.7
WE-02A	112N-55W-220000	2	11/02/73	-5.2
WE-02A	112N-55W-220000	2	05/01/73	-4.8
WE-02A	112N-55W-220000	2	07/03/73	-2.7
WE-02A	112N-55W-220000	2	11/07/73	-7.2
WE-02A	112N-55W-220000	2	04/05/74	-5.5
WE-02A	112N-55W-220000	2	07/02/74	-7.2
WE-02A	112N-55W-220000	2	11/01/74	-2.3
WE-02A	112N-55W-220000	2	02/02/75	-7.1
WE-02A	112N-55W-220000	2	07/02/75	-5.4
WE-02A	112N-55W-220000	2	11/03/75	-5.6
WE-02A	112N-55W-220000	2	03/04/75	-5.1
WE-02A	112N-55W-220000	2	03/02/76	-5.5
WE-02A	112N-55W-220000	2	11/05/76	-5.2

OBSERVATION WELL WATER LEVEL
 LOCATION DATE ELEVATION

10/12/1991, APRIL 12, 1992 2

KB-010	112N-25W-220000	2	01/02/77	-5.2
KB-020	112N-25W-220000	2	01/02/77	-5.3
KB-020	112N-25W-220000	2	01/07/77	-5.0
KB-010	112N-25W-220000	2	02/02/78	-5.2
KB-010	112N-25W-220000	2	05/01/79	-5.2
KB-020	112N-25W-220000	2	05/02/79	-5.2
KB-010	112N-25W-220000	2	05/07/79	-5.0
KB-010	112N-25W-220000	2	07/01/79	-5.1
KB-030	112N-25W-250000	2	07/01/79	-5.7
KB-030	112N-25W-250000	2	08/02/79	-5.2
KB-030	112N-25W-250000	2	09/02/79	-5.4
KB-010	112N-25W-220000	2	10/02/79	-5.2
KB-030	112N-25W-250000	2	10/04/79	-5.6
KB-010	112N-25W-220000	2	11/07/79	-7.0
KB-030	112N-25W-250000	1	02/01/79	-5.9
KB-030	112N-25W-250000	2	05/02/79	-5.0
KB-030	112N-25W-250000	2	05/07/79	-5.2
KB-030	112N-25W-250000	2	05/07/79	-5.2
KB-020	112N-25W-220000	2	07/01/79	-5.2
KB-010	112N-25W-220000	2	07/04/79	-5.4
KB-030	112N-25W-250000	2	08/05/79	-5.2
KB-030	112N-25W-250000	2	09/05/79	-5.3
KB-030	112N-25W-250000	2	09/05/79	-5.7
KB-010	112N-25W-220000	2	09/05/79	-5.9
KB-030	112N-25W-250000	2	10/07/79	-7.1
KB-030	112N-25W-250000	2	10/08/79	-7.4
KB-010	112N-25W-220000	2	02/07/80	-7.5
KB-010	112N-25W-220000	2	04/02/80	-7.5
KB-010	112N-25W-220000	2	05/05/80	-7.2
KB-010	112N-25W-220000	2	05/05/80	-5.3
KB-010	112N-25W-220000	2	05/05/80	-7.5
KB-030	112N-25W-250000	2	07/01/80	-7.8
KB-030	112N-25W-250000	2	07/01/80	-7.0
KB-030	112N-25W-250000	2	07/02/80	-5.0
KB-030	112N-25W-250000	2	08/03/80	-5.1
KB-020	112N-25W-220000	2	10/01/80	-5.1
KB-030	112N-25W-250000	2	10/02/80	-5.6
KB-030	112N-25W-250000	2	12/05/80	-3.7
KB-030	112N-25W-250000	2	03/03/81	-5.1
KB-030	112N-25W-250000	2	04/02/81	-5.9
KB-030	112N-25W-250000	2	05/02/81	-5.2
KB-030	112N-25W-250000	2	05/07/81	-5.3
KB-010	112N-25W-220000	2	07/02/81	-5.4
KB-030	112N-25W-250000	2	07/02/81	-5.4
KB-030	112N-25W-250000	2	08/03/81	-5.2
KB-030	112N-25W-250000	2	10/02/81	-5.6
KB-030	112N-25W-250000	2	12/02/81	-13.0
KB-030	112N-25W-250000	2	02/01/82	-5.7
KB-030	112N-25W-250000	2	04/05/82	-5.5
KB-030	112N-25W-250000	2	07/03/82	-5.0
KB-030	112N-25W-250000	2	07/01/82	-5.1
KB-030	112N-25W-250000	2	07/04/82	-7.3
KB-030	112N-25W-250000	2	08/05/82	-5.9
KB-030	112N-25W-250000	2	09/01/82	-5.3

COB_WELL	OBSERVATION WELL LOCATION	WATER LEVEL DATE	WATERLEVEL
KB-010	110N-05W-000000 1	05/01/82	-6.7
KB-011	110N-05W-000000 1	05/07/82	-6.5
KB-012	110N-05W-000000 1	04/07/82	-6.2
KB-013	110N-05W-000000 1	07/01/82	-7.2
KB-014	110N-05W-000000 1	05/04/82	-7.2
KB-015	110N-05W-000000 1	01/01/82	-7.2
KB-016	110N-05W-000000 1	05/07/82	-7.2
KB-017	110N-05W-000000 1	05/01/82	-7.1
KB-018	110N-05W-000000 2	07/07/82	-7.6
KB-019	110N-05W-000000 1	07/01/82	-7.6
KB-020	110N-05W-000000 2	05/02/82	-7.2
KB-021	110N-05W-000000 1	01/05/82	-7.0
KB-022	110N-05W-000000 2	05/02/82	-6.1
KB-023	110N-05W-000000 2	11/02/82	-6.4
KB-024	110N-05W-000000 2	04/02/84	-7.1
KB-025	110N-05W-000000 2	05/02/84	-6.4
KB-026	110N-05W-000000 1	05/07/84	-6.5
KB-027	110N-05W-000000 2	05/10/84	-6.0
KB-028	110N-05W-000000 2	05/05/84	-4.7
KB-029	110N-05W-000000 2	07/10/84	-2.7
KB-030	110N-05W-000000 1	07/04/84	-4.5
KB-031	110N-05W-000000 1	05/07/84	-2.0
KB-032	110N-05W-000000 2	05/01/84	-2.0
KB-033	110N-05W-000000 2	10/01/84	-2.7
KB-034	110N-05W-000000 2	04/02/82	-2.5
KB-035	110N-05W-000000 1	04/04/85	-2.7
KB-036	110N-05W-000000 2	05/01/85	-2.1
KB-037	110N-05W-000000 1	05/01/85	-2.2
KB-038	110N-05W-000000 1	05/17/85	-2.7
KB-039	110N-05W-000000 2	07/02/85	-4.0
KB-040	110N-05W-000000 1	07/15/85	-4.5
KB-041	110N-05W-000000 1	07/21/85	-4.5
KB-042	110N-05W-000000 2	08/13/85	-2.0
KB-043	110N-05W-000000 1	05/09/85	-2.9
KB-044	110N-05W-000000 2	05/17/85	-2.2
KB-045	110N-05W-000000 1	05/17/85	-2.0
KB-046	110N-05W-000000 2	07/02/85	-2.3
KB-047	110N-05W-000000 1	05/20/85	-2.2
KB-048	110N-05W-000000 2	05/22/85	-2.7
KB-049	110N-05W-000000 1	07/03/85	-2.1
KB-050	110N-05W-000000 2	07/02/85	-2.2
KB-051	110N-05W-000000 1	07/03/85	-2.5
KB-052	110N-05W-000000 1	05/07/85	-2.5
KB-053	110N-05W-000000 2	05/10/85	-2.1
KB-054	110N-05W-000000 2	10/11/85	-2.5
KB-055	110N-05W-000000 2	11/11/85	-2.2
KB-056	110N-05W-000000 2	07/01/87	-2.6
KB-057	110N-05W-000000 2	04/02/87	-2.5
KB-058	110N-05W-000000 1	01/05/87	-2.0
KB-059	110N-05W-000000 2	05/04/87	-4.0
KB-060	110N-05W-000000 1	05/10/87	-4.6
KB-061	110N-05W-000000 2	07/02/87	-4.2
KB-062	110N-05W-000000 2	07/15/87	-4.0
KB-063	110N-05W-000000 2	07/05/87	-4.2

OBSERVATORY WELL WATER LEVEL			DATE		TIME	
WELL	LOCATION					
W-100	100-100-100000 1		10/10/97		11.0	
W-100	100-100-100000 1		07/07/97		11.0	
W-100	100-100-100000 1		12/07/97		12.1	
W-100	100-100-100000 2		11/15/97		13.0	

N= 100

4-4-4	4-4-4	4-4-4	4-4-4	4-4-4	4-4-4
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A scatter plot showing the relationship between 'READING' (Y-axis, ranging from -10 to -2) and 'C' (X-axis, ranging from 0 to 10). The data points are represented by asterisks (*). The plot shows a general downward trend, with a notable cluster of points at higher 'C' values (around 8-10) and lower 'READING' values (around -8 to -10).

[illegible]

NOTE: 34 CDS MISSING

14050009 - END OF PAGE 357

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5186-3, Kingbrook Rural Water System

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5186-3, Kingbrook Rural Water System, Drawer 299, Arlington SD.

The Chief Engineer is recommending APPROVAL of Application No. 5186-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The well authorized pursuant to this permit shall be constructed by a licensed well driller and construction shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04.

See the attached report for additional information.


JOHN HATCH, Chief Engineer
April 8, 1988

Conversation or File Documentation

NAME OF PERSON OR FILE: Kingbrook Rural Water System
ADDRESS: Drawer 299, Arlington COUNTY Kingsbury
DATE: Mar 29, 1988 TELEPHONE 605 983-5636
RE: newspaper publication

COMMENTS:

Spoke to the office secretary for Kingbrook R.W.S.
to confirm that the service area of the water sys-
tem covered nine counties. The number was con-
firmed:

✓ 1. <u>Minnehaha Co.</u> <u>Argus Leader</u> <u>Dell Rapids Tribune</u> <u>5034</u> <u>Box 99 (Wed)</u>	✓ 4. <u>Lake Co.</u> <u>Madison Daily Leader</u> <u>Box 348</u>	✓ 7. <u>Kingsbury Co.</u> <u>DeSmet News</u> <u>Box 69 (Wed)</u>
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✓ 2. <u>McCook Co.</u> <u>Salem Special</u> <u>Montrose Herald</u> <u>220 Wed</u> <u>Box 68 (F)</u>	✓ 5. <u>Moody Co.</u> <u>Moody Co. Enterprise</u> <u>Flandreau</u> <u>Box 71 (Wed)</u>	✓ 8. <u>Clark Co.</u> <u>Clark Co. Courier</u> <u>Box 189 (Wed)</u>
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✓ 3. <u>Miner Co.</u> <u>Miner Co. Pioneer</u> <u>Box P (Thurs)</u> <u>Howard SD</u>	✓ 6. <u>Brookings Co.</u> <u>Volga Tribune</u> <u>Box 8 (Thurs)</u>	✓ 9. <u>Hamlin Co.</u> <u>Estelline Journal</u> <u>Box 159 (Thurs)</u>
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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.

NAME: Ron Small



Department of Water & Natural Resources

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

April 8, 1988

**NOTE: TO BE SURE OF PUBLICATION ON
THE CORRECT DATES, CONTACT
THE NEWSPAPERS RIGHT AWAY.**

Kingbrook Rural Water System
Drawer 299
Arlington SD 57212

Dear Sir:

Your Application No. 5186-3 for a permit to appropriate water for rural water system use, has been examined and found to comply with the South Dakota Water Laws and applicable rules. Notice of your intent to appropriate water has been sent to the following papers:

Dell Rapids Tribune, Dell Rapids SD
Salem Special, Salem SD
Miner Co. Pioneer, Howard SD
Madison Daily Leader, Madison SD
Moody Co. Enterprise, Flandreau SD
Volga Tribune, Volga SD
DeSmet News, DeSmet SD
Clark Co. Courier, Clark SD
Estelline Journal, Estelline SD

Enclosed is a copy of this notice. The recommendation of the Chief Engineer and a report on the application will be following. Please review this notice prior to publication and notify this office, if you have any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPERS IMMEDIATELY TO AUTHORIZE PUBLICATION OF THE NOTICE OF HEARING AND TO ARRANGE FOR PAYMENT. Early contact with the papers can eliminate delays. The publishers have been instructed to publish the notice once each week for two consecutive weeks with the last publication to occur at least twenty days before the board meeting. We must receive Proof of Publication before the application can be considered by the Water Management Board.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ron Duvall".

RON DUVALL
Natural Resources Engineer
605 773-3352

enclosures

Instruction to Newspaper - Publish first publication of the following Notice on or before April , 1988 with 2nd publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5186-3 to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW 1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg, 523 E Capitol, Pierre SD on May 11, 1988 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

No. 5186-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Kingsbury) ss.

I, Dale Blegen hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the De Smet News

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

City De Smet of De Smet

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

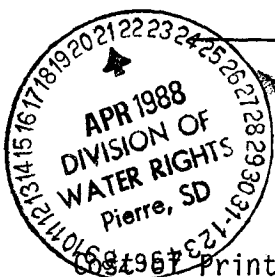
April 13, 1988

April 20, 1988

Dale Blegen
(Signature)

Publisher
(Title)

4-19-88
(Date Signed)



Printing: 37.38

NOTICE OF HEARING
On Application No. 5186-3
to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW 1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre SD on May 11, 1988 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-5, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be

present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg., Pierre, SD [605-773-3352] for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

4-13-2w-4-20

No. 5186-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Hamlin) ss.

I, Mary A. Bjerke hereby

certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Estelline Journal

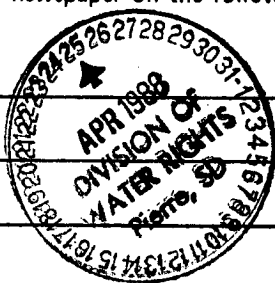
A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

Estelline Journal of Estelline

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

April 14, 1988

April 21, 1988



Mary A. Bjerke
(Signature)

Bookkeeper / Notary Public
(Title)

April 21, 1988
(Date Signed)

Cost of Printing: \$42.14

96 lines @ 43.9¢

433-2x-April 14, 21

NOTICE OF HEARING
ON APPLICATION

NO. 5186-3 TO

APPROPRIATE WATER

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The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre, SD on May 11, 1988 at 10:00 a.m.

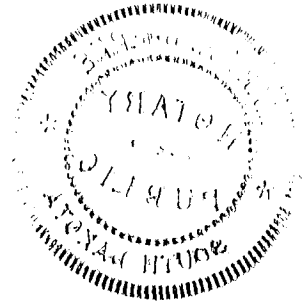
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This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1 46-2-9, 46-2-11, 46-2-13, 46-2-17,

46-2A-1 thru 46-2A-10, 46-2A-12,
46-2A-14, 46-2A-15, 46-5-1, thru
46-5-11, 46-5-13 thru 46-5-15,
46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4
46-5-31, 46-6-3, 46-6-3.1 46-6-6.1,
46-6-10, 46-6-13, 46-6-14, and Board
Rules ARSD 74:02:01:01 thru
74:02:01:15.

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No. 5186-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

County Brookings) ss.

I, Mary A. Bjerke hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Volga Tribune

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

Volga Tribune of Volga

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

April 14, 1988

April 21, 1988

Mary A. Bjerke
(Signature)

Bookkeeper
(Title)

April 21, 1988
(Date Signed)

Cost of Printing: 39.94

91 lines @ 43.94



No. 3049-T, 2x, April 14, 21
NOTICE OF HEARING
on Application No. 5186-3
to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc., whose mailing address is Drawer 299, Arlington, South Dakota, has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre, SD, on May 11, 1988 at 10:00 am.

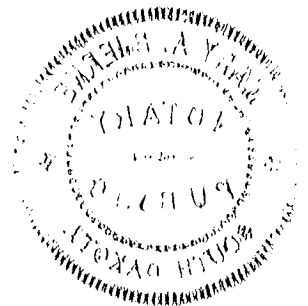
The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other

less rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foster Bldg., Pierre, SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of applicant or person who has filed petition to oppose or support application. The request extension must be filed with the Chief Engineer by April 29, 1988.



No. 5186-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Moody) ss.

I, Angela Nibbelink hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Moody County Enterprise

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

City Flandreau of _____

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

April 13, 1988

April 20, 1988

Angela Nibbelink
(Signature)

Bookkeeper
(Title)

April 20, 1988
(Date Signed)

Cost of Printing: 33.01

NOTICE OF HEARING
On Application No. 5186-3
to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW¼ Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre SD on May 11, 1988 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on his application or to assure to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg., Pierre, SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.



AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA, }
COUNTY OF MINNEHAHA } ss.

..... M. Devish, being duly sworn, says: That The Sioux Falls Argus-Leader is, and during all the times hereinafter mentioned was, a daily legal newspaper as defined by SDCL 17-2-21, as amended published at Sioux Falls, Minnehaha County, South Dakota by Sioux Falls Newspapers Inc.; that affiant is and during all of said times, was an employee of the publisher of such newspaper and has personal knowledge of the facts stated in this affidavit; that the notice, order or advertisement, a printed copy of which is hereto attached, was published in said newspaper upon

Thursday, the 14 day of April, 1988,

Thursday, the 21 day of April, 1988,

....., the day of, 19.....,

....., the day of, 19.....,

....., the day of, 19.....,

....., the day of, 19.....,

....., the day of, 19.....,

and that \$74.80 was charged for publishing the same.

M. Devish

Subscribed and sworn to before me April 21, 1988,

Nancy A. Buckley
Notary Public, South Dakota



NOTICE OF HEARING on Application No. 5186-3 to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW 1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Applicant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) undisturbed water is available, 2) will not cause unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application was considered by the Board on May 11, 1988 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The petitioner need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15, 46-2-3-1, 46-2-9, 46-2-11, 46-2-13, 46-2-17, 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30-2, 46-5-30-4, 46-5-31, 46-6-3, 46-6-3-1, 46-6-6-1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74.02.01.01 thru 74.02.01.15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can, contact the Water Rights Division, Joe Foss Building, SD (605.773-3352) for assistance prior to the hearing date. The date of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

420 April 14 & 21, 1988

No. 5186-3

PROOF OF PUBLICATION

Thurs., April 14, 1988

STATE OF SOUTH DAKOTA)
County Lake) ss.

I, Deanna D. Bergheim hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Madison Daily Leader

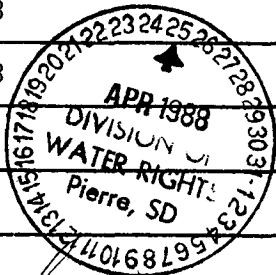
A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the

City Madison of Lake

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

Thursday, April 14, 1988

Thursday, April 21, 1988



Deanna D. Bergheim
(Signature)

Secretary
(Title)

4-21-88
(Date Signed)

Cost of Printing: 35.03

**NOTICE OF HEARING
ON APPLICATION NO. 5186-3
TO APPROPRIATE WATER**

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota, has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW 1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre, SD, on May 11, 1988, at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decision of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division Joe Foss Bldg., Pierre, SD (605.773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

position to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

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Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg., Pierre, SD (605 — 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

No. _____

NOTICE OF HEARING
on Application No. 5186-3
to Appropriate Water

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County McCook) ss.

I, G. Z. Hollingsworth hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Salem Special

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

City of Salem

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

April 14, 1988

April 21, 1988

G. Z. Hollingsworth
(Signature)

Publisher
(Title)

4-21-88
(Date Signed)

Cost of Printing: _____
First Insertion 19.21
Second Insertion 15.37
34.58



Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW¼ Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg, 523 E. Capitol, Pierre, S.D. on May 11, 1988, at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg., Pierre, S.D. (605-773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

No. _____

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Clark) ss.

I, Bert Moritz hereby

certify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Clark County Courier

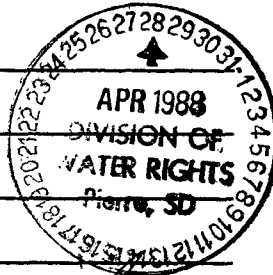
A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

State South Dakota of _____

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

April 13, 1988

April 20, 1988



Bert Moritz
(Signature)
Publisher
(Title)
4/27/88
(Date Signed)

Cost of Printing: \$36.02

87 lines 2 times

Subscribed and sworn to before me
this 27 day of April 1988

[Signature]
my comm. expires
5-27-1988

NOTICE OF HEARING
On Application No. 5186-3
to Appropriate Water

Notice is hereby given that Kingbrook Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota, has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW 1/4 Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol, Pierre, SD, on May 11, 1988 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny the application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15, 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

This hearing is an adversary proceeding. The applicant or any person, after filing a petition, has the right to be present or to be represented by a lawyer. These and other due process rights will be forfeited if they are not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law.

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, Joe Foss Bldg., Pierre, SD (605-773-3382) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by April 29, 1988.

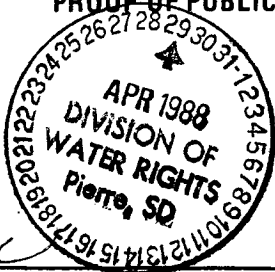
4-13-2t

Form 8 - Proof of Publication - Notice of
Intent to Appropriate Water

No. _____

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Miner) ss.



I, Carrie M. Munger hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Miner County Pioneer

A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

_____ of _____

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

14th day of April
21st day of April

Carrie M. Munger
(Signature)

Secretary
(Title)

April 27
(Date Signed)

NOTICE OF HEARING
on Application No. 5186-3
to Appropriate Water

Notice is hereby given that Kingbrook Rural Water System, Inc. whose mailing address is Drawer 299, Arlington, South Dakota has filed an application for a permit to appropriate 0.70 cubic feet of water per second from 1 well 50 feet deep to be located in the SW $\frac{1}{4}$ Section 16, T111N, R56W. Water is to be used to supply the Kingbrook Rural Water System.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5186-3 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) it is a beneficial use of water and 4) it is in the public interest.

The application will be considered by the Water Management Board in Room 216, Joe Foss Bldg., 523 E. Capitol Pierre, SD on May 11, 1988 at 10:00 a.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve 2) approve with qualifications, defer, or 4) deny the application after it reaches a conclusion based upon facts presented at public hearing. Any interested person who may be affected by Board decision and who intend to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDC 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by April 29, 1988. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's op-

Cost of Printing: 39.

Subscribed and sworn to before me this 27th day of April 19 88

Brent Munger

My Commission expires the 14th day of May 19 95





Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

DEC 1 1988

Larry Sterling, Chairman
Kingbrook Rural Water System, Inc.
Drawer 299
Arlington SD 57212

Dear Mr. Sterling:

Enclosed herewith is your Water Permit No. 5186-3 as approved by the Water Management Board authorizing you to construct your water diversion system and put the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 5186-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH: ks

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.

LICENSE FOR PERMIT NUMBER

5186-3

1. Legal location of wells: land Survey of Well Site No 4. in Southwest
(sw) 1/4 of Section Sixteen (16) Township 111 Range 56 Kingsbury Co.
~~dams & structures:~~ SW 1/4 SW 1/4 Section 16 - T111N - R56W

2. Well Information: Well Drilling Firm LTP well drillers Fargo N.D

Completion Report Yes X No No. of Wells 1 Depth 61 FT
 Casing a) diameter 12" Screen a) type stainless
 b) length 46 FT b) length 18 FT
 c) type steel Static Water Level 11.9 FT
 Pump a) make Grundfos Submersible Motor a) make
 b) model 3755 200-3 b) model No.
 c) size 4" c) horsepower rating 20 HP
 d) capacity 325 gpm
 e) turbine pump - no. of stages N.A.
 f) operating PSI 60 PSI

3. Distribution lines or canals

a) size	<u>10"</u>	<u>6"</u>
b) type	<u>PVC</u>	<u>PVC</u>
c) length	<u>3960 FT</u>	<u>5280 FT</u>

4. Dam Information:

a) height to crest <u> </u>	m) Outlet tubes:
b) height to primary spillway <u> </u>	1) diameter <u> </u>
c) height to secondary spillway <u> </u>	2) type <u> </u>
d) crest width <u> </u>	3) valved (Y/N) <u> </u>
e) crest length <u> </u>	4) valve type <u> </u>
f) spillway length <u> </u>	5) location on structure <u> </u>
g) spillway width <u> </u>	
h) approx. storage <u> </u>	n) Category of Dam <u> </u>
i) approx. storage to crest <u> </u>	
j) date constructed <u> </u>	
k) inspection sheet completed (Y/N) <u> </u>	
l) Name of Contractor <u> </u>	

Permit No. 5186-3Vermillion River Water District:

Report Of Examination Of Works And/Or Application of Water To Beneficial Use:

I have this day made a thorough examination of the water use system constructed by Kingbrook Rural Water P.O. Box 299 101 West Elm of Arlington, SD 57212 holder of Permit No. 5186-3, bearing the priority of March 29, 1988 authorizing the diversion of 0.70 cu. ft. per second of the waters of groundwater for Rural Water System purposes, in Kingsbury County.

I have to report on the conditions of the same as follows:

A. Works used to divert the water: Well #4: 4" Grundfos Submersible Pump Model No. 3755200-3 capable of 325 gpm HP=20

B. Works used to transport water to place of use:
Uses both 6" PVC piping 5280 FT & 10" PVC piping 3960 FT

C. Works used to apply water to beneficial use: Rural Water distribution systems throughout the counties of Kingsbury, Miner, Lake, Minnehaha, McCook, Moody, Brookings, Hamlin, Clark

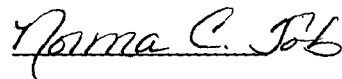
The system is in the following condition good. The point of diversion is located 130'E and 330' N of the SW corner Section 16-T111N-R56W.. The works are capable of diverting and conveying to the place of use 0.72 cu. ft. per second of water which is to be used for rural water system use. Water has been put to beneficial use to the maximum extent as follows: through the rural water distribution system comprising a total of N/A acres of land and the license should be issued for 0.70 cfs.

Applicable permit qualifications have been complied with ☒ Yes ☐ No

Exceptions to compliance are:

Date: 8/27/1991

xx maximum combined annual
withdrawals under Permit No. 4137-3,
5186-3, 5208-3, + 5426-3 may not
exceed 1,350 Acre-Feet.



NORMA C. JOB
Natural Resources Engineer I
DENR, Water Rights Division

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

Date December 13, 1991

TO: Water Rights Division, DWR
Joe Foss Building
Pierre SD 57501-3181

FROM: Kingbrook Rural Water System 505 East Ash St. Arlington.
name address city

I have completed the construction of the water diversion system and I have put the water to beneficial use to the maximum extent it is going to be used. I have not exceeded the amounts specified in Water Permit No. 5186-3.

Water Permit No. 5186-3 states that the diversion system is to be constructed by May 11, 1993, and that the water it put to beneficial use by May 11, 1997.

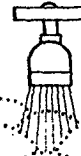
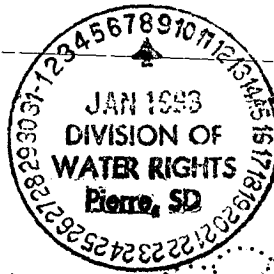
The diversion system was completed on 12/31/88.
Applying the water to beneficial use was completed on June 16, 1989

You may schedule an inspection so that the Water License may be issued.

Morris Elcock General Manager
signature Kingbrook Rural Water

5186-3

KINGBROOK RURAL WATER SYSTEM



January 7, 1993

Drawer 299

ARLINGTON, S. DAKOTA 57212

Telephone (605) 983-5074

Barry McLaury, Natural Resources Analyst
JOe Foss Building
523 East Capitol
Pierre, SD 57501-3181

Dear Mr. McLaury:

Enclosed find the information requested on December 23, 1992 for water diverted under the permit (s) during 1992.

Permit #4137-3 is for wells #1, #2 and #3 Phase II
gallons pumped for 1992 - 2,299,800 gallons

Permit #5186-3 is for well #4 Phase II
gallons pumped for 1992 - 61,005,000 gallons

Permit #5426-3 is for wells #5 and #6 Phase II
gallons pumped for 1992 - 118,335,000 gallons

Permit #5208-3 was changed to Permit #5208A-3 which was a change of diversion and is for wells #7 and #8 which have not been constructed yet.

Permit 5209-3 is a future use permit for Phase II

Permit #4367-3 is for well #1 and #2 for the Phase III plant
gallons pumped with these two wells total 139,980,000 gallons.

Permit #5646-3 is for well #3 in Phase III and is set for construction during early 1993.

Permit #5643-3 is a future use permit for Phase III

If you have any questions, please give me a call.

Sincerely,

Morris Elcock
Manager

ME/jk



5186-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 13, 1994

Larry Sterling
Kingbrook Rural Water System
Drawer 299
Arlington, SD 57212

Dear Mr. Sterling:

Pursuant to a qualification on Water Permit/Right Nos. 5785-3, 5208-3, 5208A-3, 5186-3, 4137-3, 5426-3 (Vermillion East Fork Aquifer) & 5646-3 (Big Sioux:Northern Skunk Creek Aquifer), I am requesting that the Kingbrook Rural Water System report the total amount of water diverted from the Vermillion East Fork Aquifer and the Big Sioux:Northern Skunk Creek Aquifer during 1993. Please respond by January 31, 1994.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Sincerely,

RON DUVAL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

Vermillion E.F.A = 221,910,000 gal.

Big Sioux = 140,064,000 gal.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

March 23, 1994

4137-3
5186-3
5426-3

Morris Elcock, General Manager
Kingbrook Rural Water System
P.O. Box 299
101 West Elm
Arlington, SD 57212

Dear Mr. Elcock:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit Nos. 4137-3, 5186-3 and 5426-3, has been completed. Your final water right documents, the Water Licenses, can now be issued.

Statutes require that we charge a \$50.00 fee per License for the inspection and issuance of the Water License. Upon receipt of the \$150.00 fee from you, we will begin processing your Water License.

**Please remit fee to:
Department of Environment & Natural Resources
Water Rights Division
523 E. Capitol
Pierre, SD 57501-3181**

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until the \$150.00 license fee has been paid. Please contact us if you have any questions.

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Division
(605) 773-3352

NOTE: On check or money order, please specify your permit number. This will insure proper handling of the fee.

RECEIPT

414114

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ March 29, 19 94

RECEIVED OF Kingbrook Rural Water System, Drawer 299, Arlington, SD 57212

the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use _____		
Fee for Application for Permit No. _____ to Appropriate Water, for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>5186-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	50 00

By John Hatch
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

AUG 19 1994

4137-3
5186-3
5426-3

Morris Elcock, General Manager
Kingbrook Rural Water System, Inc.
P.O. Box 299
Arlington, SD 57212-0299

Dear Mr. Elcock:

Enclosed are Water License Nos. 4137-3, 5186-3 and 5426-3. These are the final water right documents completing your process of obtaining Water Rights. Enclosed are Receipt Nos. 414113, 414114 and 414115 in the amount of \$50.00 each which you paid for the inspection and issuance of the Water Licenses.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the wells authorized by Water Right Nos. 4137-3, 5186-3 and 5426-3, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

As long as you use the water beneficially, as stated in the Water License, the State Water Laws provide that you have a continuing right to use the water. If you have any questions, please contact our office.

Very truly yours,

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

gm
enclosures

5186-3

NOT TO SCALE

91.5
T557

T520

34.5

172 R

1

4

23.5

16L

T3189

7

T2717

prepared by
Norma C. Tob
Natural Resources Eng I
Division of Water Rights
9/11/91

59.6

3 well #4

330'

111 56

90.0

22.7

46.4

T517

172 R

5186-3

STATE OF SOUTH DAKOTA
WATER LICENSE NO. 5186-3

(1) The Kingbrook Rural Water System, Inc., of PO Box 299, Arlington, SD 57212-0299 made Application No. 5186-3, March 29, 1988 for a water permit to appropriate 0.70 cubic feet of water per second from groundwater (one well), Kingsbury County, South Dakota for rural water system purposes. Permit No. 5186-3, with a priority date of March 29, 1988 was approved May 11, 1988 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before May 11, 1993 and for the application to beneficial use of said water on or before May 11, 1997.

On December 19, 1991 the rural water system submitted a "Notice of Completion of Works and Application of Water to Beneficial Use". The "Notice" stated the diversion system had been completed on December 31, 1988 and the water applied to beneficial use on June 16, 1989.

On March 1, 1989, the Water Management Board amended Water Permit No. 5186-3 to include a qualification that states "Maximum combined annual withdrawals authorized under Permit Nos. 4137-3, 5186-3 and 5208-3 may not exceed 1,350 acre feet".

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.70 cubic feet of water per second for beneficial use. The location of the diversion point is: 130'E and 330'N of the SW corner of Section 16, T111N, R56W (SW¼SW¼).

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use for a rural water distribution system which serves Kingsbury, Miner, Lake, Minnehaha, McCook, Moody, Brookings, Hamlin and Clark Counties in South Dakota.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Kingbrook Rural Water System, Inc. of PO Box 299, Arlington, SD 57212-0299 the holder and/or owner of Water Permit No. 5186-3 is issued a license to appropriate water, the right to use 0.70 cubic feet of water per second from groundwater (one well) with a priority date of March 29, 1988 from the location specified in (2) of this license. The water is diverted through the distribution system for rural water system purposes. This license is subject to any limitations or qualifications listed in Water Permit No. 5186-3 and subject to South Dakota State Law.



JOHN HATCH, Chief Engineer
Water Rights Division
Department of Environment and Natural Resources

AUG 19 1994

date



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 15, 1995

Morris Elcock, Manager
Kingbrook Rural Water System
Drawer 299
Arlington SD 57212

Dear Mr. Elcock:

I am writing in response to your December 14, 1995, request for a summary of your water permits. Attached is a listing dated December 15, 1995, of the requested permits.

The listing of permits is grouped by aquifer: BS-NSC (Big Sioux-Northern Skunk Creek aquifer); VEF (Vermillion East Fork aquifer); BS-B (Big Sioux-Brookings aquifer.) The amount of water appropriated in CFS (cubic feet of water per second), AF (acre-feet of water), priority date, diversion point location, and status (PE - permit, LC - licensed, and FU - future use) is listed for each permit. Any water permit with a "PE" status will eventually be licensed following completion of an on-site investigation.

A couple points to consider when reviewing this list:

- The "CFS" listed for "PE" status permits will be reduced upon licensing if the actual diversion rate is less than the specified rate, and
- The "AF" listed for each future use permit is the number of acre-feet remaining in reserve.

Please let me know if you need any further assistance (605) 773-3352. Have a Merry Christmas!

Sincerely,

Ron Duvall
Natural Resources Engineer
Water Rights Program

enclosure

PERMIT	NAME	CFS	AF	PRIORITY	DIV. PT. LOCATION	AQUIFER	STATUS
4367-3	KINGBROOK RWS	3.00	*	1979-01-09	SE $\frac{1}{4}$ NE $\frac{1}{4}$ 8-105N-51W NE $\frac{1}{4}$ NE $\frac{1}{4}$ 17-105N-51W	BS-NSC	PE
5646-3	KINGBROOK RURAL WATER SYS	1.00	425	1992-03-19	NW $\frac{1}{4}$ SW $\frac{1}{4}$ 9-105N-51W	BS-NSC	PE
*No acre-foot limitation specified on Permit No. 4367-3							
5643-3	KINGBROOK RWS, INC		425	1992-03-19	Portions of sections 8, 9, 17; all in 105N-51W	BS-NSC	FU
4137-3	KINGBROOK RWS INC	1.06	*	1977-03-04	SW $\frac{1}{4}$ SE $\frac{1}{4}$ 8-111N-56W SE $\frac{1}{4}$ NE $\frac{1}{4}$ 8-111N-56W SE $\frac{1}{4}$ NE $\frac{1}{4}$ 17-111N-56W	VEF	LC
5186-3	KINGBROOK RWS INC	0.70	*	1988-03-29	SW $\frac{1}{4}$ SW $\frac{1}{4}$ 16-111N-56W	VEF	LC
5208-3	KINGBROOK RWS	1.40	*	1988-08-15	5208A-3 changes location of diversion points	VEF	PE
5208A-3	KINGBROOK RURAL WATER SYS		*	1988-08-15	E $\frac{1}{2}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ 6-111N-56W	VEF	PE
5426-3	KINGBROOK RWS	1.40	*	1988-08-15	SE $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ NW $\frac{1}{4}$ 6-111N-56W	VEF	LC
5785-3	KINGBROOK RWS, INC.		*	1993-08-25		VEF	PE
*Combined diversions under all permits in the Vermillion East Fork aquifer may not exceed 1,350 acre-feet annually							
5209-3	KINGBROOK RWS		550	1988-08-15	Portions of sections 10 & 8, 6; all in 111N-56W	VEF	FU
5079-3	BROOKINGS-DEUEL-KINGBROOK	2.90	*	1975-05-05 1977-06-06	NE $\frac{1}{4}$ 24; NE $\frac{1}{4}$ NE $\frac{1}{4}$ 25; 112N-51W; NW $\frac{1}{4}$ SW $\frac{1}{4}$ 19-112N-50W	BS-B	LC
2612A-3	BROOKINGS-DEUEL-KINGBROOK	0.89	210	1976-03-01	NW $\frac{1}{4}$ NE $\frac{1}{4}$ 25-112N-51W	BS-B	LC
5434-3	BROOKINGS-DEUEL-KINGBROOK		224	1990-04-02	Same as 2612A-3	BS-B	PE
5602-3	BROOKINGS-DEUEL-KINGBROOK	1.00	434	1977-06-06	NE $\frac{1}{4}$ NE $\frac{1}{4}$ 25-112N-51W	BS-B	PE
5821-3	BROOKINGS-DEUEL-KINGBROOK			1994-05-05	Connect City of Arlington	BS-B	PE
*No acre-foot limitation specified on Permit No. 5079-3							
3982-3	BROOKINGS-DEUEL-KINGBROOK		869	1977-06-06	Parts of 24,25-112N-51W and 19-112N-50W	BS-B	FU
3982A-3	BROOKINGS-DEUEL-KINGBROOK			1994-01-10	Added all SW $\frac{1}{4}$ sec 19	BS-B	FU

December 15, 1995