

Considered: _____

WATER PERMIT NO. 5116-3

MAP No. same

Name of Applicant South Lincoln Rural Water System

Post Office Address P.O. Box 155, Canton SD 57013

Amount of Water Claimed 0.67 cfs Total Acres NA

Source of Water Supply ground water Iwell - Dakota Sandstone

Water to be used for the rural water system County Lincoln, Turner & Union

About 6 1/2 miles S of Worthing

PROOF OF PUBLICATION: Received _____ Not Received _____

APPLICATION: Approved _____ Subject to _____

F.F. & C.L. Adopted May 7, 1987 Not Approved _____ Deferred _____

PRIORITY _____ Date Received Jan. 13, 1987 Fee 150.00 Remarks Appl is to
8/17/81 develop future use reserves under F.U. Permit No. 4817-3

Corrected Application Received _____ Period of Annual Use Jan 1 - Dec 31

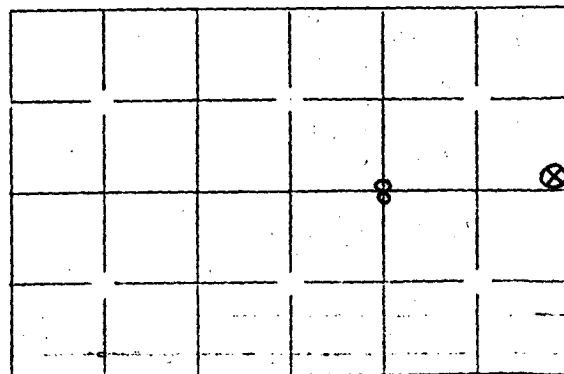
WATER QUALITY APPROVAL RECEIVED NA APPROVED/CONDITIONAL (Circle one)

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

Diversion Point well: SE 1/4 NE 1/4 section 8-T97N-

R50W

Land to be Irrigated NA



Well Log: Driller _____ Licensed YES _____ NO _____

Depth of Well 650 feet REMARKS well has not been constructed

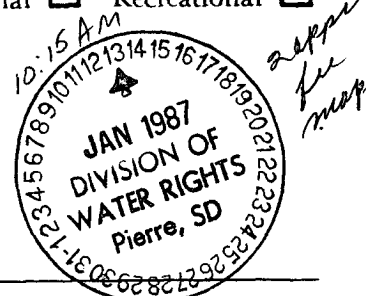
Type of Map Topo PREPARED BY David Holman Reviewed and the Number
assigned on January 13, 1987 By Ron Duval

No. 5116-3 Hydrologic Unit 10170102
 Map No. same Basin Vermillion River
 Newspaper Sioux Valley News, Box 255, Canton (Thurs)
Alcester Union, Box 217 (Thurs)
The New Era, Box 577, Parker (Thurs)
Argus Leader, P.O. Box 5034 (daily)

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

Check use of water: Industrial ☐ Commercial ☐ Municipal ☐ Other Common Distribution System ☐
 Rural Water System ☒ Suburban Housing ☐ Geothermal Heat ☐ Institutional ☐ Recreational ☐
 Domestic ☐ (above 18gpm) Other ☐

Type of Application: Check one or more of the following



New ☐ Vested Right ☐ Future Use ☐ Change Use ☐

☐ Amend Permit No. _____ with old priority date retained

Change diversion point(s) ☐ Add diversion point(s) ☒ Other ☐ _____

☐ Application to: Change diversion point(s) ☐ Add diversion point(s) ☐ on Permit No. _____

☒ Construction to use water reserved by Future Use Permit No. 4817-3

1. Name of Applicant South Lincoln Rural Water System Phone No. (605) 372-4211

Post Office Address P.O. Box 155, Canton State SD 57013
(Street, RR or Box) Zip Code

2. Amount of water claimed (c.f.s) 0.67 cfs - ~~4700 acre ft/yr~~

3. Source of water supply Dakota Sandstone

4. Location of point of diversion SE $\frac{1}{4}$ of SE $\frac{1}{4}$ of NE $\frac{1}{4}$ Sec 8, T97N, R50W, Lincoln Township

County Lincoln

5. Counties where water will be used Lincoln, Turner, and Union and Minnehaha

6. Annual period during which water is to be used 12 months per year. Jan. 1 to December 31

7. Give a brief description of proposed 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)

The proposed project involves adding a well to the South Lincoln Rural Water System
~~to provide additional water to meet the needs of Alcester.~~

No increase in the annual maximum withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B is requested.

Attachments: Attach Form 2A if diversion from a well or dugout, or if storage of water, is proposed. Attach map (see instruction)

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

I, Charles Kuehl on behalf of S.L. Rural Water the applicant, certify that I have read the foregoing application, have examined the attached map and that the matters therein stated are true and that I intend, and am able to complete the necessary construction.

Signed

Charles Kuehl

Subscribed and sworn to before me this

12th

day of

January

19 87

John Rivers
 Notary Public (or other qualified officer)

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 5116-3
South Lincoln Rural Water System P.O. Box 155
(Applicant) (Street, RR or Box)
Canton SD 57013 With the following qualifications.
(City) (State) (Zip Code)

SEE ATTACHED SHEET

Date of first receipt of application January 13, 1987.

Date of return to applicant for correction, amendments or changes required _____, 19____.

Date of receipt of corrected application _____, 19____. Approved May 7, 1987.

The Water Management Board approved this Water Permit No. 5116-3 authorizing the construction of the water use system and the placing of water to beneficial use as stated in the Application and as qualified in the Water Permit approval, subject, however, to the following limitations and conditions: see F.U. Permit No. 4817-3

1. The date from which applicant may claim right is August 17, 1981.
2. The equivalent of at least one-fifth of the specified work is to be completed on or before October 7, 1989.
3. The whole of said work is to be completed on or before May 7, 1992.
4. The limit of time for proof of beneficial use of water appropriated in accordance herewith is May 7, 1996.
5. The water appropriated shall be used for the purpose of supplying the rural water system.
6. The prior right of all persons who, by compliance with the laws of the State of South Dakota, have acquired a right to the use of water must not be unlawfully impaired by this appropriation.
7. The amount of the appropriation granted shall not exceed 0.67 cubic feet per second; neither shall it exceed the amount of water needed for the beneficial uses served and to which water is actually and beneficially applied for rural water system use on or before May 7, 1996. The water is to be used during the following described annual period: January 1 - December 31.

WATER MANAGEMENT BOARD

By: John Hatch
Chief Engineer

Division of Water Rights
 Dept. of Water and Natural Resources

AUG 19 1987

_____, 19____

1. That the South Lincoln Rural Water System report to the chief engineer annually the amount of water withdrawn each year.
2. That the rural water system well approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The rural water system, under this permit, shall control its withdrawals so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
3. That prior to use of water from the new production well authorized by Permit No. 5116-3 that the South Lincoln Rural Water System install one observation well near the new production well to allow the chief engineer to monitor water levels.
4. That approval of Permit No. 5116-3 does not authorize annual withdrawals from Permits No. 5116-3, 4300-3, 4300-3A and 4300-3B of more than 1048 acre feet.

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

- a) Drill Hole Diameter 10-18 inches Depth 650 feet
- b) Casing Type Steel Diameter 12 inches Thickness 0.25 inch
- c) Screen Type Stainless steel Diameter 5 inches Thickness 100-125 feet of 7 ga
- d) Gravel Pack Thickness 3 inches Length of Gravel Pack 200-250 feet
- e) Depth to Top of Water Bearing Material 450 feet
- f) Depth of Water (ground surface to water level) 150 feet
- g) Distance to nearest existing domestic well:
 On applicants property Approx 1½ miles On property owned by others Approx 1500 feet

2. Dugout Information Estimates Not applicable

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

3. Water Storage Dams Not applicable

If the proposed water use system contains one or more storage dams, please furnish the information requested below. The locations of each dam should 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) Outlet Dimensions:

Pipe diameter _____

Spillway width _____

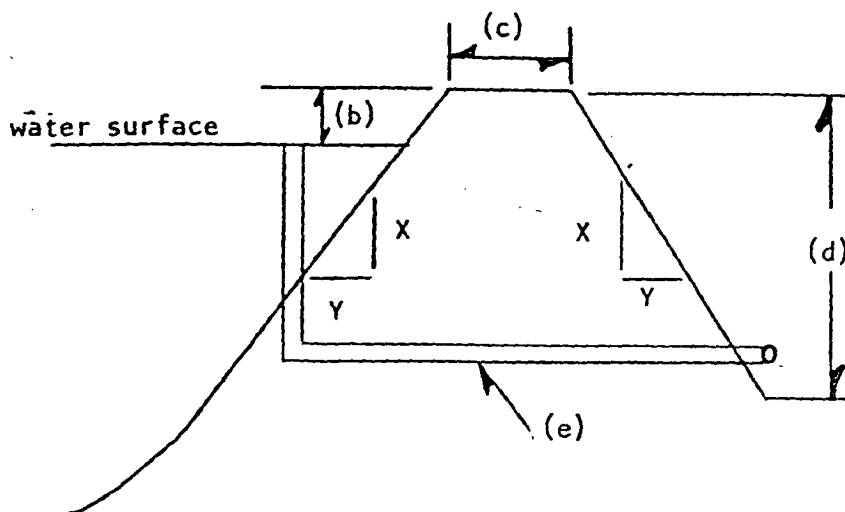
f) X & Y Slope
 Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Charles Kuehl
 Signature of Applicant

RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

440700

Pierre, January 13, 1987

RECEIVED OF South Lincoln Rural Water System, PO Box 155, Canton, SD 57013

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

Fee for Application for Permit No. _____ to Appropriate Water, to construct works and to put water to beneficial use _____	150	00
Fee for Application for Permit No. _____ to Appropriate Water for Future Use _____		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____		
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	150 00

By John Hatch
Chief Engineer JOHN HATCH (110)

#6 REC'D SEP 12 1977

Rural Water - Lincoln County
JOB NAME

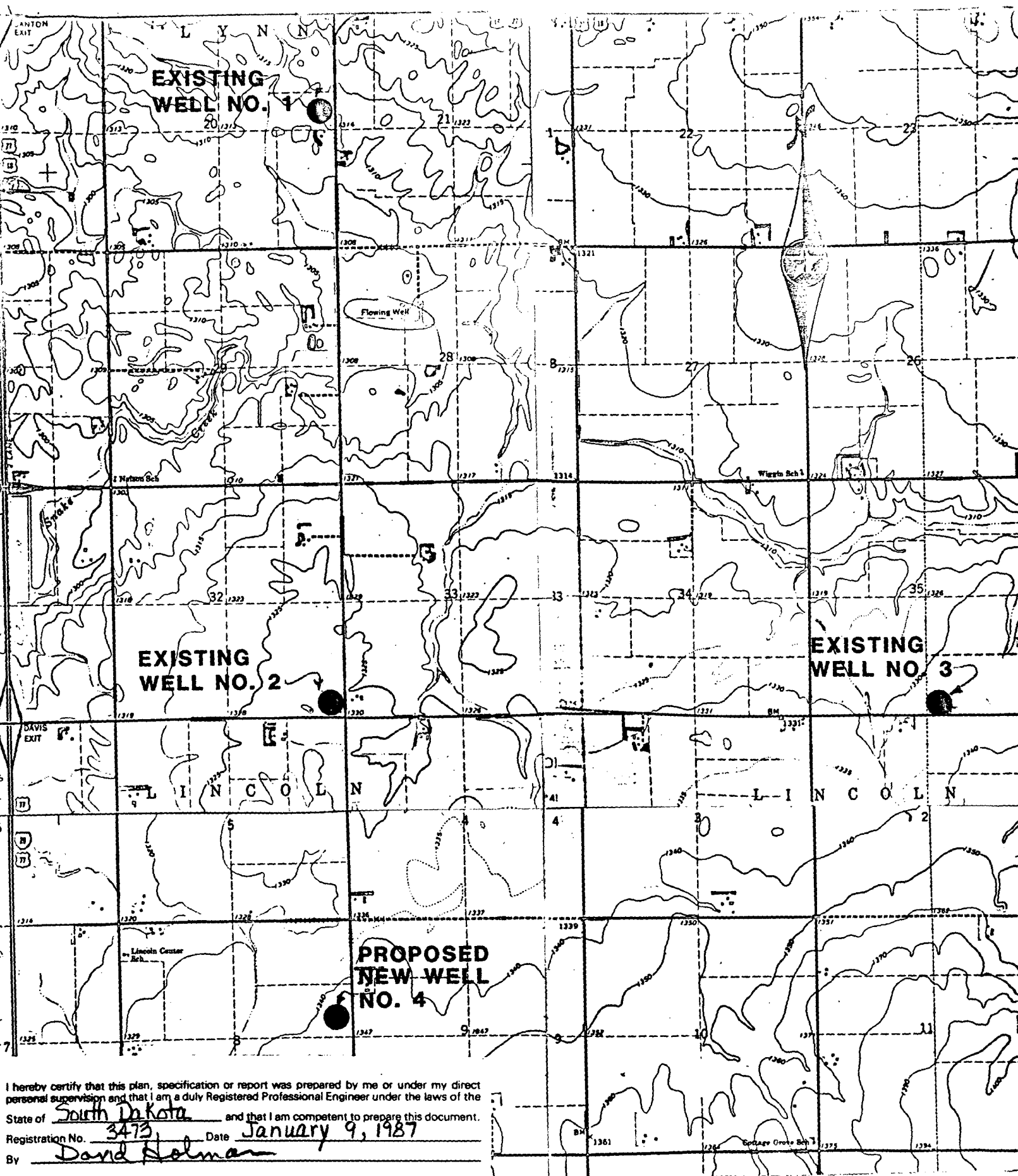
S.E.-32-08-50
Canton, South Dak.
LOCATION

7/20/77
DATE

9
RIG NO.

Tom Rathjen
FOREMAN

३३



EXISTING
WELL NO. 1

EXISTING
WELL NO. 2

EXISTING
WELL NO. 3

PROPOSED
NEW WELL
NO. 4

I hereby certify that this plan, specification or report was prepared by me or under my direct personal supervision and that I am a duly Registered Professional Engineer under the laws of the State of South Dakota and that I am competent to prepare this document.
Registration No. 3473 Date January 9, 1987
By David Holman

SOUTH LINCOLN WELL FIELD

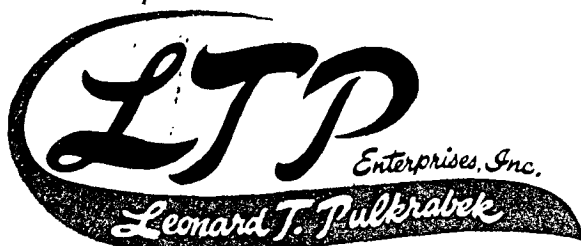


DeWild Grant Reckert & Associates Co.
Denver, Colorado
Rock Rapids, Iowa
Sioux City, Iowa
Sioux Falls, South Dakota

Date 1-8-87
Drawn By BH
Approved DEH
Revised

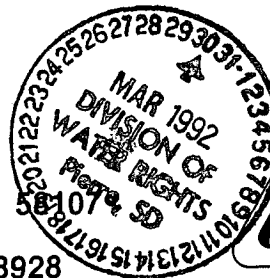
Appl. No. 5116-3

**SOUTH LINCOLN
RURAL WATER SYSTEM
CANTON, SOUTH DAKOTA**



Box 2131
FARGO, N. DAK.

Phone (701) 232-8928



WELL DRILLING
PUMP SALES & SERVICE

Well #4

Work done by Fargo office Job No. S1055CA Commitment date A.S.A.P. Call taken by L.T.P.

Owner South Lincoln Water Users Telephone Eng: 472-2531 Date _____

City Canton County _____ State South Dakota

Well No. L.T.P. #1 Location _____

Well diameter 12" Well depth 660.5' Year Constructed 1987 Did we drill Yes

Screen Diameter 6" P.S. Screen Length 233' Screen Material S.S. Screen Slot 20 slot & Blanks (see below) Leader _____

Static Level 191' Pumping Level 221.2' G.P.M. Tested 448 With what? Test Pump

Specific yield 14.83 G.P.M. per foot of D.D. after 24 hours of pumping _____

Type of well - Filter wall X Naturally developed _____ Filter Sand Size Red Flint .60-.65

Additional information pertaining to well 467 ft. of 12" casing grouted in place.

Screen is as follows from top to bottom. 38.7' blank - 57.75' screen - 50' blank - 17.25' screen - 22.75' blank - 46.75' screen.

Driller Don Hejzmanek Date completed 12-18-87

PUMP AND SYSTEM DATA Well #4

Type of Pump - Turbine _____ Submersible X Make Berkeley Model 7S3L-5 Pump Serial No 480165

Size Motor 30 Voltage 460V Phase 3 Motor Serial No G89636E

Type of Column? Turbine _____ Submersible X Length of Column 298' Size of Column 4" Material Black Steel

Size of Line - Shaft _____ Material of Shaft _____ Replacement No. of line shaft bearings _____

What type of System? Pressure _____ Elevated Tank _____ House _____ Pitless Unit X

Size Pitless Unit 12"x14" Bury depth of Pitless Unit 7' Total pump setting from intake 307'

Air line length 310' Size 1/4" Material Plastic

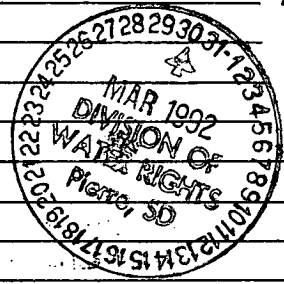
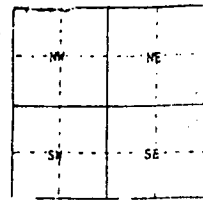
Amperage under operating conditions - Line 1 _____ Line 2 _____ Line 3 _____

Additional information pertaining to pump and system Pump is rated at 300 GPM @ 300' TDH

Date installed 2-12-88 By Company L.T.P. Enterprises, Inc Operator Bruce Pulkrabek

TEST HOLE NO: 1-87 TEST WELL NO: 2" G. Well 1-87
 Size hole drilled 6 3/4 inch - Method of Development air & water Hrs. _____
 Recovery G.P.M. _____ at _____ ft. Date Completed 9-1-87 Driller Don H.
 Well diameter inside 2" Depth of Well 673' Screen diameter 2" Length 120.18' 0 1/4"
 Screen slot 18 Screen material PVC Screen fittings size-Plug _____ Packer _____ Shoe wash down
 Leader-size _____ Length _____ Guides _____ No. Used _____
 Static Level 191' Pumping Level _____ G.P.M. tested 7 1/2 With what Air at 500'
 Type of well-Filter wall ✓ or naturally developed _____ Filter sand size 70-80
 Additional information pertaining to well _____ Sec _____

↑ N



2.5' above G.L.

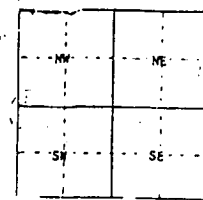
MATERIAL & SUPPLIES

NET LIST

Feet of Casing 555' Size 2" Schedule 8.6 Type of Material _____ 420'

TEST HOLE NO: 2-87 TEST WELL NO: 1-87
 Size hole drilled 6 3/4", 12 1/4" inch - Method of Development Air & water Hrs. _____
 Recovery G.P.M. _____ at _____ ft. Date Completed 10-23-87 Driller Don H.
 Well diameter inside 12" Depth of Well 660.5 Screen diameter 6" Pipe Size Length see below
 Screen slot 20 Screen material S.S. Screen fittings size-Plug solid bottom Packer _____ Shoe _____
 Leader-size 6" p.s. Length 38.7' Guides every 20' No. Used 9
 Static Level _____ Pumping Level _____ G.P.M. tested 120 With what air 4"
 Type of well-Filter wall ✓ or naturally developed _____ Filter sand size 60-85
 Additional information pertaining to well _____ Sec _____

↑ N



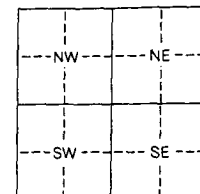
Leader 38.7 sign left on jobsite
Screen 57.75 drainage pit & trench left open,
blank 56.0
Screen 17.25 State took recovery from 3:00 P.M. 10-23-87
blank 22.75 to 7:00 A.M. 10-24-87 will mail us copy
Screen 46.75



Box 2131
FARGO, N. DAK.

Phone (701) 232-8928

Sec _____



WELL DRILLING
PUMP SALES & SERVICE

DRILLERS LOG

Drilled for South Lincoln Water Users by Fargo Office _____
 Location of property S. of Sioux Falls on I-29 to Davis Exit, 1 E., 1 1/2 S.
 Test hole No. 1-87 Location of test hole 200' N. of main building Well No. 3" OAS,
 Size of test hole 6 3/4 Date started 8-25-87 Date completed 8-28-87 Total Hours 34 3/4

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPTH	ENDED AT WHAT DEPTH	THICKNESS OF FORMATION
Top soil	Black	G.L.	2'	2'
Sandy clay	Brown	2'	37'	35'
Sand	Brown	37'	83'	46'
Sand	Brown	83'	97'	14'
Clay w/lenses of hard shale & sm. lenses of sand	Blue/Black	97'	104'	7'
Shale	Blue	104'	194'	90'
Shale	Colored	194'	248'	54'
Soft shale	Dark Blue	248'	304'	56'
Sandy shale	Blue/Brown	304'	328'	24'
Shale	Blue	328'	391 1/2'	63 1/2'
Sandstone	Gray	391 1/2'	379'	7 1/2'
Sandstone & sandy shale	Gray/Blue	399'	412'	13'
Sandstone	Gray	412'	416'	4'
Sandy shale w/sm. lenses of sandstone	Gray	416'	432 1/2'	16 1/2'
Sandstone	Gray	432 1/2'	436 1/2'	4'
Sandy shale w/sm. lenses of sandstone	Gray/Black	436 1/2'	465 1/2'	34'
Sandstone	Gray	465 1/2'	480'	14 1/2'
Sandy shale w/lenses of sandstone	Gray/Blue	480'	484'	4'
Sandstone w/lenses of shale	Gray	484'	489 1/2'	5'
Rock	White	489 1/2'	490 1/2'	1'
Sandstone w/lenses of shale	Gray	490 1/2'	495'	5'
Sandstone	Gray	495'	504'	9'
Sandstone	Gray	504'	518'	14'
Sandstone	Gray	518'	520'	11'

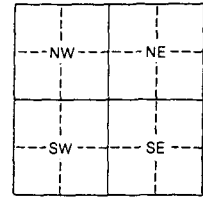
Signed Don Hejzmanek Driller



Box 2131
FARGO, N. DAK.

Phone (701) 232-8928

Sec _____



WELL DRILLING
PUMP SALES & SERVICE

DRILLERS LOG

Drilled for South Lincoln Water Users by _____ Office

Location of property Continued

Test hole No. _____ Location of test hole _____ Well No. _____

Size of test hole_____ Date started_____ Date completed_____ Total Hours_____

FORMATIONS DRILLED

[illegible]

Signed Don Hejtmanek Driller



Box 2131
FARGO, N. DAK. 58103

Phone (701) 232-8928



Sec _____

NW	NE
SW	SE

WELL DRILLING
PUMP SALES & SERVICE

DRILLERS LOG

Drilled for South Lincoln Water Users by Fargo Office
 Location of property S. of Sioux Falls on I-29 to Davis Exit, 1 East, 1 1/2 South
 Test hole No. 2-87 Location of test hole 100' N.E. of 1-87 Well No. L.T.P. #1 - 15' W
 Size of test hole 6 3/4 Date started 9-1-87 Date completed 9-3-87 Total Hours 26

FORMATIONS DRILLED

TYPE OF FORMATION	COLOR OF FORMATION	STARTED AT WHAT DEPTH	ENDED AT WHAT DEPTH	THICKNESS OF FORMATION
Top soil	Black	G.L.	2'	2'
Sandy clay	Brown	2'	38'	36'
Sand	Brown	38'	82'	44'
Rock	Black/Gray	82'	83'	1'
Sandy clay w/sm lenses of sand	Blue	83'	99'	16'
Shale	Blue	99'	160'	61'
Rock	Gray	160'	160 1/2'	1/2'
Shale	Colored	160 1/2'	329'	163 1/2'
Sandy shale	Black/Gray	324'	340'	16'
Sandy shale	Blue/Gray	340'	390'	50'
Sandstone	Gray	390'	398'	8'
Sandstone & shale	Gray	398'	409'	11'
Sandstone	Gray	409'	414'	5'
Sandy shale w/sm lenses of sandstone	Gray	414'	428'	14'
Sandstone	Gray	428'	433'	5'
Sandstone & sandy shale	Gray/Blue	433'	439'	6'
Sandy shale w/lenses of sandstone	Gray/Blue	439'	449'	10'
Sandstone w/lenses of shale	Gray	444'	454'	5'
Sandy shale w/lenses of sandstone	Gray	454'	463'	9'
Rock	Gray	463'	467'	4'
Sandstone	Gray	467'	478'	11'
Sandy shale w/lenses of sandstone	Blue/Gray	478'	483'	5'
Sandstone	Gray	483'	488'	5'
Lenses of sandstone & sandy shale	Gray	488'	492'	4'

Signed Don Hejtmanek Driller



Owner South Lincoln Water UsersWell No. 12" Well

Location _____

Date started 10-23-87Static 191'

PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-892

RECOVERY

Time	Time in Minutes	Pumping Level	Drawdown	GPM		Time	Time in Minutes	Pumping Level	Drawdown	GPM	
7:00AM	0	221.20	30.20			10:15	195	193.10	2.10		
7:01	1	196.70	5.70			10:30	210	193.03	2.03		
7:02	2	197.05	6.05			10:45	225	193.00	2.00		
7:03	3	196.75	5.75			11:00	240	192.96	1.96		
7:04	4	196.70	5.70			11:30	270	192.88	1.88		
7:05	5	196.57	5.57			12:00PM	300	192.82	1.82		
7:06	6	196.32	5.32			12:30	330	192.73	1.73		
7:07	7	196.20	5.20			1:00	360	192.68	1.68		
7:08	8	196.05	5.05			1:30	390	192.62	1.62		
7:09	9	195.90	4.90			2:00	420	192.56	1.56		
7:10	10	195.80	4.80			2:30	450	192.52	1.52		
7:11	11	195.70	4.70			3:00	480	192.46	1.46		
7:12	12	195.60	4.60								
7:13	13	195.52	4.52								
7:14	14	195.45	4.45								
7:15	15	195.36	4.36								
7:20	20	195.07	4.07								
7:25	25	194.83	3.83								
7:30	30	194.67	3.67								
7:35	35	194.48	3.48								
7:40	40	194.37	3.37								
7:45	45	194.23	3.23								
7:50	50	194.16	3.16								
7:55	55	194.09	3.09								
8:00	60	194.00	3.00								
8:15	75	193.80	2.80								
8:30	90	193.65	2.65								
8:45	105	193.50	2.50								
9:00	120	193.39	2.39								
9:15	135	193.32	2.32								
9:30	150	193.28	2.28								
9:45	165	193.21	2.21								
10:00	180	193.17	2.17								

Owner South Lincoln Water Users

Well No. LTP 2" O.B. Well

Location _____

Date started _____

Static 191.6' While 12" well is pumping



PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-892

Time	Time in Minutes	Pumping Level	Drawdown	GPM		Time	Time in Minutes	Pumping Level	Drawdown	GPM	
7:00	0	191.60				10:15	195	198.70	7.10		
7:01	1	194.00	2.40			10:30	210	198.75	7.15		
7:02	2	194.70	3.10			10:45	225	198.83	7.23		
7:03	3	194.85	3.25			11:00	240	198.88	7.28		
7:04	4	195.00	3.40			11:30	270	199.00	7.40		
7:05	5	195.10	3.50			12:00	300	199.10	7.50		
7:06	6	195.35	3.75			12:30	330	199.20	7.60		
7:07	7	195.45	3.85			1:00	360	199.28	7.68		
7:08	8	195.55	3.95			1:30	390	199.37	7.77		
7:09	9	195.70	4.10			2:00	420	199.43	7.83		
7:10	10	195.80	4.20			2:30	450	199.47	7.87		
7:11	11	195.95	4.35			3:00	480	199.52	7.92		
7:12	12	196.00	4.40			4:00	540	199.62	8.02		
7:13	13	196.05	4.45			5:00	600	199.73	8.13		
7:14	14	196.10	4.50			6:00	660	199.79	8.19		
7:15	15	196.15	4.55			7:00	720	199.88	8.28		
7:20	20	196.45	4.85			8:00	780	199.98	8.38		
7:25	25	196.60	5.00			9:00	840	200.08	8.48		
7:30	30	D.D. Gauge				10:00	900	200.18	8.58		
7:35	35	Not				11:00	960	200.28	8.68		
7:40	40	Working				12:00	1020	200.40	8.80		
7:45	45					1:00	1080	200.50	8.90		
7:50	50	197.30	5.70			2:00	1140	200.60	9.00		
7:55	55	197.45	5.85			3:00	1200	200.65	9.05		
8:00	60	197.60	6.00			4:00	1260	200.65	9.05		
8:15	75	197.80	6.20			5:00	1320	200.65	9.05		
8:30	90	198.00	6.40			6:00	1380	200.70	9.10		
8:45	105	198.10	6.50			7:00	1440	200.70	9.10		
9:00	120	198.25	6.65								
9:15	135	198.35	6.75								
9:30	150	198.45	6.85								
9:45	165	198.55	6.95								
10:00	180	198.65	7.05								

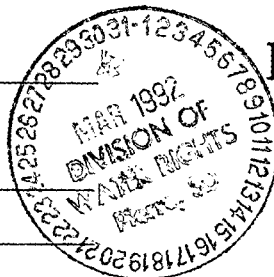
Owner South Lincoln Water Users

Well No. LTP 2" O. Well

Location 100' SW of 12" Well

Date started 10-23-87

Static 191.6



PUMPING TEST

By



FARGO, N. DAK. 58102 Box 2131 Phone (701) 232-892

RECOVERY

Time	Time in Minutes	Pumping Level	Drawdown	GPM	Time	Time in Minutes	Pumping Level	Drawdown	GPM
7:00	0	200.70	9.10		10:15	195	193.40	1.80	
7:01	1	198.05	6.45		10:30	210	193.30	1.70	
7:02	2	197.50	5.90		10:45	225	193.25	1.65	
7:03	3	197.00	5.40		11:00	240	193.20	1.60	
7:04	4	196.90	5.30		11:30	270	193.15	1.55	
7:05	5	196.70	5.10		12:00	285	193.07	1.47	
7:06	6	196.45	4.85		12:30	300	193.00	1.40	
7:07	7	196.30	4.70		1:00	330	192.95	1.35	
7:08	8	196.25	4.65		1:30	360	192.90	1.35	
7:09	9	196.15	4.55		2:00	390	192.80	1.25	
7:10	10	196.10	4.50		2:30	420	192.75	1.20	
7:11	11	195.90	4.30		3:00	450	192.70	1.15	
7:12	12	195.80	4.20		3:30	480	192.65	1.15	
7:13	13	195.70	4.10						
7:14	14	195.60	4.00						
7:15	15	195.50	3.90						
7:20	20	195.35	3.75						
7:25	25	195.05	3.45						
7:30	30	194.90	3.30						
7:35	35	194.80	3.20						
7:40	40	194.70	3.10						
7:45	45	194.55	2.95						
7:50	50	194.45	2.85						
7:55	55	194.40	2.80						
8:00	60	194.35	2.75						
8:15	75	194.10	2.50						
8:30	90	193.95	2.35						
8:45	105	193.85	2.25						
9:00	120	193.70	2.10						
9:15	135	193.65	2.05						
9:30	150	193.55	1.95						
9:45	165	193.50	1.90						
10:00	180	193.45	1.85						

**FEASIBILITY STUDY
AND
WATER SOURCE IDENTIFICATION
FOR
ALCESTER, SOUTH DAKOTA**

NOVEMBER 1986

DeWild Grant Reckert & Assoc. Co.

PROJECT NO. 36225

FEASIBILITY STUDY
AND
WATER SOURCE IDENTIFICATION
FOR
ALCESTER, SOUTH DAKOTA

November 1986

I hereby certify that this study was prepared
by me or under my direct supervision and that
I am a duly Registered Professional Engineer
In the State of South Dakota.

By _____
David Holman, P.E.

South Dakota Registration No. 3473

Date _____

DGR Project No. 36225

DEWILD GRANT RECKERT AND ASSOCIATES COMPANY
ARCHITECTURE - ENGINEERING - PLANNING
ROCK RAPIDS, IOWA
SIOUX FALLS, SOUTH DAKOTA
DENVER, COLORADO

FEASIBILITY STUDY
AND
WATER SOURCE IDENTIFICATION
FOR
ALCESTER, SOUTH DAKOTA

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APPENDICES

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October 3, 1986 Letter from DWNR
- No. 2 - Cost Functions - Construction
- No. 3 - Cost Functions - Operation and Maintenance
- No. 4 - Feasibility Study for Water Service to the City of
Alcester from South Lincoln Rural Water
- No. 5 - New Deep Wells
- No. 6 - New Shallow Wells

FEASIBILITY STUDY AND
WATER SOURCE IDENTIFICATION
FOR
ALCESTER, SOUTH DAKOTA

Background and Scope:

In March 1984, the City of Alcester was advised by the Department of Water and Natural Resources (DWNR) that their current water supply violated the nitrate standard and that they were to initiate action to bring the water supply into compliance. In an effort to meet DWNR's request, the City authorized a study of available ground water sources by the South Dakota Geological Survey (SDGS). The preliminary results of this study were furnished to the City in October 1986.

With the availability of the SDGS's preliminary results, DWNR established a deadline for compliance of December 1987 noting three viable options: 1) Hookup to South Lincoln Rural Water System; 2) New deep wells; and 3) New shallow wells. See DWNR's letter of October 2, 1986 in Appendix 1.

Further, the City was advised on October 3, 1986 that one of their wells had shown the presence of pesticides. See DWNR's letter of October 3, 1986 in Appendix 1.

The City reviewed available data and took action to be included in the State Water Plan as well as developing cost estimates for each of the identified alternatives. In developing the cost estimates, quantity as well as quality was to be considered. This study presents the cost estimates for each alternative and provides the basis for water source selection.

Design Criteria:

In this study, the following design criteria has been used:

1. Design Period:

A design period of 30 years has been selected. This length of time is consistent with the expected life of the facilities under consideration and the term of the potential loans available to the City. State loans are available for 30 years whereas FmHA loans are available for up to 40 years.

2. Water Needs:

Water needs are based upon reported current average and peak day demands (70,000 and 140,000 gallons per day, respectively) and potential future changes in population. Assuming that the population will continue to increase to 1,100 people, the average and peak day requirements would be approximately 85,000 and 170,000 gallons per day (gpd), respectively.

3. Source of Supply:

The total developed source capacity shall be equal or exceed the design peak day demands. In addition, the source capacity will equal or exceed the design average day with the largest producing well out of service if the source of supply is a well field.

4. Treatment:

Treatment facilities (iron and manganese removal) will be considered whenever iron and manganese exceed 0.25 ppm and 0.05 respectively or 0.30 ppm combined. The

capacity of the treatment facilities will be the same as the capacity as the source. Thus, the treatment facilities will be sized to meet the projected peak day demand. To provide a modest degree of safety, the treatment rate will be selected to meet the peak day demand in a 20 hour period.

In estimating the cost of hardness reduction, individual point-of-use treatment (home softeners) were assumed with a typical reduction of hardness to 5 grains per gallon (gpg). It should be noted that home softeners cannot be arbitrarily controlled to 5 gpg but will generally reduce hardness to less than 1 gpg.

5. Storage:

Storage facilities should have sufficient capacity to meet domestic and fire flow demands. Insurance Services Office last surveyed the city in 1982 and recommended 2,250 gallons per minute (gpm) as a representative fire flow for a 2 hour duration. Additional storage, if necessary, will be considered as ground storage.

6. Transmission Main:

Transmission mains were sized to deliver the anticipated peak day demands in a 20 hour period. The most economical pipe size was selected considering material and installation cost of the pipe and the cost of energy for pumping.

Design Parameters:

1. Design Period: 30 years
Design Year: 2020
Design Population: 1,100 people
2. Design Water Needs: Average Day Demand = 85,000 gpd
= 71 gpm*
Peak Day Demand = 170,000 gpd
= 142 gpm*
*20 hour flow

3. Source Capacity: 142 gpm or 170,000 gpd

4. Treatment Capacity: 150 gpm

5. Storage Capacity:

Domestic Flow = 236 gpm (170,000 gpd - 12 hour flow)
Fire Flow = 2,250 gpm
Total Flow = 2,486 gpm

Total Needs Required for 2 Hour Duration = 298,320 gallons

Recommended Storage:

Total Needs = 298,320 gallons
Minus Source Capacity = (18,000 gallons)
Minus Existing Storage = (150,000 gallons)
Recommended Additional Storage = 148,320 gallons

6. Transmission Main

Economical Size = 4 inch.

Cost Functions - Construction:

Cost functions for wells, water treatment plants, ground storage reservoirs, and transmission mains were developed for use in estimating construction costs. Bid prices for various facilities designed by DeWild Grant Reckert & Associates Co. (DGR) over the past 8 years were analyzed to develop the cost functions.

1. Well construction costs were tabulated and converted to July 1986 costs utilizing Engineering News Record (ENR) Construction Cost Index Values. In tabulating well construction costs, mobilization, pilot hole drilling, samples and records, well drilling, casing, stainless steel screen, gravel pack, grout, development, 72-hour pumping test, 24-hour recovery observations and disinfection were considered. See Table 2-1, "Water Well Construction Costs" and the accompanying figure in Appendix No. 2, which were developed utilizing the noted data.

Costs associated with well construction are primarily affected by depth and diameter with ultimate well capacity having little or no effect. Therefore well costs are presented as a function of depth with a completed diameter of 12 inches assumed for all wells.

2. Well completion costs including pitless unit, submersible motor, pump, control, electrical service, and appurtenant site piping were evaluated. Costs ranged from \$16,000 to \$25,000 with no trends noted when considering either depth or motor horsepower. See Table 2-2, "Water Well Completion Costs" in Appendix No. 2. For the purposes of this study, \$19,276 was used for estimating well completion costs.

3. Water treatment plant construction costs were tabulated and converted to July 1986 costs as was done with well costs. Included in the costs were the treatment facilities, high service pumping, settling ponds or reclaim basins, controls and other appurtenant items such as yard piping. See Table 2-3, "Water Treatment Plant Construction Costs" and the accompanying figure in Appendix No. 2.
4. Ground storage reservoir costs were developed in the same manner as well and water treatment plant costs and include bolted and welded steel tanks. Included in the estimates were foundations and appurtenant items such as yard piping. See Table 2-4, "Ground Storage Reservoir Construction Costs", and accompanying figure in Appendix No. 2.
5. Transmission main cost estimates were prepared based upon recent bids utilizing PVC pipe buried 66 to 72 inches deep, no compaction of backfill and installation on land generally used for agricultural purposes where there are only occasional crossings of roads, underground utilities, and construction obstacles. Appurtenant items including valves and crossings were included in the unit costs. See Table 2-5 and 2-6, "Economical Pipe Size" and "Transmission Main Construction Costs", in Appendix No. 2.
6. Estimates of other project costs were based upon a percentage of total construction costs. For the purpose of this report, other costs will be computed as 20% of construction costs and include land, legal, engineering, contingencies, inspection, and construction interest.

Cost Functions - Operation and Maintenance:

Cost functions for the operation and maintenance of wells, transmission mains, storage, water treatment (iron and manganese removal) and hardness reduction are included in Appendix No. 3. These costs were in part developed by the Department of Water and Natural Resources for a study completed in Minnehaha County, South Dakota in early 1986.

Alternatives Considered:

1. Hook up to South Lincoln Rural Water System (SLRWS):

Consistent with the recommendations offered by DWNR, water service from SLRWS was investigated. See Appendix No. 4.

2. New deep wells:

Construction of new deep wells is based on SDGS data available concerning deep wells in the SE 1/4 of Section 27, Alcester Township. The wells are assumed to include the following:

Depth - 440 feet
Yield - 75 gpm (assumed)
Iron Level - 7.44 ppm
Manganese Level - 0.19 ppm
Hardness - 20 gpg

Based on the design criteria and associated parameters, two (2) wells, a water treatment plant for iron and manganese removal, storage and 4 inch transmission main will be required. See Appendix No. 5.

3. New shallow wells:

Construction of new shallow wells is based on SDGS data available concerning shallow wells in either the NE 1/4 of Section 22 or the NW 1/4 of Section 33, Alcester Township. The wells are assumed to include the following:

Depth - 125 feet
Yield - 50 gpm (assumed)
Iron Level - <0.05 ppm
Manganese Level - <0.05 ppm
Hardness - 26 gpg

Based on the design criteria and associated parameters, three (3) wells, storage and 4 inch transmission main will be required. See Appendix No. 6.

Summary and Recommendations:

With reference to the following Summary of Alternatives, the construction costs as well as the anticipated operation and maintenance costs are presented as a "cost per 1,000 gallons". This presentation is intended to allow the comparison of alternatives for equal volumes of water at similar quality.

Based upon the noted comparison, service from South Lincoln Rural Water and development of new shallow wells appear to provide the community with equal alternatives when considering both quantity and quality. After considering the contractual requirements of service from South Lincoln and the potential risks of new shallow wells, the community can select the alternative to be developed.

- SUMMARY OF ALTERNATIVES -

<u>Description</u>	<u>Service from SLRWS</u>	<u>New Deep Wells</u>	<u>New Shallow Wells</u>
Annual Water Use (1,000 gal.)	25,550	25,550	25,550
Construction Cost			
Well Cost - Total	\$	\$226,552.00	\$110,328.00
Treatment Cost		200,000.00	0.00
Storage Cost	68,750.00	68,750.00	68,750.00
Transmission Main Cost		16,456.50	21,942.00
Other Costs	13,750.00	102,351.70	40,204.00
Total Construction Cost	\$ 82,500.00	\$614,110.20	\$241,224.00
Service Charge	\$300,000.00	\$ 0.00	\$ 0.00
Total Cost & Service	\$382,500.00	\$614,110.20	\$241,224.00
Annual Debt Service*	\$32,076	\$51,499	\$20,229
Debt Service Cost/1,000 gals.	<u>\$1.26</u>	<u>\$2.02</u>	<u>\$0.79</u>
O & M Cost			
Well Maintenance	\$0.00	\$ 6,564.80	\$ 2,797.50
Well Operation	0.00	3,398.15	3,398.15
Pipeline Maintenance	0.00	18.72	24.96
Treatment Maintenance	0.00	3,426.77	0.00
Treatment Operation			
Iron	0.00	557.76	0.00
Manganese	0.00	104.76	0.00
Hardness	0.00	35,003.90	37,303.40
Annual Cost	\$0.00	\$49,074.86	\$43,524.01
O & M Cost/1,000 gallons	<u>\$0.00</u>	<u>\$1.92</u>	<u>\$1.70</u>
Purchase Cost/1,000 gallons	<u>\$1.25</u>	<u>\$0.00</u>	<u>\$0.00</u>
Total Cost/1,000 gallons	<u>\$2.51</u>	<u>\$3.94</u>	<u>\$2.49</u>

*Based on 8% for 40 years.



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

October 3, 1986

Re: 5.2 Alcester
Pesticides in Municipal Wells

Roger Walz, Mayor
P.O. Box 128
Alcester, SD 57001

Dear Mayor Walz:

This Office recently sampled two of the cities three wells for the presence of pesticides. Samples were collected on two separate occasions with the following results:

		<u>Alachlor</u>	<u>Atrazine</u>	<u>Metribuzin</u>
9-2-86	North well	ND	ND	ND
	New well	0.05	3.0	0.06
9-24-86	North well	<-----	not tested	----->
	New well	0.17	2.7	0.06

ND - not detected

Values expressed in parts per billion (ppb) which is equivalent to micrograms per liter (ug/l)

There is a potential chronic (long term) health risk to consumers using this water, although the degree of risk cannot be accurately determined at this time. The Environmental Protection Agency (EPA) has published proposed rules for synthetic organic chemicals (SOC's). Alachlor is one of several SOC's named in the proposed rules. The proposed Recommended Maximum Contaminant Level (RMCL) for alachlor is zero (0) mg/l. Available data indicates that alachlor has carcinogenic effects in animals.

As to atrazine and metribuzin, also known as Lexone or Sencor, there is no health risk information I can give you at this time. Atrazine has been looked at by EPA as a chemical they might want to regulate, but they are awaiting test results from animal studies. I am awaiting information on metribuzin and will communicate with you after receipt and review.

Equal Opportunity Employer

APPENDIX NO. 1

October 2, 1986 Letter from DWNR
October 3, 1986 Letter from DWNR



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

October 2, 1986

Re: 5.2 Alcester
Drinking Water Standard Violation

Roger Walz, Mayor
P.O. Box 128
Alcester, SD 57001

Dear Mayor Walz:

Your public water system exceeds the drinking water standard for Nitrate and is in violation of the State Drinking Water Standards. This letter is to serve as an official Notice of Violation and Enforcement Action.

In March 1984, the city received a letter from this Office indicating a violation of the Nitrate standard and requested that actions be taken to bring the City into compliance with the Drinking Water Standards. In response, you indicated that the South Dakota Geological Survey would conduct a study to determine that availability of a source with good quality and adequate quantity. This study has recently been completed and the City is now in a position to obtain water from a source where nitrate levels do not exceed the maximum contaminant level of 10 milligrams per liter and thereby eliminate the Drinking Water Standards violation.

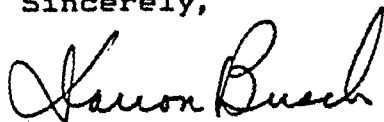
The City appears to have three viable options: 1) hookup to South Lincoln Rural Water System, 2) new deep wells, or 3) new shallow wells. Whatever choice is made, the deadline for compliance will be December 1987.

On the assumption that the City will be seeking financial assistance for the project, enclosed is a booklet entitled 1986-1987 State Water Planning Process. In order to have access to CDBG grant funds it will be necessary to be a part of the State Water Plan. Appendix II of this booklet has a State Water Plan application. This needs to be completed and returned to the Department by October 17, 1986. For assistance in completing the application you can contact your local planning district. You may contact Laurel Gunderson, 773-4216, in Pierre with questions and comments.

Equal Opportunity Employer

We are prepared to meet with you at any convenient time to discuss this issue if there are any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Darron Busch".

Darron Busch, Administrator
Office of Drinking Water

Phone: 773-3754

Enclosure

cc: Michael Kezar, Finance Officer
Roxanne Giedd, Assistant Attorney General
Laurel Gunderson, Project and Community Development

The citizens of Alcester should be informed of the pesticide contamination affecting the water supply and that these chemicals may be harmful. You will be providing a solution to this problem when you address the nitrate violation issue - a new source(s) of water. For those consumers who would have immediate concern and do not wish to wait until a new source is available, the use of activated carbon filters will be effective in reducing the alachlor and atrazine levels; I do not know if this treatment is effective for metribuzin. Bottled water may also be used.

Feel free to contact me with any questions or comments you may have,

Sincerely,

A handwritten signature in cursive script, appearing to read "Darron Busch".

Darron Busch, Administrator
Office of Drinking Water

Phone: 773-3754

cc: Michael Kezar, Finance Officer
J.C. Andersen, Sioux Falls Regional Office

APPENDIX NO. 2

COST FUNCTIONS - CONSTRUCTION

1. Table 2-1 - Water Well Construction Costs
2. Table 2-2 - Water Well Completion Costs
3. Table 2-3 - Water Treatment Plant Construction Costs
4. Table 2-4 - Ground Storage Reservoir Construction Costs
5. Table 2-5 - Economical Pipe Size
6. Table 2-6 - Transmission Main Construction Costs

TABLE 2-1
WATER WELL CONSTRUCTION COSTS

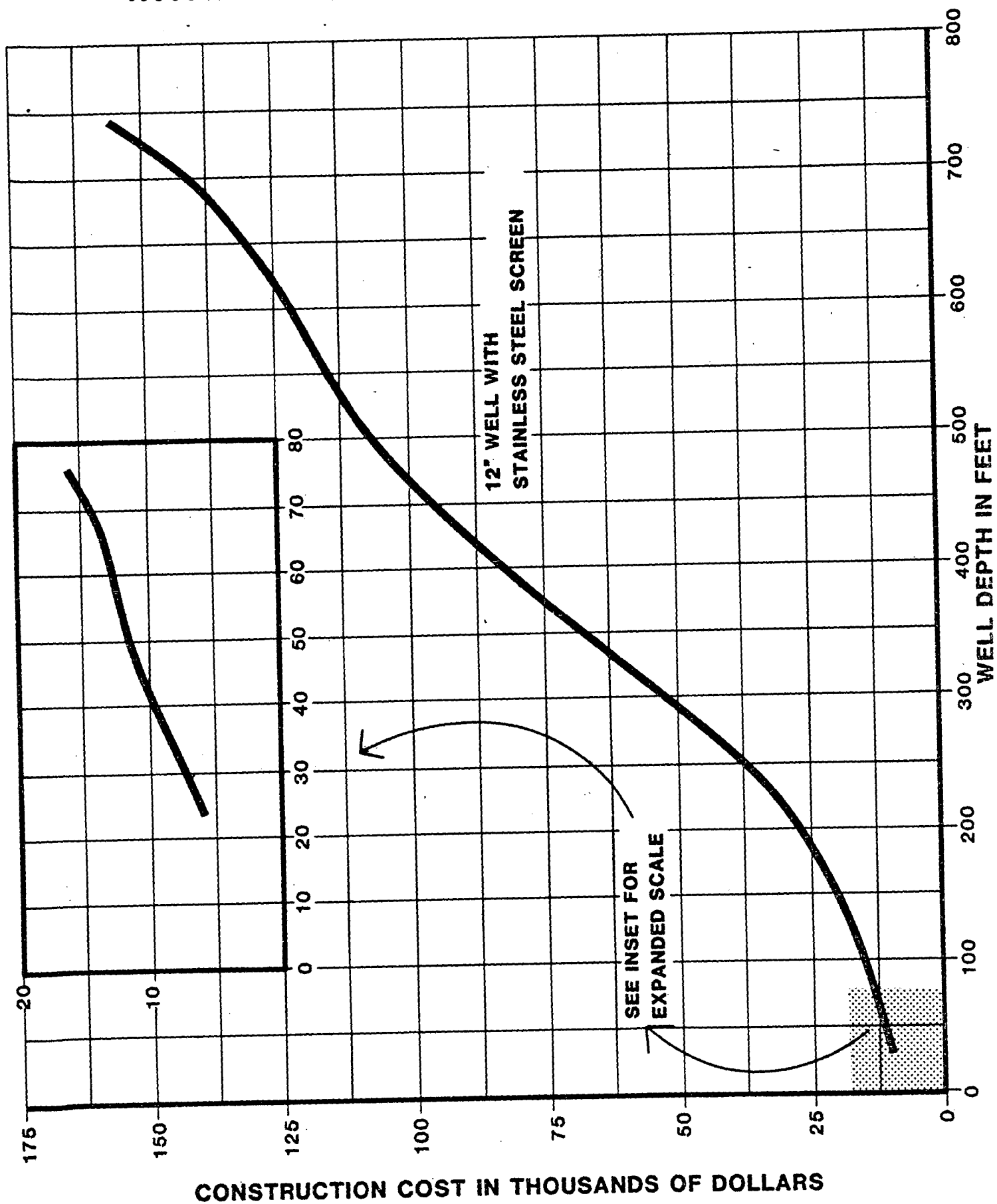
Bid Date	Well Depth Ft.	As Bid		July 1986
		Cost	ENR Index ¹	Adjusted Cost ²
8/85	25	\$ 6,322	4212.16	\$ 6,502
		7,470 ³		7,682
3/78	30	4,737	2693.18	7,619
		7,600		12,224
10/81	34	6,401	3674.85	7,545
		9,139		10,773
7/81	36	9,185	3564.40	11,163
		15,159		18,423
8/84	42	7,613	4166.48	7,915
		7,790		8,099
12/79	42	9,419	3125.70	13,054
		12,656		17,540
2/81	44	9,388	3375.87	12,046
		16,035		20,576
10/82	52	10,959	3877.12	12,244
9/83	55	9,622	4135.08	10,080
6/82	58	12,627	3797.55	14,404
		12,883		14,696
7/78	60	7,066	2822.00	10,846
		8,275		12,702
12/84	62	10,495	4171.29	10,899
		11,901		12,359
6/80	65	8,722	3208.38	11,776
		13,015		17,572
4/78	65	6,603	2715.13	10,535
		7,455		11,894
10/78	70	6,881	2855.68	10,438
		8,532		12,942
9/82	74	14,737	3879.10	16,457
		14,970		16,717
2/84	155	17,869	4113.20	18,819
		30,537		32,160
10/83	155	17,367	4127.10	18,229
		20,008		21,001
1/78	250	21,158	2677.43	34,232
		24,506		39,649
8/79	420	62,892	3078.78	88,489
		65,114		91,615
2/81	600	85,797	3375.87	110,093
		107,890		138,442
1/79	650	74,649	2872.25	112,584
		99,637		150,269
8/78	750	83,283	2836.76	127,177
		130,615		199,455

¹Average Monthly Index

²Based on ENR Index of 4331.85

³The two (2) low bids are shown when 2 or more bids were received.

WATER WELL CONSTRUCTION COSTS



CONSTRUCTION COST IN THOUSANDS OF DOLLARS



DeWild Grant Reckert & Associates Co.
 Denver, Colorado
 Rock Rapids, Iowa
 Sioux City, Iowa
 Sioux Falls, South Dakota

Date
 Drawn By
 Approved
 Revised

FIGURE 2-1

TABLE 2-2

WATER WELL COMPLETION COSTS

<u>Bid Date</u>	<u>Well Depth Ft.</u>	<u>Horsepower</u>	<u>As Bid</u>		<u>July 1986</u>
			<u>Cost</u>	<u>ENR Index¹</u>	<u>Adjusted Cost²</u>
10/82	52	20	\$22,300	3878.66	\$24,909
10/82	52	15	15,300	3878.66	17,088
10/82	52	15	21,800	3878.66	24,350
2/83	58	15	15,000	4010.59	16,200
2/83	58	15	15,000	4010.59	16,200
5/84	155	30	18,000	4141.64	18,824
5/84	155	40	18,000	4141.64	18,824
5/84	155	40	18,000	4141.64	18,824
12/84	74	15	18,816	4171.29	19,537
12/84	62	15	18,816	4171.29	19,537
8/85	25	10	17,257	4212.16	17,749

Average Cost = \$19,276

¹Average Monthly Index²Based on ENR Index of 4331.85

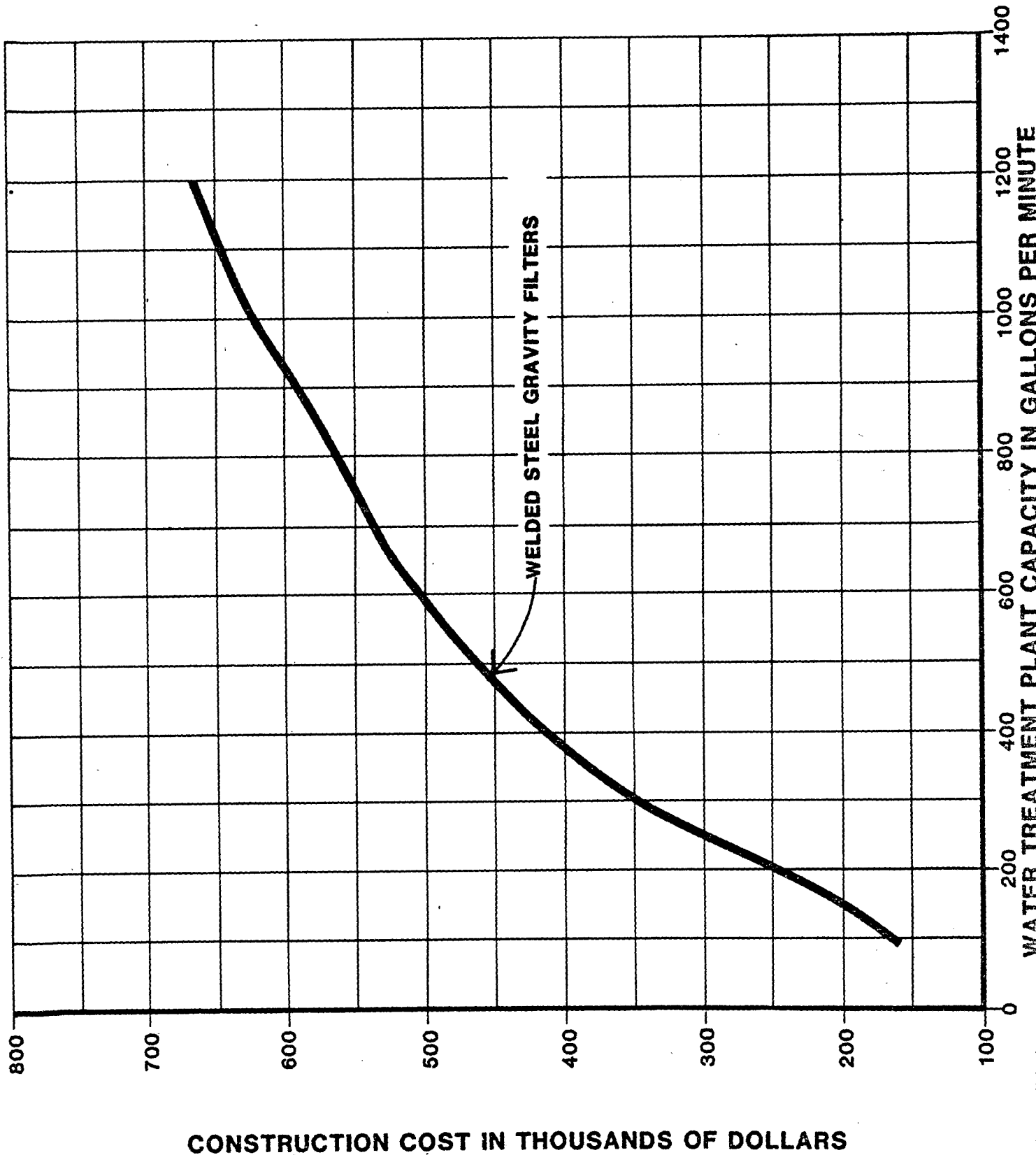
TABLE 2-3

WATER TREATMENT PLANT CONSTRUCTION COSTS

<u>Bid Date</u>	<u>Plant Capacity qpm</u>	<u>As Bid</u>		<u>July 1986</u>
		<u>Cost</u>	<u>ENR Index¹</u>	<u>Adjusted Cost²</u>
7/84	100	\$158,810	4164.41	\$165,195
2/84	200	231,022	4113.20	243,303
2/83	350	408,320	4010.99	440,984
12/84	400	401,724	4171.29	417,187
10/82	600	457,871	3877.12	511,573
5/84	1200	639,556	4139.69	669,244

¹Average Monthly Index²Based on ENR Index of 4331.85

WATER TREATMENT PLANT CONSTRUCTION COST



CONSTRUCTION COST IN THOUSANDS OF DOLLARS



DeWild Grant Reckert & Associates Co.
 Denver, Colorado
 Rock Rapids, Iowa
 Sioux City, Iowa
 Sioux Falls, South Dakota

Date _____
 Drawn By _____
 Approved _____
 Revised _____

FIGURE 2-3

TABLE 2-4

GROUND STORAGE RESERVOIR CONSTRUCTION COSTS

<u>Bid Date</u>	<u>GSR Capacity Gal.</u>	<u>As Bid</u>		<u>July 1986</u>
		<u>Cost</u>	<u>ENR Index¹</u>	<u>Adjusted Cost²</u>
12/84	30,000	\$ 31,413	4171.29	\$ 32,622
5/84	40,000	31,000	4139.69	32,439
7/84	40,000	32,997	4164.41	34,324
4/82	41,000	35,408	3742.25	40,987
6/84	77,000	50,515	4160.04	52,601
10/84	77,000	65,313	4160.13	68,009
2/83	103,000	49,743	4010.99	53,722
5/82	103,000	51,519	3788.26	58,911
12/84	103,000	53,131	4171.29	55,177
4/82	154,000	56,743	3742.25	65,682
2/84	154,000	61,950	4113.20	65,243
10/84	154,000	76,727	4160.13	79,894
10/82	239,000	81,900	3877.12	91,506
12/82	340,000	137,877	3951.05	151,165
8/85	390,000	136,200	4212.16	140,070

¹Average Monthly Index²Based on ENR Index of 4331.85

APPENDIX NO. 3

COST FUNCTIONS - OPERATION AND MAINTENANCE

Well Maintenance Costs per Foot per Year:

	<u>Maintenance Costs</u>	<u>Cost/ft.</u>
Water System A	\$ 100/well	\$ 1.21
Water System B	\$1,150/well	\$11.50
Water System C	\$ 428/well	\$ 7.01
Water System D	\$ 363/well	\$10.12

Average Cost per Foot per Year \$7.46

Well Operational Cost per Million Gallons:

	<u>Total Horsepower</u>	<u>Cost/MG</u>
Water System A	180.0	\$240.00
Water System B	107.5	\$101.00
Water System C	960.0	\$143.00
Water System D	62.5	\$ 48.00

Average Cost per Million Gallons \$133.00

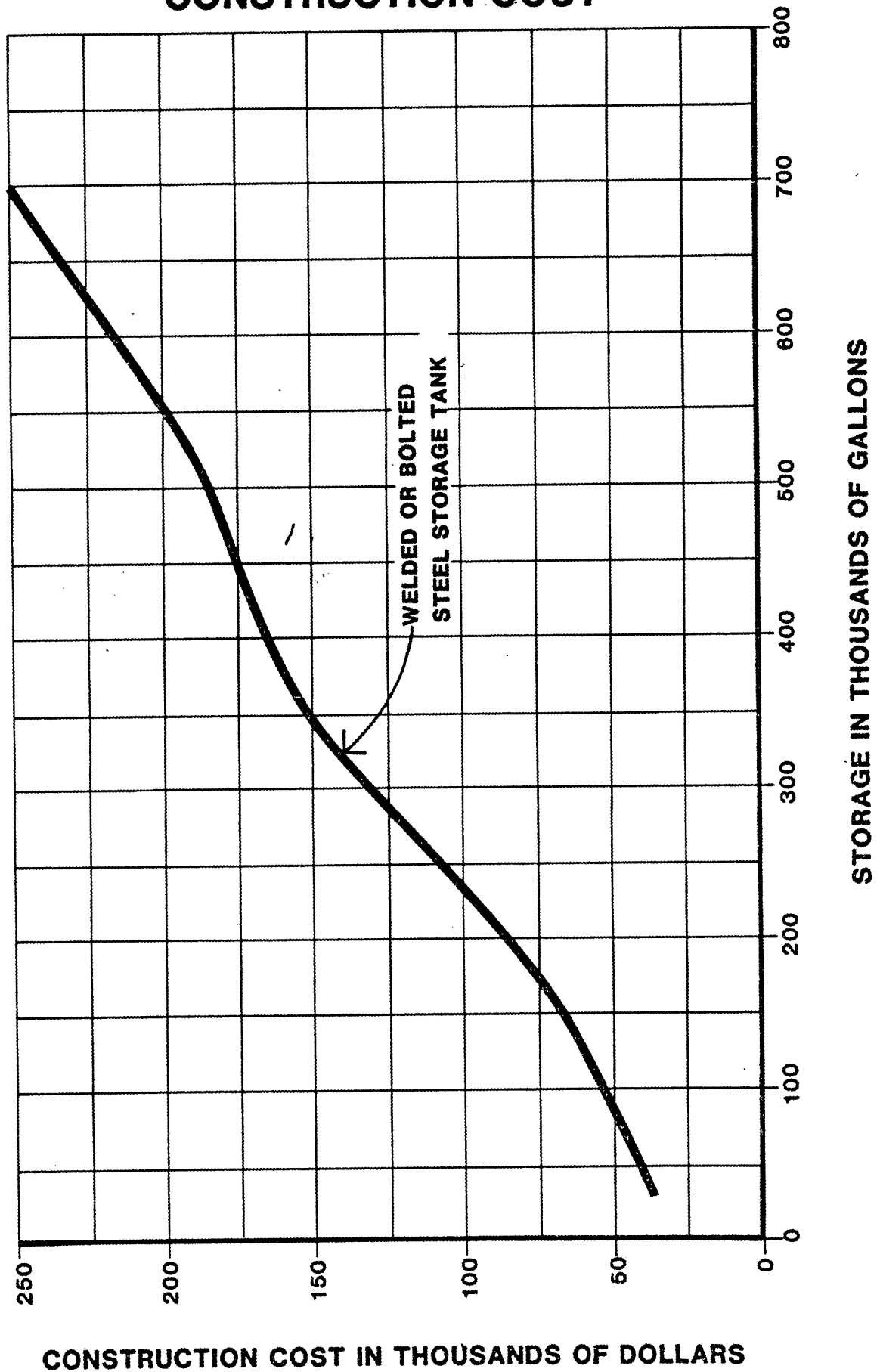
Note: Costs are figured at \$0.08 per KWH

Pipeline Maintenance Costs per Mile per Year:

	<u>Cost/Mile</u>
Water System A	\$10.78
Water System B	\$21.12
Water System C	\$ 6.49
Water System D	\$11.53

Average Cost per Mile per Year \$12.48

GROUND STORAGE RESERVOIR CONSTRUCTION COST



CONSTRUCTION COST IN THOUSANDS OF DOLLARS



DeWild Grant Reckert & Associates Co.
Denver, Colorado
Rock Rapids, Iowa
Sioux City, Iowa
Sioux Falls, South Dakota

Date
Drawn By
Approved
Revised

FIGURE 2-4

TABLE 2-5
ECONOMICAL PIPE SIZE
CONSIDERING
ENERGY COST AND DEBT SERVICE

Flow Rate		Pipe Diameter (Class 160 PVC)							Ecom. Size	Velocity fps
gpm	mgpy	2"	3"	4"	6"	8"	10"	12"		
25 ⁽¹⁾	4.87 ⁽²⁾	2.79 ⁽⁴⁾	0.44	0.13					2	2.1
		18.94 ⁽⁵⁾	24.10	31.00						
		21.73	24.55	31.13						
	10.95 ⁽³⁾	2.79	0.44	0.13					3	1.0
		8.42	10.72	13.79						
		11.21	11.16	14.92						
50	9.73	10.03	1.51	0.47					3	2.0
		9.48	12.07	15.51						
		19.51	13.58	15.98						
	21.9	10.03	1.51	0.47					3	2.0
		4.21	5.36	6.89						
		14.24	6.87	7.36						
75	14.60		3.26	0.98	0.13				4	1.8
			8.04	10.34	16.08					
			11.30	11.32	16.21					
	32.85		3.26	0.98	0.13				4	1.8
			3.57	4.60	7.15					
			6.83	5.58	7.28					
100	19.47		5.52	1.65	0.27				4	2.4
			6.03	7.75	12.06					
			11.55	9.40	12.33					
	43.8		5.52	1.65	0.27				4	2.4
			2.68	3.45	5.36					
			8.20	5.10	5.63					
125	24.33			2.52	0.37				4	3.0
				6.20	9.65					
				8.72	10.02					
	54.75			2.52	0.37				6	1.4
				2.76	4.29					
				5.28	4.66					
150	29.2			3.53	0.53				4	3.3
				5.17	9.65					
				8.70	10.18					
	65.70			3.53	0.53				6	1.6
				2.30	3.57					
				5.83	4.10					

TABLE 2-5 (CONT'D.)
ECONOMICAL PIPE SIZE
CONSIDERING
ENERGY COST AND DEBT SERVICE

Flow Rate									Ecom.	Velocity
gpm	mgpy	2"	3"	4"	6"	8"	10"	12"	Size	fps
200	38.93			5.95 3.88 9.83	0.91 6.03 6.94	0.24 8.94 9.18			6	2.2
	87.6			5.95 1.72 7.67	0.91 2.68 3.59	0.24 3.97 4.21			6	2.2
275	53.53				1.65 4.39 6.04	0.44 6.50 5.94	0.13 9.01 9.14		6	3.0
	120.45				1.65 1.95 3.60	0.44 2.89 3.33	0.13 4.00 4.13		8	1.8
350	68.13				2.49 3.45 5.94	0.71 5.11 5.82	0.24 7.08 7.32		8	2.2
	153.3				2.49 1.53 4.02	0.71 2.27 2.98	0.24 3.15 3.39		8	2.2
400	77.87					0.87 4.47 5.34	0.31 6.19 6.50	0.13 8.62 8.75	8	2.6
	175.2					0.87 1.99 2.86	0.31 2.75 3.06		8	2.6
500	97.33					1.35 3.58 4.93	0.47 4.95 5.42	0.20 6.89 7.09	8	3.2
750	146.0					2.83 2.38 4.21	0.98 3.30 4.28	0.37 4.60 4.97	10	3.1

TABLE 2-5 (CONT'D.)

ECONOMICAL PIPE SIZE
CONSIDERING
ENERGY COST AND DEBT SERVICE

Flow Rate									Ecom. Size	Velocity fps
gpm	mgpy	2"	3"	4"	6"	8"	10"	12"		
900	175.2					4.00	1.38	0.61		
						1.99	2.75	3.83		
						5.99	4.13	4.44	10	3.7

(1) Gallons per Minute

(2) Million gallons per year average considering peaking factor of 2.25.

$$\text{i.e. } \frac{25 \text{ gal.}}{\text{min.}} \times \frac{60 \text{ min.}}{\text{hr.}} \times \frac{20 \text{ hr.}}{\text{day}} \times \frac{365 \text{ day}}{\text{yr.}} : 2.25$$

(3) Million gallons per year average

$$\text{i.e. } \frac{25 \text{ gal.}}{\text{min.}} \times \frac{60 \text{ min.}}{\text{hr.}} \times \frac{20 \text{ hr.}}{\text{day}} \times \frac{365 \text{ day}}{\text{yr.}}$$

(4) Energy cost per million gallon per 1,000 ft. or 0.336 (Headloss/1,000')
where cost/KWH = \$0.075
efficiency = 0.7

(5) Debt service per million gallons per 1,000 ft. or 83.86 (cost/ft.) : mgpy
where cost/ft. =

2" @ \$1.10
3" @ \$1.40
4" @ \$1.80
6" @ \$2.80
8" @ \$4.15
10" @ \$5.75
12" @ \$8.00

Interest = 8%
term = 40 years

TABLE 2-6

TRANSMISSION MAIN CONSTRUCTION COSTS

<u>Size-Inches</u>	<u>Class/SDR</u>		
	<u>160/26</u>	<u>200/21</u>	<u>250/17</u>
1-1/2	\$ --	\$1.27	\$1.32
2	1.27	1.32	1.38
2-1/2	1.38	1.50	1.61
3	1.61	1.73	1.90
4	2.07	2.24	2.42
5	2.65	2.93	3.22
6	3.22	3.68	4.14
8	4.77	5.52	6.27
10	6.61	7.76	8.91
12	9.20	--	--

Storage Tank Maintenance Costs per Year:

Welded steel tanks will require exterior repainting every 10 years at a cost of \$1.50 per ft.² and interior repainting every 15 years at a cost of \$2.50 per ft.². In addition to this, a maintenance cleaning and point touch-up is required every 2 years. Costs for the sizes listed below are as follows:

	150,000 Ground	150,000 Elevated
Exterior Area - ft. ²	\$ 3,500	\$ 9,900
Cost Every 10 Years	\$ 5,250	\$14,850
Cost per Year*	\$ 244	\$ 688
Interior Area - ft. ²	\$ 4,500	\$ 5,100
Cost Every 15 Years	\$11,250	\$12,750
Cost per Year*	\$ 237	\$ 268
Cleaning Every 2 Years	\$ 325	\$ 550
Cost per Year*	\$ 140	\$ 236
Total Cost per Year	\$ 621	\$ 1,192

*Cost per Year based on a present worth analysis using an interest rate of 8%.

Water Treatment Maintenance Cost per Million Gallons per Year:

Treatment maintenance costs include labor at \$18,000/yr. plus materials and supplies, which run an additional \$100 - \$1,500/yr. Individual rates may vary based on salary. Labor is not included in any other categories.

Actual Water Treatment Costs:

Water System A with 1.725 ppm Fe and 0.3 ppm Mn
Cost of Operation = \$0.2208/1,000 gallons or \$220.80/MG

Water System B with 3.09 ppm Fe and 0.34 ppm Mn
Cost of Operation = \$0.04743/1,000 gallons or \$47.43/MG

Average Cost per Million Gallons per Year \$134.12

Water Treatment Operation Costs:

Iron and Manganese Removal:

For iron removal, chlorine is added to oxidize the iron, converting it to a filterable form. Typically about 1 mg/L (ppm) of chlorine is required per mg/L (ppm) of unoxidized iron.

Manganese is more difficult to remove than iron and requires the application of potassium permanganate, which is a stronger oxidant than chlorine. Typically, about 2 mg/L (ppm) of potassium permanganate is required per mg/L (ppm) of manganese.

Cost of removal of 1 mg/L (ppm) Fe and 1 mg/L (ppm) Mn:

<u>Gallons</u>	<u>Cost of Chlorine</u>	<u>Cost of KMnO_4</u>
100,000	\$0.295	\$ 2.73
250,000	\$0.74	\$ 6.82
500,000	\$1.47	\$13.65
1,000,000	\$2.95	\$27.31

Note: Chlorine costs at \$0.35/lb.
Potassium permanganate at \$1.62/lb.

Theoretical Calculated Cost of Removal
of Iron and Manganese for 1 Million Gallons

<u>ppm of Iron</u>	<u>Chlorine Cost</u>	<u>ppm of Mn</u>	<u>KmNO₄ Cost</u>
.05	\$ 0.15	.05	\$ 1.37
.1	0.29	.10	2.73
.15	0.44	.15	4.10
.2	0.59	.2	5.46
.25	0.73	.25	6.83
.3	0.89	.3	8.19
.35	1.03	.35	9.56
.4	1.18	.4	10.92
.45	1.32	.45	12.29
.5	1.48	.5	13.66
.55	1.62	.55	15.02
.6	1.77	.6	16.39
.65	1.92	.65	17.75
.7	2.06	.7	19.12
.75	2.21	.75	20.48
.8	2.36	.8	20.76
.85	2.50	.85	23.21
.9	2.65	.9	24.58
.95	2.80	.95	25.94
1.0	2.95	1.0	27.31
1.5	4.42	1.5	40.96
2.0	5.90	2.0	54.62
5.0	14.75	5.0	136.56

Hardness Reduction:

Hardness reduction is calculated on an individual basis as though softening was obtained through point-of-use treatment. Costs were obtained from a local water conditioning company:

Canister Style Rental

Cost = Rental = \$12.98/month

Automatic Rental Softener

Cost = Rental + Salt = \$11.66/month + salt

Individually Owned Softening Units

Cost = Debt Service + Salt

Assumptions:

Cost of Unit = \$500.00

Expected Life = 15 years (approximate)

Interest Rate = 8%

Therefore Debt Service Cost = \$58.42/year
= \$4.87/month

Cost = \$4.87/month + salt

Cost of Salt

Cost of Salt = \$2.40/40 lbs. or \$0.06/lb.

Exchange Capacity = 0.45 lb. per/Kgr Reduction

Therefore Salt Cost = \$0.06/lb. x 0.45 lb./Kgr Reduction
= \$0.03/Kgr Reduction

In summary, the costs of home hardness reduction are dependent upon the type of unit utilized and the water hardness. For the purposes of this report, the hardness reduction cost function will be based on:

1. The average annual cost of renting or owning a softening unit per connection.

Annual Rental = \$139.92/connection (\$11.66/month)

Annual Owned = \$ 58.42/connection (\$ 4.87/month)

Annual Average = \$ 99.17/connection

2. The exchange rate of 0.45 lb. of salt/Kgr hardness reduction, salt at \$0.06/lb. and the assumption that only half of the water used in the home is softened.

Salt Cost/Kgr Hardness Reduction

= \$0.06/lb. x 0.45 lb./Kgr x 1/2

= \$0.015/Kgr

APPENDIX NO. 4

Feasibility Study
For
Water Service to City of Alcester
From
South Lincoln Rural Water

FEASIBILITY STUDY
FOR
WATER SERVICE TO CITY OF ALCESTER
FROM
SOUTH LINCOLN RURAL WATER SYSTEM

Index

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Current System Operation.	2
Water Demand Projections.	3
Well Field Capacity	5
Well Pipeline Capacity.	6
High Service Pumping Capacity & Storage	6
Distribution System Capacity.	7
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APPENDICES

No. 1 - Explanation of Chemical Analyses of Common Ions

FEASIBILITY STUDY
FOR
WATER SERVICE TO CITY OF ALCESTER
FROM
SOUTH LINCOLN RURAL WATER

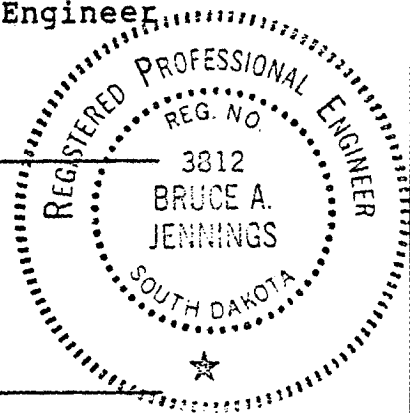
November 1986

I hereby certify this study was prepared by
me or under my direct supervision and that
I am a duly Registered Professional Engineer
in the State of South Dakota.

By Bruce Jennings
Bruce Jennings, P.E.

South Dakota Registration No. 3812

Date 11-6-86



DGR Project No. 36231

DEWILD GRANT RECKERT & ASSOCIATES COMPANY
ARCHITECTURE - ENGINEERING - PLANNING
ROCK RAPIDS, IOWA
SIOUX FALLS, SOUTH DAKOTA
DENVER, COLORADO

FEASIBILITY STUDY
FOR
WATER SERVICE TO CITY OF ALCESTER
FROM
SOUTH LINCOLN RURAL WATER SYSTEM

BACKGROUND

South Lincoln Rural Water (SLRWS) was contacted by the City of Alcester in October 1986 in an effort to improve the quality of water available to the community. The City at that time recognized that the existing City water supply showed evidence of nitrate and pesticide contamination. Based upon this contact and a subsequent discussions involving representatives of South Lincoln and Alcester, the completion of a feasibility study was proposed and authorized.

WATER QUALITY

For comparison purposes, water quality is presented in Table 1.

TABLE 1

ALCESTER AND SOUTH LINCOLN WATER QUALITY

	Units	Suggested Limit	Alcester No. 2	Alcester New	SLRWS No. 1	SLRWS No. 2	SLRWS No. 3
Sample Date	--	--	4/13/82	4/13/82	11/16/84	11/16/84	11/16/84
Parameter							
Nitrate	mg/l	10*	11.1	18.9	0.1	0.1	1.0
Fluoride	mg/l	2.4*	0.46	0.40	1.87	2.0	1.54
Chloride	mg/l	250	17.9	22.5	20.6	46.6	9.7
Iron	mg/l	0.3	0.03	0.02	1.39	0.64	0.45
Manganese	mg/l	0.05	0.02	0.02	0.09	0.04	0.05
Sulfate	mg/l	250	182	116	116	187	82
Total Solids	mg/l	500	715	648	511	699	471
Calcium	mg/l	-	125	118	29.9	35.2	26.4
Magnesium	mg/l	-	44.6	44.1	9.8	11.4	8.7
Hardness	gpg	-	29	27.8	6.7	7.9	5.9
Sodium	mg/l	-	28.5	23.1	149	186	125
Potassium	mg/l	-	5.1	4.3	15.5	16.0	15.7

*Maximum Contaminant Limit.

See Appendix No. 1 for an explanation of chemical analyses of common ions.

CURRENT SYSTEM OPERATION

Data were furnished by SLRWS and included the following:

1. As-built pipe size, class and routing in Section 4 [that area between the Lincoln Main Control Building (MCB) and the City of Alcester].
2. Actual water sold in July 1986 (peak month) by service area.
3. Annual water pumped.

Water pumped was evaluated per Table 2.

TABLE 2

SOUTH LINCOLN RURAL WATER GALLONS OF WATER PUMPED ANNUALLY

	1983	1984	1985	1986
Users Reporting	1,010	1,045	1,085	1,126
January	6,960,000	10,297,000	9,526,000	9,292,000
February	6,317,000	8,441,000	8,858,000	8,533,000
March	8,716,000	9,608,000	10,473,000	9,662,000
April	8,621,000	8,908,000	10,621,000	9,410,000
May	9,727,000	9,881,000	12,121,000	12,042,000
June	9,562,000	9,382,000	11,671,000	12,574,000
Subtotal	49,903,000	56,517,000	63,270,000	61,533,000
July	10,730,000	11,021,000	12,141,000	13,478,000
August	11,428,000	12,151,000	10,483,000	11,636,000
September	8,821,000	10,509,000	9,289,000	
October	8,620,000	9,661,000	8,720,000	
November	7,810,000	9,339,000	8,587,000	
December	8,524,000	9,713,000	9,734,000	
Subtotal	55,933,000	62,394,000	58,954,000	
Total	105,836,000	118,911,000	133,500,000	135,290,000 (estimated)
Acre Ft./Yr.	325	365	375	415
Gal./Mo./Conn.	8,730	9,480	10,250	10,000

The following observations are noted:

1. Annual pumpage per connection has increased for each year at an average rate of approximately 10% per year until 1986. Projected pumpage for 1986 indicates stabilization at approximately 10,000 gallons per month per connection. Wet conditions in the project area during 1986 probably held down water sales.
2. Utilizing peak month data (July 1986), peak month pumpage of 15,000 gallons per connection per month was determined for the Norway Center tower area.

Identifying system operation involved predicting residual pressures within the system utilizing the as-built pipe data and total water sold within the service area. The predicted pressures were compared to design operating pressures. Because the City of Alcester is located relatively near (1 mile) to 8-inch main pipeline south of the Norway Center tower, it was not necessary to review individual water use records in detail. The main pipeline effectively delivers average flow to water users south of Alcester. For this report, it is assumed that water users south of Alcester are similar to those throughout the Norway Center tower area.

WATER DEMAND PROJECTIONS

Noting that the annual pumpage per connection has increased each year for SLRWS and that other eastern South Dakota systems have reached a plateau of water demand between 13,000 and 15,000 gallons per connection per month, the annual average demand per connection for this report will be assumed to be 13,000 gallons per connection per month. Current and future water demands are summarized in Table 3. Consistent with the peak month water pumped in the Norway Center area of 15,000 gallons per connection per month, peak day flows in the Norway Center area were assumed to be 25% above annual average when computing pipeline capacity.

TABLE 3

SLRWS WATER DEMAND PROJECTIONS

Current Demand	
1,126 Rural Connections	14,638,000 gal./month
Chancellor	930,000 gal./month
	<u>15,568,000 gal./month</u>
	186,816,000 gal./year
	573.0 acre-ft./yr.
	360 gpm*-24 hr. flow
Future Demand-Current Demand plus Alcester	
1,126 Rural Connections	14,638,000 gal./month
Chancellor	930,000 gal./month
Alcester	2,100,000 gal./month
	<u>17,668,000 gal./month</u>
	212,016,000 gal./year
	650.3 acre-ft./yr.
	409 gpm-24 hr. flow
Future Demand-Current Demand plus Alcester and Rural Connections	
1,400 Rural Connections	18,200,000 gal./month
Chancellor	930,000 gal./month
Alcester	2,100,000 gal./month
	<u>21,230,000 gal./month</u>
	254,760,000 gal./year
	781.5 acre-ft./yr.
	491 gpm-24 hr. flow

*gpm - gallons per minute

Information provided by the City of Alcester indicates an annual average water demand of 70,000 gallons per day and a maximum day demand of 150,000 gallons per day. With the 1980 census population of 891, this water use is 78 gallons per capita per day average day and 168 gallons per capita per day maximum day. The population is not believed to have changed significantly

since the 1980 census, and the outlook for small cities in the region is for little or no growth. Water supply for significant water using industrial or commercial development in the City is not considered by this report. Improvements to the South Lincoln RWS system to serve new industrial demands would be more appropriately addressed as a separate study of the costs and benefits of the particular development.

WELL FIELD CAPACITY

SLRWS currently has 3 wells capable of producing a total of 650 gpm per the following:

	<u>Depth</u> (ft.)	<u>Flow</u> (gpm)
Well No. 1	610	300
Well No. 2	650	300
Well No. 3	490	50

The total capacity of 650 gpm with 3 wells allows SLRWS to meet the current demand with the largest well out of operation. If the City of Alcester were to be added, an additional well would be required of 110-150 gpm minimum capacity to satisfy the noted criteria.

A possible well location would be at the MCB which would provide several benefits:

1. The site is owned by SLRWS.
2. Piping from the well could be direct to the MCB without affecting current well line capacity.

3. Based upon previous test drilling, the chances of a 150-300 gpm capacity well are greater in the north/south trough in which Wells No. 1 and 2 are located.

Based upon the contract price for completion of Well No. 3, a well can be expected to cost \$120/ft. to construct or approximately \$75,000. Completion costs (pitless, pump, motor, etc.) are expected to cost approximately an additional \$30,000.00.

WELL PIPELINE CAPACITY

Consistent with the previous statements regarding possible well location, the existing well pipeline capacity is not impacted. However, as a matter of information, the capacity of the line between Well No. 2 and the MCB is approximately 900 gpm at current operating pressures.

HIGH SERVICE PUMPING CAPACITY & STORAGE

Current operation of the MCB requires the use of 2 and sometimes 3 of the 4 available high service pumps in meeting system demands. The added demand of the City would not require additional high service pumping but would utilize some of the existing available capacity. The original cost of the MCB is equal to approximately \$250.00 per gpm of high service capacity.

Storage at the MCB (approximately 150,000 gallons) should be sufficient provided that the recommended additional well field capacity is available.

The Norway Center Booster pumps water to the Norway Center tower north of Alcester. The booster was designed to pump 400 gallons per minute to the tower, for a total of 480,000 gallons per day over a 20-hour pumping period. From monthly meter readings, the

historical maximum day pumpage at the Norway Center booster has been approximately 250,000 gallons. Addition of Alcester, with a peak day of 150,000 gallons, would bring the booster to 83% of design capacity. The original cost of the booster was about \$475.00 per gpm of capacity.

The Norway Center tower has a capacity of 150,000 gallons. This is approximately equal to historic average day pumpage and is about 60% of maximum day pumpage. With the addition of Alcester, storage would be about 70% of average day and 40% of maximum day. However, existing storage within the City would contribute to total storage capacity and help to equalize flows. The original construction cost of the waer tower was about \$1.05 per gallon of capacity.

DISTRIBUTION SYSTEM CAPACITY

The following were utilized in evaluating the distribution system capacity beyond the Norway Center tower and the necessary construction and operational modifications:

1. Existing Connections - Historical average sales to connections in the Norway Center tower area plus 30% of water losses, maintenance use and peak day.
2. City of Alecster - Use 2,100,000 gallons per month (70,000 gallons per day) average and 150,000 gallons per peak day. Use delivery times of 12 hours for average day and 20 hours for peak day.
3. Potential Connections - Use 13,000 gallons per connection per month annual average with 25% greater than annual average flow for peak day.

The capacity of the existing distribution system to serve Alcester was reviewed from the Norway Center tower south. The capability of the system to deliver the required water to the City while maintaining adequate pressures to existing rural users was reviewed.

The Norway Center service area was originally designed for service to approximately 377 water users. Approximately 399 are now in service, for a growth of about 6 percent. The domestic water capacity of the pipeline was designed using projected flow rates for rural connections based on a conservative design procedure, and the water users added since construction should not have a significant impact on water pressures. Of the design flow to the Norway Center tower of 400 gallons per minute, approximately 50 to 75 gallons per minute was expected to be needed for household use. Of the pipeline design flow at Alcester of 171 gallons per minute, approximately 66 gallons per minute was for household use.

To the expected household use was added capacity to provide water for livestock. The livestock capacity was based on information provided by the South Lincoln water users at the time of original sign-up. It is apparent from the present water pumpage that livestock water use has not occurred in accordance with the original expectations. This may be because expansion of livestock numbers has not occurred as expected, because weather conditions have been relatively wet in recent years, because some water users have not yet converted livestock watering from alternate sources, or a combination of these. Of the original design flow to the tower of 400 gallons per minute, 325 to 350 gallons per minute was for livestock use.

Design livestock capacity downstream of Alcester for the South Lincoln system was approximately 105 gallons per minute. Approximately 35 gallons per minute is needed to deliver present peak demands over a 12-hour period.

Existing South Lincoln water use occurs almost entirely within a 12-15 hour daytime period. With consideration of the unused livestock capacity on the South Lincoln system near Alcester, approximately 75 gallons per minute is available for Alcester during peak daytime flows on the remainder of the system. At night, 175 to 200 gallons per minute could be delivered while still maintaining pressure to other connections. With an assumed peaking schedule, maximum water delivery to Alcester without pipeline improvements and based on current South Lincoln water use would be:

6 hours per day @ 75 gpm	27,000 gallons
6 hours per day @ 100 gpm	36,000 gallons
4 hours per day @ 125 gpm	30,000 gallons
8 hours per day @ 150 gpm	<u>72,000 gallons</u>
	165,000 gallons

Assuming only minor growth on the South Lincoln system, the available extra capacity will be committed with the addition of Alcester. Certain improvements to the system could be made to increase capacity in the Alcester area. Construction of two miles of six-inch pipeline to loop existing lines southeast of the Norway Center tower would increase capacity by approximately 40 gallons per minute. This two mile pipeline loop is included in cost estimates presented herein to allow the South Lincoln system to maintain some capacity for future growth. Other parallel or looped pipeline could be added for additional capacity. With the original system overage design criteria, capacity required for the addition of Alcester at 75 gallons per minute during peak flow is similar to the addition of approximately 30 rural users.

Construction of one mile of six-inch pipeline will be needed from the existing South Lincoln main south of the Norway Center tower into Alcester. Also, connection to the City system with metering and valving will be required.

Some individual consumers on the South Lincoln system in the area south of the Norway Center tower presently report occasional low pressure. Because connection of Alcester will further reduce residual pressure to these locations, it is likely that parallel or looped small diameter pipelines may need to be installed in these areas to reduce pressure losses and maintain residual pressure. For purposes of this report, it is assumed that approximately 1.5 miles of new 2 inch pipeline will be installed.

CITY STORAGE

It was assumed that the City's existing water tower was available for use without modification in delivery of water. The existing storage of 150,000 gallons is adequate for flow equalization with the water delivery timing anticipated. Fire protection may be lessened by the greater fluctuation in tower water level required with the rural water delivery schedule. It is assumed existing wells will be maintained for fire flow capacity.

COST ESTIMATES

The following estimated costs are presented:

1.	Well Construction	
	Test Hole	\$ 7,500.00
	Well Construction (625' @ \$120/ft.)	75,000.00
	Well Completion	30,000.00
	Estimated Cost	<u>\$112,500.00</u>
2.	Well Pipeline	\$ 0.00
3.	High Service Pumping Capacity Charge	
	75 gpm @ \$250.00/gpm (at MCB)	\$ 18,750.00
	Booster Pumping Capacity Charge	
	75 gpm @ \$475.00/gpm (at Norway Center)	\$ 35,625.00
4.	MCB Storage	\$ 0.00
	Tower Storage, 20% of original cost based peak flow	\$ 30,975.00
5.	Distribution Modifications	
	15,900 ft. of 6" CL 160 PVC @ \$2.80/ft.	\$ 44,520.00
	18,000 ft. of 2" CL 200 PVC @ \$1.20/ft.	\$ 9,600.00

City Service Valve and Meter	\$ 8,000.00
Valves, Road Crossings, etc. @ 30%	\$ 4,450.00
Estimated Cost	<u>\$ 66,570.00</u>

6. Other Costs including Land, Legal, Engineering, Construction Interest, Inspection and Contingencies @ 20% of New Construction	\$ 35,815.00
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Total Estimated Cost	\$300,235.00
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Rounded	\$300,000.00
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APPENDIX NO. 1

COMMON IONS

CHLORIDE - Chlorides in drinking water are generally not harmful to human beings until high concentrations are reached, although chlorides may be injurious to some people suffering from diseases of heart or kidneys. Restrictions on chloride concentrations in drinking water are generally based on taste requirements rather than on health. The source of chlorides may be a more important factor than the quantity of chloride, in that any sudden increase in the chloride content should be suspected as a possible indication of pollution and should be investigated further. Chlorides should not exceed 250 mg/l.

COPPER - Copper is currently regulated because of its effect on taste of drinking water. It is commonly found in drinking water from corrosion of copper pipes. Copper is an essential nutrient, but there is no evidence of copper deficiency in the U.S. population. Toxic effects from elevated drinking water levels have been reported especially for infants. Copper imparts an unpleasant taste to drinking water, which along with an emetic effect, served to limit the amount of copper which can be ingested from drinking water. The occurrence of copper in drinking water is usually a result of corrosion. The recommended maximum limit is 1 mg/l.

IRON AND MANGANESE - Iron and manganese are nuisance chemicals which cause troublesome stains and deposits on light colored clothes, on plumbing fixtures and in pipes. Iron can be removed in a zeolite softener equipped with a special resin or by small treatment systems involving aeration, filtration, and chlorination. Manganese in excess of 0.05 mg/l will more than likely cause problems. Iron problems arise with levels greater than 0.3 mg/l.

SULFATE - Sulfate is a common water contaminant and in some cases it occurs at concentrations high enough to cause laxative effects, particularly in those not acclimated to use of high-sulfate waters. Sulfate has been suspected as a contributing factor in the formation of various organ or duct calculi. Sulfate is extremely difficult to remove from drinking water. Anion exchange and reverse osmosis are reasonably effective. The maximum recommended limit is 250 mg/l.

ZINC - Zinc is currently regulated based upon taste considerations. Zinc occurrence in drinking water is most frequently due to the corrosion of galvanized iron pipe and fittings. Zinc is relatively non-toxic and is an essential trace element. At drinking water concentrations high enough to cause gastrointestinal disturbances, zinc would impart a strong astringent taste and milky appearance to the water. The recommended maximum limit is 5 mg/l.

SOLIDS (TOTAL) - This refers to the amount of total solid matter suspended and dissolved in water. Water with a high solids count generally are of poor drinking water quality. A limit of 500 mg/l for drinking water is recommended with 4000 mg/l as a maximum.

pH - The pH indicates the acidity of your drinking water. The pH scale is from 0 to 14 units with a value of 7 being neutral (equal amounts of acid and base). pH values less than 7 are acidic, and pH values above 7 are basic. The recommended limit for pH is 6.5-8.5.

ALKALINITY - Alkalinity is not considered to be detrimental to humans, but it is generally associated with hardness, high pH values and excessive dissolved solids, all of which may be undesirable. No recommended standard has been set.

BICARBONATES - Excessive bicarbonates add to the salinity and total solids content of water, and at high temperature tend to form scale deposits on faucets. No recommended standard has been set.

CARBONATE - This term is also called temporary hardness because heating will remove it. When the water is heated, bicarbonates break down into carbonates that form solid particles which stick to the inside of pipes or a heated surface.

CONDUCTIVITY - This measures the ability of water to conduct electric current, and is related to the type and amount of dissolved chemicals in the water. In general, waters having a conductivity of less than 1000 micromhos may have slight hardness as well as taste and odor problems. Dependent upon the particular chemicals dissolved in the water, these problems may become more pronounced with increasing conductivity to the extent that levels greater than 3000 micromhos may make the water objectionable for human use.

CALCIUM - Calcium content is not a health hazard, but contributes to hardness and is disadvantageous for household uses such as washing, bathing, and laundering. It tends to cause incrustations on cooking utensils and water heaters. No recommended standard for calcium has been set.

MAGNESIUM - Magnesium is considered relatively non-toxic to man, and not a public health hazard because before toxic concentrations are reached in water, the taste becomes quite unpleasant. At high concentrations, magnesium salts have a laxative effect, particularly upon new users, although the human body can develop a tolerance to magnesium over a period of time.

HARDNESS - Hardness is the soap-consuming capacity of water, that is, the more soap required to produce lather, the harder the water. Hard water also causes greasy rings on bathtubs and sinks, chemical deposits in pipes and faucets, greasy films on dishes or on hair after washing and poor laundry results.

The hardness of South Dakota waters may be ranked as follows:

0-3 gpg	Soft water
4-10 gpg	Reasonably soft
11-25 gpg	Fairly hard, less than average for SD
26-50 gpg	Average hardness for SD
51-75 gpg	Very hard
over 75 gpg	Extremely hard

LANGELIER INDEX - This value indicates whether the water tends to be corrosive (-) or deposit (+) forming.

SODIUM - Sodium may be of health significance to persons on a low-salt diet for medical reasons. The sodium content is increased when water is passed through an ion exchange water softener.

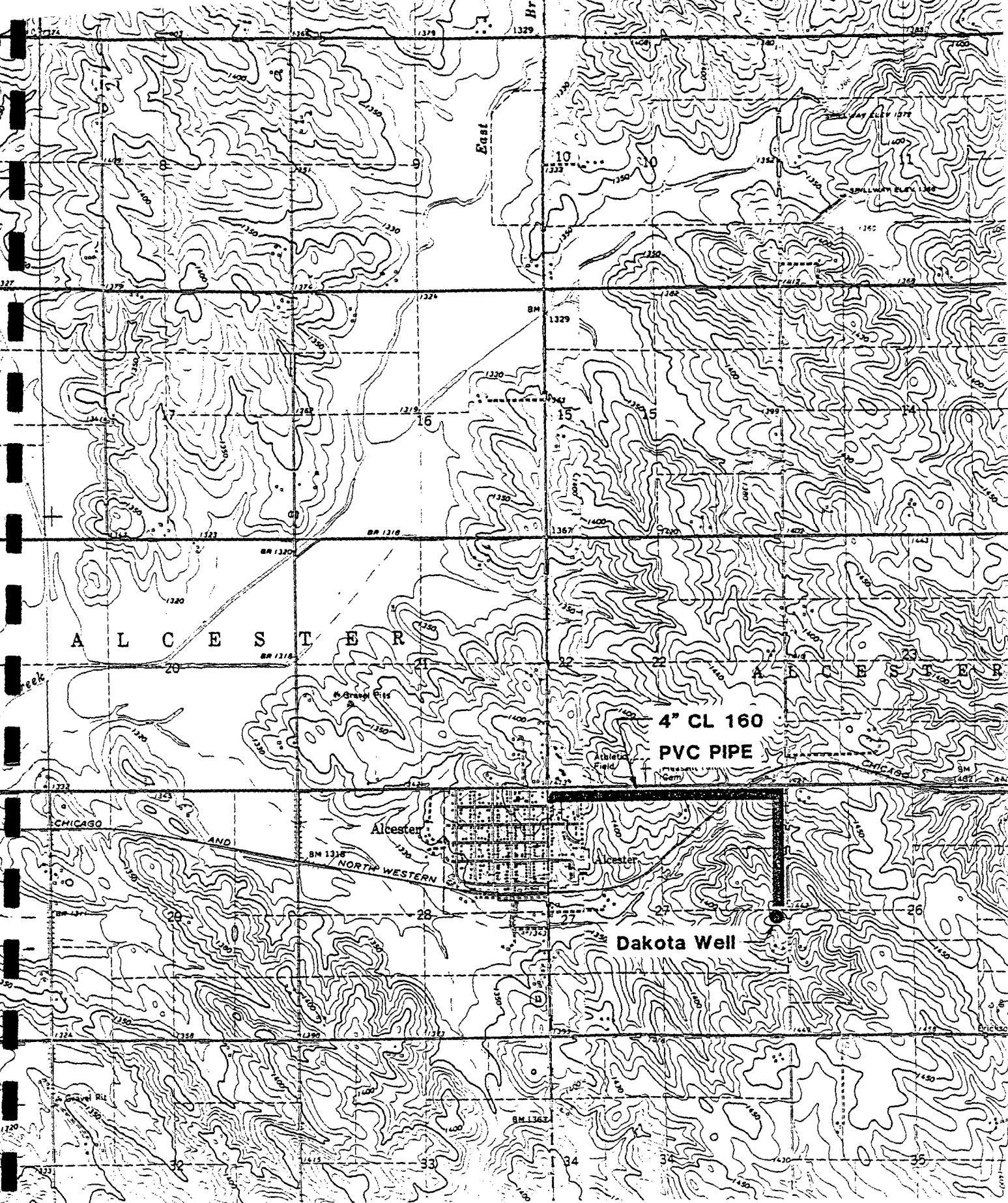
POTASSIUM - In public drinking water supplies, potassium is an essential nutritional element, but in excessive quantities it acts as a laxative, and 1000 mg/l to 2000 mg/l is regarded as the extreme limit of potassium permissible in drinking water.

APPENDIX NO. 5

New Deep Wells

Estimated Construction Cost
For
New Deep Wells

Well Construction: (2 wells, 440' deep)		
Construction Cost per well		
Appendix 2	\$ 94,000	
Completion Cost per well		
Appendix 2	<u>19,276</u>	
Total Cost per well	<u>\$113,276</u>	
Total Wells		\$226,552.00
Water Treatment		
150 gpm plant		
Appendix 2		\$200,000.00
Ground Storage Reservoir (GSR)		
150,000 gallon GSR		
Appendix 2		\$ 68,750.00
Transmission Main		
7,950 L.F. of 4" CL 160		
PVC @ \$2.07		
Appendix 2		<u>\$ 16,456.50</u>
Total Estimated Construction Cost		\$511,758.50
Other Cost (20%)		<u>102,351.70</u>
Total Estimated Project Costs		<u><u>\$614,110.20</u></u>



Steel



DeWitt Grant Reckert & Associates Co.
Architecture Engineering Planning

Rock Rapids, Iowa
Sioux City, Iowa
Sioux Falls, South Dakota

Date
Drawn by
Approved
Revised

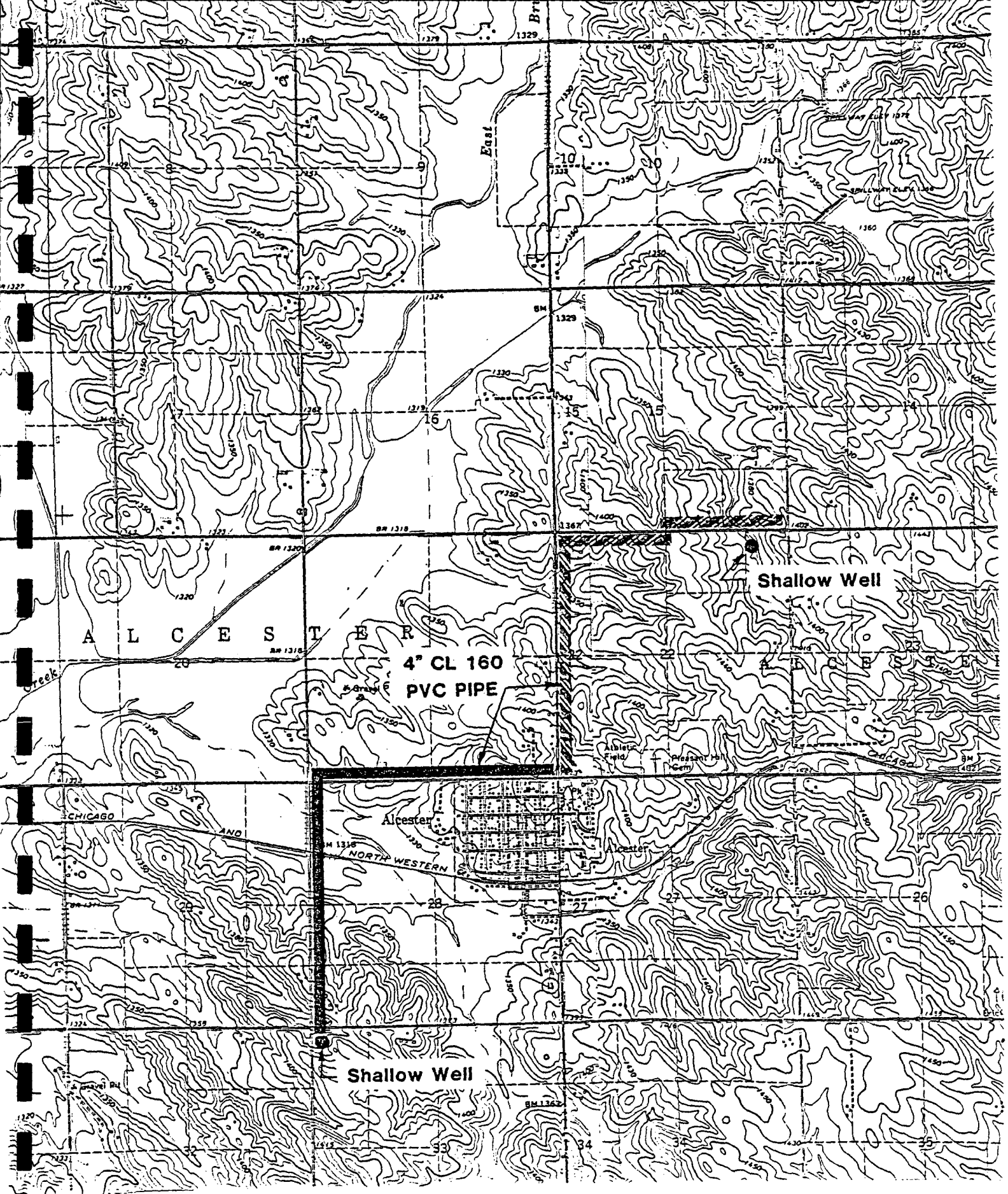
11/86
BH
DH

**CITY OF ALCESTER
POSSIBLE DEEP WELL**

APPENDIX NO. 6
New Shallow Wells

Estimated Construction Cost
For
New Shallow Wells

Well Construction: (3 wells, 125' deep)		
Construction Cost per well		
Appendix 2	\$17,500	
Completion Cost per well		
Appendix 2	<u>19,276</u>	
Total Cost per well	<u>\$36,776</u>	
Total Wells		\$110,328.00
Water Treatment		
150 gpm plant		
Appendix 2		\$ 0.00
Ground Storage Reservoir (GSR)		
150,000 gallon GSR		
Appendix 2		\$ 68,750.00
Transmission Main		
10,600 L.F. of 4" CL 160		
PVC @ \$2.07		
Appendix 2		<u>\$ 21,942.00</u>
Total Estimated Construction Cost		\$201,020.00
Other Cost (20%)		<u>40,204.00</u>
Total Estimated Project Costs		<u><u>\$241,224.00</u></u>

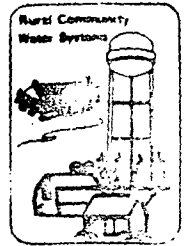


South Lincoln Rural Water

Box 155

Canton, South Dakota

Ph. 372-4211



January 23, 1987

Department of Water and Natural Resources
Water Rights Division
Joe Foss Building
Pierre, SD 57501

Attn: John Hatch

Re: South Lincoln Rural Water

Dear Mr. Hatch:

Consistent with previous submittals and telephone conversations, please find attached the flow information utilized in evaluating the need for an additional diversion point.

Also as discussed, the application previously submitted may be amended to show our request for an additional point of diversion at an anticipated rate of .67 cfs without additional annual acre-feet withdrawals beyond those currently authorized of 1,048 acre-feet. As noted in the attached information, if our use continues to increase additional withdrawal authorization will be requested at a future time.

Should you have questions, please call.

Very truly yours,

SOUTH LINCOLN RURAL WATER

Charlie Kuehl
Charlie Kuehl, Chairman

CK:kld

Enclosures



SOUTH LINCOLN RURAL WATER
CURRENT AND PROJECTED WATER USE

JANUARY 1987

Current Water Use:

1. Current Annual Use - 135,290,000 gallons* 415 AF
Gal/Mo - 11,274,000
Gal/Mo/Conn - 10,000*
2. Current Peak Month - 13,478,000 gallons*
Gal/Conn - 11,970

* See attached Table 1.

Projected Water Use:

1. Background:
 - a. Use 11,000 gallons/month/connection as the average annual use. Such should allow for expected increases in use due to higher livestock numbers and dryer weather.
 - b. Ratio of Rural Peak-Month to Rural Average-Month = 1.20 (13,478,000/11,274,000)
 - c. Ratio of Rural Peak-Day of Peak-Month to Rural Average-Day of Peak-Month = 1.20
 - d. Funding is generally available to serve 55 new users in 1987 or a total of 1180 users. The City of Alcester has requested 85,000 gallons/day average and 170,000 gallons/day peak in 1987 via a long term water purchase contract.
2. Projected Annual Use:
 - a. 1,180 Rural connections
@ 11,000 gal./mo. connection 12,980,000 gal./mo.
 - b. Chancellor (existing contract) 930,000 gal./mo.
 - c. Alcester (85,000 gal./day x
30 day/mo.) 2,550,000 gal./mo.

Total 16,460,000 gal./mo.
197,520,000 gal./yr.
606 acre-ft./yr.

3. Projected Peak Month:

a. Rural (12,980,000 x 1.20) 15,576,000 gal.

4. Projected Peak Day:

a. Rural (15,576,000 : 30 x 1.2) 623,000 gal.

b. Chancellor (930,000 : 30) 31,000

c. Alcester 170,000

Total 824,000 gal.

20 Hour Flow 685 gal./min.

24 Hour Flow 570 gal./min

5. Projected Average Day:

a. Total (Average Use gal./month
: 30 from Item 2.) 549,000 gal.

20 Hour Flow 458 gal./min.

24 Hour Flow 381 gal./min.

Summary:

1. The Projected Annual Use of 606 acre-feet is less than allowed by existing withdrawal permit(s). Additional annual acre-feet should be requested when system demands exceed 700 to 750 acre-feet on an annual basis.
2. The existing well field capacity of 650 gallons per minute is not adequate when compared to criteria for Design of Public Water Supply Facilities in South Dakota i.e. "The total developed ground water source capacity shall equal or exceed the design maximum day or exceed the design average day demand with the largest producing well out of service."

Therefore, it is necessary to add one well when considering either peak-day or average-day 20-hour flows. It is recommended that the additional well have a minimum capacity of 110 gallons per minute.

TABLE 1

SOUTH LINCOLN RURAL WATER
GALLONS OF WATER PUMPED ANNUALLY

	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
Users Reporting	1,010	1,045	1,085	1,126
January	6,960,000	10,297,000	9,526,000	9,292,000
February	6,317,000	8,441,000	8,858,000	8,533,000
March	8,716,000	9,608,000	10,473,000	9,662,000
April	8,621,000	8,908,000	10,621,000	9,410,000
May	9,727,000	9,881,000	12,121,000	12,042,000
June	<u>9,562,000</u>	<u>9,382,000</u>	<u>11,671,000</u>	<u>12,574,000</u>
Subtotal	49,903,000	56,517,000	63,270,000	61,533,000
July	10,730,000	11,021,000	12,141,000	13,478,000
August	11,428,000	12,151,000	10,483,000	11,636,000
September	8,821,000	10,509,000	9,289,000	
October	8,620,000	9,661,000	8,720,000	
November	7,810,000	9,339,000	8,587,000	
December	<u>8,524,000</u>	<u>9,713,000</u>	<u>9,734,000</u>	
Subtotal	55,933,000	62,394,000	58,954,000	
Total	105,836,000	118,911,000	122,224,000	135,290,000 (estimated)
Acre Ft./Yr.	325	365	375	415
Gal./Mo./Conn.	8,730	9,480	9,390	10,000

Report on Application No. 5116-3
South Lincoln Rural Water System
January 26, 1987

This application proposes to divert and place to beneficial use 0.67 cfs which has been reserved by Future Use Permit No. 4817-3. The proposed project is for construction of one well approximately 650 feet deep to be located in the SENE of Section 8, T97N-R50W.

Aquifer - Dakota Formation

Geology and Aquifer Characteristics

The Dakota Formation consists of interbedded sand, sandstone, clay, and sandy clay in the area of South Lincoln Rural Water System (SLRWS). A more uniform layer of sand, as much as 100 feet thick, is sometimes found at the base of the formation (Iles, 1984). The Dakota Formation has been described as deposited in a fluvial environment which accounts for the horizontal and vertical lithologic variabilities that are typical of this area. The SDGS have estimated, there is 4.3 million acre-feet of recoverable water in storage in Lincoln County (Hedges, 1982). The Dakota Formation attains a maximum thickness of over 300 feet (Iles, 1984). The Dakota Formation is under artesian conditions and the Division of Water Rights monitors 37 Dakota Formation Observation Wells in Lincoln County. Water levels in the Dakota Formation fluctuate due to withdrawals by SLRWS. A summary of this data was presented to the Water Management Board at the February 6, 1986 hearing (Goodman, 1985).

Recharge to the Dakota Formation has not been quantified, and may never be quantified; however, potential recharge areas can be inferred from the Iles report and from a comparison of water level and cross-section data included in the Goodman report. This data indicates a hydraulic connection with a buried glacial outwash to the west and north and with the Sioux Quartzite which directly underlies the Dakota Formation.

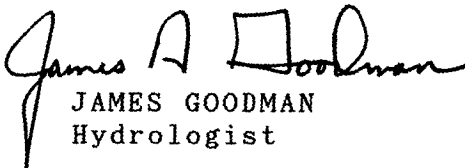
Water quality from the Dakota formation is relatively good. The Iles report includes a map showing the distribution of total dissolved solids (TDS) for wells into the Dakota Formation. Recharge water, at least as far as can be determined now, is inferior in quality to what is presently in the aquifer. Apparently, recharge water is mingling with Dakota Formation water (shown by the Iles map) and degrading the water quality. This process has been going on naturally for a long time and what the effects of additional withdrawals from the Dakota Formation are unknown. In theory at least, withdrawals from the Dakota Formation should cause an increase in the rate of deterioration. Present opinions indicate this increase in the rate of water movement due to withdrawals is quite small. No attempt has been made to quantify this, however.

Review of Existing Water Permits

The existing water permits from the Dakota Formation in Lincoln County are listed in the Goodman Report. The only potential change is a Future Use Application No. 5101-3 for the City of Lennox. This is a pending application and if approved could have an important impact upon the eventual well location. Since Application No. 5116-3 is for water from SLRWS Future Use Permit No. 4817-3 this application does have priority over No. 5101-3.

Conclusions

1. This application No. 5116-3 is for water from the Dakota Formation.
2. This water has been reserved by SLRWS by Future Use Permit No. 4817-3 which also establishes the priority date.
3. Water is available from the Dakota Formation.
4. Well spacing has been an issue. The original permits for SLRWS contained provisions which required wells to be 2 1/2 miles apart. This diversion point location for this well is approximately 1 1/2 miles south of existing well No. 2.
5. Potential drawdowns based upon our experience with existing wells No. 1 and No. 2 would indicate drawdowns of around 30 feet near the new well site. Obvious declines caused by pumping the new well should be noticeable (3-5 feet) within a 2 mile radius of this well. It will be necessary to test the completed well to verify these projections. The diversion rate for the new well is proposed to be similar to existing wells, No. 1 and No. 2 (300 gpm).
6. Water Management Board Rule 74:02:01:05:03 clarifies the Board's authority concerning diversion rate and total water (volume) to be used. A letter dated January 23, 1987 amended Application No. 5116-3 to request a well with a diversion rate of 0.67 cfs (300 gpm) and for no increase in the annual maximum withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B.
7. The water for this application will be used by SLRWS to assure a supply of water for the system in the event of well problems, during peak demand periods and rotation of pumping between wells.
8. The well interference clause should be included as a qualification.
9. The SLRWS should construct at least one observation well to allow monitoring by the Division of Water Rights similar to the monitoring around the 3 existing production wells.


JAMES GOODMAN
Hydrologist

Bibliography

- DGR, 1986, Feasibility Study and Water Source Identification for Alcester, South Dakota, DeWild, Grant, Reckert and Associates, Inc., Project No. 36225, Rock Rapids, Iowa.
- Goodman, J.A., 1985, Report on Application No. 4300-3B, South Lincoln Rural Water System (SLRWS), presented to Water Management Board, February 6, 1986, DWNR, Division of Water Rights, Joe Foss Bldg., Pierre, S.D. 57501.
- Hedges, L.S., 1982, Evaluation of Ground Water Resources Eastern South Dakota and Upper Big Sioux River, South Dakota and Iowa, for U.S. Army Corps of Engineers, DWNR, SDGS, Vermillion, SD, 57069.
- Iles, D.L., 1982, Pleistocene Recharge to Dakota Formation in Lincoln County, South Dakota, in Geohydrology of the Dakota Aquifer, Proceedings of the First C. U. Theis Conference on Geohydrology, NWWA, 500 W. Wilson Bridge Road, Worthington, Ohio, 43085.

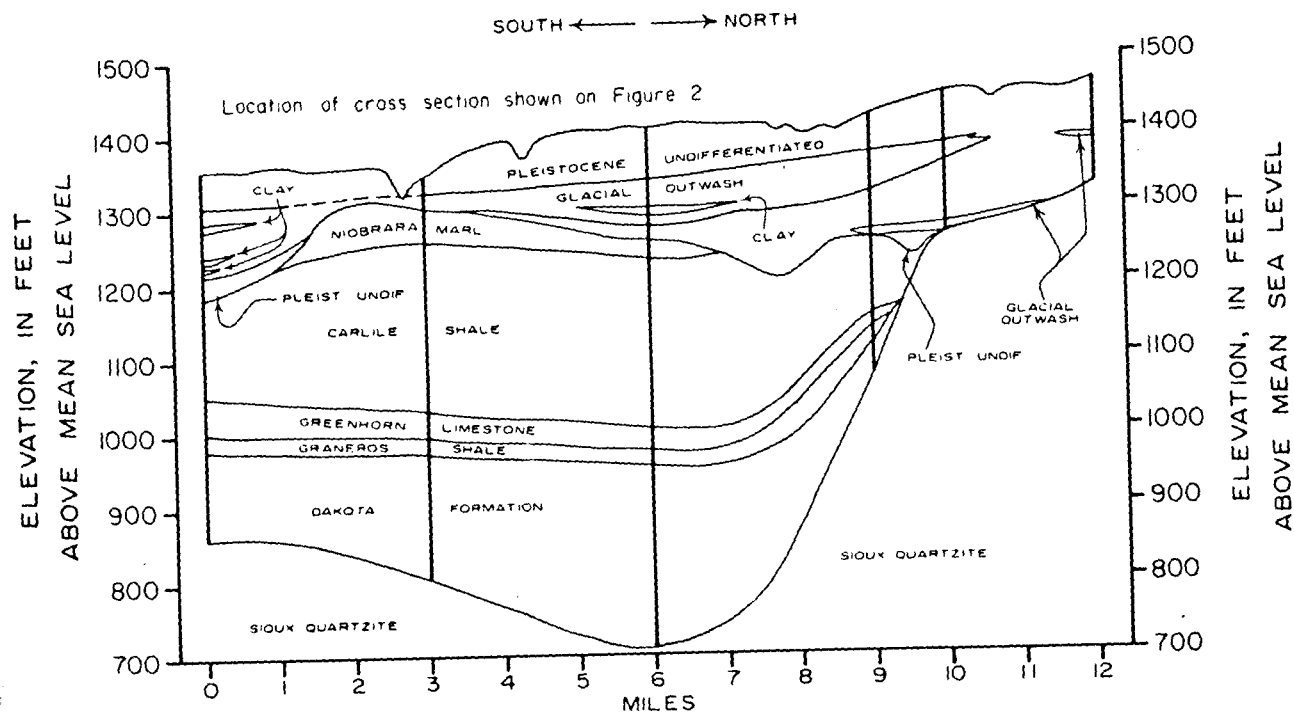


Figure 4. North-south cross section through the study area

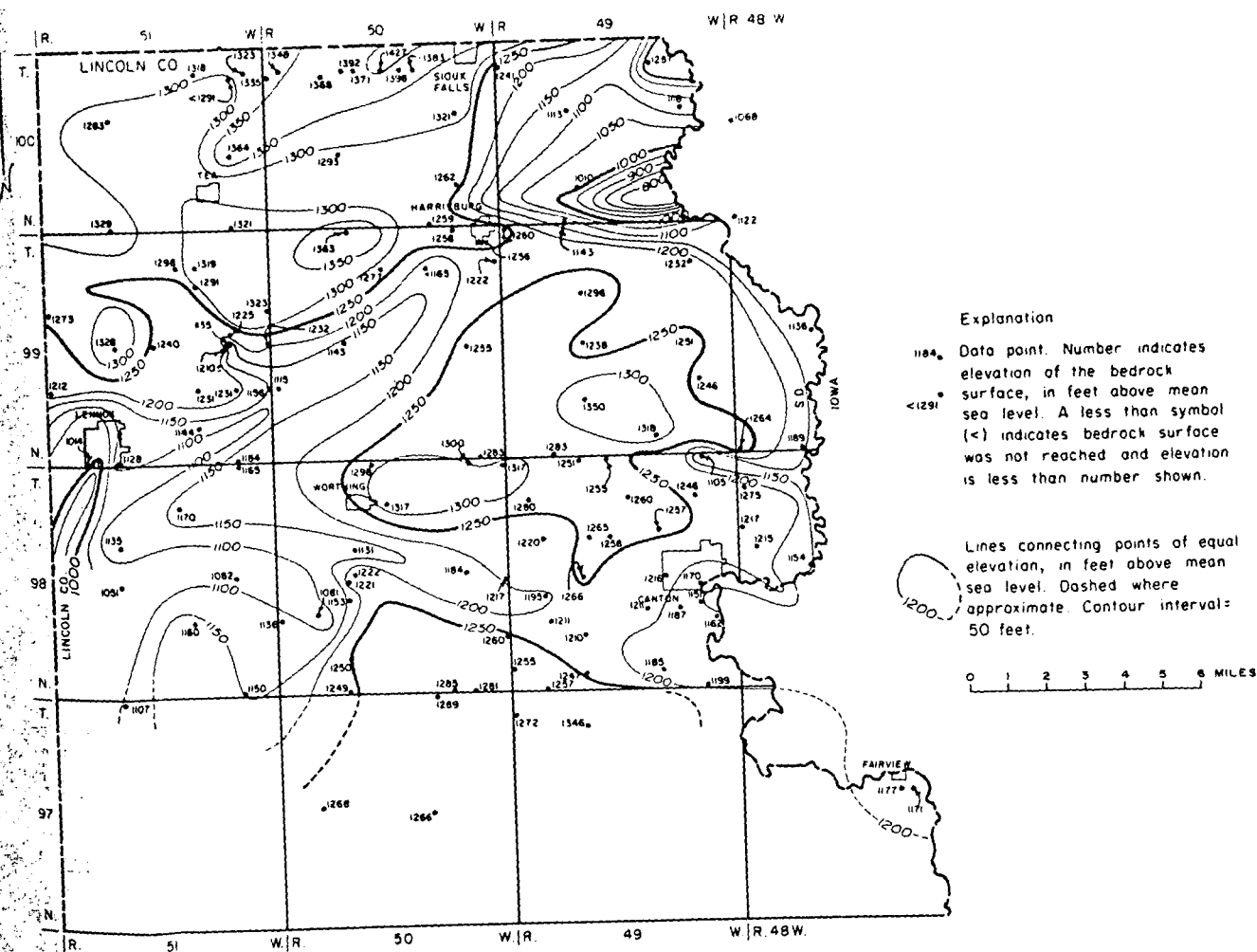


Figure 5. Contour map of the bedrock surface

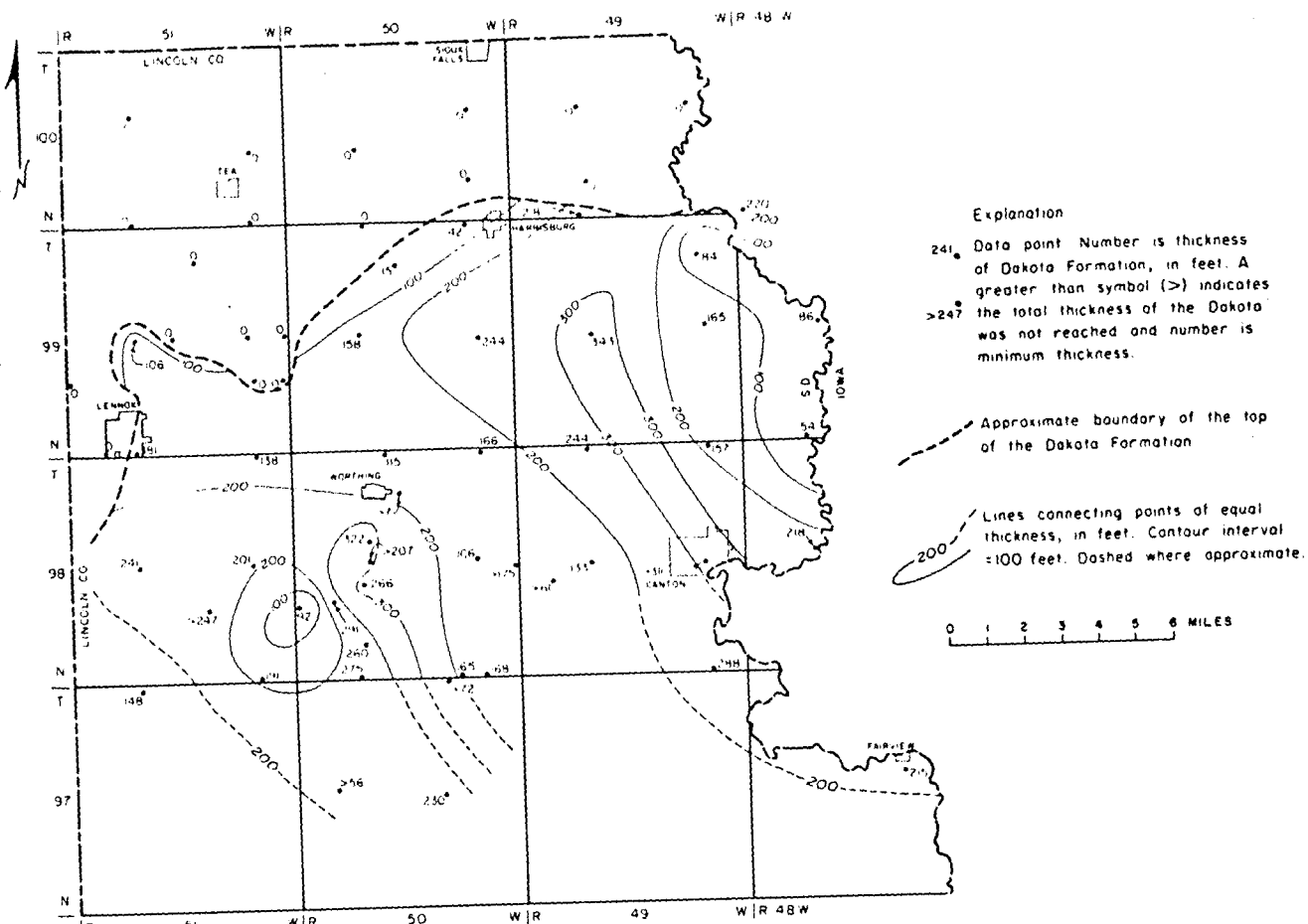


Figure 8. Thickness of the Dakota formation

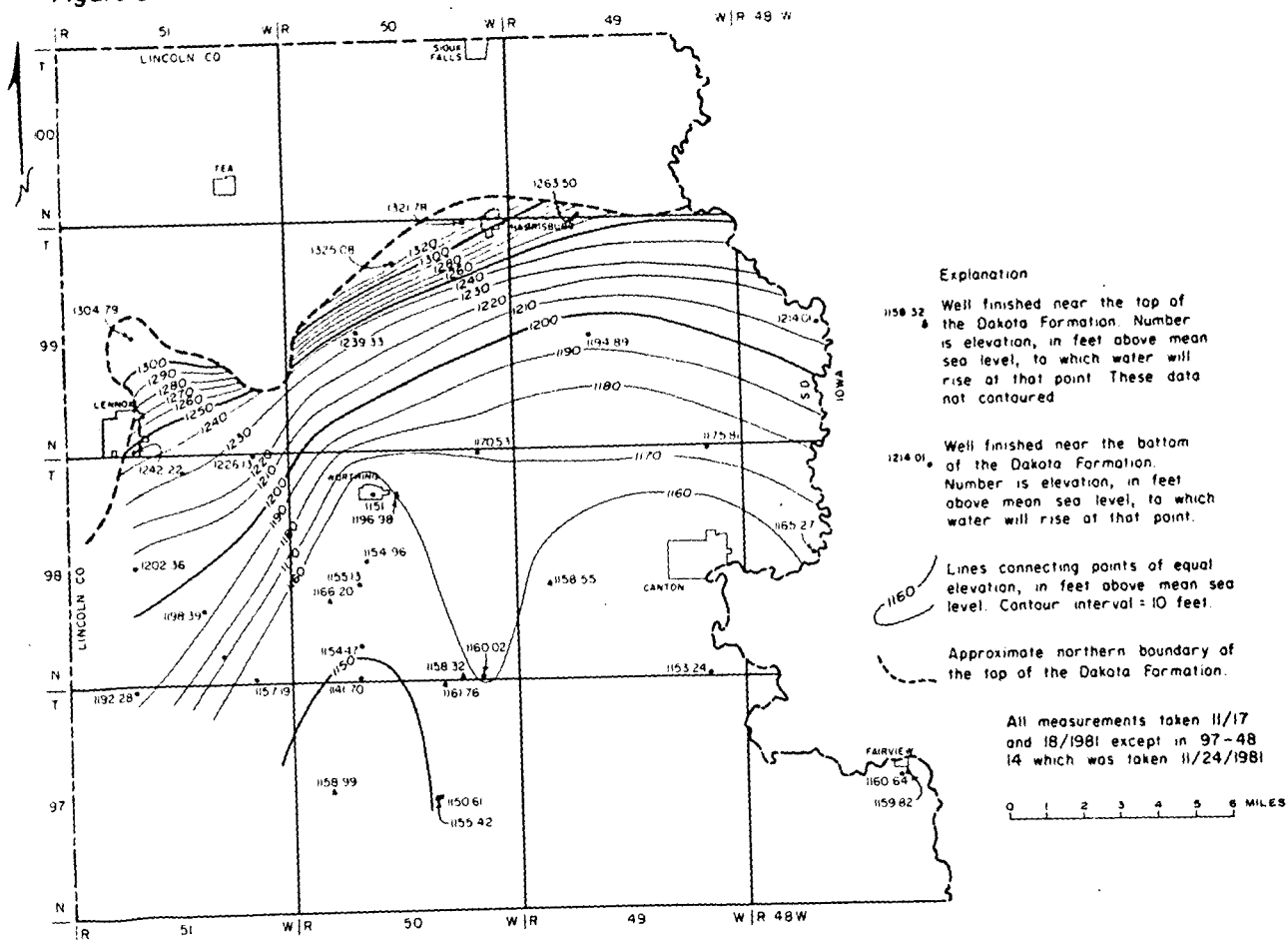


Figure 9. Potentiometric surface of the Dakota formation

calcium, magnesium, has a lower hardness than water from the contain slightly more nces in water quality the data presently between water samples he northern edge of collected from farther ern edge is generally ned in the rest of the temporary recharge oux quartzite along ormentation.

dissimilar to the one characterized by the third line in Table 1. Also, it is uncertain how the water from these four wells may have been affected by the presence of the aforementioned pre-Pleistocene and early Pleistocene drainage present along the western edge of the study area from Lennox to the south-southwest. This drainage may serve as a western boundary of the type of water found in the main body of the Dakota formation in Lincoln County.

The values for total dissolved solids shown at the cities of Worthing and Canton (Figure 10) also were not used in preparing Table 1. This is because the value at Worthing is an average of two wells and the value at Canton is an average of six wells.

The wide disparity in water chemistry between present sources of recharge and the main body of Dakota formation water is obvious. Because the Dakota formation is presently receiving recharge water along its northern edge that is inferior in quality to the present formation water, it must be concluded that the good water in the formation entered it under hydrologic conditions that are unlike those that prevail today. Any model explaining the present good quality water in the Dakota formation must account for a source as well as a mechanism of emplacement.

Model for Paleo-Recharge Geologic Parameters

Before the glaciers advanced over this region of

511 906
1205 1691
270 634
203 591
299 652

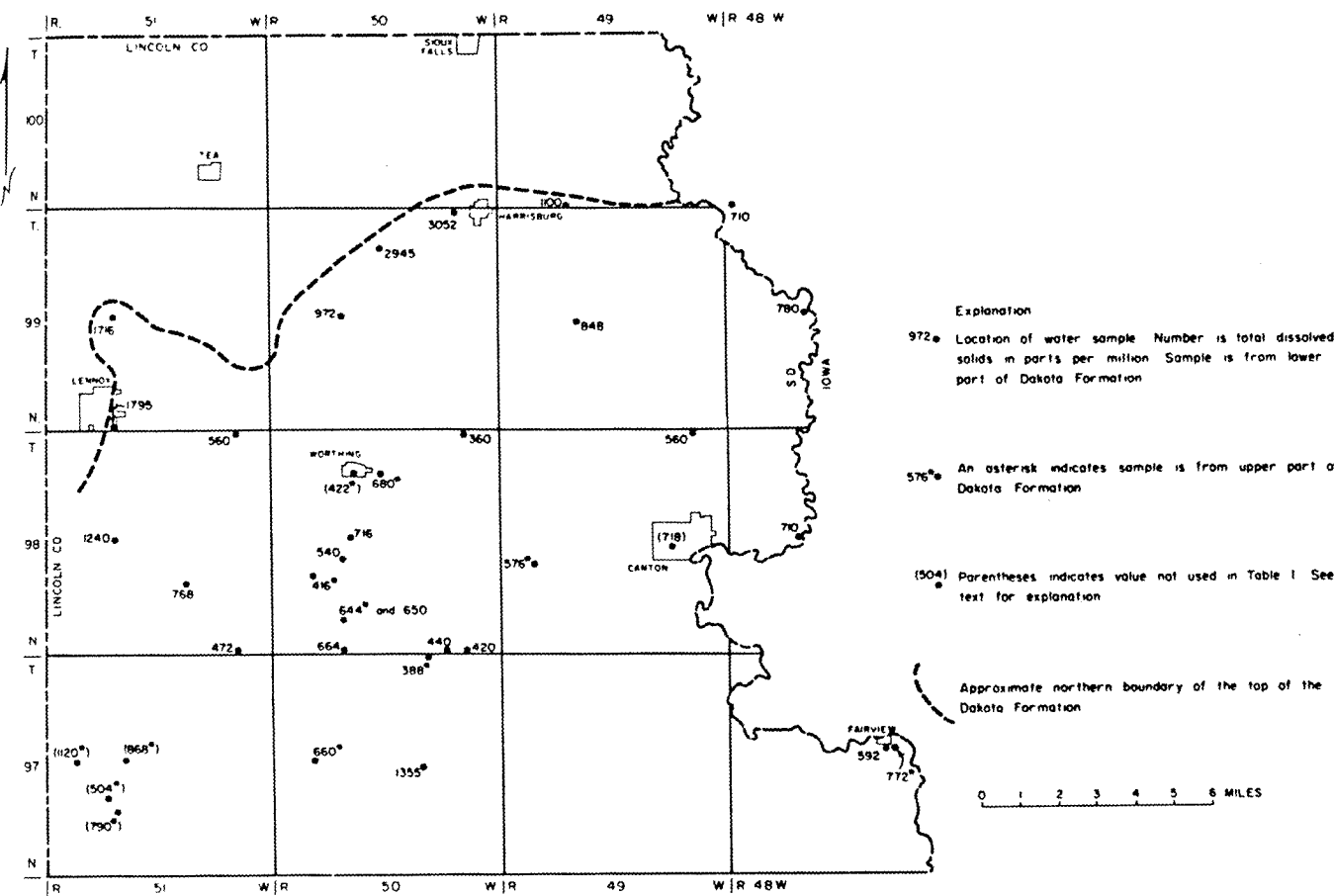


Figure 10. Distribution of total dissolved solids in the Dakota formation

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 5116-3

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Water and Natural Resources concerning Water Permit Application No. 5116-3, South Lincoln Rural Water System, PO Box 155, Canton SD.

The Chief Engineer is recommending APPROVAL of Application No. 5116-3 because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) in the public interest with the following qualifications:

1. That the South Lincoln Rural Water System report to the chief engineer annually the amount of water withdrawn each year.
2. That the rural water system well approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The rural water system, under this permit, shall control its withdrawals so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
3. That prior to use of water from the new production well authorized by Permit No. 5116-3 that the South Lincoln Rural Water System install one observation well near the new production well to allow the chief engineer to monitor water levels.
4. That approval of Permit No. 5116-3 does not authorize annual withdrawals from Permits No. 5116-3, 4300-3, 4300-3A and 4300-3B of more than 1048 acre feet.

See the attached report for additional information.


JOHN HATCH, Chief Engineer
January 27, 1987



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
(605) 773-3352

January 28, 1987

NOTE:

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

South Lincoln Rural Water System
P.O. Box 155
Canton, South Dakota 57013

Dear Sir:

Your Application No. 5116-3 for a permit to appropriate water for

rural water system use, has been examined and found to
comply with the South Dakota Water Laws and applicable rules. A notice of
your intent to appropriate water has been send to the Publisher of the
Sioux Valley News printed at Canton
Alcester Union printed at Alcester
The New Era printed at Parker
Argus Leader printed at Sioux Falls

South Dakota. For your information, a copy of this notice, the recommendation
of the Chief Engineer and a report on the application are enclosed. Please
review this notice prior to publication and notify this office, if you have
any corrections or questions.

BE SURE TO CONTACT THE ABOVE NEWSPAPER IMMEDIATELY TO AUTHORIZE PUBLICATION
OF YOUR NOTICE OF INTENT TO APPROPRIATE WATER 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 at least thirty days before the board
meeting. We must receive Proof of Publication before the application can be
considered by the Water Management Board.

Sincerely,

RON DUVALL
Natural Resources Engineer

enclosures



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

January 28, 1987

Alcester Union
Box 217
Alcester, South Dakota 57001

Dear Sir:

Enclosed is a Notice of Intent to Appropriate Water by South Lincoln Rural Water System
Application No. 51J6-3, in Lincoln, Turner County, South Dakota. Please
publish this notice once each week for two consecutive weeks in your paper. The
first publication should be on, or before February 5, 1987.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you
make the first publication. The applicant is to pay the cost of publication and
should make the necessary arrangements with you to pay these costs.

A copy of BOTH publications must be sent to the Water Rights Division. IMMEDIATELY
after the FIRST publication, return a copy of the notice with the FIRST Publication
Transmittal form on the bottom of this page. The first copy is needed to check
the publication for errors so any corrections can be made before the second
notice is published.

Please be sure the SECOND publication is returned with the enclosed Proof of
Publication form. The permit application cannot be considered by the Water
Management Board until proof of publication has been received.

Thank you for your assistance.

Sincerely,

RON DUVALL
Natural Resources Engineer

cc: applicant

***** CUT HERE *****

FIRST
Publication
Transmittal

No. _____ Date _____
TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

NAME _____ NEWSPAPER _____

Equal Opportunity Employer



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

January 28, 1987

Argus Leader
PO Box 5034
Sioux Falls, South Dakota 571

Dear Sir:

Enclosed is a Notice of Intent to Appropriate Water by South Lincoln Rural Water System
Application No. 5116-3, in Lincoln, Turner
Union & Minnehaha County, South Dakota. Please
publish this notice once each week for two consecutive weeks in your paper. The
first publication should be on, or before February 5, 1987.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you
make the first publication. The applicant is to pay the cost of publication and
should make the necessary arrangements with you to pay these costs.

A copy of BOTH publications must be sent to the Water Rights Division. IMMEDIATELY
after the FIRST publication, return a copy of the notice with the FIRST Publication
Transmittal form on the bottom of this page. The first copy is needed to check
the publication for errors so any corrections can be made before the second
notice is published.

Please be sure the SECOND publication is returned with the enclosed Proof of
Publication form. The permit application cannot be considered by the Water
Management Board until proof of publication has been received.

Thank you for your assistance.

Sincerely,

RON DUVALL
Natural Resources Engineer

cc: applicant

***** CUT HERE *****

FIRST
Publication
Transmittal

No. _____ Date _____
TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

NAME _____ NEWSPAPER _____

Equal Opportunity Employer



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

January 28, 1987

The New Era
PO Box 577
Parker, South Dakota 57053

Dear Sir:

Enclosed is a Notice of Intent to Appropriate Water by South Lincoln Rural Water System
Lincoln, Turner
Application No. 5116-3, in Union & Minnehaha County, South Dakota. Please
publish this notice once each week for two consecutive weeks in your paper. The
first publication should be on, or before February 5, 1987.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you
make the first publication. The applicant is to pay the cost of publication and
should make the necessary arrangements with you to pay these costs.

A copy of BOTH publications must be sent to the Water Rights Division. IMMEDIATELY
after the FIRST publication, return a copy of the notice with the FIRST Publication
Transmittal form on the bottom of this page. The first copy is needed to check
the publication for errors so any corrections can be made before the second
notice is published.

Please be sure the SECOND publication is returned with the enclosed Proof of
Publication form. The permit application cannot be considered by the Water
Management Board until proof of publication has been received.

Thank you for your assistance.

Sincerely,

RON DUVAL
Natural Resources Engineer

cc: applicant

***** CUT HERE *****

FIRST
Publication
Transmittal

No. _____ Date _____
TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

NAME _____ NEWSPAPER _____

Equal Opportunity Employer



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

Water Rights Division
605 773-3352

January 28, 1987

Sioux Valley News
Box 255
Canton, South Dakota 57013

Dear Sir:

Enclosed is a Notice of Intent to Appropriate Water by South Lincoln Rural Water System
Application No. 5116-3, in Lincoln, Turner County, South Dakota. Please
publish this notice once each week for two consecutive weeks in your paper. The
first publication should be on, or before February 5, 1987.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICE IS TO BE PUBLISHED, before you
make the first publication. The applicant is to pay the cost of publication and
should make the necessary arrangements with you to pay these costs.

A copy of BOTH publications must be sent to the Water Rights Division. IMMEDIATELY
after the FIRST publication, return a copy of the notice with the FIRST Publication
Transmittal form on the bottom of this page. The first copy is needed to check
the publication for errors so any corrections can be made before the second
notice is published.

Please be sure the SECOND publication is returned with the enclosed Proof of
Publication form. The permit application cannot be considered by the Water
Management Board until proof of publication has been received.

Thank you for your assistance.

Sincerely,

RON DUVALL
Natural Resources Engineer

cc: applicant

***** CUT HERE *****

FIRST
Publication
Transmittal

No. _____ Date _____
TO: Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

NAME _____ NEWSPAPER _____

Equal Opportunity Employer

No. 5116-3

Instruction to Newspaper - Publish first publication of the following Notice on or before February 5, 1987 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 5116-3 to ~~develop Reserved~~ Appropriate Water
~~and/or to Amend Water Permit or Water Right No. _____~~

Notice is hereby given that the South Lincoln Rural Water System whose mailing address is P.O. Box 155, Canton, _____, South Dakota has made an application for a permit to construct works and place to beneficial use 0.67 cubic feet of water per second reserved by Future Use Permit No. 4817-3. The proposed project is for construction of one well (Dakota Sandstone Formation) 650 feet deep to be located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 8-T9N-R50W. Water is to be used to supply the South Lincoln Rural Water System. Approval of Application No. 5116-3 will not change the maximum annual withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5116-3 because 1) ~~unappropriated water is available,~~ ~~2) will be no unlawful impairment of existing rights,~~ ~~3) is beneficial use of water and~~ ~~3) is in the public interest.~~

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, South Dakota, March 4 1987 at 10:00 pm.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 20, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12; 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2 46-5-30.4, 46-5-31; ~~(ground)~~ 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; ~~(future use)~~ 46-5-38 thru 46-5-40; ~~(transfer lands)~~ 46-5-30.4, 46-5-33 thru 46-5-35; ~~(10,000 AFA)~~ 46-5-20.1, 46-5-8.1, and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; ~~(future use)~~ 74:02:01:24 thru 74:02:01:25; ~~(10,000 AFA)~~ 74:02:01:15:02 thru 74:02:01:15:05.

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

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 20, 1987.

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Minnehaha) ss.

I, R. Deutscher hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Argus Leader

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

_____ City _____ of Sioux Falls

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

Tuesday, February 3, 1987

Tuesday, February 10, 1987

Rory Deutscher
(Signature)

Controller
(Title)

2/10/87

(Date Signed)



Cost of Printing: \$83.90

NOTICE OF HEARING
On Application No. 5116-3
To Develop Reserved Water
Notice is hereby given that the
South Lincoln Rural Water Sys-
tem whose mailing address is
P.O. Box 155, Canton, South Da-
kota has made an application for
a permit to construct works and
place to beneficial use 0.67 cubic
feet of water per second reserved
by Future Use Permit No. 4817-3.
The proposed project is for con-
struction of one well (Dakota
Sandstone Formation) 650 feet
deep to be located in the
SE 1/4 NE 1/4 Section 8-T97N-R50W.
Water is to be used to supply the
South Lincoln Rural Water Sys-
tem. Approval of Application No.
5116-3 will not change the maxi-
mum annual withdrawal of 1048
acre feet authorized by Permits
No. 4300-3, 4300-3A and 4300-3B.
Pursuant to SDCL 46-2A-2 the
Chief Engineer of the Water
Rights Division recommends
APPROVAL of Application No.
5116-3 because 1) will be no un-
lawful impairment of existing
rights, 2) is beneficial use of
water and 3) is in the public in-
terest.

This application will be consid-
ered by the Water Management
Board at room 216, Joe Foss
Building, 523 E. Capitol, Pierre,
South Dakota, March 4, 1987 at
2:00 pm. The recommendation of
the Chief Engineer is not final or
binding upon the Board and the
Board is authorized to 1) ap-
prove, 2) approve with qualifica-
tions, 3) defer, or 4) deny this
application after it reaches a
conclusion based upon facts pre-
sented at the public hearing. Any
interested person who may be af-
fected by a Board decision and
who intends to participate in the
hearing before the Board and
present evidence or cross-exam-
ine witnesses according to SDCL
1-26, must file a written petition
with BOTH the applicant and the
Chief Engineer by February 20,
1987. The petition may be infor-
mal, but it must include a state-
ment describing the petitioner's
interest in the application, the
reasons for the petitioner's op-
position to or support of the applica-
tion, and the signature and mail-
ing address of the petitioner or
his legal counsel if legal counsel
is obtained. The applicant need
not file a petition.

This application is made pur-
suant to the provisions of SDCL
46-1-1 thru 46-1-9, 46-1-12 thru 46-1-
15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13,
46-2-17; 46-2A-1 thru 46-2A-12, 46-
2A-14, 46-2A-15; 46-5-1 thru 46-5-
11, 46-5-13 thru 46-5-15, 46-5-24, 46-
5-25, 46-5-30.2, 46-5-30.4, 46-5-31;
46-6-3, 46-6-3.1, 46-6-10, 46-6-13, 46-
6-14; 46-5-38 thru 46-5-40; and
Board Rules ARSD 74:02:01:01
thru 74:02:01:15.

This hearing is an adversary
proceeding. The applicant or any
person, after filing a petition, has
the right to be present or to be
represented by a lawyer. These
and other due process rights will
be forfeited if they are not exer-
cised. Decisions of the Board
may be appealed to the Circuit
Court and the State Supreme
Court as provided by law.

Any person wishing a copy of
the Chief Engineer's recommen-
dation, further information on
this application or to assure to
the hearing by the handicapped
can contact the Water Rights Di-
vision, DWRN, Joe Foss Bldg,
Pierre SD (605 773-3352) for assis-
tance prior to the hearing date.
The time of the hearing will be
automatically extended for at
least twenty days upon written
request of the applicant or any
person who has filed a petition to
oppose or support the applica-
tion. The request for extension
must be filed with the Chief Engi-
neer by February 20, 1987.

212 Feb. 3, 10, 1987

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County LINCOLN) ss.

I, CONNIE RENLI hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the STIOUX VALLEY NEWS

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

CITY of CANTON

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

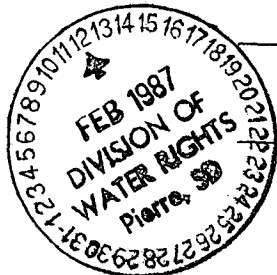
February 5, 1987

February 12, 1987

Connie Renli
(Signature)

Bookkeeper
(Title)

February 12, 1987
(Date Signed)



Cost of Printing: \$43.36

**NOTICE OF HEARING
ON APPLICATION NO. 5116-3
TO DEVELOP RESERVED WATER**

Notice is hereby given that the South Lincoln Rural Water System whose mailing address is P.O. Box 155, Canton, South Dakota has made an application for a permit to construct works and place to beneficial use 0.67 cubic feet of water per second reserved by Future Use Permit No. 4817-3. The proposed project is for construction of one well (Dakota Sandstone Formation) 650 feet deep to be located in the SE 1/4 NE 1/4 Section 8-T97N-R50W. Water is to be used to supply the South Lincoln Rural Water System. Approval of Application No. 5116-3 will not change the maximum annual withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B.

Pursuant to SDCL 46-2A-2 the chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5116-3 because 1) will be no unlawful impairment of existing rights, 2) is beneficial use of water and 3) is in the public interest.

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, South Dakota, March 4, 1987 at 2:00 p.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 20, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-2 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2, 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; 46-5-38 thru 46-5-40; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

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

Any person wishing a copy of the chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWR, Joe Foss Bldg, Pierre, South Dakota (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 20, 1987.

(2-5, 12)

No. 5116-3

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)

) ss.

County Turner)

I, Bruce J. Bormann hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the The New Era

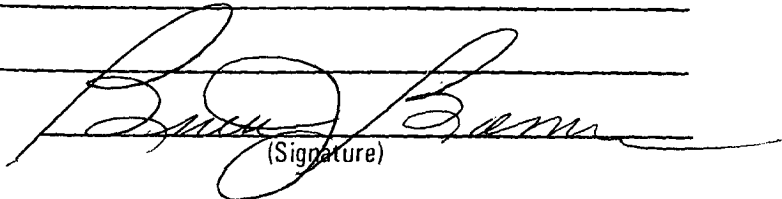
A newspaper which during the whole time of publication of said notice
herein after stated, has been and is printed and published in the _____

_____ City _____ of _____ Parker _____

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

Thursday, February 5, 1987

Thursday, February 12, 1987



(Signature)

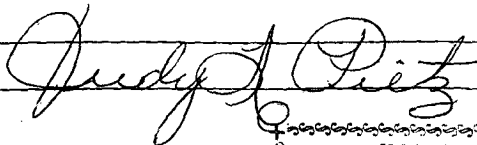
Publisher

(Title)

February 12, 1987

(Date Signed)

Cost of Printing: \$37.33



JUDY A. PIETZ

SEAL

NOTARY PUBLIC
SOUTH DAKOTA

SEAL

My Commission Expires Apr. 30, 1990

NOTICE OF HEARING
on Application No. 5116-3
to Develop Reserved Water

Notice is hereby given that the South Lincoln Rural Water System whose mailing address is P.O. Box 155, Canton, South Dakota has made an application for a permit to construct works and place to beneficial use 0.67 cubic feet of water per second reserved by Future Use Permit No. 4817-3. The pro-

posed project is for construction of one well (Dakota Sandstone Formation) 650 feet deep to be located in the SE $\frac{1}{4}$ NE $\frac{1}{4}$ Section 8-T97N-R50W. Water is to be used to supply the South Lincoln Rural Water System. Approval of Application No. 5116-3 will not change the maximum annual withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 5116-3 because 1) will be no unlawful impairment of existing rights, 2) is beneficial use of water and 3) is in the public interest.

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, South Dakota, March 4, 1987 at 2:00 p.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 20, 1987. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3-1, 46-2-9, 46-2-11, 46-2-13, 46-2-17; 46-2A-1 thru 46-2A-10, 46-2A-12, 46-2A-14, 46-2A-15; 46-5-1 thru 46-5-11, 46-5-13 thru 46-5-15, 46-5-24, 46-5-25, 46-5-30.2 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14; 46-5-38 thru 46-5-40; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15.

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

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNr, Joe Foss Bldg, Pierre SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 20, 1987.
(2tc46 -- February 5 & 12, 1987)

Form 8 - Proof of Publication - Notice of
Intent to Appropriate Water

No. 5

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Union) ss.

I, Don Brase hereby

certify that the annexed printed copy of Notice of Intent to Appropriate

Water was taken from the Alcester Union

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

Alcester Union of Alcester, S.D.

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

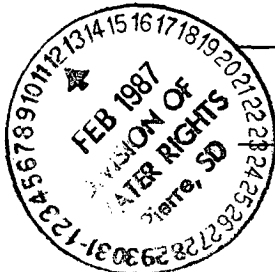
Feb. 5, 1987

Feb. 12, 1987

Don Brase
(Signature)

Mgr.
(Title)

Feb. 12, 1987
(Date Signed)



Cost of Printing: 33.97

85 lines @ 22.2

2nd publication @ 80%

NOTICE OF HEARING
on Application No. 5116-3
to Develop Reserved water

Notice is hereby given that the South Lincoln Rural Water System whose mailing address is P.O. Box 155 Canton, South Dakota has made an application for a permit to construct works and place to beneficial use of 0.67 cubic feet of water per second reserved by Future Use Permit No. 4817-3. The proposed project is for construction of one well (Dakota Sandstone formation) 650 feet deep to be located in the SE 1/4 NE 1/4 Section 8-T97N-R50W. Water is to be used to supply the South Lincoln Rural Water System. Approval of Application No. 5116-3 will not change the maximum annual withdrawal of 1048 acre feet authorized by Permits No. 4300-3, 4300-3A and 4300-3B.

Pursuant to SDCL 46-22-2 the Chief of the Water Rights Division recommends APPROVAL of Application No. 5116-3 because 1) will be no unlawful impairment of existing rights, 2) is beneficial use of water and 3) is in the public interest.

This application will be considered by the Water Management Board at room 216, Joe Foss Building, 523 E. Capitol, Pierre, SD, March 4, 1987 at 2:00 p.m.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to 1) approve, 2) approve with qualifications, 3) defer, or 4) deny this application after it reaches a conclusion based upon facts presented at the public hearing. Any interested person who may be affected by a Board decision and who intends to participate in the hearing before the Board and present evidence or cross-examine witnesses according to SDCL 1-26, must file a written petition with BOTH the applicant and the Chief Engineer by February 20, 1987. The petition may be informal, but it must include a statement describing the petitioner's interest in the application, the reasons for the petitioner's opposition to or support of the application, and the signature and mailing address of the petitioner or his legal counsel if legal counsel is obtained. The applicant need not file a petition.

This application is made pursuant to the provisions of SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-15; 46-2-3.1, 46-2-9, 46-2-11, 46-2-13 thru 46-5-15, 46-5-24, 46-5-24, 46-5-25, 46-5-30.2; 46-5-30.4, 46-5-31; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-5-38 thru 46-5-40; and Board Rules ARSD 74:02:01 thru 74:02:01:15.

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

Any person wishing a copy of the Chief Engineer's recommendation, further information on this application or to assure access to the hearing by the handicapped can contact the Water Rights Division, DWNR, Joe Foss Bldg., Pierre, SD (605 773-3352) for assistance prior to the hearing date. The time of the hearing will be automatically extended for at least twenty days upon written request of the applicant or any person who has filed a petition to oppose or support the application. The request for extension must be filed with the Chief Engineer by February 20, 1987.
Pub. Feb. 8, 15, 1987.

SOUTH DAKOTA
Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 12, 1987

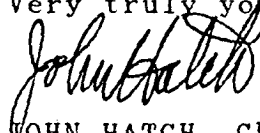
John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

Dear Mr. Sievers:

This is a formal request for water level data for observation wells LN-79B and LN-77E. These two wells are located next to production Wells #1 and #2. As per request by South Lincoln Rural Water System, the Division of Water Rights discontinued measuring these wells in 1982. It was our understanding at that time that South Lincoln Rural Water System would provide this data to us upon request.

The reason for this request is that Wanda Sletten (FODSA) requested data from us for these two observation wells.

Very truly yours,



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

MASTEN, MYRABO & IRONS, P.C.

A PROFESSIONAL CORPORATION
LAWYERS

P.O. BOX 348

108 SOUTH BROADWAY

CANTON, SOUTH DAKOTA 57013-0348

SAM W. MASTEN
(1915-1980)

JEFF MASTEN
LLOYD K. MYRABO
EUGENE J. IRONS*

VANCE S. MYRABO**

February 16, 1987

AREA CODE 605
987-4351

MARGARET MCVAY
LEGAL ASSISTANT

*MEMBER OF SOUTH DAKOTA AND MINNESOTA BARS
**MEMBER OF SOUTH DAKOTA AND IOWA BARS

Mr. John Hatch
Chief Engineer
Water Rights Division
Dept. of Water and Natural Resources
Joe Foss Building
523 E. Capitol
Pierre, SD 57501



In Re: South Lincoln Rural Water System, Inc.

Dear John:

It is my understanding that you have requested certain information from South Lincoln regarding their wells located on their property.

It is also my understanding that you are making this request pursuant to some agreement you had with South Lincoln going back to 1982.

Would you please provide me with a copy of the Agreement or whatever information you have regarding the basis of such an agreement.

As you well know, South Lincoln has been and still is most willing to cooperate fully with your department and to provide it with any information it needs to perform its duties.

However, as I understand the situation, your present request for information is made solely on the basis of a request being made by some private person who desires to view the information in question.

Certainly, there has never been any problem with the State of South Dakota and its use of such information, but there have been occasions in the past when information such as this has been turned over to private individuals who were neither sophisticated enough or educated enough to properly understand what they were receiving and who on several occasions have attempted to make use of the information in a manner which was detrimental to the best interests of either the rural water system or the State of South Dakota.

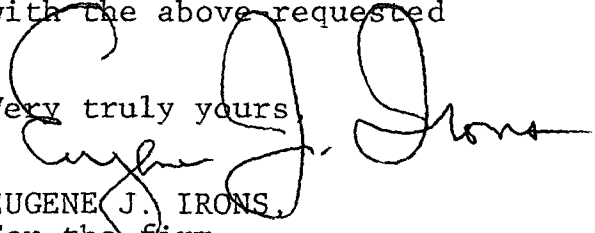
Mr. John Hatch
February 16, 1987
Page 2.

Therefore, if your only reason for requesting this information is to satisfy the desires of some private party we would have to respectfully decline to provide the information, and it would seem to me that the private party would not be entitled to make such a request where the information is not already part of the State file.

As I indicated above, we are more than willing to cooperate fully with the State of South Dakota and its legitimate agencies in the performance of their duties, and we intend to extend such cooperation in connection with your present request.

I will await your reply together with the above requested information and/or documentation.

Very truly yours,



EUGENE J. IRONS,
For the firm.

EJI:ds
cc: John Sievers



SADDLE CREEK FARM, INC.

RT. 2 BOX 82

BERESFORD, SOUTH DAKOTA 57004

PHONE 372-4688 OR 372-4689

AREA CODE 605

February 17, 1987



Mr. John Hatch, Chief Engineer
Water Rights Division
Department of Water and Natural Resources
Joe Foss Building
Pierre, SD 57501

Dear Mr. Hatch:

Re: Application #5116-3

This letter serves as a Petition to oppose the above application.

Saddle Creek Farm, Inc. is the owner of domestic wells which are in the Dakota Sandstone Formation, with the wells being in the area within which the wells of South Lincoln Rural Water System are located.

The reason for the opposition to this application by Saddle Creek Farm, Inc. is that the Board of Directors of Saddle Creek Farm, Inc. has determined that the construction of an additional well would constitute the unlawful impairment of existing rights and therefore, Saddle Creek Farm, Inc. would be affected by any decision which the Water Management Board may make regarding this application.

Saddle Creek Farm, Inc. is also requesting the automatic extension of the date of the hearing as provided.

Saddle Creek Farm, Inc. has retained as counsel, Dennis McFarland, 505 West 9th St., Sioux Falls, SD 57104.

Sincerely,

Samuel E. Sletten
President

SES/ws

cc: South Lincoln Rural Water System
Dennis McFarland

FRIENDS OF DAKOTA SANDSTONE AQUIFER
Rt. 2 Box 82
Beresford, South Dakota 57004

February 17, 1987



Mr. John Hatch, Chief Engineer
Water Rights Division
Department of Water and Natural Resources
Joe Foss Building
Pierre, SD 57501

Dear John:

Re: Application #5116-3

This letter serves as a Petition to oppose the above application.

FODSA represents a group of domestic well owners who rely on the Dakota Formation as their source of water and are in the area within which the wells of South Lincoln Rural Water System are located. FODSA has also been involved with all applications made by South Lincoln Rural Water System as is shown by the record.

The reason for our opposition is that we feel it is unnecessary for South Lincoln Rural Water System to construct an additional well and that the construction of an additional well would constitute the unlawful impairment of existing rights.

We are also requesting the automatic extension of the date of the hearing as provided.

FODSA will have Dennis McFarland, 505 West 9th St., Sioux Falls, SD 57104, as counsel.

Sincerely,

A handwritten signature in cursive script, reading 'Wanda J. Sletten'.

Wanda J. Sletten
Secretary

cc: South Lincoln Rural Water System
Dennis McFarland

South Dakota Dept. of Water & Natural Resources
Water Rights Division
Joe Foss Building
Pierre, SD 57501

Re: South Lincoln Rural Water
Application No. 4300-3C and No. 5116-3

With regard to the Saddle Creek Farm and FODSA opposition to the above referenced applications, South Lincoln Rural Water and Alcester respectfully request that the Water Management Board reschedule the March hearing delayed by the noted opposition for April 1987. Without timely project development and construction, the City of Alcester will face summer with but one operational well which exceeds the maximum contaminant level for nitrates and is unable to meet average summer demands.

Charles Kuehl, Chairman
South Lincoln Rural Water System

Roger Walz
Roger Walz, Mayor
City of Alcester





Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 19, 1987

NOTICE

TO: John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

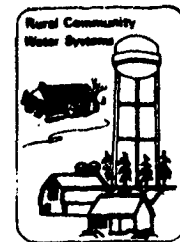
FROM: John Hatch, Chief Engineer 
Water Rights Division
605 773-3352

SUBJECT: Automatic Continuance of ~~Hearing on~~ Water Permit
Applications No. 4300-3C and 5116-3, South Lincoln
Rural Water System

Petitions in opposition to Permit Application Nos. 4300-3C and 5116-3 and requesting automatic continuance of the hearings have been received from Samuel E Sletten and Wanda Sletten, Secretary, Friends of Dakota Sandstone Aquifer represented by Dennis McFarland, Attorney. Pursuant to SDCL 46-2A-4 and 46-2A-5, the hearings for Application Nos. 4300-3C and 5116-3 are automatically continued until the May 6 and 7, 1987 Water Management Board meeting. The hearings on Application Nos. 4300-3C and 5116-3 will now be held in Room 216, Joe Foss Building, 523 E Capitol, Pierre SD, May 6, 1987 at 10:30 am.

cc: Samuel E Sletten
Wanda Sletten, Secretary
Friends of Dakota Sandstone Aquifer
Dennis McFarland, Attorney
Michael Kezar, Finance Officer, City of Alcester
Dan Doyle, Assistant Attorney General
Water Management Board
Legislative Oversight Committee

South Lincoln Rural Water



Box 155

Canton, South Dakota

Ph. 372-4211

February 20, 1987

South Dakota Dept. of Water & Natural Resources
Water Rights Division
Joe Foss Building
Pierre, SD 57501

Attn: John Hatch

Re: South Lincoln Rural Water

Dear Mr. Hatch:

South Lincoln Rural Water and City of Alcester would request that we be placed on the agenda of the March 4th, 1987, Water Management Board Meeting at 1:00 P.M.

As you are aware of Alcester dilemma with summer's flows approaching, we would like to ask the Board of Water Management to place us on the agenda in Chamberlain on March 26, 1987, special hearing.

Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Charles Kuehl".

Charles Kuehl
Chairman
South Lincoln Rural Water System, Inc.

CK:jls





SADDLE CREEK FARM, INC.

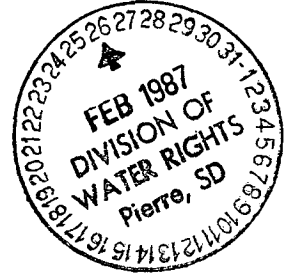
RT. 2 BOX 82

BERESFORD, SOUTH DAKOTA 57004

PHONE 372-4688 OR 372-4689

AREA CODE 605

February 24, 1987



Mr. John Hatch, Chief Engineer
Department of Water and Natural Resources
Water Rights Division
Joe Foss Building
Pierre, SD 57501-3181

Dear Mr. Hatch:

Re: Application #4300-3C
#5116-3

Your Notice dated February 19, 1987 indicates that you had received a Petition to Oppose and a request for continuance from the undersigned.

It would be appreciated if you would correct the record to show that the Petition and request was received from Saddle Creek Farm, Inc. and not from Samuel E. Sletten individually.

Sincerely,

Samuel E. Sletten
President

SES/ws

SOUTH DAKOTA
Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

February 24, 1987

Samuel and Wanda Sletten
Rt. 2, Box 82
Beresford, SD 57004

Dear Ms. Sletten:

I am writing to advise you that the South Lincoln Rural Water System will appear before the Water Management Board at 1:00 pm on March 4, 1987 to request a special Board meeting to consider Application Nos. 4300-3C and 5116-3. Petitioners may also participate in the request for a special Board meeting. Please contact us if you have any questions.

Sincerely,



Ron Duvall
Natural Resources Engineer

cc: Dennis McFarland → sent certified mail

PS Form 3811, Dec. 1980

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space
on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).

☒ Show to whom and date delivered —¢

☐ Show to whom, date, and address of delivery.. —¢

2. ☐ **RESTRICTED DELIVERY**

(The restricted delivery fee is charged in addition to
the return receipt fee.)

TOTAL \$

3. **ARTICLE ADDRESSED TO:**

Dennis McFarland, Attorney
505 W 9th St
Sioux Falls SD 57104

4. **TYPE OF SERVICE:**

☒ REGISTERED ☐ INSURED
☐ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER

P 321 925 672

(Always obtain signature of addressee or agent)

I have received the article described above:

SIGNATURE ☐ Addressee ☐ Authorized agent

5. **DATE OF DELIVERY** 2-25-87

POSTMARK

6. **ADDRESSEE'S ADDRESS** (Only if requested)

7. **UNABLE TO DELIVER BECAUSE:**

7a. **EMPLOYEE'S INITIALS**

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL.

**SOUTH Dakota Department of
Water & Natural Resources**

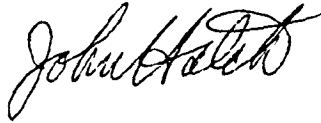
Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

March 6, 1987

NOTICE

TO: John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352



SUBJECT: Hearing on Water Permit Applications No. 4300-3C and
5116-3, South Lincoln Rural Water System

March 4, 1987 the Water Management Board granted a request by South Lincoln Rural Water System for a hearing on Water Permit Applications No. 4300-3C and 5116-3 prior to the scheduled May 6, 1987 meeting. The hearing on Applications No 4300-3C and 5116-3 will be in the Brule County Courthouse, Community Room, Chamberlain SD at 1:00 pm on March 26, 1987. Although the hearing on these applications is scheduled for 1:00 pm, this hearing may not start or be completed until March 27.

cc: Samuel E Sletten
Saddle Creek Farm, Inc.
Wanda Sletten
Friends of the Dakota Sandstone Aquifer
Dennis McFarland, Attorney
Michael Kezar, Finance Officer, City of Alcester

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Notice to Take
Deposition

TO: FRIENDS OF THE DAKOTA SANDSTONE AQUIFER and DENNIS C. MCFARLAND,
ITS ATTORNEY OF RECORD and SOUTH DAKOTA DEPARTMENT OF WATER AND
NATURAL RESOURCES, DIVISION OF WATER RIGHTS and DANIEL DOYLE, ITS
ATTORNEY OF RECORD

PLEASE TAKE NOTICE, that the Applicant South Lincoln Rural Water
System in the above-entitled action will take the testimony of the
following named witness at the time set forth opposite said witness's
name, on oral examination before a notary public, or some other
officer authorized by law to take depositions, in the office of
Masten, Myrabo & Irons, P.C., 108 S. Broadway, Canton, S.D. 57013, on
Wednesday, March 25, 1987, and thereafter from day to day as the taking
of the deposition may be adjourned, at which time and place you are
notified to appear and take such part in the examination as you shall
deem fit and proper:

(1) Berniece Miles	9:00 A.M.
(2) George Zahn	9:30 A.M.
(3) Joseph Tooley	9:45 A.M.
(4) Linus Miles	10:15 A.M.
(5) Renee Miller	11:00 A.M.

Said deposition will be taken pursuant to Rule 30, S.D. Rules of Civil Procedure, and is to be used for any purpose permitted under the South Dakota Rules of Civil Procedure.

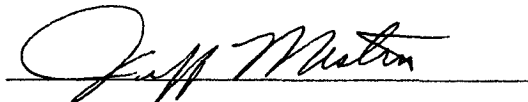
You are further notified pursuant to Rule 30(b), S.D.R.C.P., that a Subpoena Duces Tecum has been or will be served upon the above-named witnesses, requiring them to produce at their deposition for inspection and copying any and all of the following documents to which the witnesses may have access, or which may be in the possession, custody or control of the witnesses: All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the

maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

You are further notified pursuant to Rule 30(b), S.D.R.C.P., that a Subpoena Duces Tecum has been or will be served upon the above-named witnesses, requiring each of them to produce at their deposition for inspection and copying any and all of the following documents to which the witness may have access, or which may be in the possession, custody or control of the witness: All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records

containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

Dated this 16th day of March, 1987.

A handwritten signature in dark ink, appearing to read "Jeff Masten", is written over a horizontal line.

Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

Attorneys for South Lincoln
Rural Water System

FRIENDS OF DAKOTA SANDSTONE AQUIFER
Rt. 2 Box 82
Beresford, South Dakota 57004

March 16, 1987



Mr. John Hatch
Department of Water and Natural Resources
Water Rights Division
Joe Foss Building
Pierre, SD 57501

Dear John:

Re: Application #4300-3C
#5116-3

At the March, 1986 hearing on the South Lincoln Rural Water System request to amend their permit to remove the acre feet restriction, the members of the Water Management Board had not been given a copy of the DGR report which was part of the evidence to be considered by the members of the Board.

As a Petitioner to Oppose the above applications, we are requesting that the members of the Water Management Board receive, prior to the March 26, 1987 scheduled hearing on these applications, a copy of the following:

1. Feasibility Study and Water Source Identification for Alcester, South Dakota, 1986, as prepared by DeWild, Grant, Reckert and Associates.
2. Recommendations of Chief Engineer and Goodman reports on each of the above applications.
3. Letter dated January 23, 1987 from Charlie Kuehl, Chairman of SLRWS to the Department of Water and Natural Resources, together with attachments thereto.

We feel that this request will assist in expediting the hearing process and lessen the likelihood that the hearing will extend into Saturday, March 28, 1987.

Thank you for your consideration.

Sincerely,

Wanda J. Sletten
Secretary

cc: Dennis McFarland

South Dakota Department of
Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

March 20, 1987

Water Management Board:

Wanda Sletten, Secretary, Friends of Dakota Sandstone Aquifer, Petitioner to oppose Application No. 4300-3C and 5116-3, South Lincoln Rural Water System (SLRWS) has requested the following information be provided to the Water Management Board prior to the hearing March 26, 1987. Enclosed are:

1. Feasibility Study and Water Sources Identification for Alcester, 1986.
2. Chief engineer's recommendations and Goodman report for each application.

Mr. Irons, attorney for SLRWS agreed that the above two items could be sent to the Board prior to the March 26 meeting. A copy of a letter dated January 23, 1987 from Charlie Kuehl, Chairman of SLRWS with attachments will be provided at the time of the hearing.

Very truly yours,



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

cc: Wanda Sletten
Dennis McFarland, Attorney
Sam Sletten, Saddle Creek Farms
Eugene Irons, Attorney
Dan Doyle, Assistant Attorney General
John Guhin, Assistant Attorney General

**SOUTH Dakota Department of
Water & Natural Resources**

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

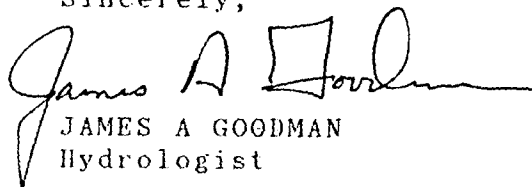
March 23, 1987

Wanda Sletten
Rt 2, Box 82
Beresford SD 57004

Dear Mrs. Sletten:

I am enclosing the water level records available for the continuous recorder well south of Worthing. The USGS indicated on the computer printout they sent me, that the recorder had malfunctioned and no data is available from May 1986 to October 1986. I called them this morning (March 23, 1987) to find out more details but the people who take care of the recorder were out of the office. I really do not know what happened. If they would let me know, I could have gotten the unit fixed or put one of ours on the well. Hopefully, they are getting data now and in any event we will start checking the well monthly like the rest of the wells.

Sincerely,


JAMES A GOODMAN
Hydrologist

enclosure

Lincoln

LN-79H

98N-50W-32AAAA 2

South Worthing

[illegible]

BEFORE THE STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application
of South Lincoln Rural Water
System for Water Right No. 4300-3C
and No. 5116-3

* * * * *

DEPOSITION OF
Linus Miles

* * * * *

APPEARANCES:

Mr. Jeff P. Masten
Masten, Myrabo and Irons, P.C.
Canton, South Dakota

Attorney for South Lincoln Rural
Water System.

Mr. Craig B. Sewell
Attorney at Law
Sioux Falls, South Dakota

Attorney for the City of Worthing and
Berniece Miles, George Zahn, Joseph
Tooley, Linus Miles and Renee Miller.

1 The deposition of Linus Miles was taken at this time
2 and place, that is, at the law offices of Masten, Myrabo and
3 Irons, P.C., Canton, South Dakota, on the 25th day of March,
4 1987, commencing at the hour of 10:30 a.m.; said deposition
5 taken before Carol Johnson, a Notary Public within and for
6 the State of South Dakota; said deposition taken pursuant to
7 notice.

8 *****

9 MR. MASTEN: Let the record show that this is the time
10 and place set in the notice of deposition that was served on
11 counsel of record in this matter, Dennis McFarland, and also
12 pursuant to subpoenas issued on Monday, March 23rd, to
13 Berniece Miles -- Berniece is spelled B-E-R-N-I-E-C-E --
14 George Zahn, Z-A-N -- or Z-A-H-N, Joseph Tooley, Linus Miles
15 and Renee Miller, directing them to appear at this time and
16 place for the purpose of taking their deposition in the
17 matter of the Application of South Lincoln Rural Water
18 System for Water Right Number 4300-3C and 5116-3. Since it
19 is pursuant to notice, I guess there is no stipulation with
20 regard to anything. It's taken pursuant to the rules.

21 MR. SEWELL: No stipulations on this one.

22 MR. MASTEN: Let the record further show that Mr. Sewell
23 is appearing today on behalf of --

24 MR. SEWELL: City of Worthing and each of the five named
25 individuals, which is the Town Board of Worthing, the five

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200 West 10th Street, Suite 208
Sioux Falls, SD 57102
(605) 338-8898

1 people Mr. Masten previously named.

2 MR. MASTEN: And that he has served a written objection
3 to inspection of copying in the matter of the subpoenas that
4 were served. You wanted to make a record, right, Craig?

5 MR. SEWELL: Yes, I wanted to make an additional record,
6 Jeff. We don't feel that the subpoenas that were served are
7 valid or enforceable or need to be adhered to at this point
8 in time for several reasons. I don't want to make the
9 record too lengthy, so I will incorporate -- I'm also
10 serving on you a motion to quash these subpoenas which may
11 be putting the cart ahead of the horse or something else, I
12 don't know, since we have nowhere to get a hearing on it.
13 But I'm incorporating each reason, there are Paragraphs 1
14 through 6 in that motion, as reasons why we do not feel the
15 subpoenas are enforceable.

16 They include, among other things, what we feel are some
17 technical defects pursuant to statute and that they were not
18 signed in the name of the presiding officer of the board,
19 the attorney -- or rather the party that you were
20 representing was not designated in the subpoenas and some
21 things of that nature. That also includes the reason that I
22 was not given notice. And you've been aware, as has your
23 client and Mr. McFarland, I represented these people, the
24 Town Board of Worthing, for over six years in all these
25 matters. We don't feel the notice was reasonable.

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200 West 10th Street, Suite 208
Sioux Falls, SD 57102
(605) 338-8898

1 Most of the records requested by you are either not in
2 the possession of the people you subpoenaed or nonexistent
3 at any rate. And, of course, furthermore, we're relying on
4 the written objections we filed. We're also objecting to
5 taking the subpoena at this time in that I think it's
6 questionable in an administrative matter, particularly with
7 the form the subpoenas were done in, whether, again, those
8 subpoenas are enforceable and whether you have the authority
9 to issue subpoenas in that fashion in an administrative
10 matter.

11 I'm going to object to the -- furthermore, we think it's
12 in violation of statute in that the person taking the record
13 here is an employee that works with your wife in the same
14 court reporting firm. And we think that, therefore, at
15 least within the technical sense of the statute, she has
16 an interest in these proceedings.

17 I guess that about covers it. I have produced here --
18 Linus Miles has come with me despite the fact -- I also
19 wanted to mention, I believe Berniece Miles' subpoena was
20 not signed, which we think makes it defective. I've
21 produced here Linus Miles who is, I guess, the water man for
22 the Town of Worthing at this point in most respects. The
23 other people you've subpoenaed, other than Mr. Tooley, have
24 really never had much involvement in these matters anyway,
25 but those -- I guess that neither goes here nor there to the

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(605) 338-8898

1 request that you take their deposition or its
2 enforceability.

3 Finally, I guess I'll add and then I'll shut up, that
4 we're objecting that it's unduly burdensome and oppressive
5 and quite frankly, we think you're doing this just to harass
6 the City of Worthing because you feel you've been harassed
7 by Mr. McFarland. I think they should be quashed for that
8 reason. And finally, that the information you're requesting
9 is not relevant in any fashion to South Lincoln's disputes
10 with FODSA over the diversion of this water.

11 MR. MASTEN: Let me inquire of you with respect to this
12 proceeding, have you made any appearance at all in the
13 currently pending matter before the Board, other than in
14 response to the subpoena here?

15 MR. SEWELL: I have not appeared before the Board.

16 MR. MASTEN: Do you intend to appear Thursday or Friday?

17 MR. SEWELL: Yes, I do.

18 MR. MASTEN: We noticed in the last newspaper published
19 by -- last issue of the Lennox newspaper that there was the
20 sum of \$500 appropriated by the City of Worthing to send
21 representatives to Chamberlain. Was that an appropriation
22 for the purpose of hiring you to go out to Chamberlain to
23 make an appearance on behalf of the City of Worthing?

24 MR. SEWELL: I probably don't have to answer that
25 question, but I will. No, it was not, to my knowledge

1 anyway. I was not privy to that meeting, but I don't
2 believe that was the purpose.

3 MR. MASTEN: Mark that as Miles Deposition Exhibit
4 Number 1.

5 (Miles Deposition Exhibit Number 1 marked for
6 identification.)

7 MR. MASTEN: Just for the purpose of the record in this
8 matter with regard to your representation, I'll show you
9 what's been marked as Miles Deposition Exhibit Number 1,
10 which is a copy of the Lennox Independent that we made
11 reference to, and I draw your attention to the paragraph
12 down here concerning Friends of the Dakota Sandstone
13 Aquifer. That wasn't for the purpose of retaining you to
14 represent them at the upcoming hearing on the fourth point
15 of diversion and the Alcester question, was it?

16 MR. SEWELL: Well, I guess at this time for the record
17 I'll have to say I don't know because I wasn't privy to that
18 meeting, so I can't speak for those people on that issue, I
19 guess.

20 MR. MASTEN: And I take it your clients are refusing to
21 appear and answer any questions relating to that warrant for
22 \$500?

23 MR. SEWELL: They are refusing to appear this morning at
24 the depositions for the reasons I've already stated. If
25 given correct subpoenas, properly noticed deposition and so

1 forth, pursuant to order of the authority in question, you
2 might get a different result and we might well be willing to
3 appear then and testify.

4 MR. MASTEN: Since Mr. Miles is here, I would like to
5 ask him a couple of questions if that would be okay with
6 you.

7 MR. SEWELL: Go ahead. Let me interpose any objections
8 before he answers.

9 LINUS MILES,
10 called as a witness, having been first duly sworn, testified
11 as follows:

12 EXAMINATION BY MR. MASTEN:

13 Q Do you have regular -- would you state your name, please.

14 A Linus Miles.

15 Q Okay. And Mr. Miles, are you regularly employed by the City
16 of Worthing?

17 A Yes.

18 Q Is that an 8:00 to 5:00 job or do you keep regular office
19 hours?

20 A Yes, it's from 7:30 in the morning until around 5:00.

21 Q What did you do -- what were you doing on Monday night?

22 A This last Monday night?

23 Q Right.

24 A Approximately what time?

25 Q After -- excuse me, after 5:00 o'clock.

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200 West 10th Street, Suite 208
Sioux Falls, SD 57102
(605) 338-8898

1 A I was home and had supper and dropped over to my mother's.
2 Q Okay. And then I presume that you went back home, is that
3 correct?

4 A Right.

5 Q And what time did you get back to your home?

6 A Around 7:45, 7:30.

7 Q And did you stay there for the balance --

8 A The remainder of the evening.

9 Q Okay. Was there anybody else home that evening?

10 A No.

11 Q Your wife?

12 A No, I'm not married.

13 Q Oh, okay. How about Tuesday night after 5:00 o'clock?

14 MR. SEWELL: I'm going to object at this time. I don't
15 -- I guess what I'm going to do is this, Jeff. We're
16 totally unhappy with this procedure and I'm going to object,
17 again, under statute that this is being done for purposes of
18 harassment and I'm going to insist under statute that we get
19 a ruling on a motion to continue these depositions before we
20 go any further.

21 MR. MASTEN: That's fine with me. We'll adjourn the
22 deposition then.

23 (Deposition adjourned.)
24
25

1 STATE OF SOUTH DAKOTA)

:SS

CERTIFICATE

2 COUNTY OF MINNEHAHA)

3
4 I, Carol Johnson, Court Reporter and Notary Public, do
5 hereby certify that the witness was first duly sworn by me
6 to testify to the truth, the whole truth and nothing but
7 the truth relative to the matter under consideration; that
8 the foregoing pages 1 - 8, inclusive, are a true and
9 correct transcript of my stenotype notes.

10 In testimony whereof, I have hereto set my hand and
11 official seal this 25th day of March, 1987.

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Carol Johnson
Carol Johnson


Dakotah Reporting Agency
200 West 10th Street, Suite 208
Sioux Falls, SD 57102
(605) 338-8898

swimming, and running.

Cindy Heyden is in her fifth year of teaching at Tea, currently the fifth grade. She has also taught 6th and 7th grade reading and science. She has been freshman girls' basketball coach, and assisted with volleyball.

From Inwood, Iowa and West Lyon school, Cindy went to USD one year and to Augustana where she earned a bachelor of arts degree in elementary education with a minor in coaching.

For the Lennox Education Association she has been on the instructional and professional de-

PUBLIC NOTICES

Minutes of the Worthing Town Board

The regular meeting of the Town Board of Worthing, SD was held on Monday evening, March 9, 1987 in the Community building at 7:00 p.m. Members present were George Zahn and Renee Miller. Absent was Joe Tooley. Treasurer's report was read and approved. Minutes of the last meeting were read and approved. Motion was made and seconded that the following warrants be issued:

N.S.P.	681.23
Dakota Co-op Telephone	32.41
Northwestern Bell	30.87
AT&T	4.38
Cengas	80.45
Jameson Shastad, Inc.	10.00
Friends of Dakota Sandstone	
Aquifer	500.00
Harold Henning	48.20
Lennox Independent	14.89
Linus Miles	
car use/mileage	78.38
Linus Miles	
wages	800.00
Sioux Falls Two-Way Radio	10.00
Matzen Implement, Inc.	67.12
First American Bank	
social security/withholding	555.07

Present at the meeting was Helen Groen, asking the Board how and who would be running the concessions stand in the park for the youth ball games this summer. The Board advised her that the operating of the concessions stand would be discussed at a later date.

Discussion by the Board was held on hiring of a part-time police. The matter will be discussed at a later date.

Motion made by George Zahn and seconded by Renee Miller to give a warrant of \$500.00 to Friends of Dakota Sandstone Aquifer to help send representatives to a water meeting in Pierre later in the month.

Street signs were also discussed, with some more estimates wanted on prices from the State Prison. Board to contact the prison on the estimates.

As there was no further business, the meeting adjourned, with the next meeting to be held on Monday evening, April 6, 1987, at 7:00 p.m. in the Community Building.

Berniece Miles
Finance Officer

NOTICE TO BIDDERS

Sealed bids will be received by the Board of Commissioners of Lincoln County, South Dakota, at their office in the Courthouse at Canton, South Dakota, until 2:00 p.m., on Tuesday, April 7, 1987, for nine and a half (9½) miles of one and one half (1½") mat overlay.

Kristi Roll is a fifth year of teaching at Tea, currently the fifth grade. She has also taught 6th and 7th grade reading and science. She has been freshman girls' basketball coach, and assisted with volleyball.

A Sioux Falls native, Kristi attended Augsburg College in Minneapolis one year and graduated from Augustana College in Sioux Falls with a double major in special education and elementary education.

Kristi is presently secretary of the Lennox Education Association and has served on the social and membership committees. For the district she has served on the computers committee.

Kristi is an associate Sunday school teacher at First Lutheran Church in Sioux Falls, is on a bowling league, belongs to PEO, and is a PTA member.

About school, Kristi says, "I enjoy getting to know the students and being involved in their learning progress."

Kristi has an eight-year-old daughter, Rebecca, and enjoys golfing, water and snow skiing, reading, and walking.

BYTES & BITS

Tim Wolf
Lincoln County
Agent
Canton, SD 57013
Ph. 987-2756

If you are contemplating using bin-run soybean seed from last year's crop, a germination and accelerated aging test is a very good idea. I have received some reports of poor germination on some seed. The combination of the germination plus the accelerated aging should give you an excellent idea of expected emergence of the seedlings in both and bad conditions. The mailing envelope and

There are some of the marketing picture are just possibilities Smith said. One is that elsewhere might develop in more demand for corn. Another is that Russia might chase a significant amount of corn on the export market.

Neither is very like South America has an "average" crop coming export market has not overall—but the U.S. market has also diminished.

Smith suggested that Roll could generate cents per bushel of corn selling it outright. "It's a process of putting your loan, redeeming it with futures, and then selling the cash market."

"These kinds of options are the best way to manage and we have to sell down some supplies. We sit on them."

As most of you know, cross-compliance rests on the farm program. What this means is that you may plant more oat acres than your established oat base, but you reap the benefits of the program.

To some of you this may make any difference—going to plant oats any other way, now you can plant oat acres. The oat market has been too bad this past fall, but demand for good weight oats remains good.

If you are thinking of some good clean certified oats, you had better get new hot varieties have dried up, although the some super performing still available.

Shop in MARION and SAVE

RAPP Chevrolet

Marion

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Mr. Goodwrench



GM QUALITY SERVICE PARTS



STATE OF SOUTH DAKOTA

IN _____ COURT

)
SS

COUNTY OF _____

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION SOUTH LINCOLN

RURAL WATER SYSTEM FOR WATER RIGHT NO. 4300-3C & NO. 5116-3

TO: Joseph Tooley

SHERIFF'S CERTIFICATE OF
PERSONAL SERVICE

STATE OF SOUTH DAKOTA

COUNTY OF LINCOLN

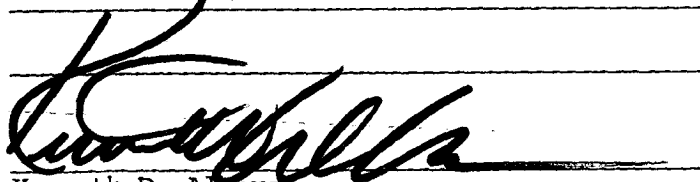
)
ss

I hereby certify and return that the annexed SUBPOENA DUCES TECUM

(with check attached for \$23.00 for witness & mileage fees)

came into my hands on the 23rd day of March, 19 87,

and I served the same on Joseph Tooley, personally, on the 23rd day
of March, 1987.



Kenneth D. Albers

Kenneth D. Albers
Sheriff, Lincoln County South Dakota

By: _____
Deputy Sheriff, Lincoln County

SHERIFF'S FEES:

SERVICE:

\$ 5.50

MILEAGE:

\$ 5.94

TOTAL

\$ 11.44

pl
3-24-87

STATE OF SOUTH DAKOTA

IN _____ COURT

COUNTY OF _____

)
SS
)

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION SOUTH LINCOLN

RURAL WATER SYSTEM FOR WATER RIGHT NO. 4300-30 & NO. 5116-3

TO: Renee Miller

SHERIFF'S CERTIFICATE OF
PERSONAL SERVICE

STATE OF SOUTH DAKOTA
COUNTY OF LINCOLN

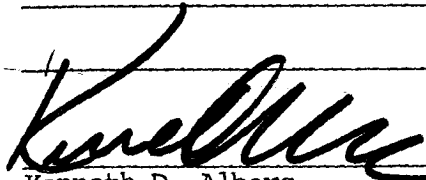
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ss
)

I hereby certify and return that the annexed SUBPOENA DUCES TECUM

(with check attached for \$23.00 for witness & mileage fees)

came into my hands on the 23rd day of March, 19 87,

and I served the same on Renee Miller, personally, on the 23rd day of
March, 1987.


Kenneth D. Albers
Sheriff, Lincoln County South Dakota

Kenneth D. Albers

By: _____
Deputy Sheriff, Lincoln County

SHERIFF'S FEES:

SERVICE:

\$ 5.50

MILEAGE:

\$ 5.94

TOTAL

\$ 11.44

pd
3-24-87

STATE OF SOUTH DAKOTA

IN _____ COURT

)
SS

COUNTY OF _____)

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION SOUTH LINCOLN

RURAL WATER SYSTEM FOR WATER RIGHT NO. 4300-3C & NO. 5116-3

TO: Berniece Miles

SHERIFF'S CERTIFICATE OF
PERSONAL SERVICE

STATE OF SOUTH DAKOTA

COUNTY OF LINCOLN

)
ss

I hereby certify and return that the annexed SUBPOENA DUCES TECUM

(with check attached for \$23.00 for witness & mileage fees)

came into my hands on the 23rd day of March, 19 87,

and I served the same on Berniece Miles, personally, on the 23rd day
of March, 1987.

Kenneth D. Albers

Kenneth D. Albers
Sheriff, Lincoln County South Dakota

By:

Darrell Nelson

Deputy Sheriff, Lincoln County

SHERIFF'S FEES:

SERVICE:

\$ 5.50

MILEAGE:

\$ 5.94

TOTAL

\$ 11.44

FD
3-24-87

STATE OF SOUTH DAKOTA

IN _____ COURT

COUNTY OF _____

)
SS
)

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION SOUTH LINCOLN

RURAL WATER SYSTEM FOR WATER RIGHT NO. 4300-3C & No. 5116-3

TO: Linus Miles

SHERIFF'S CERTIFICATE OF
PERSONAL SERVICE

STATE OF SOUTH DAKOTA
COUNTY OF LINCOLN

)
ss
)

I hereby certify and return that the annexed SUBPOENA DUCES TECUM
(with check attached for \$23.00 for witness & mileage fees)

came into my hands on the 23rd day of March, 19 87,
and I served the same on Linus Miles, personally, on the 23rd day of
March, 1987.

Kenneth D. Albers
Kenneth D. Albers
Sheriff, Lincoln County South Dakota

By: Darrell Nelson Deputy Sheriff, Lincoln County

SHERIFF'S FEES:

SERVICE:

\$ 5.50

MILEAGE:

\$ 5.94

TOTAL

\$ 11.44

PD
3-24-87

STATE OF SOUTH DAKOTA

IN _____ COURT

COUNTY OF _____

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATION SOUTH LINCOLN

RURAL WATER SYSTEM FOR WATER RIGHT NO. 4300-3C & NO. 5116-3

TO: George Zahn

SHERIFF'S CERTIFICATE OF
PERSONAL SERVICE

STATE OF SOUTH DAKOTA
COUNTY OF LINCOLN

)
) ss

I hereby certify and return that the annexed SUBPOENA DUCES TECUM

(with check attached for \$23.00 for witness & mileage fees)

came into my hands on the 23rd day of March, 19 87,

and I served the same on George Zahn, personally, on the 23rd day of
March, 1987.

Kenneth D. Albers

Kenneth D. Albers
Sheriff, Lincoln County South Dakota

By:

Darrell Nelson

Deputy Sheriff, Lincoln County

SHERIFF'S FEES:

SERVICE:

\$ 5.50

MILEAGE:

\$ 5.94

TOTAL

\$ 11.44

pd
3-24-87

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Subpoena Duces Tecum

THE STATE OF SOUTH DAKOTA TO **Linus Miles**, GREETINGS:

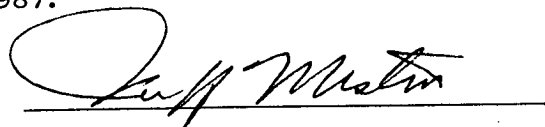
YOU ARE HEREBY ordered to appear and attend the taking of your deposition before a notary public or some other officer authorized by law to take depositions at the offices of Masten, Myrabo & Irons, P.C. located at 108 S. Broadway, in the City of Canton, Lincoln County, South Dakota, on the 25th day of March, 1987, commencing at the hour of 10:15 A.M. of that day, then and there to testify in the above-entitled matter.

You are further ordered to bring with you and then and there produce for inspection and copying any and all of the following documents to which you, your agents or attorneys may have access, or which may be in the possession, custody or control of you, your agents or attorneys:

All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records

containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

Dated this 23rd day of March, 1987.



Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Subpoena Duces Tecum

THE STATE OF SOUTH DAKOTA TO Renee Miller, GREETINGS:

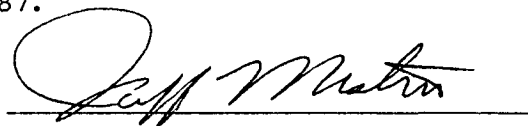
YOU ARE HEREBY ordered to appear and attend the taking of your deposition before a notary public or some other officer authorized by law to take depositions at the offices of Masten, Myrabo & Irons, P.C. located at 108 S. Broadway, in the City of Canton, Lincoln County, South Dakota, on the 25th day of March, 1987, commencing at the hour of 11:00 A.M. of that day, then and there to testify in the above-entitled matter.

You are further ordered to bring with you and then and there produce for inspection and copying any and all of the following documents to which you, your agents or attorneys may have access, or which may be in the possession, custody or control of you, your agents or attorneys:

All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records

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Dated this 23rd day of March, 1987.

A handwritten signature in dark ink, appearing to read "Jeff Masten", is written over a horizontal line.

Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Subpoena Duces Tecum

THE STATE OF SOUTH DAKOTA TO Joseph Tooley, GREETINGS:

YOU ARE HEREBY ordered to appear and attend the taking of your deposition before a notary public or some other officer authorized by law to take depositions at the offices of Masten, Myrabo & Irons, P.C. located at 108 S. Broadway, in the City of Canton, Lincoln County, South Dakota, on the 25th day of March, 1987, commencing at the hour of 9:45 A.M. of that day, then and there to testify in the above-entitled matter.

You are further ordered to bring with you and then and there produce for inspection and copying any and all of the following documents to which you, your agents or attorneys may have access, or which may be in the possession, custody or control of you, your agents or attorneys:

All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records

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Dated this 23rd day of March, 1987.



Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Subpoena Duces Tecum

THE STATE OF SOUTH DAKOTA TO George Zahn, GREETINGS:

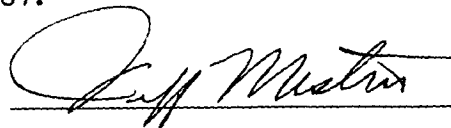
YOU ARE HEREBY ordered to appear and attend the taking of your deposition before a notary public or some other officer authorized by law to take depositions at the offices of Masten, Myrabo & Irons, P.C. located at 108 S. Broadway, in the City of Canton, Lincoln County, South Dakota, on the 25th day of March, 1987, commencing at the hour of 9:30 A.M. of that day, then and there to testify in the above-entitled matter.

You are further ordered to bring with you and then and there produce for inspection and copying any and all of the following documents to which you, your agents or attorneys may have access, or which may be in the possession, custody or control of you, your agents or attorneys:

All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records

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Dated this 23rd day of March, 1987.



Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Subpoena Duces Tecum

THE STATE OF SOUTH DAKOTA TO Berniece Miles, GREETINGS:

YOU ARE HEREBY ordered to appear and attend the taking of your deposition before a notary public or some other officer authorized by law to take depositions at the offices of Masten, Myrabo & Irons, P.C. located at 108 S. Broadway, in the City of Canton, Lincoln County, South Dakota, on the 25th day of March, 1987, commencing at the hour of 9:00 A.M. of that day, then and there to testify in the above-entitled matter.

You are further ordered to bring with you and then and there produce for inspection and copying any and all of the following documents to which you, your agents or attorneys may have access, or which may be in the possession, custody or control of you, your agents or attorneys:

All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records

containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

Dated this 23rd day of March, 1987.

Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

STATE OF SOUTH DAKOTA
WATER MANAGEMENT BOARD

In the Matter of the Application South
Lincoln Rural Water System
for Water Right No. 4300-3C and
No. 5116-3,

Notice to Take
Deposition

TO: FRIENDS OF THE DAKOTA SANDSTONE AQUIFER and DENNIS C. MCFARLAND,
ITS ATTORNEY OF RECORD and SOUTH DAKOTA DEPARTMENT OF WATER AND
NATURAL RESOURCES, DIVISION OF WATER RIGHTS and DANIEL DOYLE, ITS
ATTORNEY OF RECORD

PLEASE TAKE NOTICE, that the Applicant South Lincoln Rural Water
System in the above-entitled action will take the testimony of the
following named witness at the time set forth opposite said witness's
name, on oral examination before a notary public, or some other
officer authorized by law to take depositions, in the office of
Masten, Myrabo & Irons, P.C., 108 S. Broadway, Canton, S.D. 57013, on
Wednesday, March 25, 1987, and thereafter from day to day as the taking
of the deposition may be adjourned, at which time and place you are
notified to appear and take such part in the examination as you shall
deem fit and proper:

(1) Berniece Miles	9:00 A.M.
(2) George Zahn	9:30 A.M.
(3) Joseph Tooley	9:45 A.M.
(4) Linus Miles	10:15 A.M.
(5) Renee Miller	11:00 A.M.

Said deposition will be taken pursuant to Rule 30, S.D. Rules of Civil Procedure, and is to be used for any purpose permitted under the South Dakota Rules of Civil Procedure.

You are further notified pursuant to Rule 30(b), S.D.R.C.P., that a Subpoena Duces Tecum has been or will be served upon the above-named witnesses, requiring them to produce at their deposition for inspection and copying any and all of the following documents to which the witnesses may have access, or which may be in the possession, custody or control of the witnesses: All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the

maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

You are further notified pursuant to Rule 30(b), S.D.R.C.P., that a Subpoena Duces Tecum has been or will be served upon the above-named witnesses, requiring each of them to produce at their deposition for inspection and copying any and all of the following documents to which the witness may have access, or which may be in the possession, custody or control of the witness: All documents indicating the certification level of the water treatment and the water distribution operators for the City of Worthing, all documents or records containing water loss data for the City of Worthing water distribution system for the operating years 1979 through 1986, both dates inclusive; all documents or records containing the data necessary to establish the total gallons pumped monthly and annually for the operating year 1986; all documents or records containing the number of customers billed each month for the years 1979 through 1986, both dates inclusive; all documents or records containing the average gallons billed to each customer for each month for the years 1979 through 1986; all documents or records containing the water level data for wells owned or operated by the City of Worthing for the years 1979 through 1986, both dates inclusive; all documents or records

containing the legal description of each well owned by the City of Worthing and copies of any permit issued to the City of Worthing relating to the wells or withdrawal of water from any source by the State of South Dakota; all documents or records of the amount of water used for either flushing the water main lines, or used in the maintenance of the water distribution system operated by the City of Worthing; all documents, records or other tangible evidence or publications, notices or correspondence between the named witnesses or the City of Worthing and a group known as the Friends of Dakota Sandstone Aquifer including copies of vouchers, checks or other financial instruments through which the witnesses or the City of Worthing have paid to or on behalf of said Friends of Dakota Sandstone Aquifer any amount of money or public funds for any purpose whatsoever.

Dated this 16th day of March, 1987.



Jeff Masten
Masten, Myrabo & Irons, P.C.
108 S. Broadway
Canton, S.D. 57013
(605) 987-4351

Attorneys for South Lincoln
Rural Water System



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 1, 1987

NOTICE

TO: John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

A handwritten signature in black ink, appearing to read "John Hatch", written over the typed name and title.

SUBJECT: Preparation of Findings of Fact, Conclusions of Law and
Final Decision

The Water Management Board has directed Mr. Guhin, the Board's attorney to prepare proposed Findings of Fact, Conclusions of Law and a Final Decision on approval of Water Permit Applications No. 4300-3C and 5116-3, South Lincoln Rural Water System. The Board will consider the proposed Findings, Conclusions and Final Decision at 3:15 pm, May 6, 1987, Room 216, Joe Foss Building, Pierre SD.

The Board has requested that a copy of the proposed Findings, Conclusions and Final Decision be mailed to the Board and other interested parties by April 16, 1987. Any comments pertaining to the proposed Findings, Conclusions and Decision are to be mailed to the Board and other interested parties by April 24, 1987.

The public hearing on approval of Water Permit Applications No. 4300-3C and 5116-3, South Lincoln Rural Water System was completed March 27, 1987. No additional testimony will be received on May 6, 1987.

cc: Dennis McFarland, Attorney
Jeff Masten, Attorney
John Guhin, Assistant Attorney General
Daniel Doyle, Assistant Attorney General



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

April 30, 1987

TO: John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

A handwritten signature in dark ink, appearing to read "John Hatch". The signature is written in a cursive, flowing style.

SUBJECT: Findings of Fact, Conclusions of Law and Final Decision

The Findings of Fact, Conclusions of Law and ~~Final~~ Decision for Water Permit Application Nos. 4300-3C and 5116-3, South Lincoln Rural Water System will be considered at 3:15 pm, May 6, 1987 not 2:15 pm as stated in John Guhin's Memorandum dated April 16, 1987.

cc: Dennis McFarland, Attorney
Jeff Masten, Attorney
John Guhin, Assistant Attorney General
Daniel Doyle, Assistant Attorney General



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

May 22, 1987

NOTICE

TO: John Sievers, Manager
South Lincoln Rural Water System
PO Box 155
Canton SD 57013

FROM: John Hatch, Chief Engineer
Water Rights Division
605 773-3352

A handwritten signature in cursive script that reads "John Hatch".

SUBJECT: Findings of Fact, Conclusions of Law and Final Decision

This is to notify you that a Final Decision including Findings of Fact, Conclusions of Law were adopted by the Water Management Board for approval of Water Permit Applications No. 4300-3C and 5116-3, South Lincoln Rural Water System which was considered at the May 6, 1987 meeting.

A copy of the Final Decision, Findings and Conclusions are enclosed. South Dakota Statutes provide that the decisions of the Board may be appealed to the Courts.

cc: Dennis McFarland, Attorney
Jeff Masten, Attorney
Wanda Sletten, Friends of the Dakota Sandstone Aquifer

STATE OF SOUTH DAKOTA

BEFORE THE WATER MANAGEMENT BOARD

IN THE MATTER OF THE APPLICATIONS	)	FINDINGS OF FACT,
FOR WATER PERMIT NO. 4300-3C AND	)	CONCLUSIONS OF LAW
WATER PERMIT NO. 5116-3 FOR SOUTH	)	AND FINAL DECISIONS
LINCOLN RURAL WATER SYSTEM	)	

FINDINGS OF FACT

1. On February 3, 1979, the South Lincoln Rural Water System (SLRWS) was granted Water Permit No. 4300-3. The permit was for 2 c.f.s. of groundwater from three wells for a rural water system.

2. The permit was granted subject to several conditions as follows:

"I. The annual withdrawal [is] limited to 455 acre feet and . . . the total withdrawal is subject to review and adjustment by the Water Rights Commission.

II. Before any water is used, all proposed wells must installed at least 2-1/2 miles apart, with all three wells ready for pumping prior to any use of water.

III. The system install one observation well into the upper layer of the Dakota Formation about 200 feet from each production well to be used for monitoring drawdown near the production well.

IV. The rural water system wells approved under this permit will be located near domestic

wells which may obtain water from the same aquifer. The rural water system under this permit shall control its withdrawals, to protect needed water supplies in adequate domestic wells or in wells having prior water rights.

Withdrawals will be restricted, if the aquifer head pressure declines 20 feet at designated measuring points during a four year period, beginning with the date the first water is pumped into distribution system. The head pressure decline to be determined by using an average of three of the seven proposed observation wells located at least 2 miles from one or more production wells. The lowest measurements, to be based upon an average of each observation well measurements taken over a three month period, will be used in determining head pressure decline.

- V. If the aquifer head pressure does decline more than 20 feet in the four year period, or if observation well measurement data indicates the 20 foot head pressure decline level would be reached in the four year period, the rural water system upon order of

the Commission will have to change to a new source of water.

VI. No wells shall be located within 1,300 feet of existing Dakota Formation wells unless waived by the well owner.

VII. The Davis area well field shall be developed and placed on line prior to pumping from any Dakota Formation wells."

3. The grant of the permit was sustained in both the Circuit Court and the South Dakota Supreme Court.

4. SLRWS subsequently applied for an amended permit. This was known as Water Permit No. 4300-3A. The application requested relief from Conditions II and VII of Water Permit No. 4300-3 and asked for a change in the point of diversion of well no. 3. The Board on November 20, 1980, approved the application by granting relief from Condition II "subject to the limitation that there be an annual withdrawal restriction of 304 acre feet until the third well is put on line." The Board likewise granted relief as to Condition VII by "deleting the words 'placed on line prior to any pumping from the Dakota well' and substituting the words 'therein be fully operational by November 1, 1981.'" The Board deferred action on the change in location of well no. 3.

5. Water Permit No. 4300-3A therefore constituted a modification of Permit No. 4300-3. The

Board's decision declared that a new set of qualifications "superseded the previous qualifications" as follows:

1. That the system be limited to an annual withdrawal of 455 acre-feet and that the total withdrawal be subject to review by the Board;
2. The system can be pumped with the two wells already completed, if annual withdrawal restrictions are limited to 304 acre feet until the 3rd well is developed and put on line (approved September 25, 1980 - Findings of Fact, Conclusions of Law approved November 20, 1980); spacing between wells must be at least 2-1/2 miles;
3. That the rural water system wells approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The rural water system under this Permit shall control its withdrawals, to protect needed water supplies in adequate domestic wells or in wells having prior water rights;

Withdrawals will be restricted, if the aquifer head pressure declines 20 feet at designated measuring points during a four year period, beginning with the date the first water is pumped into distribution

system. The head pressure decline to be determined by using an average of three of the seven proposed observation wells located at least two miles from one or more production wells. The lowest measurements, to be based upon an average of each observation well measurements taken over a three month period, will be used in determining head pressure decline;

4. If the aquifer head pressure does decline more than 20 feet in the four year period, or if observation well measurement data indicates the 20 foot head pressure decline level would be reached in the four year period, the rural water system upon order of the Board will have to change to a new source of water;
5. That no wells be located within 1,300 feet of existing Dakota Formation wells unless waived by the well owner;
6. That the Davis area well field be developed and therein be fully operational by November 1, 1981.

Priority for this Permit No. 4300-3A is established under Water Permit No. 4300-3.

6. SLRWS on January 26, 1981, again requested relief from the Davis Well Field qualification (Condition

No. VII in Water Permit No. 4300-3 and Condition No. 6 in Water Permit No. 4300-3A); SLRWS also requested relief from the qualification regarding observation wells (Condition No. III of Water Permit No. 4300-3). The Board denied relief from the Davis Well Field qualification. (The Board, however, purported to grant relief from the requirement for certain observation wells contained in Condition No. III to Water Permit No. 4300-3. The conditions attached to Water Permit No. 4300-3A, however, by their own terms, superseded any conditions on 4300-3; the conditions on 4300-3A did not include reference to the need for observation wells. Thus the effect of the Board's decision was simply to affirm what it had already accomplished by granting Permit No. 4300-3A with the new conditions.) The Board's decision as to the Davis Well Field was appealed to the Circuit Court which affirmed the Board action by Memorandum Decision dated June 19, 1981.

7. On September 26, 1985, SLRWS applied for a second amended permit known as Water Permit No. 4300-3B. This application requested the deletion of Condition No. 1 on 4300-3 and Condition No. 1 to 4300-3A; those Conditions set out the 455 acre feet limitation on the quantity of water which might be used. The Board granted the application. It held the following:

The application for Water Permit No. 4300-3B is granted. The maximum flow rate under this permit is 1.44 c.f.s. The maximum annual use is 593 acre

feet, that being the difference between the water now permitted under 4300-3 and 4300-3A (455 acre feet) and 1048 acre feet.

The Conditions applicable to 4300-3, 4300-3A and 4300-3B are as follows:

1. That the South Lincoln Rural Water System report to the chief engineer annually the amount of water withdrawn each year.
2. That the rural water system wells approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The rural water system, under this permit, shall control its withdrawals so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

8. The SLRWS has now requested two additional permits as follows. The application for Permit No. 4300-3C would allow SLRWS to serve the city of Alcester from its permitted system. This application would not allow any additional diversion rate or any additional water over the 1048 acre feet now allowed to SLRWS under existing permits. The application is made necessary by virtue of ARSD 74:02:01:03.01.

9. The application for Water Permit No. 5116-3 proposes to divert and place to beneficial use .67 c.f.s.

(300 gallons per minute) of water now reserved by SLRWS Future Use Permit No. 4817-3. The proposed project is for construction of one well approximately 650 deep in the Dakota Formation. The permit does not request an increase over the annual maximum withdrawal of 1048 acre feet now authorized by permits no. 4300-3, 4300-3A, and 4300-3B.

9A. Findings of Fact 10 to 16 apply most particularly to Permit No. 4300-3C to add Alcester to SLRWS. Findings of Fact 17 to 57 apply most particularly to the SLRWS application to add an additional well. Each finding, however, applies to both permits so far as relevant.

ALCESTER ISSUE NO. 10

10. The present supply of water for the city of Alcester is shallow wells. The well waters of the city are currently threatened by a high nitrate level. A high nitrate level can cause serious injury or death, especially to children. The evidence indicates that the high nitrate level in the wells may be caused by the Alcester dump.

11. The city of Alcester also faces increased contamination of its wells by pesticides. The pesticides also pose a hazard to the health of the Alcester residents. The evidence indicates that the fertilizer plant in Alcester may contribute to or cause the problem.

12. The city of Alcester considered two options beyond that of using the SLRWS water - shallow wells and deep wells.

13. Shallow wells which lie in the direction of the groundwater which flows from the dump or the fertilizer plant areas are not practicable as water from such wells may be subject to contamination. Shallow wells to the east of the city do not appear to be practical because of the absence of a substantial sand layer as revealed by test holes.

14. Deep wells do not appear to be practical, in monetary terms, because the cost of the deep wells would substantially exceed the cost of hookup to the SLRWS system to Alcester. The Board finds, in this connection, that the use of the purchase cost of \$1.25 per thousand for water purchased from SLRWS was proper because this is the amount stated in the contract of SLRWS with Alcester.

15. The use of water by SLRWS to supply Alcester is a beneficial use and is in the public interest.

16. The city can be added to the SLRWS system without unlawful impairment of existing rights. This finding is valid whether or not the additional well requested by Application 5116-3 is allowed by the Board.

ADDITIONAL WELL

17. Under the application for Water Permit No. 5116-3 SLRWS seeks to add an additional 650 foot Dakota Formation well to its system. The diversion rate sought is .67 c.f.s. The diversion is sought under SLRWS's Future Use Permit No. 4817-3. The applicant does not seek to increase

the total volume of water available to it under previous permits; that volume is 1048 acre feet per year.

18. Because the applicant does not seek a volume of water beyond the 1048 acre feet to which it is entitled now under the existing permits, it may not be necessary to determine whether water is available. Nonetheless, to the extent that additional water will be used because of the addition of Alcester to the SLRWS, and the additional diversion rate, the Board finds that such water is available. Specifically, the Board finds that although the rate of recharge of the Dakota Formation is not known, the Dakota Formation wells brought to the attention of the Board are stabilizing. Moreover, there is no evidence that pumping by South Lincoln Rural Water System has appreciably affected the quality of water available to other users of water in the Dakota Formation. Finally, the aquifer in which the pumping will occur contains over 4 million acre feet of recoverable water in Lincoln County alone.

19. It is mandated under both the "beneficial use" requirement and the "public interest" requirement that an applicant have a use for the water it seeks.

20. Because the applicant seeks an additional diversion point and an additional rate of diversion, it is necessary to determine if the applicant has the need for the new point and rate. Applicant states that it will employ the new well to supply water to the system in the event of a well breakdown especially during peak demand.

21. The present pumping rate of the three on-line SLRWS wells is 300 gallons per minute, 340 gallons per minute, and 55 gallons per minute.

22. Repairs to a pump in a well can take a substantial period of time - some repairs can take more than a week.

23. Water use varies substantially. During periods of high temperature, water use in cities will rise two and one-half times that of an average day. This is called a "peak" period. Water use will also rise or peak during periods of high temperature in rural areas, reflecting increased consumption of water by livestock at pasture taps and otherwise; high temperatures in rural areas will likewise increase human consumption. Water use will also peak when farmers are engaged in fertilization or application of any water treated chemical, regardless of the temperature.

24. In the event of a shutdown of a 300 gallon per minute SLRWS well for a week during a peak period, the SLRWS system would be unable to handle the load it now handles.

25. In the event that the city of Alcester is added to the system, the SLRWS system would not be able to handle its load after a period of two days if it lost a 300 gallons per minute well.

26. At present the use of the wells is not constant; that is, only one, two or three wells will be used at one time while the remainder of the wells are at rest.

27. The well proposed by this permit would be put in rotation with the other wells. The result of putting the fourth well in routine use would be that the magnitude of the drawdown of the three remaining wells would decline.

28. The applicant has demonstrated that it has a use for the new diversion rate and point it seeks thus satisfying in that respect the "beneficial use" and "public interest" requirements.

29. The opponents to the permit have correctly stated that the Board has previously required production wells to be two and one-half miles from each other with regard to the SLRWS permits.

30. The diversion point for the proposed well is approximately one and one-half miles south of the SLRWS existing Well No. 2.

31. The original spacing requirement of two and one-half miles was not dictated by any rule of hydrology or geology. It is not necessarily better to space production wells two and one-half miles from each another. The two and one-half mile requirement was a result of the perception of the Board that the geology and hydrology of the aquifer was relatively little known and that the requirement would satisfy all interested parties.

32. The hydrology of the area is now better known than it was when the two and one-half mile requirement was imposed. There are a total of 37 monitoring wells in the aquifer. The Derrick Iles study has been published on the Dakota Formation; this study specifically considers an area which ends about two miles from the area of the new wells but the same aquifer was, of course, studied. Additionally, there are six monitoring wells actually in the area of the proposed well. The studies reveal that there is substantially more water in the formation than was believed at the time the two and one-half mile requirement was imposed.

33. The opponents of the permit have not shown any harm to them from the placement of production wells two and one-half miles from each other.

34. The placement of production wells at a distance of one and one-half miles from each other has not been demonstrated to be contrary to the public interest.

35. The opponents have also challenged the use of additional water to supply Alcester on the grounds that it will increase the use of better quality water which now exists in this area of the Dakota Formation. The water to be used dates approximately from the pleistocene era and is about 30 to 40 thousand years old. The recharge entering the area has a higher dissolved mineral content than the water now used by SLRWS. The question of whether to use the water in the aquifer for a specific need, i.e., to supply

Alcester and the remainder of the SLRWS system, or to let the water remain unused for an uncertain purpose presents a question of the public interest. The Board finds that the public interest is better served by allowing SLRWS to utilize the water to relieve the problems of Alcester and to supply rural and other customers than to allow the water to remain unused into the indefinite future.

36. A domestic user, Saddle Creek Farm, owns a well which is located about 1,000 feet from the proposed production well.

37. The 1,000 feet distance is closer than the 1,300 feet distance requirement previously imposed for a production well from a domestic well.

38. There is no particular hydrologic or geologic reason that a production well should be 1,300 feet from a domestic well.

39. The adoption of the 1,300 feet limit in the earlier Board decision was the result of the Board's perception that the area had been subject to only limited study and that all interests could be reasonably satisfied by imposing the 1,300 feet limitation.

40. As noted above, the area has now been more thoroughly studied.

41. The 1,300 feet limit was not intended to and did not set a precedent which was binding on the Board in future cases especially after further study.

42. There is at least one domestic well which is now located about 300 feet from a SLRWS production well. That well is owned by Duane Thomas. SLRWS is obligated to supply water free of charge to Thomas should he have a shortage. Thomas maintains a farm in the area of the well. Thomas has not, in the last five years, requested such water service.

43. The public interest would not be served by maintaining the 1,300 foot limit for the distance between production wells and domestic wells or in maintaining the two and one-half mile limit between production wells.

44. There are two additional separate requirements in dealing with domestic wells. First, a new well cannot interfere with an adequate domestic well. (An adequate domestic well is one in which the inlet to the pump can be placed, if necessary, not less than 20 feet into the saturated aquifer or formation.)

45. The Saddle Creek Farm well is an adequate domestic well. The opponents to the permit have not charged that the use of the new production well will prevent the Saddle Creek well from obtaining water if the well inlet is lowered into the aquifer.

46. Second, domestic well owners, and others, sometimes rely on artesian head pressure. Artesian head pressure operates so that when a well is drilled into a formation with such head pressure, water will rise from the formation under its own force for some distance into the

well. In the case of the Dakota, the top of the formation is about 400 to 450 feet below the land surface. When a well is drilled into the Dakota, water will rise to about 100 to 200 feet below the land surface. The result is that the domestic well owner will not have to pump the water up the full 400 to 450 feet but only has to pump the well 150 to 250 feet.

47. When water in a formation under artesian head pressure is used, the level of the water will necessarily be subject to fluctuations when surrounding wells are pumped. The water in the domestic well will be subject, in other words, to "influence" from the pumping of other wells.

48. The amount of water available to the public if artesian head pressure is relied upon exclusively will be quite small compared to the case of when well users must pump their water from the aquifer formation itself.

49. The Water Management Board is not required by law to protect artesian head pressure for use of the domestic well owner but must consider the effect of a limitation or loss of artesian head pressure under the public interest requirement.

50. The inlet to the Saddle Creek well is set at 250 feet. The Saddle Creek well can be lowered to 501 feet. The Saddle Creek well is an adequate well which relies on head pressure.

51. It has been estimated that the head pressure will decline, at a maximum, around 30-40 feet in the Saddle

Creek well as a result of the pumping of the new well. Water will continue to be available to the Saddle Creek well; the water will be under artesian head pressure, though it will be less, during some periods of time, than before.

52. No party has made an estimate of the increased cost to the Saddle Creek well assuming the maximum drawdown is 30-40 feet or assuming any other maximum drawdown.

53. There is a high value to the public in supplying water to the South Lincoln Rural Water System. The system has deep wells which provide a reliable source of water to a large number of persons and the wells are relatively free from the danger of contamination. Furthermore, the wells may provide relief to Alcester from a serious water contamination problem.

54. The Board also recognizes the value to Saddle Creek Farm of artesian head pressure.

55. The location of the proposed well is near the SLRWS headquarters and so will be convenient to it for maintenance and repair.

56. The public interest would be better served by allowing SLRWS to drill and use a well near its headquarters than to preserve 100 percent of the artesian head pressure which now exists in this case.

57. The formation from which water will be taken, the Dakota Formation, is lower than the Green Horn Formation.

CONCLUSIONS OF LAW

1. The Board has jurisdiction over this matter.
2. All notices required by constitutional and statutory law have been given.
3. Because the Dakota Formation is lower than the Greenhorn Formation and because SLRWS is a nonprofit water supply company, it is unnecessary for the Board to make a determination regarding the rate of annual recharge as otherwise would be required by SDCL 46-6-3.1.
4. With regard to the application for Water Permit No. 4300-3C, the Board concludes that:
 - (a) The city of Alcester can be added to the South Lincoln Rural Water System distribution system without unlawful impairment of existing rights, including those of domestic user Saddle Creek Farms;
 - (b) The proposed use of water by the system for the city is a beneficial use; and
 - (c) While it is not ordinarily necessary for an applicant to demonstrate that his proposed method of obtaining water is more desirable than other methods, it may be possible to raise this issue under the public interest umbrella. To the extent that this is

permissible, the Board finds that the South Lincoln Rural Water System is the most desirable source of water for Alcester, and that the application is, in this respect, in the public interest. Moreover, the Board finds that considering all factors and challenges, the proposed use is in the public interest.

- (d) There is a reasonable probability that unappropriated water is available to fulfill the applicant's proposed use.

5. With regard to the application for Water Permit No. 5116-3, the Board concludes:

- (a) The proposed diversion of 300 gallons per minute or .67 c.f.s. can be developed without impairment of existing rights;
- (b) The proposed use is a beneficial use; and
- (c) The proposed use is in the public interest.
- (d) There is a reasonable probability that unappropriated water is available to fulfill the applicant's proposed use.
- (e) The priority date for the .67 c.f.s. is established by Future Use Permit 4817-3 and the water available under the Future Use Permit is herewith decreased by the .67 c.f.s.

FINAL DECISION WITH REGARD TO THE APPLICATION FOR
WATER PERMIT NO. 4300-3C

The application for Water Permit No. 4300-3C to add the city of Alcester to the South Lincoln Rural Water System is granted with the following qualifications:

1. That the South Lincoln Rural Water System report to the Chief Engineer annually the amount of water withdrawn each year.
2. That the rural water system well used to supply this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The rural water system under this permit shall control its withdrawals so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

FINAL DECISION WITH REGARD TO THE APPLICATION FOR
WATER PERMIT NO. 5116-3

The application for Water Permit No. 5116-3 to add a new well is granted with the following qualifications:

1. That the South Lincoln Rural Water System report to the Chief Engineer annually the amount of water withdrawn each year.
2. That the rural water system well approved under this permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The

rural water system, under this permit, shall control its withdrawal so there is not a reduction in needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

3. That prior to the use of water from the new production well authorized by Permit No. 5116-3 that the South Lincoln Rural Water System install one observation well near the new production well to allow the Chief Engineer to monitor water levels.
4. That approval of Permit No. 5116-3 does not authorize annual withdrawals from Permits No. 5116-3, 4300-3, 4300-3A, and 4300-3B of more than 1048 acre feet.

Dated and signed this 20 day of May, 1987.

Marian B. Gundersen
BY THE BOARD



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

AUG 19 1987

Charles Kuehl, Chairman
South Lincoln Rural Water System
PO Box 155
Canton, South Dakota 57013

Dear Mr. Kuehl:

Enclosed herewith is your Water Permit No. 5116-3 as approved by the Water Management Board authorizing you to construct your water diversion system and the water to beneficial use, not exceeding the limits as specified in said Water Permit No. 5116-3.

Also enclosed is Form 10, Notice of Completion of Works and Application of Water to Beneficial Use, which you are to complete and submit to the Chief Engineer when you have completed the system and/or have put the water to beneficial use. An inspection can then be scheduled so that your Water License may be issued to you, thus completing your acquisition of a Water Right.

Very truly yours,

JOHN HATCH, Chief Engineer
Water Rights Division

JH: ms

enclosure

PLEASE NOTE: Certain changes can be made in your permit within the five year construction period, usually without affecting the priority date provided an application to amend your permit is made within the five year period-i.e. changes in location or number of diversion points (wells) or location of land to be irrigated. Well locations for wells into the same aquifer can be moved up to 660 feet without application.

Applications to amend a permit after the five year construction period will be assigned a new priority date. Applications to change water sources, to add lands or increase original diversion rates, if approved will usually receive the date of the new application as a priority date regardless of the five year construction period.

STATE OF SOUTH DAKOTA



OFFICE OF ATTORNEY GENERAL

STATE CAPITOL
Pierre, South Dakota 57501-5090
Phone (605) 773-3215

ROGER A. TELLINGHUISEN
ATTORNEY GENERAL

March 9, 1988



Mrs. Wanda J. Sletten
Rt. 2 Box 82
Beresford, South Dakota 57004

RE: South Lincoln Rural Water System

Dear Mrs. Sletten:

Thank you for your letter of March 3, 1988, concerning the above-noted rural water system. We have contacted Mr. John Hatch, Chief Engineer, Division of Water Rights, concerning your allegation that the rural water system is being operated without a license.

Mr. Hatch informs us that South Lincoln Rural Water System has approved permits, that an inspection was performed August 20, 1986, and the license fee of \$50.00 was received December 12, 1986. The Division of Water Rights has not yet issued the license because it knew at the time some changes were going to be made in the system. It appears to me, however, that South Lincoln Rural Water System has done what the statute requires and there is no violation.

Sincerely,

Roger A. Tellinghuisen

ROGER A. TELLINGHUISEN
ATTORNEY GENERAL

RAT:pjh

cc: John Hatch ✓

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



Date March 9, 1988

TO: Water Rights Division, DWNR
Joe Foss Building
Pierre SD 57501-3181

FROM: South Lincoln Rural Water System Box 155 Canton S. Dak.
name address city

I have completed the construction of the water diversion system and I have put the water to beneficial use to the maximum extent it is going to be used. I have not exceeded the amounts specified in Water Permit No. 5116-3.

Water Permit No. 5116-3 states that the diversion system is to be constructed by May 7, 1992, and that the water it put to beneficial use by supplying the rural water system

The diversion system was completed on March 3, 1988.
Applying the water to beneficial use was completed on March 3, 1988

You may schedule an inspection so that the Water License may be issued.

Charles Kuehl
signature SLRWS



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3181

5116-3

December 5, 1990

SOUTH LINCOLN RWS
JOHN SIEVERS
BOX 155
CANTON SD 57013

Dear MR. SIEVERS:

Pursuant to a qualification on Water Permit/Right No(s). 5116-3, we are requesting that the SOUTH LINCOLN RWS report to the Chief Engineer the amount of water withdrawn for the year 1990. Please respond by JANUARY 31, 1991.

If you have any questions concerning this or other water rights questions, please contact Regan Fanning, Natural Resource Analyst, (605) 773-3352.

Very truly yours,

A handwritten signature in black ink, appearing to read "Ron Duvall". The signature is written in a cursive, flowing style.

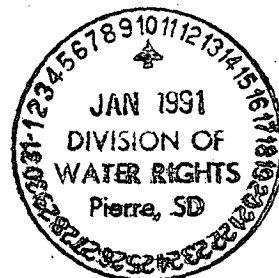
Ron Duvall,
Natural Resource Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

1990

SOUTH LINCOLN RURAL WATER SYSTEM, INC.
- PUMPING RECORDS -

	Worthing Well No. 1			Worthing Well No. 2			Worthing Well No. 3			Worthing Well No. 4		
	Final	Initial 01-01-	Total year	Final	Initial	Total year	Final	Initial 01-01-8	Total year	Final	Initial	Total YEAR
For the year 1990	714,721	766,686	943,035.00	498,215	733,641	964,574.00	118,345.00	94,670,600	17,163,900	51,799,000	42,268,000	9,530,000

Total Gallon 217,954,800





5116-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 7, 1992

South Lincoln RWS
John Sievers
Box 155
Canton SD 57013

Dear Mr. Sievers:

Pursuant to a qualification on Water Permit/Right No(s). 5116-3, we are requesting that the South Lincoln RWS report to the Chief Engineer the amount of water withdrawn for the year 1991. Please respond by February 10, 1992.

If you have any questions concerning this or other water rights questions, please contact Don Frye, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

Ron Duvall,
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 11, 1992

John Sievers
South Lincoln RWS
Box 155
Canton SD 57013

Dear Mr. Sievers:

Pursuant to a qualification on Water Permit/Right No(s). 5116-3, we requested in our January 7, 1992 letter that the South Lincoln RWS report to the Chief Engineer the amount of water withdrawn for the year 1991. We have not received a reply to that request and would appreciate your earliest reply.

If you have any questions concerning this or other water rights questions, please contact Don Frye, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

Ron Duvall,
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division



SOUTH LINCO

	Worthing Well No. 1			Worthing Well No.	
	Final 12-31-91	Initial 01-01-91	Total year	Final 12-31-91	Initial 0-1-01-91
For the year 1986	645131	7147.21	93,041,000	715321	698215



5116-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

December 23, 1992

John Sievers
South Lincoln RWS
Box 155
Canton SD 57013

Dear Mr. Sievers:

Pursuant to a qualification on Water Permit/Right No(s). 5116-3, I am requesting that the South Lincoln RWS report the amount of water diverted under the permit(s) during 1992. Please respond by January 15, 1993.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Very truly yours,

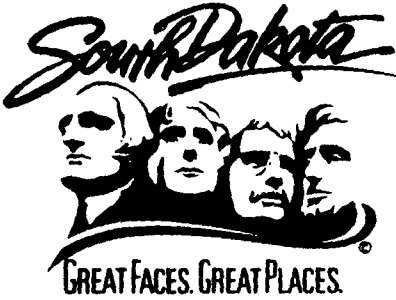
RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

SOUTH LINCOLN RURAL WATER SYSTEM, INC.
- PUMPING RECORDS - 1992



	Worthing Well No. 1			Worthing Well No. 2			Worthing Well No. 3			Worthing Well No. 4		
	Final 12-31-92	Initial 01-01-92	Total year	Final 12-31-92	Initial 01-01-92	Total year	Final 12-31-92	Initial 01-01-8	Total year	Final 12-31-92 Present	Initial	Total YEAR
For the year 1986	613,765	645,131	96,863,400	731,869	715,321	101,654,200	38,436,200	24,869,300	13,566,700	231,000	99,477,000	754,000
										79,708,000	70,778,000	7,930,000
												96,844,000

Total gallons
year to date
pumped. (221,768,900)



5116-3

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 13, 1994

John Sievers
South Lincoln Rural Water System
Box 155
Canton, SD 57013

Dear Mr. Sievers:

Pursuant to a qualification on Water Permit/Right Nos. 4300-3; 4300-3A; 4300-3B & 5116-3, I am requesting that the South Lincoln Rural Water System report the total amount of water diverted during 1993. Please respond by January 31, 1994.

If you have any questions concerning this or other water rights questions, please contact Barry McLaury, Natural Resources Analyst, (605) 773-3352.

Sincerely,

RON DUVALL, Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division

SOUTH LINCOLN RURAL WATER SYSTEM, INC.
- PUMPING RECORDS 1993

	Worthing Well No. 1			Worthing Well No. 2			Worthing Well No. 3			Worthing Well #4		
	Final 12-31-92	Initial 01-01-93	Total year	Final 12-31-92	Initial 01-01-93	Total year	Final 12-31-92	Initial 01-01-93	Total year	Final 12-31-92 Present	Initial	Total year
For the year 1993	556,800	613,765	1,054,965	907,989	731,869	823,880	536,185	384,360	15,182,500	2,573,000	231,000	2,342,000



205,609,000 gallons
pumped.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

APR 23 2004

5647-3

South Lincoln Rural Water System Inc.
PO Box 155
Canton SD 57013

Dear Sir:

Enclosed is Water License No. 5647-3. This is the final water right document completing your process of obtaining a Water Right. Enclosed is Receipt No. 1260 in the amount of \$50.00 which you paid for the investigation and issuance of the Water License.

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

NOTE: The applicable portions of No. 5116-3 are incorporated into Water License No. 5647-3.

enclosures