

1. Considered: July 28, 19 82 Water Right No. 4908-3

2. Name of Applicant BROWN-DAY-MARSHALL RURAL WATER SYSTEM

3. Post Office Address POB 229, Britton 57430

4. Amount of Water Claimed 1.00 maximum acre feet 360 annually

5. Source of Water Supply 299 feet (James Aquifer) 3 wells

6. Water to be used for RWS acres to be irrigated

7. County Marshall about miles of

8. PROOF OF PUBLICATION: Received 1st from Britton Journal Not Received 1

APPLICATION: Approved 7-28-82 Subject to DW

Not Approved Action Deferred

*send
must
bill back*

PRIORITY Dated Received 6/21/82 Application complete-yes no FEE n/a

6/21/82 Remarks Engr (C) 6/25/82 called well and feasibility & log. place HNB

Corrected Application received Period of Annual Use continuously

WATER Received yes no APPROVED/CONDITIONAL (Circle one)

QUALITY WI-1 Description same as application-yes no Remarks

not applicable

Disapproved Returned

Diversion Point

SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec. 3-T127N-R57W

Land to be irrigated

WELL LOG Driller L.P. Enterprises - Leno Licensed - yes no

Depth James Aquifer 299 feet deep

Remarks

MAP Map No. 4108-3 Map located in Water Right 1 Map file 1
Type of Map drawn Prepared by QE

+++++

REVIEWED This Application was received within 30 days of the date received, accepted as complete, Number assigned and written up for advertisement before the Board on:

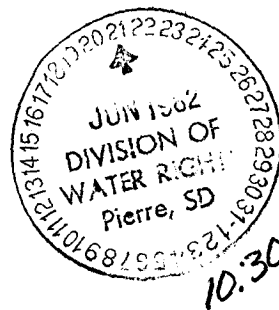
June 25, 1982.

D. Westlund
(Signed)

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PROTESTS Letters/Petitions in File - yes _____ no _____ Remarks _____

REMARKS Date
F.F. & C. Final Decision, including F.F. & C. of Law were adopted _____
OF LAW, Date
FINAL Final Decision mailed to parties and/or parties notified that Final Decision was
DECISIONS adopted _____
ETC. Remarks _____



No. 4908-3
 Map No. 4108-3 Water Division No. 3 RED RAINY District
 Above for Office Use 09020105

APPLICATION FOR PERMIT To Appropriate Water within the State of South Dakota

Check one of the following:

New X Vested Right _____ Future Use _____

Change in Diversion _____ Additional Diversion _____

Change in Acreage _____ Additional Acreage _____

1. Name of Applicant Brown-Day-Marshall Rural Water System Phone No. 605-448-5471Post Office Address P.O. Box 229, Britton State South Dakota 57430
(Street, RR, or Box) (Town) (Zip Code)If a corporation show date and place of incorporation December 22, 1981, Britton, SD2. Method of accomplishing work (contract, employment of others, or by direct labor) Contract3. Name of diversion work Brown-Day-Marshall Rural Water System4. Amount of water claimed (cubic feet per second) 1 cu. ft./sec. - 360 acre-ft./year5. Source of water supply Wells - James Aquifer 3 WELLS6. Location of point of diversion SE 1/4 NE 1/4 Sec. 3, Twp. 127 N., Rge. 57 W.County Marshall Day - Brown7. Annual period or periods during which water is to be used Daily8. Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) Domestic-Rural-Municipal9. For irrigation use, Total number of acres to be irrigated none

List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.

Land Description	No. Acres Irr.

Attach sheet if more space is needed

10. Time required to complete construction of water supply system 15 years. Additional time required to complete application of water to the proposed beneficial use 4 years.11. Choice of county newspaper for publication of Notice of Intent to Appropriate Water Britton Journal

12. Principal Features of the Proposed Water Supply System.

BE PUBLISHED IN THE
AMERICAN NEWS-APRIL 1982

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

Three (3) wells

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

Reservoirs, pumps, and PVC pipe

C. Works proposed to apply water to beneficial use.

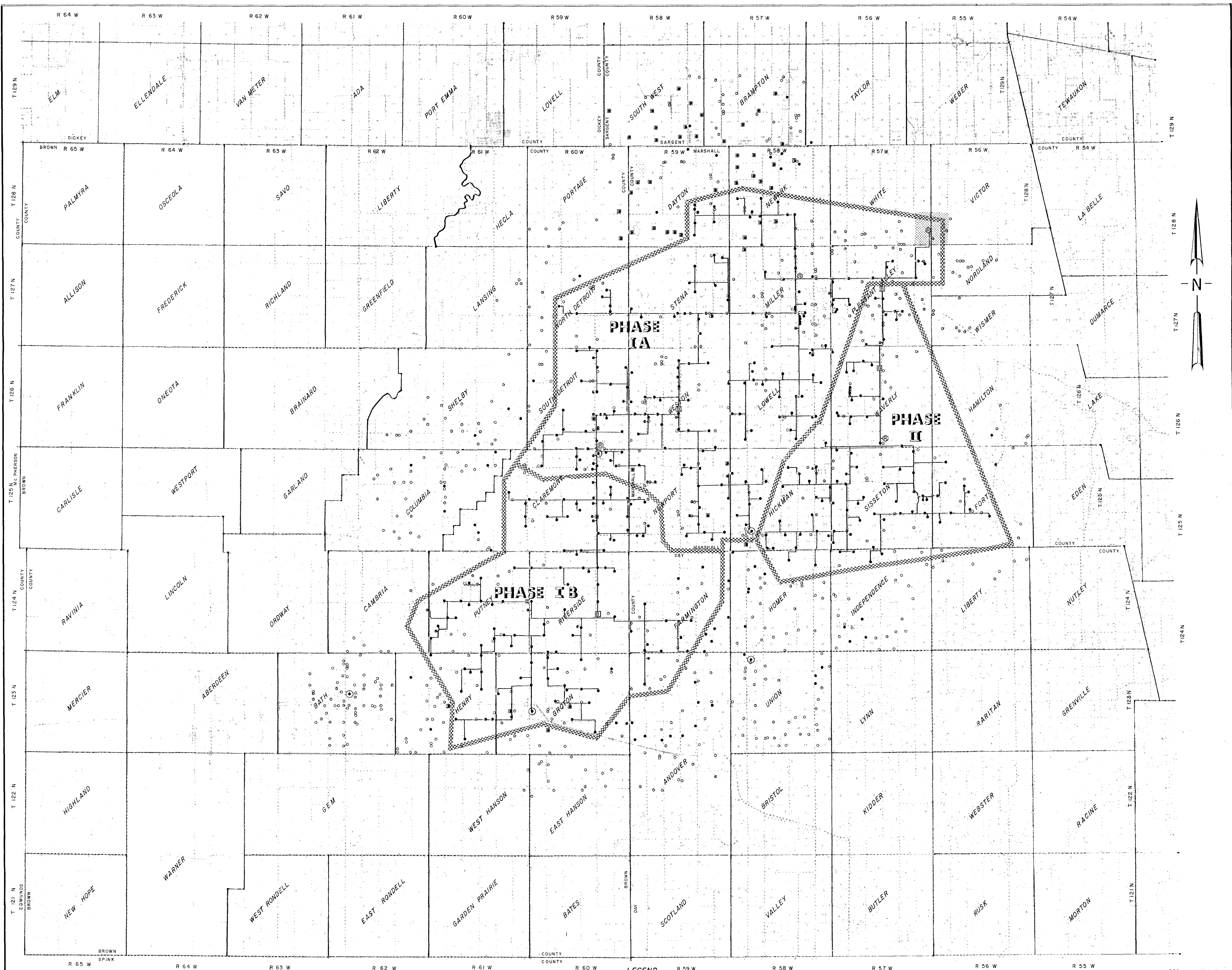
Households

Estimated Total Cost \$ 4,850,000

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

STATE OF SOUTH DAKOTA)
 County of Brown)ss.I, Dale Kurth the applicant, certify that I have read the foregoing application and have examined the attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.Signed Dale Kurth, Chairman BAMSubscribed and sworn to before me this 18 day of June, 1982

C. D. Nietert
 Notary Public (or other qualified officer)



LEGEND

- PASTURE MEMBER
- FARMSTEAD OR RESIDENCE
- RURAL MEMBER
- CITY MEMBER
- TOTAL MEMBERS IN CONCENTRATED AREA
- RESERVOIR
- BOOSTER STATION
- PROPOSED PIPELINE
- WELL FIELD



GENERAL LAYOUT			
B.D.M. RURAL WATER USERS			
BRITTON, SOUTH DAKOTA			
Scale AS SHOWN	Drawn by M.A.W.	Checked by J.A.T.	Project No. 1934-77
		Date 4-25-79	Sheet 1 of 1
PREPARED BY			
HOUSTON ENGINEERING, INC.			
P.O. BOX 5054 FARGO, NORTH DAKOTA 58102			

I	DIVIDED PHASE I INTO PHASE IA AND IB	4-17-80	HAT
No	Revision	Date	By

WATER RIGHT APPLICATION APPROVAL

The Water Management Board hereby approves Water Right Application No. 4908-3

Brown-Day-Marshall Rural Water System POB 229, Britton

South Dakota 57430

(Post Office Address)

(State)

With the following qualifications

The wells approved under this Permit are located near domestic 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.

Date of first receipt of application June 21, 19 82

Date of return to applicant for correction, amendments or changes required June 23, 19 82

Date of receipt of corrected application July 8, 19 82

Approved July 28, 19 82 Recorded in Book Page

WATER RIGHT PERMIT NO. 4908-3

The Water Management Board hereby grants and issues this Water Right Permit No. 4908-3 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as qualified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is June 21, 19 82

2. The equivalent of at least one-fifth of the work above specified is to be completed on or before January 28, 19 85

3. The whole of said work is to be completed on or before July 28, 19 87

4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is July 28, 19 91

5. The water appropriated shall be used for the purpose of Rural Water System

6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be injuriously affected by this appropriation.

7. The amount of the appropriation herein granted shall not exceed 1.00 cubic feet per second; neither shall it exceed the capacity of the above described water supply system, nor shall it exceed the amount of water needed for ~~beneficial use served, and if for irrigation purposes the appropriation must be limited to not more than 2 acre feet per acre per year and be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied for a rural water system.~~

~~for irrigation~~ on or before July 28, 19 91, said water to be used during the following described

annual period: January 1 to December 31

Witness my hand this 9th day of August, 19 82

THE WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer, Water Rights

JOHN HATCH

Certificate of Construction Issued _____, 19 _____

Water License Issued _____, 19 _____

D Well Information

- (1) Drill Hole, Diameter 17", Depth 299 ft.
- (2) Casing, Type steel, Diameter 12", Thickness 0.375 in.
(wood, concrete, steel, etc)
- (3) Screen, Type wire wound, Diameter 12", Length 24 ft.
- (4) Gravel Pack, Thickness 5", Length of gravel pack 25 ft. ±

E. Dugout Information or Estimates

- (1) Surface dimensions, _____, Depth _____

F. Fill out for Either a Well or a Dugout.

- (1) Water Bearing Materials. (Attach a copy of test well log)

Depth to top of water bearing material 275 ft.

Depth to bottom of water bearing material 299 ft.

Depth to water (ground surface to water level) 173 ft.

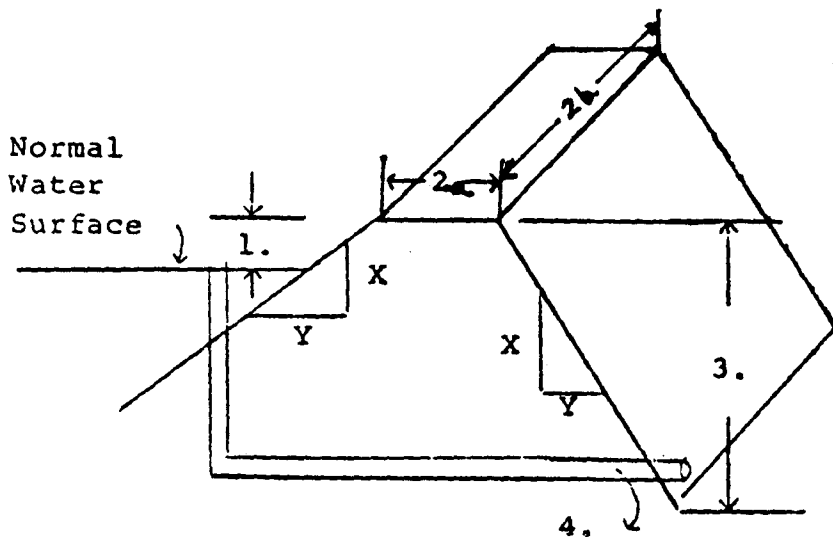
- (2) Distance to nearest existing household or livestock watering well.

On same owner's property _____ rds.

On property owned by others _____ rds.

G Water Storage Dams

If the proposed water use system contains one or more water storage dams, please show in the space below, the height, length, maximum water depth, surface area, drainage area, storage capacity, dam slope, dimensions, location and size of outlet works, of each storage dam. The location of each water storage dam should be shown on the water right map.



1. Freeboard _____
- 2a Crest width _____ b. length _____
3. Height of Dam _____
4. Outlet dimensions:
Pipe diameter _____
Spillway width _____
- X & Y slope:
Upstream _____
Downstream _____
Surface area of impoundment _____
- Drainage area above dam _____

Dale Kuntz, Chairman
Signature of Applicant
BAM Rural Water System

Water Rights Division - DWNR

Telephone Reference Sheet

NAME OF PERSON (Called/Calling): Dale Kurth Chairman, BDM-RWS
ADDRESS: Britton COUNTY: Marshall Day-Brown
DATE: 6/24/82 TELEPHONE: 294-5863 (home phone)
RE: appl. 4908-3

COMMENTS:

Called re: amount of wells - Log of test well & Feasibility
told him I had sent letter and copy to Engr. Firm &
Curt Hohn - said there would be 3 wells proposed
have one test well - same depth etc. Test well
drilled by LTP Enterprises out of Fargo.

6/25/82 Engr Firm
Called Frank Smith & said they would send in
Feas Report & log before WMB meeting. Frank was
up there for the test of the well.

File in Permit file when necessary. Use to make a record of conversations and what the other party was told.

NAME: Bjornstad



CONSULTING ENGINEERS
SURVEYORS

HOUSTON ENGINEERING, INC.

2505 N. UNIVERSITY DRIVE P.O. BOX SU 5054 FARGO, NORTH DAKOTA 58105 PHONE: (701) 237-5065

June 15, 1982

Water Management Board - Water Rights
Department of Water and Natural Resources
Joe Foss Building
Pierre, SD 57501

SUBJECT: Application for Permit to Appropriate Water
Brown-Day-Marshall Rural Water System

Gentlemen:

On behalf of the Board of Directors of the Brown-Day-Marshall Rural Water System, we have enclosed herewith two copies each of Form 2, 2A and map showing the point of diversion.

It is our understanding that no filing fee is required as this is a rural water system incorporated as a non-profit corporation.

A 12" test well has been installed for the purpose of conducting an aquifer test. As soon as this has been completed, all test logs and well logs will be forwarded to your office. We thank you very much for your consideration in this matter.

Sincerely,

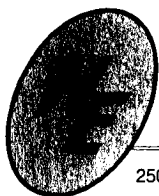
HOUSTON ENGINEERING, INC.


Dennis P. Derrig

DPD:gz

Encl.

cc: Mr. Curt Hohn, Oahe Conservancy Subdistrict, Box 1985,
Aberdeen, SD 57401



CONSULTING ENGINEERS
SURVEYORS

HOUSTON ENGINEERING, INC.

2505 N. UNIVERSITY DRIVE ◦ P.O. BOX SU 5054 ◦ FARGO, NORTH DAKOTA 58105 ◦ PHONE: (701) 237-5065

July 6, 1982

Water Rights Division
S.D. Department of Water and Natural Resources
Joe Foss Building
Pierre, SD 57501

Attn: Ms. Betty Westlund

SUBJECT: BDM Rural Water System
Water Permit Application 4908-3

Dear Ms. Betty Westlund:

As requested in your letter of June 23, 1982, we are enclosing herewith the following items on behalf of the B.D.M. Rural Water System:

1. Feasibility Report
2. Logs of all test drilling and test pumping conducted.

As per the original application, three wells are proposed to be completed for the system. Normally, only one well would be required to be operated at any certain time.

If any additional information is required for the application, please advise. Thank you very much for your consideration on this matter.

Sincerely,

HOUSTON ENGINEERING, INC


Dennis P. Derrig

DPD:gz

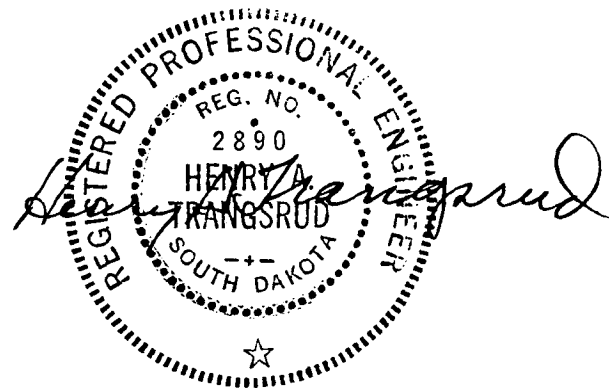
Encl.

cc: Dale Kurth

Curt Hohn, Oahe Conservancy Sub-District



PRELIMINARY ENGINEERING REPORT
Rural Water System
B.D.M. Rural Water System
April 25, 1979



PRELIMINARY ENGINEERING REPORT
Rural Water System
for
B.D.M. Rural Water System

I. SCOPE

This report consists of a summary of the study made to determine the feasibility of constructing and operating a rural water system for Brown County, Day County, and Marshall County, South Dakota, and also a small portion of Sargent County, North Dakota. Due to the size and cost of the system, the system has been divided into two parts, hereinafter called Phase I and Phase II. The boundary lines for these phases were chosen mainly because of the topography of the area. Phase I is on the same elevation as the well area. Most of Phase II is much higher than the wells. In fact, the southeast part of Phase II is 550 feet higher than the wells. Membership density is nearly the same for both phases of the system. For the purpose of this report, the two phases will be considered one system unless otherwise noted. It should be noted here that Phase II could not be constructed before Phase I.

II. ORGANIZATION

In the summer of 1977, a steering committee was formed and a membership drive was held in Marshall County, and was later expanded into Brown and Day Counties, all in South Dakota, and also Sargent County in North Dakota.

Membership in the B.D.M. Rural Water System consists of individuals and cities who have paid a \$30 good intention fee. To date, there are 526 members as shown on the location map entitled "B.D.M. Rural Water Users". Of the total membership, 518 are farm or rural residents, 3 are residents of a small community, and 5 are cities.

The small community of Putney has individual members. Bath, Groten, Pierpont, Langford, and Clairmont have central distribution systems and are interested in purchasing water on a bulk basis.

The location map also shows the location of potential members. Although these residences are not members of the system at present, they are still considered an important part of this study since many of them are located within the service area and will possibly become members at a later date.

III. AREA TO BE SERVED

The area to be served includes 8 townships in the eastern part of Brown County, 4 townships in the northwestern part of Day County, and 12 townships in Marshall County. The area lies mostly in the James Basin bounded on the west by the James River and on the east by the numerous lakes in the Coteau Des Prairies. The area is approximately 25 miles wide and 40 miles long along an axis running northeast to southwest.

The topography of the area can be described as a gently sloping to almost flat area in the western three-fourths of the system (Phase I), to a very hilly and steep sloped area on the eastern side of the system (Phase II). There are a few small creeks and lakes in the service area. Farmsteads and shelterbelts are about the only places trees exist. A total drop of 600 feet exists from the hills in the eastern part of the system to the flatland in the western part of the system.

Nearly all the land is used for agricultural purposes which includes small grains, row crops, and livestock operations of various sizes.

The area is dotted with several small towns of which Groten, Langford, and Clairmont are members desiring bulk water, and Putney which has individual residents signed as members. All the cities being served are in Phase I of the project. The Cities of Bath and Pierpont are also members but are located out of the service area. The larger city of Britton is located in the northeastern part of the proposed system, but is not a member of the system.

The few members in Sargent County, North Dakota, are shown as not being served at this time since there are very few permanent residences and the majority of the hookups would be pasture hookups.

IV. EXISTING FACILITIES

A. Rural

In most cases, individual wells are being used for rural water supply. Where there is no ground water available, all the water must be hauled for both domestic and livestock usage.

Water quality varies from well to well, with a range of good to very poor. Iron and hardness and dissolved solids are the most common problems.

B. Cities and Small Communities

Bath, Groten, Pierpont, Langford, and Clairmont have central water supply and distribution systems, but because of poor water quality they desire to purchase water as a bulk user and continue using their existing distribution system.

Putney has no central distribution system and the residents in this small community have requested to be served on an individual basis.

V. NEED FOR IMPROVED FACILITIES

The need for improved facilities can be attributed to the lack of sufficient quantity of water as well as the poor quality of water Brown County, Day County, Marshall County, and Sargent County have.

Many areas have artesian water which is of a poor quality being high in dissolved solids. Other areas have water which is very hard and/or have water which is high in iron content. Other areas have limited supplies or no water available and, therefore, must supplement their supply by hauling water.

VI. PROPOSED FACILITIES

A. General

A large central water supply and distribution system is proposed to supply the individual farms, cities, and the small communities. The distribution system will be constructed of poly vinyl chloride pipe and will carry water from the wells to the members of the system. It is proposed that underground water reservoirs with booster pumps and also "in-line" booster stations be located throughout the system to meet peak demands.

B. Design Criteria

As far as possible, the guidelines recommended by Farmers Home Administration will be used as criteria for the design of the water system. In addition, state and/or federal standards will also be used as water quality criteria.

The following design criteria will be used:

1. Water Quality: The latest edition of the Public Health Service Manual of Drinking Water Standards. The proposed source of water will be tested by the state lab.
2. Distribution Mains (Rural Areas):
 - a. Service lines into farmyards will be a minimum of 1 1/2 inches in diameter with a 1 1/2 inch curb stop near the mainline.
 - b. Branch lines will be designed for a maximum simultaneous flow for each customer in accordance with the curve shown in Figure No. 1 plus the 24-hour steady flow rate demand required for livestock and other uses.
3. Distribution Mains (Small Communities):
 - a. Service lines will be a minimum of 1 1/2" to the property line with a 1 1/2 inch curb stop at the property line.
 - b. Distribution lines in cities and other concentrated membership areas will generally be 2 to 6 inches in diameter.
 - c. The design flow will be computed according to the curve shown in Figure No. 1.
4. Major Supply Mains: The major supply mains will be designed for maximum simultaneous flow rate in

accordance with Figure No. 1 plus the 24-hour flow rate demand required for livestock and other uses. Sizes will range from 3 inches to 10 inches in diameter.

5. Reservoirs:

- a. Reservoirs will be designed with a capacity of approximately 300 gallons per customer.
- b. The reservoirs will be capable of supplying a peak demand flow for a minimum of two hours.

6. Pressure: Class 160 and 200 pipe will be used to insure that working pressures will not exceed $\frac{2}{3}$ the pressure rating of the pipe. Minimum design pressure will be 20 psi during peak flows in the system.

C. Number of Customers

Phase I of the preliminary proposed layout of the distribution system serves 327 present members of the system, together with the Cities of Groten, Langford and Clairmont.

There are approximately 97 potential users located along the routes of the proposed distribution lines. It is anticipated that approximately 26 (27%) of these potential users will become members and receive service on the initial water system.

Therefore, with the present 327 members and the anticipated 26 additional members, it is assumed there will be about 353 users on Phase I of the system.

Phase II of the preliminary proposed layout of the distribution system serves 93 present members of the system.

There are approximately 33 potential users located along the routes of the proposed distribution lines. It is anticipated that approximately 7 (22%) of these potential users will become members and receive service on the initial water system.

Therefore, with the present 93 members and the anticipated 7 additional members, it is assumed there will be about 100 users on Phase II of the system.

There are a few members in the area which are not shown as being on line. These members are in areas of poor density or for some topographical reason are not being considered as economically unfeasible at this time. These members include the cities of Bath and Pierpont.

D. Design Water Demand

1. Rural and Cities Without Central Distribution Systems:

Design flow rates will be based on the curve shown in Figure No. 1 plus a 24-hour steady flow demand rate for livestock and other uses.

2. Cities:

The design flow rate for cities with their own distribution system is based on a 24-hour demand rate for the needs of the city. One hundred twenty five gallons per person per day will be used for the per capita demand, and the design population for the cities is estimated to be 10 percent over the present population.

E. Description of Facilities

1. Water Supply Wells:

During the summer of 1978, the major aquifers in the area were researched. As a result of this study it appears that the most probable source of water is from the James aquifer in Marshall County north of Britton in the northeast part of the service area. The proposed well area is approximately seven miles east and five miles north of Britton.

It is believed that there is an adequate water supply in this area. Estimates are that yields over 250 gpm can be expected from each well. The results of the chemical analysis of water samples taken from farm wells in this area are as follows:

Total Dissolved Solids	811-1310 ppm
Total Hardness	4.7-13.1 grains
Iron	.47-1.05 ppm
Manganese	.03-.09 ppm

Two or three wells would be developed to supply the needs of the system. These wells would be controlled from the head reservoir. The water will be chlorinated and fluoridated according to state laws and an iron and manganese filtration plant is being proposed at this time to remove the iron and manganese.

A more extensive ground water investigation involving test drilling and pumping will be necessary to pinpoint the well site and to assure a good water supply before final design is undertaken.

2. Distribution System:

The distribution system, composed of service lines, branch lines, and major supply mains will be constructed of poly vinyl pipe. Diameters will range from 1 1/2" to 10" throughout the system. These lines will be constructed as much as possible on private property adjacent and parallel with the road right-of-way. In some instances it may be necessary to construct the lines diagonally across private property due to the rough terrain.

3. Reservoirs and Booster Pumps:

Reservoirs with booster pumps will be constructed along the distribution lines at the locations shown on the location map. These locations are carefully located to take advantage of the natural topography of the area. Reinforced concrete reservoirs with capacities from 30,000 to 50,000 gallons each will

be constructed at ground level. Booster pumps will be built at each reservoir. The piping at each reservoir will be arranged so that the downstream system can receive a water supply either from the booster pumps at the reservoir or from the upstream distribution system. The water level in the reservoir, as well as the operation of the pumps, will be automatically controlled. The controls will respond to the amount of flow and pressure existing in both the downstream and upstream systems. "In-Line" booster stations will also be used in places where no storage is required but additional pressure is needed.

F. Land, Easement, and Water Rights

1. Land:

The only land necessary to be acquired will be the well sites, reservoir sites, and "in-line" booster sites. These sites will each be approximately one acre in size.

2. Easements:

Permanent easements will be necessary for the construction of the distribution lines. As previously mentioned, the distribution lines will generally be constructed on private property adjacent and parallel to the roadways. In addition to the easements from the private landowners, permits will be required for the construction of the lines across highway and railroad right-of-ways.

3. Water Rights:

In order to appropriate water from the aquifer, it will be necessary to obtain water rights from the Department of Natural Resources Water Rights Commission for the well sites.

G. Management, Supervision, and Maintenance:

The management, supervision and maintenance of the water system can be handled in one of two ways, either by a hired full-time staff or by contracting with an outside firm for these services. The Board of Directors will have the responsibility of determining which method to use.

If a full-time staff is hired, the minimum personnel on the staff would be a manager, an assistant manager and a secretary. Their responsibility would be the daily supervision and maintenance of the wells and booster stations, as well as minor maintenance and repair work on the distribution mains, service lines and meters. With this minimum staff any major repair work would have to be contracted out. The billing and collection functions could be done by the staff or could be contracted out.

The other method, which warrants serious consideration, would involve contracting out all of these responsibilities. This would include the daily supervision and maintenance of the facilities as well as the business management of the Corporation.

In order to make proper judgment as to the most desirable method of handling these essential functions, it is suggested that a separate study be conducted at a later date.

VII. COST ESTIMATES

A. General:

Since the total cost of the entire system may be too large for funding at one time, the system has been divided into two phases. Three cost estimates are included in this report - Phase I, Phase II, and the combination of Phase I and Phase II. It should be noted here that Phase II must be constructed at the same time or later than Phase I.

B. Phase I

No.	Item	Quantity	Unit Price	Total
1.	1 1/2" PVC Pipe, Class 200	883,100 l.f.	\$ 0.70	\$ 618,170
2.	2" PVC Pipe	222,900 l.f.	0.80	178,320
3.	3" PVC Pipe	299,000 l.f.	1.00	299,000
4.	4" PVC Pipe	63,800 l.f.	1.30	82,940
5.	5" PVC Pipe	37,300 l.f.	1.70	63,410
6.	6" PVC Pipe	121,900 l.f.	2.40	292,560
7.	8" PVC Pipe	106,700 l.f.	3.80	405,460
8.	10" PVC Pipe	32,100 l.f.	6.50	208,650
9.	Meter Pits or House Hook-Ups	350 ea.	400.00	140,000
10.	Highway and Railroad Crossings	1 l.s.	107,425.00	107,425
11.	Pressure Control Valves, Gate Valves, and Air Release Valves	1 l.s.	85,940.00	85,940
12.	Wells	3 ea.	20,000.00	60,000
13.	"In-Line" Booster Stations	2 ea.	25,000.00	50,000
14.	Reservoirs - 30,000 gal.	2 ea.	85,000.00	170,000
15.	Iron and Manganese Filtration Plant with 50,000 gal. Reservoir	1 ea.	280,000.00	280,000
16.	Miscellaneous	1 l.s.	88,125.00	<u>88,125</u>
Total Estimated Construction Cost				\$3,130,000
Engineering				234,900
Legal				35,200
Interest				313,200
Land and Easements				39,200
Contingencies				<u>162,500</u>
Total Estimated Project Costs				\$3,915,000

C. Phase II

No.	Item	Quantity	Unit Price	Total
1.	1 1/2" PVC Pipe, Class 200	306,000 l.f.	\$ 0.70	\$214,200
2.	2" PVC Pipe	53,100 l.f.	0.80	42,480
3.	2" PVC Pipe, Class 200	10,600 l.f.	0.90	9,540
4.	3" PVC Pipe	53,200 l.f.	1.00	53,200
5.	4" PVC Pipe	37,600 l.f.	1.30	48,880
6.	4" PVC Pipe, Class 250	11,000 l.f.	1.60	17,600
7.	5" PVC Pipe	53,200 l.f.	1.70	90,440
8.	Meter Pits or House Hook-Ups	100 ea.	400.00	40,000
9.	Highway and Railroad Crossings	1 l.s.	23,820.00	23,820
10.	Pressure Control Valves, Gate Valves, and Air Release Valves	1 l.s.	19,050.00	19,050
11.	"In-Line" Booster Stations	2 ea.	25,000.00	50,000
12.	Reservoirs - 30,000 gal.	1 ea.	85,000.00	85,000
13.	Miscellaneous	1 l.s.	20,790	<u>20,790</u>
Total Estimated Construction Cost				\$715,000
Engineering				53,700
Legal				8,100
Interest				71,600
Land and Easements				9,000
Contingencies				<u>37,600</u>
Total Estimated Project Costs				\$895,000

D. Combined Phase I and Phase II

No.	Item	Quantity	Unit Price	Total
1.	1 1/2" PVC Pipe, Class 200	1,189,100 l.f.	\$ 0.70	\$ 832,370
2.	2" PVC Pipe	276,000 l.f.	0.80	220,800
3.	2" PVC Pipe, Class 200	10,600 l.f.	0.90	9,540
4.	3" PVC Pipe	352,200 l.f.	1.00	352,200
5.	4" PVC Pipe	101,400 l.f.	1.30	131,820
6.	4" PVC Pipe, Class 250	11,000 l.f.	1.60	17,600
7.	5" PVC Pipe	90,500 l.f.	1.70	153,850
8.	6" PVC Pipe	121,900 l.f.	2.40	292,560
9.	8" PVC Pipe	106,700 l.f.	3.80	405,460
10.	10" PVC Pipe	32,100 l.f.	6.50	208,650
11.	Meter Pits or House Hook-Ups	450 ea.	400.00	180,000
12.	Highway and Railroad Crossings	1 l.s.	131,245.00	131,245
13.	Pressure Control Valves, Gate Valves, and Air Release Valves	1 l.s.	104,990.00	104,990
14.	Wells	3 ea.	20,000.00	60,000
15.	"In-Line" Booster Stations	4 ea.	25,000.00	100,000
16.	Reservoirs - 30,000 gal.	3 ea.	85,000.00	255,000
17.	Iron and Manganese Filtration Plant with 50,000 gal. Reservoir	1 ea.	280,000.00	280,000
18.	Miscellaneous	1 l.s.	108,915.00	<u>108,915</u>
Total Estimated Construction Cost				\$3,845,000
Engineering				288,600
Legal				43,300
Interest				384,800
Land and Easements				48,200
Contingencies				<u>200,100</u>
Total Estimated Project Costs				\$4,810,000

VIII. FINANCING

A. General:

Financing the system by a loan only from FmHA would result in an average water bill of approximately \$60 per user, which would be an unreasonably high water rate. Therefore, other additional financing combinations must be used.

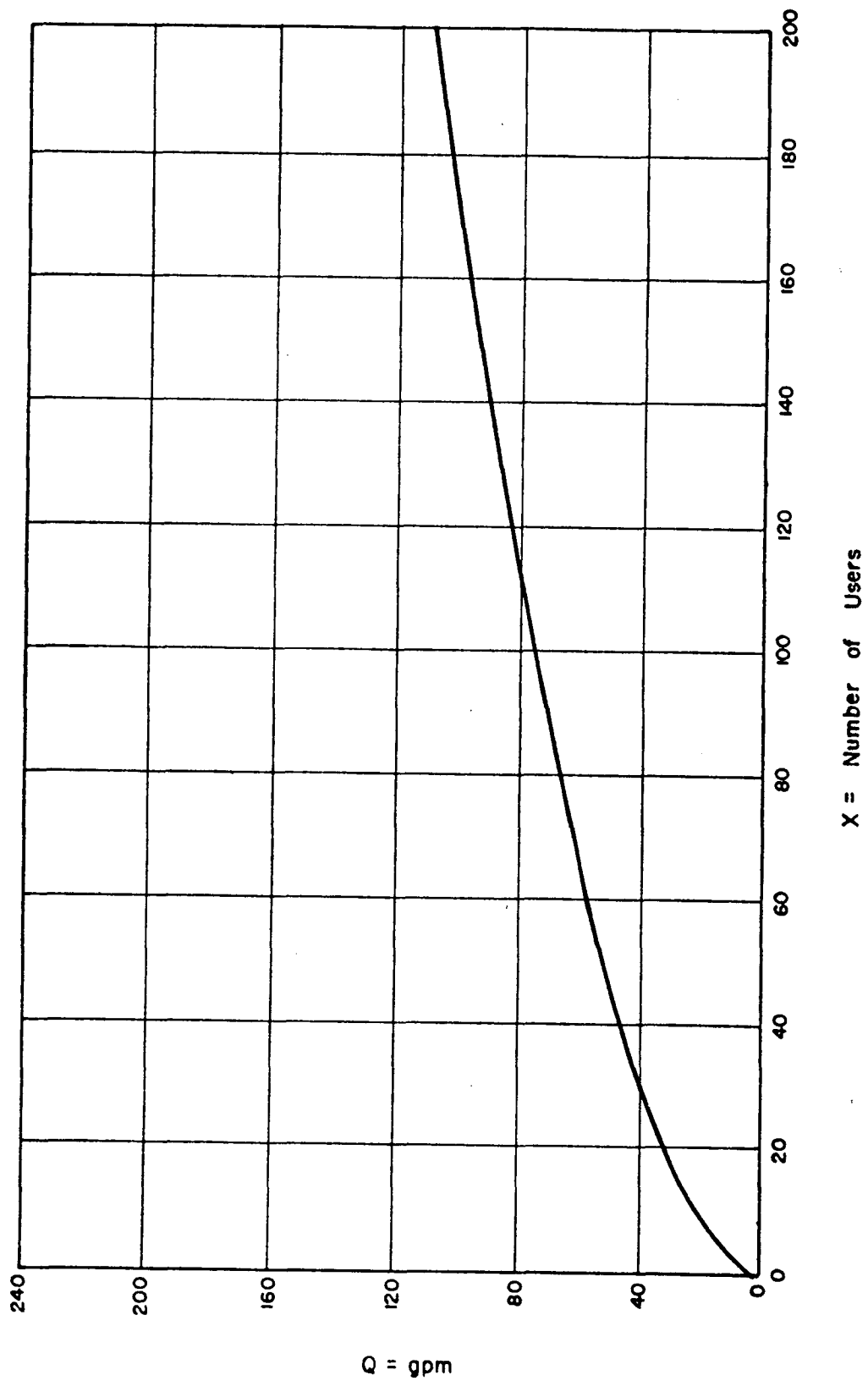
If the water association were to get a total of 55 to 60 percent grant from the combined efforts of FmHA, the State, or other sources, thus bringing the loan value down to the level of loans in other similar rural water districts, the average water bill would be reduced greatly and would be in the neighborhood of \$30 - \$32 per month per user, a rate which is not all that unreasonable at this time. This rate has been figured on a \$3,800 to \$4,200 loan (40 years at 5%), and an operation and maintenance cost of \$125 per user per year with a reserve of approximately 3%.

Obviously, a large sum of grant money will have to be used in conjunction with a loan to make this project feasible. Since the specific amount of grant which may be used for this project is unknown at this time, the water usage, rate structure, and annual budget has not been included in this report.

IX. CONCLUSION

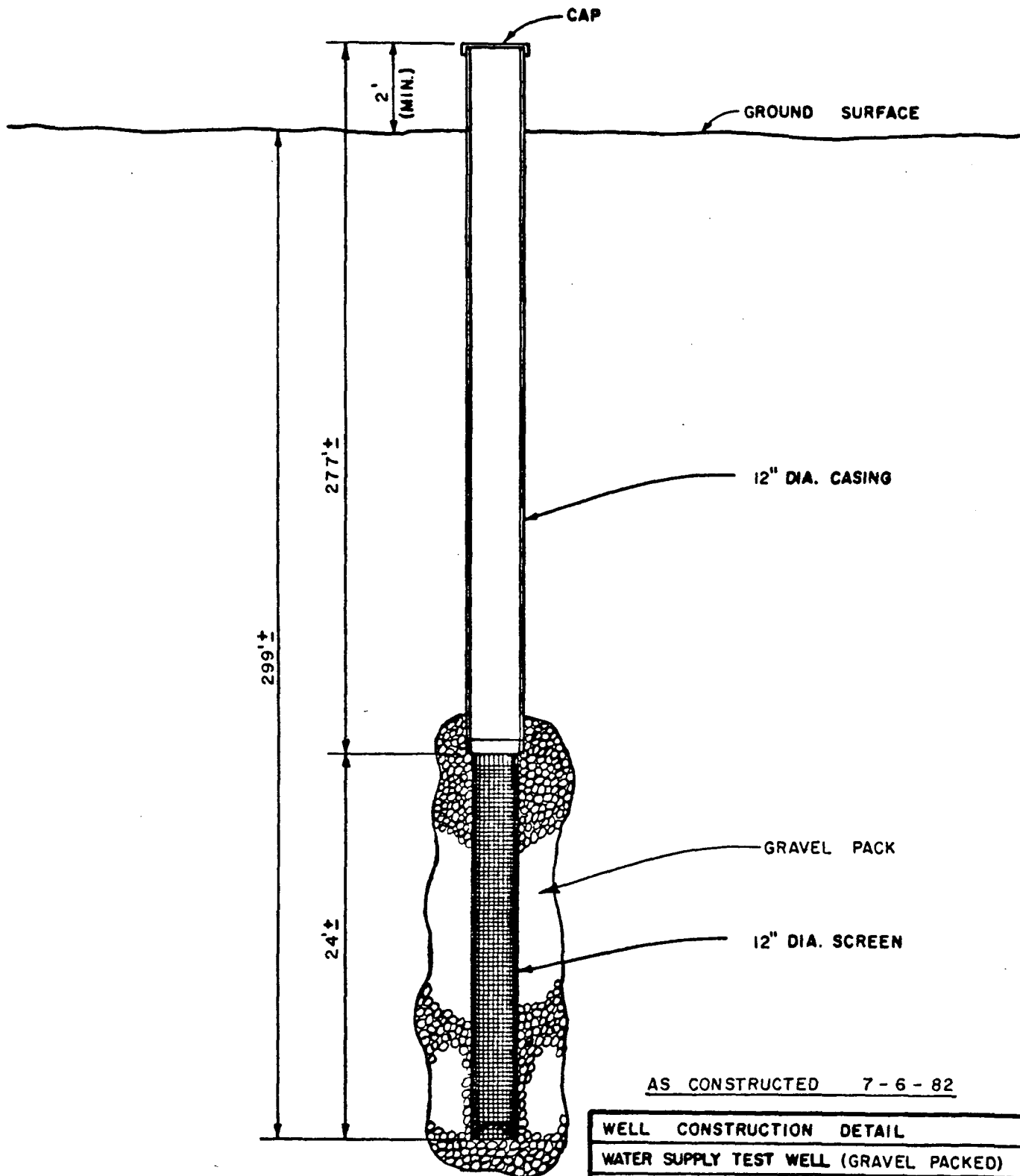
Because of the increased concern over the effects that poor quality water or the absence of a water supply has on the health and welfare of rural families, the need for a rural water supply and distribution system is becoming more apparent each year. A rural water system is the single most important factor in alleviating this situation as well as improving the standard of living in the rural areas of Brown, Day and Marshall Counties.

It is our recommendation that the Board of Directors of B.D.M. Rural Water System proceed with arranging for financing of this project by submitting this report to the Farmers Home Administration for approval.



Maximum Simultaneous Demand Flow Rate Used For Design

Figure No. 1



AS CONSTRUCTED 7-6-82

WELL CONSTRUCTION DETAIL				
WATER SUPPLY TEST WELL (GRAVEL PACKED)				
B.O.M. RURAL WATER SYSTEM BRITTON, SOUTH DAKOTA				
Scale: NO SCALE	Date: 11-30-81	Checked by: HAT	Project No. 1934	Sheet 1 of 1
PREPARED BY  HOUSTON ENGINEERING, INC. P.O. BOX 30534 FARGO, NORTH DAKOTA				



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. Rural Water Telephone Houston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. L.T.P. 4" test well Location Sec3 T127 R57 adc

Well diameter 4" Well depth 299' Year Constructed 1982 Did we drill Yes

Screen Diameter 4" tele. Screen Length 20' Screen Material S.S. Screen Slot 30 Leader None

Static Level 172.4' Pumping Level 190.75 G. P. M. Tested 50 With what? Test pump

Specific yield, 2.72 G. P. M. per feet of D.D. after 370 Minutes hours of pumping _____

Type of well- Filter wall x Naturally developed _____ Filter Sand Size Red Flint .45-.55

Additional information pertaining to well Well has been pulled out.

Driller Frank Schroeder Date completed 6-4-82

PUMP AND SYSTEM DATA

Type of Pump-Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

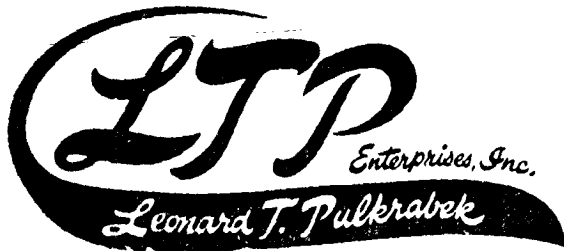
Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

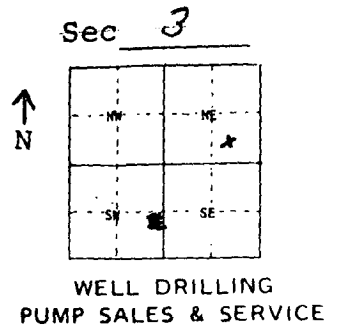
Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____



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DRILLERS LOG



Drilled for B.D.M. Rural Water Users by Fargo Office

Location of property Sec3 T127 R57 adc

Test hole No 1 Location of test hole _____ Well No. 4"test well & 12"well

Size of test hole 6 1/2" Date started 6-1-82 Date completed 6-2-82 Total Hours 12 3/4

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Sandy clay silty	Yellow	1	23	22
Sand	Brown	23	32	9
Sandy clay	Brown	32	37	5
Sand	Brown	37	42	5
Sand with layers clay	Brown	42	49	7
Sand	Brown	49	57	8
Sandy clay	Brown	57	63	6
Sand	Brown	63	73	10
Sand	Gray	73	83	10
Sand with layers clay	Gray	83	93	10
Sandy clay	Blue	93	104	11
Sand	Gray	104	135	31
Hard sandy clay	Blue	135	187	52
Hard sandy clay boulders	Blue	187	199	12
Limestone boulder	Yellow	199	205	6
Soft sandy clay	Blue	205	223	18
Hard sandy clay rocky	Blue	223	263	40
Sandy clay with lenses sand	Blue	263	275	12
Sand with layers clay	Gray	275	299	24
Shale	Black	299	302	3

Signed Frank Schroeder Driller

2084



FORNELL OF FREDERICKSONSONSDAK

Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. Rural Water Telephone Houston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. LTP #1 Obser. Location Sec3 T127 R57 adc 50' south of 12" well

Well diameter 2" Well depth 293' Year Constructed 1982 Did we drill Yes

Screen Diameter 2" Screen Length 5' Screen Material S.S. Screen Slot 12 Leader None

Static Level 172.20' Pumping Level _____ G. P. M. Tested _____ With what? _____

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

Type of well - Filter wall _____ Naturally developed x Filter Sand Size _____

Additional information pertaining to well Well will be pulled out.

Driller Frank Schroeder Date completed 6-18-82

PUMP AND SYSTEM DATA

Type of Pump - Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____

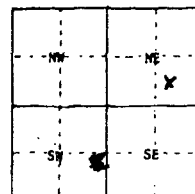


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Phone (701) 232-8928
DRILLERS LOG

Sec 3

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N



WELL DRILLING
PUMP SALES & SERVICE

Drilled for B.D.M. Rural Water Users by Fargo Office

Location of property Sec3 T127 R57 adc

Test hole No 2 Location of test hole 50' S of 12" well Well No. Obs. 1

Size of test hole 6 1/2" Date started 6-16-82 Date completed 6-17-82 Total Hours

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Silty sandy clay	Yellow	1	31	30
Sand	Brown	31	52	21
Sandy clay	Brown/Blue	52	59	7
Boulder	Yellow	59	60	1
Sandy clay	Brown	60	66	6
Sand	Brown	66	80	14
Sandy clay	Blue	80	86	6
Sand	Gray	86	132	46
Sandy clay	Blue	132	171	39
Hard sandy clay rocky	Blue	171	213	42
Hard sandy clay boulders	Blue	213	224	11
Hard sandy clay	Blue	224	267	43
Coal sand/layers clay	Gray	267	280	13
Sand cleaner	Gray	280	298	18
Hard sandy clay	Blue	298	302	4

Signed Frank Schroeder Driller



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. Rural Water Telephone Heuston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. LTP #2 Obser. Location Sec3 T127 R57 adc 200' south of 12" well

Well diameter 2" Well depth 285' Year Constructed 1982 Did we drill Yesth

Screen Diameter 2" Screen Length 5' Screen Material S.S. Screen Slot 12 Leader None

Static Level 167.4' Pumping Level _____ G. P. M. Tested _____ With what? _____

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

Type of well-Filter wall _____ Naturally developed _____ Filter Sand Size _____

Additional information pertaining to well Well is to be pulled out.

Driller Frank Schroeder Date completed 6-22-82

PUMP AND SYSTEM DATA

Type of Pump-Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

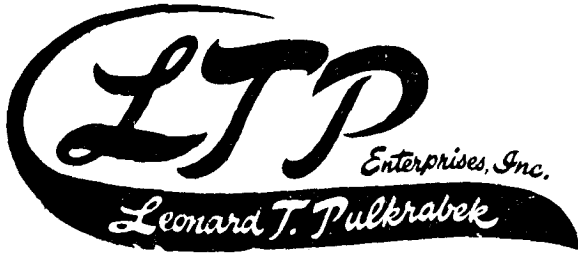
Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____

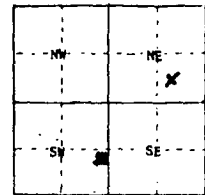


Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928
DRILLERS LOG

Sec 3

↑
N



WELL DRILLING
PUMP SALES & SERVICE

Drilled for B.D.M. Rural Water Users by Fargo Office
Location of property Sec3 T127 R57 adc
Test hole No 3 Location of test hole 200' S. of 12" well Well No. Obs.2
Size of test hole 6 1/2" Date started 6-18-82 Date completed 6-21-82 Total Hours _____

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Silty sandy clay	Yellow	1	27	26
Sandy clay	Brown	27	43	16
Sandy clay	Brown/Blue	43	49	6
Sandy clay mixed with gravel	Brown	49	54	5
Sand	Brown	54	60	6
Sand	Gray	60	90	30
Sandy clay	Blue	90	97	7
Sand and coal	Brown	97	119	22
Sandy clay	Blue	119	143	24
Hard sandy clay rocky	Blue	143	231	88
Sandy clay/lenses sand	Blue	231	240	9
Hard sandy clay rocky	Blue	240	257	17
Sand with layers clay	Gray	257	264	7
Sand	Gray	264	277	13
Sand/layers clay	Gray	277	281	4
Sand	Gray	281	294	13
Shale	Black	294	298	4

Signed Frank Schroeder Driller



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. & S.D. D.M.R. Telephone Houston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. LTP #3 Observ. Location Sec3 T127 R57 aaa

Well diameter 2" Well depth 257' Year Constructed 1982 Did we drill Yes

Screen Diameter 2" Screen Length 5' Screen Material Plastic Screen Slot 18 Leader None

Static Level _____ Pumping Level _____ G. P. M. Tested _____ With what? _____

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

Type of well - Filter wall X Naturally developed _____ Filter Sand Size Pea rock

Additional information pertaining to well State was going to develop out the well and they didn't
so we could not get a static level.

Driller Frank Schroeder Date completed _____

PUMP AND SYSTEM DATA

Type of Pump - Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____

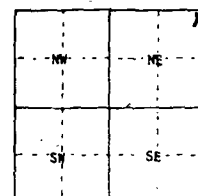


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DRILLERS LOG

Sec 3



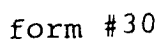
WELL DRILLING
PUMP SALES & SERVICE

Drilled for D.N.R. With
B.D.M. Rural Water Users by Fargo Office
Location of property Sec3T127R57 aaa
Test hole No 4 Location of test hole _____ Well No. Obs. 3
Size of test hole 6 1/2" Date started 6-22-82 Date completed 6-23-82 Total Hours 10 1/2

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Silty sandy clay	Brown	G.L.	2	2
Sand with layers clay	Brown	2	10	8
Sand	Brown	10	21	11
Clay	Brown	21	23	2
Sand	Brown	23	37	14
Clay	Brown	37	38	1
Sandy coal	Black/Gray	38	77	39
Clay	Blue	77	78	1
Sand and coal	Gray	78	93	15
Sandy clay	Blue	93	98	5
Sand and coal	Gray	98	118	20
Sandy clay	Blue	118	121	3
Sand	Gray	121	124	3
Hard sandy clay	Blue	124	148	24
Sand washed	Gray	148	151	3
Hard sandy clay	Blue	151	177	26
Boulder		177	178	1
Hard sandy clay boulders	Blue	178	194	16
Soft sandy clay	Blue	194	201	7
Hard sandy clay rocky	Blue	201	224	23
Sand/layers clay	Gray	224	233	9
Clay	Blue	233	238	5
Sand	Gray	238	247	9

Signed Frank Schroeder Driller





~~FORMERLY SPECTRUM SERVICE~~

Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. & S.D. D.M.R. Telephone Houston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. LTP #4 Observ. Location Sec3 T127 R57 ccc

Well diameter 2" Well depth 291' Year Constructed 1982 Did we drill None

Screen Diameter 2" Screen Length 5' Screen Material Plastic Screen Slot 18 Leader None

Static Level _____ Pumping Level _____ G. P. M. Tested _____ With what? _____

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

Type of well-Filter wall x Naturally developed _____ Filter Sand Size Pea rock

Additional information pertaining to well State was going to develop out well but they didn't get it done so we could not get a static level.

Driller Frank Schroeder Date completed 6-24-82

PUMP AND SYSTEM DATA

Type of Pump-Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____

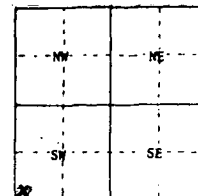
Date _____



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928
DRILLERS LOG

Sec 3



WELL DRILLING
PUMP SALES & SERVICE

Drilled for B.D.M. Rural Water Users by Fargo Office

Location of property Sec3 T127 R57 ccc

Test hole No 5 Location of test hole _____ Well No. Obs. 4

Size of test hole 6 1/2" Date started 6-23-82 Date completed 6-24-82 Total Hours 9 3/4

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Silty sandy clay	Brown	1	37	36
Fine sand	Brown	37	57	20
Fine sand	Gray	57	72	15
Sandy clay	Blue	72	78	6
Fine sand	Gray	78	83	5
Soft clay	Blue	83	91	8
Hard sandy clay	Blue	91	97	6
Sand	Gray	97	108	11
Sandy clay	Blue	108	132	24
Sand	Gray	132	136	4
Sandy clay / lenses sand	Blue	136	142	6
Hard sticky sandy clay	Blue	142	183	41
Hard sandy clay rocky	Blue	183	251	68
Sandy clay/lenses sand	Blue	251	256	5
Sand	Gray	256	268	12
Sand drilled dirty	Gray	268	274	6
Sand coarser	Colored	274	294	20
Shale	Black	294	299	5

Signed Frank Schroeder Driller

Owner B.D.M. Rural WaterWell No. Main 12"

Location _____

Date started 6-28-82Static 174.7-1.90 Above Ground Level
start 2:00pm

PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Time	Time in Minutes	Pumping Level	Drawdown	GPM		Time	Time in Minutes	Pumping Level	Drawdown	GPM	
2:01	1	230	55.3	458		7:00	300	243.35	68.65	458	
2:02	2	236.5	61.8			7:50	350	243.45	68.75		
2:03	3	236	61.75			8:40	400	243.45	68.75		
2:04	4	236.5	61.9			9:30	450	243.5	68.85		
2:05	5					10:20	500	243.55	68.9		
2:06	6					12:00	600	243.65	68.95		
2:07	7					1:40am	700	243.65	68.95		
2:08	8					3:20	800	243.8	69.1		
2:09	9					5:00	900	243.90	69.2		
2:10	10					6:40	1000	244.0	69.3		
2:12	12					8:20	1100	244.8	70.1		
2:14	14					10:00	1200	244.9	70.2		
2:16	16					11:40	1300	245.0	70.3		
2:18	18					1:20pm	1400	245.4	70.70		
2:20	20					3:00	1500	245.5	70.8		
2:25	25					4:40	1600	245.5	70.8		
2:30	30					6:20	1700	245.9	71.2		
2:35	35					8:00	1800	245.95	71.25		
2:40	40					9:40	1900	246.0	71.3		
2:45	45					11:20	2000	245.9	71.2		
2:50	50					1:00am	2100	245.95	71.25		
3:00	60	241.1	66.4			2:40	2200	245.95	71.25		
3:10	70					4:20	2300	245.90	71.2		
3:20	80					6:00	2400	245.9	71.2		
3:30	90	241.65	66.95			7:40	2500	246.0	71.3		
3:40	100	241.75	67.05			9:20	2600	246.0	71.3		
4:00	120	242.3	67.6			11:00	2700	246.0	71.3		
4:20	140	242.4	67.7			12:40pm	2800	245.95	71.25		
4:40	160	242.55	67.35			2:20	2900	245.85	71.15		
5:00	180	242.65	67.9			4:00	3000	245.6	70.9		
5:20	200	242.9	68.2			5:40	3100	245.1	70.4		
5:40	220	243.05	68.35			7:20	3200	245.1	70.4		
6:10	250	243.15	68.45			9:00	3300	245.2	70.5		

Owner B.D.M. Rural Water

Well No. Main 12"

Location _____

Date started 6-28-82

Static 174.7 1.9 Above ground levelth

PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

[illegible]

Owner BDM Rural Water

PUMPING TEST

Well No. Observation Well #2 While pumping main well

Location 200' South of main well

Date started 6-28-82

Static 169.8-2.4 above GL

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Time	Time in Minutes	Pumping Level	Drawdown	GPM	Time	Time in Minutes	Pumping Level	Drawdown	GPM
2:01	1	170.24	.44		7:00	300	178.90	9.1	
2:02	2	172.1	2.3		7:50	350	179.1	9.3	
2:03	3	172.66	2.86		8:40	400	179.2	9.4	
2:04	4	173.1	3.3		9:30	450	179.3	9.5	
2:05	5	173.43	3.63		10:20	500	179.45	9.65	
2:06	6	173.66	3.86		12:00	600	179.65	9.85	
2:07	7	173.85	4.05		1:40am	700	179.8	10.0	
2:08	8	174.0	4.2		3:20	800	179.95	10.15	
2:09	9	174.15	4.35		5:00	900	180.05	10.25	
2:10	10	174.28	4.48		6:40	1000	180.15	10.35	
2:12	12	174.55	4.75		8:20	1100	180.30	10.5	
2:14	14	174.8	5.0		10:00	1200	180.4	10.6	
2:16	16	175.05	5.25		11:40	1300	180.5	10.7	
2:18	18	175.21	5.41		1:20pm	1400	180.55	10.75	
2:20	20	175.38	5.58		3:00	1500	180.65	10.85	
2:25	25	175.7	5.9		4:40	1600	180.7	10.9	
2:30	30	175.96	6.16		6:20	1700	180.8	11.0	
2:35	35	176.2	6.4		8:00	1800	180.95	11.15	
2:40	40	176.36	6.56		9:40	1900	181.0	11.2	
2:45	45	176.51	6.71		11:20	2000	181.05	11.25	
2:50	50	176.66	6.86		1:00am	2100	181.15	11.35	
3:00	60	176.9	7.1		2:40	2200	181.15	11.35	
3:10	70	177.12	7.32		4:20	2300	181.2	11.4	
3:20	80	177.28	7.48		6:00	2400	181.25	11.45	
3:30	90	177.44	7.64		7:40	2500	181.3	11.5	
3:40	100	177.57	7.77		9:20	2600	181.4	11.6	
4:00	120	177.8	8.0		11:00	2700	181.4	11.6	
4:20	140	178.0	8.2		12:40pm	2800	181.45	11.65	
4:40	160	178.15	8.35		2:20	2900	181.5	11.7	
5:00	180	178.3	8.5		4:00	3000	181.45	11.65	
5:20	200	178.45	8.65		5:40	3100	181.5	11.7	
5:40	220	178.55	8.75		7:20	3200	181.55	11.75	
6:10	250	179.7	8.9		9:00	3300	181.6	11.8	

Owner / B.D.M. Rural Water

Well No. observation #1 while pumping main well

Location 50' south of main well

Date started 6-28-82

Static 174.3 2.1' above GL

PUMPING TEST



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Time	Time in Minutes	Pumping Level	Drawdown	GPM	Time	Time in Minutes	Pumping Level	Drawdown	GPM
2:01	1	185.9	11.6		7:00	300	192.7	18.4	
2:02	2	186.3	12.00		7:50	350	192.9	18.6	
2:03	3	187.0	12.7		8:40	400	193.0	18.7	
2:04	4	187.35	12.05		9:30	450	193.8	18.8	
2:05	5	187.6	13.3		10:20	500	193.2	18.9	
2:06	6	187.4	13.1		12:00	600	193.4	19.1	
2:07	7	187.55	13.25		1:40am	700	193.55	19.25	
2:08	8	187.7	13.4		3:20	800	193.65	19.35	
2:09	9	137.85	13.55		5:00	900	193.8	19.5	
2:10	10	187.85	13.55		6:40	1000	193.9	19.6	
2:12	12	188.25	13.95		8:20	1100	194.1	19.8	
2:14	14	188.8	14.5		10:00	1200	194.2	19.9	
2:16	16	189.0	14.7		11:40	1300	194.25	19.95	
2:18	18	189.1	14.8		1:20pm	1400	194.4	20.1	
2:20	20	189.3	15.00		3:00	1500	194.5	20.2	
2:25	25	189.6	15.3		4:40	1600	194.5	20.2	
2:30	30	189.9	15.6		6:20	1700	194.7	20.4	
2:35	35	190.1	15.8		8:00	1800	194.8	20.5	
2:40	40	190.3	16.0		9:40	1900	194.8	20.5	
2:45	45	190.45	16.15		11:20	2000	194.95	20.65	
2:50	50	190.6	16.3		1:00am	2100	195.0	20.7	
3:00	60	190.8	16.5		2:40	2200	195.05	20.75	
3:10	70	191.0	16.7		4:20	2300	195.0	20.7	
3:20	80	191.2	16.9		6:00	2400	195.15	20.85	
3:30	90	191.3	17.0		7:40	2500	195.2	20.9	
3:40	100	191.45	17.15		9:20	2600	195.25	20.95	
4:00	120	191.65	17.35		11:00	2700	195.25	20.95	
4:20	140	191.85	17.55		12:40pm	2800	195.3	21.0	
4:40	160	191.95	17.65		2:20	2900	195.25	20.95	
5:00	180	192.1	17.8		4:00	3000	195.2	20.9	
5:20	200	192.25	17.95		5:40	3100	195.3	21.0	
5:40	220	192.35	18.05		7:20	3200	195.3	21.0	
6:10	250	192.5	18.2		9:00	3300	195.3	21.0	

Static 174.3

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

[illegible]

Owner B.D.M. Rural Water

Well No. Main 12" well

Location _____

Date started 7-1-82

Static 174.7 1.9 above GL

RECOVERY PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Time	Time in Minutes	Pumping Level	Drawdown	GPM	Time	Time in Minutes	Pumping Level	Drawdown	GPM
1:41	1	10' above static			6:40	300	178.55	3.85	
1:42	2	179.00	4.3		7:30	350	178.35	3.65	
1:43	3	181.7	7.00		8:20	400	178.25	3.55	
1:44	4	182.2	7.5		9:10	450	178.15	3.45	
1:45	5	182.6	7.9		10:00	500	178.05	3.35	
1:46	6	182.9	8.2		11:40	600	177.85	3.15	
1:47	7	183.45	8.75		1:20am	700	177.7	3.0	
1:48	8	183.7	9.00		3:00	800	177.75	3.05	
1:49	9	183.6	8.9		4:40	900	177.55	2.85	
1:50	10	182.7	8.00		6:20	1000	177.45	2.75	
1:52	12	182.45	7.75		8:00	1100	177.35	2.65	
1:54	14	182.25	7.55						
1:56	16	182.05	7.35						
1:58	18	181.95	7.25						
2:00	20	181.8	7.1						
2:05	25	181.45	6.75						
2:10	30	181.8	6.5						
2:15	35	181.1	6.4						
2:20	40	180.8	6.1						
2:25	45	180.7	6.0						
2:30	50	180.6	5.9						
2:40	60	180.35	5.65						
2:50	70	180.15	5.45						
3:00	80	180.0	5.3						
3:10	90	179.85	5.15						
3:20	100	179.75	5:05						
3:40	120	179.5	4.8						
4:00	140	179.35	4.65						
4:20	160	179.15	4.45						
4:40	180	179.05	4.35						
5:00	200	178.9	4.2						
5:20	220	178.8	4.1						
5:50	250	178.7	4.0						

Static ?

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

[illegible]

Static_____?

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

[illegible]

Static_____?

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

[illegible]

RECOVERY

PUMPING TEST

Owner B.D.M Rural WaterWell No. Observation #1Location 50' South of 12"Date started 7-1-82Static 174.3 2.1' Above GL

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Start 1:40 PM

Time	Time in Minutes	Pumping Level	Drawdown	GPM		Time	Time in Minutes	Pumping Level	Drawdown	GPM	
1:41	1	182.35	8.05			6:40	300	177.6	3.3		
1:42	2	182.4	..1			7:30	350	177.45	3.15		
1:43	3	182.55	8.25			8:20	400	177.35	3.05		
1:44	4	182.45	8.15			9:10	450	177.25	2.95		
1:45	5	182.25	7.95			10:00	500	177.15	2.85		
1:46	6	182.15	7.85			11:40	600	176.95	2.65		
1:47	7	182.1	7.8			1:20am	700	176.8	2.5		
1:48	8	182.1	7.8			3:00	800	176.75	2.45		
1:49	9	181.9	7.6			4:40	900	176.65	2.35		
1:50	10	181.8	7.5			6:20	1000	176.55	2.25		
1:52	12	181.55	7.25			8:00	1100	176.45	2.15		
1:54	14	181.35	7.05								
1:56	16	181.15	6.85								
1:58	18	181.05	6.75								
2:00	20	180.9	6.6								
2:05	25	180.55	6.25								
2:10	30	180.3	6.0								
2:15	35	180.2	5.9								
2:20	40	179.9	5.6								
2:25	45	179.8	5.5								
2:30	50	179.7	5.4								
2:40	60	179.45	5.15								
2:50	70	179.25	4.95								
3:00	80	179.1	4.8								
3:10	90	178.95	4.65								
3:20	100	178.85	4.55								
3:40	120	178.6	4.3								
4:00	140	178.45	4.15								
4:20	160	178.25	3.95								
4:40	180	178.15	3.85								
5:00	200	178.0	3.7								
5:20	220	177.9	3.6								
5:50	250	177.8	3.5								

Owner BDM Rural WaterWell No. Observation well #2Location 200' south of 12" RECOVERYDate started 7-1-82Static 169.8-2.4 above GLRECOVERY
PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-8928

Time	Time in Minutes	Pumping Level	Drawdown	GPM	Time	Time in Minutes	Pumping Level	Drawdown	GPM
1:41pm	1	180.05	10.25		6:40	300	173.15	3.35	
1:42	2	179.1	9.3		7:30	350	173.0	3.2	
1:43	3	178.75	8.95		8:20	400	172.9	3.1	
1:44	4	178.45	8.65		9:10	450	172.8	3.0	
1:45	5	178.2	8.4		10:00	500	172.7	2.9	
1:46	6	177.95	8.15		11:40	600	172.5	2.7	
1:47	7	177.8	8.0		1:20am	700	172.35	2.55	
1:48	8	177.65	7.85		3:00	800	172.3	2.5	
1:49	9	177.5	7.7		4:40	900	172.2	2.4	
1:50	10	177.35	7.55		6:20	1000	172.1	2.3	
1:52	12	177.1	7.3		8:00	1100	172.0	2.2	
1:54	14	176.9	7.1						
1:56	16	176.75	6.95						
1:58	18	176.7	6.8						
2:00	20	176.5	6.7						
2:05	25	176.7	6.4						
2:10	30	175.9	6.1						
2:15	35	175.75	5.95						
2:20	40	175.55	5.75						
2:25	45	175.4	5.6						
2:30	50	175.25	5.45						
2:40	60	175.1	5.3						
2:50	70	174.85	5.05						
3:00	80	174.7	4.9						
3:10	90	174.55	4.75						
3:20	100	174.4	4.6						
3:40	120	174.2	4.4						
4:00	140	174.0	4.2						
4:20	160	173.85	4.05						
4:40	180	173.7	3.9						
5:00	200	173.6	3.8						
5:20	220	173.5	3.7						
5:50	250	173.35	3.55						



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. Rural Water Telephone Houston:237-5065 Date _____

City Britton County Marshall State South Dakota

Well No. LTP #1 Location Sec3 T127 R57 adc

Well diameter 12" Well depth 299' Year Constructed 1982 Did we drill Yes

Screen Diameter 12"Tele. Screen Length 24' Screen Material S.S. Screen Slot 25 Leader None

Static Level 172.80' Pumping Level 243.45' G. P. M. Tested 458 With what? Test Pump

Specific yield, 6.48 G. P. M. per feet of D.D. after 72 hours of pumping

Type of well- Filter wall x Naturally developed _____ Filter Sand Size Red Flint .60-.65

Additional information pertaining to well _____

Driller Frank Schroeder Date completed 7-6-82

PUMP AND SYSTEM DATA

Type of Pump- Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

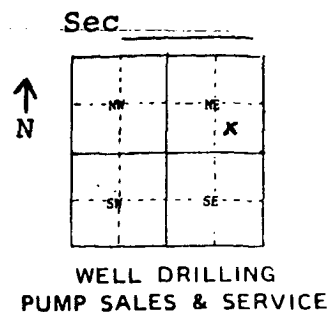
Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928
DRILLERS LOG



Drilled for B.D.M. Rural Water Users by Fargo Office _____
 Location of property Sec3 T127 R57 adc
 Test hole No 1 Location of test hole _____ Well No. 4" test well & 12" well
 Size of test hole 6 1/2" Date started 6-1-82 Date completed 6-2-82 Total Hours 12 3/4

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Sandy clay silty	Yellow	1	23	22
Sand	Brown	23	32	9
Sandy clay	Brown	32	37	5
Sand	Brown	37	42	5
Sand with layers clay	Brown	42	49	7
Sand	Brown	49	57	8
Sandy clay	Brown	57	63	6
Sand	Brown	63	73	10
Sand	Gray	73	83	10
Sand with layers clay	Gray	83	93	10
Sandy clay	Blue	93	104	11
Sand	Gray	104	135	31
Hard sandy clay	Blue	135	187	52
Hard sandy clay boulders	Blue	187	199	12
Limestone boulder	Yellow	199	205	6
Soft sandy clay	Blue	205	223	18
Hard sandy clay rocky	Blue	223	263	40
Sandy clay with lenses sand	Blue	263	275	12
Sand with layers clay	Gray	275	299	24
Shale	Black	299	302	3

Signed Frank Schroeder

Driller



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. S7242CA Commitment date ASAP Call taken by LTP

Owner B.D.M. Rural Water Telephone Houston:237-5065 Date _____

City Britten County Marshall State South Dakota

Well No. LTP #1 Location Sec3 T127 R57 adc

Well diameter 12" Well depth 299' Year Constructed 1982 Did we drill Yes

Screen Diameter 12"Tele. Screen Length 24' Screen Material S.S. Screen Slot 25 Leader None

Static Level 172.80' Pumping Level 243.45' G. P. M. Tested 458 With what? Test Pump

Specific yield, 6.48 G. P. M. per feet of D.D. after 72 hours of pumping _____

Type of well- Filter wall x Naturally developed _____ Filter Sand Size Red Flint .60-.65

Additional information pertaining to well _____

Driller Frank Schroeder Date completed 7-6-82

PUMP AND SYSTEM DATA

Type of Pump- Turbine _____ Submersible _____ Make _____ Model _____ Pump Serial No. _____

Size Motor _____ Voltage _____ Phase _____ Motor Serial No. _____

Type of Column? Turbine _____ Submersible _____ Length of Column _____ Size of Column _____ Material _____

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

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

Size Pitless Unit _____ Bury depth of Pitless Unit _____ Total pump setting from intake _____

Air line length _____ Size _____ Material _____

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

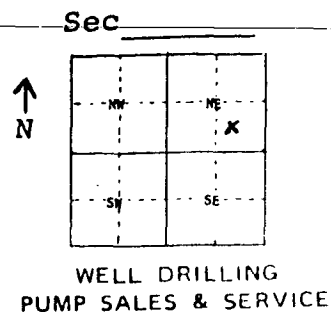
Additional information pertaining to pump and system _____

Date installed _____ By Company _____ Operator _____



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928
DRILLERS LOG



Drilled for B.D.M. Rural Water Users by Fargo Office

Location of property Sec3 T127 R57 adc

Test hole No 1 Location of test hole _____ Well No. 4" test well & 12" well

Size of test hole 6 1/2" Date started 6-1-82 Date completed 6-2-82 Total Hours 12 3/4

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top soil	Black	G.L.	1	1
Sandy clay silty	Yellow	1	23	22
Sand	Brown	23	32	9
Sandy clay	Brown	32	37	5
Sand	Brown	37	42	5
Sand with layers clay	Brown	42	49	7
Sand	Brown	49	57	8
Sandy clay	Brown	57	63	6
Sand	Brown	63	73	10
Sand	Gray	73	83	10
Sand with layers clay	Gray	83	93	10
Sandy clay	Blue	93	104	11
Sand	Gray	104	135	31
Hard sandy clay	Blue	135	187	52
Hard sandy clay boulders	Blue	187	199	12
Limestone boulder	Yellow	199	205	6
Soft sandy clay	Blue	205	223	18
Hard sandy clay rocky	Blue	223	263	40
Sandy clay with lenses sand	Blue	263	275	12
Sand with layers clay	Gray	275	299	24
Shale	Black	299	302	3

Signed Frank Schroeder

Driller

Date _____

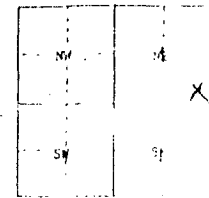
Sec 3-127-57



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-9928
DRILLING LOG

↑
N



SE SE NE

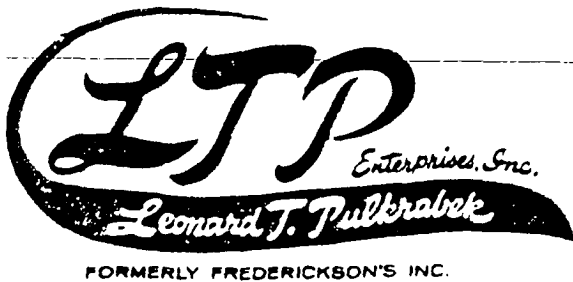
WELL DRILLED
PUMP LATER 2-1-84

Drilled for U.D.M. Rural Water Systems by Fargo Office
Location of property Sec 3-127-57
Test hole No. 2 Location of test hole 500' East of # 1 Well No. LTP #2
Size of test hole 6 1/4 Date started 7-10-84 Date completed 7-10-84 Total Hours 10.5

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top Soil	Black	G.L.	1	1
Sandy Clay	Brown	1	9	8
Sandy clay w/Lenses of sand	Brown	9	17	8
Sand	Brown	17	59	42
Sand	Grey	59	64	5
Hard Sandy clay	Blue	64	96	32
Sand	Grey	96	106	10
Clay	Blue	106	107	1
Sand	Grey	107	121	14
Hard sandy clay	Blue	121	126	5
Sand - Coal	Grey	126	131	5
Hard sandy clay	Blue	131	182	51
Hard sandy few rocks	Blue	182	249	67
Sandy clayw/ lenses sand	Blue	249	265	16
Sand some coal	Grey	265	291	24
Shale	Black	291	300	9

Signed Frank Schroeder Driller



Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Work done by Fargo office Job No. 58738CA Commitment date _____ Call taken by LTP

Owner B.D.M. Rural Water Assocn. Telephone 605-448-2492 Date _____

City Britton County Brown, Day, Marshall State S.D.

Well No. 2 Location Sec 3 127 57 SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$

Well diameter 12" Well depth 291' Year Constructed 1984 Did we drill Yes

Screen Diameter 12" Tel Screen Length 24' Screen Material S.S. Screen Slot 40 Leader No

Static Level 167.80 Pumping Level 214.30 G.P.M. Tested 510 With what? Pump

Specific yield 10.96 G.P.M. per foot of D.D. after 23.5 hours of pumping 510

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

Additional information pertaining to well _____

Driller Frank Schroeder Date completed 7-26-84

PUMP AND SYSTEM DATA

Type of Pump-Turbine _____ Submersible X Make Berkeley Model 7S3M-5 Pump Serial No. 1170016

Size Motor 40 Voltage 460 Phase 3 Motor Serial No. _____

Type of Column? Turbine _____ Submersible X Length of Column 252' Size of Column 6" Material Black Steel

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

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

Size Pitless Unit 12x14 Bury depth of Pitless Unit 7' Total pump setting from intake 265'

Air line length 265' Size $\frac{1}{4}"$ Material Plastic

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

Additional information pertaining to pump and system 6" line check above pump. Subtrol panel supplied.

Wire is 4-3 submersible wire.

Date installed 9-14-84 By Company L.T.P. Enterprises Operator Floyd Driggers

ATTACHMENT NO. 8

WELL LOCATION AND DESCRIPTION

Well Casing: New 12" seamless steel pipe conforming to ASTM A120, Schedule 40, with the following properties:

<u>Pipe Size</u> <u>(in.)</u>	<u>Casting</u>	<u>Fittings</u>	<u>Wall Thick-</u> <u>ness (in.)</u>	<u>Weight per ft.</u> <u>(lbs.) plain end</u>
12.750 O.D.	Black	Welded	0.375	49.56

Well Screen: Well screen is of the wire wound type made from new chromium-nickel-steel conforming to ASTM A167, Grade 3, Type 304, of the size shown on the drawings. All screen fittings shall be of same material as screen.

Pitless Unit: The pitless unit is a 12-inch Monitor PS Custom Unit for submersible pumps by Baker Manufacturing Co., Evansville, Wisconsin. The pitless units are equipped with a protected screen well vent, sealed conduit, air line, depth test fitting and gauge.

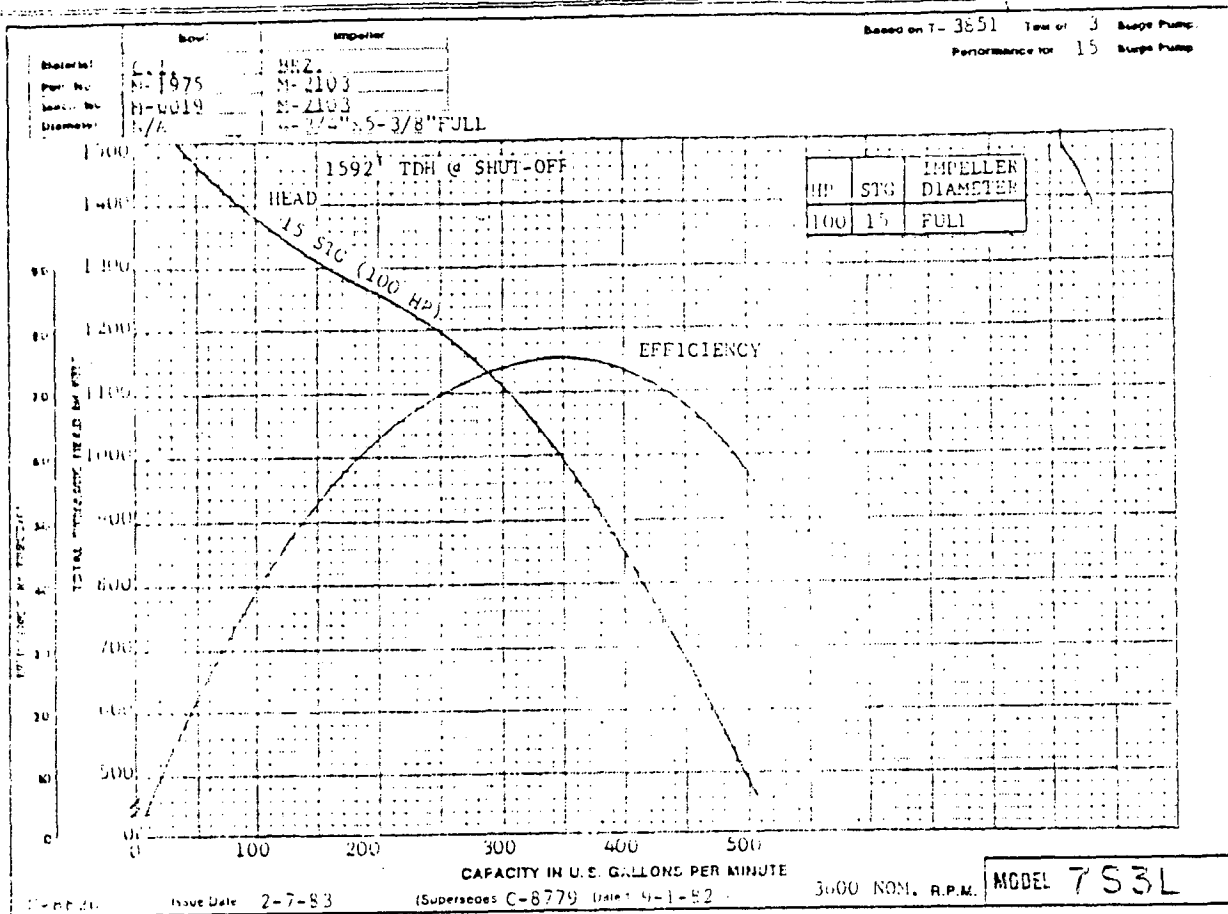
Submersible Pump: Each well is equipped with a deep well submersible pump, installed just above the screen. The pump is a Berkely 7S3M Submersible Pump as manufactured by Berkely Pump Company, Berkeley, California, capable of pumping 450 gpm against a total dynamic head of 275 feet. Each pump is equipped with a 480 volt, three phase, 40 H.P. Franklin Motor and Franklin Subtrol Submersible Pump Motor Control as manufactured by Franklin Electric, Bluffton, Indiana. The well has a 6" schedule 40 discharge column. A steel check valve is installed directly above the pump.



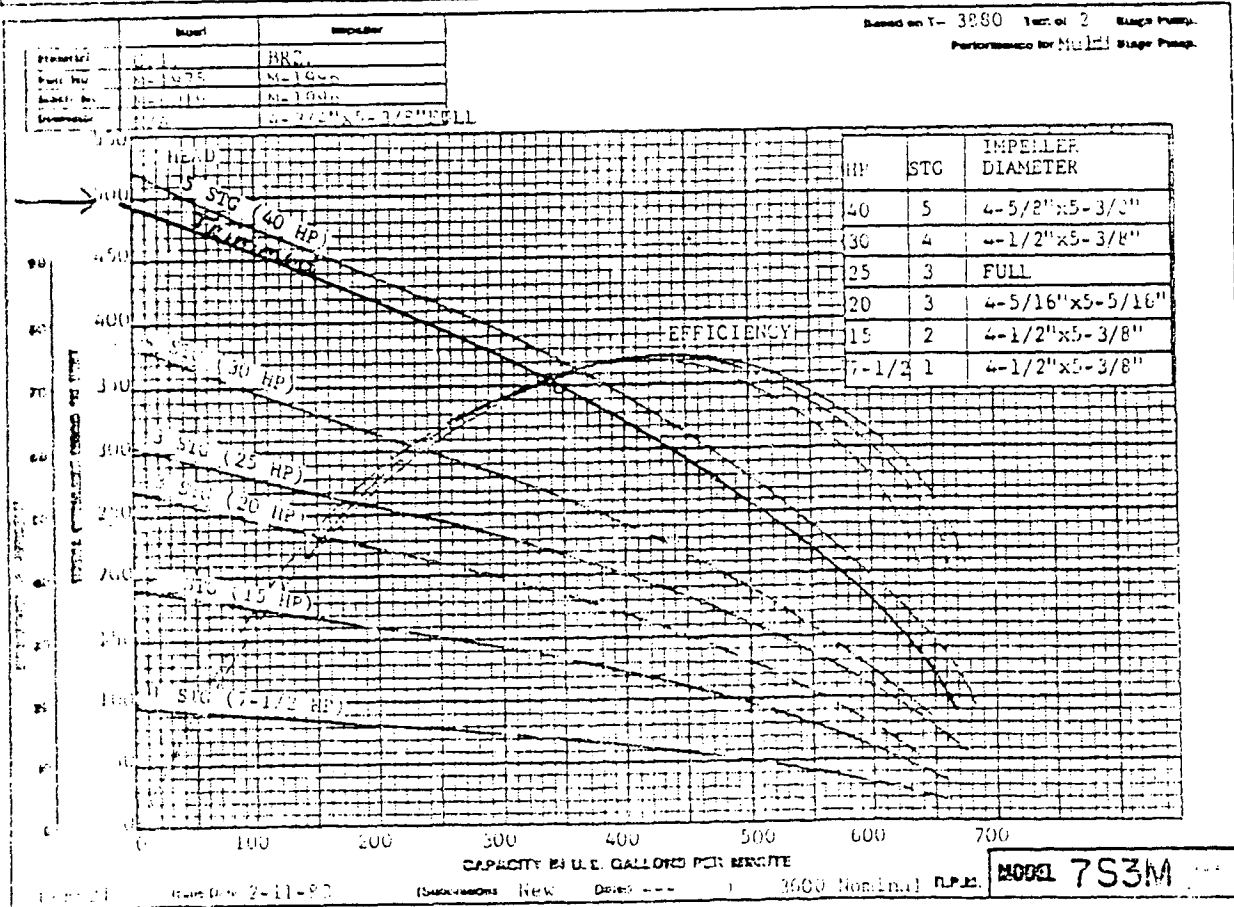
BERKELEY PUMP COMPANY
Division of Dresser Industries, Inc.

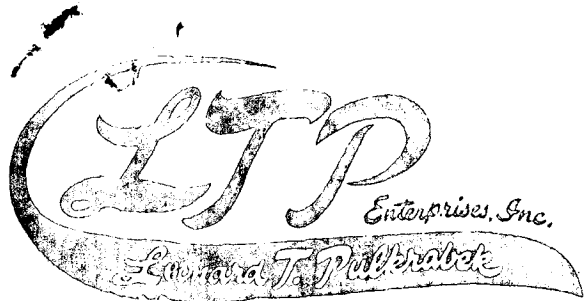
SUBMERSIBLE TURBINE PUMPS 6" AND 7" BOWLS PERFORMANCE CURVES

DATE	6-1-83
PAGE	5.02
SUPERSEDES	
Curve 2500	Page 5.02



Actual
Conditions
of Pump
ordered

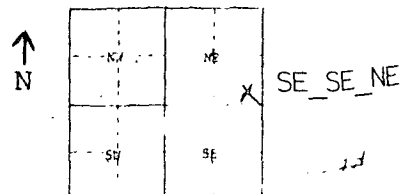




Box 2131
FARGO, N. DAK. 58102

Phone (701) 232-8928
DRILLERS LOG

Sec 3-127-57



WELL DRILLING,
PUMP SALES & SERVICE

Drilled for B.D.M. Rural Water Systems by Fargo Office

Location of property Sec 3-127-57

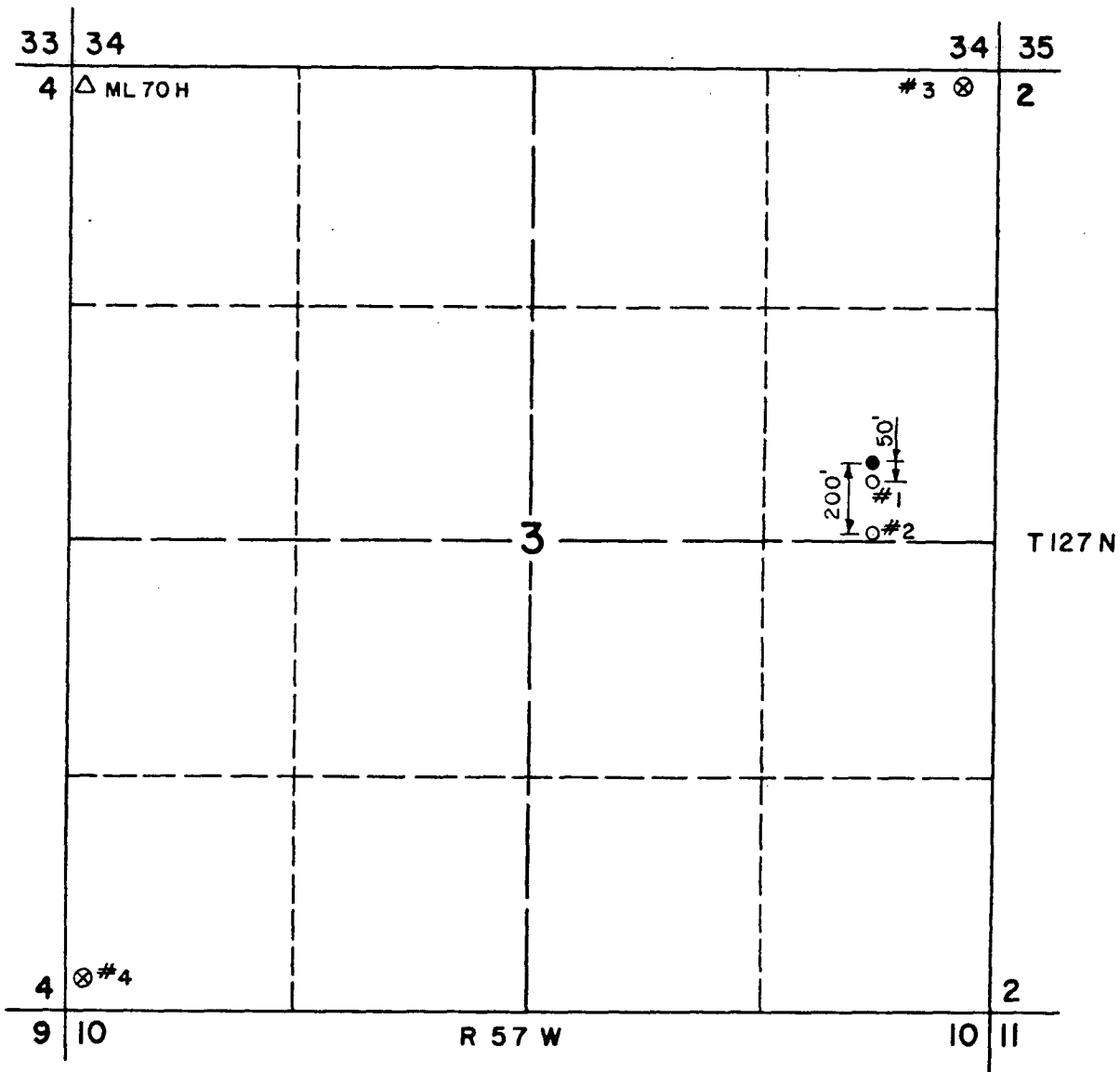
Test hole No. 2 Location of test hole 500' East of # 1 Well No. LTP #2

Size of test hole 6 1/4 Date started 7-10-84 Date completed 7-10-84 Total Hours 10.5

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPT	ENDED AT WHAT DEPT	THICKNESS OF FORMATION
Top Soil	Black	G.L.	1	1
Sandy Clay	Brown	1	9	8
Sandy clay w/Lenses of sand	Brown	9	17	8
Sand	Brown	17	59	42
Sand	Grey	59	64	5
Hard Sandy clay	Blue	64	96	32
Sand	Grey	96	106	10
Clay	Blue	106	107	1
Sand	Grey	107	121	14
Hard sandy clay	Blue	121	126	5
Sand -Coal	Grey	126	131	5
Hard sandy clay	Blue	131	182	51
Hard sandy few rocks	Blue	182	249	67
Sandy clay w/ lenses sand	Blue	249	265	16
Sand some coal	Grey	265	291	24
Shale	Black	291	300	9

Signed Frank Schroeder Driller



LEGEND

- Existing 12" test well.
- Observation well drilled for pump test and removed (observation well no.).
- ⊗ Observation well drilled for South Dakota Department Of Water and Natural Resources (observation well no.).
- △ Existing observation well.

WELL LOCATION MAP

B.D.M. RURAL WATER SYSTEM
BRITTON, SOUTH DAKOTA

Scale NO SCALE	Date 7-6-82	Checked by HAT, DPO	Project No. 1934	Sheet 1 of 1
-------------------	----------------	------------------------	---------------------	-----------------



PREPARED BY
HOUSTON ENGINEERING, INC.

P.O. BOX 5054 FARGO, NORTH DAKOTA



No. 4908-3

Department of Water & Natural Resources

Joe Foss Building
Pierre, South Dakota 57501

Water Rights Division
(605) 733-3352

June 25, 1982

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

Brown, Day, Marshall Rural Water System
Post Office Box 229
Britton, South Dakota 57430

Gentlemen:

You are hereby notified that your Application No. 4908-3 for a permit to

appropriate water for domestic, rural & municipal use, has been examined and
found to comply with the water laws of South Dakota and the regulations
thereunder. A notice of your intent to appropriate water has been sent to the

Webster Reporter & Farmer
Britton Journal & Aberdeen American/News

Publisher of the Britton Journal & Aberdeen American/News printed at Webster, Britton & Aberdeen,
South Dakota. For your information, a copy of this notice is enclosed.

BE SURE TO CONTACT THE LEGAL AD DEPARTMENT OF THE ABOVE NEWSPAPER TO AUTHORIZE
PUBLICATION OF YOUR NOTICE OF INTENT TO APPROPRIATE WATER AND TO ARRANGE FOR
PAYMENT. EARLY CONTACT WITH THE PAPER CAN ELIMINATE DELAYS IN PRINTING THE
NOTICE AND TRANSMITTAL OF PUBLICATION NOTICES TO THIS OFFICE. THE PUBLISHER HAS
BEEN INSTRUCTED ON WHAT DATES HE IS TO PUBLISH THE NOTICE OF YOUR APPROPRIATION
OF WATER ONCE EACH WEEK FOR TWO CONSECUTIVE WEEKS PRIOR TO THE WATER MANAGEMENT
BOARD MEETING WITH THE LAST PUBLICATION TO OCCUR AT LEAST FOUR LEGAL BUSINESS
DAYS BEFORE THE BOARD MEETING. ANY INTERMEDIATE SATURDAY, SUNDAY OR LEGAL HOLIDAY
DOES NOT COUNT AS A LEGAL BUSINESS DAY. AT LEAST THE FIRST PUBLICATION NOTICE
MUST BE RECEIVED PRIOR TO THE WATER MANAGEMENT BOARD MEETING FOR THE HEARING TO
BE CONDUCTED.

You should know that the Publisher is to furnish proof of publication to the
Water Management Board within 60 days of the date of this letter, otherwise
South Dakota Statute requires that your application lose its priority until
proof of publication is received in proper form.

For the Water Management Board

BETTY WESTLUND,
Water Rights Specialist

BW:ms

Encl. Forms 6 & 7

WNR-805-4/82
Publication Notice

Publish first publication, on or before July 7, 1982

NOTICE OF HEARING ON
APPLICATION TO APPROPRIATE WATER

Pierre, South Dakota 57501

July 25, 1982Notice is hereby given the Brown-Day-Marshall Rural Water/ ^{System} whose post office

address is P.O. Box 229, Britton, South Dakota, has made an application in accordance with the provisions of SDCL 46-1-1 thru 46-1-9; 46-1-12 thru 46-1-14; 46-2-9 thru 46-2-11, 46-2-13; 46-5-1 thru 46-5-8, 46-5-10 thru 46-5-22, 46-5-25, 46-5-41 (ground) 46-6-3 thru 46-6-5, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, (future use) 46-5-38; (transfer lands) 46-5-22 thru 46-5-25 and Board Rules ARSD 74:02:01:01 thru 74:02:01:15, (future use) 74:02:01:23 thru 74:02:01:26 (10,000 AKA) 74:02:07:01 thru 74:02:07:03, for a permit to appropriate for beneficial use

1.00 cubic feet of water per second of time from groundwater (3 wells)

through the Brown-Day-Marshall Rural Water System, the point (s) of diversion which
is (are) to be located in the SE 1/4

of Section 3, Twp. 127N, Range 57W. Said water to be used for purpose of providing ~~irrigation on portions of the following described land:~~

water supplies for a rural water system

This Application No. 4908-3 will be considered by the Water Management Board at Civil Defense Room, Capitol Building, Pierre, SD upon the 28th day of July, 1982.

at 10 A.M. The Board is authorized to make a determination on this application at the hearing. All interested persons may appear and be heard. Any person who may be affected by a Board decision who desires to present evidence or cross-examine witnesses according to SDCL 1-26 may notify the Board in writing prior to the hearing or orally at the hearing.

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

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

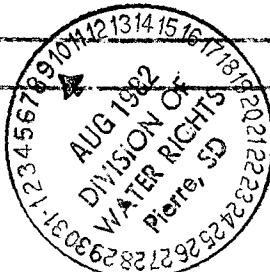
For the Water Management Board

cc: applicant
WNR-806-2/82

BETTY WESTLUND, Water Rights Specialist

Form 8 - Proof of Publication - Notice of
Intent to Appropriate WaterNo. 4908-3NOTICE OF HEARING
ON APPLICATION TO
APPROPRIATE WATER

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Marshall) ss.I, Charles L. Card herebycertify that the annexed printed copy of Notice of Intent to Appropriate
Water was taken from the Bulletin JournalA newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in theCity of BrittonCounty of Marshall and State of South Dakota
that the said notice was published in said newspaper on the following
two dates:June 30, 1982July 7, 1982Charles L. Card
(Signature)Publisher
(Title)July 7, 1982
(Date Signed)Cost of Printing: \$10.22

Notice is hereby given the Brown-Day-Marshall Rural Water System whose post office address is P. O. Box 229, Britton, South Dakota, has made an application in accordance with the provisions of SDCL 46-1-1 thru 46-1-9; 46-1-12 thru 46-1-14; 46-2-9 thru 46-2-11; 46-2-13; 46-5-1 thru 46-5-8; 46-5-10 thru 46-5-22, 46-5-25, 46-5-41, 46-6-3 thru 46-6-5, 46-6-8, 46-6-10, 46-6-13, 46-6-14, and Board Rules ARS 74:02:01 thru 74:02:01:15, for a permit to appropriate for beneficial use 1.00 cubic feet of water per second (time from ground-water wells) through the Brown-Day-Marshall Rural Water System, the point (s) of diversion which are to be located in the SE 1/4 of Section 3, Twp. 127, Range 57W. said water to be used for purpose of providing water supplies for a rural water system.

This Application No. 4908-3 will be considered by the Water Management Board at Civil Defense Room, Capitol Building, Pierre, SD upon the 28th day of July, 1982 at 10 a.m. The Board is authorized to make a determination on this application at the hearing. All interested persons may appear and be heard. Any person who may be affected by a Board decision who desires to present evidence or cross-examine witnesses according to SDCL 1-26 may notify the Board in writing prior to the hearing or orally at the hearing.

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

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

For the Water Management Board

Betty Westlund,
Water Rights Specialist

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA

COUNTY OF BROWN

ss.

Lori Noltner BEING DULY SWORN, ON HIS OATH SAYS:

That the ABERDEEN AMERICAN NEWS is a DAILY newspaper of general circulation, printed and published in Aberdeen, Brown County, South Dakota, by the Aberdeen News Company, a corporation, and has been such a newspaper during the times hereinafter mentioned, that affiant is an employee and principal clerk of said publisher and has personal knowledge of all the facts stated in this affidavit; that the advertisement headed Notice of intent to appropriate water by Brown, Day Marshall rural water system

a printed copy of which is hereunto attached, was printed and published in the regular and entire issue of said newspaper, and not in a supplement thereof, once each week for 2 successive weeks
The first publication being made on the 7th day of July 1982
The second publication being made on the 14th day of July 1982
The third publication being made on the _____ day of _____
The fourth publication being made on the _____ day of _____
The fifth publication being made on the _____ day of _____
The sixth publication being made on the _____ day of _____
The seventh publication being made on the _____ day of _____
The eighth publication being made on the _____ day of _____
The ninth publication being made on the _____ day of _____

That said newspaper is a legal newspaper, being published five days or more each week, having a bona fide circulation of more than two hundred copies daily, having been published in the English language within the said County of Brown for more than one year next prior to the first publication of said notice, and is printed in whole in an office maintained at the place of publication of said newspaper. That the whole amount of the fee paid for the publication of the annexed notice is \$ 33.50, which inures solely to the benefit of said publisher; that no agreement or understanding for a division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whomsoever.

Lori Noltner

Subscribed and sworn to before me this 14th day of

July 19 82

Brian E. Zimmerman

Notary Public, Brown County, S. D.

My commission expires 9-4-88

daily circulation 21,005

(No. 268 — July 7, 14 — 2T)
NOTICE OF HEARING
ON APPLICATION TO
APPROPRIATE WATER
Pierre, South Dakota 57501
June 25, 1982

Notice is hereby given the Brown-Day-Marshall Rural Water System whose post office address is P.O. Box 229, Britton, South Dakota, has made an application in accordance with the provisions of SDCL 46-1-1 thru 46-1-9; 46-1-12 thru 46-1-14; 46-2-9 thru 46-2-11; 46-2-13; 46-5-1 thru 46-5-8; 46-5-10 thru 46-5-22; 46-5-25; 46-5-41; 46-6-3 thru 46-6-5; 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, for a permit to appropriate for beneficial use 1.00 cubic feet of water per second of time from groundwater (3 wells) through the Brown-Day-Marshall Rural Water System, the points of diversion which are to be located in the SE 1/4 NE 1/4 of Section 3, Twp. 127N, Range 57W. Said water to be used for purpose of providing water supplies for a rural water system.

This Application No. 4908-3 will be considered by the Water Management Board at Civil Defense Room, Capitol Building, Pierre, SD, upon the 28th day of July, 1982 at 10 A.M. The Board is authorized to make a determination on this application at the hearing. All interested persons may appear and be heard. Any person who may be affected by a Board decision who desires to present evidence or cross-examine witnesses according to SDCL 1-26 may notify the Board in writing prior to the hearing or orally at the hearing.

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

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

For the Water Management Board
BETTY WESTLUND, Water Rights Specialist



STATE OF SOUTH DAKOTA
COUNTY OF BROWN

IN _____ COURT

Affidavit of Publication

Filed in the office of _____

on the _____ day of _____

19 _____

Attorney for _____



Conversation or File Documentation

NAME OF PERSON OR FILE: Permit No. 4908-3, Brown, Day, Marshall RWSADDRESS: _____ COUNTY MarshallDATE: 7-23-86 TELEPHONE _____

RE: _____

COMMENTS:

Application No. 4908-3 requested 1.0 cfs and 360 acre feet per year. No fee was required in 1982. The application was advertised for 1.0 cfs without an annual acre foot limitation. Prior to approval July 28, 1982, an aquifer pump test was conducted. The pump test results indicated that the aquifer could easily supply the water needed by the rural water system.

The Board approved the Permit without any annual acre foot limitation. Therefore although 360 acre feet was requested annually, the annual withdrawal under the permit was not limited.

There is no evidence at this time to suggest that the Permit should be amended to limit the annual withdrawal to 360 acre feet.

This Permit was reviewed because Hanson RWS wanted to know the names of other rural water systems with annual acre foot limitations.

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: John Water

Permit No. 4908-3
James River - Water District

Report of Examination of Works and/or Application of Water to Beneficial Use

TO: Chief Engineer, Water Rights Program, DENR, Foss Bldg., Pierre, SD 57501

I have this day, October 19, 1999, made a thorough examination of the water use system constructed by Brown-Day-Marshall Rural Water System, Inc. of PO Box 49, Britton, SD, 57430 holder of Permit No. 4908-3, bearing the priority of June 21, 1982 authorizing the diversion of 1.00 cu. ft. per second from the Middle James Columbia aquifer for rural water system use purposes, in Brown, Day, and Marshall Counties.

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

A. Works used to divert the water:

Two nearly identical wells #1 (299 feet deep) and #2 (291 feet deep) cased with 12 inch steel, and 24 feet of stainless steel 25 slot and 40 slot screen respectively. Both wells are equipped with Berkeley Model 7S3M-5 submersible pumps with Franklin 40 HP Motors. Each well is capable of producing 450 gpm.

B. Works used to transport water to place of use:

Each well equipped with a pitless unit and underground pipeline to treatment plant located on site in the SE NE of section 3, T127N R57W in Marshall County. Only one well can be used at a time and the other well is used for backup purposes.

C. Works used to apply water to beneficial use:

Buried pipelines from the treatment plant to rural customers.

The system is in the following condition excellent. The points of diversion are located #1, 384 feet west and 324 feet north and #2, 888 feet west and 340 feet north of E ¼ corner of section 3, T127N R57W in Marshall County. The works are capable of diverting and conveying to the place of use 1.00 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:

The license should be issued for 1.00 cfs.

Applicable permit qualifications have been complied with: Yes ☒ No ☐

Exceptions to compliance are: none Date report completed: October 28, 1999


James A Goodman
Natural Resources Engineer
DENR, Water Rights Program

FIELD INVESTIGATION REPORT FOR PERMIT NO. 4908-3

DATE OF INVESTIGATION:	October 19, 1999
NAME & ADDRESS OF INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	David Wade, Manager
NAME & ADDRESS OF PERMIT HOLDER	Brown-Day-Marshall Rural Water System, Inc PO Box 49 Britton, SD 57430
DIVERSION POINT LEGAL LOCATION	(#1, 384 feet west and 324 feet north and #2, 888 feet west and 340 feet north of the E ¼ corner of section 3) both wells in the SE NE of section 3, T127N R57W in Marshall County, SD.

Other permit(s) associated with the project: Future Use No. 5940-3

WELL INFORMATION:

- 1) Well Drilling Firm: LTP Enterprises, Inc.
- 2) No. of Wells 2
- 3) Depth(s) #1, 299 #2, 291 feet
- 4) Well log is available (Y/N)
- 5) Comment: two nearly identical wells, same type of pumps in both wells

Casing:

- 1) Diameter #1 and #2, 12 inches
- 2) Length #1, 275 #2, 267 feet
- 3) Type steel, welded, 0.375 wall, 49.56 lb/ft

Screen:

- 1) Type #1, ss 25 slot, #2, ss 40 slot
- 2) Length #1, 24 #2, 24 feet
- 3) Static water level #1, 172.8 #2, 167.8 feet

Pump:

- 1) Make Berekley
- 2) Model 7S3M-5 submersible

3) Size _____

4) Capacity 450 GPM

Motor:

1) Make Franklin

2) Model No. _____

3) Horsepower rating 40 hp

DISTRIBUTION LINES OR CANALS:

1) Type _____ 2) Size _____ inches 3) Length _____ feet

SYSTEM TYPE:

Center pivot:

1) Make _____

2) Overall length _____ feet

3) Number of towers _____

4) Distance between towers _____ feet

5) End gun Y/N

6) High or low pressure _____

7) Capacity _____ GPM

Gun:

1) Make _____

2) Nozzle size _____ inches

3) Capacity _____ GPM

4) Hose size _____ inches

Towline:

1) Length _____ feet

2) Diameter _____ inches

3) Spacing of gates _____ inches

Sideroll:

PERMIT NO. 4908-3

10) All chemigation equipment appears to be installed in the proper position and complies with chemigation laws and rules Y/N

11) Comments: _____

PERMIT QUALIFICATIONS:

1) Special qualifications to permit being abided by Y/N

2) All structures, wells and lands on map Y/N

3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y/N

NOT TO SCALE 4908-3

740
T1482

113C-F4

1168
T1377

HEL
44.0

CRP
1988-97

NC

NHEL
116.0

NHEL
2.9

NC

3

NHEL
326.3

1168
T1377

2334
T1476

NHEL
635.6

NC

E14 COR SECTION B
T127 W RSTW

CRP
1987-96

NC

CRP
1988-97

CRP
1990-99

NHEL
735.8

127-57

NHEL
219.1

NHEL
159.8

2125
T1483

113C-F4

2334
T1477

CRP
1988-97

CRP
1988-97

NHEL
1211.0

NHEL
IC 15.0

DRAWN BY
JAMES A GOODMAN, NATURAL RESOURCE ENGINEER
OCTOBER 28, 1999



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

November 4, 1999

4908-3

Day-Marshall Rural Water System, Inc.
%David Wade, Manager
P.O. Box 49
Britton, SD 57430

Dear Mr. Wade:

The investigation of your water use system was conducted on October 19, 1999, by Jim Goodman, staff engineer. The investigation included the extent of application of water to beneficial use, as developed under Water Permit No. 4908-3. Your final water right document, the Water License, can now be issued.

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

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

Sincerely,

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

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

February 24, 2000

Permit No. 4908-3

REMINDER NOTICE

TO: David Wade, Manager, Brown-Day-Marshall Rural Water System, Inc,
PO Box 49, Britton, SD 57430-0049

FROM: Garland Erbele, Chief Engineer
Water Rights Program *Garland Erbele*

SUBJECT: Water License/Investigation Fee Requirement

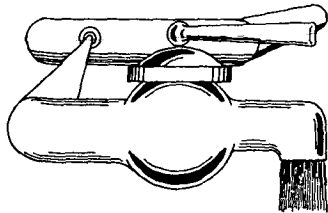
On November 4, 1999, we advised you that a \$50.00 fee is due for the completed investigation of Water Permit No. 4908-3. The fee also covers issuance of your water license which is the final document in obtaining and perfecting a water right.

To date, we have not received the \$50.00 fee; therefore, we can not issue the water license. Your licensed water right will be similar to a property right that can not be lost as long as the water use continues and you abide by any permit requirements.

Please remit the fee as soon as possible to obtain your water license. In addition, South Dakota water law does not allow water to be diverted until the license fee is paid. To avoid jeopardizing your ability to use water, please send the fee to the following address:

Department of Environment and Natural Resources
Water Rights Program
523 E Capitol
Pierre SD 57501-3181

Thank you for your prompt response. If you have any questions or believe our records are in error, please contact Genny McMath at (605) 773-3352.



BROWN

DAY

MARSHALL

Rural Water System, Inc.

P.O. Box 49
705 7th Street
Britton, South Dakota 57430
Phone 605-448-5417



March 14, 2000

Mr. Garland Erberle, Chief Engineer
DENR
Water Rights Program
523 E. Capitol
Pierre, SD 57501-3181



Dear Mr. Erberle:

Enclosed is our \$50.00 fee, which is due, for our Water License for our Water Permit No. 4908-3.

If you have any questions, please call me at 605-448-5417.

Sincerely,

David C. Wade
General Manager

RECEIPT
Water Rights Program
South Dakota Department of Environment and Natural Resources

N2 416425

Pierre, March 15, 2000

RECEIVED OF MDM Rural Water System, Inc., P.O. Box 49, Britton, SD 57430
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>4908-3</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 Harland Ebele 
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

APR 10 2000

4908-3

Brown-Day-Marshall RWS, Inc.
%David C. Wade, General Manager
P.O. Box 49
Britton, SD 574430

Dear Mr. Wade:

Enclosed is Water License No. 4908-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 416425 in the amount of \$50.00 which you paid for the investigation and issuance of the Water License.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 4908-3, 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.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program
(605) 773-3352

ks
enclosures

STATE OF SOUTH DAKOTA

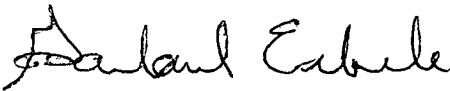
WATER LICENSE NO. 4908-3

(1) Brown-Day-Marshall Rural Water System, Inc., PO Box 49, Britton SD 57430 made Application No. 4908-3, June 21, 1982 for a water permit to divert 1.00 cubic feet of water per second from groundwater (three wells), Marshall County, South Dakota for rural water system use purposes. Permit No. 4908-3, with a priority date of June 21, 1982 was approved July 28, 1982 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 28, 1987 and for the application to beneficial use of said water on or before July 28, 1991.

(2) It is certified that the permit holder 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 1.00 cubic feet of water per second for beneficial use. The location of the diversion points are Well #1 – 384 feet west and 324 feet north and Well #2 – 888 feet west and 340 feet north; both from the east ¼ corner of Section 3-T127N-R57W (SE ¼ NE ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to supply users in Brown, Day and Marshall Counties.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Brown-Day-Marshall Rural Water System, Inc., PO Box 49, Britton SD 57430 the holder and/or owner of Water Right No. 4908-3 is issued a license to appropriate water, the right to use 1.00 cubic feet of water per second from groundwater (two wells) with a priority date of June 21, 1982 from the location specified in (2) of this license for rural water system use purposes. This license is subject to any limitations or qualifications listed in Water Right No. 4908-3 and subject to South Dakota State Law.

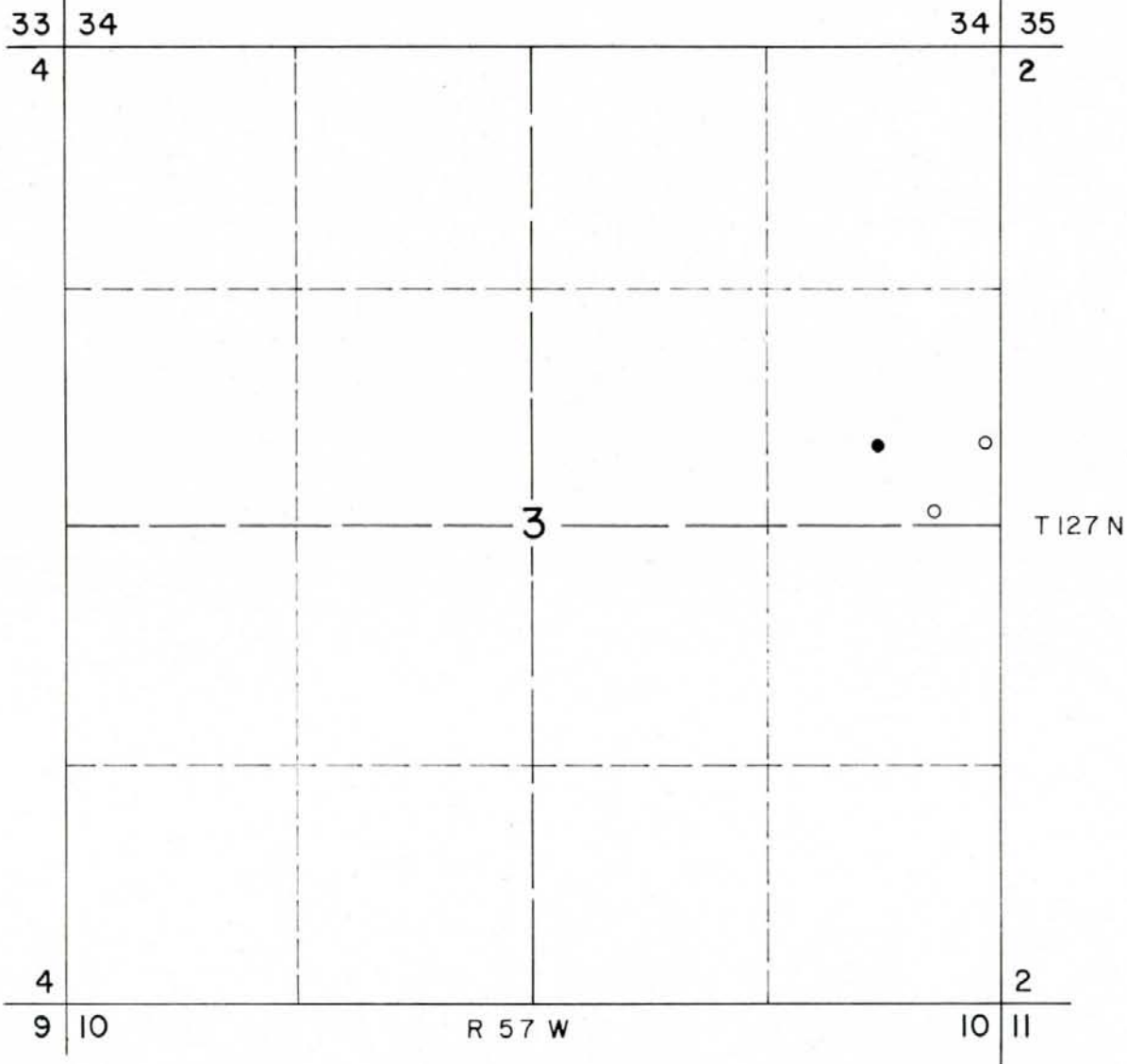


GARLAND ERBELE, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

APR 10 2000

date



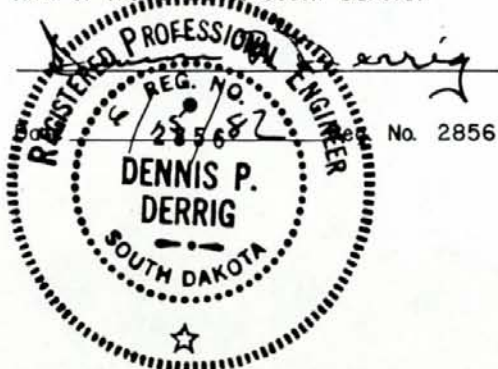


MARSHALL COUNTY SOUTH DAKOTA

LEGEND

- Existing 12" test well.
- Proposed additional well.

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



NOTE:

Brown - Day - Marshall Rural Water System distribution system service area covers portions of Brown, Day and Marshall counties.

MAP
To Accompany Application No. _____ for:

Brown - Day - Marshall System
Britton, South Dakota

APPLICANT

APPL. 4908-3



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

denr.sd.gov

March 10, 2015

David C Wade, General Manager
Brown Day Marshall RWS
705 7th St
Britton SD 57430

Dear Mr. Wade:

I am writing in regard to a well driller's report filed by Thein Well Co Inc. The report shows a new well was completed for Brown Day Marshall RWS on August 28, 2014.

A review of our files indicates the RWS holds Water Right No. 4908-3 that authorizes 1.00 cubic feet of water per second (cfs) from two wells located in the SE 1/4 NE 1/4 Section 3-T127N-R57W. Also, Water Permit No. 6371-3 that authorizes 2.89 cfs from two wells located in the NE 1/4 SE 1/4 Section 3-T127N-R57W.

Mr. Wade, is this a replacement well or an additional well which does not increase the total appropriation of 3.89 cfs? If the authorized diversion rate is increased, a new water permit will need to be obtained. Once we know this information, we can determine what additional action, if any, needs to be taken to ensure the RWS has water right/permits that accurately reflects the systems water use.

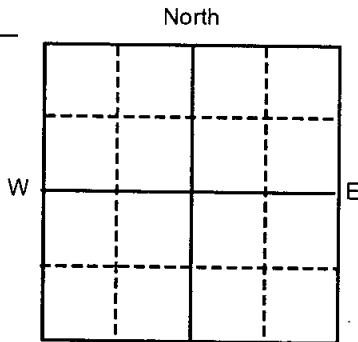
Please contact Eric Gronlund or me regarding the status of this new well or if you have any questions.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352
karen.schlaak@state.sd.us

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location SE ¼ NE ¼ Sec 3 Twp 127N Rg 57WCounty MarshallPlease mark well
location with an "X"

Well Completion Date

August 28, 2014

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
200.0 ft. from Holding pond (identify source)

PROPOSED USE:

☐ Domestic/Stock ☒ Municipal ☐ Business ☐ Test holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

Rotary

CASING DATA:

If other describe

☒ Steel ☐ Plastic ☐ Other

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	12.00 IN	0.0 FT	271.0 FT	17.50 IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
Neat cement	207	100.0 Lb/gal	0.0 Ft	265.0 Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremie piped

SCREEN:

☐ Perforated pipe ☒ Manufactured
 Diameter 12.00 Inches Length 30.0 Feet
Material Stainless steelSlot Size 30 Set From 271.0 Feet to 301.0 Feet

Other information

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Chlorinated
☐ No, Why Not?
Lab to which water
quality sample sent for analysisWell Owner: BDM Rural Water System

Business Name:

Address: 705 7th St.City, State, Zip: Britton SD 57430

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Clay - brown	0	6
Soil - black	6	9
Sandy clay - brown	9	44
Sandy clay w/gravel - brown	44	69
Sandy clay - gray	69	75
Coal sandy clay - gray	75	116
Silty clay - gray	116	201
Gravel	201	203

(Continued on page 2)

STATIC WATER LEVEL 196.3 FEET

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced flow rate _____ GPM

Can well be completely shut in?

WELL TEST DATA:

☒ Pumped Describe:☐ Bailed☐ Other

Pumping Level Below Land Surface

222.5 Ft. After 9.0 Hrs. pumped 250.0 GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

GPS: N 45 50.505 W 097 39.022

WELL NO. 2

RECEIVED

NOV 07 2014

WATER RIGHTS
PROGRAMThis well was drilled under license # 475 and this
report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

10/20/14Clayton Maer 10/27/14

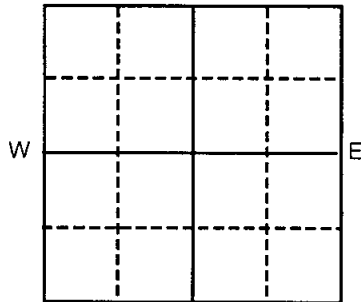
11-10-14

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location 1/4 1/4 Sec 3 Twp 127N Rg 57WCounty Marshall

North

Please mark well
location with an "X"

Well Completion Date

August 28, 2014

1 Mile

Distance to nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)?
ft. from _____ (identify source)

PROPOSED USE:

☐ Domestic/Stock ☒ Municipal ☐ Business ☐ Test holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

Rotary

CASING DATA:

☐ Steel ☐ Plastic ☐ Other
 If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
		Lb/gal	Ft	Ft
		Lb/gal	Ft	Ft

Describe grouting procedure
Tremie piped

SCREEN:

☐ Perforated pipe ☐ Manufactured
 Diameter _____ Inches Length _____ Feet
 Material _____
 Slot Size _____ Set From _____ Feet to _____ Feet
 Other information _____

WAS A PACKER OR SEAL USED?

☐ Yes ☐ No

If so, what material?

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☐ Yes, How?☐ No, Why Not?Lab to which water
quality sample sent for analysisWell Owner: BDM Rural Water System

Business Name:

Address: 705 7th St.City, State, Zip: Britton SD 57430

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Clay - gray	203	226
Gravel	226	227
Clay - gray	227	238
Clay w/gravel - gray	238	260
Fine sand	260	294
Med to fine sand	294	302
Shale	302	305

STATIC WATER LEVEL

FEET

If flowing: closed in pressure

PSI

GPM flow _____ through _____

Inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced flow rate

GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe:☐ Bailed☐ Other

Pumping Level Below Land Surface

_____ Ft. After _____ Hrs. pumped _____ GPM

_____ Ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate: _____ GPM

REMARKS

Page 2 of 2

This well was drilled under license # 475 and this report is true and accurate.Drilling firm: Thein Well Co., Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

David C. Wade, General Manager

Date:

10/20/14Clayton Maen 10/27/14

Water Rights Program - File Documentation

NAME: David Wade

ADDRESS: Britton SD

DATE: 3-12-15 **COUNTY:** BN **TELEPHONE:**

RE: Well Completion Report

COMMENTS:

David Wade called regarding my letter dated March 10, 2015. Mr. Wade stated the well they had drilled in August, 2014 was a replacement well for Well # 2 authorized by Water Right No. 4908-3. The well is located approximately 180 feet south of the existing Well #2 which will be plugged by Thein Well Co., Inc. this spring.

Mr. Wade stated they would not be increasing their authorized diversion rate.



Karen Schlaak
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

March 26, 2024

4908-3, 6371-3, 8533-3

BDM Rural Water System
c/o Rodney Kappes, MGR
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

I am writing you today to follow up on last weeks telephone conversation regarding the construction and pump placement of BDM RWS Well #9 and the additional 4 wells to be used at the new treatment facility. Currently, BDM is authorized diversion of water for the rural water system under Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3.

Water Right No. 4908-3 authorizes the diversion of 1.0 cfs (pumping constantly would equate to 723.9 acre-feet annually), from 2 wells (Well #1 & Well #2), located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 3-T127N-R57W.

Water Permit Nos. 6371-3 & 8533-3 authorize a combined diversion rate of 4.0 cfs (1,900 ac-ft annually), from 9 wells (Well #1 through Well #9), located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ & SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 3-T127N-R57W. Per Permit No. 8533-3, all construction is to be completed by October 12, 2026.

If development of the four new wells (Well #10 through Well #13) will not cause the diversion rate to exceed a maximum instantaneous rate of 5.0 cfs or the annual volume to exceed 2,624 ac-ft, then it may be possible for the new wells to be included under your existing right/permits. To do so, please complete the highlighted portions of the enclosed permit application and return it to our office with a map of all well locations. On the map, please label the wells by assigned well number and identify which four wells are the additional wells beyond what your existing right/permits cover. Do not remit a fee with the application and map. Our office will complete a review to determine whether the additional wells may increase the potential for interference with other existing diversions. If the potential for interference is not increased, the wells can be added without the need to process the application pursuant to South Dakota Codified Law 46-5-13.1.

Sincerely,

Amanda Dewell
Water Rights Program
605 773-3352
Amanda.Dewell@state.sd.us

NOTE: If upon inspection, diversion from the 13 wells exceeds what is authorized under the above-mentioned Water Right and Permits, a new permit will be required.

enclosure

8000-3
RECEIVED

APR 03 2024

OFFICE OF
WATERFORM 2: Application for irrigation in South Dakota
(type or print)

Mail to: SD DANR, Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	No. _____ Hydrologic Unit _____ Basin _____ Newspaper _____ (office use only)
---	--

Application for Permit to Appropriate Water ~~for Irrigation~~Type of Application: ☐ New ☐ Vested Right ☐ Amendment/Correction to Permit No. _____
(Use predates Mar 2, 1955)Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.)

_____1. Name to Appear on Irrigation Permit BDM Rural Water System

Note: The "Name to Appear on Irrigation Permit" must be the name in which the property to be irrigated is held in.

Mailing Address PO Box 49 Britton SD 57430
(Address) (City) (State) (Zip Code)

Phone _____ Mobile _____ Email _____

2. Amount of water claimed N/A *CFS or N/A **GPM _____ ***AF Total Acreage _____
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply groundwater, four new wells4. Location of point of diversion E 1/2 NE 1/4 NE 1/4 9-127-57
(example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W)5 New Wells #9, 10, 11, 12, 13.County Marshall5. County or counties where water will be used Brown, Day, Marshall, Roberts6. Annual period during which water is to be used Jan 1 - Dec 317. List below each forty-acre division, or lot, or fraction thereof and show number of acres to be irrigated in each.
(Attach sheet if more space is needed)

Land Description	Acres	Land Description	Acres

8. Give a description of the project. (Attach sheet if more space is needed)

4 additional diversion points to Permit No. 8533-3

I, Richard Kapper
Name of PersonGeneral Manager, the applicant, certify under
Title (if applicable)

penalty of perjury that I have read this application, examined the attached map, and that the matters stated are true. I further certify, if acting on behalf of an entity or individual other than myself, that I am authorized to submit this application.

2021-08

Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Also, attach map and any other technical information. (see instructions)

Supplemental Information

(type or print)

1. Well Information (check one or both as applicable)

☒ Drilling new well(s) ☐ Using existing well(s)

- a) If new wells, how many 4 Have test holes been drilled? ☐ Yes ☐ No Drilled by _____
(if yes, please provide copies of logs)
- b) If existing wells, how many _____ Provide copy of log(s), if available. Drilled by _____

For either existing or proposed wells:

- c) Well Depth (required) 285'^{aprox} Depth to Top of Water Bearing Material _____ Depth to Water from Surface _____
- d) Distance to nearest domestic well on applicant's property _____ Property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) _____
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

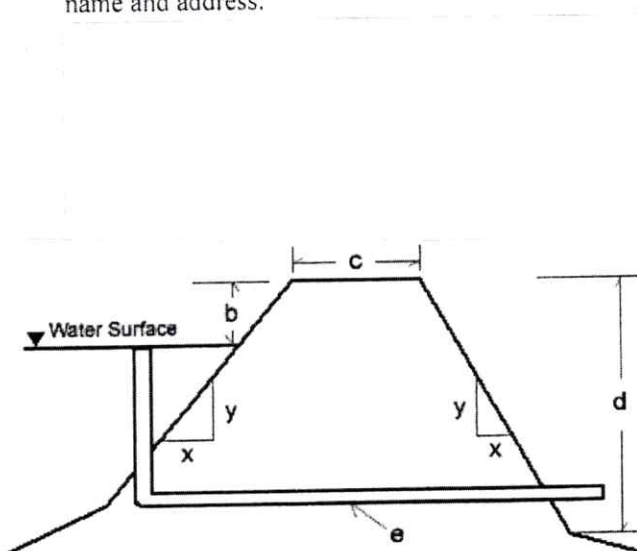
3. Dugout Information

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

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to 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 (e.g. 3 to 1 is a typical slope)
Upstream _____
Downstream _____
- h) Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres



Existing
WTP +
Well Field

127-57-03

Pleasant Hill

WTP

428th Ave

2025 - Hagen, Jim & Kathy

BDM New WTP E1/2NE1/4NE1/4 9-127-57

Aldentaler, Glen

#9 Well

107th St

#12 Well

#10 Well

#13 Well

#11 Well

107th St

428th Ave

Google Earth

Image © 2024 Airbus

2000 ft



BDM New WTP E1/2NE1/4NE1/4 9-127-57

107th St
2134 - Aldentaler, Glen

Well No. 9 - BDM

107th St

Well No. 12 - BDM

Well No. 10 - BDM

Well No. 13 - BDM

Well No. 11 - BDM

428th Ave

Google Earth

Image © 2024 Airbus

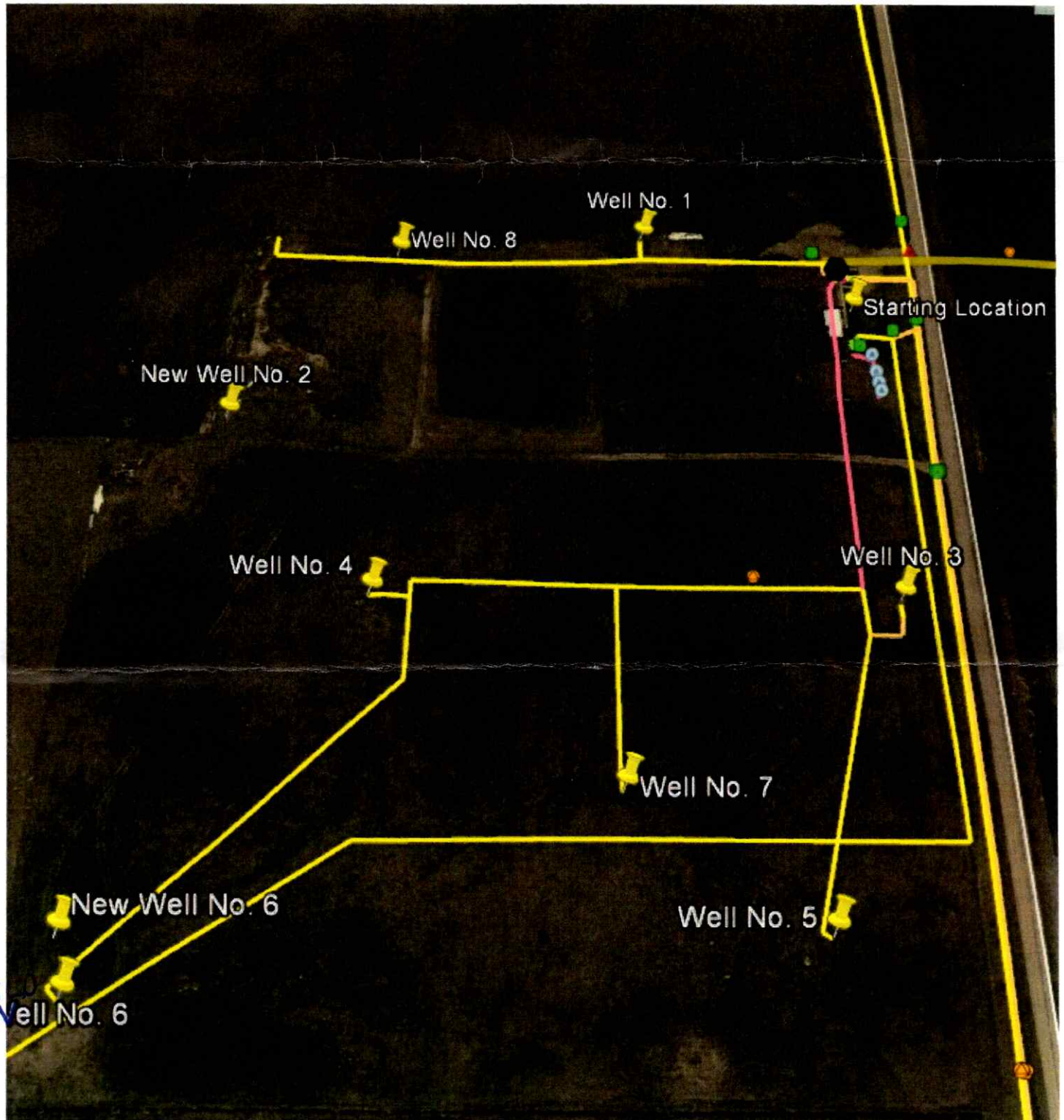
800 ft

N

Rod Kappes

From: Brian R. Bergantine <Brian.Bergantine@AE2S.com>
Sent: Friday, April 24, 2020 9:58 AM
To: Rod Kappes; Darin Roehr
Cc: Gregory Hansen
Subject: BDM Wells

OLD WTP Existing 8 Wells



Approval of Location Change and/or Additional Diversion Point(s)

NAME: Brown Day Marshall Rural Water System, c/o Rodney Kappes

ADDRESS: PO BOX 49, Britton SD 57430

DATE: April 4, 2024

COUNTY: Marshall

GENERAL DESCRIPTION OF AUTHORIZED PROJECT:

BDM RWS holds Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3. The permit holder was authorized to construct a total of nine wells into the Middle James: Columbia Aquifer in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ & SE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 3, T127N, R57W for a rural water system that serves users in Brown, Day, Marshall, and Roberts Counties. The authorized combined diversion rate for all of the wells under 4908-3, 6371-3, and 8533-3 is 5.0 cfs and appropriates up to 2,624 acre-feet annually.

BDM RWS has filed a request to correct the location of Well # 9 and add 4 wells (Wells 10, 11, 12 and 13) to the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W. The wells are to be completed into the Middle James: Columbia Aquifer.

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed, or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased.

- **Developed water source same as permitted source and no additional water appropriated**

The permit holder constructed Well #9 and 4 additional wells into the Middle James: Columbia Aquifer in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N-R57W, Marshall County. The combined diversion rate for all 13 wells (9 existing & 4 new) is 5.0 cubic feet of water per second with a volume of 2624 ac-ft annually. Therefore, the wells are in the same water source and no additional water is appropriated by this request.

- **If irrigation, no new land is irrigated**

Not irrigation use.

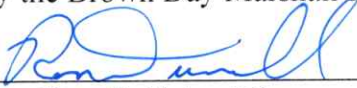
- **Review of Existing Diversions**

There are two existing water permits/rights within 2 miles of where the new wells are to be developed. Both existing permits/rights are held by BDM RWS (4908-3, and 6371-3). It should be noted that BDM RWS also holds Future Use Permit Nos. 5940-3 and 5940A-3 reserving water from the Middle James: Columbia Aquifer in this area. The location of Wells 9 – 13 is just over one mile southwest of BDM RWS's original well field. The review of the water permits for Nos. 4908-3 and 6371-3 concluded there was reasonable probability any well interference due to pumping of the wells would not adversely or unlawfully impair existing rights held by other users. The same would be expected for the wells constructed in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W.

The nearest Water Right held by another user, for withdrawals from the Middle James: Colombia Aquifer, would be Water Right No. 3915-3, held by the City of Britton. The diversion point authorized under Water Right No. 3915-3 is located approximately 2.5 miles northeast of BDM's site for Wells 9, 10, 11, 12, and 13. Interference is not expected.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the diversion point(s) be developed and permitted as requested by the Brown Day Marshall Rural Water System.



Ron Duvall, Natural Resources Engineer
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This change in location and/or additional diversion point(s) does not increase the potential for adverse effects to existing diversions.



Eric Gronlund, Chief Engineer
Water Rights Program



**DEPARTMENT of AGRICULTURE
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 E. CAPITOL AVE
PIERRE SD 57501-3182
danr.sd.gov

April 4, 2024

BDM Rural Water System
c/o Rodney Kappes, Mgr
PO Box 49
Britton SD 57430

Dear Mr. Kappes:

This letter is in regard to your request for the relocation of Well 9 and addition of four new wells (Wells 10, 11, 12, and 13) under Water Permit No. 8533-3. Your request stated that Wells 9, 10, 11, 12, and 13 would be located in the E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 9, T127N, R57W, Marshall County, and was made because the first eight wells could not produce the amount of water authorized by Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3.

Water Right No. 4908-3 and Permit Nos. 6371-3 & 8533-3 authorize a combined diversion rate of 5.0 cfs and appropriate up to 2,624 acre-feet annually, from nine wells completed into the Middle James: Columbia Aquifer, for a rural water system. According to the Permit No. 8533-3, Well 9 was to be located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 3, T127N, R57W.

Upon review of your request and pursuant to SDCL 46-5-13.1, the relocation of Well 9 as well as the addition of four new diversion points (Wells 10, 11, 12, and 13) is authorized without application or publication of a notice of hearing pursuant to SDCL 46-2A-4.

No increase in the authorized diversion rate or annual volume from the Middle James: Columbia Aquifer is authorized.

If you have any questions, please contact Amanda Dewell at (605) 773-3352.

Sincerely,

Eric Gronlund, Chief Engineer
Water Rights Program