

WATER PERMIT NO. 2533-2

Name of Applicant: **Edward E Hill**

Address: **PO Box 24, Kilgore NE 69216** Phone: **402 966-2104**

Amount of Water Claimed: **1.78 cfs** Total Acres: **132 acre**

Source of Water Supply: **groundwater (two wells)**

Water to be used for: **irrigation** County: **Todd**

Type of Waste Disposal System:

Location: **approximately 20 miles southwest of Mission**

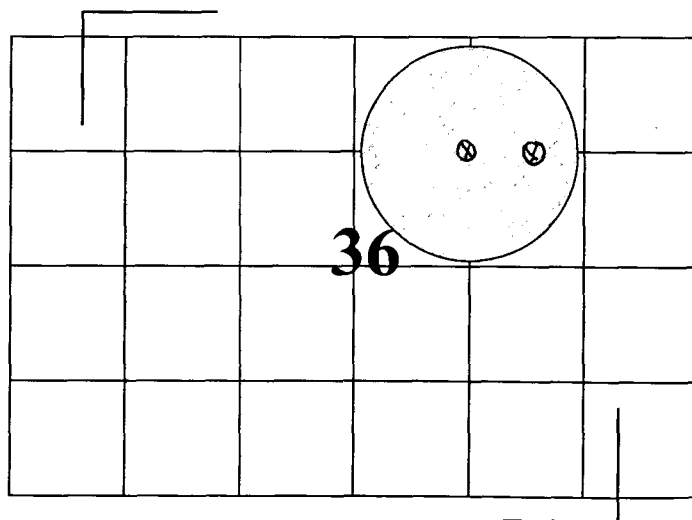
PRIORITY Date Received: **8-12-04** Application/License Fee: **\$300**

Corrected Application Received: Period of Annual Use: **March 1 – October 31**

Remarks:

Diversion Point: **approx center of NE ¼ and E ½**
NE ¼ Section 36-T36N-R31W

Land to be Irrigated: **NE ¼ Sec 36-T36N-R31E**



Depth of Well: **150 feet deep**

Well Driller: : **Sargent Irrigation Co.**

Remarks:

Type of Map: **aerial**

Prepared by: **Nell M Heving, NRCS**

Reviewed and the Number Assigned on: **8-12-04**

By: **Karen Schlaak**

Notice of Hearing - date to intervene: _____

FORM 2: Application for irrigation in South Dakota

(type or print)

RECEIVED

AUG 12 2004

WATER RIGHTS
PROGRAM

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	(office use only)	
	No. <u>2533-2</u>	Hydrologic Unit <u>10150004</u>
	Basin <u>Nebraska Tributary</u>	
	Newspaper <u>Todd Co. Tribune, Mission</u>	

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.)

- Name of Applicant Edward E. Hill Phone (402) 966-2104
(check one) ☐ Owner ☒ Tenant/lessee
Mailing Address PO Box 24, Kilgore State NE 69216
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 1.78 *CFS or 800 **GPM ***AF Total Acreage 132
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply groundwater
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Todd
2 wells - approximate center of the NE 1/4 Section 36, T36N, R31W and second well approximately 800 feet east of the center of the NE 1/4 Section 36, T36N, R31W
- County or counties where water will be used Todd
- Annual period during which water is to be used March 1 - October 31
- 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
NE 1/4 NE 1/4 Section 36, T36N, R31W	33		
SE 1/4 NE 1/4 Section 36, T36N, R31W	33		
NW 1/4 NE 1/4 Section 36, T36N, R31W	33		
SW 1/4 NE 1/4 Section 36, T36N, R31W	33		

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

establish irrigation on NE 1/4 Section 36, T36N, R31W

STATE OF SOUTH DAKOTA) SS
County of Hughes

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)

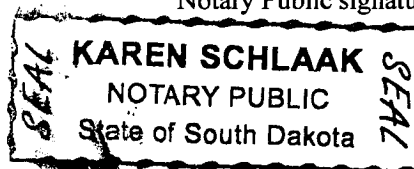
I, Edward E Hill, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Applicant's signature Edward E HillSubscribed and sworn to before me this 12th day of Aug 20 04Karen Schlaak

Notary Public signature

4-2000

My Commission Expires
April 1, 2007



**SOUTH DAKOTA
WATER PERMIT NO. 2533-2**

Date of first receipt of application August 12, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2533-2 to Edward E Hill, PO Box 24, Kilgore NE 69216 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. 2533-2 appropriates 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE ¼ and center of the E ½ NE ¼ Section 36 to irrigate 132 acres located in the NE ¼ Section 36; all in T36N-R31W.
2. The amount of the appropriation may not exceed 2 acre feet annually for each acre of land to which water is actually and beneficially applied for irrigation. The water is to be used during the following described annual period: March 1 – October 31.
3. The date from which applicant may claim right is August 12, 2004.
4. The date of approval of Permit No. 2533-2 is November 15, 2004.
5. One-fifth of the construction is to be completed on or before May 15, 2007.
6. All construction is to be completed on or before November 15, 2009.
7. Water is to be put to beneficial use on or before November 15, 2013.
8. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. The wells 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 wells authorized by Permit No. 2533-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: Garland Erbe
Garland Erbe, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

DEC 07 2004
date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 30" Depth 150'
- b) Casing Type PVC Diameter 16" Thickness .616
- c) Screen Type 0.08 Diameter 16' Thickness .616
- d) Gravel Pack A Pack Length of Gravel Pack 130
- e) Depth to Top of Water Bearing Material Approx. 40"
- f) Depth to Water (ground surface to water level) Approx. 40'
- g) Distance to nearest existing domestic well:
On applicants property 1200' On property owned by others 2100'

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

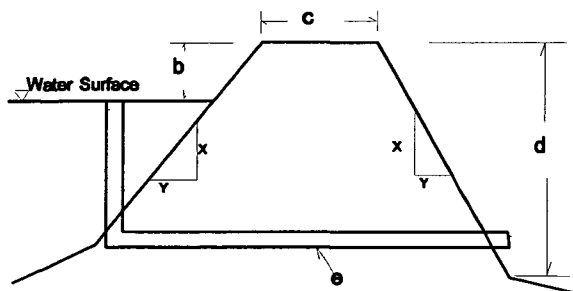
3. Dugout Information

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

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date August 12, 20 04

RECEIVED OF ED HILL, E Hwy 20 Box 24, Kilgore NE 69216

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

Fee for Application for Permit No. <u>2533-2</u> to Appropriate Water, to construct and to put water to beneficial use	250	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>2533-2</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	300.00

No.

001201

By

J. D. Dandridge

Chief Engineer

gm

1320' south and 1320' west of
NE corner of the
NE 1/4 sec. 36 T36N
R31W
Todd County, SD

Planned well
location - diversion pt.
(center pivot
system)

Del M. Kuyung
NRCS - SOTU

3b

2533-2

R. 31 W. | R. 30 W.



SARGENT IRRIGATION CO.

Broken Bow
308-872-6451

Gothenburg
308-537-3625

Bassett
402-684-3323

TEST WELL LOG

To: Robert Hill

Date: Apr 74

Address: 10 North Kellogg West side road

0	20	1/2 Sand 1/2 clay
20	40	Sandstone
40	60	1/2 Sandstone 5 clay 1/2 May 5 Sandstone Mud
60	80	Sandstone coarse Sand
80	100	1 Sandstone coarse Sand 5 clay 3 Sandstone coarse Sand 4 clay
100	120	5 clay 13 coarse Sand 5 clay
120	140	1/2 fine Sandstone Mud Sand
140	160	clay Red Rock
160	180	Red Rock clay
180	200	
200	220	
220	240	W L approx 40 ft
240	260	
260	280	
280	300	2/9/00 I told Robert 250-300 GPM - M.K.
300	320	
320	340	
340	360	
360	380	
380	400	
400	420	
420	440	
440	460	
460	480	
480	500	

WATER PERMIT APPLICATION NO. 2533-2
EDWARD HILL
SEPTEMBER 21, 2004

Water Permit Application No. 2533-2 proposes to appropriate 1.78 cubic feet of water per second from two wells completed into the Ogallala Formation (approximately 150 feet deep) located in the center of the NE¼ and the center of the E½ NE¼ Sec. 36, T36N-R31W to irrigate 132 acres located in the NE¼ Sec. 36; T36N-R31W, Todd County.

AQUIFER: Ogallala (OGLL)

GENERAL:

The High Plains Aquifer consists of the upper sandstone units of the Arikaree Formation, the Ogallala Formation, and the Sand Hills Formation, and any terrace or alluvial deposits, all of which are hydraulically connected (Kolm and Case, 1983). The High Plains Aquifer underlies 4,750 square miles of South Dakota and contains an estimated 700 million acre feet of water in the state (Gutentag and others, 1984). The Ogallala Formation, which consists of clays, silts, sands and surface gravel deposits makes up a major part of the High Plains Aquifer. The Ogallala Formation underlies approximately 412,800 acres of Todd County and contains an estimated 12,384,000 acre-feet of recoverable water in storage in the county (Allen and others, 1985). The well sites proposed by this application are located about 13 miles south of the northern edge of the Ogallala Group, and about six miles south of the Sand Hills Formation (Martin and others, 2004). The saturated thickness of the aquifer is estimated to be 200-400 feet in this area. (Kolm and Case, 1983). The applicant has provided the log of a test hole drilled for Robert Hill, located "10 miles north of Kilgore" with this application. Although the legal location of the test hole is not reported, it is probably representative for the well sites proposed by this application. The test hole log shows the base of the Ogallala Formation between 140 and 160 feet below grade with a static water level of approximately 40 feet, therefore a saturated thickness of approximately 100 feet. The Ogallala Formation overlies the Arikaree Formation in this area and it appears that the water levels for the Ogallala are higher than the Arikaree. This would indicate the potential for downward movement of ground water from the Ogallala to the Arikaree. The aquifer is under unconfined conditions with the water table controlled locally by topography. Precipitation is the principal source of recharge to the aquifer. The annual recharge rate has been estimated to be 8 percent of the precipitation rate, or about 1.3 in./yr to 1.8 in./yr (Kolm and Case, 1983). This would equate to an annual recharge of 44,700 acre-feet to 61,900 acre-feet in Todd County. Natural discharge occurs to streams and springs, and directly to the atmosphere by evapotranspiration.

WATER AVAILABILITY:

Water Rights Program monitors 81 observation wells completed into the Ogallala Formation, of which 21 are located in Todd County (Water Rights, 2004a). Water Rights' Observation Wells TD-#05 and TD-79B are located within three miles of the wells proposed by these applications. The hydrographs for these wells are shown in figures 1-2.

**WATER RIGHTS' OBSERVATION WELL
TD-#05**

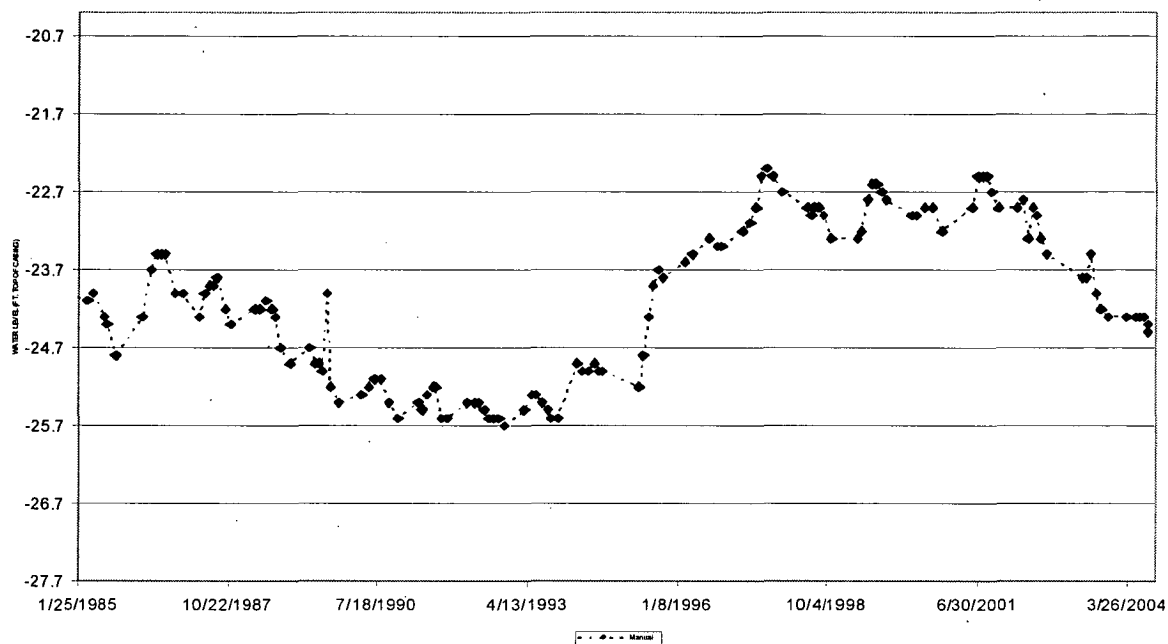


Figure 1. Hydrograph of Water Rights' Observation Well located approximately 2 miles southeast of 2533-2

**WATER RIGHTS' OBSERVATION WELL
TD-79B**

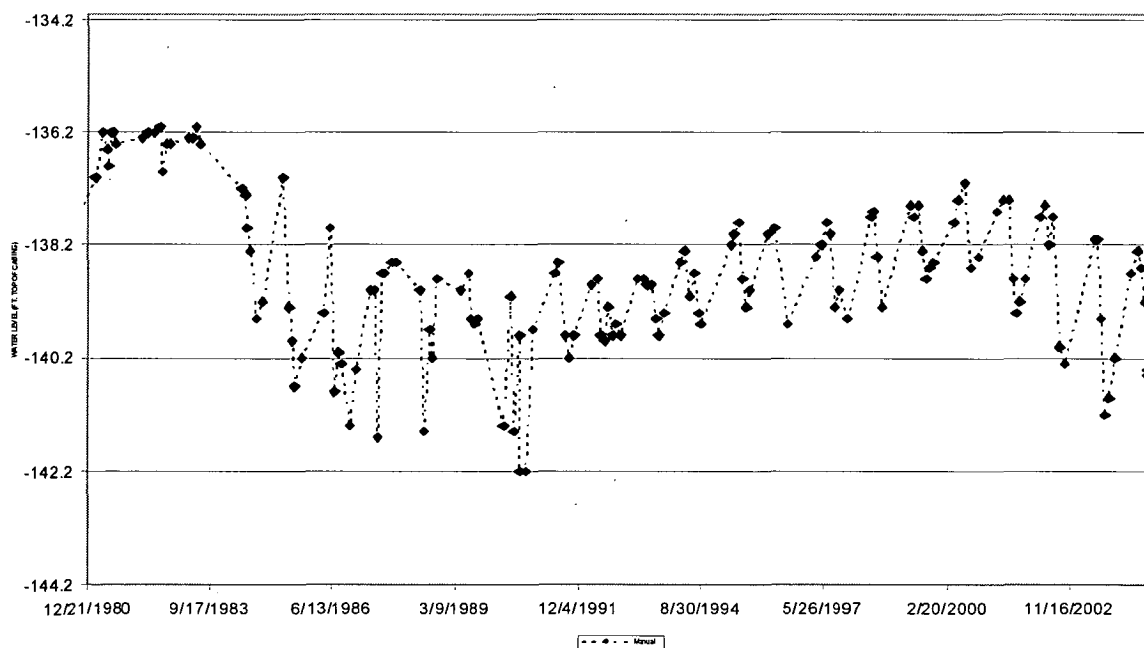


Figure 2. Hydrograph of Water Rights' Observation Well located approximately three miles northwest of 2533-2

These observation wells are read monthly and show only slight fluctuations due to existing pumping and changes in climatic conditions (Water Rights, 2004c). The influence of pumping four irrigation wells within approximately one-quarter mile of Observation well TD-79B is evident in only 1-2 feet of drawdown at the observation well.

There are 138 permits/rights which appropriate water from the Ogallala aquifer in South Dakota. There are 52 permits/rights from the Ogallala in Todd County. Irrigation is the major water use from the aquifer. Reported pumpage from the Ogallala for irrigation use can be seen in figure 3.

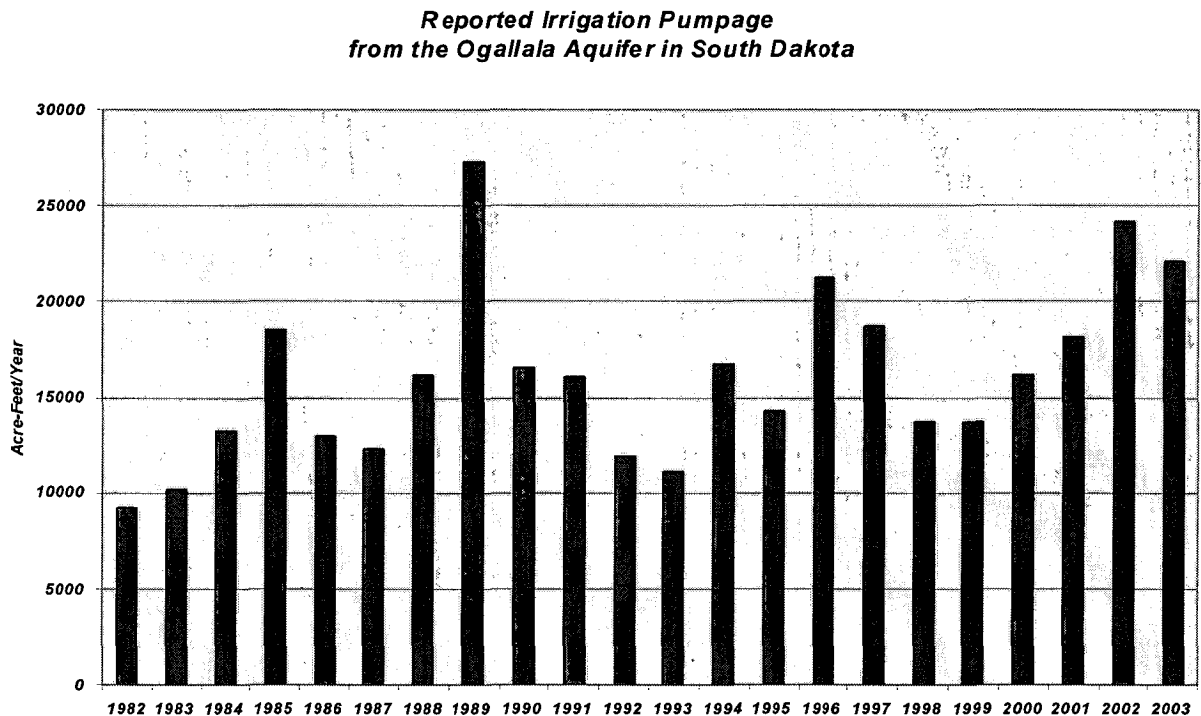


Figure 3. Irrigation usage from the Ogallala aquifer (Water Rights, 1983-2004)

AFFECTS ON EXISTING RIGHTS:

Since the Ogallala Aquifer is under unconfined conditions, drawdown from pumping an individual well is not expected to be significant very far from the well. There is one irrigation Water Right within approximately four miles of the well sites proposed by these applications (Water Rights, 2004b). It is Water Right No. 2009-2, Mission Farms, authorizing the diversion of 7.00 cfs to irrigate 518.6 acres. The Water Right is located approximately three miles northwest of 2533-2, a sufficient distance to minimize interference, therefore adverse impact between appropriators is not expected.

There are 26 domestic wells on file with the Water Rights Program within approximately three miles of the well sites proposed by this application. Any well interference caused by this appropriation is not likely to result in "adversely impacted domestic wells" as defined by ARSD

74:02:04:20(7) since the Ogallala aquifer is under unconfined conditions and the distance between wells.

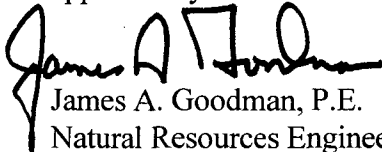
CONCLUSIONS:

1. The Ogallala Aquifer is a viable aquifer in this area, and water is available for these appropriations.
2. Well interference should not be a problem in this area.



Ken Buhler
Natural Resources Engineer

approved by



James A. Goodman, P.E.
Natural Resources Engineer

REFERENCES:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1985, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Task 3A.B.C. and 4A.B.: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources,
- Gutentag, E.D., Heimes, F.J., Krothe, N.C., Luckey, R.R., Weeks, J.B. 1984, Geohydrology of the High Plains Aquifer in Parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming: U.S. Geological Survey Professional Paper 1400-B, 63 p.
- Kolm, K.E., and Case III, H.L., 1983, A Two-Dimensional, Finite-Difference Model of the High Plains Aquifer in Southern South Dakota: U.S. Geological Survey Water-Resources Investigations Report 83-4175, 34 p.
- Martin, J.E., Sawyer, J.F., Fahrenbach, M.D., Tomhave, D.W., and Schulz, L.D., 2004, Geologic map of South Dakota: SD DENR-Geologic Survey General Map 10, one sheet, scale 1:500,000
- Water Rights Program, 1983-2004, "Irrigation Use Summary": DENR-Water Rights Program
- Water Rights Program, 2004a, "Observation Well Files": DENR-Water Rights Program
- Water Rights Program, 2004b, "Water Permit Files": DENR-Water Rights Program,



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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. 2533-2, Edward Hill**

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. 2533-2, Edward Hill, PO Box 24, Kilgore NE 69216.

The Chief Engineer is recommending APPROVAL of Application No. 2533-2 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 wells 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 wells authorized by Permit No. 2533-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. This Permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.

Garland Erbele, Chief Engineer
October 18, 2004

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Todd) SS

I, Mandy Scherer

certify that the attached printed Notice was taken

from the Todd County Tribune

printed and published in Martin

County of Bennett and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

October 27, 2004

November 3, 2004

Cost of Printing 40.96

Mandy Scherer
(Signature)

Secretary
(Title)

10/31/04
(Date Signed)

NOTICE OF APPLICATION NO. 2533-2 to Appropriate Water

Notice is given that Edward E. Hill, P.O. Box 24, Kilgore, NE, 69216 has filed an application for a water permit to appropriate 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE1/4 and center of the E1/2NE1/4 Section 36 to irrigate 132 acres located in the NE1/4 Section 36; all in T36N-R31W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2533-2 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 November 15, 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 Environmental and Natural Resources.
Pub.: October 27 and November 3, 2004.

RECEIVED
NOV 08 2004
WATER RIGHTS
PROGRAM

Instruction to Newspaper - Publish first Notice on October 27, 2004 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2533-2 to Appropriate Water

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Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2533-2 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 November 15, 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.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

October 19, 2004

Todd Co. Tribune
PO Box 229
Mission SD 57555-0229

ATTENTION: Legal Public Notice

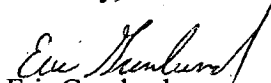
Enclosed is a Notice on Application No. 2533-2 to Appropriate Water to be published twice. Please publish the first notice on October 27, 2004 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

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 Edward E Hill, PO Box 24, Kilgore NE 69216 (Ph # 402-966-2104).

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. 2533-2

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

Date _____

We are in receipt of your letter of October 19, 2004 enclosing Notice to Appropriate Water by Application No. 2533-2 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

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

October 19, 2004

Edward E Hill
PO Box 24
Kilgore NE 69216

Dear Mr. Hill:

Water Permit Application No. 2533-2 for irrigation use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Todd Co. Tribune printed at Mission, SD (Ph # 605-856-4469). 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 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

DEC 07 2004

Edward E Hill
PO Box 24
Kilgore NE 69216

Dear Mr. Hill:

Enclosed is Water Permit No. 2533-2 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures

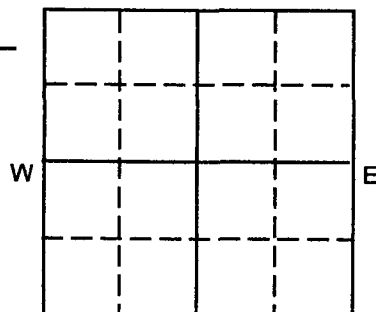
SOUTH DAKOTA WATER WELL COMPLETION REPORT

Location NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec 36 Twp 36 Rg 31

County

Todd

North

Please mark well
location with an "X"

Well Completion Date

2/11/2005

Distance to nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

? 3,960.0 ft. from Farmstead (identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

reverse rotary

CASING DATA:

☐ Steel
 ☒ Plastic
 ☐ Other

If other describe

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
37.0 LB/FT	16.00 IN	0.0 FT	70.0 FT	30.00 IN

LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
bentonite		16.0 Lb/gal	20.0 Ft	70.0 Ft

Describe grouting procedure
tremie Pipe

SCREEN:

☒ Perforated pipe
 ☐ Manufactured
 Diameter 16.00 Inches Length 80.0 FeetMaterial SDR26 PVCSlot Size .085 Set From 70.0 Feet to 150.0 Feet

Other information

WAS A PACKER OR SEAL USED?

☒ Yes
 ☐ No
 If so, what material? concrete

Describe packer(s) and location

20 ft. to surface

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? HTH
☐ No, Why Not?
 Lab sample sent to for
 water quality analysis
Well Owner: Edward E Hill

Business Name:

Address: PO Box 24City, State, Zip: Kilgore NE 69216

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Sand	0	11
Clay	11	20
Sandstone	20	50
Clay & Mag	50	55
Sandstone Med Coarse Sand	55	88
Clay	88	93
Sandstone Coarse Sand	93	96
Clay	96	102
Coarse Sand	102	150

STATIC WATER LEVEL 64.0 FEETIf flowing: closed in pressure 0.00 PSIGPM flow 100.0 through 4.00 Inch pipeControlled by ☐ Valve ☒ Reducers ☐ OtherReduced flow rate 100.0 GPM

Can well be completely shut in? yes

WELL TEST DATA:

☒ Pumped Describe: Turbine Pump☐ Bailed☐ Other

Pumping Level Below Land Surface

132.0 Ft. After 4.0 Hrs. pumped 100.0 GPM Ft. After Hrs. pumped GPMIf pump installed, pump rate: GPM

REMARKS

no pump

RECEIVED

MAR 11 2005

WATER RIGHTS
273 PROGRAMThis well was drilled under license #

And this report is true and accurate.

Drilling firm: Chas Sargent Irrigation Co Inc.

Signature of License Representative:

Signature of Well Owner or Equitable Property Holder:

Date:

RECEIVED

MAR 16 2005

WATER RIGHTS
PROGRAM

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	(office use only) No. _____ Hydrologic Unit _____
	Basin _____
	Newspaper _____

RECEIVED
APR - 4 2005
WATER RIGHTS
PROGRAM

Application For Permit To Appropriate Water For Irrigation

Type of Application: _____ New _____ Vested Right ☒ Amendment/Correction to Permit No. 2533-2
(Use predates Mar 2, 1955)

Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) Add a
third well.

- Name of Applicant Edward E Hill Phone 402-966-2104
(check one) _____ Owner ☒ Tenant/lessee
Mailing Address P.O. Box 24, Kilgore, NE 69216 State NE 69216
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed NO *CFS or add it *GPM ***AF Total Acreage 136
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable
- Source of water supply A third well
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) 3 wells NE 1/4
and center of the E 1/2 NE 1/4 Section 36
All in T36N-R31W County Todd
- County or counties where water will be used Todd
- Annual period during which water is to be used March 1 - October 31
- 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
NE 1/4 SW 1/4 Section 11, T36N, R29W	34	NE 1/4 Section 36 - T36N-R31W	136
SE 1/4 SW 1/4 Section 11, T36N, R29W	34		
NW 1/4 SW 1/4 Section 11, T36N, R29W	34		
SW 1/4 SW 1/4 Section 11, T36N, R29W	34		

8. Give a description of the project. (Attach sheet if more space is needed) Drilled 1st well,
came up short on GPM. Want to add a third
well.

STATE OF SOUTH DAKOTA) SS
County of _____

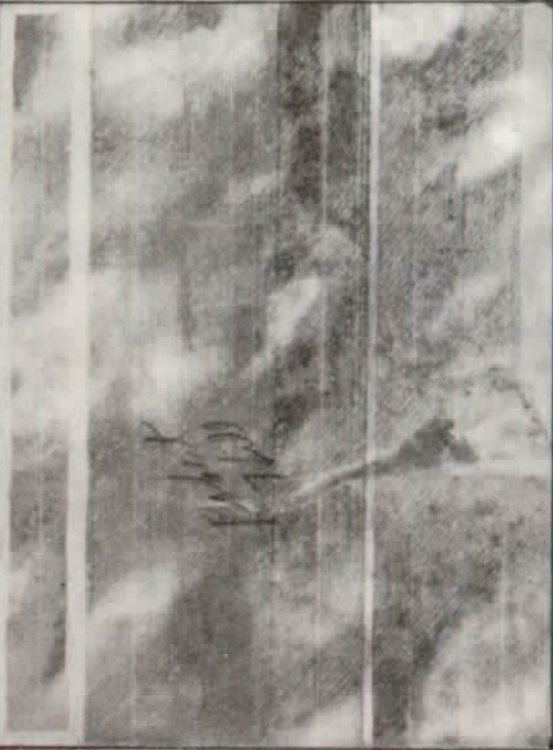
Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

I, Edward Hill, 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.

Applicant's signature Edward E Hill

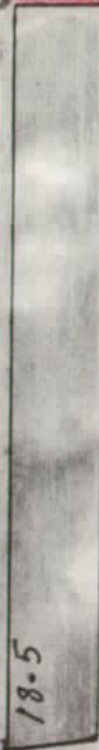
Subscribed and sworn to before me this _____ day of _____ 20 _____

151.1



151.1

18.5



18.5

73.0

(3-16)

173.0 New wall exposed 3rd wall

70.2

36

36-31

Approval of Additional Diversion Point

NAME: Edward E. Hill**ADDRESS:** PO Box 24, Kilgore NE 69216**DATE:** April 6, 2005**COUNTY:** Todd**TELEPHONE:** 402 966-2104

Edward Hill has made a request to construct an additional well for irrigation of land under Water Permit No. 2533-2.

Water Permit No. 2533-2 appropriate 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE ¼ and center of the E ½ NE ¼ Section 36 to irrigate 132 acres located in the NE ¼ Section 36; all in T36N-R31W. The water right bears a priority date of August 12, 2004.

Mr. Hill request is for an additional well located along the east edge of NE ¼ of Section 36 (about 1,320 feet east of the pivot point). The request states that the first well was drilled and "came up short on GPM". In order to get the diversion capability to operate the center pivot as desired, Mr. Hill requests authorization to drill a third well under this permit.

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 water source remains the Ogallala Aquifer. No additional water is to be appropriated by this request. A new water permit is necessary for an additional appropriation of water if the diversion rate exceeds the 1.78 cfs authorized by Water Right No. 2533-2.

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

No additional land is to be irrigated above the 132 acres authorized by Water Right No. 2533-2. This request is solely to authorize an additional well.

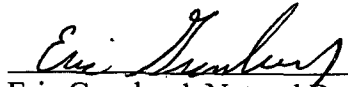
- **Review of Existing Diversions**

A review of existing diversions from the Ogallala Aquifer in the area was conducted. The closest existing water right is three miles northwest of Permit No. 2533-2. The next closest is four miles east of Mr. Hill's diversion. The staff report on this application was prepared in September 2004. It states that the location of wells for Permit No. 2533-2 is a sufficient distance to minimize interference and therefore adverse impact between appropriators is not expected. This additional well is not expected to change the assessment made that adverse impact between appropriators is not expected.

There are approximately 26 domestic wells within a three mile radius. The additional well is not likely to result in adverse impact to domestic wells. This review of database records does not include well reports that were not filed nor does it provide an indication whether the domestic wells are still in use.

RECOMMENDED ACTION

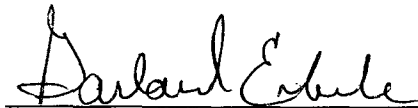
Based on the above criteria, it is recommended that the additional diversion point be authorized pursuant to SDCL 46-5-13.1.



Eric Gronlund, 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 additional diversion point does not increase the potential for adverse effects to existing diversions.



Garland Erbele, Chief Engineer
Water Rights Program



2533-2

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 11, 2005

Edward Hill
PO Box 24
Kilgore NE 69216

Dear Mr. Hill:

I am writing in regard your request to authorize an additional well to the irrigation system in Todd County.

Water Permit No. 2533-2 appropriate 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE $\frac{1}{4}$ and center of the E $\frac{1}{2}$ NE $\frac{1}{4}$ Section 36 to irrigate 132 acres located in the NE $\frac{1}{4}$ Section 36; all in T36N-R31W. The water right bears a priority date of August 12, 2004.

Upon review of the request and pursuant to SDCL 46-5-13.1, the additional well is authorized without application or publication of a notice of hearing. The additional well is located in the NE $\frac{1}{4}$ of Section 36, T36N, R31W (approximately 1,300 feet east of the pivot point).

No additional appropriation above the 1.78 cfs (800 gpm) currently authorized by Water Permit No. 2533-2 is authorized. If the combined diversion rate from the three wells exceeds 800 gpm, a new water permit must be obtained.

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

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

2533-2

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

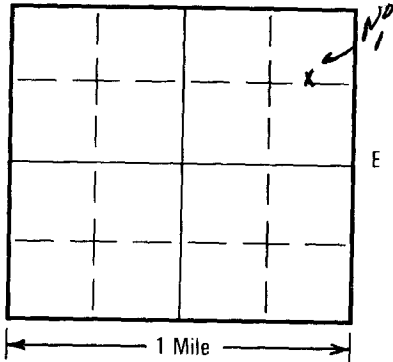
Location 1/4 NE 1/4 Sec 36 Twp 36 Rg 31
County Todd North

Please mark well location with an "X"

W

E

Well Completion Date

11/1/05

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? NONE ft. from _____ (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Mud RotaryCASING DATA: ☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>160</u> LB/FT	<u>8</u> IN	<u>0</u> FT	<u>37</u> FT	<u>14"</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>30</u>	_____ lb./gal	<u>20</u> ft	<u>0</u> ft
_____	_____	_____ lb./gal	_____ ft	_____ ft

Describe grouting procedure tremie pipesSCREEN: ☐ Perforated pipe ☐ ManufacturedDiameter 8 IN Length 120' FEETMaterial PVCSlot Size 0.30 Set From 157 Feet to 37 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: Clorox

Laboratory sent to for water quality analysis _____

_____ NO, Why Not? _____

Well Owner: Robert HillBusiness Name: HE 93 Box 15Address: Kilgore NE 69216

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Top Soil	0	1
Sand	1	18
Hard Rock	18	19
Sand	19	28
Sandstone	28	40
Sand	40	65
Fine sand	65	90
Coarse sand	90	100
hard Sand	100	102
Sandstone - clay	102	110
clay sand layers	110	130
Fine sand	130	140
TO	140	160
	160	

STATIC WATER LEVEL 50 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped Describe: Submer. blr
☐ Bailed _____
☐ Other _____

Pumping Level Below Land Surface

150 ft. After 2 Hrs. pumped 60 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate 60 GPM

REMARKS

This well was drilled under license # 546

And this report is true and accurate.

Drilling firm Bill Frew DLGSignature of License Representative: Bill Frew

Signature of Well Owner or Equitable Property Holder: _____

Date: 11/31/05

RECEIVED
DEC - 2 2005
WATER RIGHTS
PROGRAM

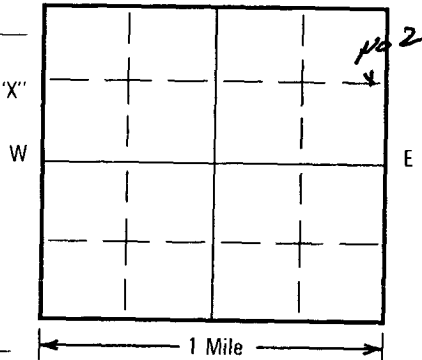
SOUTH DAKOTA WATER WELL COMPLETION REPORT

2533-2

07-92

Location NE 1/4 Sec 36 Twp 36 Rg 31
County Todd

Please mark well location with an "X"



Well Completion Date

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? NONE 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
<u>160</u> LB/FT	<u>8</u> IN	<u>0</u> FT	<u>50</u> FT	<u>14</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>30</u>	_____ lb./gal	<u>20</u> ft.	<u>0</u> ft.
_____	_____	_____ lb./gal	_____ ft.	_____ ft.

Describe grouting procedure tremie pipe

SCREEN: ☐ Perforated pipe ☒ Manufactured

Diameter 8 IN Length 120' FEET

Material PVC

Slot Size .030 Set From 50 Feet to 170 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: chlorox

_____, NO, Why Not? _____

Laboratory sent to for water quality analysis _____

Well Owner: Robert Hill

Business Name: HC 9.3 Box 15

Address: Kilgore NE
69216

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Top soil</u>	<u>02</u>	<u>2</u>
<u>Red rock</u>	<u>2</u>	<u>50</u>
<u>sand sandstone - clay</u>	<u>50</u>	<u>60</u>
<u>sandstone clay</u>	<u>60</u>	<u>80</u>
<u>sandstone</u>	<u>80</u>	<u>90</u>
<u>clay</u>	<u>90</u>	<u>100</u>
<u>sandstone clay</u>	<u>100</u>	<u>120</u>
<u>fine sand</u>	<u>120</u>	<u>160</u>
<u>chatter sand</u>	<u>160</u>	<u>165</u>
<u>clay</u>	<u>165</u>	<u>168</u>
<u>168-170 chatter sand</u>	<u>168</u>	<u>170</u>
<u>T.O.</u>	<u>170</u>	

STATIC WATER LEVEL 60 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped Describe: submerible

☐ Bailed _____

☐ Other _____

Pumping Level Below Land Surface

160 ft. After 2 Hrs. pumped 100 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate 100 GPM

REMARKS

This well was drilled under license # 546

And this report is true and accurate.

Drilling firm Bill Frew DLG

Signature of License Representative:

Bill Frew

Signature of Well Owner or Equitable Property Holder:

Date: 11/31/05

RECEIVED
DEC - 8 2005
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

February 15, 2008

Edward Hill
PO Box 24
Kilgore NE 69216

Dear Mr. Hill:

I am writing in regard to the request for an additional fourth well to the irrigation system authorized by Water Permit No. 2533-2 in Todd County.

Water Permit No. 2533-2 appropriate 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE $\frac{1}{4}$ and center of the E $\frac{1}{2}$ NE $\frac{1}{4}$ Section 36 to irrigate 132 acres located in the NE $\frac{1}{4}$ Section 36; all in T36N-R31W. The water right bears a priority date of August 12, 2004. In 2005, you received authorization to drill a third well in the E $\frac{1}{2}$ NE $\frac{1}{4}$ Section 36.

Upon review of the request and pursuant to SDCL 46-5-13.1, the additional fourth well to be completed into the Ogallala Aquifer is authorized without application or publication of a notice of hearing. The additional well is located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 36, T36N, R31W.

No additional appropriation above the 1.78 cfs (800 gpm) currently authorized by Water Permit No. 2533-2 is authorized. If the combined diversion rate from the three wells exceeds 800 gpm, a new water permit must be obtained. In addition, if the fourth well is completed into the deeper Arikaree Aquifer, a new water right permit will need to be obtained.

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

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

Approval of Additional Diversion Point

NAME: Edward E. Hill**ADDRESS:** PO Box 24, Kilgore NE 69216**DATE:** January 30, 2008**COUNTY:** Todd**TELEPHONE:** 402 966-2104

Edward Hill has made a request to construct an additional fourth well for irrigation of land under Water Permit No. 2533-2.

Water Permit No. 2533-2 originally appropriated 1.78 cubic feet of water per second from two wells to be completed into the Ogallala Aquifer (approximately 150 feet deep) located in the center of the NE $\frac{1}{4}$ and center of the E $\frac{1}{2}$ NE $\frac{1}{4}$ Section 36 to irrigate 132 acres located in the NE $\frac{1}{4}$ Section 36; all in T36N-R31W. The water right bears a priority date of August 12, 2004. In 2005, Mr. Hill made a request and was authorized to drill a third well in the E $\frac{1}{2}$ NE $\frac{1}{4}$ Section 36.

Mr. Hill stopped in the Water Rights Program office on January 18, 2008 to file a request for an additional fourth well to be located in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ of Section 36. Mr. Hill stated the existing wells produced as follows: Well No. 1 – 100 gpm, Well No. 2 – 65 gpm and Well No. 3 -- 120 gpm. The total production from these three wells is 285 gpm which is 515 gpm (1.15 cfs) less than the permitted amount. In order to get the diversion capability to operate the center pivot as desired, Mr. Hill requests authorization to drill a fourth well. The permit is still within the time to complete construction of works.

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 water source remains the Ogallala Aquifer. No additional water is to be appropriated by this request. A new water permit is necessary for an additional appropriation of water if the diversion rate exceeds the 1.78 cfs or if the additional well is completed into the deeper Arikaree Formation authorized by Water Right No. 2533-2.

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

No additional land is to be irrigated above the 132 acres authorized by Water Right No. 2533-2. This request is solely to authorize an additional well.

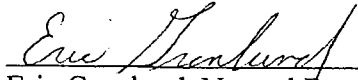
- **Review of Existing Diversions**

A review of existing diversions from the Ogallala Aquifer in the area was conducted. The closest existing water right is three miles northwest of Permit No. 2533-2. The staff report on this application was prepared in September 2004. It states that the location of wells for Permit No. 2533-2 is a sufficient distance to minimize interference and therefore adverse impact between appropriators is not expected. There are also existing irrigation water rights located four miles east of this permit. This additional well is not expected to change the assessment made that adverse impact between appropriators is not expected.

There are 6 domestic wells on the Water Rights Program's well log database within sections surrounding the well. The additional well is not likely to result in adverse impact to domestic wells. This review of database records does not include well reports that were not filed nor does it provide an indication whether the domestic wells are still in use.

RECOMMENDED ACTION

Based on the above criteria, it is recommended that the additional diversion point be authorized pursuant to SDCL 46-5-13.1.



Eric Gronlund, 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 additional diversion point does not increase the potential for adverse effects to existing diversions.



Garland Erbele, Chief Engineer
Water Rights Program



Copy

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 15, 2008

Syed Huq
Water Resources
Rosebud Sioux Tribe
PO Box 910
Rosebud SD 57570

Mr. Huq:

Mr. Ed Hill has filed a water right permit application to develop a new center pivot irrigation system in Todd County. A copy of Mr. Hill's application and the staff draft report is enclosed. Please review this information and contact Jim Goodman at 605 773-3352 or Mark Costello at 605 394-2229 if the Rosebud Sioux Tribe has additional information or concerns on this area's ground water resources that are not addressed by the draft report.

This information is being sent to you as part of the DENR's commitment to keep the Rosebud Sioux Tribe informed of water permitting issues in Todd County. Please let us know by March 3, 2008 if the Tribe has additional information or concerns regarding this application that you feel need to be addressed. After March 3rd, the application will be public noticed. I will ensure that you are provided a copy of this notice.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

11-02

Location NE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec 36 Twp 36 Rg 31

County

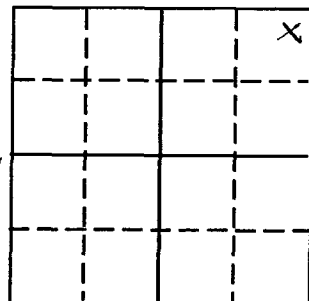
Todd

North

Please mark well location with an "X"

W

E



Well Completion Date

4/9/2008

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:

Reverse Rotary

CASING DATA:

☐ Steel ☒ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
20.0 LB/FT	16.00 IN	60.0 FT	0.0 FT	30.00 IN

LB/FT	IN	FT	FT	IN

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight	From	To
cement	50	15.5 Lb/gal	20.0 Ft	0.0 Ft

Describe grouting procedure
pumped tremie pipe

SCREEN:

☒ Perforated pipe ☐ Manufactured
Diameter 16.00 Inches Length 20.0 FeetMaterial PVCSlot Size .080 Set From 60.0 Feet to 280.0 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? HTH
☐ No, Why Not? _____
Lab sample sent to for
water quality analysisWell Owner: Robert Hill

Business Name: _____

Address: HC 93 Box 15City, State, Zip: Kilgore NE 69216

WELL LOG:

DEPTH

FORMATION	FROM	TO
top soil, sand, limestone	0	10
sand, sandstone, limestone, clay	10	46
sand, sandstone, pepper, clay, limesto	46	66
sandstone, limestone, pepper sand	66	96
sand, sandstone, clay-limestone layer	96	138
sand, sandstone, clay, pepper, gravel	138	210
sand, sandstone, clay, pepper, clay	210	250
redrock, sand, pepper sand	250	262
red rock	262	280

STATIC WATER LEVEL 48.0 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

245.0 Ft. After 2.0 Hrs. pumped 525.0 GPM238.0 Ft. After 2.0 Hrs. pumped 500.0 GPMIf pump installed, pump rate: 400.0 GPM

REMARKS

RECEIVED
MAR - 3 2009
WATER RIGHTS
PROGRAM

This well was drilled under license # 189

And this report is true and accurate.

Drilling firm: Grosch Irrigation Co., Inc.

Signature of License Representative: _____

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

2/23/09

Permit No. 2533-2
Niobrara Tributary - Water District

Other permit/license(s) associated with project: None directly related to this system

Contact Person & Address: Edward Hill, PO Box 24, Kilgore NE 69216

Report Of Examination Of Works

On, September 22, 2010, I made a thorough examination of the water use system constructed by Edward E. Hill of PO Box 24, Kilgore NE 69216 holder of Permit No. 2533-2, bearing the priority of August 12, 2004 authorizing the diversion of 1.78 cu. ft. per second of the waters of the Ogallala Aquifer for irrigation purposes, in Todd County.

The system is in the following condition excellent. The point of diversion four wells referenced from the NE corner Section 36, T36N, R31W as follows:

- 1 approximately 1,300 feet south and 1,325 feet west of NE corner
Latitude 43.05668 Longitude -100.90635
- 2 approximately 1,250 feet south and 750 feet west of NE corner
Latitude 43.05667 Longitude -100.90783
- 3 approximately 1,250 feet south and 360 feet west of NE corner
Latitude 43.05662 Longitude -100.91000
- 4 approximately 850 feet south and 160 feet west of NE corner
Latitude 43.05778 Longitude -100.90563

The works are capable of diverting and conveying to the place of use 1.57 cu. ft. per second of water which is to be used for irrigation. Water has been put to beneficial use to the maximum extent as follows:

all in Section 36, T36N, R31W

NW ¼ NE ¼	33 acres	SW ¼ NE ¼	33 acres
NE ¼ NE ¼	33 acres	SE ¼ NE ¼	33 acres

comprising a total of 132 acres of land and the license should be issued for 1.57 cfs.

Review of Permit Qualifications And Regulations:

- 1) Special qualifications to permit being abided by yes
- 2) All structures, wells and lands on map yes
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period yes
- 4) Exceptions to compliance are: none

Report On the Specifics of the System

Diversion Point Information:

Well No. 1

- 1) Well Drilling Firm: **Bill Frew Drilling (No. 546)** 2) No. of Wells **1 of 4**
3) Depth(s) **170** feet 4) Well log is available **yes**

Casing:

- 1) Diameter **8** inches 2) Length **50** feet
3) Type **plastic**

Screen:

- 1) Type **PVC** 2) Length **120** feet
3) Static water level **60** feet

Pump\ Motor:

- 1) Pump Make **submersible** 2) Pump Model
3) Capacity **120** GPM 4) Motor Make
5) Motor Model No. 6) Horsepower rating **10** hp

Well No. 2

- 1) Well Drilling Firm: **Bill Frew Drilling (No. 546)** 2) No. of Wells **2 of 4**
3) Depth(s) **157** feet 4) Well log is available **yes**

Casing:

- 1) Diameter **8** inches 2) Length **37** feet
3) Type **plastic**

Screen:

- 1) Type **PVC** 2) Length **120** feet
3) Static water level **50** feet

Pump\ Motor:

- 1) Pump Make **submersible** 2) Pump Model
3) Capacity **85** GPM 4) Motor Make
5) Motor Model No. 6) Horsepower rating **7.5** hp

Well No. 3

- 1) Well Drilling Firm: **Bill Frew Drilling (No. 546)** 2) No. of Wells **3 of 4**
3) Depth(s) **150** feet 4) Well log is available **yes**

Casing:

- 1) Diameter **16** inches 2) Length **70** feet
3) Type **plastic**

Screen:

- 1) Type **PVC** 2) Length **80** feet
3) Static water level **64** feet

Pump\ Motor:

- 1) Pump Make **submersible** 2) Pump Model
3) Capacity **100** GPM 4) Motor Make
5) Motor Model No. 6) Horsepower rating **15** hp

Well No. 4

- 1) Well Drilling Firm: **Grosch Irrigation (No. 189)** 2) No. of Wells **4 of 4**
3) Depth(s) **280** feet 4) Well log is available **yes**

Casing:

- 1) Diameter 16 inches
- 2) Length 60 feet
- 3) Type plastic

Screen:

- 1) Type PVC
- 2) Length 220 feet
- 3) Static water level 48 feet

Pump\ Motor:

- 1) Pump Make Western Land Roller
- 2) Pump Model
- 3) Capacity 400 GPM
- 4) Motor Make US Electric
- 5) Motor Model No. Frame 364TP
- 6) Horsepower rating 60 hp

System Type:

Center pivot:

- 1) Make Valley 6000
- 2) Overall length 1288 feet (plus end gun of 85 feet)
- 3) Number of towers 8
- 4) End gun yes
- 5) High or low pressure
- 6) Capacity 705 GPM

Chemigation:

- 1) Does chemigate yes
- 2) Main line check valve yes
- 3) Inspection port/air relief yes
- 4) Low pressure drain yes
- 5) Discharge is 20' from source yes
- 6) Interlock type
- 7) Injection pump type
- 8) Injection check valve yes
- 9) Injection line check valve or positive displacement pump
- 10) All chemigation equipment appears to be installed in the proper position and complies with chemigation laws and rules yes, based on the opinion of the investigator the chemigation equipment complies.

COMMENTS: The well completion reports on file are based on well location marked on report for Wells No. 1 and 2. The well for the other well drilled in 2005 does not show a location on the report and is presumed to be Well No. 3. The well drilled in 2008 is designated as Well No. 4. The well production on the reports matches up closely what Mr. Hill told me each well produced during the on-site visit.

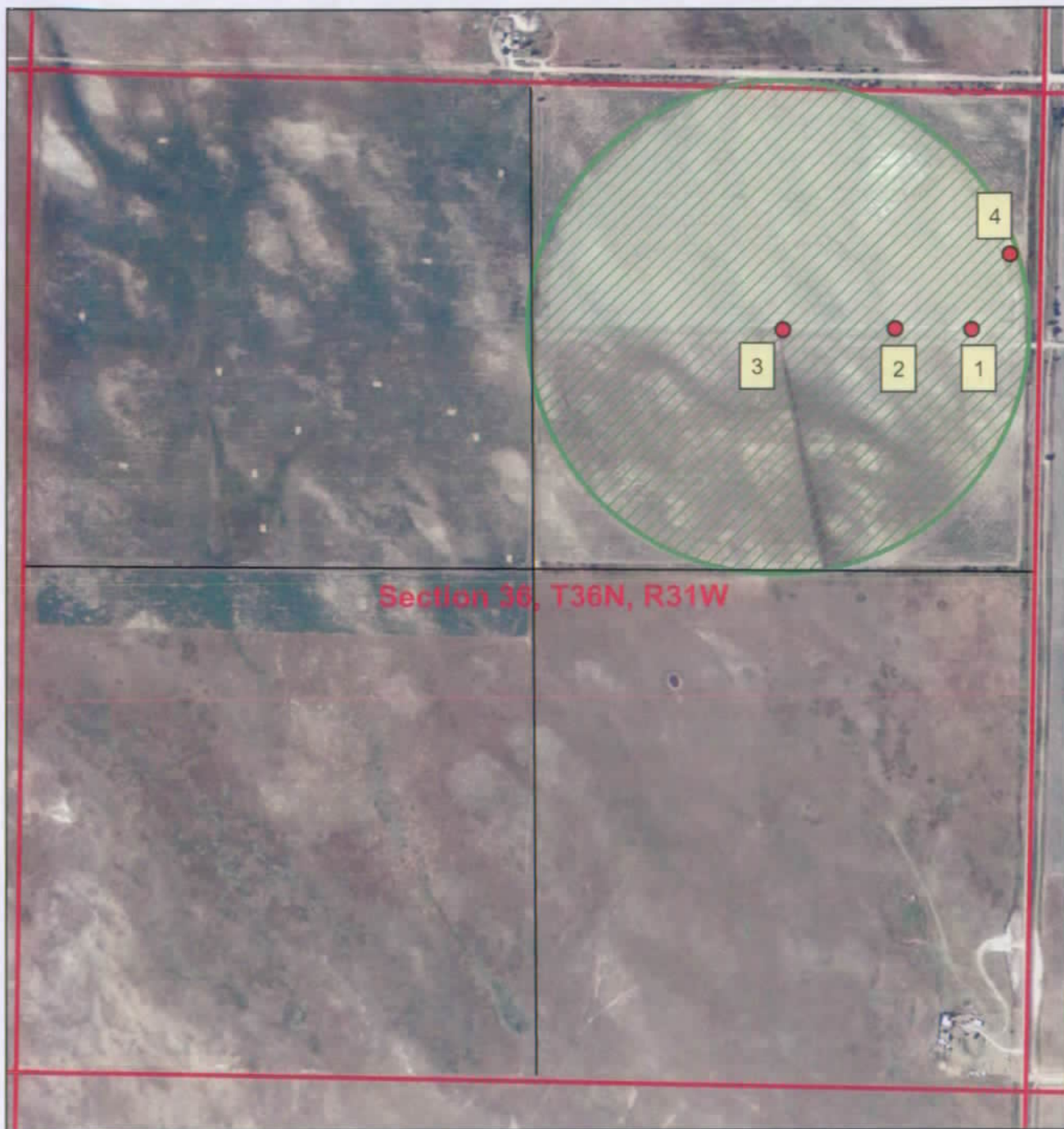


Eric Gronlund PE
Natural Resources Engineer
DENR, Water Rights Program

12/23/10

Date

Water Permit No. 2533-2, Edward E. Hill



0 330 660 1,320 1,980 2,640 Feet

Four Wells referenced from the NE corner Section 36, T36N, R31W

- 1 approximately 1,300 feet south and 1,325 feet west of NE corner Section 36 (Latitude 43.05668 Longitude -100.90635)
- 2 approximately 1,250 feet south and 750 feet west of NE corner Section 36 (Latitude 43.05667 Longitude -100.90783)
- 3 approximately 1,250 feet south and 360 feet west of NE corner Section 36 (Latitude 43.05662 Longitude -100.91000)
- 4 approximately 850 feet south and 160 feet west of NE corner Section 36 (Latitude 43.05778 Longitude -100.90563)



Eric Gronlund

Eric Gronlund
Water Rights Program, DENR
License Investigation - September 22, 2010



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JAN 14 2011

2533-2
2624-2

Edward E Hill
PO Box 24
Kilgore NE 69216-0024

Dear Mr. Hill:

Enclosed are Water License Nos. 2533-2 and 2624-2. They are the final water right documents completing your process of obtaining Water Rights. Included with each 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 wells authorized by Water Right Nos. 2533-2 and 2624-2, 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 Licenses, 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

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 2624-2**

(1) Edward E Hill, PO Box 24, Kilgore NE 69216 made Application No. 2624-2, January 18, 2008 for a water permit to divert 1.78 cubic feet of water per second from ground water (one well – Ogallala Formation), Todd County, South Dakota for irrigation purposes. Permit No. 2624-2, with a priority date of January 18, 2008 was approved July 2, 2008 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 2, 2013 and for the application to beneficial use of said water on or before July 2, 2017. The Permit holder submitted a "*Notice of Completion of Works and Application of Water to Beneficial Use*" on September 22, 2009 indicating the water use system was completed and water placed to beneficial use.

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

The location of the diversion point is in the approximate center of the SW ¼ Section 11, T36N, R29W.

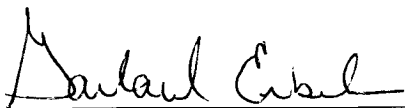
(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to irrigate the following land:

Section 11, T36N, R29W	NW ¼ SW ¼	34 acres
	NE ¼ SW ¼	34 acres
	SW ¼ SW ¼	34 acres
	SE ¼ SW ¼	34 acres
	Total	136 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 Edward E Hill, PO Box 24, Kilgore NE 69216 the holder and/or owner of Water Right No. 2624-2 is issued a license to appropriate water, the right to use 1.78 cubic feet of water per second from (one well – Ogallala Formation) with a priority date of January 18, 2008 from the location specified in (2) of this license for irrigation purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2624-2 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 well authorized by Permit No. 2624-2 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with the Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***Well drilled by Grosch Irrigation – copy of well log on file with the Water Rights Program.***
- This Permit is approved subject to the irrigation water use questionnaire being submitted each year.



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

JAN 14 2011

date

