

WATER PERMIT NO. 1813-1

Name of Applicant: Deberg Well User's

Address: 716 Oak Lane, Spearfish SD 57783

Phone: 605 722-2637

Amount of Water Claimed: 0.144 cfs

Total Acres: NA

Source of Water Supply: groundwater

Water to be used for: suburban housing development

County: Lawrence

Type of Waste Disposal System:

Location: just northwest of Spearfish

PRIORITY Date Received: 3-11-2004

Application/License Fee: \$200

Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks: System has been in existence since 1975

Diversion Point: SW ¼ SE ¼ Sec 5-T6N-R2E

Land to be Irrigated: NA

Depth of Well: 285 feet deep

Well Driller: : Jerry Ellingson

Remarks:

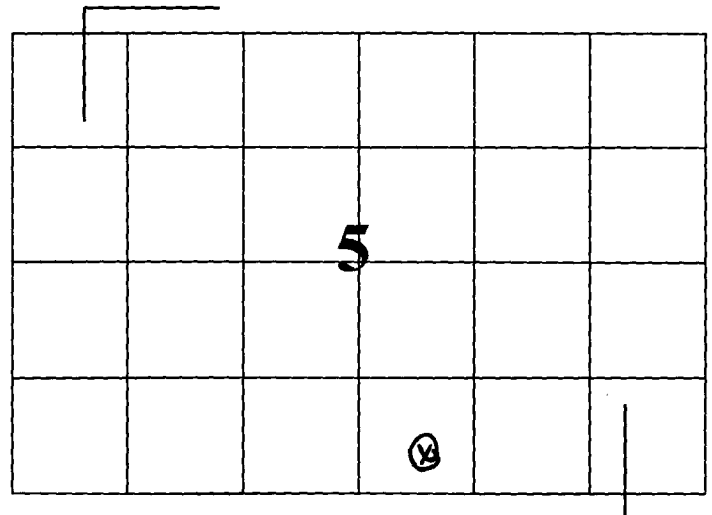
Type of Map: plat

Prepared by: Theodore J Vore, PE

Reviewed and the Number Assigned on: 3-11-04

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



FORM 2: Application for uses other than irrigation
(type or print)

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. 1813-1 Hydrologic Unit 10/20203
Basin Belle Fourche River
Newspaper Black Hills Pioneer, Spearfish
(office use only)

RECEIVED
MAR 11 2004
WATER RIGHTS
PROGRAM

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

Check use of water:

☐ Municipal ☒ Suburban Housing ☐ Recreational ☐ Institutional
☐ Rural Water System ☐ Commercial ☐ Fish & Wildlife ☐ Geothermal Heat
☐ Domestic ☐ Industrial ☐ Other _____
(over 18 gpm)

Type of Application: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____

- Name of Applicant Deberg well USER'S Phone 722 2637
(check one) ☐ Owner ☐ Tenant/lessee
Mailing Address 716 OAK HAVEN SPEARFISH SD State 57783
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 0.144 *CFS or 65 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply well
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
SW1/4 SE1/4 Sec 5-T6N-R2E
County LAWANCE
- County or counties where water will be used LAWANCE
- Annual period during which water is to be used year Round Jan 1- Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
well storage tanks pressure system for rural subdivision well was drilled in 1975 and has been in constant use there after

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

STATE OF SOUTH DAKOTA)

County of LAWANCE SS

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

Signed Donald L. Burdick

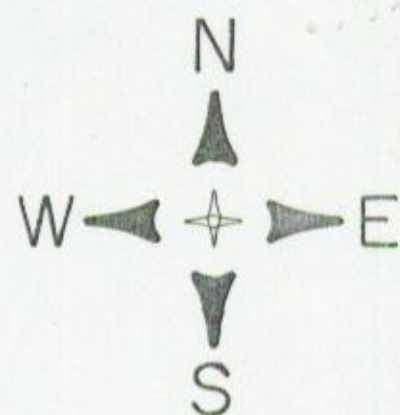
Subscribed and sworn to before me this 9 day of March 2004

SUSAN EILERS
NOTARY PUBLIC
MY COMMISSION EXPIRES
10-1-2007

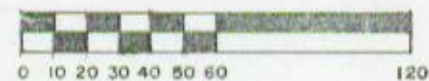
Susan Eilers

Notary Public

REPLAT OF
LOT 23, CREATING LOTS 23-A, 23-B, 23-C, & 23-W
ALL WITHIN THE NW1/4SW1/4SE1/4 SEC. 5, T.6N, R.2 E., B.H.M.
LAWRENCE COUNTY, SOUTH DAKOTA



SCALE: 1"=60'



LEGEND

- 1/2" REBAR — FOUND
- 5/8" REBAR — FOUND
- 5/8" REBAR W/PLASTIC CAP — FOUND
- 5/8" REBAR W/PLASTIC CAP — SET



CEDAR LN.

SURVEYOR'S CERTIFICATE:

I, Theodore J. Vore, Registered Land Surveyor, do hereby certify that I have surveyed and platted a replat of Lot 23, creating Lots 23-A, 23-B, 23-C, & 23-W, all within the NW1/4SW1/4SE1/4 Section 5, T.6 N., R.2 E., B.H.M. Lawrence County, South Dakota, as shown upon this plat.

Theodore J. Vore
Theodore J. Vore R.L.S. # 4328

ACKNOWLEDGEMENT OF SURVEYOR:

On this 4th day of December, 1992, before me, the undersigned Notary Public, personally appeared Theodore J. Vore, known to me to be the person described in and who executed the foregoing certificate.

My commission expires: March 30, 1998
Dupe A. Williams
Notary Public

OAK LN.

CERTIFICATE OF OWNER:

I(We), Ted Cudmore, Owners of Lot 23 within the NW1/4SW1/4SE1/4 Section 5, T.6 N R.2 E., B.H.M., Lawrence County, South Dakota, do hereby approve the survey and replat of said Lot 23 into Lots 23-A, 23-B, 23-C, & 23-W. I(We) further certify that development of this land will conform to all existing applicable zoning, subdivision, and erosion and sediment control regulations. Witness my hand this 5th day of January, 1992.

Ted Cudmore
Owner
204 National Bank - Francke Co Bldg
Address

ACKNOWLEDGEMENT OF OWNER:

On this 5th day of January, 1992, before me, the undersigned Notary Public, appeared Ted Cudmore known to me to be the person(s) who is described in and who executed the foregoing certificate and acknowledged to me that they executed the same.

My Commission Expires: 10-15-96
[Signature]
Notary Public

OFFICE OF COUNTY TREASURER:
State of South Dakota
County of Lawrence

I, Maria Farrier, County Treasurer of Lawrence County, do hereby certify that all taxes which are liens upon the Lot 23 as replatted above and as shown by receipts of my office have been paid to date. Signed this 6th day of Jan, 1992 3

OFFICE OF REGISTER OF DEEDS:
State of South Dakota
County of Lawrence

Filed for record this 6th day of January, 1992, at 3:54 o'clock P. m., MST, and recorded in book 93-58 of plat on page 93-58. File Document 93-58.
Judy R. Mendenhall
Register of Deeds

OFFICE OF DIRECTOR OF EQUALIZATION:
State of South Dakota
County of Lawrence

I, Warlene Pikkola, Director of Equalization, do hereby certify that I have received a copy of this plat.
Warlene Pikkola by K. Scheraga
Director of Equalization

OFFICE OF THE PLANNING COMMISSION:
State of South Dakota
County of Lawrence

Approved by the E.T.J. Planning Commission this 16th day of December, 1992.
Ted J. Kerasis Sherry Maxwell
Chairman of the Planning Commission Secretary

RESOLUTION OF GOVERNING BOARD:
State of South Dakota
County of Lawrence
City of Spearfish

I, Elizabeth A. Benning, City Finance Officer, certify that at the official 16th meeting held on the 16th day of December, 1992, the Spearfish City Council did approve this plat.
Elizabeth A. Benning
City Finance Officer

**SOUTH DAKOTA
WATER PERMIT NO. 1813-1**

Date of first receipt of application March 11, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1813-1 to Deberg Well User's, 716 Oak Lane, Spearfish SD 57783 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1813-1 appropriates 0.144 cubic feet of water per second from one well (Minnelusa Formation) 285 feet deep located in the SW ¼ SE ¼ Section 5-T6N-R2E.
2. The water appropriated shall be used for use in an existing suburban housing development and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1813-1 is June 7, 2004.
5. The date from which applicant may claim right is March 11, 2004.
6. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The Deberg Well User's shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa Formation.

WATER MANAGEMENT BOARD

By: Garland Erbele

Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUN 14 2004

date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 6 7/8 Depth 285 ft *See Attached Notice of well Construction*
- b) Casing Type steel Diameter 6" Thickness SCH-40
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth to Water (ground surface to water level) 80 ft
- g) Distance to nearest existing domestic well: _____

On applicants property 1100 ft

On property owned by others NO

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) SEPTIC TANK, DRAIN FIELD
- b) System Capacity (gallons) VARIOUS Year Constructed VARIOUS
- c) Connected to the City of N/A Sanitary System

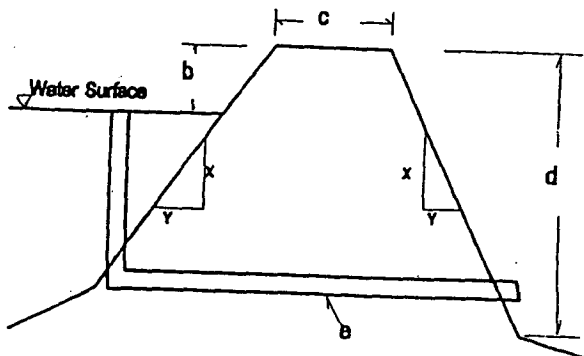
3. Dugout Information

- 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 _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

200 00

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date MARCH 11, 2004

RECEIVED OF DeBerg Water User's Association, 716 Oak Ln, Spearfish SD 57763

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

Fee for Application for Permit No. <u>1813-1</u> to Appropriate Water, to construct and to put water to beneficial use	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>1831-1</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	200.00

No.

By Darland Erbe
Chief Engineer *gm*

NOTICE OF WELL CONSTRUCTION

(1) WELL CONSTRUCTION

Location of well SW 1/4 SE 1/4 Section 5 Township 6 Range 2

Well owner Don De Berg Spearfish S.D.
(Name) (Address)

Date well drilling completed 4-20-75 Purpose of well _____
(domestic, irrigation, municipal, industrial, other)

WELL LOG

Layers, top to top in feet	Description of layer	Depth to top of water producing aquifer _____ ft.
<u>0 - 20</u>	<u>Soil</u>	Depth to static water level <u>80</u> ft.
<u>20 - 42</u>	<u>gravel</u>	Name of producing aquifer (if known) <u>Minnekahta</u>
<u>42 - 95</u>	<u>red bed</u>	Total depth of drill hole <u>285</u> ft.
<u>95 - 134</u>	<u>Minnekahta</u>	Depth to bottom of casing <u>280</u> ft.
<u>134 - 249</u>	<u>Opache</u>	Casing information: In the space below show kind, size, weight, lengths per diameter, etc., for production casing and surface casing, if used. <u>280' 6" Sch 40</u>
<u>249 - 260</u>	<u>hard limestone</u>	
<u>260 - 280</u>	<u>sandy limestone</u>	
<u>280 - 285</u>	<u>broken lime-stone</u>	
		Screen information: In the space below show length of screen below bottom of casing, diameter and kind of screen or casing perforations. <u>Air Pumped @ 65 gpm</u>

Attach sheet if more space is needed

If a flowing well, flow of completed well _____ G.P.M.

Jerry Ellingson
Name of Drilling Contractor

(2) PUMP INSTALLATION

Company name and size of pump _____ HP.

Type of pump _____ Capacity of installed pump _____ G.P.M.

Depth of pump placement _____ ft., Date of pump installation _____

(3) WATER SURFACE MEASURING TUBE

On some wells an air-tight water surface measuring tube is required: See Section 46.408 of Chapter 46.4, MINIMUM WELL CONSTRUCTION STANDARDS.

Show exact vertical length of water surface measuring tube, when installed _____ ft., tube diameter _____, tube material _____.

Name of Pump Installation Contractor



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

November 14, 2003

Deberg Well Users Association
Don Burdick
716 Oak Lane
Spearfish SD 57783

Dear Mr. Burdick:

The Drinking Water Program within our department indicates Deberg Well Users Association has been a regulated public water system for several years. Based on this information, it appears that your association requires a water permit for this water use.

According to state law, if water is to be conveyed to users by a water distribution system diverting more than a peak rate of eighteen gallons per minute, the system will need a water permit.

Enclosed are application forms and instruction sheet to apply for a water permit. The completed forms with the application fee and map can be returned to: Water Rights Program, 523 E. Capitol, Pierre, SD 57501. Please respond by January 1, 2004.

If you believe your water use does not require a water permit or that you have an existing permit, or if help is needed completing the application forms, please contact Ron Duvall or me at (605) 773-3352. We will be happy to assist you in any way possible.

Sincerely,

Karen Schlaak
Water Rights Program

enclosures

WATER PERMIT APPLICATION NO. 1813-1
DEBURG WELL USER'S
MAY 6, 2004

Water Permit Application No.1813-1 proposes to appropriate 0.144 cubic feet of water per second (65 gallons per minute) from one existing well 285 feet deep located in the SW¼ SE¼ Sec. 5, T6N-R2E, Lawrence County. The water is used for a suburban housing development.

AQUIFER: Minnelusa aquifer (MNLS)

GENERAL:

The Minnelusa Formation consists of alternating beds of sandstone and dolomitic limestone with lesser amounts of shale and chert, approximately 600 feet thick in this area (Carter and Redden, 1999a; Carter and Redden, 1999b). The Minnelusa Formation outcrops about three fourths of a mile west of this site (Strobel and others, 1999) and the SD Water Well Completion Report for the existing well that is to be used for this project reports the top of the formation to be 249 feet below grade. The porous portions of the formation form the Minnelusa aquifer. Well sorted sand lenses have porosity's approaching 25%, but generally the sands have porosity's of 10%. The average porosity of the Minnelusa is estimated to be 10% and the effective porosity is assumed to be 5% (Rahn, 1979). The Minnelusa formation underlies virtually all of western South Dakota and the Minnelusa aquifer contains over 755 million acre-feet of recoverable water in storage (Allen and others, 1984). The Minnelusa aquifer underlies approximately 199,680 acres of Lawrence County and contains an estimated 5,591,040 acre-feet of recoverable water in storage in the county (Allen and others, 1984). Ground water movement in the aquifer is probably toward the north and east (Strobel, and others, 2000). The water quality of the aquifer is generally good near the outcrop but deteriorates considerably with distance from the recharge area. Estimates from regional studies of the aquifer indicate the aquifer transmissivity may range from .86 to 12,000 ft²/d, and the storage coefficient ranges from 0.003 to 5×10^{-9} (Driscoll, and others, 2002). A 42-hour pump test was conducted near the east edge of Spearfish, and determined the transmissivity of the aquifer of 9,600 ft²/d and a storativity of 7.4×10^{-5} in the Minnelusa aquifer (Greene and others, 1999).

WATER AVAILABILITY:

The availability of unappropriated water from an aquifer can be evaluated by considering SDCL 46-6-3.1. This statute requires that an application to appropriate groundwater can not be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of average estimated annual recharge.

Recharge to the Minnelusa aquifer is primarily from infiltration of precipitation on the outcrop and stream flow losses. Average annual recharge from 1931-1998 is estimated to be approximately 112,000 acre-feet per year (Carter and others, 2001a).

There are a total of 185 appropriations from the Minnelusa aquifer in South Dakota, including two Future Use Reservations (Water Rights, 2004c). The aquifer is used primarily for domestic, commercial, municipal, suburban housing and irrigation uses. There are 53 permits/rights appropriating water from the Minnelusa aquifer in Lawrence County (Water Rights, 2004c). In addition to appropriative rights, there are a number of domestic wells completed into the Minnelusa aquifer on file with the Water Rights Program (Water Rights, 2004a). The Future Use Permits (No. 902-1 and 969-1) reserve 1,460 acre-feet annually. Water permits and rights represent appropriations up to 10,802.7 acre-feet annually for irrigation use (Water Rights, 2002) and a combined diversion rate of 29.856 cfs for non-irrigation uses (Water Rights, 2004c). Maximum well withdrawals from the Minnelusa aquifer, assuming (1) that permits/rights with an annual withdrawal limitation (ac-ft/yr.) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); would be approximately 25,000 acre-feet per year. The actual amount of water used from the aquifer is considerably less than this estimate. Withdrawals from wells (domestic and appropriative) completed into the Minnelusa aquifer were estimated to be 8,108 acre-feet annually from 1987-1996 (Carter and others, 2001b).

Comparison of annual recharge estimates and estimated annual well withdrawals show that well withdrawals from the Minnelusa are only a fraction of estimated average annual recharge. Therefore, based on a simple water budget, it is clear that unappropriated water is available for this appropriation.

The best information available to evaluate development as it relates to recharge, is historical records and data from observation wells. The difference between withdrawal from an aquifer and recharge is reflected by the water level of the aquifer. If the water level of an aquifer continues to decline, it may suggest that withdrawals exceed recharge. The Water Rights Program monitors 23 observation wells completed into the Minnelusa aquifer in the Black Hills area (Water Rights, 2004b). Water Rights' Observation Well LA-86A is located approximately one mile northwest of this well, Observation Well LA-88B is located approximately three miles southeast of this site, and Observation Well LA-96C is located approximately two and three-fourths miles southwest of this development. The hydrographs for these wells (figures 1, 2 & 3), are fairly typical for the Minnelusa aquifer. That is, the water levels reach their peak in the early summer each year and gradually decline until spring. The majority of the recharge to the system occurs between March and July.

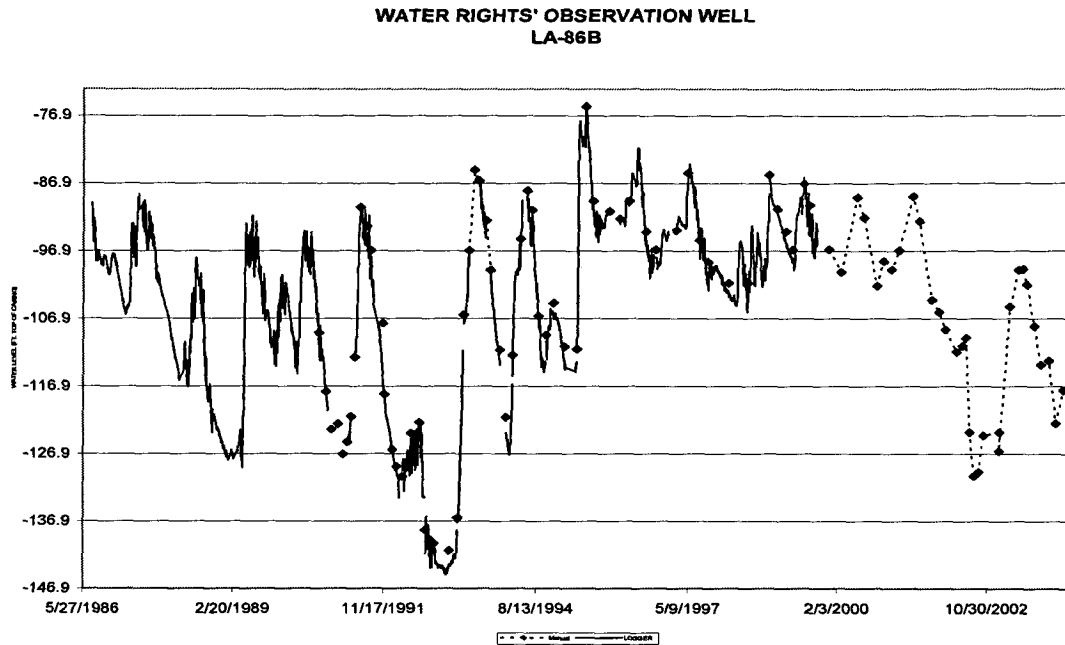


Figure 1. Hydrograph of Water Rights' Minnelusa aquifer Observation Well approximately one mile northwest of 1813-1.

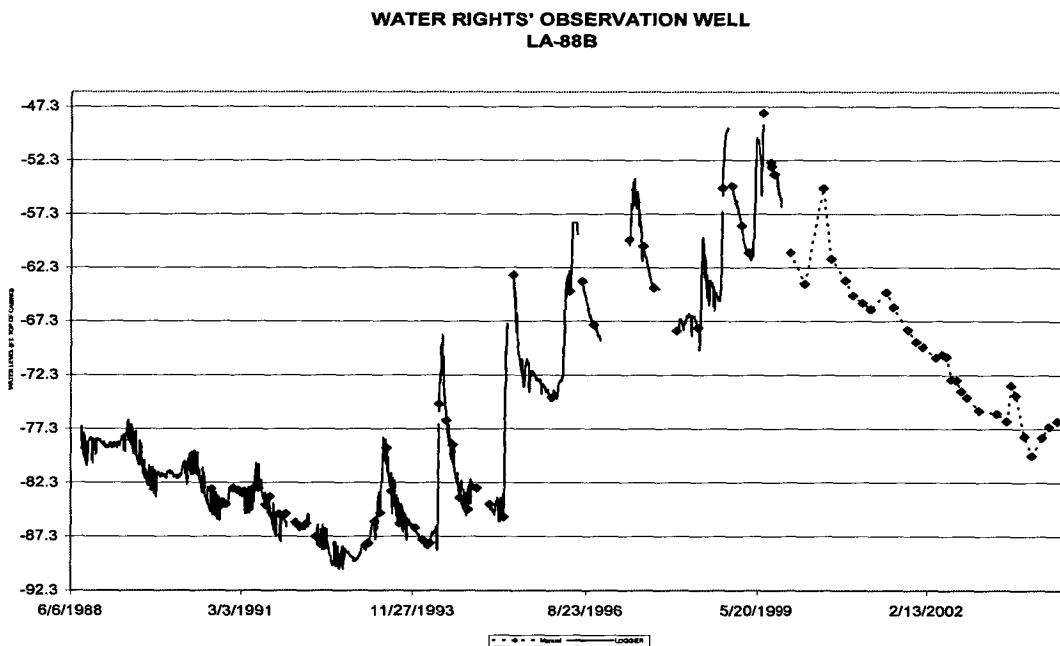


Figure 2. Hydrograph of Water Rights' Minnelusa aquifer Observation Well approximately three miles southeast of 1813-1.

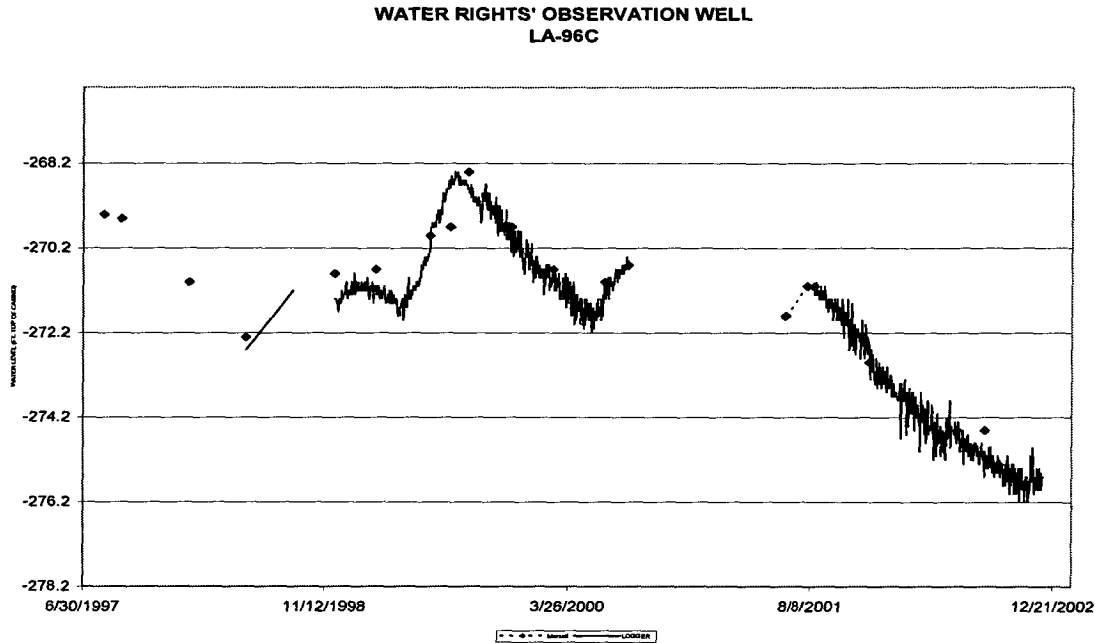


Figure 3. Hydrograph of Water Rights' Minnelusa aquifer Observation Well approximately two and three-fourths miles southwest of 1813-1.

The hydrograph also shows the magnitude of fluctuation in the water levels in the area ($\approx 70'$ in LA-86A, $\approx 43'$ in LA-88B, (both artesian wells); and $\approx 8'$ in LA-96C (a water table well)) with the lowest water levels of record occurring in the early 1990's and the highest occurring in 1999 or 2000.

It is obvious from the hydrographs of Minnelusa observation wells, that withdrawals have not exceeded recharge for the period of record. The observation well data suggests that the aquifer is capable of sustaining additional withdrawals.

AFFECTS ON EXISTING RIGHTS:

There are eight Water Rights/ Permits appropriating ground water within approximately one mile of this site, they are shown in table 1.

PERMIT NO	NAME	AQUIFER	USE	CFS
1118-1	KENNETH ELLINGSON	MNKT	COM	0.49
1184-1	DON L SMITH	MNKT	COM	0.10
1528-1	WESTFIELD HOMEOWNERS	MNLS	SHD	0.08
1436-1	POPE & TALBOT, INC	MNLS	IND	1.45
1620-1	ALLAN & BETH MATHIS	MNKT	SHD	0.04
1677-1	DAN MATHIS	MNLS	SHD	0.14
1739-1	SPEARFISH MEADOWS HOMEOWNERS	MNKT	SHD	0.11
1792-1	DDRF INC	MNLS	SHD	0.18

Table 1. Groundwater appropriations within one mile of 1813-1

Wells that are not supplied by the Minnelusa aquifer should not be affected by withdrawals from this well since the Opeche Shale serves as a confining layer above the Minnelusa, and the thick carbonate sequence in the lower Minnelusa isolates the Minnelusa aquifer from lower aquifers.

In addition to the wells supplying Water Permits/Rights, there are a number of domestic wells completed into the Minnelusa aquifer on file with the Water Rights Program (Water Rights, 2004a).

Although the impact of approving this application cannot be quantified precisely, it is still possible to address whether this appropriation can be made without adversely affecting water rights, including domestic wells. Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide protection to prior appropriators only to the degree necessary to maintain an adequate depth of water in wells that have the ability to produce water independent of artesian pressure. Simply put, the pump placement, or artesian flow, in a prior appropriator's well is not necessarily protected. In fact, in past action, the Water Management Board has concluded that if increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable.

Since the Minnelusa is under artesian conditions in this area and pumping may cause a decline in the potentiometric surface over a fairly widespread area. Considering the Board's past actions, any well interference this proposed use would have on area water rights/permits and domestic wells is not expected to be significant or adverse. It may be necessary to lower pumps in some wells to maintain water use at the present level.

Any interference this proposed use would have on these or other water rights/permits is not expected to be adverse due to the distance between wells, and the relatively low diversion rate requested by this application.

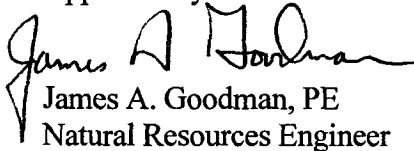
CONCLUSIONS:

1. The Minnelusa Aquifer is a viable aquifer in this area, and water is available for this appropriation.
2. The Minnelusa is under artesian conditions and drawdown due to this diversion can be expected. This drawdown is not expected to adversely affect adequate wells in the area.
3. The Completion Report submitted with this application indicates the existing well has been constructed in compliance with the SD Well Construction Standards.



Ken Buhler
Natural Resources Engineer

Approved by



James A. Goodman, PE
Natural Resources Engineer

REFERENCES:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1984, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Task 3 and 4: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources,
- Carter, J.M., and Redden J.A., 1999a, Altitude of the Top of the Minnelusa Formation in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-C, 2 sheets, scale 1:100,000
- Carter, J.M., and Redden J.A., 1999b, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey: Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Driscoll, D.G., and Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years, 1931-98: U.S. Geological Survey Water Resources Investigations Report 00-4278, 66 p.
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001b, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-96: U.S. Geological Survey Water-Resources Investigations Report 01-4119, 53 p.
- Driscoll, D.G., Carter, J.M., Williamson, J.E., and Putnam, L.D., 2002, Hydrology of the Black Hills Area, South Dakota: U.S. Geological Survey Water Resources Investigations Report 02-4094, 150 p.

- Green, E.A., Shapiro, A.M., and Carter, J.M., 1999, Hydrogeologic Characterization of the Minnelusa and Madison Aquifers near Spearfish, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 98-4156, 64 p.
- Rahn, P.H., 1979, Ground Water Resources of Western South Dakota, US Army Corps of Engineers, Draft Report-Final
- Strobel, M.L., Jarrell, G.J., Sawyer, J.F., Schleicher, J.R., and Fahrenbach, M.D., 1999, Distribution of Hydrogeologic Units in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-C, 3 sheets, scale 1:100,000
- Strobel, M.L., Galloway, J.M., Hamade, and G.R., Jarrell, G.J., 2000, Potentiometric Surface of the Minnelusa Aquifer in the Black hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-745-C, 2 sheets, scale 1:100,000
- Water Rights Program, 2002, "Irrigation Use Summary": DENR-Water Rights Program
- Water Rights Program, 2004a, "Domestic Well Log Files": DENR-Water Rights Program,
- Water Rights Program, 2004b, "Observation Well Files": DENR-Water Rights Program
- Water Rights Program, 2004c, "Water Permit Files": DENR-Water Rights Program,



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1813-1, Deberg Well User's**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1813-1, Deberg Well User's, c/o Donald L. Burdick, 716 Oak Lane Spearfish SD 57783.

The Chief Engineer is recommending APPROVAL of Application No. 1813-1 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
2. The Deberg Water User's shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa Formation.

See report on application for additional information.

Garland Erbele, Chief Engineer
May 14, 2004

Affidavit of Publication

STATE OF SOUTH DAKOTA

COUNTY OF LAWRENCE

Stewart Huntington of said County and State being first duly sworn, on his oath says: That the BLACK HILLS PIONEER is a legal daily newspaper of general circulation, printed and published in the City of Spearfish, in said County and State by Stewart Huntington, and has been such a newspaper during the times hereinafter mentioned; and that said newspaper has a bonafide circulation of at least 200 copies weekly, and has been published within said County in the English language for at least one year prior to the first publication of the notice herein mentioned, and is printed in whole or in part in an office maintained at the place of publication; and That I, Stewart Huntington, the undersigned, am the Publisher of said newspaper and have personal knowledge of all the facts stated in this affidavit; and that the advertisement headed:

Notice Of Application
No. 1813-1

a printed copy of which is hereto attached, was printed and published in said newspaper for 2 successive and consecutive weeks, the first publication being made on the 21st day of May, 2004, and the last publication on the 28th day of May, 2004, that the full amount of fees charged for publishing same, to-wit: The sum of \$ 36.88, insures solely to the benefit of the publisher of the BLACK HILLS PIONEER, that no agreement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

Stewart Huntington

Subscribed and sworn to before me this 28th day of May, 2004

Arbith Johnson

Notary Public, Lawrence County, South Dakota

My commission expires: 10-24-2004

NOTICE OF APPLICATION NO. 1813-1

to Appropriate Water

Notice is given that Deberg Well User's, c/o Donald L. Burdick, 716 Oak Lane, Spearfish SD 57783 has filed an application for a water permit to appropriate 0.144 cubic feet of water per second from one well (Minnelusa Formation) 285 feet deep located in the SW 1/4 SE 1/4 Section 5-T6N, R2E. The water is for use in an existing suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1813-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendation must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 7, 2004.

The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application.

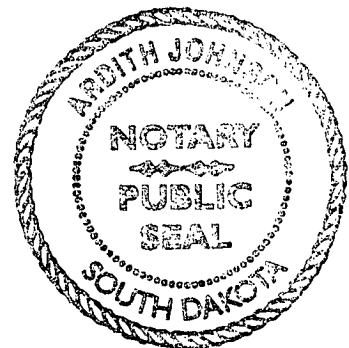
Steven M. Pirner,
Secretary,
Department of
Environment
and Natural Resources.

#122
May 21, 28

RECEIVED

JUN 09 2004

WATER RIGHTS
PROGRAM



Instruction to Newspaper - Publish first Notice on May 21, 2004 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1813-1 to Appropriate Water

Notice is given that Deberg Well User's, c/o Donald L Burdick, 716 Oak Lane, Spearfish SD 57783 has filed an application for a water permit to appropriate 0.144 cubic feet of water per second from one well (Minnelusa Formation) 285 feet deep located in the SW ¼ SE ¼ Section 5-T6N-R2E. The water is for use in an existing suburban housing development.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1813-1 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the application, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the application. Notice of the hearing will be given to the applicant and any person filing a petition.

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**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182

www.state.sd.us/denr

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

May 14, 2004

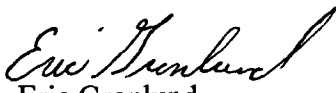
Deberg Well User's
% Donald L Burdick
716 Oak Lane
Spearfish SD 57783

Dear Mr. Burdick:

Water Permit Application No. 1813-1 for suburban housing development use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Black Hills Pioneer printed at Spearfish, SD (Ph # 605-642-2761). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, you must file a petition pursuant to the procedures outlined in the attached notice of hearing. The Water Management Board will then consider your concerns during a hearing on the application.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

May 14, 2004

Black Hills Pioneer
PO Box 7
Spearfish SD 57783-0007

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 1813-1 to Appropriate Water to be published twice. Please publish the first notice on May 21, 2004 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is Deberg Well User's, % Donald L Burdick, 716 Oak Lane, Spearfish SD (Ph # 605-722-2637).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

CUT HERE

No. 1813-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of May 14, 2004 enclosing Notice of Hearing to Appropriate Water by Application No. 1813-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name _____

Newspaper _____



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

JUN 14 2004

Deberg Well User's
% Donald L Burdick
716 Oak Lane
Spearfish SD 57783

Dear Mr. Burdick:

Enclosed is Water Permit No. 1813-1 authorizing your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

We will schedule an inspection so that the Water License may be issued to you, thus completing your acquisition of a Water Right.

Sincerely,

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

enclosures

Permit No. 1813-1
Belle Fourche 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, June 30, 2010, made a thorough examination of the water use system constructed by Deberg Well User's of 1117 Crow Peak Ln., Spearfish, SD 57783 holder of Permit No. 1813-1, bearing the priority of March 11, 2004 authorizing the diversion of 0.144 cu. ft. per second of the waters of the Minnelusa Formation for Surban Housing Development purposes, in Lawrence County.

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Ellingson Drilling
- 2) No. of Wells 1
- 3) Depth(s) 285 feet
- 4) Well log is available Y

Casing:

- 1) Diameter 6 5/8 inches
- 2) Length 280 feet
- 3) Type Sch 40

Pump:

- 1) Make Jacuzzi
- 2) Model 6460-13
- 3) Size 5 hp
- 4) Capacity 65 GPM

Motor:

- 1) Make Franklin Electric
- 2) Model No. 2243038304

B. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period NA

3) Exceptions to compliance are: None

The system is in Good condition with the point(s) of diversion located as follows:

Approximately 915 feet north and 2,185 feet west of the SE corner of Section 5 T6N-R2E

(N 44.50574, W -103.89860) (SW ¼ SE ¼)

The works are capable of diverting and conveying to the place of use 0.144 cu. ft. per second of water which is to be used for a Surban Housing Development.

The license should be issued for 0.144 cfs.

All structures, wells and lands on map Y

Comments or other permit(s) associated with the project:



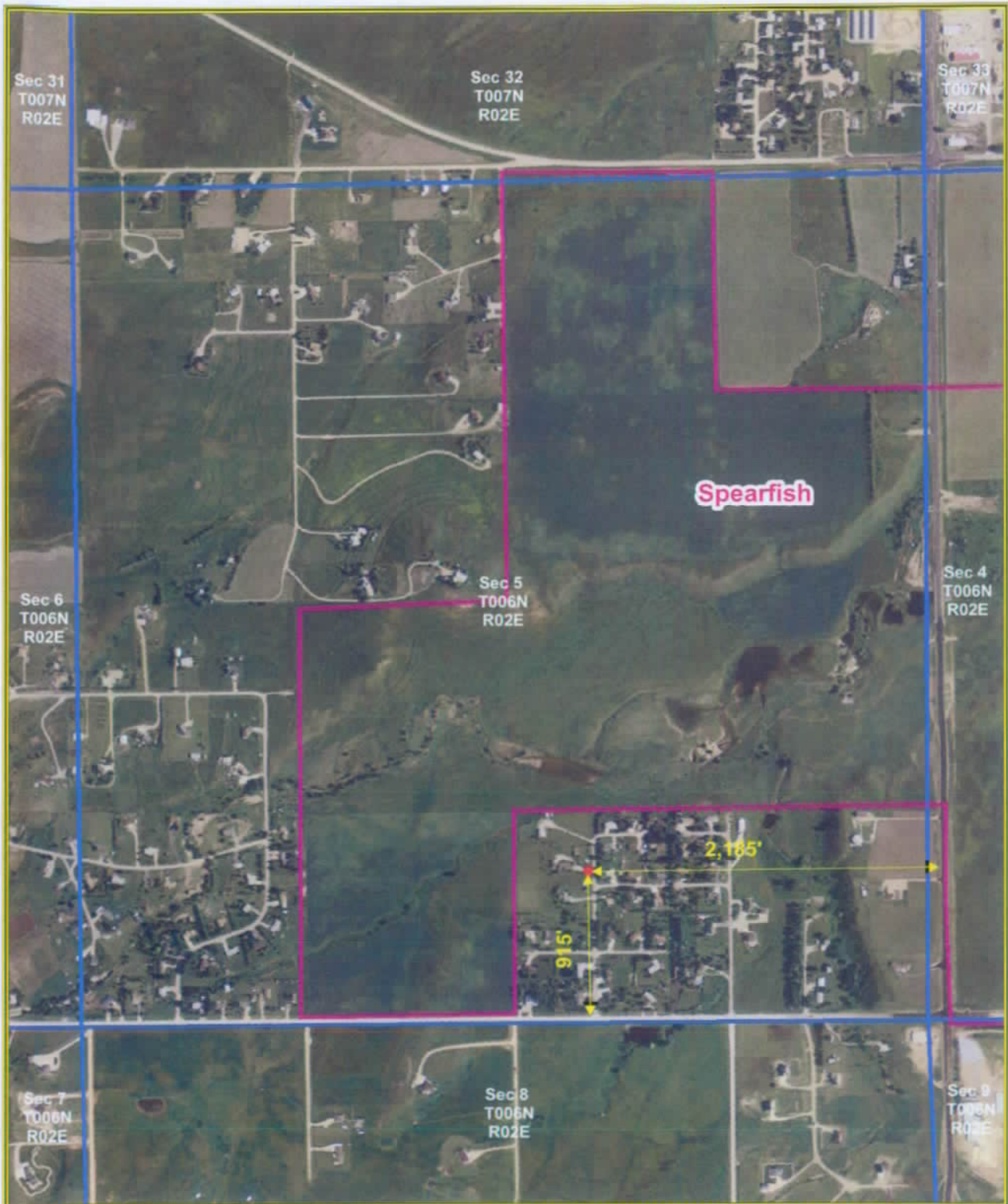
Mike DeFea

Natural Resources Project Engineer
DENR, Water Rights Program

Date report completed: July 13, 2010

Water Permit No. 1813-1

Deberg Well User's



0 650 1,300 2,600 Feet

Mike DeFea

Mike DeFea
Natural Resources Engineer
DENR, Water Rights Program
July 13, 2010



South Dakota
Department of Environment
& Natural Resources
Protecting SD's Tomorrow... Today



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
PMB 2020
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

JUL 21 2010

1813-1

Deberg Well User's
1117 Crow Peak Ln
Spearfish SD 57783

Dear Sir:

Enclosed is Water License No. 1813-1. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

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. 1813-1, 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,

A handwritten signature in black ink, which appears to read "Garland Erbele". The signature is fluid and cursive.

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

enclosures

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1813-1

(1) Deberg Well User's, 1117 Crow Peak Lane, Spearfish SD 57783 made Application No. 1813-1, March 11, 2004 for a water permit to divert 0.144 cubic feet of water per second from ground water (one well – Minnelusa Formation), Lawrence County, South Dakota for suburban housing development purposes. Permit No. 1813-1, with a priority date of March 11, 2004 was approved June 7, 2004 and issued to the applicant for diversion of water with construction of the described water supply system and the application to beneficial use of water completed.

(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 0.144 cubic feet of water per second for beneficial use.

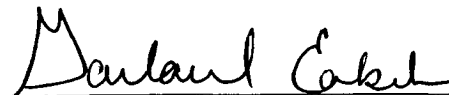
The location of the diversion point is 915 feet north and 2,185 feet west of the SE corner of Section 5, T6N, R2E (SW ¼ SE ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Deberg Well User's, 1117 Crow Peak Lane, Spearfish SD 57783 the holder and/or owner of Water Right No. 1813-1 is issued a license to appropriate water, the right to use 0.144 cubic feet of water per second from ground water (one well – Minnelusa Formation), with a priority date of March 11, 2004 from the location specified in (2) of this license for suburban housing development purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1813-1 and subject to the following qualification:

- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- The Deberg Well User's shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa Formation.



Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUL 21 2010

date

