

Considered: _____

WATER PERMIT NO. 5237A-3

Phone: 532-5194

Name of Applicant: James Arthur

Post Office Address: RR 1, Box 56, Clark SD 57225

Amount of Water Claimed: no add'l Total Acres: no add'l

Source of Water Supply: groundwater

Water to be used for: irrigation County: Hanlin

About 1/2 miles south of Estelline

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY Date Received: 2-5-92 Fee: \$50 Remarks Amend Permit

No. 5237-3 to correct location of diversion point & acreage

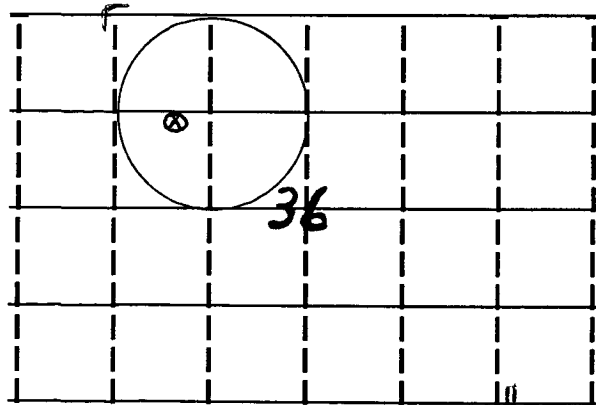
Corrected Application Received _____ Period of Annual Use May 1 - October 31

WATER QUALITY APPROVAL RECEIVED 2-26-92 APPROVED/CONDITIONAL (Circle one)

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

Diversion Point: SW 1/4 NW 1/4 Sec 36-T113N-R51W

Land to be Irrigated: NW 1/4 Sec 36-T113N-R51W



Well Log: Driller: Lacey Well Drilling Licensed YES X NO _____

Depth of Well: 43' REMARKS _____

Type of Map: aerial PREPARED BY: Gary Lemme Reviewed and the Number

Assigned on 2-26-92 By Karen Schlaak

(See instructions)

No. 5237A-3 Hydrologic Unit 10170202
Basin Big Sioux River
Newspaper Estelline Journal, Box 159



Estelline

Application for Soil/Water Compatibility Permit and Permit To Appropriate Water

- ☐ New ☐ Vested Right ☒ Amend Permit No. 5237-3
☒ Change Acreage ☒ Change diversion point(s) ☐ Add diversion point(s)
☐ Add Acreage ☐ Increase diversion rate ☐ Other _____

- Name of Applicant James Arthur Phone No. _____
Post Office Address RR 1 Box 56 104 4th Ave NE, Clark State SD Zip Code 57225
(Street, RR or Box) (City)
- Amount of water claimed (c.f.s.) no add'l Total acres irrigated no add'l
well
- Source of Water supply _____
- Location of point of diversion SW 1/4 NW 1/4 Section 36-T113N-R51W
County Hamlin
- Counties where water will be used Hamlin
- Annual period during which water is to be used May 1 - October 31
- List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.
NW 1/4 NW 1/4	33
NE 1/4 NW 1/4	33
SW 1/4 NW 1/4	33
SE 1/4 NW 1/4	33

Section 36-T113N-R51W

Attach sheet if more space is needed

Land Description	No. Acres Irr.

- Type of Irrigation: Gravity: _____ Towline: _____ Center Pivot: ☒ Gun: _____ Other: _____ (Specify) _____
- Crops to be Irrigated: Corn, soybeans, small grains, and alfalfa
- Give a description of proposed project. (Attach sheet if more space is needed)

This application is to amend Permit No. 5237-3 to correct the location of the diversion point and the irrigated lands. Instead of R52W it should be R51W.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach maps, soils information and any other technical information.

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

I, JAMES D ARTHUR the applicant, certify that I have read this application and examined the attached maps, that the water sample, if needed, has been taken by the required procedures and has not been adulterated or tampered with and is truly representative of the water to be used, and that the matters stated in this application are true and correct.

Signed James D Arthur

Subscribed and sworn to before me this 3 day of February 1992

Notary Public

SOUTH DAKOTA
WATER PERMIT No. 5237A-3 FOR IRRIGATION

Date of first receipt of application February 5, 1992.
Date Soil/Water Compatibility Permit received February 26, 1992.
Date of return to applicant for corrections, amendments or changes
February 7, 1992.
Date of receipt of corrected application February 11, 1992.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 5237A-3 to James Arthur, 104 4th Ave NE, Clark SD 57225 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. 5237A-3 to specify the correct location of the diversion point and irrigated acreage. Water Permit No. 5237-3 appropriates 1.88 cubic feet of water per second (cfs) from one well located in the SW 1/4 NW 1/4 Section 36 to irrigate 132 acres located in the NW 1/4 Section 36; all in T113N-R52W. The correct location of the one well (Big Sioux:Brookings Aquifer) 43 feet deep is the SW 1/4 NW 1/4 Section 36 and irrigates 132 acres located in the NW 1/4 Section 36; all in T113N-R51W. No increase in the diversion rate or number of acres being irrigated is authorized by this permit.
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: May 1 - October 31.
3. The date from which applicant may claim right is December 28, 1988.
4. The date of approval of Permit No. 5237A-3 is June 3, 1992.
5. 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. This permit is approved subject to the irrigation water use questionnaire being submitted each year.

WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer, Water Rights Division
Department of Environment and Natural Resources

NOV 23 1992
date



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

GREAT FACES. GREAT PLACES.

September 13, 1991

James Arthur
RR1 Box 56
Clark, SD 57225

Dear Mr. Arthur:

This letter is in response to our conversation regarding the legal description specified on Permit No. 5237-3. A decision has been made that you need to submit an application to amend Permit No. 5237-3 to change the location of the well and lands. The original application contained an error regarding the legal description. Everything in the application states the location to be irrigated as the NW 1/4 Section 36-T113N-R52W. The Water Rights Division was not responsible for the incorrect legal description.

Please find enclosed a partially filled out application to correct the location of the lands and diversion point. Please look over this application carefully for any mistakes, make the changes and sign the application in the presence of a notary public. If no changes are made, a \$50.00 application fee is required. If you add more acres or water, a higher fee will be required. Also, enclosed is an instruction sheet. Follow the steps on this sheet. If you took the water sample from the location where your well is located now, step No. 4 can be omitted unless notified otherwise.

Enclosed is a copy of the well log submitted with the original application. The legal description on the well log contains a discrepancy. Check to see if this is the correct well log for your production well. If it is, we will use it for this application; otherwise, the correct well log needs to be submitted.

If you have any questions, feel free to contact me.

Sincerely,

Norma C. Job
Natural Resources Engineer I
Division of Water Rights
(605) 773-3352

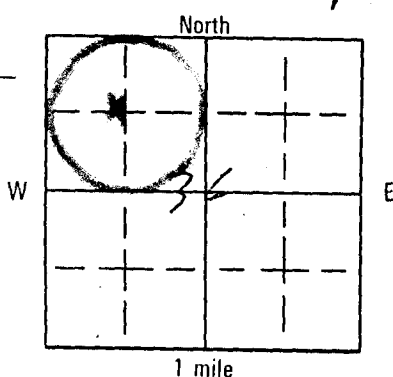
enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT 5237-3

10-85

Location NW 1/4 NW 1/4 Sec 36 Twp 114N Rg 5WCounty HAMLIN

Please mark well location with an "X"

Well Completion Date 3-27-89

PROPOSED USE:

- ☐ Domestic ☐ Municipal ☐ Test Holes
☒ Irrigation ☐ Industrial ☐ Stock

Method of Drilling: FALSE CASING

CASING DATA:

- ☒ Steel ☐ Plastic ☐ Other
 If other describe 14" x 5/16" wall

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>35-40</u> LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN
LB/FT	IN	FT	FT	IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? With Vanisone FEETWhat is grouting material? from 1-30-89

If cement, number of sacks? _____

Describe grouting procedure _____

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☒ ManufacturedDiameter 14 IN Length 8 FEETMaterial SSSlot Size 280 Set From 35 Feet To 43' Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☐ YES ☐ NO

If so, what material? _____

Describe packer(s) and location? _____

Was well disinfected upon completion? ☒ YES ☐ NOExplain HTH in PackBacteriological analysis ☐ YES ☐ NO

Laboratory sent to _____

Well Owner:

Name JIM ARTHURAddress RR 1 Box 56 Clark, SD 57225

Well Log:

Depth

Formation

From

To

<u>Sandy Topsoil</u>	<u>0</u>	<u>1</u>
<u>Fine White Sand</u>	<u>1</u>	<u>8</u>
<u>Coarse w/ rocks</u>	<u>8</u>	<u>15</u>
<u>Medium Sand</u>	<u>15</u>	<u>27</u>
<u>Coarse Gravel</u>	<u>27</u>	<u>39'6"</u>
<u>Fine Sand w/ rocks</u>	<u>39'6"</u>	
<u>Medium Sand</u>	<u>39'6"</u>	<u>43</u>

STATIC WATER LEVEL: 9' Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other, specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped☐ Bailed

Describe: _____

☐ Other

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

REMARKS:

This well was drilled under license # 111

And this report is true and accurate.

Drilling firm LACEY WELL DRILLINGSignature of License Representative: [Signature]

Signature of Well Owner: _____

Date

3-27-89

Jim Arthur

1988

NOT TO SCALE

NW 1/4, sec 36, T113N, R51W

Non
Crop

113-51

Divide loam

Fordville Sandy
loam 0-2% slope

Divide
loam

Divide
loam

Divide
loam

479-209

Transferred
To

Devel.

County

9.8

68.3

2.1

32.2

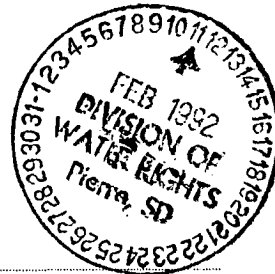
6.6

25.5



113-51

NW 1/4, sec. 36, T 113 N, R 51 W



<u>SITE</u>	<u>FIELD NOTES</u>
1	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 19" to gravelly sand
2	Fordville sandy loam 0-2% slope, 16" mollic epipedon, 25" to gravelly sand
3	Fordville sandy loam 0-2% slope, 13" mollic epipedon, 27" to gravelly sand
4	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 18" to gravelly sand
5	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 17" to gravelly sand
6	Fordville sandy loam 0-2% slope, 12" mollic epipedon, 17" to gravelly sand
7	Divide loam, 20" mollic epipedon, 38" to gravelly sand, moderately well drained, not calcareous at surface
8	Divide loam, 21" mollic epipedon, 30" to gravelly sand
9	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 18" to gravelly sand
10	Fordville sandy loam 0-2% slope, 20" mollic epipedon, 36" to gravelly sand, somewhat poorly drained, calcareous surface, gleyed subsoil
11	Divide loam, 25" mollic epipedon, 37" to gravelly sand, calcareous surface, gleyed subsurface
12	Divide loam, 22" mollic epipedon, 36" to gravelly sand, clay loam gleyed subsurface (5Y 6/1), calcareous surface
13	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 18" to gravelly sand
14	Fordville sandy loam 0-2% slope, 16" mollic epipedon, 17" to gravelly sand
15	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 31" to sand and 36" to gravelly sand
16	Fordville sandy loam 0-2% slope, 36" mollic epipedon, 36" to gravelly sand, moderately well drained
17	Fordville sandy loam 0-2% slope, 14" mollic epipedon, 19" to gravelly sand



Group 13

0.5 Intake Family

These are moderately deep and deep, moderately well drained and somewhat poorly drained soils. They have fine sandy loam, loam, silt loam, or clay loam surface layers that are calcareous. The next layer is fine sandy loam, loam, silt loam, or silty clay loam that is calcareous. The underlying material is loamy alluvium, lacustrine deposits, glacial till, sand and gravel, or siltstone bedrock. Available water capacity is moderate or high. There is a fluctuating water table that ranges from 2 feet to more than 5 feet during the year. Permeability is slow, moderately slow, and moderate. These soils are on nearly level or slightly depressed landscapes. Runoff is slow. Special site investigations should be made to determine feasibility of irrigation on these soils because of the water table.

Special fertilizer treatment is necessary because of the calcareous surface layers. Drainage may be necessary in some areas. Those soils having fine sandy loam surface layers will react similar to those in the 1.0 Intake Family when irrigated with continuous move systems.

The high water table usually limits the use of irrigation water to that with low salinity and low sodium. The use of higher hazard waters will require the use of internal drainage systems and possible salt tolerant crops.

Antler
Bearden
Davison
Divide

Firesteel
Fram
Glyndon
Hamerly

Storla
Wakonda
Wyndmere

Group 14

0.5 Intake Family

These are well drained to somewhat poorly drained soils that are moderately deep over sand and gravel. They have loam or silt loam surface layers. The subsoil is loam, silty clay loam, or clay loam. The underlying material at depths of 20 to 40 inches is coarse sand or sand and gravel.

These soils have low available water capacity where the sand and gravel is about 20 to 25 inches in depth. Water will not enter the gravelly substratum until the soil above the gravel is saturated. Permeability is moderate above the sand and gravel and rapid or very rapid in the sand and gravel. These soils are on upland terraces.

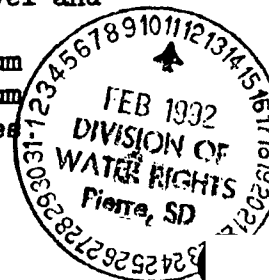
Dimo and Spottswood soils have a seasonal water table that fluctuates from 3 to 6 feet or more. Specific site investigation should be made to determine feasibility of irrigation because of the underlying gravel and possible water table.

Generally, these soils are suitable for irrigation with medium salinity and low sodium water. If water of high salinity or medium sodium is used, extra water should be applied for leaching purposes and salt tolerant crops may be required.

Akaska
Altvan
Bowdle
Canning
Chanta

Dempster
Dimo
Enet
Estelline
Fordville

Jansen
Oahe
Spottswood
Stady
Vang



LOCATION FORDVILLE

12/86 SD+MN ND

Established Series
Rev. KFM-LDZ
12/86

FORDVILLE SERIES

The Fordville series consists of well drained soils formed in loamy sediments that are moderately deep over sand and gravel on outwash plains and terraces. Permeability is moderate in the solum and rapid in the underlying sand and gravel. Slopes range from 0 to 9 percent. Mean annual precipitation is about 22 inches, and mean annual temperature is 47 degrees F.

TAXONOMIC CLASS: Fine-loamy over sandy or sandy-skeletal, mixed Pachic Udic Haploborolls.

TYPICAL PEDON: Fordville loam - on a plane slope of 1 percent in a cultivated field. When described the soil was dry throughout. (Colors are for dry soil unless otherwise stated.)

Ap--0 to 6 inches; very dark gray (10YR 3/1) loam, black (10YR 2/1) moist; weak fine granular structure; slightly hard, very friable; neutral; abrupt smooth boundary. (The A horizon is 6 to 14 inches thick.)

Bw1--6 to 12 inches; dark gray (10YR 4/1) loam, very dark gray (10YR 3/1) moist; moderate coarse prismatic structure parting to weak medium and coarse subangular blocky; slightly hard, very friable; neutral; clear wavy boundary.

Bw2--12 to 17 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse prismatic structure parting to weak medium and coarse subangular blocky; slightly hard, very friable; neutral; clear wavy boundary. (Combined Bw horizons is 9 to 17 inches thick.)

BC--17 to 24 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist, rubbed dark grayish brown (10YR 4/2) moist; moderate medium prismatic structure; slightly hard, very friable; neutral; clear wavy boundary. (0 to 14 inches thick)

2C1--24 to 27 inches; grayish brown (10YR 5/2) gravelly loamy sand, dark grayish brown (10YR 4/2) moist; single grain; thick crusts of carbonates on undersides of pebbles; strong effervescence; mildly alkaline; gradual wavy boundary. (4 to 8 inches thick)

2C2--27 to 60 inches; grayish brown (2.5Y 5/2) gravelly sand, dark grayish brown (2.5Y 4/2) moist; single grain; thick crusts of carbonates on undersides of pebbles in upper part; strong effervescence; mildly alkaline.

TYPE LOCATION: Codington County, South Dakota; about 3 miles west of Rauville; 600 feet west and 114 feet north of the southeast corner, sec. 21, T. 118 N., R. 52 W. on Sisseton-Wahpeton Indian Reservation.

RANGE IN CHARACTERISTICS: Thickness of the mollic epipedon ranges from 16 to 30 inches and commonly includes the Bw horizon. Depth to sand and gravel typically is about 24 to 30 inches and ranges from 20 to 40 inches.

The A horizon has hue of 10YR, value of 3 or 4 and 2 or 3 moist, and chroma of 1 moist and 1 or 2 dry, but some pedons have chroma of 2 moist below the Ap horizon. It typically is loam but is silt loam, stony loam, or very stony loam in some pedons. It is slightly acid or neutral.

The Bw horizon has hue of 10YR, value of 3 to 5 and 2 to 4 moist, and chroma of 2 to 4. It is loam, silt loam, or light clay loam averaging between 18 and 30 percent clay. It ranges from slightly acid to mildly alkaline.

The BC or Bk horizon if present has hue of 10YR or 2.5Y, values of 4 to 8 and 3 to 6 moist, and chroma of 2 or 3. They typically are loam or clay loam but are sandy clay loam, fine sandy loam, or sandy loam. The BC horizon is neutral or mildly alkaline and the Bk horizon is mildly or moderately alkaline.



The 2C horizon has hue of 10YR or 2.5Y, value of 4 to 7 and 3 to 6 moist, and chroma of 2 to 4. It is loamy sand, gravelly loamy sand, gravelly sand, gravelly coarse sand, very gravelly sand, very gravelly loamy sand and contains up to 50 percent gravel. Thin strata of finer textures are in some pedons. It is mildly or moderately alkaline.

COMPETING SERIES: These are the Spottswood and Vang series in the same family and the Arvilla, Binford, Bowdle, Brantford, Estelline, Kensal, Lehr, Renshaw, and Warsing series. The Spottswood soils are mottled in lower parts of the control section and are moderately well drained. Vang soils have 2C horizons with 50 percent or more coarse shale fragments. Arvilla and Binford soils have sandy control section and have a mollic epipedon less than 16 inches thick. Bowdle and Lehr soils are drier. Brantford and Renshaw soils have sand and gravel at depths of less than 20 inches and have mollic epipedons less than 16 inches thick. Estelline soils are fine-silty over sandy or sandy-skeletal. Kensal and Warsing soils have faint or distinct mottles above depths of 20 inches.

GEOGRAPHIC SETTING: Fordville soils are on outwash plains and terraces of streams that dissect the glacial till plains. Surfaces are plane to convex. Slope gradients range from 0 to 9 percent. The soil formed in loamy alluvium over stratified sand and gravel. Mean annual temperature ranges from 38 to 45 degrees F, and mean annual precipitation ranges from 16 to 24 inches.

GEOGRAPHICALLY ASSOCIATED SOILS: This is the Spottswood series in the same family and the Divide, Marysland, Renshaw, and Sioux soils. Spottswood, Divide, and Marysland soils are on lower and wetter parts of the outwash plains and terraces. Renshaw soils have a mollic epipedon less than 16 inches thick, are shallow to gravel, and are on slightly higher positions. Divide and Marysland soils have a calcic horizons within depths of 16 inches. Sioux soils have sand and gravel at depths of less than 14 and are higher convex positions.

DRAINAGE AND PERMEABILITY: Well drained. Surface runoff is medium or slow. Permeability is moderate in the solum and rapid in the underlying sand and gravel.

USE AND VEGETATION: Primarily cropped to corn, flax, and alfalfa. Native vegetation consists mainly of big bluestem, little bluestem, needlegrass, western wheatgrass, blue grama, sideoats grama, sedges, and forbs.

DISTRIBUTION AND EXTENT: Northeastern South Dakota, eastern North Dakota, and western Minnesota. The series is extensive.

SERIES ESTABLISHED: Rock County, Minnesota, 1945.

REMARKS: Diagnostic horizons and features recognized in this pedon are: mollic epipedon - the zone from the surface of the soil to a depth of about 24 inches (Ap, Bw1, Bw2, Bw3 horizons).

National Cooperative Soil Survey
U.S.A



MLRA(S): 103, 102A, 55B

REV. LDZ, 12-84

PACIFIC UDIC HAPLOBODOLLS, FINE-LOAMY OVER SANDY OR SANDY-SKELETON, MIXED

FORDVILLE SERIES

THE FORDVILLE SERIES CONSISTS OF WELL-DRAINED SOILS FORMED IN LOAM SEDEMENTS, MODERATELY FINE OVER SAND AND GRAVEL ON OUTWASH PLAINS AND TERRACES. THE SURFACE LAYER IS VERY DARK GRAY LOAM 6 INCHES THICK. THE SUBSOIL IS DARK GRAY, DARK GRAYISH BROWN AND GRAYISH BROWN LOAM 18 INCHES THICK. THE SUBSTRATUM IS GRAYISH BROWN GRAVELLY LOAMY SAND AND GRAVELLY SAND. SLOPES RANGE FROM 0 TO 9 PERCENT. AREAS ARE USED FOR CROPLAND.

ESTIMATED SOIL PROPERTIES (1)									
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL PASSING	LIQUID LIMIT				
0-6	CL	ML, CL	A-4, A-6, A-7	0-100	100	70-85	45-75	30-45	15-20
6-17	CL	CL	A-6, A-7	0-100	95-100	50-100	40-90	30-45	15-20
17-24	CL, CL, FSL	CL, ML, SM, SC	A-4, A-6	0-100	90-100	40-95	35-80	20-40	10-15
24-60	GR-S, GR-S, GRV-S	SW, SM-S, SM	A-1	0-100	40-70	10-50	10-15	10-15	10-15
DEPTH (IN.)	CLAY (PCT)	MOIST BULK DENSITY	PERME- ABILITY	AVAILABLE WATER CAPACITY	SOIL SALINITY	SHRINK- SWELL	PERCENT ORGANIC MATTER	PERCENT SAND	PERCENT GRAVEL
0-6	18-25	1.20-1.30	0.6-2.0	0.18-0.20	6.1-7.3	LOW	1.2-2.4	10-20	10-20
6-17	18-25	1.10-1.25	0.6-2.0	0.19-0.22	6.1-7.3	LOW	1.2-2.4	10-20	10-20
17-24	16-30	1.25-1.40	0.6-2.0	0.18-0.21	6.1-7.8	MODERATE	1.2-2.4	10-20	10-20
24-60	0-5	1.60-1.80	6.0-20	0.12-0.18	5.1-7.8	LOW	1.2-2.4	10-20	10-20
FLOODING									
HIGH WATER TABLE									
FREQUENCY									
NONE									

SANITARY FACILITIES			
SEPTIC TANK ABSORPTION FIELDS	SEVERE-POOR FILTER		
SEWAGE LAGOON AREAS	0-7%: SEVERE-SEEPAGE 7-9%: SEVERE-SLOPE, SEEPAGE		
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, TOO SANDY		
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE		
DAILY COVER FOR LANDFILL	POOR-SMALL STONES, TOO SANDY, SEEPAGE		

BUILDING SITE DEVELOPMENT			
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE	EMBANKMENTS DIKES AND LEVEES	SEVERE-NO WATER
DWELLINGS WITHOUT BASEMENTS	0-8%: SLIGHT 8-9%: MODERATE-SLOPE	EXCAVATED POND AQUIFER FED	SEVERE-NO WATER
DWELLINGS WITH BASEMENTS	0-8%: SLIGHT 8-9%: MODERATE-SLOPE	DRAINAGE	DEEP TO WATER
SMALL COMMERCIAL BUILDINGS	0-4%: SLIGHT 4-8%: MODERATE-SLOPE 8-9%: SEVERE-SLOPE	IRRIGATION	0-3%: FAVORABLE 3-4%: SLOPE
LOCAL ROADS AND STREETS	0-8%: SLIGHT 8-9%: MODERATE-SLOPE	TERRACES AND DIVERSIONS	0-8%: TOO SANDY 8-9%: TOO SANDY, SLOPE
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	0-8%: SLIGHT 8-9%: MODERATE-SLOPE	GRASSED WATERWAYS	0-3%: FAVORABLE 3-4%: SLOPE

REGIONAL INTERPRETATIONS	
PASTURE	GROUP D



RECREATIONAL DEVELOPMENT

CAMP AREAS	0-8%: SLIGHT	PLAYGROUNDS	0-2%: SLIGHT
	8-9%: MODERATE-SLOPE		2-6%: MODERATE-SLOPE
PICNIC AREAS	0-8%: SLIGHT	PATHS AND TRAILS	6%: SEVERE-SLOPE
	8-9%: MODERATE-SLOPE		SLIGHT

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE

CLASS-DETERMINING PHASE	CAPABILITY	CORN	OATS	FLAX	SOYBEANS	ALFALFA	PERMANENT PASTURE	WHEAT
		(190)	(190)	(190)	(190)	(190)	(190)	(190)
0-2% PE>44	2S	42	58	15	19	1.8	2.2	2.5
2-6% PE>44	2E	45	46	13	-	1.9	3.2	-
6-9% PE>44	3E	41	40	-	-	1.4	-	-
0-2% PE31-44	3S	45	49	13	-	1.8	3.4	2.5
2-6% PE31-44	3E	38	46	11	-	1.8	3.1	-
6-9% PE31-44	4E	-	41	-	-	1.3	2.2	-

WOODLAND SUITABILITY

CLASS-DETERMINING PHASE	MANAGEMENT PROBLEMS	POTENTIAL PRODUCTIVITY
	SYMPTOMS OF EQUIP. SEEDL. WINDTH PLANT	COMMON TREES
	HAZARD LIMIT	HAZARD COMPEI
		NONE

PASTURE SUITABILITY

GROUP	FEEDING	SPOTLIGHT	TESTING	SPOTLIGHT
DI	102A, 55B	ALFALFA INTERMEDIATE WHEATGRASS SMOOTH BROMEGRASS		

WINDBREAKS

CLASS-DETERMINING PHASE	SPECIES	INITIAL	SPECIES	INITIAL	SPECIES	INITIAL
PE31-44	ROCKY MT. JUNIPER	18	PONDEROSA PINE	12	GREEN ASP	11
	COMMON CHOCCHERRY	18	RUSSIAN-OLIVE	12	EASTERN REDCEDAR	12
	TATARIAN HONEYSUCKLE	17	SILVER BUFFALO BERRY	16	LILAC	17
PE>44	SIBERIAN FLM	128	HONEYLOCUST	125	GREEN ASH	125
	PONDEROSA PINE	117	SIBERIAN CRAPAPPLE	115	EASTERN REDCEDAR	115
	COMMON CHOCCHERRY	18	TATARIAN HONEYSUCKLE	18	LILAC	18

WILDLIFE HABITAT SUITABILITY

CLASS-DETERMINING PHASE	POTENTIAL FOR HABITAT ELEMENTS	POTENTIAL FOR HABITAT ELEMENTS	POTENTIAL FOR HABITAT ELEMENTS
	GRAIN & GRASS C. WILD	PARADOX CONIFER SHRUBS	WETLANDS SHALLOW OPENED
	SEED LEGUME	HERB	ICES PLANTS
0-2% PE>44	GOOD	GOOD	POOR
2-6% PE>44	GOOD	GOOD	POOR
6-9% PE>44	FAIR	GOOD	POOR
0-6% PE31-44	FAIR	GOOD	POOR
6-9% PE31-44	POOR	GOOD	POOR

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION)

COMMON PLANT NAME	PLANT SYMBOL	PERCENTAGE COMPOSITION	PERCENTAGE COMPOSITION	PERCENTAGE COMPOSITION	PERCENTAGE COMPOSITION
		0-2% PE>44	2-6% PE>44	0-2% PE31-44	2-6% PE31-44
	(NLSN)				
BIG BLUESTEM	ANSC	25	15	15	5
LITTLE BLUESTEM	ANSC2	30	30	25	20
WESTERN WHEATGRASS	AGSM	20	20	10	10
NEEDLEGRASS	STIPA	25	35	20	20
SIDE OATS GRAMA	BOCU	5	5	5	10
BLUE GRAMA	BOGR2	5	5	5	5
SEDGE	CAREX	5	5	5	5
OTHER PERENNIAL FORBS	PRFF	5	5	5	5
POTENTIAL PRODUCTION (LBS./AC. DRY WT.):					
FAVORABLE YEARS		4100	3800	3200	3000
NORMAL YEARS		3400	3200	2700	2600
UNFAVORABLE YEARS		2900	2200	1800	1700

FOOTNOTES

- A BASED ON "SOIL ENGINEERING TEST DATA PROPOSED HIGHWAY ROUTE STATE OF SOUTH DAKOTA" 1-71.
 1 EXCESSIVE PERMEABILITY RATE MAY CAUSE POLLUTION OF GROUND WATER.
 B PREDICTED YIELDS FOR LRA 102A: PE>44 AND LRA 55B: PE 31-44.
 C WINDBREAK GROUP 6.
 D SILTY RANGE SITE.





50

Established Series
Rev. GPT
1/15/79

DIVIDE SERIES

The Divide series consists of deep, somewhat poorly or moderately well drained soils that formed in loamy sediment over sand and gravel. Permeability is moderate over rapid or very rapid. These soils are on slightly depressed areas in outwash plains and interbeach areas and have slopes ranging from 0 to 6 percent. Mean annual temperature is 39° F, and mean annual precipitation is 17 inches.

Taxonomic Class: Fine-loamy over sandy or sandy-skeletal, frigid Aeric Calciaquolls.

Typical Pedon: Divide loam on a plane level slope of less than 1 percent under cropland. When described the soil was moist to 40 inches and wet below 40 inches. (Colors are for moist soil unless otherwise stated.)

Ap--0 to 6 inches; black (10YR 2/1) loam, dark gray (10YR 4/1) dry; weak medium subangular blocky structure parting to weak fine granular structure; hard, very friable, slightly sticky, slightly plastic; common fine roots; many fine pores; strong effervescence; moderately alkaline; abrupt smooth boundary.

A12--6 to 9 inches; very dark gray (10YR 3/1) loam, gray (10YR 5/1) dry; weak medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; common fine roots; common fine pores; strong effervescence; moderately alkaline; clear irregular boundary. (A horizon 7 to 20 inches thick)

Clca--9 to 19 inches; dark grayish brown (2.5Y 4/2) loam, light brownish gray (2.5Y 6/2) dry; weak coarse prismatic structure parting to weak medium and fine subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; few fine roots; common fine pores; diffuse lime; violent effervescence; gradual wavy boundary.

C2ca--19 to 25 inches; light brownish gray (2.5Y 6/2) loam, light gray (2.5Y 7/2) dry; few faint yellowish brown (10YR 5/4) mottles; weak medium and fine subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; few roots; common fine pores; a few pebbles; lime is diffuse and in a few soft accumulations; violent effervescence; moderately alkaline; clear wavy boundary. (Combined Cca horizons 8 to 28 inches thick)

11C3--25 to 60 inches; grayish brown (2.5Y 5/2) stratified sand and gravel, light brownish gray (2.5Y 6/2) dry; single grained; loose; strong effervescence in upper part, slight effervescence in lower part; moderately alkaline.

Type Location: Wells County, North Dakota; about 4 miles west of Harvey; 0.3 miles north and 125 feet west of the SE corner of sec. 29, T. 150 N., R 73 W.

Range in Characteristics: The depth to sand and gravel typically is 24 to 30 inches and ranges from 20 to 40 inches. The mollic epipedon ranges from 7 to 20 inches in thickness. The A1 horizon has hue of 10YR or 2.5Y, value of 2 or 3 and 3 through 5 dry, and chroma of 1 moist or dry. It is loam, and some is sandy loam, silt loam or clay loam. Some pedons have Aca or ACca horizons. The Cca horizon has hue of 10YR or 2.5Y, value of 3 through 6 and 5 through 8 dry, and chroma of 1 through 4 moist or dry. It is loam or clay loam averaging between 18 and 30 percent clay and 15 and 35 percent calcium carbonate. The IIC horizon has hue of 10YR, 2.5Y, or 5Y, value of 4 or 5 and 5 through 7 dry, and chroma of 2 through 6 moist or dry. It contains a mixture of sand and gravel; some is stratified, and some contains shale fragments. Some pedons have loamy till below 40 inches. Some pedons are saline.

Competing Series: There are no other series in the family. Other competing series are the Benoit, Fram, Gilby, Glyndon, Hamerly, Hatfield, Marysland, Storla, Syrene, Wyndmere and Wyrene series. Benoit and Marysland soils have distinct or prominent mottles at depths of less than 20 inches and are poorly and very poorly drained. Fram, Gilby, Glyndon, Hamerly and Wyndmere soils lack sand and gravel at depths of less than 40 inches. Hatfield soils are fine-silty over sandy or sandy-skeletal. Storla soils have mesic temperatures. Syrene soils are sandy and have poor drainage. Wyrene soils are sandy.

0-11B, SE 118-1.

Geographic Setting: Divide soils are on nearly level, slightly depressed areas in outwash plains and interbeach areas. Slope gradients commonly are 0 to 6 percent. The soils formed in glacial sediment over sand and gravel. The climate is cool, subhumid. Mean annual temperature ranges from 38 to 45°F and mean annual precipitation from 15 to 22 inches. Most of the precipitation comes in the spring and summer.

Geographically Associated Soils: These are the competing Benoit, Marysland, and Wyrene soils and the Arvilla, Binford, Brantford, Fordville, Kensal, Osakis, Renshaw, Spottswood, Vang, Valum, and Warsing soils. Benoit and Marysland soils are in lower lying swales and depressions. Wyrene soils are in similar positions in the landscape as Divide soils but are in the sandier parts of the outwash plain. Arvilla and Osakis soils are on nearby sandy outwash. Both soils lack calcic horizons at depths of less than 16 inches. In addition, Arvilla soils are somewhat excessively drained. Binford, Brantford, Kensal, Vang and Valum soils are on nearby outwash areas which contain large amounts of shale fragments in the sand and gravel. All lack calcic horizons at depths of less than 16 inches. Fordville and Renshaw soils are on well drained, higher parts of the outwash plain at higher elevations than Divide soils. They lack calcic horizons at depths of less than 16 inches and are well and somewhat excessively drained. Spottswood and Warsing soils are on landscape positions similar to Divide soils. They are slightly better drained and lack calcic horizons at depths of less than 16 inches.

Drainage and Permeability: Somewhat poorly or moderately well drained; slow runoff, moderate over rapid or very rapid permeability (loamy substratum phases have moderately slow permeability below 40 inches).

Use and Vegetation: Mainly cropped to wheat and other small grains, hay and some pasture. Native vegetation was big and little bluestem, prairie junegrass, green needlegrass, western wheatgrass, bearded wheatgrass, a variety of forbs.

Distribution and Extent: Central and eastern North Dakota, northeastern South Dakota, western Minnesota. The soil is of moderate extent.

Series Established: Sargent County, North Dakota, 1961.

National Cooperative Soil Survey
U.S.A.



MLRA(S): 53B, 55A, 55B, 56, 102A

DIVIDE SERIES

REV. JMT, 2-87

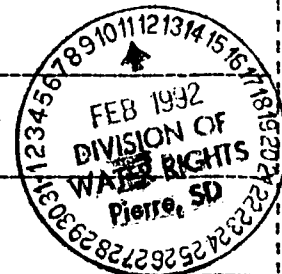
AERIC CALCIAQUOLLS, FINE-LOAMY OVER SANDY OR SANDY-SKELETAL, FRIGID

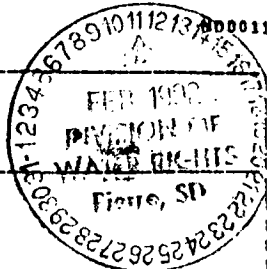
THE DIVIDE SERIES CONSISTS OF SOMEWHAT POORLY AND MODERATELY WELL DRAINED SOILS FORMED IN LOAMY ALLUVIUM MODERATELY DEEP OVER SAND AND GRAVEL ON OUTWASH PLAINS AND INTERBEACH AREAS. THE SURFACE LAYER IS BLACK LOAM IN UPPER 8 INCHES AND VERY DARK GRAY LOAM IN LOWER 4 INCHES. THE SUBSTRATUM IS 10 INCHES OF LIGHT BROWNISH GRAY LOAM CONTAINING A LARGE AMOUNT OF LIME OVER GRAVELLY COARSE SAND. SLOPES RANGE FROM 0 TO 6 PERCENT. CROPLAND IS THE MAIN USE.

ESTIMATED SOIL PROPERTIES													
DEPTH (IN.)	USDA TEXTURE	UNIFIED	AASHTO	PERCENT OF MATERIAL LESS THAN 3" PASSING SIEVE NO.					LIQUID LIMIT	PLASTICITY INDEX			
0-8 CL, SIL		CL, CL-ML	A-4, A-6	0	195-100	95-100	85-95	60-85	25-40	5-20			
0-8 ICL		ICL	A-6	0	195-100	95-100	85-95	60-85	30-40	10-20			
0-8 ISCL		ICL, SC, CL-ML, SM-SC	A-6, A-4	0	195-100	90-010	80-90	35-55	20-40	5-20			
8-20 CL, CL, GR-L		ICL, CL-ML, SM-SC, SC	A-4, A-6, A-7	0-3	195-100	75-100	55-90	35-90	20-45	5-20			
22-60 SP-S-GP-S		GM, CM, GP-GM, SP-SM	A-1	0-5	125-85	15-65	10-40	5-25	<30	IMP-5			
DEPTH (IN.)	CLAY (PCT)	MOISTURE (G/CM3)	POROSITY (IN/HR)	PERMEABILITY (IN/IN)	AVAILABLE WATER CAPACITY (IN/IN)	SOIL REACTION (PH)	SALINITY (MMHOS/CM)	SHRINK- SWELL POTENTIAL (K)	TERRESTRIAL FACTOR (K)	WIND GROUP (PCT)	ORGANIC MATTER (PCT)	CORROSION STEEL CONCRETE	POTENTIAL
0-8	115-271	1.10-1.40	0.6-2.0	0.18-0.22	17.4-8.4	-	-	LOW	1.28	4	4L	2-8	HIGH
0-8	127-301	1.10-1.40	0.6-2.0	0.18-0.22	17.4-8.4	-	-	LOW	1.28	4	4L	2-8	HIGH
0-8	126-351	1.20-1.40	0.6-2.0	0.18-0.22	17.4-8.4	-	-	LOW	1.28	4	5	2-8	HIGH
8-20	118-361	1.20-1.50	0.6-2.0	0.16-0.17	17.4-8.4	-	-	LOW	1.28				
22-60	0-101	1.30-1.70	>6.0	0.03-0.07	17.4-8.4	-	-	LOW	1.10				
FLOODING													
HIGH WATER TABLE													
CEMENTED PAN													
BEDROCK													
SUBSIDENCE													
HYDROLYTIC													
FROST													
ACTION													
FREQUENCY				DURATION				MONTHS				(FT)	
NONE				1				12, 5-5				APR-JUN	

SANITARY FACILITIES					CONSTRUCTION MATERIAL				
SEPTIC TANK	SEVERE-FTNESS, POOR FILTER				ROADFILL	FAIR-FTNESS			
ABSORPTION FIELDS									
SEWAGE LAGOON AREAS	SEVERE-SEEPAGE, WETNESS				SAND	PROBABLE			
SANITARY LANDFILL (TRENCH)	SEVERE-SEEPAGE, WETNESS, TOO SANDY				GRAVEL	PROBABLE			
SANITARY LANDFILL (AREA)	SEVERE-SEEPAGE, WETNESS				TOPSOIL	POOR-SMALL STONES, AREA RECLAIM			
DAILY COVER FOR LANDFILL	POOR-SEEPAGE, TOO SANDY, SMALL STONES								
BUILDING SITE DEVELOPMENT					WATER MANAGEMENT				
SHALLOW EXCAVATIONS	SEVERE-CUTBANKS CAVE				EMBANKMENTS	SEVERE-SEEPAGE			
					DIKES AND LEVEES				
DWELLINGS WITHOUT BASEMENTS	SLIGHT				EXCAVATED PONDS	SEVERE-CUTBANKS CAVE			
					AQUIFER FED				
DWELLINGS WITH BASEMENTS	MODERATE-FTNESS				DRAINAGE	0-3%: CUTBANKS CAVE 3-7%: SLOPE, CUTBANKS CAVE			
SMALL COMMERCIAL BUILDINGS	0-4%: SLIGHT 4-6%: MODERATE-SLOPE				IRRIGATION	0-3%: WETNESS 3-7%: WETNESS, SLOPE			
LOCAL ROADS AND STREETS	MODERATE-FROST ACTION				TERACES AND DIVERSIONS	WETNESS, TOO SANDY			
LAWNS, LANDSCAPING AND GOLF FAIRWAYS	SLIGHT				GRASSED WATERWAYS	FAVORABLE			

REGIONAL INTERPRETATIONS





RECREATIONAL DEVELOPMENT			
CAMP AREAS	SLIGHT	PLAYGROUNDS	0-2%: SLIGHT 2-6%: MODERATE-SLOPE
PICNIC AREAS	SLIGHT	PATHS AND TRAILS	SLIGHT

CAPABILITY AND YIELDS PER ACRE OF CROPS AND PASTURE (HIGH LEVEL MANAGEMENT) (A)											
CLASS-DETERMINING PHASE	CAPABILITY	WHEAT, SPRING (BU)	OATS (BU)	BARLEY (BU)	FLAX (BU)	BROMEGRASS-1 (TONS)	CORN (BU)	BROMEGRASS-2 (AUM)	ALFALFA (AUM)	ALFALFA HAY (TONS)	ALFALFA (AUM)
10-3% MAP15-20	3S	27	58	43	13	2.3	-	-	-	-	-
13-6% MAP15-20	3C	25	53	40	11	2.1	-	-	-	-	-
10-3% MAP19-23	3S	32	70	51	14	2.7	-	-	-	-	-
13-6% MAP19-23	3F	29	64	46	12	2.6	-	-	-	-	-
10-3% PE>44	3S	32	52	50	15	2.5	54	-	4.0	-	-

WOODLAND SUITABILITY			
CLASS-DETERMINING PHASE	MANAGEMENT PROBLEMS	POTENTIAL PRODUCTIVITY	TREES TO PLANT
	SYNTHETIC EQUIP. USED	COMMON TREES	INDEX CLASS
	HAZARD LIMIT	HAZARD COMPET	NONF

PASTURE SUITABILITY					
GROUP	MLRA(S)	SPECIES	MLRA(S)	SPECIES	MLRA(S)
D1	53B	ALFALFA CRESTED WHEATGRASS INTERMEDIATE WHEATGRASS PUBESCENT WHEATGRASS SMOOTH BROMEGRASS	55B, 102A	ALFALFA INTERMEDIATE WHEATGRASS SMOOTH BROMEGRASS	

WINDBREAKS (B)					
CLASS-DETERMINING PHASE	SPECIES	INT	SPECIES	INT	SPECIES
PE<44	EASTERN COTTONWOOD	144	GOLDEN WILLOW	130	REDOSTER DOGWOOD
	PONDEROSA PINE	115	BLACK HILLS SPRUCE	120	TATARIAN HONEYSUCKLE
	EASTERN REDCEDAR	112	AMERICAN PLUM	119	COMMON CHOKECHERRY
PE>44	EASTERN COTTONWOOD	144	SIBERIAN FLM	125	GOLDEN WILLOW
	BUR OAK	122	RUSSIAN-OLIVE	120	BLUE SPRUCE
	EASTERN REDCEDAR	113	SIBERIAN PEASHRUB	115	COMMON CHOKECHERRY

WILDLIFE HABITAT SUITABILITY											
CLASS-DETERMINING PHASE	GRAIN & GRASS	WILD SEED	LEGUME	HERP.	TREES	PLANTS	WETLAND	SHALLOW	WETLAND	WETLAND	WETLAND
10-3% PE<44	FAIR	FAIR	GOOD	GOOD	GOOD	FAIR	FAIR	IV. POOR	FAIR	GOOD	IV. POOR
13-6% PE<44	FAIR	GOOD	GOOD	GOOD	GOOD	FAIR	POOR	IV. POOR	GOOD	GOOD	IV. POOR
10-3% PE>44	FAIR	FAIR	FAIR	GOOD	IV. POOR	-	IV. POOR	IV. POOR	FAIR	IV. POOR	IV. POOR

POTENTIAL NATIVE PLANT COMMUNITY (RANGELAND OR FOREST UNDERSTORY VEGETATION) (B)					
COMMON PLANT NAME	PLANT SYMBOL	MAAT37-39	MAAT40-42	PE>44	MAAT42
WESTERN WHEATGRASS	AGSM	-	-	-	10
LITTLE BLUESTEM	SCSC	45	45	20	30
PIG BLUESTEM	ANGE	15	15	35	10
SWITCHGRASS	PAV12	5	5	10	-
INDIANGRASS	SONU2	5	5	10	-
PRAIRIE CORN	SPPE	-	-	10	-
OTHER PERENNIAL FORBS	PPFF	10	10	5	5
OTHER PERENNIAL GRASSLIKE	PPGL	10	10	5	-
OTHER PERENNIAL GRASSES	PPGG	10	10	5	10
NEEDLEGRASS	STIPA	-	-	-	20
SIDE-OATS GRAMA	POCU	-	-	-	5
SEDGE	CAREX	-	-	-	5
BLUE GRAMA	POGR2	-	-	-	5

POTENTIAL PRODUCTION (LBS./AC. DRY WT):					
FAVORABLE YEARS		4200	4800	5300	3900
NORMAL YEARS		3800	4200	4800	3300
UNFAVORABLE YEARS		3200	3600	3900	2300

FOOTNOTES
A MAP15-20: LRA 55A, 55B; MAP19-23: LRA 56; PE>44: LRA 102A.
B PE<44: WINDBREAK GROUP 1, N; PE>44: WINDBREAK GROUP 1K, MN.
C LIMV SUBIRRIGATED RANGE SITE: MAAT37-39: LRA 55A; MAAT40-42: LRA 55B; PE>44: LRA 102A; MAAT42: LRA 53B; MAP15-17: LRA 53I

ESTELLINE DIRECTORY

DEUEL CO.

DEMPSTER TWP.

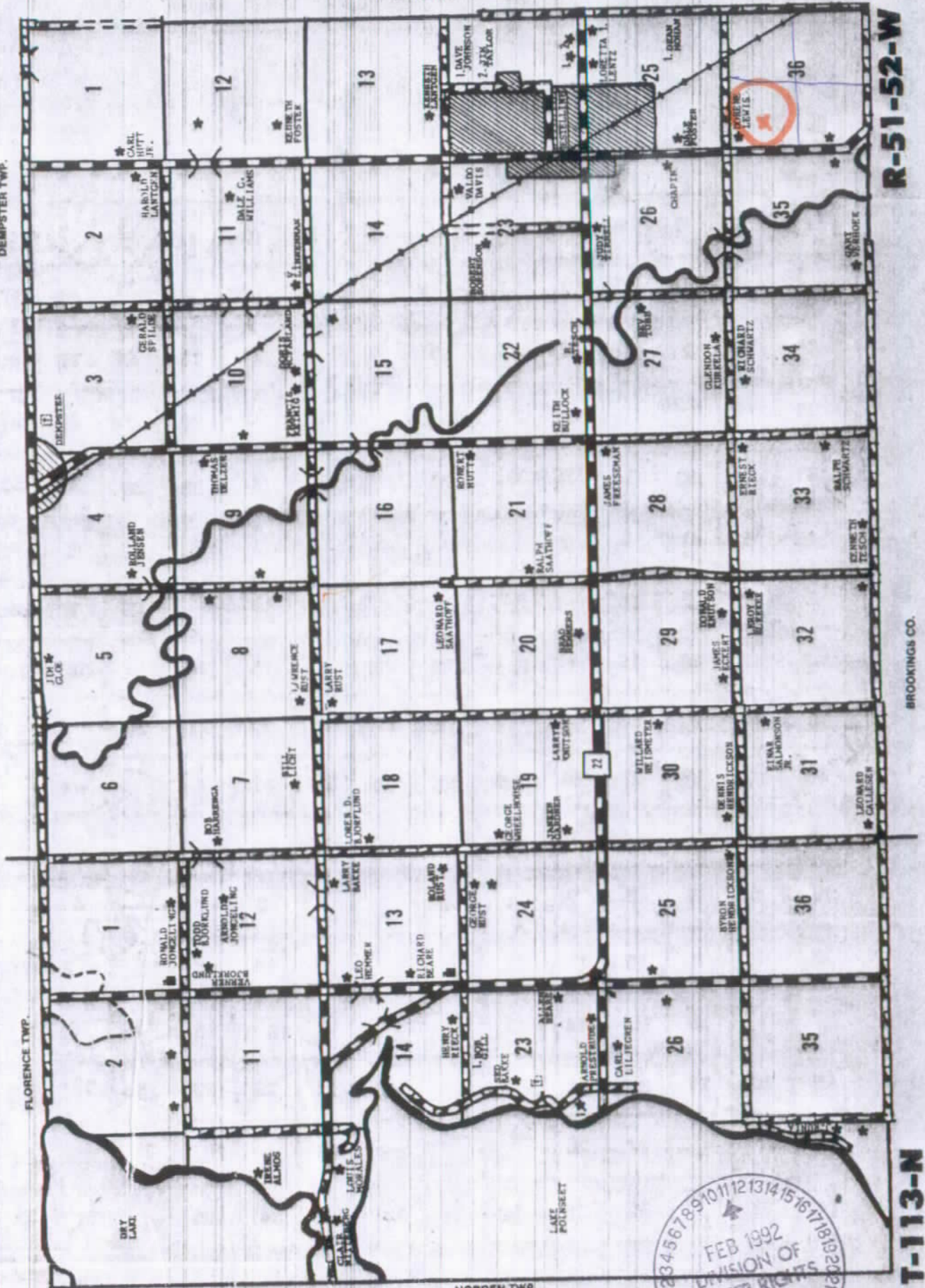
FLORENCE TWP.

NORDEN TWP.

R-51-52-W

BROOKINGS CO.

T-113-N



RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

413057

Pierre, February 6, 1992

RECEIVED OF James D. Arthur, 104 4th Ave. NE, Clark, SD 57225

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

Fee for Application for Permit No. <u>5237A-3</u> to Appropriate Water, to construct works and to put water to beneficial use	50	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	50 00

By John Hatch
Chief Engineer

Department of Agriculture
WI#1
5/87

SOIL/WATER COMPATIBILITY PERMIT
Division of Conservation

Office Use Only

4674

WR#

OWNERS NAME: JAMES ARTHUR OWNERS ADDRESS: RR 1 BOX 36
CLARK, SD 57225

COUNTY LAND LOCATED IN: HAMLIN PHONE: _____

LEGAL DESCRIPTION:

☒ Well

☐ Surface

1. LOCATION: SW $\frac{1}{4}$ NW $\frac{1}{4}$ 36-T113N-R51W
Depth: _____

Legal Description	Acres	Legal Description	Acres
<u>NW$\frac{1}{4}$ NW$\frac{1}{4}$ 36-T113N-R51W</u>	<u>33</u>		
<u>NE$\frac{1}{4}$ NW$\frac{1}{4}$ 36-T113N-R51W</u>	<u>33</u>		
<u>SW$\frac{1}{4}$ NW$\frac{1}{4}$ 36-T113N-R51W</u>	<u>33</u>		
<u>SE$\frac{1}{4}$ NW$\frac{1}{4}$ 36-T113N-R51W</u>	<u>33</u>		

2. TYPE OF IRRIGATION: GRAVITY: _____ TOWLINE: _____ CENTER PIVOT: XX GUN: _____ OTHER: (Specify) _____

3. CROPS TO BE IRRIGATED: CORN SOYBEANS, SMALL GRAINS AND ALFALFA.

WATER QUALITY:

4. WATER SAMPLE NUMBER: <u>88-0525</u>	7. ADJUSTED (SAR): <u>1.22</u>
5. SALINITY (EC X 10 ⁶): <u>1000</u>	8. PERCENT SODIUM: <u>9.65</u>
6. SODIUM (SAR): <u>0.48</u>	

Requirements:



Russell J. Hane
Director, Division of Conservation

XX APPROVED _____ REQUIREMENTS
____ DISAPPROVED
____ WAIVER

FEBRUARY 21, 1992

Date

Soil/water permits will be recorded by the Department of Agriculture, with the County Register of Deeds.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 7, 1992

James Arthur
RR 1, Box 56
Clark SD 57225

Dear Mr. Arthur:

In regard to your water permit application received on February 5, 1992, the following information needs to be submitted and clarified in order to process your application.

1. A map outlining the lands to be irrigated and showing the location of the diversion point (place where the well is located) in relation to a government section corner or quarter corner by direction and distance. The map must be signed by one of the following: Registered Land Surveyor, Registered Professional Engineer or by any other government employee who normally prepares maps as a part of his assigned duties (i.e. local SCS or ASCS office).
2. A soils map is required of the land to be irrigated in order to proceed with the Soil/Water Compatibility permit. This can also be obtained at the SCS or ASCS office.
3. A well log signed by a South Dakota licensed well driller must accompany the application. Enclosed is a copy of a well log submitted by Lacey Well Drilling. Is this the well log for the production well in Section 36-T113N-R51W even though a different legal description is on the log?

The water permit application can not be considered until the application is complete and a soil/water permit is obtained from the Department of Agriculture. Upon receipt of the above, further processing of your application will continue.

If you have any questions, please contact this office.

Sincerely,

Karen Schlaak
Natural Resources Analyst
605 773-3352
enclosure

FEB 9, 92

DEPT. OF ENV. & NAT RES.

REFERENCE YOUR LTR. DTD.
FEB. 7, 92. ALL WE ARE DOING
IS ^{TO} CORRECT A CLERICAL ERROR
TO AMEND PERMIT NO. 5237-3,
IN COMPLIANCE WITH A LTR. DTD.
SEPT 13, 91 I SENT THE APP. TO
CORRECT THE LOCATION AND
ALSO ~~50.00~~. I ALSO SENT THE
WELL LOG WHICH IS CORRECT
FOR THIS WELL.

I'M SURE YOU HAVE THEM, BUT
I'M SENDING A SOILS MAP & A
MAP SHOWING LOCATION SO ~~IT~~ ^{IT} BE
IN COMPLIANCE WITH YOUR
FEB 7, 92 LETTER.

James A. Arthur



REPORT ON APPLICATION NO. 5237A-3
for James Arthur
April 7, 1992

Application No. 5237A-3 proposes to specify the correct location of the diversion point and irrigated acreage. Water Permit No. 5237-3 appropriates 1.88 cfs from one well approximately 45 feet deep located in the SW 1/4 NW 1/4 of section 36 to irrigate 132 acres located in the NW 1/4 of section 36; all in T113N R52W. The correct location of the well which is approximately 43 feet deep is the SW 1/4 NW 1/4 of section 36 and the 132 irrigated acres is located in the NW 1/4 of section 36; all in T113N R51W in Hamlin County. No increase in diversion rate or number of acres being irrigated is authorized by this application.

AQUIFER - BIG SIOUX BROOKINGS (BS-B)

The Big Sioux Brookings is a predominantly unconfined glacial outwash (sand and gravel) under water table conditions at this site. The driller's log submitted with the application indicates sand from 1 foot below land surface to a depth of 43 feet. The well had a static water level of 9 feet below land surface. The Big Sioux Brookings underlies 88,500 acres and contains an estimated 331,880 acre feet of recoverable water in storage in Hamlin County (Hedges, 1982). The Big Sioux Brookings aquifer extends into Brookings County to the south, also is hydraulically connected to the Big Sioux North aquifer to the north and to the Big Sioux River.

The Division of Water Rights monitors 21 observation wells completed into the Big Sioux Brookings aquifer in Hamlin County. One of these wells HN-71A is located approximately 1/2 mile north of the diversion point for this application. Water levels for this well show good correlation with climatic conditions, that is rising during wet years (recharge) and gradually declining during dry years. The hydrograph for well HN-71A is included with this report. In general, the water level record indicates that the aquifer is capable of sustaining additional withdrawals (Water Rights, 1992).

REVIEW OF EXISTING WATER PERMITS/RIGHTS

There is one other Water Right No. 4309A-3 in this same section. The two irrigation wells authorized by this permit are approximately 1/2 mile southeast of this application. Another Water Right No. 4345-3 is located approximately 1/2 mile northwest and Water Permit No. 4993A-3 is located approximately 1/2 mile northeast of this application. Interference is not expected to be a concern. These are existing wells and have been in use with no apparent problems. Drawdown caused by pumping high capacity wells in the Big Sioux Brookings aquifer do not extend very far from individual production wells.

CONCLUSIONS

1. Water is available from the Big Sioux Brookings aquifer.

2. The Big Sioux Brookings aquifer is unconfined and under water table conditions. Significant drawdown caused by pumping does not extend very far from the production well. Interference is not expected to be a concern.
3. This is an existing well and was completed according to a variance, number 14 issued on January 30, 1989, to Lacey Well Drilling, License No. 111.
4. This application was made to correct an error in advertising. Permit No. 5237-3 was advertised as Range 52 West instead of Range 51 West which is 6 miles west of the actual irrigation system.


James A Goodman
Natural Resources Engineer

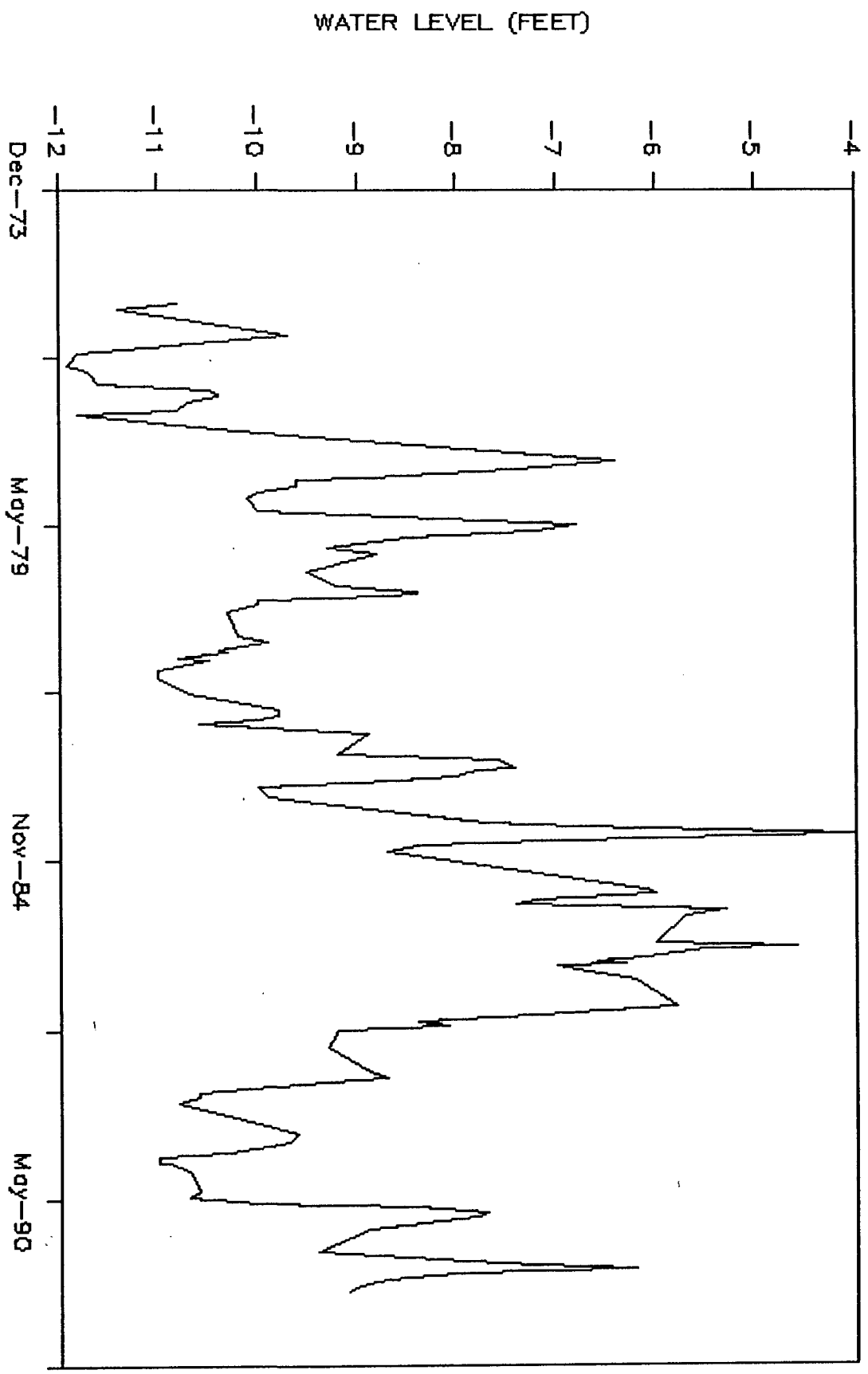
BIBLIOGRAPHY

Hedges, L.S., etal, 1982, Evaluation of Ground-Water Resources Eastern SD and Upper Big Sioux River, SD and Iowa, for US Army Corps of Engineers, SD DENR, SDGS, Vermillion, SD, 57069.

Water Rights, 1992, Unpublished Observation Well Records for Hamlin County, SD DENR, Division of Water Rights, Pierre, SD, 57501.

WATER RIGHTS OBSERVATION WELL

HN-71A



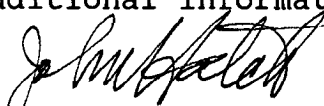
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5237A-3, James Arthur

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Environment and Natural Resources concerning Water Permit Application No. 5237A-3, James Arthur, RR 1 Box 56, Clark, SD 57225.

The Chief Engineer is recommending APPROVAL of Application No. 5237A-3 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) 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. This permit is approved subject to the irrigation water use questionnaire being submitted each year.

See report on application for additional information.


JOHN HATCH, Chief Engineer
April 13, 1992



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

April 28, 1992

James Arthur
RR 1 Box 56
Clark, SD 57225

Dear Mr. Arthur:

Water Permit Application No. 5237A-3 for irrigation 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 Estelline Journal printed at Estelline, SD (Ph # 873-2475). 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. The publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has 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**

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

April 28, 1992

Estelline Journal
Box 159
Estelline, SD 57234

ATTENTION: Legal Department

Enclosed is a Notice of Hearing on Application No. 5237A-3 to be published twice. Please publish the first notice on May 7, 1992, with the second publication 7 days later.

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 James Arthur, RR 1 Box 56, Clark, SD 57225 (Ph # 532-5194).

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. No action may be taken on the permit application until proof of publication has been received.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE

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

No. _____

Date _____

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

Name _____

Newspaper _____

Instruction to Newspaper - Publish first Notice on May 7, 1992, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5237A-3 to Appropriate Water
and to Amend Water Permit No. 5237-3

Notice is given that James Arthur, RR 1 Box 56, Clark, SD 57225 has filed an application for a water permit to specify the correct location of the diversion point and irrigated acreage. Water Permit No. 5237-3 appropriates 1.88 cubic feet of water per second (cfs) from one well located in the SW 1/4 NW 1/4 Section 36 to irrigate 132 acres located in the NW 1/4 Section 36; all in T113N-R52W. The correct location of the one well (Big Sioux:Brookings Aquifer) 43 feet deep is the SW 1/4 NW 1/4 Section 36 and irrigates 132 acres located in the NW 1/4 Section 36; all in T113N-R51W. No increase in the diversion rate or number of acres being irrigated is authorized by this application.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5237A-3 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, 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 May 26, 1992. 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.

For purposes of publishing 1) the notice of hearing on Application No. 5237A-3 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for June 3, 1992, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the June 3, 1992, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The June 3, 1992, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by May 26, 1992.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact the Water Rights Division to request copies of information pertaining to this application or to assure access to the hearing by the handicapped.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
 County Hamlin) ss. **CONNIE JEAN JENSEN**
 My Commission Expires
 Sept. 29, 1994

I, Connie Jensen

certify that the attached printed Notice was taken
 from the Estellian

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

of Estellian

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

May 7

May 14

[Signature]

(Signature)

[Signature]

(Title)

5-15-92

(Date Signed)



Cost of Printing: 3368 152 Per

26.94 26.94

60.62

73-2x-May 7, 14

NOTICE OF HEARING

on Application No. 5237A-3
 to Appropriate Water and to
 Amend Water Permit No. 5273-3

Notice is hereby given that James Arthur, RR 1 Box 56, Clark, SD 57225 has filed an application for a water permit to specify the correct location of the diversion point and irrigated acreage. Water Permit No. 5237-3 appropriates 1.88 cubic feet of water per second (cfs) from one well located in the SW 1/4 NW 1/4 Section 36 to irrigate 132 acres located in the NW 1/4 Section 36; all in T113N-R52W. The correct location of the one well (Big Sioux-Brookings Aquifer) 43 feet deep is the SW 1/4 NW 1/4 Section 36 and irrigates 132 acres located in the NW 1/4 Section 36; all in T113N-R51W. No increase in the diversion rate or number of acres being irrigated is authorized by this application.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 5237A-3 because 1) existing rights will not be unlawfully impaired, 2) it is a beneficial use of water, and 3) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the permit as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, 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 May 26, 1992. 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.

For purposes of publishing 1) the notice of hearing on Application No. 5237A-3 and 2) the chief engineer's recommendation, a meeting of the Division of Water Rights office to hear this application is scheduled for June 3, 1992, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the

June 3, 1992, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The June 3, 1992, hearing date will be automatically delayed for at least 30 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by May 26, 1992.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application based on the facts presented at the public hearing. Any hearing will be an adversarial proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact the Water Rights Division to request copies of information pertaining to this application or to assure access to the hearing by the handicapped.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

NOV 23 1992

James Arthur
104 4th Ave NE
Clark, SD 57225

Dear Mr. Arthur:

Enclosed is Water Permit No. 5237A-3 authorizing construction of 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.

Very truly yours,

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

enclosures

Permit No. 5237-3 & 5237A-3
Big Sioux - Water District

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

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

I have this day made a thorough examination of the water use system constructed by James Auther of 104 4th Ave. NE, Clark, SD 57225 holder of Permit No. 5237-3 and 5732A-3, bearing the priority of December 28, 1988 authorizing the diversion of 1.88 cu. ft. per second of the waters of Big Sioux Brookings Aquifer for irrigation purposes, in Hamlin County.

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

- A. Works used to divert the water:
One 43' deep well with 35' of 14" steel casing and 8' of stainless steel screen. US Electric motor, model no. 324TP type RU, 40 hp and Western Land Roller pump, 750 gpm.
- B. Works used to transport water to place of use:
250' of 8" pvc pipe.
- C. Works used to apply water to beneficial use:
Valley center pivot, 1260' long with 7 towers and an end gun, low pressure system, 750 gpm capacity.

The system is in the following condition good. The point of diversion is located 250' W and 15' S of the center of the NW 1/4 Sec. 36-T113N-R51W. The works are capable of diverting and conveying to the place of use 1.67 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 Sec. 36-T113N-R51W:

<u>NW 1/4 NW 1/4</u>	<u>33 acres</u>	<u>SW 1/4 NW 1/4</u>	<u>33 acres</u>
<u>NE 1/4 NW 1/4</u>	<u>33 "</u>	<u>SE 1/4 NW 1/4</u>	<u>33 "</u>

comprising a total of 132 acres of land and the license should be issued for 1.67 cfs.

Applicable permit qualifications have been complied with: Yes X No

Exceptions to compliance are: none Date: 7-1-93



Lynn Beck
 Natural Resources Engineer
 DENR, Water Rights Division

COMMENTS: Permit No. 5237A-3 is to correct the location of the diversion point and the irrigated lands from the NW 1/4 Sec. 36-T113N-R52W, to the NW 1/4 Sec. 36-T113N-R51W. The permits should be incorporated and licensed.

REPORT ON INSPECTION OF PERMIT NO. 5237A-3

DATE: 7-1-93

Other permit(s) associated with the project: 5237-3

DIVERSION POINT LEGAL LOCATION: 250' W and 15' S of the center of the NW 1/4 Sec. 36-T113N-R51W.

WELL INFORMATION:

- 1) Well Drilling Firm: Lacy Well Drilling
- 2) No. of Wells 1
- 3) Depth(s) 43 feet
- 4) Well log is available Y
- 5) Comment: Permit No. 5237A-3 corrects the location of the diversion point and acres being irrigated.

Casing:

- 1) Diameter 14 inches
- 2) Length 35 feet
- 3) Type steel

Screen:

- 1) Type stainless steel
- 2) Length 8 feet
- 3) Static water level 9 feet

Pump:

- 1) Make Western Land Roller
- 2) Model
- 3) Size
- 4) Capacity 750 GPM

Motor:

- 1) Make US Electric
- 2) Model No. 324TP Type RU
- 3) Horsepower rating 40 hp

DISTRIBUTION LINES OR CANALS:

- 1) Type pvc
- 2) Size 8 inches
- 3) Length 250 feet

SYSTEM TYPE:

Center pivot:

- 1) Make Valley

- 2) Overall length 1260 feet
- 3) Number of towers 7
- 4) Distance between towers feet
- 5) End gun Y
- 6) High or low pressure low
- 7) Capacity 750 GPM

CHEMIGATION EQUIPMENT:

- 1) Does chemigate Y
- 2) Main line check valve Y
- 3) Inspection port/air relief Y
- 4) Low pressure drain Y
- 5) Discharge is 20' from source N
- 6) Interlock type electric
- 7) Injection pump type positive displacement
- 8) Injection check valve Y
- 9) Injection line check valve or positive displacement pump Y
- 10) All chemigation equipment appears to be installed in the proper position and complies with chemigation laws and rules Y
- 11) Comments : Puts on 20' hose when chemigates.

PERMIT QUALIFICATIONS AND REGULATIONS:

- 1) Soil and water permit lands agree with lands being irrigated and lands listed on permit Y
- 2) Special qualifications to permit being abided by Y
- 3) All structures, wells and lands on map Y
- 4) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period Y

NOT TO SCALE



STATE OF SOUTH DAKOTA

WATER LICENSE NO. 5237A-3 FOR IRRIGATION

(1) James Arthur of 104 4th Ave NE, Clark SD 57225 made Application No. 5237A-3, February 5, 1992 for a water permit to specify the correct location of the diversion point and irrigated acres in Hamlin County, South Dakota for irrigation purposes. Permit No. 5237A-3, with a priority date of December 28, 1988 was approved June 3, 1992 and issued to the applicant for diversion of water with construction of the described water supply system completed and the application to beneficial use of said water completed.

Water Permit No. 5237A-3 authorizes the correct location of the diversion point and irrigated acreage authorized by Water Permit No. 5237-3. No. 5237A-3 did not allow for any increase in the developed diversion rate or number of acres being irrigated.

The applicable portions of Water Permit No. 5237-3 have been incorporated into this Water License No. 5237A-3. A priority date of December 28, 1988 is retained.

(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 1.67 cubic feet of water per second for beneficial use. The location of the diversion point is 250 feet W and 15 feet S of the center of the NW 1/4 Section 36-T113N-R51W (SW 1/4 NW 1/4).

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

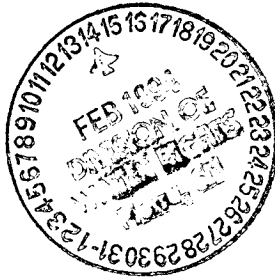
Section 36-T113N-R51W	NW 1/4 NW 1/4	33 acres
	NE 1/4 NW 1/4	33 acres
	SW 1/4 NW 1/4	33 acres
	SE 1/4 NW 1/4	33 acres
	Total	132 acres

(4) Pursuant to South Dakota Water Law 46-5-30.1 James Arthur of 104 4th Ave NE, Clark SD 57225 the holder and/or owner of Incorporated Water Permit No. 5237A-3 is issued a license to appropriate water, the right to use 1.67 cubic feet of water per second from groundwater (one well) with a priority date of December 28, 1988 from the location specified in (2) of this license. The water to be conducted to and upon lands specified in (3) of this license for the purpose of irrigation. This license is subject to any limitations or qualifications listed in Incorporated Water Permit No. 5237A-3 and subject to South Dakota State Law.


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

NOV 14 1994

date



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 10, 1994

Permit No. 5237A-3

James Arthur
104 4th Ave. NE
Clark, SD 57225

Dear Mr. Arthur:

The inspection of your water use system and the inspection of the extent of application of water to beneficial use, as developed under Water Permit Nos. 5237-3 and 5237A-3, has been completed. Your final water right document, the Water License, can now be issued. Upon licensing, the applicable portions of Water Permit No. 5237-3 will be incorporated into 5237A-3.

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

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until the \$50.00 license fee has been paid. Please contact us if you have any questions.

Sincerely,

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

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

PD, \$50.00 JAN. 30, 1992



February 18, 1994

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

James Arthur
104 4th Ave NE
Clark SD 57225

Dear Mr. Arthur:

We received your note stating that you had paid a \$50.00 fee on January 30, 1992. A review of our records indicates that you did pay \$50.00 at that time. That was the filing fee for Water Permit No. 5237A-3 which specified the correct location of the diversion point and the irrigated acres on Water Permit No. 5237-3. Water Permit No. 5237-3 had originally been issued for the wrong range. The \$50.00 fee requested in our letter dated January 10, 1994 is for the inspection and issuance of the water license. This is a one time fee. Water Permit No. 5237-3 and 5237A-3 will be incorporated in one water license. The water license is the final document.

If you have any further questions, please contact this office.

Sincerely,

Karen Schlaak
Environmental Scientist
Water Rights Division
605 773-3352



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

March 24, 1994

SECOND NOTICE
Permit No: 5237A-3

NOTICE OF WATER LICENSE INSPECTION FEE REQUIREMENT

James Arthur
104 4th Ave. NE
Clark, SD 57225

Dear Mr. Arthur:

On January 10, 1994, you were notified the final inspection fee of \$50.00 is due before Water License No. 5237A-3 can be issued. As of this date, the fee has not been received.

The fee is a final step in the legal process of obtaining and perfecting a water right and is required by SDCL 46-2-13(3). Upon receipt of the \$50.00 fee, your Water License will be sent to you. This is the final document for the perfection of your Water Right. A perfected water right is similar to a property right and once a water right is perfected, it cannot be lost as long as the water is used.

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

According to South Dakota Water Law 46-5-30.1, you may not divert water until the License fee is paid. Please submit the required fee immediately to avoid jeopardizing your water permit.

Very truly yours,

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

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

5237A-3

James Arthur
104 4th Ave. NE
Clark, SD 57225

4a. Article Number

P 318 052 639

4b. Service Type

- | | |
|---|---|
| ☐ Registered | ☐ Insured |
| ☒ Certified | ☐ COD |
| ☐ Express Mail | ☐ Return Receipt for Merchandise |

7. Date of Delivery

3-25-94

5. Signature (Addressee)

6. Signature (Agent)

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991

★U.S. GPO: 1992-323-402

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

RECEIPT

414116

Division of Water Rights

South Dakota Department of Environment and Natural Resources

Pierre, _____ March 29, 19 94

RECEIVED OF James Arthur, 104 4th Ave NE, Clark, SD 57225

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use _____		
Fee for Application for Permit No. _____ to Appropriate Water, for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>5237A-3</u>	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	50 00

By John Hatch
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

NOV 14 1994

5237A-3

James Arthur
104 4th Ave. NE
Clark, SD 57225

Dear Mr. Arthur:

Enclosed is Water License No. 5237A-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 414116 in the amount of \$50.00 which you paid for the inspection and issuance of the Water License.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 5237A-3, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Very truly yours,

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

rd
enclosures

NOTE: The applicable portions of Water Permit No. 5237-3 have been incorporated into this Water License No. 5237A-3.



5237A-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 14, 2000

NOTICE

TO: JAMES ARTHUR, LEASOR, 104 4TH AVE NE, CLARK, SD 57225 1230

FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 1999 Irrigation Questionnaire(s)

Our records indicate that the 1999 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 775-3 & 5237A-3. The request for the Questionnaire was dated October 7, 1999. The Water Management Board has directed that owners of water permits who have not submitted the 1999 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 775-3 & 5237A-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 1:30 pm, March 1, 2000 in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol, Pierre, SD, and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 775-3 & 5237A-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is(are) received in this office on/or before February 28, 2000, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

c: Mark N Mack, 17432 US Highway 81, Watertown, SD 57201

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 21, 2000

775-3
5237A-3

James Arthur
104 4th Ave NE
Clark, SD 57225-1230

Dear Mr. Arthur:

I am writing to acknowledge receipt of your 1999 irrigation questionnaires. You may disregard the January 14, 2000, "Notice" concerning reporting requirements for Water Permit No. 775-3 and 5237A-3.

The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Program
(605) 773-3352

c: Mark N Mack



5237A-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 16, 2002

NOTICE

TO: JAMES ARTHUR, LEASOR, 104 4TH AVE NE, CLARK, SD 57225 1230

FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2001 Irrigation Questionnaire(s)

Our records indicate that the 2001 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 775-3 & 5237A-3. The request for the Questionnaire was dated October 12, 2001. The Water Management Board has directed that owners of water permits who have not submitted the 2001 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 775-3 & 5237A-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 10:00 am, March 13, 2002 in the Visitor Center (west side of Capitol Lake), 650 E Capitol, Pierre, SD, and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 775-3 & 5237A-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is(are) received in this office on/or before March 8, 2002, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.

5237A-3

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits.	A. Received by (Please Print Clearly) <u>James Arthur</u> B. Date of Delivery <u>1-29-02</u> C. Signature <u>James Arthur</u> ☐ Agent ☐ Addressee D. Is delivery address different from item 1? ☒ Yes If YES, enter delivery address below: ☐ No
1. Article Addressed to: JAMES ARTHUR, LEASOR 104 4TH AVE NE CLARK SD 57225 1230	3. Service Type ☒ Certified Mail ☐ Express Mail ☐ Registered ☐ Return Receipt for Merchandise ☐ Insured Mail ☐ Signature Required 4. Restricted Delivery? (Extra Fee) ☐ Yes
7001 2510 0004 4797 4593	
PS Form 3811, July 1999 Domestic Return Receipt 102595-00-M-0952	



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 31, 2002

775-3
5237A-3

James Arthur
104 4th Ave NE
Clark SD 57225-1230

Dear Mr. Arthur:

I am writing to acknowledge receipt of your 2001 irrigation questionnaires. You may disregard the January 16, 2002, "Notice" concerning reporting requirements for Water Right Nos. 775-3 and 5237A-3.

The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Program
(605) 773-3352



5237A-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 17, 2003

NOTICE

TO: JAMES ARTHUR, LEASOR, 104 4TH AVE NE, CLARK, SD 57225 1230
FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2002 Irrigation Questionnaire(s)

Our records indicate that the 2002 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 775-3 & 5237A-3. The request for the Questionnaire was dated October 11, 2002. The Water Management Board has directed that owners of water permits who have not submitted the 2002 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 775-3 & 5237A-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 8:30 am, March 5, 2003 in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 775-3 & 5237A-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is(are) received in this office on/or before **February 28, 2003**, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

cc: Mark & Mary Mack, 17432 US Highway 81, Watertown SD 57201

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 31, 2003

775-3
5237A-3

James Arthur
104 4th Ave NE
Clark SD 57225-1230

Dear Mr. Arthur:

I am writing to acknowledge receipt of your 2002 irrigation questionnaires. You may disregard the January 17, 2003, "Notice" concerning reporting requirements for Water Right Nos. 775-3 and 5237A-3.

The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

If you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Program
(605) 773-3352

c: Mark & Mary Mack, 17432 US Highway 81, Watertown SD 57201



5237A-3
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

January 14, 2004

NOTICE

TO: JAMES ARTHUR, LEASOR, 104 4TH AVE NE, CLARK, SD 57225 1230
FROM: Ron Duvall, Natural Resources Engineer
for Garland Erbele, Chief Engineer
Water Rights Program

SUBJECT: Reporting Requirement for 2003 Irrigation Questionnaire(s)

Our records indicate that the 2003 Irrigation Questionnaire(s) has not been submitted for Permit No(s) 775-3 & 5237A-3. The request for the Questionnaire was dated October 17, 2003. The Water Management Board has directed that owners of water permits who have not submitted the 2003 Irrigation Questionnaire(s) be given notice of permit violation and a hearing to be held by the Board. The hearing is to determine what action is to be taken for violation of Water Permit No(s) 775-3 & 5237A-3 qualification:

"This permit is approved subject to the Irrigation Water Use Questionnaire being submitted each year."

The hearing will be held at 8:30 am, March 3, 2004 in the Floyd Matthew Training Center, Joe Foss Building, 523 E Capitol Avenue, Pierre, SD and will be conducted pursuant to SDCL 46-1-12, 46-1-14, 46-2-9, 46-2-11 and 46-2-17. These are contested case hearings pursuant to Chapter 1-26. According to SDCL 46-1-12, the Board may suspend a permit for a period of up to one year for the first violation of a permit qualification or up to three years for a second violation, or cancel a permit for a third violation. Following the hearing, the Water Management Board can:

1. Suspend or cancel Permit No(s) 775-3 & 5237A-3 in accordance with applicable provisions of SDCL 46-1-12;
2. Postpone any action; or
3. Take no action.

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

If the questionnaire(s) is(are) received in this office on/or before February 27, 2004, you will no longer be in violation of your permit and your name will be deleted from the Board agenda. If you have questions or need assistance in completion of the irrigation questionnaire(s), please contact Genny McMath at (605) 773-3352.

cc: Mark & Mary Mack, 17432 US Highway 81, Watertown SD 57201

NOTE: Please contact the Water Rights Program, Joe Foss Building, 523 E Capitol, Pierre, SD (605-773-3352) to assure access to the meeting room for the handicapped or to obtain an interpreter for the hearing impaired.



5237A-3

**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 5, 2004

775-3
5237A-3

James Arthur
104 4th Ave NE
Clark SD 57225-1230

Dear Mr. Arthur:

I am writing to acknowledge receipt of your 2003 irrigation questionnaires. I completed questionnaires for you based on our February 5th telephone conversation.

You may disregard the January 14, 2004, "Notice" concerning reporting requirements for Water Right Nos. 775-3 and 5237A-3. The information was received in our office prior to the Water Management Board meeting and your name has been deleted from the agenda.

Thank you for calling and if you have any questions, please contact me.

Sincerely,

Genny McMath
Environmental Scientist
Water Rights Program
(605) 773-3352

c: Mark & Mary Mack