

WATER PERMIT NO. 2498-2

Name of Applicant: Countryside Homeowners Assoc.

Address: PO Box 9111, Rapid City SD 57709

Phone: 605 787-5261

Amount of Water Claimed: 0.111 cfs

Total Acres: NA

Source of Water Supply: groundwater (2 wells)

Water to be used for: suburban housing

County: Pennington

Type of Waste Disposal System:

Location: 4 miles south of Rapid City

PRIORITY

Date Received: 12-9-02

Application/License Fee: \$275

Corrected Application Received: 1-3-03

Period of Annual Use: January 1 – December 31

Remarks: This application is for 2 additional wells and will correct the location of one of the existing wells authorized by Water Right No. 2056-2

Diversion Point: SE ¼ SW ¼ and NW ¼ SE ¼

Sec 29-T1N-R7E

Land to be Irrigated: NA

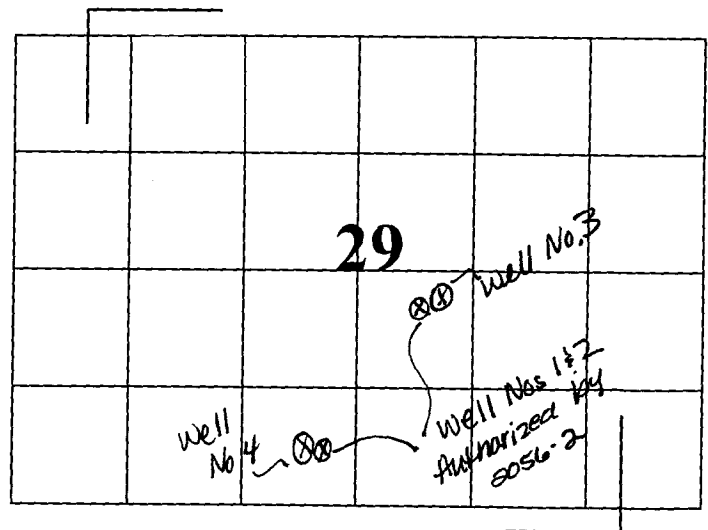
Depth of Well: 740 and 455 feet deep

Well Driller: : Cimmarron Drilling Inc.

Remarks:

Type of Map: plat

Prepared by: Jimmy Hilon



Reviewed and the Number Assigned on: 1-3-03

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

SOUTH DAKOTA
WATER PERMIT NO. 2498-2

Date of first receipt of application December 9, 2002.

Date of return to applicant for corrections, amendments or changes December 9, 2002.

Date of receipt of corrected application January 3, 2003.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2498-2 to Countryside Homeowner's Association, PO Box 9111, Rapid City SD 57709 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. 2498-2 appropriates a total of 0.324 cubic feet of water per second (cfs) from two wells with one located in the Minnelusa and the other in the Madison Aquifer. Specifically, this permit appropriates 0.111 cfs (50 gallons per minute) from an existing well (Minnelusa aquifer) 610 feet deep located in the NW ¼ SE ¼ Section 29-T1N-R7E and 0.222 cfs (100 gallons per minute) from another existing well (Madison Aquifer) 740 feet deep located in the SE ¼ SW ¼ Section 29-T1N-R7E.

The public notice for this permit also serves to correct the location of an existing well. Water Right No. 2056-2 authorized 0.30 cfs from two wells (Deadwood Formation) located in the SE ¼ SW ¼ and the NE ¼ SW ¼ Section 29. The actual location of the two wells is the SE ¼ SW ¼ and the NW ¼ SE ¼ Section 29-T1N-R7E.

2. The water appropriated shall be used for the purpose of suburban housing development and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 2498-2 is March 24, 2003.
5. The date from which applicant may claim right is December 9, 2002.
6. One-fifth of the construction is to be completed on or before September 24, 2005.
7. All construction is to be completed on or before March 24, 2008.
8. Water is to be put to beneficial use on or before March 24, 2012.
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. 2498-2 is issued for a twenty year term for the 0.222 cfs from the Madison Aquifer well. 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. 2498-2 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.

(continued)

3. Countryside Homeowner's Association shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa and Madison Aquifer wells.

WATER MANAGEMENT BOARD

By: _____

Garland Erbele

Garland Erbele, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

JUN 21 2003

date



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

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>2498-2</u>	(office use only) Hydrologic Unit <u>10120110</u>
	Basin <u>Upper Cheyenne R</u>	
	Newspaper <u>Rapid City Journal, Rapid City</u>	

RECEIVED
DEC 09 2002
WATER RIGHTS
PROGRAM

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

Check use(s) of water:

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

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

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

- Name of Applicant COUNTRY SIDE Homeowner's Assoc. Phone 605-787-5261
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address PO BOX 9111 RAPID CITY State SD 57709
(Street, RR. or Box) (Zip Code)
- Amount of water claimed 0.334 *CFS or 2- Wells 150 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply MANISON
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
1 WELL IN THE SE 1/4 1/4 Sec 29
1 WELL IN THE NW 1/4 1/4 Sec 29 R7E B1M - WELL #4
County PENNINGTON
- County or counties where water will be used PENNINGTON
- Annual period during which water is to be used YEAR AROUND Jan 1 - Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

STATE OF SOUTH DAKOTA)
County of MEADE SS

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

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

Signed Robert W. Powles

Subscribed and sworn to before me this 5th day of December 2002

TAMRA BACKES
MY COMMISSION EXPIRES
AUGUST 29 2007

Tamra Backes
Notary Public

Supplemental Information

(type or print in ink)

WELL # 3

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 7 7/8 Depth 455
- b) Casing Type STEEL Diameter 5 1/2 Thickness _____
- c) Screen Type ROCK Diameter _____ Thickness _____
- d) Gravel Pack NONE Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 500'
- f) Depth to Water (ground surface to water level) STATIC WATER LEVEL 350'
- g) Distance to nearest existing domestic well:
- On applicants property 10' - 12' On property owned by others _____

2. Wastewater Disposal System Information

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

3. Dugout Information

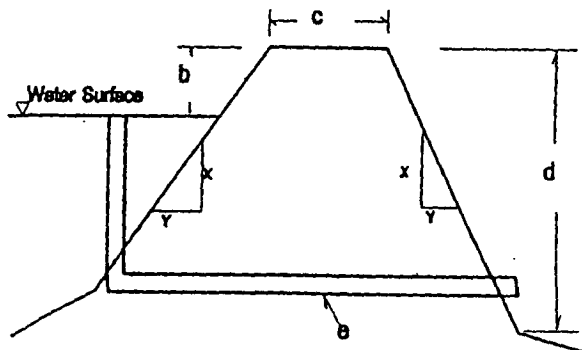
- a) Surface Dimensions _____ Depth _____
- b) Depth to water (ground surface to water level) _____

4. Water Storage Dams

If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:

- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____
If pipe, diameter _____
- f) Secondary Spillway Capacity _____
Spillway Width _____
- g) X & Y Slope _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres



Supplemental Information

(type or print in ink)

WELL # 4

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 8 3/4 Depth 740'
- b) Casing Type STEEL Diameter 7 Thickness _____
- c) Screen Type NONE Diameter _____ Thickness _____
- d) Gravel Pack NONE Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 590'
- f) Depth to Water (ground surface to water level) STATIC WATER LEVEL 732'
- g) Distance to nearest existing domestic well:
- On applicants property 3000' ± On property owned by others _____

2. Wastewater Disposal System Information

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

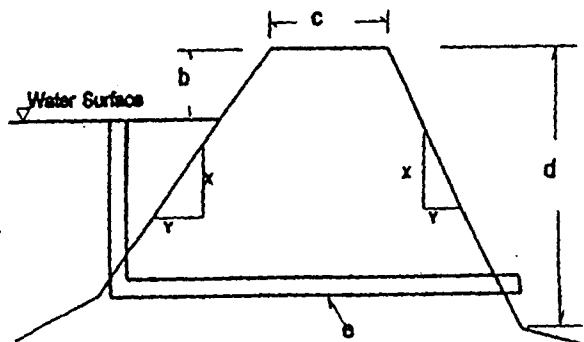
3. Dugout Information

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

4. Water Storage Dams

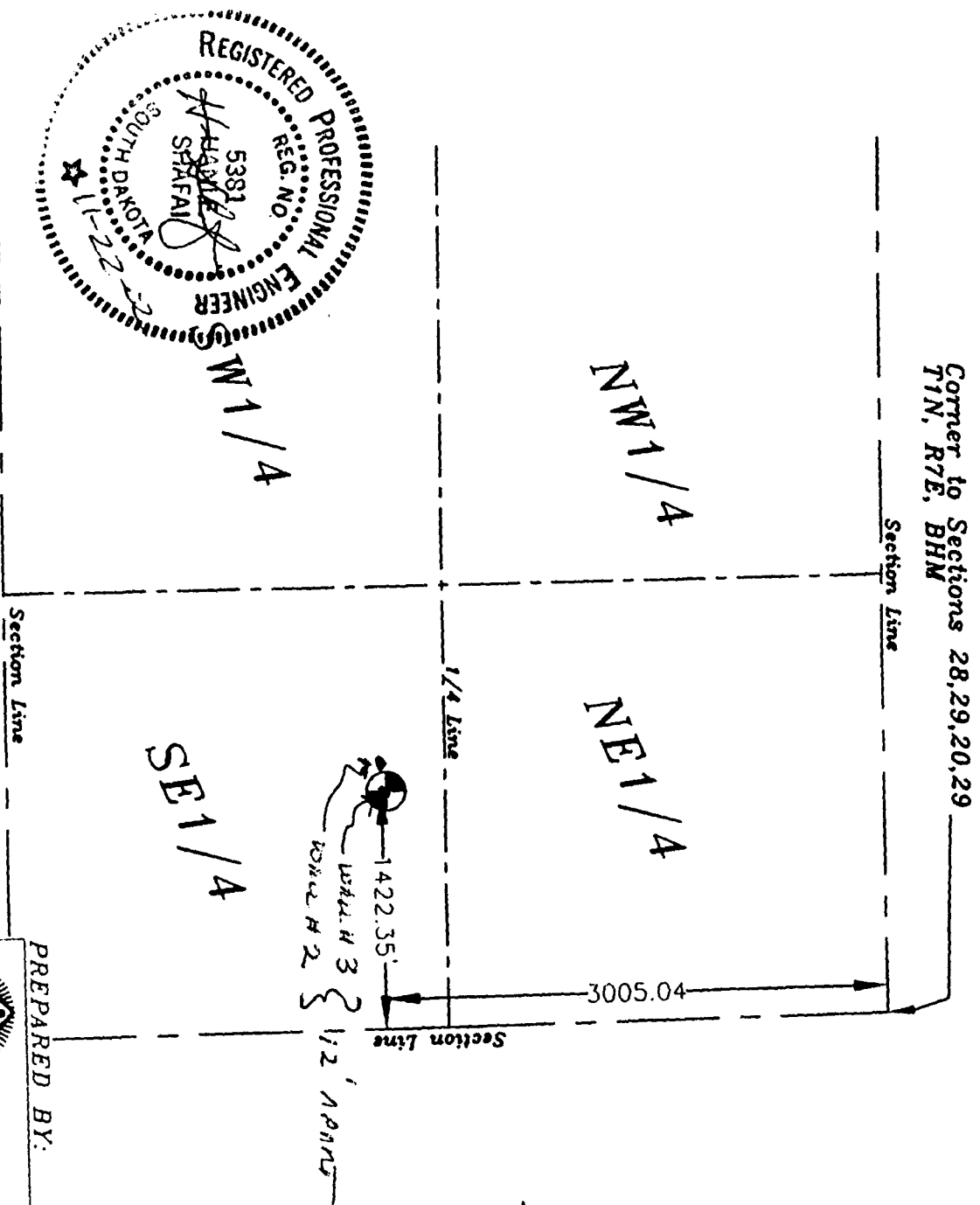
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- a) If a private engineering firm or government agency was involved in the design of this dam, please give their name and address:



- b) Freeboard _____
- c) Crest Width _____
Crest Length _____
- d) Height _____
- e) Primary Outlet Capacity _____
If pipe, diameter _____
- f) Secondary Spillway Capacity _____
Spillway Width _____
- g) X & Y Slope _____
Upstream _____
Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

Exhibit "A" Showing Location of Well in Section 29 T1N, R7E, BHM

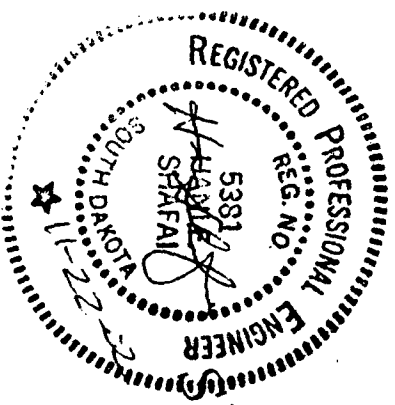


NO SCALE

PREPARED BY:

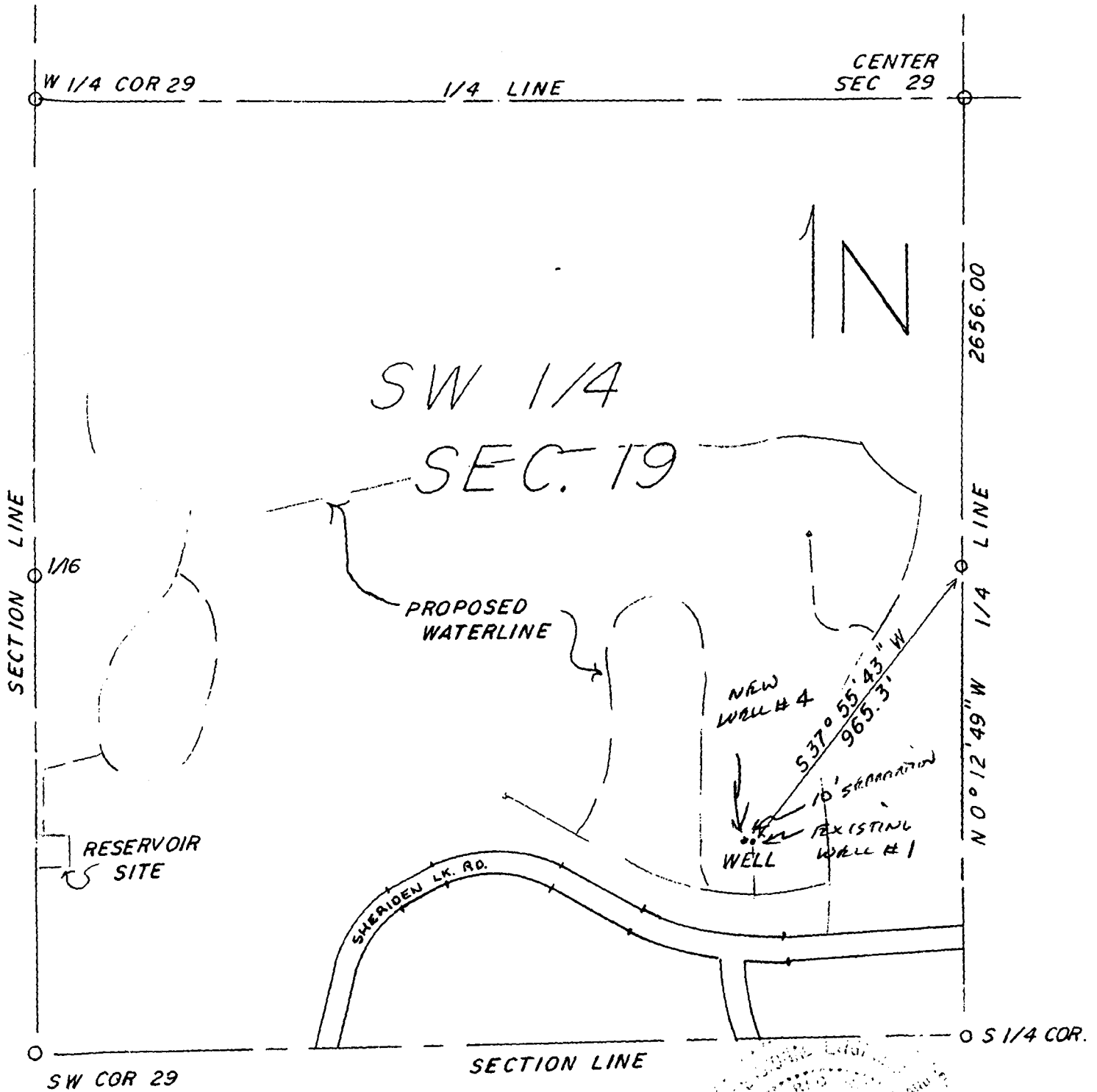


DREAM DESIGN INTERNATIONAL, INC.
PROFESSIONAL STRUCTURAL & CIVIL ENGINEERING CONSULTANTS
3202 MAIN ST., SUITE D, RAPID CITY, SD 57702
PH. 605-348-0538 FAX 605-348-0545 EMAIL: engineers@dreamdesigninc.com



WELL LOCATION AND PROPOSED WATER LINE LOCATIONS

SW 1/4 SECTION 29, T1N, R7E, BHM
Pennington County, South Dakota



Jimmy Nelson
S.D. Land Surveyor
No. 2696
2/2/81

2498-2

52056-21

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date December 9, 2002

RECEIVED OF Countryside Water System, PO Box 9111, Rapid City SD 57709

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

Fee for Application for Permit No. <u>2498-2</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>2498-2</u>	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	275.00

No.

000481

By

Darland Ebele

Chief Engineer

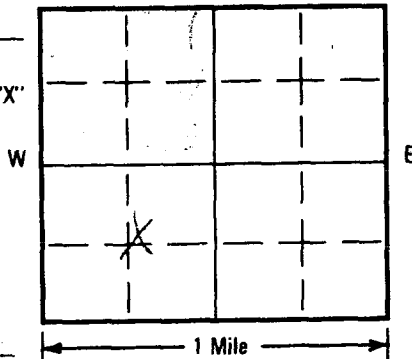
gm

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location 10th 1/4 SW 29 Twp 7-N Rg 7-E
 County Pennings

Please mark well location with an "X"



Well Completion Date

12-07-01

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? 350 ft. from Septic (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Air - WaterCASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>15.5 LB/FT</u>	<u>5 1/2 IN</u>	<u>0 FT</u>	<u>455 FT</u>	<u>7 7/8 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>65</u>	<u>94/16 lb./gal</u>	<u>0</u> ft.	<u>455</u> ft.
<u>Type I-II</u>		<u>lb./gal</u>	<u>ft.</u>	<u>ft.</u>

Describe grouting procedure Pressure grout thru casing
replace with water to surface with mud pump

SCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

YES, How: Chlorine
Per Hops

Laboratory sent to for water quality analysis

Bob Pawlcs To Complete

Well Owner:

Business Name:

Address:

(Bob Pawlcs)
COUNTRY SIDE NORTH
Box 19111
Rapid City S.D. 57709

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>Red Shale</u>	<u>0'</u>	<u>150'</u>
<u>(OP shale)</u>		
<u>Yellow white & Pink sand</u>	<u>150'</u>	<u>370'</u>
<u>Red Shale</u>	<u>370'</u>	<u>380'</u>
<u>Yellow & Red. S. Stone</u>	<u>380'</u>	<u>450'</u>
<u>Yellow & white sand</u>	<u>450'</u>	<u>610'</u>
<u>W limestone layers</u>		
<u>(Minn. L. 4)</u>		
<u>(MADISON) 2</u>		

STATIC WATER LEVEL

350 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ PumpedDescribe: Air - developed.☐ Bailed☒ Other

Pumping Level Below Land Surface

610 ft. After 2 Hrs. blow 60+ GPM400 ft. After 1 Hrs. blow 25+ GPMIf pump installed, pump rate 10 HP @ 500' 40 GPM

REMARKS

This well was drilled under license # 568

And this report is true and accurate.

Drilling firm CIMARRON Drilling Inc.

Signature of License Representative:

Michael J. Dauter

Signature of Well Owner or Equitable Property Holder:

Date: _____

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location SE 1/4 SW 1/4 Sec 29 Twp 1-N Rg 7-E
 County Pennings

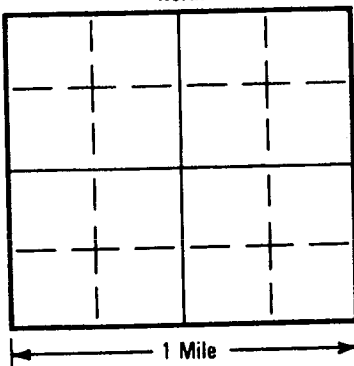
Please mark well location with an "X"

W

E

Well Completion Date

7-21-02



LOCATION:

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Air Water

CASING DATA:

- ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>10.5 LB/FT</u>	<u>7 IN</u>	<u>0 FT</u>	<u>470 FT</u>	<u>8 3/4 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>52</u>	<u>74 1/2 lb./gal</u>	<u>0 ft</u>	<u>470 ft</u>
<u>Type II</u>		<u>_____ lb./gal</u>	<u>_____ ft</u>	<u>_____ ft</u>

Describe grouting procedure Pressure grout thru casing displacer to surface with Mud Pump

SCREEN:

- ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

☒ YES, How: Chlorine

☐ NO, Why Not? Bottles

Laboratory sent to for water quality analysis

Owner to Complete

Well Owner: _____

Business Name: Country 1st

Address: Box 911
Rapid City, S.D. 57707

WELL LOG:

DEPTH

FORMATION	FROM	TO
<u>Sand & Gravel</u>	<u>0'</u>	<u>10'</u>
<u>Red Mudstone</u>	<u>10'</u>	<u>250'</u>
<u>Red Clay Mudstone</u>	<u>250'</u>	<u>270'</u>
<u>Sandstone</u>	<u>270'</u>	<u>370'</u>
<u>White sandstone</u>	<u>370'</u>	<u>400'</u>
<u>(Mudstone)</u>		
<u>Rough Fractured limestone</u>	<u>400'</u>	<u>520'</u>
<u>CLAY</u>	<u>520'</u>	<u>570'</u>
<u>Madison limestone</u>	<u>570'</u>	<u>740'</u>

STATIC WATER LEVEL

432'

Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped

Describe: Air developed

☐ Bailed

☒ Other

Pumping Level Below Land Surface

740 ft. After 3 Hrs. 310W 40+ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate 40 GPM GPM

REMARKS

This well was drilled under license # 562

And this report is true and accurate.

Drilling firm Cimarron Drilling Inc.

Signature of License Representative

Michael Deutch

Signature of Well Owner or Equitable Property Holder:

Date: _____



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

DIVISION II

TEMPORARY PERMIT TO USE PUBLIC WATERS
FOR TESTING PURPOSES

This temporary permit to use public waters for testing purposes is issued to Countryside Homeowners, of PO Box 9111, Rapid City, SD 57709 authorizing withdrawal of 36,000,000 gallons of water at a maximum rate of 100,000 gallons per day from ground water (Madison formation) located in the SE ¼ Section 29, T1N, R7E, Pennington County. The water will be blended with existing Deadwood formation well water to try and reduce the radium level.

- The well authorized by this temporary water use permit shall be constructed by a licensed well driller and construction shall comply with Water Management Board Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) from the producing formation to the surface pursuant to Section 74:02:04:28.
- The well authorized under this temporary water use permit may be located near domestic wells and other wells which may obtain water from the same aquifer. The well owners, under this temporary water permit, shall control his withdrawals so there is not a reduction of needed water supplies in other wells.
- When the project is completed and the water is no longer needed for testing purposes, the well must be either plugged pursuant to Board Rules, Chapter 74:02:04, turned over to a private land owner, or converted to a production well.

This temporary permit becomes effective January 28, 2002 and expires on December 31, 2002. If the test is successful and Countryside Homeowners begin using the well on a permanent basis, a new water permit must be obtained.

This permit does not provide necessary right-of-way. Such arrangements should be made with the proper land owner.

Issued: January 28, 2002

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



c: Rob Kittay, Office of Drinking Water
faxed to Robert Powles at (605) 787-5271



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

December 9, 2002

Countryside
Robert W Powles
PO Box 9111
Rapid City SD 57709

Dear Mr. Powles:

Thank you for submitting the *Application for a Permit to Appropriate Water* for suburban housing. In order to complete the application the following needs to be clarified.

While reviewing existing Water License No. 2056-2, we noted a discrepancy in the location of Well No. 2. The map prepared by our staff engineer, at the time of inspection in 1991, indicates Well No. 2 is located in the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Section 29. The map submitted with the new application indicates that both Well No. 2 and No. 3 (new well) are located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 29. It appears that one of the maps is incorrect. I have enclosed a copy of the map submitted with the new application and a copy of our map prepared in 1991. Which is the correct location for Well No. 2 and No. 3?

If you have any questions, please contact me.

Sincerely,

Karen Schlaak

Karen Schlaak
Water Rights Program
605 773-3352

enclosure

RECEIVED

JAN 03 2003

WATER RIGHTS
PROGRAM

THE WELLS ARE LOCATED AS THE MAP SUBMITTED WITH THE NEW APPLICATION SHOWS. USE THE TRANSPARENT MAP ENCLOSURE LAY IT OVER THE MAP FROM YOUR STAFF ENGINEER AND THE CORRECT LOCATION WILL BE CLEAR.

BOB POWLES

Water Rights Program - File Documentation

NAME: Countryside Homeowner's Association

ADDRESS: Rapid City SD

DATE: 1-3-03 **COUNTY:** PE **TELEPHONE:** 605 787-5261

RE: pending application

COMMENTS:

I called Bob Powles who indicated the name on the application should be Countryside Homeowner's Association. I have made the change.

Karen Schlaak

Karen Schlaak
Environmental Scientist



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

TEMPORARY PERMIT TO USE PUBLIC WATERS

This temporary permit to use public waters is issued to Countryside Homeowners, of PO Box 9111, Rapid City, SD 57709 authorizing withdrawal of 36,000,000 gallons of water at a maximum rate of 100,000 gallons per day from ground water (Madison formation) located in the SE ¼ Section 29, T1N, R7E, Pennington County. The water will be blended with existing Deadwood formation well water to try and reduce the radium level.

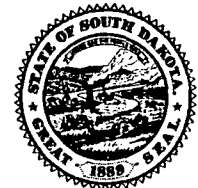
The well authorized under this temporary water use permit may be located near domestic wells and other wells which may obtain water from the same aquifer. The well owners, under this temporary water permit, shall control his withdrawals so there is not a reduction of needed water supplies in other wells.

This temporary permit becomes effective January 15, 2003 and expires on December 31, 2003. A water permit application has been submitted and is being processed for this project. This temporary permit will expire at the end of the calendar year or upon approval of the new permit application if the application is approved prior to that time.

This permit does not provide necessary right-of-way. Such arrangements should be made with the proper land owner.

Issued: January 15, 2003

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



c: Rob Kittay, Office of Drinking Water
faxed to Robert Powles at (605) 787-5271

**Water Rights Program
File Documentation**

NAME OF PERSON OR FILE: Bob Powles

ADDRESS: PO Box 9111, Rapid City, SD 57709

DATE: January 31, 2003 TELEPHONE: (605)381-1280

RE: Countryside Homeowner's Assoc. Permit Application

COMMENTS:

I called Mr. Powles, to inform him that we had determined that the two well logs submitted with 2498-2 are for different aquifers. The well identified as "Well #3" is completed into the Minnelusa aquifer and the well identified as "Well #4" is completed into the Madison aquifer. I told him that we will process the application for the two aquifers but we would need to quantify the amount of water to be appropriated from each aquifer. Mr. Powles indicated that 50 gallons per minute (0.111 cfs) should be assigned to the Minnelusa aquifer and 100 gpm (0.222 cfs) should be assigned to the Madison aquifer.



Ken Buhler

Natural Resources Engineering Specialist

WATER PERMIT APPLICATION NO. 2498-2
COUNTRYSIDE HOMEOWNER'S ASSOCIATION
JANUARY 28, 2003

Water Permit No. 2498-2 proposes to appropriate 0.111 cubic feet of water per second (50 gallons per minute) from one existing well (Minnelusa aquifer), 610 feet deep located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec. 29, T1N-R7E; and 0.222 cubic feet of water per second (100 gallons per minute) from one existing well (Madison aquifer), 740 feet deep located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec.29, T1N-R7E. The water is for a suburban housing development. This application also serves to correct the location of an existing well. Water Right No. 2056-2 authorized 0.30 cfs from two wells (Deadwood aquifer) located in the SE $\frac{1}{4}$ SW $\frac{1}{4}$ and the NE $\frac{1}{4}$ SW $\frac{1}{4}$ Sec.29, T1N-R7E. The actual location of the two wells is the SE $\frac{1}{4}$ SW $\frac{1}{4}$ and the NW $\frac{1}{4}$ SE $\frac{1}{4}$ Sec.29, T1N-R7E.

AQUIFERS: Minnelusa aquifer (MNLS) and Madison aquifer (MDSN)

The wells that are to supply this permit were constructed in accordance with the SD Well Construction Standards, as "test wells". A "Temporary Permit to Use Public Waters for Testing Purposes" was first issued January 28, 2002, for use of these wells and a second "Temporary Permit to Use Public Waters for Testing Purposes" was issued January 15, 2003, authorizing continued use of the wells. Water from two Deadwood aquifer wells authorized by Water Right 2056-2 is blended with water from the test wells to meet peak demand. Water from the Deadwood wells is high in radionuclides and the intent of this appropriation is to provide "dilution water" so the delivered water can meet the Drinking Water Standards. Although, dilution may not be a viable solution to water quality concerns, since radionuclides are monitored at the entry point (Rob Kittay, South Dakota Department of Environment and Natural Resources- Drinking Water Program, oral commun.,2003).

Minnelusa aquifer

A review of the areal geology (Fahrenbach and Sawyer, 2001) and (Cattermole, 1969), identifies the ground surface at the Countryside Homeowner's Association well No. 3 as a terrace deposit overlying the Opeche Shale. Given the depth the well casing was set (455'), it is assumed to be completed into the Minnelusa aquifer.

General Information:

The Minnelusa Formation consists of alternating beds of sandstone and dolomitic limestone with lesser amounts of shale and chert. The Formation underlies virtually all of western South Dakota. The porous portions of the formation make up the Minnelusa aquifer and contain over 755 million acre-feet of recoverable water in storage (Allen, and others, 1984). The Minnelusa Formation is between 560 and 640 feet thick in this area (Cattermole, 1969). Just as the lithology of the formation is quite variable, so is the porosity of the Minnelusa Formation. Well sorted sand lenses have porosities approaching 25%, but generally the sands have porosities of 10%. The average porosity of the Minnelusa is estimated to be 10% and the effective porosity is assumed to be 5% (Rahn, 1979). The Minnelusa Formation outcrops less than 600 feet west of well No. 3 (Fahrenbach and Sawyer, 2001).

Based on the log of well No. 3, the top of the Formation is assumed to be 150 feet below grade. The base of the Minnelusa is estimated to be about 665 feet below grade at this well site (Carter and Redden, 1999a). Water in the aquifer generally moves from west to east in this area (Strobel and others, 2000). The water quality of the aquifer is generally good near the outcrop but deteriorates considerably with distance from the recharge area. The aquifer is under unconfined conditions at this site and the static water level of a well was reported to be 350 feet below grade on December 7, 2001.

Water Availability:

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

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

There are a total of 181 appropriations from the Minnelusa aquifer in South Dakota, including two Future Use Reservations. The aquifer is used primarily for domestic, commercial, municipal, suburban housing and irrigation uses. The Future Use Permits (No. 902-1 and 969-1) reserve 1,460 acre-feet annually. Water Permits and Rights represent appropriations up to 10,802.7 acre-feet annually for irrigation use (Water Rights, 2002) and a combined diversion rate of 26.946 cfs for non-irrigation uses. Maximum well withdrawals from the Minnelusa aquifer, assuming (1) that permits/rights with an annual withdrawal limitation (ac-ft/yr.) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); would be approximately 24,000 acre-feet per year. The maximum potential withdrawal from the Minnelusa aquifer at the current level of appropriation is less than 22% of than average annual recharge estimated for the aquifer. The actual amount of water used from the aquifer is considerably less than this estimate. Withdrawals from wells (domestic and appropriative) completed into the Minnelusa aquifer were estimated to be 8,108 acre-feet annually from 1987-1996 (Carter and others, 2001).

Therefore, based on a simple water budget, it is clear that unappropriated water is available for this appropriation.

Observation well information also confirms that unappropriated water is available from the aquifer. The Water Rights Program monitors 23 observation wells completed into the Minnelusa aquifer in the Black Hills area. Minnelusa aquifer observation well PE-94A is located approximately two and one-half miles south-southeast of this well. Observation well PE-89B is located approximately three miles north of this well. The hydrographs for these observation wells are shown in figure 1 and figure 2, respectively.

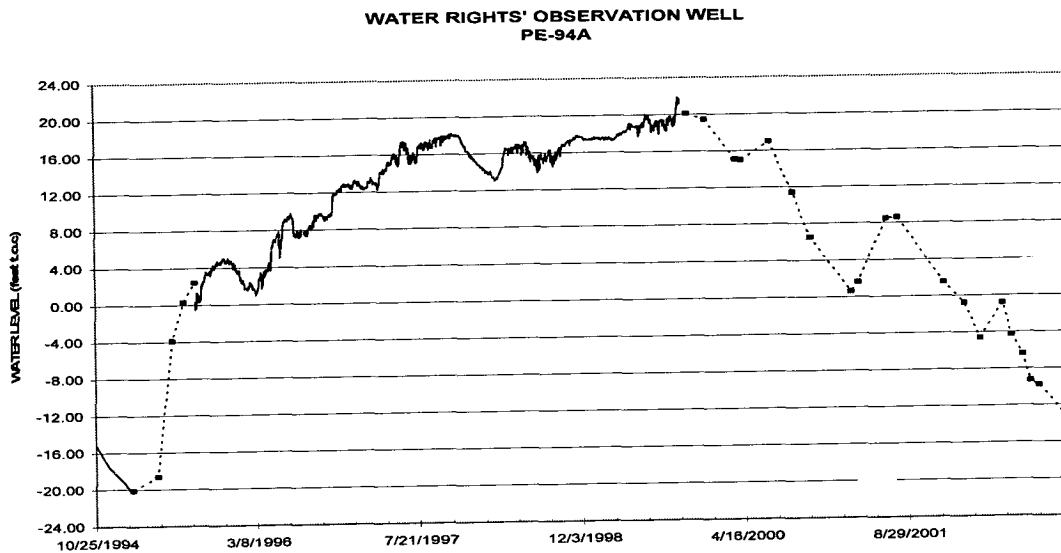


Figure 1. Water Rights' Minnelusa aquifer Observation well, two and one-half miles south of 2498-2

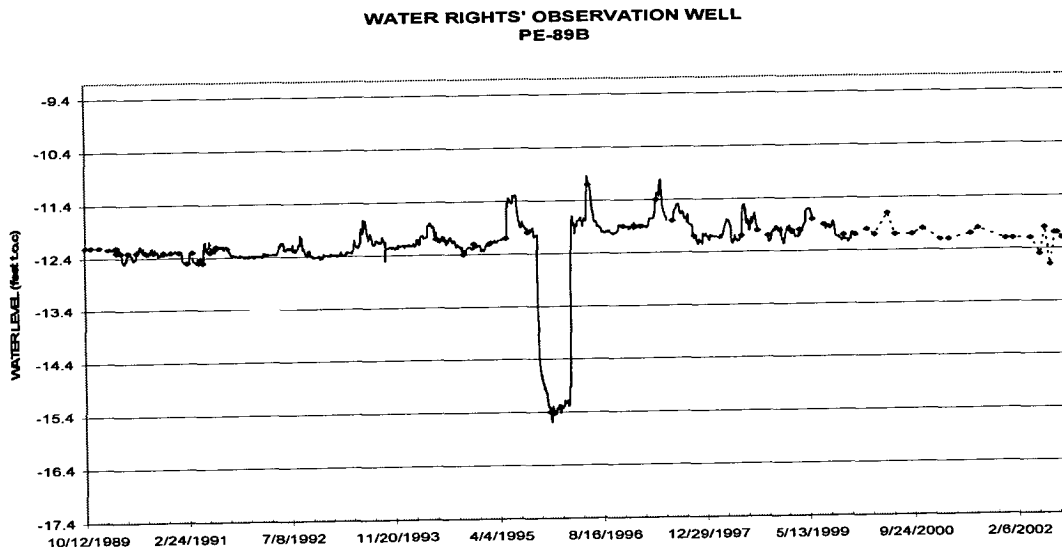


Figure 2. Water Rights' Minnelusa aquifer Observation well, three miles north of 2498-2

The hydrographs clearly show the Minnelusa aquifer's response to recharge and climatic conditions. They also illustrate the magnitude of fluctuation of the water level of the Minnelusa aquifer in this area, over 40 feet in the confined portion of the aquifer, and generally less than 2 feet in the unconfined portion of the aquifer. It is interesting to note that the water levels in PE-89A are probably affected by the water level of nearby Canyon Lake, which was drained from October 1995 through March 1996. Observation well data suggests 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. Therefore, it is apparent that the aquifer is capable of sustaining additional withdrawals (Water Rights, 2003b).

Affects on Existing Rights:

There are 25 Permits/Rights appropriating groundwater within approximately two and one-half miles of Countryside well No. 3, (Water Rights, 2003c) see table 1.

PERMIT NO	NAME	AQUIFER	USE	CFS
1147-2	KNOCK, CALVIN	SNDG	SHD	0.08
1628-2	COPPER OAKS WATER ASSN	MDSN	SHD	0.05
1726-2	COLONIAL PINE HILLS	MDSN	SHD	0.38
1729-2	CARRIAGE HILLS WATER ASSN	MNLS	SHD	0.27
1748-2	WARREN WATER CO INC	MDSN	SHD	0.03
1871-2	VISTA HILLS WATER ASSOC	MNLS	SHD	0.09
1883-2	REPTILE GARDENS	MNLS	COM	0.07
1905-2	BLACK HILLS JELLYSTONE RV	MNLS	COM	0.06
1913-2	HAPPY HOLIDAY RV RESORT	MNLS	COM	0.10
1925-2	PONDEROSA PARK DEV ASSOC	MDSN	SHD	0.03
1965-2	HIGHLAND HILLS WATER ASS.	MDSN	SHD	0.06
1984-2	BLACK HILLS NATURAL SPRG		COM	0.10
2045-2	WHISPERING PINES WATER	DDWD	SHD	0.08
2053-2	SPRING CANYON WATER CO	MDSN	SHD	0.05
2056-2	COUNTRYSIDE HOMEOWNERS	DDWD	SHD	0.30
2108-2	COLONIAL PINE HILLS	MDSN	SHD	0.04
2156-2	RAPID CITY	MDSN	MUN	1.11
2295-2	COLONIAL PINE HILLS	DDWD	SHD	0.29
2305-2	SPRING CANYON WATER CO	DDWD	SHD	0.04
2410-2	FLYING T CHUCKWAGON	MNLS	COM	0.04
2458-2	RED ROCK DEVELOPMENT CO	MDSN	IRR	1.33
2461-2	COLONIAL PINE HILLS	MDSN	SHD	0.33
2473-2	CREGUT, INC.	MDSN	COM	0.04
2475-2	RAPID CITY	MDSN	MUN	2.67
2476-2	REPTILE GARDENS	ALQ	COM	0.08

Table 1. Groundwater appropriations within two and one-half miles of 2498-2

The Countryside Homeowner's Association well No. 3 is located near the western extent of where the Minnelusa aquifer can be considered a viable aquifer. In general, wells in this immediate area and to the west of this site are completed into the Madison, Deadwood or Precambrian aquifers. Most groundwater used in this area is water supplied water from water distribution systems; however, there are a number of domestic wells on file with the Water Rights Program for this area (Water Rights, 2003a).

Wells that are not supplied by the Minnelusa aquifer should not be affected by withdrawals from Countryside well No.3 since the Opeche Shale serves as a confining layer above the Minnelusa, and the thick carbonate sequence in the lower Minnelusa isolates the Minnelusa aquifer from lower aquifers.

There are 42 water rights/permits appropriating water from the Minnelusa aquifer in Pennington County alone. Seven of these Minnelusa appropriations are located within approximately two and one-half miles of this permit, see Table 2.

PERMIT NO	NAME	USE	CFS	DISTANCE TO 2498-2 (MILES)
1729-2	CARRIAGE HILLS WATER ASSN	SHD	0.27	1.7
1871-2	VISTA HILLS WATER ASSOC	SHD	0.09	1.8
1883-2	REPTILE GARDENS	COM	0.07	2.2
1905-2	BLACK HILLS JELLYSTONE RV	COM	0.06	2.2
1913-2	HAPPY HOLIDAY RV RESORT	COM	0.10	2.4
2410-2	FLYING T CHUCKWAGON	COM	0.04	2.2
1729-2	CARRIAGE HILLS WATER ASSN	SHD	0.27	1.7

Table 2. Water Rights/Permits appropriating water from the Minnelusa aquifer within two and one-half miles of 2498-2

The distance between the Countryside Homeowner's well No.3 and other appropriations from the Minnelusa aquifer, and the relatively low pump rate (50 gpm) should be sufficient to negate interference between wells. The Minnelusa is under unconfined conditions at this well but the aquifer is confined within approximately one mile east of Countryside Homeowner's well No.3.

Confined Conditions:

Where the Minnelusa is under confined "artesian" conditions, the potentiometric surface fluctuates fairly significantly (see figure 1). Drawdown from a pumped well may extend over a large area in an artesian aquifer. However, Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide for the regulation of large capacity wells without the necessity of requiring the maintenance of artesian head pressure. Simply put, well interference that results in lower water levels in existing wells is not necessarily an adverse impact. Lower water levels may obligate nearby well owners to set the pumps lower in their wells. If this were considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable. Therefore, the impact on area water rights/permits and domestic wells should not be significant.

Unconfined conditions:

The Minnelusa is under unconfined, "water table" conditions within a north-south trending strip located roughly from this well to about one mile east of this site. ARSD 74:02:04:20(6) defines an adequate well as a well constructed to allow the inlet to the pump to be placed not less than 20 feet into the saturated aquifer. An adversely impacted domestic well is defined by ARSD 74:02:04:20(7) as a well in which the pump intake was set at least 20 feet below the top of the aquifer and the water level of the aquifer has declined to a level that the pump will no longer deliver sufficient water for the well owner's needs.

It is probable that a pump setting of 20 feet below the top of the Minnelusa aquifer, where the aquifer is unconfined, is not enough to deliver sufficient water for a well owner's needs although the well is technically an "Adequate Well". Under these circumstances it can be argued that, any measurable interference (drawdown), from a competing well is actually an adverse impact. However, considering the natural water level fluctuations, even in the unconfined portions of this aquifer, well interference of a few feet could be considered insignificant.

Madison aquifer

Review of the areal geology (Fahrenbach and Sawyer, 2001) and (Cattermole, 1969) identifies the Minnelusa Formation at the surface at Countryside Homeowner's Association well No. 4. Based on the depth of the well, it is assumed to be completed into the Madison aquifer.

General Information

The Madison (Pahasapa) Limestone is a massive limestone and dolomite that underlies much of the Western United States. The top portion of the Madison Limestone contains randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution and fracturing, and is considered the Madison aquifer. The Madison is generally considered an excellent aquifer both in terms of quality and quantity, especially near the outcrop (recharge area). The aquifer underlies approximately 30,000 square miles of western South Dakota and contains at least 640 million acre-feet of recoverable water in storage in the State (Allen and others, 1984).

Countryside Homeowner's well No.4 is less than mile east of the Madison outcrop (Fahrenbach, and Sawyer, 2001). The top of the Madison Limestone is estimated to be approximately 350 feet below grade at this site, from the structure contour map for the Madison (Carter and Redden, 1999b). This depth corresponds well with the depth (400') to the first lost circulation zone encountered in nearby Countryside Homeowner's well No.1. The top of the Madison was identified as 420 feet below grade in Water Rights' Observation Well PE-84A located approximately 1200' from Countryside Homeowner's well No.4 (Water Rights, 2003b). Therefore, the top of the Madison Limestone in Countryside Homeowner's well No.4 is assumed to be at the top of the "rough fractured limestone" identified on the well log at 400 feet. In this area the Madison Limestone is estimated to be 300-400' thick (Cattermole, 1969). The Madison is under unconfined conditions at this well site and the static water level of this well was reported to be 432 feet below grade on July 21, 2002.

Water Availability:

The majority of the water used from the Madison aquifer is from appropriative right users. There are a total of 123 permits/rights which appropriate water from the Madison aquifer in South Dakota (Water Rights, 2003c). Water rights/permits from the aquifer are mainly from Butte(17), Lawrence(24), Meade(24), Pennington(33) and Fall River(11) Counties. The Madison supplies water for irrigation, geothermal, industrial, and commercial use. By far the major use of the aquifer is for water distribution systems (suburban housing development and municipal use). The cities of Spearfish, Belle Fourche, Sturgis, Rapid City, Box Elder, and Edgemont all depend on water from the Madison Aquifer.

If the worst case assumptions are made that (1) permits/rights with an annual withdrawal limitation (ac-ft/yr) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); the total water use from the Madison would be less than 50,000 acre-feet per year. The actual amount of water used from the Madison is considerably less

than this estimate. Withdrawals from wells completed into the Madison aquifer were estimated to be 10,990.2 acre-feet annually from 1987-1996 (Carter and others, 2001).

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). Average annual recharge from 1931-1998 is estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001).

Comparison of the estimated annual recharge to the Madison with the water use estimated from the aquifer indicates unappropriated water is available from the Madison aquifer.

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area. This well site is located within three and one-half miles of three Water Rights' observation wells that are completed into the Madison aquifer, (PE-86A, PE-96A and PE-89A). Hydrographs for the wells show the aquifer's response to climatic conditions and clearly demonstrate the system is recharged, (see figures 3-5).

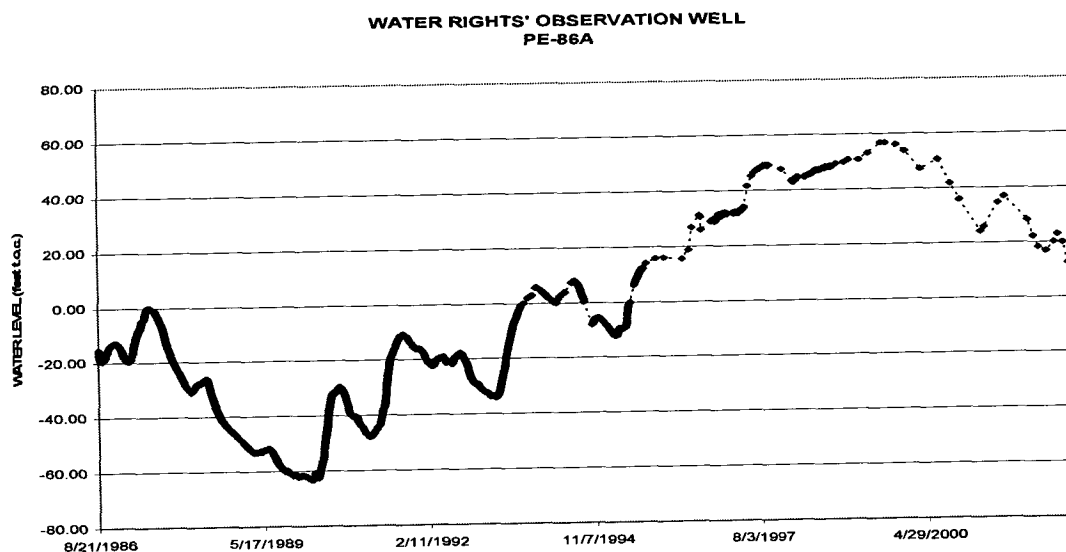


Figure 3. Hydrograph of Water Rights' Observation Well PE-86A, located approximately two and one-half miles east-southeast of 2498-2

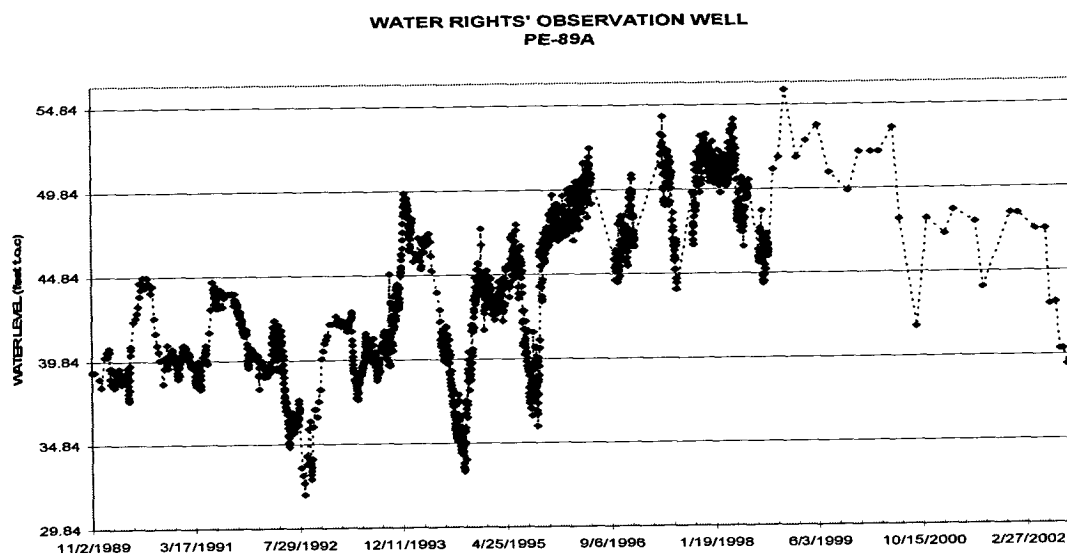


Figure 4. Hydrograph of Water Rights' Observation Well PE-89A, located approximately three and one-half miles north-northeast of 2498-2

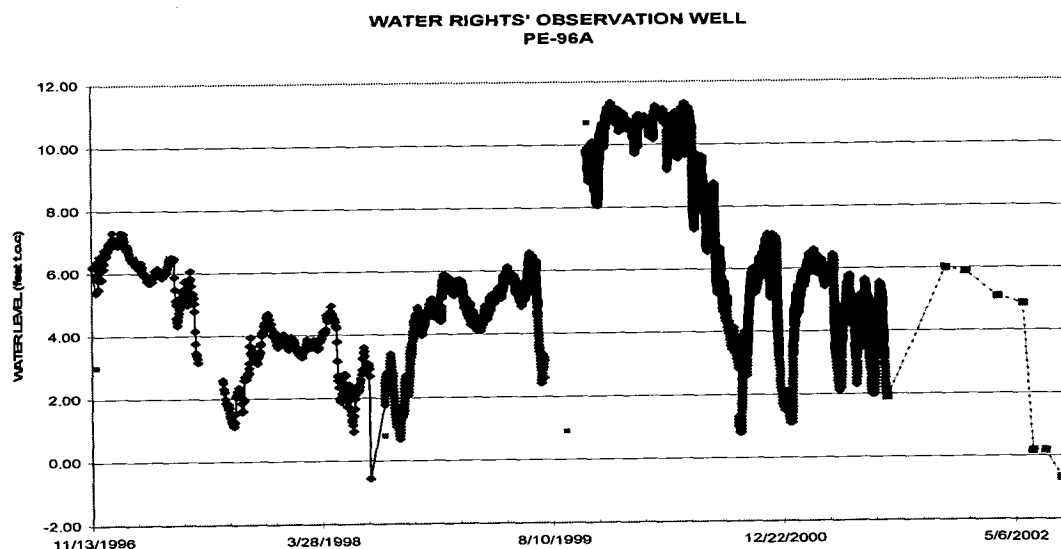


Figure 5. Hydrograph of Water Rights' Observation Well PE-96A, located approximately three miles north of 2498-2

Records from the observation wells indicated the potentiometric surface of the Madison aquifer fluctuates 15-25 feet per year near the recharge area in response to seasonal and climatic variations. Long-term trends show the potentiometric surface fluctuates by nearly 120 feet in PE-86A, but long-term water level declines are not apparent from any of the hydrographs. Observation well data suggest that at the existing level of development, natural influences dominate the water levels of the aquifer and the effects of pumping as yet are not obvious.

Affects on Existing Rights:

The Water Rights/Permits appropriating groundwater from this area are shown in table 1. Wells supplied from aquifers other than the Madison are not expected to be affected by withdrawals from the this well because the Madison is isolated from shallower aquifers by the lower Minnelusa Formation and hydraulically separated from deeper aquifers by the Englewood and Whitewood Formations.

The Water Rights/Permits appropriating water from the Madison aquifer within two and one-half miles of Countryside Homeowner's well No.4 and their distance from the well include:

PERMIT NO	LAST_NAME	USE	CFS	DISTANCE TO 2498-2 (MILES)
1628-2	COPPER OAKS WATER ASSN	SHD	0.05	1.7
1726-2	COLONIAL PINE HILLS	SHD	0.38	.8
1748-2	WARREN WATER CO INC	SHD	0.03	2.16
1925-2	PONDEROSA PARK DEV ASSOC	SHD	0.03	.8
1965-2	HIGHLAND HILLS WATER ASS.	SHD	0.06	.8
2053-2	SPRING CANYON WATER CO	SHD	0.05	1.3
2108-2	COLONIAL PINE HILLS	SHD	0.04	.3
2156-2	RAPID CITY	MUN	1.11	2.5
2458-2	RED ROCK DEVELOPMENT CO	IRR	1.33	1
2461-2	COLONIAL PINE HILLS	SHD	0.33	.6
2473-2	CREGUT, INC.	COM	0.04	.2
2475-2	RAPID CITY	MUN	2.67	2.18

Table 3. Water Rights/Permits appropriating from the Madison aquifer within two and one-half miles of 2498-2

The Madison is under unconfined conditions in this immediate area, and under confined conditions within approximately one-half mile east of this well site. Since the aquifer is unconfined, drawdown will not be substantial except in the immediate vicinity of the production well. It is possible that pumping the Countryside Homeowner's Well No.4 at a rate of 100 gpm could cause a minor amount of drawdown in the "Cregut well" (Water Permit 2473-2), the "Clarkson well" (Water Right No. 2108-2) or the "Croyle well" (Water Right No. 1726-2). It is not practical to attempt to predict the specific impacts on nearby wells since the Madison aquifer characteristics have not been determined for this area, and the variability of the hydraulic characteristics has been well documented (Greene, 1993). In addition, Greene concluded that the transmissivity of the Madison is not equal in all directions (anisotropic) therefore; the drawdown cone will extend farther in one direction than another.

In general, the aquifer characteristics for the Madison aquifer are such that, in the unconfined portion of the aquifer, a well that is "adequate" by definition (ARSD 74:02:04:20(6)) may not be a sufficient water supply to meet the well owner's needs. As stated in an earlier section of this report, based on the Water Management Board's rules related to adversely impacted domestic wells (ARSD 74:02:04:20(6) and 74:02:04:20(7)), it could be argued that any measurable interference (drawdown), from a competing well is

actually an adverse impact. Under these circumstances however, considering the natural water level fluctuations well interference of a few feet could be considered insignificant.

Nearby wells in the confined portion of the Madison are expected to be a sufficient distance from the Countryside Homeowner's well No. 4 to negate interference concerns. In addition, SD Water Law only protects artesian wells to the degree necessary to maintain an adequate depth of water *independent of artesian pressure*. In other words, pump placement in a prior appropriator's well is not necessarily protected. Well interference that may occur in the confined portions of the aquifer could be relieved by lowering existing pumps.

Term Limitation:

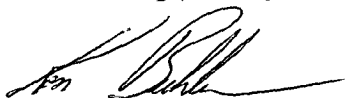
SDCL 46-2A-20 requires that "... no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the water management board determines, based upon the evidence presented at the hearing that:

- (1) Sufficient information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and
- (2) The information, whether provided by the applicant or by other means, show that there is a reasonable probability that issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs."

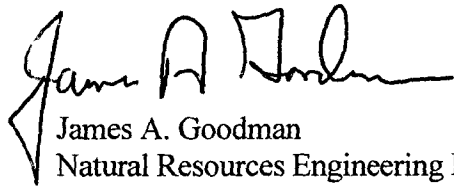
Evidence is not available to justify issuing this permit without a term limitation of 20 years.

Conclusions:

1. The Madison and Minnelusa are viable aquifers in this area.
2. The diversions proposed by this application will not adversely impair existing water rights.
3. Information is not available to justify appropriating water from the Madison aquifer without a term limitation of 20 years.
4. The base map for Countryside Homeowner's well No. 4 was prepared by a Licensed SD Land Surveyor in 1981. In one place the map is labeled "Sec. 19" and in other places it is labeled "Section 29". The Sec. 19 label is assumed to be wrong.
5. The location for Countryside Homeowner's Well No.4 appears to be added to the map sometime after the map was prepared. It is not known who identified the well on the map or if that person meets the requirements of ARSD 74:02:01:07.
6. Water from this appropriation is to be used for a suburban housing development that uses individual septic tanks for effluent disposal. The development is located on the outcrop(recharge area) for the Minnelusa aquifer.



Ken Buhler
Natural Resources Engineering Specialist
Approved by



James A. Goodman
Natural Resources Engineering Director

References:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1984, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Task 3 and 4: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources,
- Carter, J.M., and Redden J.A., 1999a, Altitude of the Top of the Minnelusa Formation in the Black Hills Area, South Dakota: U.S. Geological Survey: Hydrologic Investigations Atlas HA-744-C, 2 sheets, scale 1:100,000
- Carter, J.M., and Redden J.A., 1999b, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey: Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-96: U.S. Geological Survey Water-Resources Investigations Report 01-4119, 53 p.
- Carter, J.M., Driscoll, D.G., and Hamade, G.R., 2001, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years, 1931-98: U.S. Geological Survey Water Resources Investigations Report 00-4278, 66 p.
- Cattermole, J.M., 1969, Geologic Quadrangle Map of the Rapid City West Quadrangle, Pennington county, South Dakota: U.S. Geological Survey, Geologic Quadrangle map GQ-828, scale 1:24000
- Greene, E.A., 1993, Hydraulic Properties of the Madison Aquifer System in the Western Rapid City Area, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 93-4008, 56 p.
- Fahrenbach, M.D., and Sawyer, J.F., 2001, Geologic Map of the Rapid City West Quadrangle, South Dakota: SD Department of Environment and Natural Resources: 7.5 Minute Series Geologic Quadrangle Map 1, scale 1:24000,
- Rahn, P.H., 1979, Ground Water Resources of Western South Dakota: South Dakota School of Mines and Technology Project No. 2533,

Strobel, M.L., Galloway, J.M., Hamade, G.R., and Jarrell, 2000, Potentiometric Surface of the Minnelusa Aquifer in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-745-C, 2 sheets, scale 1:100,000

Water Rights, 2002, Irrigation Summary by Aquifer: South Dakota DENR-Water Rights Program

Water Rights Program, 2003a, "Domestic Well Log Files", South Dakota DENR-Water Rights Program,

Water Rights Program, 2003b, "Unpublished Observation Well Records", South Dakota DENR-Water Rights Program,

Water Rights Program, 2003c, "Water Permit/Right Files", South Dakota DENR-Water Rights Program,

Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of the Interior, Bureau of Land Management



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**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 2498-2, Countryside Homeowner's Association.**

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. 2498-2, Countryside Homeowner's Association, c/o Robert W. Powles, PO Box 9111, Rapid City SD 57709.

The Chief Engineer recommends APPROVAL of Application No. 2498-2 with a 20 year term limitation on the Madison Aquifer well pursuant to SDCL 46-1-14 and 46-2A-20 because 1) unappropriated water is available from the Minnelusa Aquifer, 2) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Aquifer portion of this application, there is reasonable probability that unappropriated water is available from the Madison Aquifer for the applicant's proposed use, 3) the proposed diversion can be 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, Permit No. 2498-2 is issued for a twenty year term for the 0.222 cfs from the Madison Aquifer well. 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. 1761-1 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.
3. Countryside Homeowner's Association shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa and Madison Aquifer wells.

See report on application for additional information.

Garland Erbele

Garland Erbele
February 24, 2003



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 25, 2003

Rapid City Journal
PO Box 450
Rapid City SD 57709-0450

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 2498-2 to Appropriate Water to be published twice. Please publish the first notice on March 5, 2003 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 Countryside Homeowner's Association, %Robert Powles, PO Box 9111, Rapid City SD 57709 (Ph # 605-787-5261).

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

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

CUT HERE

No. 2498-2

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

Date _____

We are in receipt of your letter of February 25, 2003 enclosing Notice of Hearing to Appropriate Water by Application No. 2498-2 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

February 25, 2003

Countryside Homeowner's Association
% Robert Powles
PO Box 9111
Rapid City SD 57709

Dear Mr. Powles:

Water Permit Application No. 2498-2 for suburban housing 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 Rapid City Journal printed at Rapid City, SD (Ph # 605-394-8300). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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

Water Rights Program - File Documentation

NAME: Patti with Rapid City Journal

DATE: 3-6-03 **TELEPHONE:** 605 394-8445

RE: Publication notices for 2496-2, 2498-2

COMMENTS:

Called Patti who stated that Bob Powles had finally called and authorized publication of these two notices.

I told Patti to have both notices published on March 12 and 19th and change the date to receive petitions (date at end of 3rd paragraph) to March 31, 2003.

Called Bob Powles 3/7/03 stating how we were going to proceed.

Karen Schlaak
Karen Schlaak
Environmental Scientist

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Instruction to Newspaper - Publish first Notice on March 5²⁰⁰³ with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2498-2 to Appropriate Water
and to correct Water Right No. 2056-2

Notice is given that Countryside Homeowner's Association, c/o Robert Powles, PO Box 9111, Rapid City SD 57709 has filed an application for a water permit to appropriate a total of 0.324 cubic feet of water per second (cfs) from two wells with one located in the Minnelusa and the other in the Madison Aquifer. Specifically, the application is to appropriate 0.111 cfs (50 gallons per minute) from an existing well (Minnelusa aquifer) 610 feet deep located in the NW ¼ SE ¼ Section 29, T1N, R7E and 0.222 cfs (100 gallons per minute) from another existing well (Madison Aquifer) 740 feet deep located in the SE ¼ SW ¼ Section 29-T1N-R7E. The water is for a suburban housing development.

This application also serves to correct the location of an existing well. Water Right No. 2056-2 authorized 0.30 cfs from two wells (Deadwood Formation) located in the SE ¼ SW ¼ and the NE ¼ SW ¼ Section 29. The actual location of the two wells is the SE ¼ SW ¼ and the NW ¼ SE ¼ Section 29-T1N-R7E.

Pursuant to SDCL 46-1-14 and 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2498-2 with a 20 year term limitation on the Madison Aquifer well pursuant to SDCL 46-1-14 and 46-2A-20 because 1) unappropriated water is available from the Minnelusa Aquifer, 2) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Aquifer portion of this application, there is reasonable probability that unappropriated water is available from the Madison Aquifer for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use, and 4) it is in the public interest. 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 March 24²⁰⁰³.

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

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS

County of Pennington)

I, Patricia K. Van Patten

certify that the attached printed Notice was taken

from the Rapid City Journal

printed and published in Rapid City

County of Pennington and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

March 12, 2003

March 19, 2003

Cost of Printing One hundred twenty-two
dollars and seventy-two ^{cents} (\$ 122.72)

Patricia K. Van Patten
(Signature)

Legal Advertising Representative
(Title)

3/19/03
(Date Signed)

March 12, 19 L1337650

NOTICE OF APPLICATION NO. 2498-2 TO APPROPRIATE WATER and to correct

Water Right No. 2856-2
Notice is given that Country-Side Homeowner's Association, c/o Robert Powles, P.O. Box 9111, Rapid City, SD 57709, has filed an application for a water permit to appropriate a total of 0.324 cubic feet of water per second (cfs) from two wells with one located in the Minnelusa and the other in the Madison Aquifer. Specifically, the application is to appropriate 0.111 cfs (50 gallons per minute) from an existing well (Minnelusa Aquifer) 610 feet deep located in the NW¼ SE¼ Section 29, T1N, R7E and 0.222 cfs (100 gallons per minute) from another existing well (Madison Aquifer) 740 feet deep located in the SE¼ SW¼ Section 29-T1N-R7E. The water is for a suburban housing development.

This application also serves to correct the location of an existing well. Water Right No. 2056-2 authorized 0.30 cfs from two wells (Deadwood Formation) located in the SE¼ SW¼ and the NE¼ SW¼ Section 29. The actual location of the two wells is the SE¼ SW¼ and the NW¼ SE¼ Section 29-T1N-R7E.

Pursuant to SDCL 46-1-14 and 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2498-2 with a 20 year limitation on the Madison Aquifer well pursuant to SDCL 46-1-14 and 46-2A-20 because 1) unappropriated water is available from the Minnelusa Aquifer, 2) although evidence is not available to justify issuing this permit without a 20 year term limitation for the Madison Aquifer portion of this application, there is reasonable probability that unappropriated water is available from the Madison Aquifer for the applicant's proposed use, 3) the proposed diversion can be 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 also 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 March 31, 2003.

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

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

RECEIVED
MAR 20 2003
WATER RIGHTS
PROGRAM



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 25, 2003

Robert Borgmeyer
Selador Ranches, Inc.
6770 North Longfellow Drive
Tucson, AZ 85718-2420

Dear Mr. Borgmeyer:

I am writing regarding Water Permit Application Nos. 2496-2 and 2498-2, filed by Spring Canyon Water Company and Countryside Homeowner's Association. These applications are for suburban housing developments.

Enclosed is a copy of the recommendation, report and notice of hearing for each application. The notices are to be published in the Rapid City Journal on March 5 and 12, 2003. If you are opposed to either application and want to cause a hearing to be scheduled before the Water Management Board, you must file a petition by March 24, 2003.

This information is being sent to you because of the interest you have expressed in keeping informed on water issues in this area

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUN 21 2003

Countryside Homeowner's Association
PO Box 9111
Rapid City SD 57709

Dear Sir:

Enclosed is Water Permit No. 2498-2 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the water permit. In conjunction with the public notice for No. 2498-2, Water Right No. 2056-2 was readvertised to correct an error in the legal description of the well locations. Reissued Water License No. 2056-2 is also enclosed.

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

Permit No. 2498-2
Upper Cheyenne 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 on this day, 3/21/2012, made a thorough examination of the water use system constructed by Countryside Homeowners Association, PO Box 9111, Rapid City, SD 57709 holder of Permit No. 2498-2, bearing the priority date of December 9, 2002. Permit No. 2498-2 is authorized to appropriate a total of 150 gpm from two wells (one in the Minnelusa Aquifer at 50 gpm and the other in the Madison Aquifer at 100 gpm) for suburban housing purposes, in Pennington County.

Inspection contact and relationship to
permit holder, if applicable:

Robert Powles
Manager

A. Works used to divert the water:

Two Grundfos submersible pumps with 150 gpm capacity.

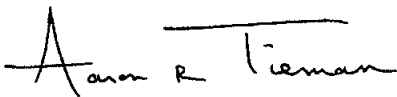
B. Works used to transport water to place of use:

Suburban housing distribution lines.

The system is in the following condition good. The points of diversion (wells) are located specifically at Lat/Lon - N44.015835/W-103.297745 which is the approximately 2330 feet north and 1465 feet west of the SE corner of Section 29 (NW ¼ SE ¼ - Minnelusa well) and at Lat/Lon - N44.010949/W-103.304342 which is approximately 550 feet north and 2080 feet east of the SW corner of Section 29 (SE ¼ SW ¼ - Madison well), both in T1N-R7E. The works are capable of diverting 0.333 cfs which is to be used for suburban housing purposes. The license should be issued for 0.333 cfs.

All structures, wells and lands on map Y

Exceptions to compliance are: none.



Aaron Tieman
Natural Resources Engineer II
DENR, Water Rights Program

Date report completed: June 30, 2015

FIELD INVESTIGATION REPORT FOR PERMIT NO. 2498-2

DATE OF INVESTIGATION:	March 21, 2012
NAME & ADDRESS OF PERMIT HOLDER	Countryside Homeowners Association PO Box 9111 Rapid City, SD 57709
INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Robert Powles (Manager)
DIVERSION POINT LEGAL LOCATION	SE¼ SW¼ and NW¼ SE¼ Section 29, T1N-R7E
WATER SUPPLY SOURCE	Groundwater, Madison and Minnelusa Aquifers

Other permit(s) associated with the project:

WELL INFORMATION:

- 1) Well Drilling Firm: **Cimarron Drilling**
- 2) Number of Wells: **Two**
- 3) Depth(s): **610** feet (Minnelusa) and **740** feet (Madison)
- 4) Well logs available: **yes**
- 5) Comment:

Casing:

- | | |
|--------------------------------------|----------------------------------|
| 1) Diameter: <u>5½</u> inches | Diameter: <u>7</u> inches |
| 2) Length: <u>455</u> feet | Length: <u>470</u> feet |
| 3) Type: <u>Steel</u> | Type: <u>Steel</u> |

Screen:

- | | |
|---|--|
| 1) Type: <u>Open hole</u> | Type: <u>Open Hole</u> |
| 2) Length: <u>N/A</u> feet | Length: <u>N/A</u> feet |
| 3) Static water level: <u>350</u> feet | Static water level: <u>432</u> feet |

Pump:

- | | |
|-----------------------------------|---------------------------------|
| 1) Make: <u>Grundfos</u> | Make: <u>Grundfos</u> |
| 2) Model: <u>50S75-03</u> | Model: <u>100S250-07</u> |
| 3) Capacity: <u>50</u> GPM | Capacity: <u>100</u> GPM |

Motor:

- | | |
|--|--|
| 1) Make: <u>Franklin</u> | Make: Franklin |
| 2) Model: | Model: |
| 3) Horsepower rating: <u>7.5</u> hp | Horsepower rating: <u>15</u> hp |

DISTRIBUTION LINES OR CANALS:

- 1) Type: **Suburban housing distribution lines.**

PERMIT QUALIFICATIONS:

- 1) Special qualifications to permit being abided by **Yes**
- 2) All structures, wells and lands on map **Yes**

COMMENTS:

WELL # 3

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

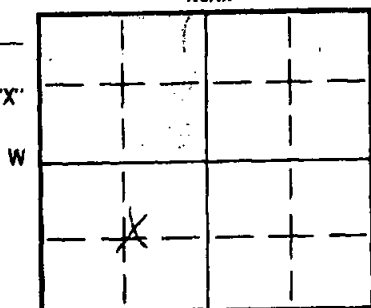
Location 10th & SW 1/4 Sec 29 Twp 7-N Rg 7-E

County

Pennington

North

Please mark well location with an "X"



Well Completion Date

12-07-01

Well Owner:

Bob Pawlos

Business Name:

COUNTRY SIDE NORTH

Address:

Box 19111
Rapid City S.D. 57709

WELL LOG:

DEPTH

FORMATION	FROM	TO
<u>Red Shale</u>	<u>0'</u>	<u>150'</u>
<u>(O.P.E. - 110')</u>		
<u>Yellow, white & Pink Sand</u>	<u>150'</u>	<u>370'</u>
<u>Red Shale</u>	<u>370'</u>	<u>380'</u>
<u>Yellow & Red S. Sand</u>	<u>380'</u>	<u>450'</u>
<u>Yellow & White Sand</u>	<u>450'</u>	<u>610'</u>
<u>W. Limestone layers</u>		
<u>(Minn. & L. 3A)</u>		
<u>(MADISON) 2</u>		

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? 350 ft. from septic (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Air - WATER

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>15.5 LB/FT</u>	<u>5 1/2 IN</u>	<u>0 FT</u>	<u>455 FT</u>	<u>7 7/8 IN</u>
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Portland</u>	<u>65</u>	<u>94/16 lb./gal</u>	<u>0</u> ft	<u>455</u> ft
<u>Type I-II</u>		_____ lb./gal	_____ ft	_____ ft

Describe grouting procedure Pressure grout thru casing
replace with water to see face with mud pumpSCREEN: ☐ Perforated pipe ☐ Manufactured

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

YES, How: Chlorine_____ NO, Why Not? Perforated

Laboratory sent to for water quality analysis

Bob Pawlos To Complete

STATIC WATER LEVEL

350

Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ PumpedDescribe: Air - developed.☐ Bailed☒ Other

Pumping Level Below Land Surface

610 ft. After 2 Hrs. blow 60+ GPM400 ft. After 1 Hrs. blow 25+ GPMIf pump installed, pump rate 10 HP @ 500' 40 GPM

REMARKS

This well was drilled under license # 568

And this report is true and accurate.

Drilling firm CIMARRON Drilling Inc.

Signature of License Representative:

Michael J. Rutsch

Signature of Well Owner or Equitable Property Holder:

Date: _____

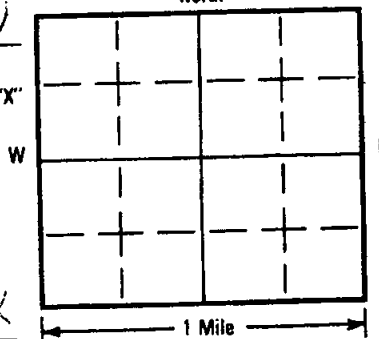
SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

WELL # 4

Location: SE 1/4 SW 1/4 Sec 29 Twp 1-N Rg 7-E
 County: Pennington

Please mark well location with an "X"



Well Completion Date

7-21-02

Well Owner: _____
 Business Name: Cinnamon Drilling Inc.
 Address: Box 911
Rapid City, S.D. 57707

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
Sand & Gravel	0'	10'
Red Mudstone	10'	200'
Red Clay shale	200'	230'
Sandstone	230'	320'
White sandstone	320'	400'
White sandstone	400'	520'
Clay	520'	570'
Madison Limestone	570'	740'

LOCATION:

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

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary Air Water

CASING DATA:

☒ Steel ☐ Plastic ☐ Other

If other describe _____

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

GROUTING DATA

Grout Type Portland No. of Sacks 58 Grout Weight 94 lb./gal From 0 ft. To 470 ft.
Type II _____ lb./gal _____ ft. _____ ft.
 Describe grouting procedure Pressure grout thru casing, displace to surface with Mud Pump

SCREEN:

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

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion? ☒ YES, How: Chlorine

_____ NO, Why Not? Not needed

Laboratory sent to for water quality analysis

Owner to complete

STATIC WATER LEVEL 432' Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☐ Pumped Describe: Air developed

☐ Bailed

☒ Other

Pumping Level Below Land Surface

740 ft. After 3 Hrs. pumped 40+ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate 40 GPM GPM

REMARKS

This well was drilled under license # 568

And this report is true and accurate.

Drilling firm Cinnamon Drilling Inc.

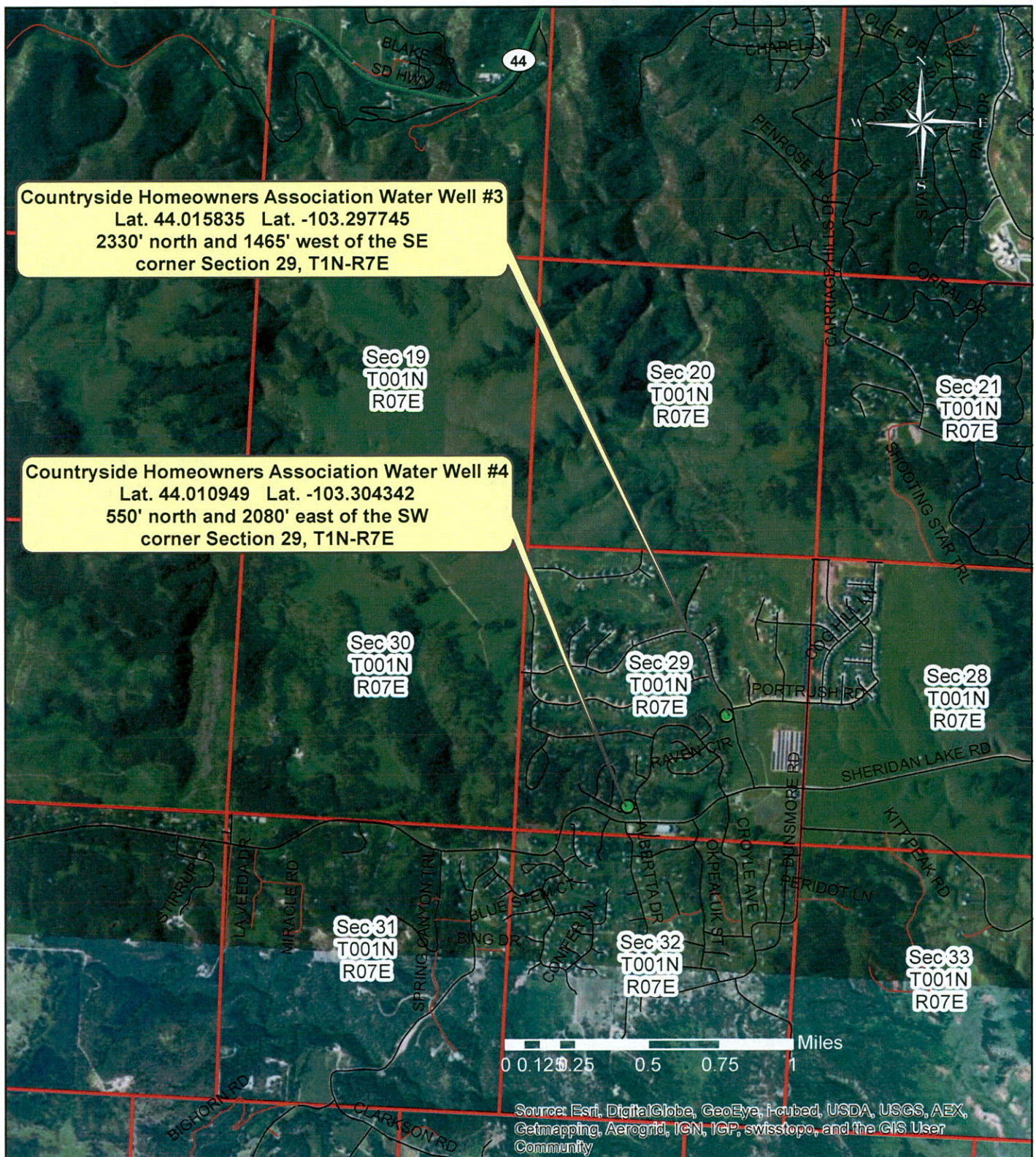
Signature of License Representative

Michael J. Deutsch

Signature of Well Owner or Equitable Property Holder:

Date: _____

Water Right 2498-2
Countryside Homeowners Association
March 21, 2012



Aaron R. Tieman

Aaron Tieman
Natural Resources Engineer II
DENR Water Rights Program





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

AUG 27 2005

2498-2

Jay Chittim, Mgr
Countryside Homeowner's Association
PO Box 9662
Rapid City SD 57709

Dear Mr. Chittim:

Enclosed is Water License No. 2498-2. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 2498-2, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 2498-2**

(1) Countryside Homeowner's Association, PO Box 9662, Rapid City SD 57709 made Application No. 2498-2, December 9, 2002 for a water permit to divert 0.324 cubic feet of water per second (cfs) from ground water (two wells – Madison and Minnelusa Aquifers), Pennington County, South Dakota for suburban housing development purposes. Permit No. 2498-2, with a priority date of December 9, 2002 was approved March 24, 2003 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before March 24, 2008 and for the application to beneficial use of said water on or before March 24, 2012.

A review of the permit file found a discrepancy with the "total" diversion authority. The permit was issued for 0.324 cfs but was clarified with specific diversions from the two wells as follows:

- Madison well – 0.222 cfs (100 gallons per minute)
- Minnelusa well – 0.111 cfs (50 gallons per minute)

The advertisement notice for the application also cited 0.324 cfs however was specific to the diversion authority from each well. The permit holder developed up to the permitted rates from each well and the water license will be issued for the total of 0.333 cfs.

(2) It is certified that the permit holder has complied with the provisions of South Dakota State Law relating to completion of the construction of the water supply system and is entitled to divert 0.333 cubic feet of water per second for beneficial use. The location of the diversion points are:

- **Minnelusa well:** approximately 2,330 feet north and 1,465 feet west of the SE corner of Section 29, T1N, R7E (NW ¼ SE ¼ - Countryside's well #3)
- **Madison well:** approximately 550 feet north and 2,080 feet east of the SW corner of Section 29, T1N, R7E (SE ¼ SW ¼ - Countryside's well #4)

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

(4) Pursuant to South Dakota Water Law 46-5-30.1 Countryside Homeowner's Association, PO Box 9662, Rapid City SD 57709 the holder and/or owner of Water Right No. 2498-2 is issued a license to appropriate water, the right to use 0.333 cubic feet of water per second from ground water – two wells (0.222 cfs from Madison Well and 0.111 cfs from Minnelusa Well) with a priority date of December 9, 2002 from the locations specified in (2) of this license for suburban housing development purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2498-2 and subject to the following qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2498-2 is issued for a twenty year term for the 0.222 cfs from the Madison Aquifer well. 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. 2498-2 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.
- Countryside Homeowner's Association shall report to the Chief Engineer annually the amount of water withdrawn from the Minnelusa and Madison Aquifer wells.



Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

AUG 27 2015

date

