

WATER PERMIT NO. 1709-1

Name of Applicant: Murray Water Co.

Address: 2551 Dolan Creek Rd, Sturgis SD 57785

Phone: 605 347-6584

Amount of Water Claimed: 0.333 cfs (150 gpm)

Total Acres: NA

Source of Water Supply: groundwater (three existing wells)

Water to be used for: suburban housing development and commercial

County: Meade

Type of Waste Disposal System:

Location: 1 mile south of Sturgis

PRIORITY Date Received: 1-27-2000

Fee: \$\$225.00

Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks: Water Right No. 683-1 for one well

Diversion Point: NE ¼ SE ¼, SE ¼ SE ¼ Sec 8
and NE ¼ NW ¼ Sec 17; all in T5N-R5E

Land to be Irrigated: NA

7		8		9	
			⊗		
			⊗		
		⊗			
18		17		16	

Depth of Well: 550', 1040' & 699'

Well Driller: : Graf Drilling & Cimarron Drilling

Remarks:

Type of Map: aerial

Prepared by: Marjorie Duprel, FSA

Reviewed and the Number Assigned on: 1-27-2000

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

No. 1709-1 Hydrologic Unit 10/20202
Basin Belle Fourche River
Newspaper Meade Co. Times-Tribune, Sturgis, SD



☒ Municipal	☒ Suburban Housing	☐ Recreational	☐ Institutional
☒ Rural Water System	☒ Commercial	☐ Fish & Wildlife	☐ Geothermal Heat
☐ Domestic (over 18 gpm)	☐ Industrial	☒ Other <u>Campground</u>	<u>July & Aug.</u>

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

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

1. Name of Applicant MURRAY WATER Co. Phone 605-347-6584
(check one) ☒ Owner ☐ Tenant/lessee
- Mailing Address 2551 Dolan Ck Rd. Sturgis State S.D. 57785
(Street, RR. or Box) 109pm-Minnesota (Zip Code)
2. Amount of water claimed 0.333 *CFS or 150 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply ground water - Minnesota
4. Location of point of diversion (example - 3 wells in SW 1/4 NE 1/4 section 12-T104N-R53W) 1-well in NE 1/4 of SE 1/4
SEC 8 T5N R5E. - 1 well in the SE 1/4 of SE 1/4 SEC 8 T5N R5E
(#4) 1-well in the NE 1/4 of the NW 1/4 SEC 17 T5N R5E BHM. county Meade
5. County or counties where water will be used Meade
6. Annual period during which water is to be used YEAR AROUND Jan 1-Dec 31
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)
- Well #1 Supplies MURRAY Ad. a suburban Housing AREA
Well #2 has been worked over and can be brought on line
Well #4 Supplies Pine Glen Sub. a suburban Housing & Campground
- Attachments: Attach Form 2A if diversion is from a well or dugout, or if storage of water is proposed. Attach map and any other technical information. (see instructions)

STATE OF SOUTH DAKOTA)

County of Meade) SS

I, Ray E. Murray, 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.

Signes

Subscribed and sworn to before me this 25th day of January 2000

Notary Public

**SOUTH DAKOTA
WATER PERMIT NO. 1709-1**

Date of first receipt of application January 27, 2000.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1709-1 to Murray Water Company, 2551 Dolan Creek Road, Sturgis SD 57785 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. 1709-1 appropriates a total of 0.333 cubic feet of water per second [150 gallons per minute (gpm)] from three wells (Minnelusa and Madison Formations) 550 feet, 699 feet and 1040 feet deep located in the NE ¼ SE ¼, SE ¼ SE ¼, Section 8 and the NE ¼ NW ¼ Section 17; all in T5N-R5E. This permit authorizes the appropriation of 110 gpm from the two Minnelusa wells and 40 gpm from the deeper Madison well.
2. The water appropriated shall be used for the purpose of supplying water for suburban housing development use and commercial use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1709-1 is April 17, 2000.
5. The date from which applicant may claim right is January 27, 2000.
6. One-fifth of the construction is to be completed on or before October 17, 2002.
7. All construction is to be completed on or before April 17, 2005.
8. Water is to be put to beneficial use on or before April 17, 2009.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1709-1 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1709-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and ARSD 74:02:01:37.
2. 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.

WATER MANAGEMENT BOARD

By: Garland Erbele

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

MAY 12 2000

date



T1023
T6551

8

T10226

NW
NHE
38.7
W211#4

NON
AG - 96

(52)
(5-5)

①539
verified by
Majorie Duprel
Program technician
Meade Co. 25A
Sturgis, S.D.
1-25-40

17

MAP NOT TO SCALE
THIS IS NOT AN OFFICIAL WETLAND MAP



RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

N2 416365

Pierre, January 27, 2000

RECEIVED OF Murray Water Co., Inc., 2551 Dolan Creek Rd., Sturgis, SD 57785
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. <u>1709-1</u> to Appropriate Water, to construct and to put water to beneficial use _____	225	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>1709-1</u> _____	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for _____		

(Any Other Work Provided by Law)	Total	275 00

By Harold Estelle
Chief Engineer

DRILLER'S LOG OF WELL

Location of Well: SE $\frac{1}{4}$, SE $\frac{1}{4}$, Section 8, Township 5N, Range 5E

Well to be drilled for: Murray White Co.
(Name) (Address)

Owner of land (if other than above) _____

Date well drilling started 13 April 1971 finished 27 April 1971

Purpose of well Municipal
(domestic, irrigation, municipal, industrial, other)

Water Rises to 300 ft
Draw down to 350 —

Diameter
7 inch
Inches

Red beds
18 - 33 feet
Coa gravel
and larger

Ground Surface Elevation: 56.60
(If Available)

Kind and thickness of casing ~~to be~~ installed:

7 inch O. D. 5/2 Thiamuth
Wall - 23 lb per foot

Describe
kind of
materials
drilled
through
(add
layers
on back
of form
if
necessary)

Spearsfoot
Redhead

Size of casing to be installed:

_____ feet of _____ inches diameter

_____ feet of _____ inches diameter

_____ feet of _____ inches diameter

Type of Seal between casing sizes:

Kind of perforated screen to be installed:

Material _____
(steel, wood, concrete, etc.)

Size of Screen:

Diameter _____ inches

Length _____ feet

Size openings _____ inches

Depth below ground surface to which water rises
in well 265 feet.

[illegible]

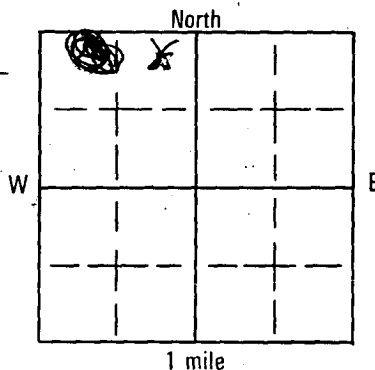
3 foot Cavern in the bottom of the well
7 inch casing set to ⁵⁴³583 feet - Produce from
open hole below the 7 inch
3 H.P. Submersible set at 445

SOUTH DAKOTA WELL REHABILITATION REPORT

10-85

Location NE 1/4 NW 17 Sec 17 Twp 5 Rg 5County Meade

Please mark well location with an "X"

Rehabilitation Completion Date Apr. 12, 1998

PROPOSED USE:

☒ Domestic ☐ Municipal ☐ Stock
☐ Irrigation ☐ Industrial

Well Owner:

Name Ray Murray
Address P.O. Box 277 Sturgis

Describe original construction if possible?

(Attach original log if known)

Original well drilled
by CIMARRON in 1996
0-38" MINNEKAHTA
38'-188' OPPEHE
188'-570' MINNEKAHTA

Description of condition of well before rehabilitation:

Cased with 5" PVC
CASING TO 360' WAS PUMPING SAND
at startup.

Description of rehabilitation work completed:

Redrilled Hole x PVC
CASING WITH 8 3/4" bit TO 500'
Recased with 7" steel x grouted with
65 bags Portland Cement Open Hole TO 570'

Recasing information: Material Steel Diameter 7 Inches Depth 485 Feet

Describe screen or perforations _____ Screen Location From _____ To _____

Grout: ☒ YES ☐ NO Describe grouting procedure and grout PRESSURE GROUT THRU
CASING. DISPLACE WITH FRESH WATER TO
SURFACE WITH MUD PUMP. 65 BAGS

Well Test Data: Pumped
Specific capacity 40 GPM @ 480' Static water level 340'

If a flowing well GPM _____ Shut in _____ PSI

This well rehabilitation was completed under license # 568Drilling firm CIMARRON DRILLINGSignature of Licensed Representative Michael J. Dauter

Signature of Well Owner _____

Date _____

And this report is true and accurate

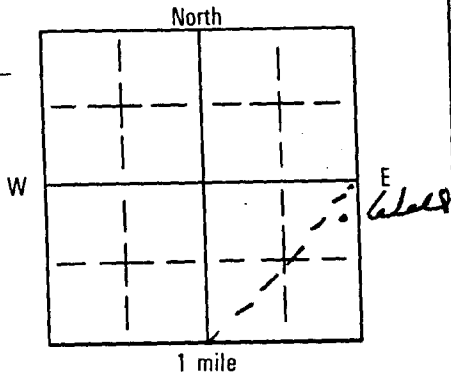


SOUTH DAKOTA WATER WELL COMPLETION REPORT

10-85

Location NE 1/4 Sec 8 Twp 5 Rg 5County Muskegon

Please mark well location with an "X"

Well Completion Date 12/1/90

PROPOSED USE:

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

Method of Drilling:

Mud Rotary

CASING DATA:

- ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>250 LB/FT</u>	<u>9 3/4 IN</u>	<u>0 FT</u>	<u>30 FT</u>	<u>12 1/4 IN</u>
<u>23 LB/FT</u>	<u>7 IN</u>	<u>0 FT</u>	<u>740 FT</u>	<u>8 3/4 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NOTo what depth? 740 FEETWhat is grouting material? CementIf cement, number of sacks? 140 Sks

Describe grouting procedure _____

Open hole 825 to 1040

What was grout weight? _____ LB/GAL

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet To _____ 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? _____

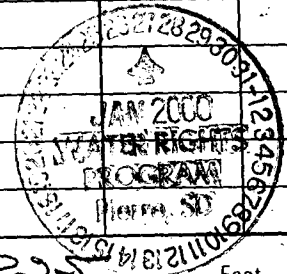
Was well disinfected upon completion? ☒ YES ☐ NOExplain J. H. AllardBacteriological analysis ☐ YES ☐ NO

Laboratory sent to _____

Well Owner:

Name Muskegon Water Co
Address Box 577 Sturgis S.D.
Well Log: 57785 Depth _____

Formation	From	To
<u>GRAVEL</u>	<u>0</u>	<u>22</u>
<u>Red beds, 1st Circ</u>	<u>22</u>	<u>275</u>
<u>Lime Stone</u>	<u>275</u>	<u>322</u>
<u>OPeACHE</u>	<u>322</u>	<u>450</u>
<u>minilosa 1st Circ.</u>	<u>450</u>	<u>825</u>
<u>455 to returns</u>		
<u>Drilled 4 in to</u>	<u>825</u>	<u>1040</u>

STATIC WATER LEVEL 325 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:

Tested 24 hrs, 30 gal minThis well was drilled under license # 327

And this report is true and accurate.

Drilling firm Griff Drilling

Signature of License Representative: _____

Signature of Well Owner: _____

Date 12/26/90

Water Rights Program - DENR
Conversation File Documentation

NAME OF PERSON OR FILE: Water Permit Application No. 1709-1, Murray Water Co.

ADDRESS: COUNTY: Meade

DATE: March 10, 2000 TELEPHONE: 605 347-6584

RE: Call to Ray Murray

COMMENTS:

I contacted Mr. Murray to discuss his water permit application from three wells to appropriate 150 gallons per minute (gpm). I stated that since one of the wells is constructed into a different formation than the other two wells, that we needed to know the diversion rate from the wells. Mr. Murray said that the Madison Formation well (No. 2) produces 40 gpm. He asked that his application reflect a water appropriation of 110 gpm from the two Minnelusa Formation wells and 40 gpm from the Madison Formation well.

File in Permit or other file as necessary. Use to document conversations and what the other party was told; why action or decision was made.

NAME:



WATER PERMIT APPLICATION NO. 1709-1
MURRAY WATER CO
MARCH 8, 2000

Water Permit Application No. 1709-1 proposes to appropriate 0.333 cubic feet of water per second (cfs) [150 gallons per minute (gpm)] from three wells 550 feet, 1040 feet and 699 feet deep located in the NE¼ SE¼, and the SE¼ SE¼ of Section 8, and the NE¼ NW¼ Section 17, respectively, all in T5N-R5E. This application proposes an appropriation of 110 gpm from the two existing Minnelusa Aquifer wells and 40 gpm from the Madison Aquifer well. The water is for suburban housing development use and commercial use at a campground.

AQUIFERS: Minnelusa Formation (MNLS) and Madison Aquifer (MDSN)

GENERAL:

Minnelusa Aquifer:

Well No. 1 (699 feet deep) and Well No. 4 (570 feet deep) are completed into the Minnelusa Formation. The Minnelusa Formation is approximately 450 feet thick in this area (Water Rights, 2000), consisting of interbedded sandstone, limestone, dolomitic limestone and lesser amounts of shale. The top of the Minnelusa is reported to be 438 feet below ground surface at well No. 1 and 188 feet below ground surface at well No. 4. The Minnelusa Formation underlies approximately 2,172,800 acres of Meade County and contains an estimated 81,480,000 acre-feet of recoverable water in storage in the county (Allen, 1984). The aquifer is areally extensive around the Black Hills and is hydraulically connected into the counties surrounding Meade County. Ground water movement in this area is probably toward the north and east. There is no aquifer-test data available for the Minnelusa Aquifer at these well sites; therefore, the aquifer transmissivity and storage coefficient values are unknown. Estimates from regional studies of the aquifer indicate the aquifer transmissivity may range from 30 to 1000 ft²/d, and the storage coefficient ranges from 6.6×10^{-5} to 2×10^{-4} (Kyllonen, 1987).

Recharge to the Minnelusa Formation occurs through infiltration of precipitation falling directly on the outcrop of the formation, streamflow losses and potentially upward leakage from the Madison Formation. No estimate for average annual recharge is available for the Minnelusa Formation.

The Water Rights Program monitors 23 observation wells completed into the Minnelusa aquifer in the Black Hills area. Water Rights' Observation Well LA-63A is located approximately 2.75 miles west of the wells for this application. The hydrograph for the well (see figure 1), is fairly representative for the Minnelusa Aquifer and has one of the longest periods of record (1963-present) of the observation wells.

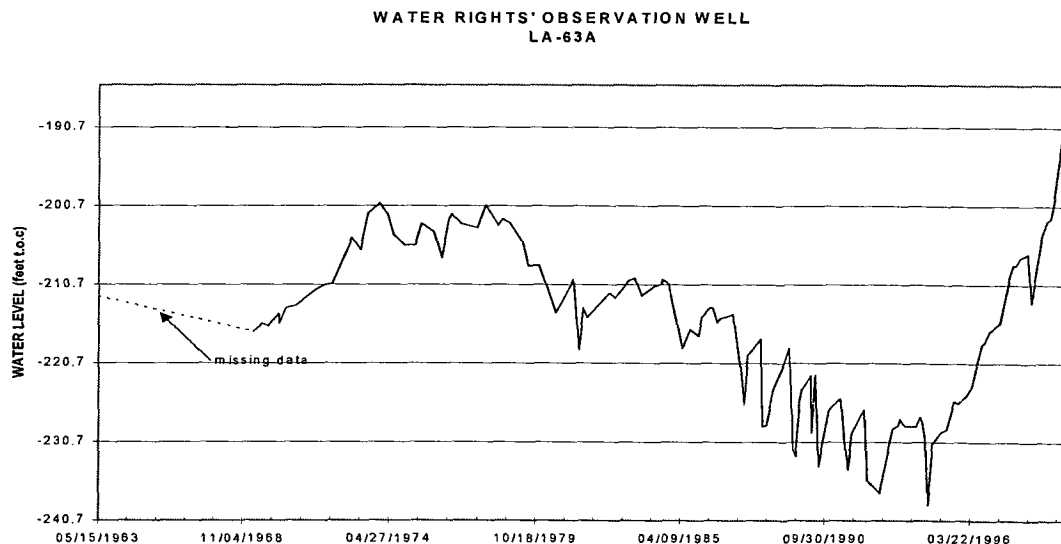


Figure 1. Minnelusa Aquifer Observation Well, 2.75 miles west of 1709-1

Water levels typically reach their peak each year in the late spring or early summer and gradually decline throughout the year. The hydrograph also suggests a cyclic nature to recharge. From 1969-1973 recharge exceeded withdrawals (pumping, groundwater outflow, etc.), between 1973 and 1977 the amount of water in storage in the aquifer did not change significantly, there was less recharge than discharge between 1977 and 1994. The hydrograph also shows that recharge since 1994 has exceeded discharges. There is currently more water in storage in the aquifer than at any time since Water Rights' began monitoring the Minnelusa in this area. The hydrograph shows the magnitude of fluctuation in the water levels in the area (>51') with the lowest water level on record occurring in 8/24/1994 and the highest occurring at the last measurement (02/09/2000).

Water Rights Observation Well LA-86C is located approximately 2.75 miles northwest of the wells this application proposes to use. The hydrograph for this well (see figure 2), is similar to figure 1.

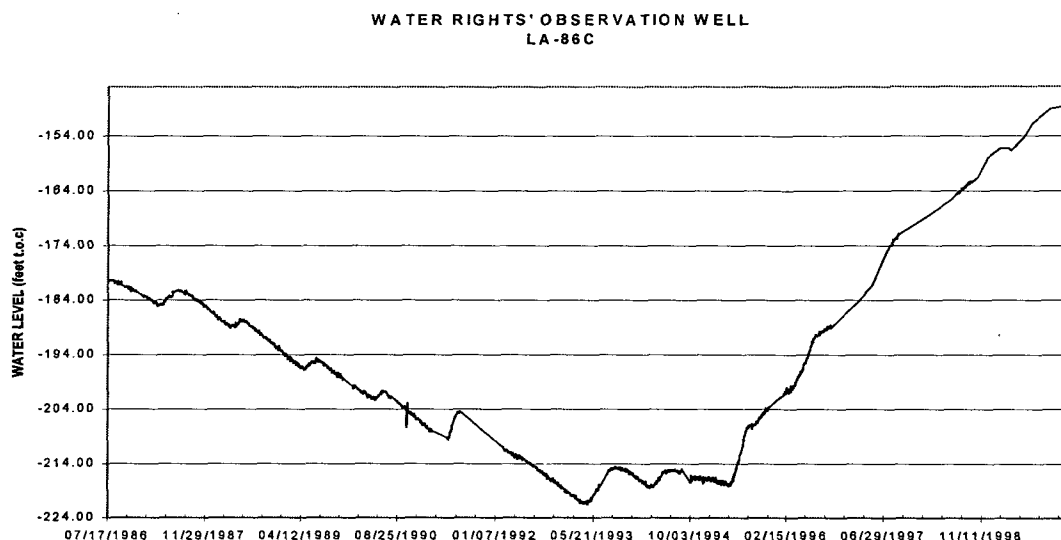


Figure 2. Minnelusa Aquifer Observation Well, 2.75 miles northwest of 1709-1

The hydrograph shows the magnitude of fluctuation in the water levels in the area (>72') with the lowest water level on record occurring in 1993 and the highest occurring at the last measurement (02/23/2000). It is interesting to note that on October 14, 1990, the Minnelusa Aquifer was essentially "pumped" at a rate of 150 gpm just 20' away from this well during the drilling of a Madison observation well. As can be seen in figure 2, the pumping resulted in about three feet of drawdown in this well.

It is obvious from the Water Rights' Minnelusa Aquifer Observation Well hydrographs that withdrawals have not exceeded recharge for the period of record. The observation well data suggest that at the existing level of development, the aquifer is capable of sustaining additional withdrawals.

Madison Aquifer:

Well No. 2 appears to be constructed into the Madison Aquifer. The Madison Aquifer is a massive, carbonate (limestone and dolomite) aquifer that underlies most of western South Dakota. It is estimated that the aquifer contains at least 640 million acre-feet of recoverable water in storage in the State (Allen, 1984). The importance of the Madison as an aquifer is largely due to randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution, and fracturing. These zones also play an important role in determining the hydraulic behavior of the Madison aquifer and the response of the system to stress. Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge for the entire Madison Aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward Clyde, 1981).

There are 109 Water Right/Permits appropriating water from the Madison Aquifer in South Dakota accounting for withdrawals probably an order of magnitude less than these recharge estimates. The Madison is generally considered an excellent aquifer both in terms of quality and quantity, especially near the outcrop (recharge area). The Madison outcrop is located approximately three miles from of this well site (Darton, 1925). The top of the Madison is estimated to be approximately 900 feet below ground surface at this well site (Redden, 1994). The static water level of this well was reported to be 325 feet below grade in 1990.

The Water Rights Program monitors 26 observation wells completed into the Madison Aquifer in the Black Hills Area. Records from the observation wells indicate the potentiometric surface of the Madison Aquifer fluctuates as much as 30-40 feet per year in areas, in response to seasonal and climatic variations. There are three Madison Observation wells within approximately 4 miles of this well site. The nearest observation well (Water Rights' Observation Well MD-86A) is located approximately one mile south east of this well. The hydrograph for the well has the longest period of record of the Water Rights' Madison Observation wells (see figure 3).

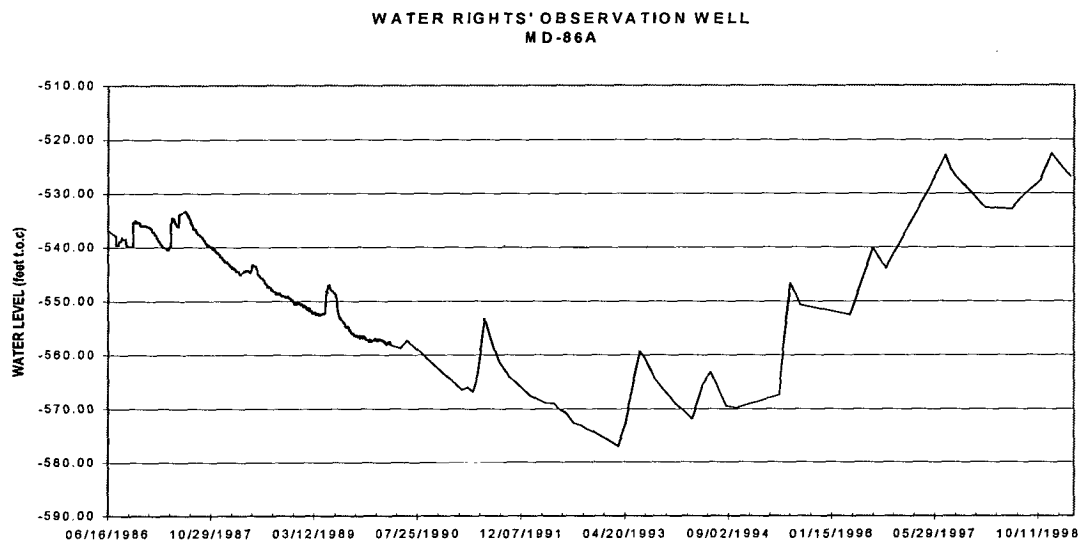


Figure 3. Madison Aquifer Observation Well one mile south east of 1709-1

The hydrograph of the well (figure 3) clearly shows the aquifer's response to recharge. The hydrograph also illustrates the magnitude of fluctuation of the water level of the Madison Aquifer in this area (54.2') between the relatively wetter period from 1995 to present and the dryer early 1990's. The aquifer is replenished rapidly and water is withdrawn from storage more gradually. Observation well data suggest that at the existing level of development, natural influences dominate the water level of the aquifer and the effects of pumping as yet are not obvious.

AFFECTS ON EXISTING RIGHTS:

There are a number of domestic wells on file with the Water Rights Program in this area. They are supplied six general zones, listed in descending order: Alluvium, Spearfish Formation, Minnekahta Limestone, Opeche Shale, Minnelusa Formation and the Madison Limestone.

There are 14 Water Rights/Permits that appropriate groundwater within approximately two miles of this well site. They include:

Water Right No.	Owner	Aquifer
441A-1	Sturgis Water Dept.	Madison
441B-1	Sturgis Water Dept.	Madison
683-1	Murray Water Co.	Opeche
780-1	Sturgis Water Dept	Madison
1062-1	Sturgis Mun Utility Board	Minnelusa
1287-1	City of Sturgis.	Madison
1318-1	Gerald Baldwin	Minnelusa
1349-1	Warren Mann	Minnelusa
1351-1	Molly B's Truckstop	Minnelusa
1396-1	City of Sturgis	Minnelusa
1473-1	Veterans Adm. Medical Cntr	Deadwood
1541-1	Automatic Vendors, Inc	Minnekahta
1558-1	Leo Bestgen	Minnelusa
1684-1	Mike Ringer	Madison

The nearest appropriative rights from the Minnelusa Aquifer are approximately three-fourths of a mile from this project. They include Water Right No. 1318-1, Gerald Baldwin and Water Right No. 1351-1, Molly B's Truckstop. The nearest Madison appropriation, Water Right No. 441B-1 Sturgis Water Dept., is approximately one-half mile from the Madison well to be used by this permit. Any well interference this proposed application would have on adequate wells in the area is not expected to be adverse due to the distance between appropriations. Furthermore the wells to be used by this application were constructed in 1971, 1990 and 1996 and have presumably been in use since construction with no reported controversy.

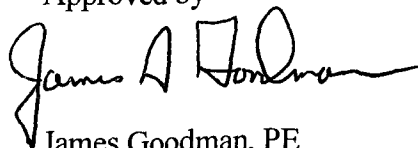
CONCLUSIONS:

1. This is an application to appropriate water for a suburban housing development and a campground from three existing wells.
2. This application proposes to appropriate 0.333 cfs from the Minnelusa and Madison Aquifers.
3. Unappropriated water is available from either the Madison Aquifer or the Minnelusa Aquifer to supply this permit.
4. This appropriation will not adversely impair existing ground water rights.
5. This application proposes an appropriation of 110 gpm from the two existing Minnelusa Aquifer wells and 40 gpm from the existing Madison Aquifer well.



Ken Buhler
Water Rights Engineer

Approved by



James Goodman, PE
Water Rights Engineer

REFERENCES:

- Allen, J.C., D.Iles, A.Petres, 1984, Analysis of Groundwater and Streamflow Data, Western Dakotas Region of South Dakota, Task 3 & 4: Groundwater Resources Inventory, US Army Corps of Engineers Contract DAWC 45-82-C-015, SD DENR- Geological Survey, Vermillion SD
- Darton, N.H., Paige, S., 1925, Geologic Atlas of the United States, Central Black Hills Folio, U.S. Geologic Survey Folio No. 219.
- Kyllonen, D.P, K.Peter, 1987, Geohydrology and Water Quality of the Inyan Kara, Minnelusa, and Madison Aquifers of the Northern Black Hills, South Dakota and Wyoming, and Bear Lodge Mountains, Wyoming, USGS WRI 86-4158, USGS, Rapid City, SD
- Redden, J.A., 1994, Structural Contours and Phanerozoic Structures in the Rapid City, South Dakota, 1:100,000 Scale Quadrangle, Open-File Report 95-81, U.S. Geological Survey, Rapid City, SD
- Water Rights Program_a, 2000, "Domestic Well Log Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program_b, 2000, "Unpublished Observation Well Records", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program_c, 2000, "Water Permit/Right Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of Interior, Bureau of Land Management

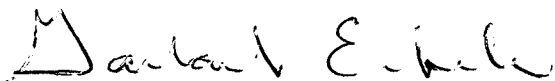
RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO.1709-1, Murray Water Company

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. 1709-1, Murray Water Company, c/o Ray E. Murray, 2551 Dolan Creek Road, Sturgis SD 57785

The Chief Engineer recommends APPROVAL of Application No. 1709-1 including a 20 year term for the Madison Formation well permit pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Formation well, there is reasonable probability that there is unappropriated water available from the Madison Formation for the applicant's proposed use, 2) unappropriated water is available from the Minnelusa Formation wells, 3) the proposed diversions have been developed without unlawful impairment of existing rights, 4) the proposed use is a beneficial use, and 5) it is in the public interest with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, the Madison Formation well authorized by Permit No. 1709-1 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1709-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and ARSD 74:02:01:37.
2. 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.

See report on application for additional information.



Garland Erbele, Chief Engineer
March 17, 2000



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

March 20, 2000

Murray Water Co.
%Ray E. Murray
2551 Dolan Creek Rd.
Sturgis, SD 57785

Dear Mr. Murray:

Water Permit Application No. 1709-1 for suburban housing development and commercial 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 Meade Co. Times-Tribune printed at Sturgis, SD (Ph # (605) 347-2503). 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
www.state.sd.us/denr

March 20, 2000

Meade Co. Times-Tribune
Box 69
Sturgis, SD 57785-0069

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 1709-1 to Appropriate Water to be published twice. Please publish the first notice on March 29, 2000, 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 Murray Water Co., %Ray E. Murray, 2551 Dolan Creek Rd., Sturgis, SD 57785 (Ph # (605) 347-6584).

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

-----CU T HERE-----

No. 1709-1

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

Date _____

We are in receipt of your letter of March 20, 2000, enclosing Notice of Hearing to Appropriate Water by Application No. 1709-1 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 March 29, 2000, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1709-1 to Appropriate Water

Notice is given that Murray Water Co., c/o Ray E Murray, 2551 Dolan Creek Road, Sturgis SD 57785 has filed an application for a water permit to appropriate a total of 0.333 cubic feet of water per second [150 gallons per minute (gpm)] from three wells (Minnelusa and Madison Formations) 550 feet, 699 feet and 1040 feet deep located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 8 and the NE $\frac{1}{4}$ NW $\frac{1}{4}$ Section 17; all in T5N-R5E. This application proposes an appropriation of 110 gpm from the two Minnelusa wells and 40 gpm from the deeper Madison well. The water is for suburban housing development use and commercial use at a campground.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1709-1 including a 20 year term for the Madison Formation well permit pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Formation well, there is reasonable probability that there is unappropriated water available from the Madison Formation for the applicant's proposed use, 2) unappropriated water is available from the Minnelusa Formation wells, 3) the proposed diversions have been developed without unlawful impairment of existing rights, 4) the proposed use is a beneficial use, and 5) 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 April 17, 2000.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.



AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA COUNTY OF MEADE

Joan M. Lewis, being duly sworn, says: That the **Meade County Times-Tribune**, is and, during all the times hereinafter mentioned, was a legal newspaper as defined in SDCL 17-2-2, as amended, published at Sturgis, Meade County, South Dakota, by Dickson Media, Inc.; that affiant is and, during all of said times, was employed as an accountant by the publisher of such newspaper and has personal knowledge of the facts stated in the affidavit; that the notice, order or advertisement, a printed copy of which is attached, was published in said newspaper for successive issues, bearing the following dates:

<u>March 29</u>	200	<u>0</u>	_____	200	_____
<u>April 5</u>	200	<u>0</u>	_____	200	_____
_____	200	_____	_____	200	_____
_____	200	_____	_____	200	_____
_____	200	_____	_____	200	_____

that the full amount of the fee charged for publishing the same, to-wit, the sum of \$ 48.14, insures solely to the benefit of the publisher of said newspaper; that no agreement or understanding for the division of the fee has been made with any person, and that no part of the fee has been agreed to be paid to any other person.

Joan M. Lewis
Bookkeeper

Subscribed and sworn to before me this

5th day of April, 2000

Tanjee Stansbury
Notary Public, South Dakota

Tanjee Stansbury
Notary Public
My commission expires January 4, 2006



Water application

NOTICE OF APPLICATION NO. 1709-1 to Appropriate Water

Notice is given that Murray Water Co., c/o Ray E Murray, 2551 Dolan Creek Road, Sturgis SD 57785 has filed an application for a water permit to appropriate a total of 0.333 cubic feet of water per second [150 gallons per minute (gpm)] from three wells (Minnelusa and Madison Formations) 550 feet, 699 feet and 1040 feet deep located in the NE 1/4 SE 1/4, SE 1/4 SE 1/4, Section 8 and the NE 1/4 NW 1/4 Section 17; all in T5N-R5E. This application proposes an appropriation of 110 gpm from the two Minnelusa wells and 40 gpm from the deeper Madison well. The water is for suburban housing development use and commercial use at a campground.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1709-1 including a 20 year term for the Madison Formation well permit pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Formation well, there is reasonable probability that there is unappropriated water available from the Madison Formation for the applicant's proposed use, 2) unappropriated water is available from the Minnelusa Formation wells, 3) the proposed diversions have been developed without unlawful impairment of existing rights, 4) the proposed use is a beneficial use, and 5) 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 April 17, 2000.

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. Nettie H. Myers, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

MAY 12 2000

Murray Water Company
%Ray E. Murray
2551 Dolan Creek Road
Sturgis, SD 57785

Dear Mr. Murray:

Enclosed is Water Permit No. 1709-1 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

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

Date 4-21-01

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181



FROM: MURRAY WATER Co.
(name)
2551 DOLAN CREEK Rd.
(address)
Sturgis, S.D. 57785
(city, state, zip)

605-347-6584
(phone)

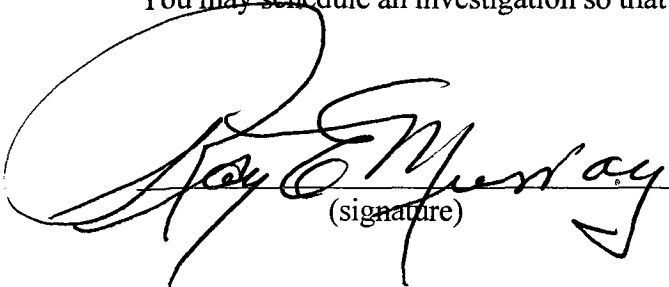
I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

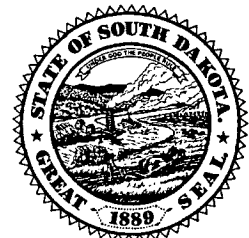
Water Permit No. 1709-1 states that the water use system is to be constructed by
JUNE 1, 2001 (date), and water is to be put to beneficial use by MAY 15 (date).

The water use system was completed on _____ (date).

Applying the water to beneficial use was completed on MAY, 2001 (date).

You may schedule an investigation so that the water license may be issued.


(signature)



Permit No. 1709-1
Belle Fourche River - Water District

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

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

I have this day, May 13, 2003, made a thorough examination of the water use system constructed by Murray Water Company of 2551 Dolan Creek Rd, Sturgis SD 57785 holder of Permit No. 1709-1, bearing the priority of January 27, 2000 authorizing the diversion of 0.333 cu. ft. per second of the waters of ground water (Minnelusa and Madison formations) for suburban housing and commercial purposes, in Meade County.

Inspection contact & relationship to permit holder, if applicable: **Ray Murray**

A. Works used to divert the water:

Well Information: Well Nos. 1, 2 and 4

- 1) Well Drilling Firm: Cimarron & Graf
- 2) No. of Wells 3
- 3) Depth(s) see logs feet
- 4) Well log is available Y

Casing:

- 1) Diameter 9.625 & 7 inches
- 2) Length see logs feet
- 3) Type steel

Motor/Pump:

- 1) Make All submersible
- 2) Size No. 1 - 20 hp; No. 2 - 10 hp; No. 4 - 5 hp
- 3) Capacity 110 (No. 1 & 4 combined); 40 (No. 2) GPM

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

Water from well Nos. 1 and 2 is diverted to a 45,000 gallon and 12,000 storage tank and then distributed to approximately 120 homes. Well No. 4 is used to supply the Hog Heaven RV park and the Pine Glen subdivision consisting of 5 homes.

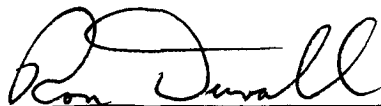
C. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by Y
- 2) Exceptions to compliance are: none

The system is in good condition with the point(s) of diversion located as follows: Well No. 1: 750 feet W and 815 feet N; Well No. 2: 60 feet W and 2,250 feet N; Well No. 4: 3,400 feet W and 100 feet S; all from the SE corner section 8 (NE corner section 17) T5N-R5E (No. 1, SE¼SE¼ section 8, Latitude 44.40411 Longitude -103.53208; No. 2, NE¼SE¼ section 8, Latitude 44.40806 Longitude -103.52952; No. 4, NE¼NW¼ section 17, Latitude 44.40168 Longitude -103.54233). The works are capable of diverting and conveying to the place of use 0.333 cu. ft. per second of water which is to be used for suburban housing and commercial purposes. Water has been put to beneficial use to the maximum extent and the license should be issued for 0.333 cfs (110 gpm Minnelusa formation & 40 gpm Madison formation.)

All structures, wells and lands on map Y

Comments or other permit(s) associated with the project: **683-1**



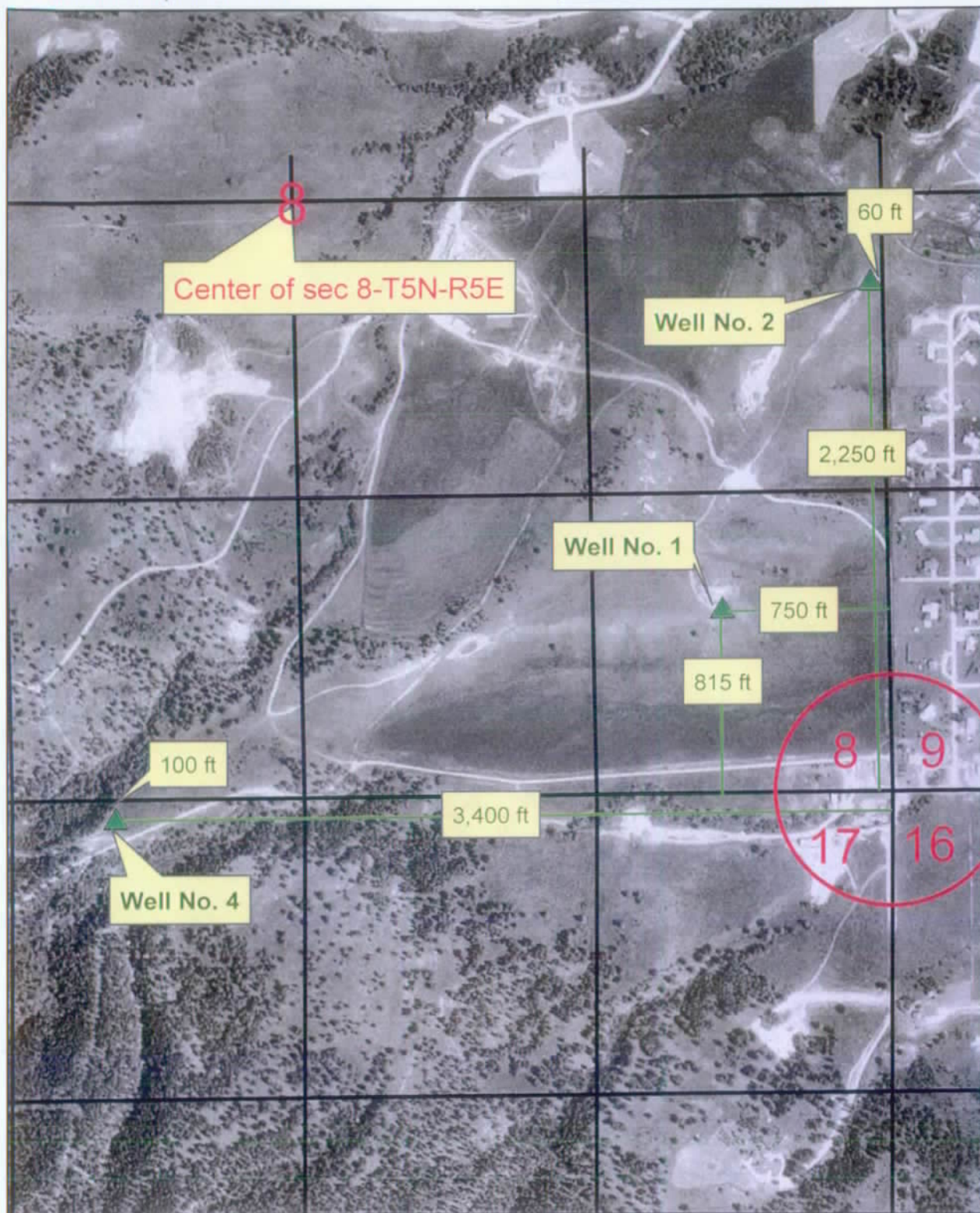
Ron Duvall
 Natural Resources Engineer
 DENR, Water Rights Program

Date report completed: October 23, 2003

Scale: 1 inch equals 662 feet

930

Feet



South Dakota
Department of Environment
& Natural Resources
Water Rights

Completed by:

Ron Duvall
Ron Duvall, Natural Resources Engineer
Water Rights Program

Diversion point(s) located using GeoExplorer II GPS

Date: Oct. 23, 2003

Water Right No. 1709-1

STATE OF SOUTH DAKOTA

WATER LICENSE NO. 1709-1

(1) Murray Water Company, 2551 Dolan Creek Road, Sturgis SD 57785 made Application No. 1709-1, January 27, 2000 for a water permit to divert 0.333 cubic feet of water per second from groundwater (three wells), Meade County, South Dakota for suburban housing development and commercial use purposes. Permit No. 1709-1, with a priority date of January 27, 2000 was approved April 17, 2000 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before April 17, 2005 and for the application to beneficial use of water on or before April 17, 2009.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, the holder and/or owner of Water Right No. 1709-1 is issued a license, bearing a priority date of January 27, 2000 to appropriate 0.333 cubic feet of water per second (110 gallons per minute from Minnelusa Formation and 40 gallons per minute from Madison Formation) from groundwater (three wells) for suburban housing development and commercial use purposes.

The diversion points are located: Well No. 1: 750 feet west and 815 feet north (SE ¼ SE ¼ Section 8); Well No. 2: 60 feet west and 2,250 feet north (NE ¼ SE ¼ Section 8); Well No. 4: 3,400 feet west and 100 feet south (NE ¼ NW ¼ Section 17); all from the SE corner of Section 8-T5N-R5E.

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Permit No. 1709-1 including the following now applicable qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1709-1 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the Permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1709-1 may also be cancelled for nonconstruction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and Board Rule ARSD 74:02:01:37.
- 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.

Garland Erbele

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

DEC 10 2003

date





**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 10 2003

1709-1

Murray Water Company
2551 Dolan Creek Rd
Sturgis SD 578785

Dear Sir:

Enclosed is Water License No. 1709-1. This is the final water right document completing your process of obtaining a Water Right.

As long as you use the water beneficially, as stated in the Water License, State Water Laws provide that you have a continuing right to use the water.

Sincerely,

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

enclosures

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Jack Murray

DATE: August 18, 2020

TELEPHONE: (307) 277-4539

RE: Well no longer in use (1709-1) and sold property for other well location (683-1)

COMMENTS:

Jack Murray called regarding the water rights and if they were up to date for Murray Water Company in Sturgis, SD. Mr. Murray provided the location of the wells currently in use by Murray Water Company. The well locations Mr. Murray provided match with well nos. 1 and 4 from the 2003 inspection report for Water Right No. 1709-1. Well No. 2 for Water Right 1709-1 has been plugged according to Mr. Murray. Well No. 2 is located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 8-T5N-R5E. There is no plugging report on file with the Water Rights Program. Mr. Murray stated he would look for the plugging report or figure out when and by whom the well was plugged.

We also discussed Water Right No. 683-1. Mr. Murray stated the lot where the well was located was sold to Alice Job and that Murray Water Company no longer used the well. He said Ms. Job still used the well to water her lawn. I asked Mr. Murray if he had contact information for Ms. Jobs. He said he would try to get it and email it to me. Review of the Meade County GIS shows Alice C. and Mark A. Job own a lot of approximately 3 acres in the approximate area of the well authorized for Water Right No. 683-1. It is unknown how much of the acreage is irrigated at this time (August 18, 2020). Without know how much acreage is currently irrigated, it is not possible to determine if Water Right No. 683-1 should be cancelled or transferred and have a change in use application.



Adam Mathiowetz
Natural Resources Engineer
DENR-Water Rights Program

Well #2 - madison well