

WATER PERMIT NO. 1309-1

MAP No. 1309-1

Name of Applicant City of BisonPost Office Address 57620Amount of Water Claimed 0.02 (0.01 each well) Total Acres _____Source of Water Supply 2 wells, #6-^{784'}~~750'~~ #8 665' deepWater to be used for MUN County PKAbout _____ miles _____ of City LimitsPROOF OF PUBLICATION: Received 1st 6-7-84 Not Received _____

APPLICATION: Approved _____ Subject to _____

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

PRIORITY 3/23/84 Date Received 3/23/84 Fee 50.00 Remarks _____Corrected Application Received _____ Period of Annual Use 1/1 - 12/31WATER QUALITY APPROVAL RECEIVED n/a APPROVED/CONDITIONAL (Circle one)

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

Diversion Point #6- NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 13; #8 - NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 14 both in T18N-R13E

Land to be Irrigated _____

Well Log: Driller Huron Drilling ? Licensed YES x NO _____Depth of Well ~~750' & 665'~~ 784' & 665' REMARKS Fox Hills FormationType of Map Aerial PREPARED BY Ron Duval DWNR Reviewed and the Numberassigned on 3/28/84By Betty Westlund

nt)

Mail to: Water Rights Div.
DWNR, Foss Bldg.
Pierre, SD 57501
(605) 773-3352

THURS

No. 1309-1 Hydrologic Unit 10130306
Map No. 1309-1 Basin MR
Newspaper Leader Box 180 Pemmon 57638

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

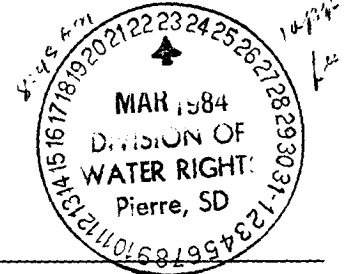
New ☒ Vested Right ☐ Future Use ☐ Change Use ☐

☐ 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. _____



1. Name of Applicant City of Bison Phone No. _____

Post Office Address Bison, South Dakota State 57620
(Street, RR or Box) Zip Code

2. Amount of water claimed (c.f.s) .02 .01 for each well

3. Source of water supply groundwater - Fox Hills Formation

4. Location of point of diversion well #6 - 2586 ft E and 96 ft S from center of Section 13;

well #8 - 453 ft E and 237 ft S from Center of Section 14; all in T18N, R13E

County Perkins

5. Counties where water will be used Perkins

6. Annual period during which water is to be used year around

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)

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 Perkins)^{ss}

I, Town of Bison, Bonnie Crow 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 Bonnie Crow

Subscribed and sworn to before me this 21 day of March 1984

Frances L. Almen
Notary Public (or other qualified officer)
Comm. Expires 8-7-85

WATER PERMIT

The Water Management Board hereby approves Water Permit Application No. 1309-1

City of Bison Bison
(Applicant) (Post Office Address)
South Dakota 57620 With the following qualifications.
(State) (Zip Code)

Date of first receipt of application March 23, 1984

Date of return to applicant for correction, amendments or changes required —, 19—

Date of receipt of corrected application —, 19—. Approved July 11, 1984

The Water Management Board hereby approves this Water Permit No. 1309-1 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:

1. The date from which applicant may claim right is March 23, 1984
2. The equivalent of at least one-fifth of the specified work is to be completed on or before —, 19—
3. The whole of said work is ~~to be~~ completed ~~on or before~~ —, 19—
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is —, 19—
5. The water appropriated shall be used for the purpose of Municipal purposes
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 herein granted shall not exceed 0.02 cubic feet per second; neither shall it exceed the capacity of the above described water supply system nor shall it exceed the amount of water needed for beneficial uses served and to which water is actually and beneficially applied for Municipal purposes on or before July 11, 1984; said water to be used during the following described annual period: CONTINUOUS

WATER MANAGEMENT BOARD
 By: John H. Hest
Chief Engineer
 Division of Water Rights
 Dept. of Water and Natural Resources
August 30, 1984

State of South Dakota
Water License No. 1309-1

(1) the City of Bison, South Dakota
of _____
made Application No. 1309-1, March 23, 1984 for a water permit to appropriate
0.02 cubic feet per second of water from groundwater (well #6 and well #8),
Perkins County, South Dakota for municipal purposes.
Permit No. 1309-1, with a priority date of March 23, 1984
was approved July 11, 1984 and issued to applicant(s) for diversion of water with construction of the described
water supply system to be completed on or before _____ and for the application to beneficial use of said
water on or before _____.

and

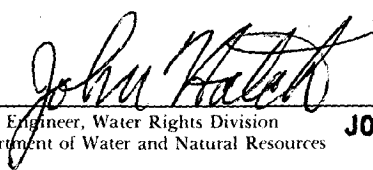
(2) It is certified that the application has complied with the provisions of South Dakota State Law relating to completion of
the construction of the water supply system and is entitled to divert 0.02 cubic feet per second of water
for beneficial use. The location of the diversion point(s) is are well #6-2586'E and 96'S from the
center of Section 13; Well #8 - 453'E and 237'S from the center of Section 14, all
in T18N, R13E.

and

(3) The applicant has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use to the following extent, water is diverted through the City of Bison's water distribution system

(4) Pursuant to §46-5-30.1 the City of Bison, South Dakota, Box 237, Bison, South Dakota 57620 of _____ the holder(s) and/or owner(s) of Water Permit No. 1309-1 is issued a license to appropriate water, the right to use 0.02 cubic feet per second of water from groundwater (two wells) with a priority date of March 23, 1984 from the location specified in (2) of this license. The water to be conducted to and upon lands specified in (3) of this license for the purpose of municipal use

This license is subject to any limitations or qualifications listed in Water Permit No. 1309-1 and subject to South Dakota State Law.


Chief Engineer, Water Rights Division
Department of Water and Natural Resources

JOHN HATCH

October 12, 1984

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction

Well #6

- a) Drill Hole Diameter _____ Depth _____
- b) Casing Type _____ Diameter 5½ in. Thickness _____
- c) Screen Type _____ Diameter _____ Thickness _____
- d) Gravel Pack Thickness _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth of Water (ground surface to water level) 245
- g) Distance to nearest existing domestic well:
On applicants property _____ On property owned by others _____

2. Dugout Information Estimates

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

3. Water Storage Dams

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 _____

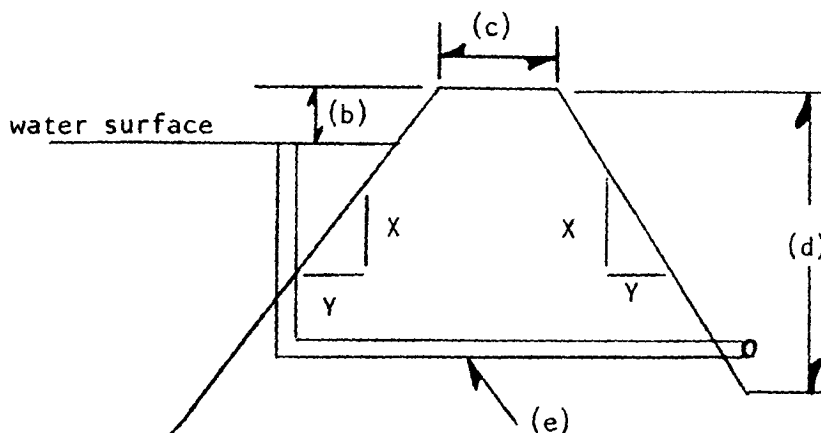
f) X & Y Slope
Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Town of Bison
Bonnie Crew, Clerk
Signature of Applicant

Supplemental Information

(type or print in ink)

1. Well Information - Proposed construction Well #8

- a) Drill Hole Diameter 11 3/4 in. Depth 661 ft
- b) Casing Type Steel Diameter 8 in Thickness _____
- c) Screen Type _____ Diameter 8 in Thickness _____
- d) Gravel Pack Thickness _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____
- f) Depth of Water (ground surface to water level) _____
- g) Distance to nearest existing domestic well:
- On applicants property _____ On property owned by others _____

2. Dugout Information Estimates

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

3. Water Storage Dams

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 _____

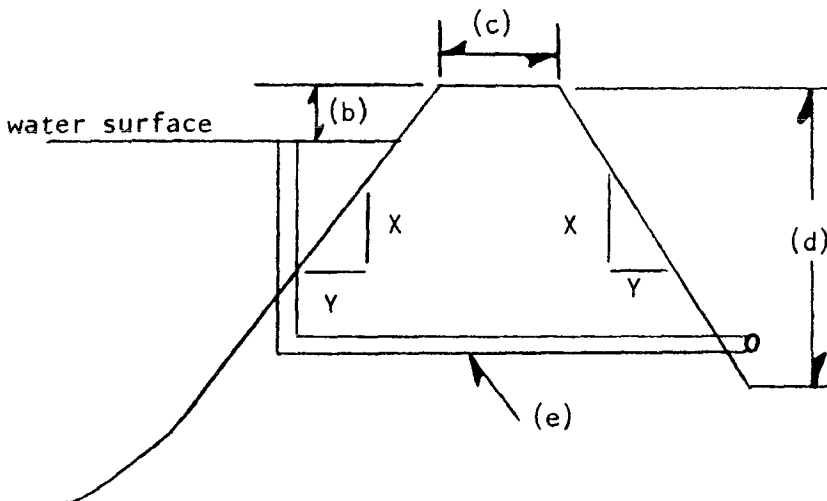
f) X & Y Slope
Upstream _____

Downstream _____

Surface Area of Impoundment _____

Storage _____ acre feet

Drainage area above dam _____



Town of Bison
Signature of Applicant
Bonnie Crow, Clerk

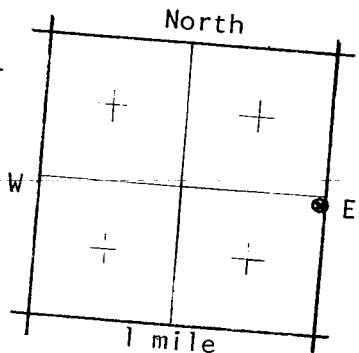
STATE OF SOUTH DAKOTA WELL DRILLERS REPORT

Location NE 1/4 SE 1/4 Sec 13 Twp 18 N Rg 13 E

County

Perkins

Please mark well location with an "X"



Well Completion Date 1969

PROPOSED USE:

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

Method of Drilling:

WELL CONSTRUCTION:

Diameter of hole _____ inches Depth _____ feet

Casing: ☐ Steel ☐ Plastic ☐ Other
Specify _____

Pipe Weight _____ Diameter _____ From _____ To _____
_____ lb/ft 5.5 inches _____ feet _____ feet
_____ lb/ft _____ inches _____ feet _____ feet

Was a well screen used? ☐ Yes ☐ No

If Not Specify _____

Screen Type _____ Slot Size _____
Length _____ Diameter _____

Was Casing left open end? ☐ Yes ☐ No

Was a Packer or seal used? ☐ Yes ☐ No

If so what material? _____

Was well gravel packed? ☐ Yes ☐ No

Was well grouted? ☐ Yes ☐ No

Describe grouting procedure _____

To what depth? _____ Feet

What was grouting material? _____

If cement, how many sacks? _____

Location of packer(s) and screen or perforated pipe _____

WAS WELL PLUGGED OR ABANDONED ☐ Yes ☐ No
If so how and with what material? _____

Well Owner:

Name City of Bison

Address Bison, SD 57620

Well Log:

Formation Fox Hills

Depth 784

	From	To
sand, yellow sand	0	8
shale	8	15
sand	15	20
shale	20	33
clay	33	37
coal, hard	37	38
clay, sand, dark	38	77
coal, hard	77	79
clay, sandy	79	132
coal, hard	132	137
rock	137	158
clay, sandy	158	160
shale	160	186
coal, hard	186	260
clay, sandy	260	262
coal, hard	262	293
sand coarse	293	295
shale	295	325
rock, hard	325	432
sand, coarse, dark, hard, some sandy clay	432	433

STATIC WATER LEVEL 245 Feet
If flowing: closed in pressure _____ PSI
GPM flow 5 through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other; specify _____

Can well be completely shut off? _____

WELL TEST DATA:

☐ Pumped

☐ Bailed

☐ Other

Describe: _____

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

Remarks: _____

This well was drilled under license # _____
and this report is true and accurate.

Drilling Firm _____

Signed by _____

SDGS City of Bison Study 1981

City of Bison Well 6

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 18 N., R. 13 E.
(see enlarged map, fig. 2)

0- 8	Sand, yellow sand
8- 13	Shale
15- 20	Sand
20- 33	Shale
33- 37	Clay
37- 38	Coal, hard
38- 77	Clay, sand, dark
77- 79	Coal, hard
79-132	Clay, sandy
132-137	Coal, hard
137-158	Clay, sandy
158-160	Rock
160-186	Clay, light, sandy
186-260	Shale

City of Bison Well 6 -- continued.

260-262	Coal, hard
262-293	Clay, sandy
293-295	Coal, hard
295-325	Sand, coarse
325-432	Shale
432-433	Rock, hard
433-784	Sand, coarse, dark, hard, some sandy clay

* * * *

Well #2
5021

WELL REPORT

HURON
DRILLING CO.
Huron, S. D.

City of Bison

Bison, So. Dak.

May 24, 1978

OWNER

DESCRIPTION

DATE

CASING LOG

Depth	661	ft.	570	ft. 8" Steel	pipe to	570	ft.
Flows		gpm					
Pumps		gpm	91' 9"	ft. 8" Screen	pipe to	661	ft.
Head		ft.		ft.	pipe to		ft.
91' 9" Screen @ bottom							
Perforations				ft.	pipe to		ft.

McKiostey well.

HURON DRILLING INC. DRILLERS LOG

PAGE NO.

T. Hilde w. Biron 5th Dk Biron 5th Dk 4.5.78 11 Rapp
 JOB NAME LOCATION DATE RIG NO. FOREMAN

Jt No.	DEPTH	TIME	REMARKS
1	20		
2	40		
3	60		45-60 Blue clay
4	80		60-80 Blue clay
5	100		80-100 Blue clay
6	120		100-120 Blue clay
7	140		120-140 clay
8	160		140-160 shell
9	180		160-180 shell
10	200		
11	220		
12	240		sand @ 247-255
13	260		
14	280		Bit #1 52015 V3 S 4 3 @ 280
15	300		
16	320		
17	340		
18	360		
19	380		
20	400		
21	420		
22	440		
23	460		
24	480		stretched sand 515-520
25	500		& 520 to 575 hard
26	520		
27	540		
28	560		
29	580		
30	600		sand fair to good 575-580
31	620		fair to good sand 580-600
32	640		fair to good sand 600-620
33	665	TD	fair to good sand 620-640
			fair to good sand 640-665

TO Knutson Well Drilling
Hettinger, ND. 58639

Town Of Bison
Box 237
Bison, SD. 57620

SUBJECT

Log of Town of Bison Wells*

DATE

4/4/84

MESSAGE

Dear Sirs:

The Town of Bison has recently applied for a well permit and also vested right application. I was told to contact you concerning the log for the Town's wells. Could you possibly send me this information or advise me of where to find this.

Thank You for your time.

SIGNED

Bonnie Crow
Clerk

DATE

REPLY I have a copy of the ^{log} well 1 mile W. of town that I got from Dean, if you like I can send this. Enclosed are logs for the 2 wells that I drilled.

SIGNED

Dennis Knutson

N. E. well Bison June 1969

#5 well

0 - 15	sandy
15 - 77	clay
77 - 79	coal
79 - 137	sandy clay + clay
137 - 138	coal
138 - 165	sandy clay
165 - 260	clay w/ rocks
260 - 262	coal
262 - 282	shale + clay
282 - 293	sandy clay
293 - 295	hard coal
295 - 325	clay
325 - 385	sandy clay + sandstone
385 - 386	hard rock
386 - 405	sandy clay
405 - 441	clay + shale
441 - 463	coarse sandy
463 - 538	clay + shale
538 - 545	coarse sandy
545 - 553	clay
553 - 575	coarse sandy clay
575 - 615	clay + shale w/ rocks
615 - 645	coarse sandy
645 - 660	clay + shale
660 - 675	sandy clay
675 - 710	dark clay
710 - 778	sandy clay w/ sand
778 - 782	dark clay

" over "

784 ft. 5" steel pipe

static level 245 ft.

draw down 525 ft. @ 25 g.p.m.

540 ft. 1 1/4" galv. pipe

550 ft. 4-3 sub. wire

5 h.p. Beda sub.

1/2 m. S. well Bison Aug. 1975

Well - well

lic - 1097-1

Permit. 1145-1

- 0-45 sandy clay + sandy
45-47 coal
47-92 clay
92-115 sandy clay w/ clay
115-165 clay
165-195 coal
195-199 clay
199-237 sandy clay
237-258 clay
258-291 sandy clay
291-300 clay + shale
300-318 sandy clay + sand stone
318-374 clay w/ rocks
374-375 coarse sandy clay
375-398 clay + shale
398-424 sandy clay + sandy
424-440 dark clay + shale
440-454 sandy clay
454-456 rock
456-480 sandy clay - sandy - sand stone
480-505 clay + shale
505-565 sandy clay + clay
565-584 sandy + sandy clay
584-595 clay + shale

"over"

596 ft. 5" steel pipe

static level 290 ft.

draw down 500 ft. @ 37 g.p.m.

547 ft. 1 1/4" galv. pipe

540 ft. air line

City of Bison (test well drilled by Caywood)
Location: NE 1/4 sec. 13, T. 18 N., R. 13 E.
(not shown on fig. 2)

0- 170	Clay, silty, gray, lignitic; light to greenish-gray
170- 185	Silt, light gray
185- 338	Clay, light gray, silty
338- 399	Siltstone, light greenish-gray
399- 685	Clay, some sandy, gray, specks of organic material
685- 687	Shale, dark gray, lignitic
687- 691	Clay, light gray
691- 882	Sandstone, fine, some clay
882-1082	Clay, dark gray, non-silty

* * * *

City of Bison Well 6

Location: NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 13, T. 18 N., R. 13 E.
(see enlarged map, fig. 2)

0- 8	Sand, yellow sand
8- 15	Shale
15- 20	Sand
20- 33	Shale
33- 37	Clay
37- 38	Coal, hard
38- 77	Clay, sand, dark
77- 79	Coal, hard
79-132	Clay, sandy
132-137	Coal, hard
137-158	Clay, sandy
158-160	Rock
160-186	Clay, light, sandy
186-260	Shale

Title w. Bison S. Dak Bison S. Dak 4.5.78 11 Rape
 JOB NAME LOCATION DATE RIG NO. FOREMAN

Jt No.	DEPTH	TIME	REMARKS
1	20		
2	40		
3	60		45-60 Blue clay
4	80		60-80 Blue clay
5	100		80-100 Blue clay
6	120		100-120 Blue clay
7	140		120-140 clay
8	160		140-160 shell
9	180		160-180 shell
10	200		
11	220		
12	240		sand @ 247-255
13	260		
14	280		Bit #1 52015 v 35 4 3/4 @ 280
15	300		
16	320		
17	340		
18	360		
19	380		
20	400		
21	420		
22	440		
23	460		
24	480		streaked sand 515-520
25	500		& 520 to 575 sand
26	520		
27	540		
28	560		
29	580		
30	600		sand fair to good 575-580
31	620		fair to good sand 580-600
32	640		fair to good sand 600-620
33	665	TD	fair to good sand 620-640
			fair to good sand 640-665



WELL REPORT

DRILLING CO.
Huron, S. D.

5021

City of Bison

Bison, So. Dak.

May 24, 1978

OWNER

DESCRIPTION

DATE

CASING LOG

Depth 661 ft.
 Flows gpm
 Pumps gpm
 Head ft.
 91' 9" Screen @ bottom
 Perforations

570 ft. 8" Steel pipe to 570 ft.
 91' 9" ft. 8" Screen pipe to 661 ft.
 ft. pipe to ft.
 ft. pipe to ft.

RECEIPT

Division of Water Rights

No 4 9602

South Dakota Department of Water and Natural Resources

Pierre, March 23, 1984

RECEIVED OF City of Bison, Bison, SD 57620

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

Fee for Application for Permit No. 1309-1 to Appropriate Water, to construct works and to put water to beneficial use	50	00
Fee for Application for Permit No. to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No.		
Fee for Filing Transfer Form		
Fee for Filing Extension Request		
Fee for Certified Copy of		
Fee for Print Copy of Map		
Fee for Certifying		
Fee for		
(Any Other Work Provided by Law)	Total	50 00

By

John Hatch
Chief Engineer JOHN HATCH/ms

LICENSE FOR PERMIT NUMBER 1309-1

1. Legal location of wells: well #6, 2586 ft E and 96 ft S
from center of sec. 13, T18N, R13E

dams & structures: _____

2. Well Information: Well Drilling Firm _____

No. of wells 1 Depth 784 ftCasing a) diameter 5 1/2 in Screen a) type _____

b) length _____ b) length _____

c) type _____ Static Water Level 245 ft.Pump a) make Reda Motor a) make _____

b) model _____ b) model no. _____

c) size _____ c) horsepower rating 5 hp.

d) capacity _____ GPM d) motor efficiency rating _____

e) turbine pump
no. of stages _____

3. Distribution lines:

a) size of lines _____

b) type _____

c) length _____

4. Dam information:

a) height to crest _____

b) height to spillway _____

c) crest width _____

d) crest length _____

e) spillway length _____

f) spillway width _____

g) approx. storage _____

h) Distribution lines or canals:

1) size _____

2) type _____

3) length _____

i) Outlet tubes:

1) diameter _____

2) type _____

3) valued (Y/N) _____

4) valve type _____

5) location on structure _____

5. System Type: a) sideroll:

1) length _____ feet

2) diameter of pipe _____

3) make, model & number of sprinklers _____

4) spacing of sprinklers _____

5) nozzle size _____

b) towline:

1) length _____ feet

2) make, model & number of sprinklers _____

3) spacing of sprinklers _____

4) nozzle size _____

5. System Type: c) center pivot

- 1) make _____
- 2) number of towers _____
- 3) distance between towers _____
- 4) overall length _____
- 5) End gun (Y/N) _____
- 6) high or low pressure _____
- 7) make & size of nozzles _____
- 8) PSI reading while system is running _____
- 9) GPM _____

g) Gun

- 1) make _____
- 2) serial number _____
- 3) nozzle size _____
- 4) capacity (GPM) _____
- 5) PSI _____
- 6) hose size _____
- 7) hose length _____

d) Gate Pipe

- 1) length _____
- 2) diameter _____
- 3) spacing of gates _____

e) Siphons

- 1) number _____
- 2) size _____

f) Portable boom

- 1) make _____
- 2) serial number _____
- 3) nozzle size _____
- 4) capacity (GPM) _____
- 5) PSI _____

h) Hydromatic

- 1) make _____
- 2) model _____
- 3) serial number _____
- 4) length _____
- 5) nozzle size _____
- 6) spacing _____
- 7) PSI _____
- 8) capacity (GPM) _____

YES

NO

Check Items

- | | | |
|-------|-------|---|
| _____ | _____ | 1. Soil and water permit lands agree with lands being irrigated and lands listed on permit. |
| _____ | _____ | 2. Special Qualifications to permit being abided by. |
| _____ | _____ | 3. All Structures, wells and lands on map. |

REMARKS:

LICENSE FOR PERMIT NUMBER 1309-1

1. Legal location of wells: Well #8, 453 ft. E and 237 ft. S
from center of sec. 14, T18N, R13E

dams & structures: _____

2. Well Information: Well Drilling Firm Huron well drilling

No. of wells 1 Depth _____Casing a) diameter 8 in. Screen a) type _____b) length 570 ft. b) length 91'9"c) type steel Static Water Level _____Pump a) make Reda Motor a) make _____b) model SO A7E b) model no. _____c) size _____ c) horsepower rating 3 hpd) capacity 4-5 GPM d) motor efficiency rating _____

e) turbine pump _____

no. of stages _____

3. Distribution lines:

a) size of lines _____

b) type _____

c) length _____

4. Dam information:

a) height to crest _____

b) height to spillway _____

c) crest width _____

d) crest length _____

e) spillway length _____

f) spillway width _____

g) approx. storage _____

h) Distribution lines or canals:

1) size _____

2) type _____

3) length _____

- i) Outlet tubes:

1) diameter _____

2) type _____

3) valued (Y/N) _____

4) valve type _____

5) location on structure _____

5. System Type: a) sideroll:

1) length _____ feet

2) diameter of pipe _____

3) make, model & number of sprinklers _____

4) spacing of sprinklers _____

5) nozzle size _____

- b) towline:

1) length _____ feet

2) make, model & number of sprinklers _____

3) spacing of sprinklers _____

4) nozzle size _____

5. System Type: c) center pivot

- 1) make _____
- 2) number of towers _____
- 3) distance between towers _____
- 4) overall length _____
- 5) End gun (Y/N) _____
- 6) high or low pressure _____
- 7) make & size of nozzles _____
- 8) PSI reading while system is running _____
- 9) GPM _____

g) Gun

- 1) make _____
- 2) serial number _____
- 3) nozzle size _____
- 4) capacity (GPM) _____
- 5) PSI _____
- 6) hose size _____
- 7) hose length _____

d) Gate Pipe

- 1) length _____
- 2) diameter _____
- 3) spacing of gates _____

e) Siphons

- 1) number _____
- 2) size _____

f) Portable boom

- 1) make _____
- 2) serial number _____
- 3) nozzle size _____
- 4) capacity (GPM) _____
- 5) PSI _____

h) Hydromatic

- 1) make _____
- 2) model _____
- 3) serial number _____
- 4) length _____
- 5) nozzle size _____
- 6) spacing _____
- 7) PSI _____
- 8) capacity (GPM) _____

YES

NO

Check Items

- | | | |
|-------|-------|---|
| _____ | _____ | 1. Soil and water permit lands agree with lands being irrigated and lands listed on permit. |
| _____ | _____ | 2. Special Qualifications to permit being abided by. |
| _____ | _____ | 3. All Structures, wells and lands on map. |

REMARKS:

1A

	Location	Depth (ft.)	Depth to water (feet)	Water Use	Date Drilled
Bison No. 1	NE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ of sec 13, T18N, R13E	685	375	Municipal	1950
Bison No. 2	NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ of sec 13, T18N, R13E	729	—	Municipal	1952
Bison No. 3	SE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ of sec 13, T18N, R13E	867	433	Municipal	1954
Bison No. 4	SW $\frac{1}{4}$ SW $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$ of sec 13, T18N, R13E	1,400	—	None	1969
Bison No. 5 correct location	SE $\frac{1}{4}$ SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$ of sec 13, T18N, R13E	835	337	Municipal	1960
Bison No. 6	NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ of sec 13, T18N, R13E	784	245	Municipal	1969

This information was obtained from the report
Ground - Water Study for the City of Bison, S.D.
 by Fred V. Steece.

Permit No. 1309-1

Moreau River Water District

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

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

I have this day made a thorough examination of the water use system constructed by City of Bison
_____ of _____ holder of

Permit No. 1309-1, bearing the priority of March 23 19 84 authorizing
the diversion of .02 cu. ft. per second of the waters of Fox Hills Formation
for municipal purposes, in Perkins County.

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

A. Works used to divert the water:

well #8: pump - Reda, 3hp
50-A7E
4-5 GPM

well #6: pump - Reda
5hp.
4-5 GPM

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

City water distribution system

C. Works used to apply water to beneficial use:

The system is in the following condition good

The point of diversion is located well #6: 2586 ft. E and 96 ft. S from center of sec. 13;
well #8: 453 ft. E and 237 ft. S from center of sec. 14; all in T18N, R13E

The works are capable of diverting and conveying to the place of use .02
cu. ft. per second of water which is to be used for municipal purposes

Water has been put to beneficial use to the maximum extent as follows: _____

comprising a total of _____ acres of land and the license should be issued for .02 cfs

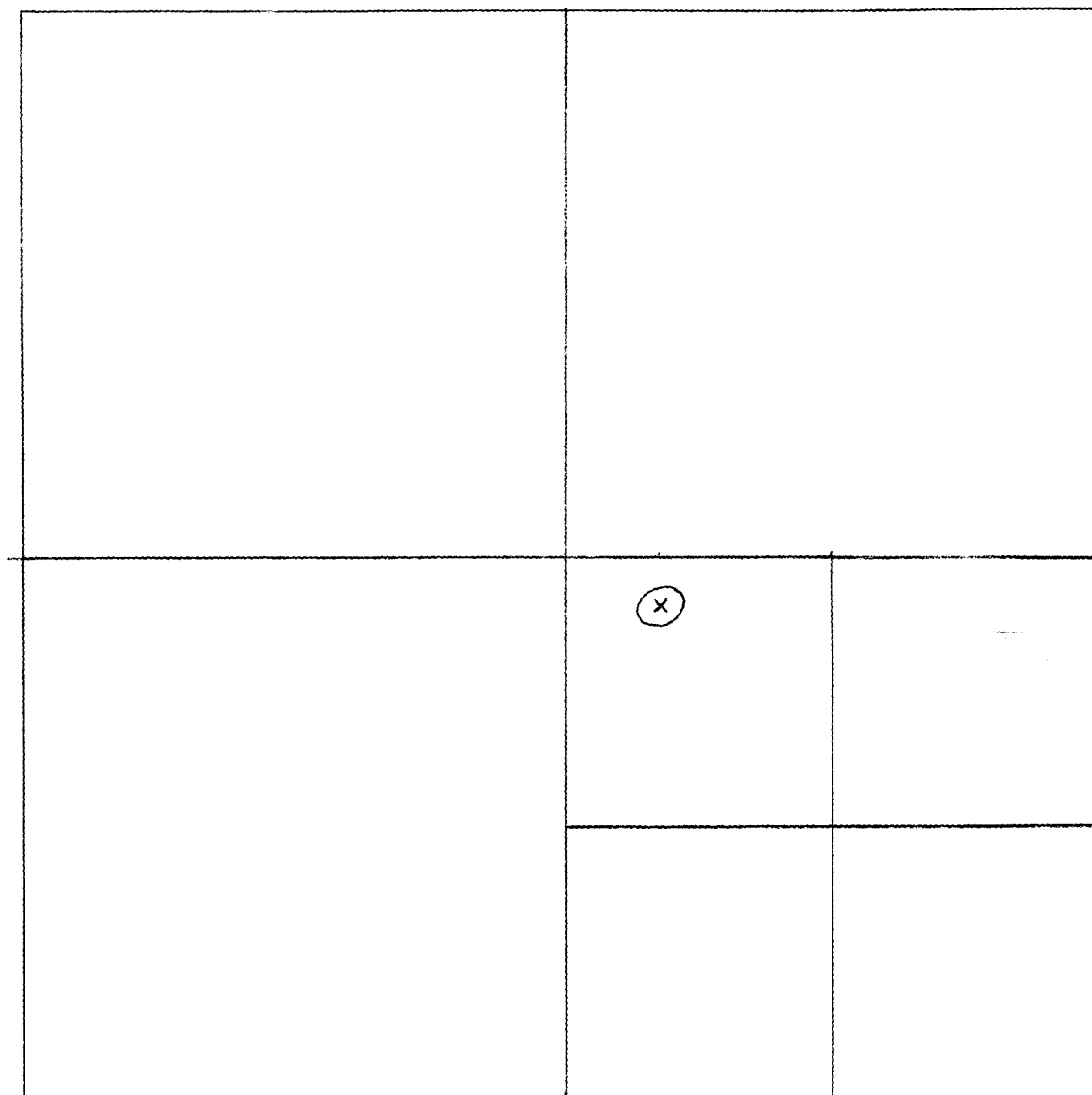
Applicable permit qualifications have been complied with ☒ Yes ☐ No

Exceptions to compliance are: _____ Date Nov. 2, 1983

Ron Duvall
(signature)

3A

Location of well West of Bison
Sec. 14, T18N, R13E



Legal Description: ≈ 453 Ft. E and ≈ 237 Ft. S
of the center of Sec 14, T18N, R13E in the
NW $\frac{1}{4}$ SE $\frac{1}{4}$.

$\frac{1 \text{ in}}{660 \text{ ft}}$

6 in

City of Bison

Drinking Water office has spec's etc on some of the wells and I found the following depths listed for all their wells.

#3 Moore well, 800' deep, 6" Diameter v/R

#6 Vetter well, 825' deep, 6" diameter

#7 Veil well, 550' deep, 6" diameter (1 mile south)

#5 Cooper well, 700' deep, 6" diameter

#8 McKiⁿstry well 750' deep, 6" diameter (1 mile west)

3/26/84 BW

Comments on Public Water Systems Water Rights Applications
June, 1984

CITY OF BISON: 1309-1

Well #6 (vetter) and #8 (McKistry) are existing sources. Water quality for both common ion and inorganics is satisfactory. P & S was submitted for #8. Uncertain as to #6. No problem with contamination from the lagoons has occurred nor is any expected.

CITY OF BISON: 1310-1 (vested right)

Well #3 (Moore) is an existing source. Water quality for both common ion and inorganics is satisfactory. Uncertain as to P & S for #3. Lagoons are not a problem.

CITY OF WALL: 1868-2

This is a future use request for Inyan Kara or Madison formation water. The city's existing sources utilize Inyan Kara water. Both common ion and inorganic chemical quality is satisfactory.

Madison formation water in central and west central S.D. has been found, in some instances, to contain Radium 226-228 in excess of the Drinking Water Standard MCL's. I'm not certain whether this problem would be encountered in the Wall vicinity.

ELM VALLEY SCHOOL DIST. 6-2: 5004-3

Elm Valley School is a non-community public water system. There is a pipeline that serves the Town of Barnard. Inorganic and radiological values are satisfactory. Common ions are satisfactory although the TDS is high - 2064 mg/l (mostly SO_4 - 1155 and Na - 642). No P & S available. The school will hook up to the WEB⁴ system in the future.

DIAMOND T MOBILE HOME PARK: 1876-2

This PWS serves approximately 90 people from a single well. The common ion water quality is excellent with the only aesthetic inconvenience being water that is 18 gpg hard. This water quality has been consistent over the past 10 yrs. Radiological sampling was completed 9/81 with no violation of standards. Inorganic analysis was last performed 3/80 with no violation of standards.

The well is located approximately 1000' southwest and upgradient from the lagoon central sewer service.

Well #1 is an existing source. Well #2 is or will be a new source for which Office of Drinking Water has not yet received any P & S.

VISTA HILLS: 1871-2

This PWS serves approximately 36 people from a single well. The common ion water quality is excellent with the only aesthetic inconvenience being water that

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT

APPLICATION NO. 1309-1, City of Bison

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. 1309-1, City of Bison, Bison SD.

The Chief Engineer is recommending APPROVAL of Application No. 1309-1 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) in the public interest.

See the attached report for additional information.



JOHN HATCH, Chief Engineer
May 22, 1984

REPORT ON APPLICATION NO. 1309-1

THE CITY OF BISON

May 18, 1984

Application No. 1309-1 proposes to divert 0.02 cfs from 2 existing wells (see application for locations). Water is to be used for municipal purposes for the City of Bison.

Aquifer - Fox Hills

Geology and Aquifer Characteristics

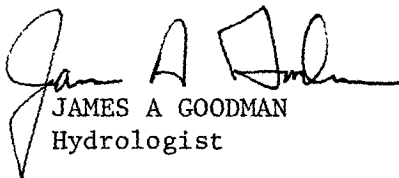
The Fox Hills Formation is a late Cretaceous age mostly grayish-white to yellow sandstone and sandy shale which underlies most of northwestern South Dakota. Very little is known about the aquifer characteristics. Reported specific yields are in the range of 0.29 gpm/foot of drawdown (Rahn, 1979). Aquifer thickness is in the 300-400 feet range (Steece, 1981) and lies directly below the Hell Creek Formation. The Ludlow overlies the Hell Creek and is the rock exposed at the surface (Bolin, 1953).

Review of Existing Water Rights

This application is a direct result of an inspection by Ron Duvall of our office. Bison has three existing Water Permit Nos. 624-1, 1097-1 and 1145-1 and of these the first two mentioned are licensed. There are no other Water Permits in this area for water from the Fox Hills. For the locations and diversion rates see the maps prepared for this application.

Conclusions

1. Water is available.
2. Existing wells are low yield.
3. Interference may be occurring, however, all the wells are city wells and they can regulate withdrawals.
4. The Water Rights Division does not monitor any observation wells in this area.


JAMES A GOODMAN
Hydrologist

Bibliography

- Bolin, E.J., 1954, Areal Geology of the Bison Quadrangle, SDGS Vermillion SD.
- Rahn, P.H., 1979, Ground Water Resources of Western SD, for U.S.A.C.E, SDSM & T Project #2533, Rapid City SD 57701
- Steece, F.V., 1981, Ground Water Study for the City of Bison SD, SDGS Open File, Report #5-VR, Vermillion SD.

WP or WR No. 1309-1

Instruction to Newspaper - Publish first publication of the following Notice on or before May 31, 1984 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 1309-1 to Appropriate Water and/or to Amend Water Permit or Water Rights No. _____

Notice is hereby given that the City of Bison whose mailing address is Bison, South Dakota has made an application for a permit

to appropriate 0.02 cubic feet per second of water from groundwater, two wells, #6 approximately 784' deep located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 13 and #8, approximately 665' deep located in the NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 14, both in T18N-R13E. Wells are in the Fox Hills Formation. The water is to be used for municipal purposes by the City of Bison.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends Approval of Application No. 1309-1 because 1) unappropriated water is available, 2) will be no unlawful impairment of existing rights, 3) is beneficial use of water and 4) is in the public interest.

This application will be considered by the Water Management Board at Foss Building Room 216, 523 E. Capitol, Pierre, South Dakota on July 11 19 84 at 10:00 am.

The recommendation of the Chief Engineer is not final or binding upon the Board and the Board is authorized to make a determination on 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 June 29, 1984. The petition may be informal, but it must include a statement describing the petitioners interest in the application, the reason 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, 46-5-1 thru 46-5-16, 46-5-24, 46-5-25, 46-5-30.2, 46-5-31; 46-2A-1 thru 46-2A-10, 46-2A-12; (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 June 29, 1984.

No. 1309-1

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County Perkins) ss.

I, Margaret Boorman hereby

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

Water was taken from the Lemmon 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 Lemmon of _____

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

May 31, June 6, 1984

Margaret Boorman
(Signature)
Legal Advertising Manager
(Title)
June 6, 1984
(Date Signed)

Cost of Printing: _____

\$40.75



NOTICE OF HEARING
ON APPLICATION NO. 1309-1
TO APPROPRIATE WATER

Notice is hereby given that the City of
Bison whose mailing address is Bison,
South Dakota has made an application for
a permit to appropriate 0.02 cubic feet per
second of water from groundwater, two
wells, no. 8 approximately 784' deep
located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$, Section 13 and
no. 5, approximately 865' deep located in
the NW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 14, both in T18N-
R10E. Wells are in the Fox Hills For-
mation. The water is to be used for
municipal purposes by the City of Bison.

Pursuant to SDCL 46-2A-2 the Chief
Engineer of the Water Rights Division
recommends Approval of Application No.
1309-1 because 1) unappropriated water is
available, 2) will be no unlawful im-
pairment of existing rights, 3) is beneficial
use of water and 4) is in the public interest.

This application will be considered by
the Water Management Board at Foss
Building Room 215, 523 E. Capitol, Pierre,
South Dakota on July 11, 1984 at 10:00 a.m.

The recommendation of the Chief
Engineer is not final or binding upon the
Board and the Board is authorized to make
a determination on this application after it
reaches a conclusion based upon facts
presented at the public hearing. Any in-
terested person who may be affected by a
Board decision and who intends to par-
ticipate 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 June
25, 1984. The petition may be informal, but
it must include a statement describing the
petitioner's interest in the application, the
reason 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, 46-2-1, 46-2-3, 46-2-11, 46-2-
13, 46-2-17, 46-3-1 thru 46-3-15, 46-3-24, 46-3-
25, 46-3-30.2, 46-3-31, 46-2A-1 thru 46-2A-10,
46-2A-12, 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10,
46-6-13, 46-6-14, 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
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These and other due process rights will be
forfeited if they are not exercised.
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Court as provided by law.

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Engineer's recommendation, further
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Division, DWRN, 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
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applicant or any person who has filed a
petition to oppose or support the ap-
plication. The request for extension must
be filed with the Chief Engineer by June
25, 1984.

(Publish May 31, June 6, 1984)

RECEIPT

Division of Water Rights

No 4 9783

South Dakota Department of Water and Natural Resources

Pierre, October 5, 1984, 19

RECEIVED OF Town of Bison, Box 237, Bison, SD 57620

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 _____		
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. 1309-1	50	00
Fee for Filing Transfer Form _____		
Fee for Filing Extension Request _____		
Fee for Certified Copy of _____		
Fee for Print Copy of Map _____		
Fee for Certifying _____		
Fee for _____		
(Any Other Work Provided by Law)	Total	50 00

By

Chief Engineer

JOHN HATCH/ms



No. 1309-1

Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

WATER RIGHTS DIVISION
Phone (605) 773-3352

October 12, 1984

Town of Bison
Box 237
Bison, South Dakota 57620

Dear Sir:

Water Permit &
Enclosed herewith is, Water License No. 1309-1. This is the
final water right document completing your process of obtaining a
water right.

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

Very truly yours,


JOHN HATCH, Chief Engineer
Water Rights Division

JH: ms

Enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

February 16, 1996

Sylvia Chapman
Town of Bison
PO Box 237
Bison SD 57620-0237

Dear Ms. Chapman:

Enclosed, as you requested, are copies of well logs for the town of Bison (well #'s 3, 5, 6, 7 & 8). If you have any questions, please contact me.

Sincerely,

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

enclosures