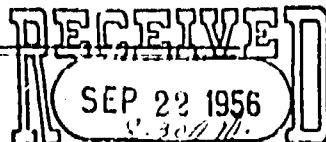


1. Considered Nov 13, 1956
2. Name of Applicant City of Rapid City # 436-2
3. Post Office Address Rapid City, S. Dak.
4. Amount of water claimed 1.55 c.f.s.
5. Source of water supply Well No. 4
6. Water to be used for Municipal Purposes
Acres to be irrigated
7. Water to be diverted and used in Pennington County about
 miles near of Municipal City
8. Proof of Publication Received Not Received Not Needed
9. Application Approved X Subject to Rec of Comm 24
Not Approved
Action deferred

10. Remarks:

Vested Rights

No. 1531-2Water Division No. 2 Rapid Creek District
(Blanks to be filled by the Engineer for the W. R. C.)STATE WATER RESOURCES COMM.
PICKRE, SOUTH DAKOTA

APPLICATION FOR PERMIT

VESTED RIGHTS PERMIT

To Appropriate Water within the State of South Dakota

(NOTE—Draw a line through items not applicable.)

1. Name of applicant City of Rapid City
 Postoffice address Rapid City, County Perrington, State South Dakota

- I. If a corporation Municipal
City Commissioners—H. Baker, J. Ewing, M. Haugen, C. Hoseth
 (a) Name of same E. Johnson, F. Krieger, H. Rypkema, R. Severson, L. Yeoman
 (b) Date and place of incorporation City of Rapid City
 (c) Amount of capital stock _____
 (d) Amount paid in _____
 (e) Names and addresses of directors _____

(NOTE—A certified copy of articles of incorporation must accompany the application.)

II. Method of accomplishing the work and financial resources of the applicant:

- (a) Method of accomplishing work (Whether by contract, employment of others, or by direct labor)

By Contract

- (b) Cash on hand, \$ _____ (c) Treasury stock, \$ _____
 (d) Bonds to be issued, \$ _____ (e) Other resources, \$ _____

2. Name of diversion work Well No. 4
 3. Amount of water claimed 1.55 cubic feet per second
 4. Source of water supply Ground water-well
 5. Location of point of diversion 1262' N21° 05' E of S.W. corner of SE¼ of Section 4, Township
1 N, Range 7E, 51M on _____ bank _____ County
 6. Annual period or periods during which water is to be used Year Around
 7. To be used for:

- I. Irrigation or domestic use: Gravity, overhead sprinkling or combination system?
- Municipal purposes

- (a) Number of acres to be irrigated _____ acres.

- (b) Legal subdivisions to be irrigated _____

(NOTE—A list of lands to be irrigated, giving each subdivision and fraction with acreage thereof, should be written here, or may be appended as a part of this application. Same must also be shown on accompanying map.)

- (c) Statement as to domestic use (giving location, etc.) Domestic use for the City of
Rapid City.

II. Stockwatering, mining, milling, power, fish culture, fire protection and public recreation:

Fire protection, public recreation and purposes incidental to

- (a) Nature of use
- municipal use of water.

Name any of the above uses claimed

- (b) Amount of power to be generated _____ horse power.

Amount claimed for engine cooling _____

- (c) Location of plant _____

- (d) Method of developing power _____

- (e) Point where water will be returned to stream _____

Map No. 1531-2

8. Estimated cost of work:

(a) Head Gates, \$-----

(b) Pumping plant, \$ 14,000.00

(c) Fluming, \$-----

(d) Canal-earth, \$-----

Rock, \$-----

(e) Other structures ----- \$-----

Total, \$ 14,000.00

9. Description of diversion works:

I. Nature of works: (Reservoir, dam, ditch, flume, pumping plant, etc.)

Well and Turbine pump

II. Dimensions of works:

(a) Dam: Height ----- feet; length at bottom ----- feet; length at top ----- feet; thickness at bottom ----- feet; thickness at top ----- feet; slope at front water face -----; slope at back face ----- material used in construction -----

(b) Reservoir: Capacity when filled ----- acre feet. Surface area at highwater mark ----- acres.

DEPTH AT OUTLET-FEET	SURFACE AREA AT EACH DEPTH AT OUTLET--ACRES	FEET	ACRE-FOOT CAPACITY

(c)* Head gate: Width ----- feet; height ----- feet; Material -----

(d) Canal: Total length: ----- miles.

LOCATION BELOW HEADGATE	DEPTH	BOTTOM W D	WIDTH AT WATER-LINE	GRADE PER MILE
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet
At ----- Mile	----- feet	----- feet	----- feet	----- feet

(Give dimensions where reductions in size are made.)

Completed November, 1939

10. Time required for completion of work ----- years.

Completed November, 1939

11. Time required for complete application of water to the proposed beneficial use ----- years.

12. Choice of newspaper for publication of notice of intention to appropriate -----

Rapid City Daily Journal

STATE OF SOUTH DAKOTA

County of

PENNINGTON

ss.

official representative of

I, H.S. Thorarinnson, City Manager, City of Rapid City, S. Dak.

being first duly sworn on my oath depose and say: That my relation to the above described undertaking is that of owner, that I have read the above foregoing statement, examined the map accompanying the same, and that I know of my own personal knowledge that the matters therein stated and shown are true.

Signed

H.S. Thorarinnson

Subscribed and sworn to before me this

20th

day of

September

1956

Dorothy M. Hall

Notary Public (or other qualified officer.)

I, VINAL C. FRANCIS A REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 625 IN AND FOR THE STATE OF SOUTH DAKOTA DO HEREBY CERTIFY THAT THE ACCOMPANYING MAP SHOWS THE LOCATION OF WELLS, SPRINGS AND WATER GALLERIES AS USED BY OR PROPOSED TO BE USED BY THE CITY OF RAPID CITY, SOUTH DAKOTA, SAID MAP BEING MADE FROM PLATS AND RECORDS ON FILE IN THE REGISTER OF DEEDS OFFICE, PENNINGTON COUNTY, SOUTH DAKOTA. I FURTHER CERTIFY THAT THIS MAP IS A TRUE AND CORRECT REPRESENTATION OF THE WELLS, SPRINGS AND GALLERIES.

Vincent C. Francis
REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR No. 625

ON THIS DAY BEFORE ME, THE UNDERSIGNED, A NOTARY PUBLIC IN
AND FOR THE STATE OF SOUTH DAKOTA, COUNTY OF PENNINGTON; PERSONALLY
APPEARED VINAL C. FRANCIS KNOWN TO ME TO BE THE PERSON WHO EXECUTED
THE FOREGOING SURVEYOR'S CERTIFICATE AND ACKNOWLEDGED TO ME THAT
HE EXECUTED THE SAME.

WILMA M. RAETZ
NOTARY PUBLIC

MY COMMISSION EXPIRES December 10, 1959

Scale : 1" = 400'

Map No. 452-2
(Appl's No. 431-2, 432-2, 433-2, 434-2,
435-2, 436-2, 437-2, 438-2,
439-2, and 0646-2

<u>VESTED RIGHTS:</u>		
MEADOWBROOK GALLERY		WELL No. 1
JACKSON SPRINGS		WELL No. 2
CITY SPRINGS		WELL No. 3
WALPOLE WELL		WELL No. 4
<u>FUTURE WITHDRAWAL:</u>		
MEADOWBROOK GALLERY		CLEGHORN SPRINGS
JACKSON SPRINGS		SIOUX PARK GALLERY
<u>IRRIGATION USE:</u>		
(TRANSFER OF EXISTING WATER RIGHT)		
MEADOWBROOK GOLF COURSE		
PERMIT FROM		
LEAD WITH		

Remarks by State Water Resources Commission:

"Vested Right" claimed

STATE OF SOUTH DAKOTA

County of

Hughes

ss.

Pierre, South Dakota,

September 29, 1956

This is to certify that the foregoing application was received by the Commission at 8:30 o'clock

a.m. upon the 22 day of September, 1956

State Water Resources Commission

By:

Joe Ruimer

Chief Engineer, Executive Officer

Number of permit 436-2

Date of first receipt of application September 22, 1956

Date of return to applicant for correction, amendments or changes required as follows September 29, 1956

Date of receipt of corrected application December 14, 1956

Date from which applicant may claim right 1938

Approved December 14, 1956, Recorded in Book 3 Section 2 Page 40

This is to certify that we have examined the foregoing application for a permit to appropriate water of the State of South Dakota, and we hereby grant the same as stated herein, subject, however, to the following limitations and conditions:

1st. The equivalent of at least one-fifth of the work above specified is to be completed on or before

Completed, 1956

2nd. The whole of said work is to be completed on or before Completed, 1956

3rd. The limit of time for proof of beneficial use of water appropriated in accordance herewith is

Completed, 1956

4th. The water appropriated shall be used for the purpose of municipal use

5th. 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 injuriously affected by this appropriation.

6th. The amount of the appropriation herein granted shall not exceed 155 cubic feet per second; neither shall it exceed the capacity of the above described system of diversion works, nor the least amount of water that experience may hereafter indicate as necessary for the production of crops in the exercise of the best husbandry; and further, said appropriation must be limited to not more than one-seventieth (1/70) of one cubic foot of water per second of time for each acre of land to which water is actually and beneficially applied for irrigation on or before 1957, said water to be used during the following described annual period:

Continuously

Witness my hand this

14

day of

January, 1957

State Water Resources Commission

By:

Joe Ruimer

Chief Engineer, Executive Officer

Certificate of Construction issued

January 14, 1957

Water License issued

January 14, 1957

VESTED RIGHTS - RAPID CITY

433-2	.84 c.f.s.	Well No. 1
434-2	.55	Well No. 2
435-2	1.78	Well No. 3
436-2	1.55	Well No. 4
438-2	.22	Walpole Well

By agreement between Rapid City and downstream irrigation water right holders, as reflected in the Deerfield and Pactola Reservoirs' contracts with the United States, water sources for Permits 433-2, 434-2, 435-2, 436-2, and 438-2 are not tributary to the surface water flows of Rapid Creek under natural conditions. Consequently, water use by Rapid City under these permits is not subject to replacement in Rapid City from the City's stored water in Deerfield and Pactola Reservoirs. (See Permits 431-2, 432-2, or 437-2 and Future Use Permit No. 439-2.)

Form 2A — Wells (Supplement to Form 2)

9. (Continued)

III. Well Specifications

(a) Hole and casing

Size of drill hole or excavation _____, Depth 1075 feet

Type of casing steel
(wood, concrete, steel, etc.)

Size of casing 12", 10" & 8" Thickness of casing _____
405'-12" -- 540'-10"

Length of casing 130'-8" If collection gallery, length, size and depth of
gallery _____

(b) Screens

Type of perforated screen perforated casing

Size of perforated screen 10" Approx. 300'
(diameter) (length)

Thickness of gravel pack _____, length of gravel pack _____

(c) Water Bearing Materials

Distance to water Free Flow Character of water bearing materials
Minnelusa Sandstone

Thickness of water bearing material 500'-600'

(d) Pump and Motor

Type of pump Turbine
(centrifugal, propeller, mixed flow, etc.)

Name of pump Pamona, size 8" x 8"

Kind of motor electric
(gasoline, electric, diesel, etc.)

Horsepower 75, Name of Motor Westinghouse

(e) Complete well

Capacity 695 GPM at drawdown of 200' Pump setting
Estimated cost \$14,000.00

(f) Owner of land upon which well is located City of Rapid City
Name

Rapid City, South Dakota
Address

(g) Distance to nearest existing wells

On same owner's property _____ rods. On property owned by others _____ rods

STATE OF SOUTH DAKOTA

WATER LICENSE No. 436-2...

WHEREAS, On the 22nd day of September A. D. 1956

The City of Rapid City

of Rapid City County of Pennington and State of South Dakota duly made application (No. 436-2) to us for vested right permit to use 1.55 cubic feet per second of the waters of ground water County of Pennington, State of South Dakota, for municipal purposes; and

WHEREAS, On the 14th day of January A. D. 1957 Vested Right recognizing Permit No. 436-2 was issued to said applicant for the diversion of said water, and ~~providing for the~~ completion of the works of diversion therein described ~~on or before the~~ in 1938 and ~~for the~~ application to beneficial use of said water ~~on or before the~~ day of in 1938 and,

WHEREAS, On the 14th day of December A. D. 1956 vested right the holder of said permit duly made proof of the completion of adequate works for the diversion of 1.55 cubic feet per second of said waters, as evidenced by our Certificate No. 436-2 dated January 14, 1957 confirming the completion of works of sufficient capacity for diverting and conveying to the place of intended use 1.55 cubic feet per second of water, with date of priority of 1938 and,

WHEREAS, On the 14th day of December A. D. 1956 proof was duly made of the application to beneficial use of 1.55 cubic feet per second of said water; in the distribution system of the City of Rapid City.

NOW, THEREFORE, By the virtue of the authority vested in us by the laws of the State of South Dakota,
We hereby grant and confirm to the City of Rapid City
of Rapid City, South Dakota the holder vested right and owner of sat/permit No. 434-2
a water right, dating from 1938 to the use of 1.55
cubic feet per second of the waters of ground water
in the County of Pennington and State of South Dakota, or so much thereof as may be
necessray for the purposes hereinbelow mentioned, to be diverted at 1262 feet, N. 21° 05' E, of
the SW Cor., of the SE 1, Sec 4, T 1 N, R 7 E
and conducted to ~~and used by~~ the residents of the City of Rapid City

for the purpose of municipal use

subject, however, to the laws of the State of South Dakota applicable to a license for the use of the waters of the State, and subject, also to the local or community customs, rules and regulations which have been or may be adopted from time to time by a majority of the users from a common source of supply, canal or lateral from which such water may be taken, when such rules and regulations have for their object the economical use of such water.

WITNESS, My hand and seal of our office at Pierre, South Dakota,
this 31th day of January A. D. Nineteen
Hundred and fifty-seven

State Water Resources Commission

By:

J. W. Grimos, Chief Engineer, Executive Officer

STATE OF SOUTH DAKOTA

Water License No. _____

To _____

Source of Supply _____

County _____

Am't _____ c. f. s.

Point of Diversion _____

Place of Use _____

Purpose _____

Date of Priority _____

Recorded _____

In Book _____ of _____ Page _____

Permit No. 436-2Water Division No. 3 Rapid Creek Water District**Certificate of Completion of Works**

TO ALL WHOM IT MAY CONCERN:

This is to Certify, That The City of Rapid Cityof Rapid City, County of Pennington, and State of South Dakota, the holder of Vested Right Permit No. 436-2 issued upon Application436-2, bearing date of priority of 1938, authorizing the diversion of1.55 cu. ft. per second of the waters of ground waterCounty of Pennington, State of South Dakota, at 1262 feet, N 21° 05' Eof the SW 1/4 of the SE 1/4 of Sec. 4, T. 1 N., R. 7 E.for municipal

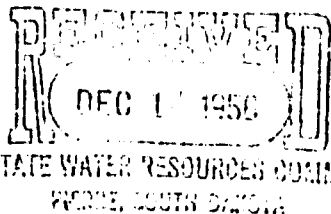
purposes, has fully complied with the provisions of the laws of the State of South Dakota relating to proof of

completion of the works of diversion set out and described in said Vested Right Permit; that said works are found in satisfactorycondition for diverting and conveying to the place of intended use 1.55 cu. ft.per second of water; ~~and that the lands proposed to be irrigated by the use of said water are described as follows:~~to-wit: to furnish municipal water for the distribution system ofCity of Rapid CityWitness my hand this 11th day of January, A. D. 1957

State Water Resources Commission

By:

J. W. Grimes, Chief Engineer, Executive Officer

Location No. 434-2Water Division No. 2Water District 1000

Proof of Application of Water to Beneficial Use

PETITION OF HOLDER

Ques. 1. State your name, residence, occupation and postoffice address.

Ans. H. S. Thorgrimsen, City Manager

Rapid City, South Dakota

Ques. 2. If acting in behalf of a corporation, state its name, principal place of business (if a foreign corporation, give name and postoffice of statutory agent,) your position with reference to same, and your authority for appearing in its behalf.

Ans. City of Rapid City, South Dakota

Ques. 3. State date of posting and date of recording notice of appropriation.

Ans. _____

Ques. 4. State source of water supply and give exact location of point of diversion.

Ans. Well #4- 1262 feet North 21° 05' East of S.W. Corner of SE¼ of Section
4, Township 1N, Range 7 E.

Ques. 5. Describe your works of diversion giving length and height of each dam and state amount of water they are capable of conveying from point of diversion to place of use, and give name of canal or ditch or other works by which water is conducted to such place of use, and date of completion of same.

Ans. Water is pumped from well #4 into the city distribution system.

Ques. 6. State for what purpose water is used and describe place of use. (If for irrigation, name each subdivision in which used, and number of acres in each subdivision that have ACTUALLY been irrigated with said water.)

Ans. Public water supply

Ques. 7. If for other than irrigation purpose, state how applied, amount of horse power generated, etc.

Ans. _____

Ques. 8. What is the minimum amount of water required for the use specified above?

Ans. 1.55 CFS

Ques. 9. If you are not the person or representative of the corporation to whom above mentioned permit was originally issued, please state how ownership was acquired by present holder.

Ans. _____

Ques. 10. State when, how, in what amount and to what extent, the water diverted under above mentioned permit has been used.

Ans. Water has been pumped from the well at the rate of 1.35 CFS since 1938.

(Sign)

W B Gorgun

I hereby certify that the foregoing testimony was read to the above subscriber before its signing, that I believe him to be the person he represents himself to be, and that said testimony was subscribed and sworn to before me, at my office in Rapid City County of Pennington

State of South Dakota, on this 12th day of December A. D. 1956

Witnesses.

William H. Ratz

I, the undersigned, do hereby certify that I am a duly qualified elector residing in the immediate vicinity of the diversion works designated in the foregoing testimony, that I have no interest in the works, water or land above described, that I have read the foregoing testimony and that I know of my own personal knowledge that the matters therein stated are true.

Location No. _____

**PROOF OF APPLICATION OF
WATER TO BENEFICIAL USE**

PETITION OF HOLDER

Amount of Water _____ c. f. s.

Source _____

County _____

Purpose _____

Place of Use _____

Date of recording _____

Received and filed _____

DO NOT WRITE IN THESE SPACES

Rapid City, S. Dak
30 September 1958

Mr. L. Stalling
City Water Superintendent
Rapid City, S. Dakota

Dear Mr. Stalling:

Pursuant to our discussion today I am including a summary (on a form letter used to order water from the Bureau) of the releases that the District has requested the City to make during the 1958 season.

Note that the total days that the City is obligated (for sure) to the District for replacement would be 162 days. The days for which releases were actually made totaled 111 days.

The total acre-foot for which the city is obligated to replace I don't know but should include water which went into pumps at

1. Jackson Springs
2. Meadow Brook
3. Sprinkler system out of Rapid Creek for Sioux Park
4. Sprinkler system out of Lagoon fed by Iowa ditch for Roosevelt Park
5. Water to Arrowhead out of Leedy ditch

The total water replaced from the City to the District was 3148 acre-feet.

After August all orders from City replacement were figured from Pactola (instead of Deerfield) assuming roughly a 10% loss from Pactola to City:

i.e. if City was pumping 10 cfs the release from Pactola would be

10 plus 0.10×10 or 11 cfs

For the record I think it should be pointed out to the Mayor and the water committee that the irrigators have been concerned about conserving water (their own and the City's) as I have tried to illustrate above and which can be more vividly illustrated by a study of prior water year's records. There are several flows in the valley that could be diminished if not eliminated by more careful irrigation practices but not all of these could be completely eliminated anymore as individual users in the city can always eliminate runoff from their lawns into the streets. The difference is in quantities - if an irrigator working with a 1 cfs should let this amount of water get away for 10 minutes this would be the equivalent of about 1000 gallons. State Engineer Ormes has criticized the District for being too conservative at times with the City releases. (This will all be to the detriment of the lower valley as Bob Long will testify)

Only mention these things briefly here because as watermaster one of your jobs should be, I believe, to keep both sides informed. I see both sides of the problem and from what I see I know the irrigators are appreciative and respectful of the City's cooperation. I also know that very few people understand or appreciate the significance of the irrigator's WATER RIGHT.

If I can be of any help with the problem I would be happy to oblige.

RAPID VALLEY
Water Conservancy District
Rapid City
South Dakota

Date:

Bureau of Reclamation
Box 186
Keystone Road
Rapid City, South Dakota

Attention:

Gentlemen:

This letter is to confirm the request which has been made for the release of water as indicated below.

No.	Charged to	Amount A.F.	Rate of Release		Date of Release**		Release from
			cfs	days	ON	OFF	
C-1	City	136	8.5	8	15 May	23 May	Deerfield
C-2	City	680	10	29	23 May	21 June	Deerfield
C-3	City	640	16	20	30 June	20 July	Deerfield
C-4	City	330	18	11	7 Aug	18 Aug	Pactola
C-5	City	1452	17	43	18 Aug	30 Sept	Pactola

Total 3148 111

*This is the date of the time the request was submitted by means of telephone conversation.

**The hour of release (on and off) is understood by the District to be 12:00 P. clock noon unless otherwise arranged for and stated herein.

Very truly

Watermaster

Water Rights Division - DWR
Conversation or File Documentation

File No. UR 436-2

NAME OF PERSON OR FILE: City of Rapid City
ADDRESS: 300 6th ST RAPID CITY SD COUNTY PENNINGTON
DATE: 7/14/82 TELEPHONE _____

RE: Inspection of Vested Water Right Claim No 436-2
COMMENTS:

I INSPECTED THE CITY OF RAPID CITY'S WELL #4. I FOUND
THE SYSTEM CAPACITY IS THE SAME AS THAT CLAIMED
BY VESTED WATER RIGHT CLAIM NO 436-2

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

4/82

NAME: Paul D. [Signature]

436-2

SOUTH DAKOTA

VESTED WATER RIGHT NO. 436-2

Date of Receipt of Claim September 22, 1956.

Date of Validation September 30, 1992.

The Water Management Board validated Vested Water Right Claim No. 436-2 for the City of Rapid City, 300 6th Street, Rapid City, South Dakota 57701 with the following limitations, conditions and qualifications:

1. Vested Water Right No. 436-2 appropriates 1.55 cubic feet per second of water from one well located in the SW1/4 SE1/4 Section 4, T1N, R7E.
2. The appropriated water is used for supplying water for the City of Rapid City and may not exceed the amount of water needed for beneficial use for municipal purposes.

The water is to be used during the following annual period:
January 1 - December 31

3. The priority date of the Vested Water Right is: January 1, 1936
4. The water use system has been constructed and water has been applied to beneficial use.
5. Water Rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

WATER MANAGEMENT BOARD

By: _____

John H. H. H.
Chief Engineer

MAR 16 1993

date

Division of Water Rights
Dept. of Environment and Natural Resources



MAR 16 1993

436-2.
DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3181

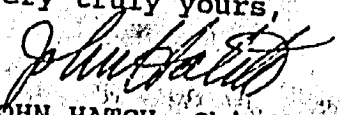
Dan Bjerke, Public Works Director
City of Rapid City
300 6th St
Rapid City SD 57701

Dear Mr. Bjerke:

The Water Management Board has validated the enclosed Vested Water Right Nos. 431-2, 432-2, 433-2, 435-2, 436-2 and 437-2. These validations give legal status to the claim and are the final document for the vested rights.

As long as the water is used beneficially, as stated in the validations, State Water Laws provide a continuing right to use the water.

Very truly yours,


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

enclosures

436-2

Vested Water Right Claim No. 436-2
Upper Cheyenne filver - Water District

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

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

I have this day made a thorough examination of the water use system constructed by the City of Rapid City of 300 6th St, Rapid City SD holder of Vested Water Right Claim No. 436-2, bearing the priority of January 1, 1938 authorizing the diversion of 1.55 cu. ft. per second of the waters of ground water for municipal use purposes, in Pennington County.

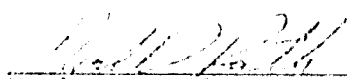
I have to report on the conditions of the same as follows:

- A. Works used to divert the water:
Goulds pump with a 695 gpm capacity.
- B. Works used to transport water to place of use:
Municipal water distribution system.

The system is in the following condition good. The point of diversion is located SW1/4 SE1/4 Section 4 T1N-R7E. The works are capable of diverting and conveying to the place of use 1.55 cu. ft. per second of water which is to be used for municipal use. The license should be issued for 1.55 cfs.

Applicable permit qualifications have been complied with: Yes ☒ No

Exceptions to compliance are: none Date: 7/14/1992



Mark D. Rath
Natural Resources Engineer
DENR, Water Rights Division

436-2

REPORT ON INSPECTION OF VESTED WATER RIGHT CLAIM NO. 436-2

DATE: 7/14/1992

DIVERSION POINT LEGAL LOCATION: SW1/4SE1/4 of Section 4 T1N-R7E

WELL INFORMATION:

- 1) Well Drilling Firm: Norbec Company
- 2) No. of Wells 1
- 3) Depth(s) 1075 feet
- 4) Well log is available Y
- 5) Comment: Drilled in October and November 1939.

Casing:

- 1) Diameter 12, 10 & 8 inches
- 2) Length 405', 540' & 130' respectively
- 3) Type steel

Screen:

- 1) Type steel casing was perforated
- 2) Length 314 feet
- 3) Static water level ? feet

Pump:

- 1) Make Goulds
- 2) Model 425s50634
- 3) Size ?
- 4) Capacity 695 GPM

Motor:

- 1) Make Goulds
- 2) Model No. ?
- 3) Horsepower rating 50 hp

DISTRIBUTION LINES OR CANALS:

- 1) Type Municipal water distribution system

PERMIT QUALIFICATIONS AND REGULATIONS:

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

436-2

City of Rapid City
Municipal Water Well #1
NW 1/4 SW 1/4 sec. 4, T. 4 N., R. 7 E.
Pennington County, South Dakota
Drilled by the Horbeck Company October-November 1939
Elevation 3346.4 on pump platform
Reexamined January 1957 by J. P. Gries

Spearfish formation.

- 0 - 40 clay, silty, orange red
- 50 clay, same, 70% gypsum 30%
- 70 clay, same
- 80 clay, red-brown, sandier; many small monocr. into
gypsum crystals and few frosted quartz grains
- 90 clay, like 70
- 110 shale, red and siltstone; some anhydritic
- 110 shale, red-brown, very anhydritic
- 118 redbeds, anhydritic, 1/3; anhydrite, finely crys-
talline, white, 2/3
- 130 - 160 redbeds and some vein satinspar
- 200 redbeds
- 210 redbeds, same, 20% anhydrite and gypsum, 80%
- 300 redbeds with trace thin anhydrite and gypsum
beds
- 330 redbeds, less anhydrite
- 380 redbeds, same, more anhydrite
- 400 - 420 anhydrite, calcareous, cream

- 390 - 395 siltstone, red-brown, anhydritic
400 siltstone, red-brown, sandy, trace white finely crystalline limestone

Minnehaha formation. Top at 400 foot

- 400 - 420 limestone, very finely crystalline, translucent, cream to light brown; trace anhydrite, finely crystalline
430 limestone, very finely crystalline, light brown to medium gray; trace red-brown to maroon limestone
440 limestone, same, more red-brown to maroon
445 limestone, same, and some much more argillaceous

Opache formation. Top at 446 foot

- 446 - 460 siltstone, very calcareous, lavender to maroon
470 siltstone, reddish brown to brick red, silty
480 shale, red-brown, silty, $\frac{1}{2}$ gypsum and anhydrite $\frac{1}{2}$.
550 shale, red-brown, silty, finely micaceous
560 shale, same, much orange sand with medium to coarse FQG
570 siltstone and sandstone, orange-red, argillaceous
577 siltstone and sandstone, same, few FQG

Minnekahta formation. Top at 577

- 590 - 590 sand, orange yellow, fine to medium with many coarse FQG
600 sand, medium, colorless to faintly orange-yellow, smaller grains subangular, larger ones are rounded and frosted
610 sand, same
630 sand, medium, subangular, slightly yellow to medium, rounded, frosted
640 sand, same, but calcareous and somewhat cemented
660 dolomite, anhydritic, finely crystalline, nearly white to cream
670 anhydrite, finely crystalline, blomitic, light gray to white
680 sandstone, fine to medium, white, tight, anhydritic
690 dolomite, finely crystalline, cream and faintly pink and white, slight pin-point porosity
700 dolomite, same; trace sand and red shale which may be caved
710 dolomite, very dense, calcareous, white to cream
720 dolomite, same; much spar calcite, coarse sand and red shale all of which may be caved
730 sand, fine to coarse, white, anhydritic, $\frac{1}{2}$; shale, red fissile, $\frac{1}{2}$.
740 sand, medium to coarse, gray to white, calcareous or dolomitic
754 sand, medium to coarse, white, 60%; shale, red, 40%
760 sand, fine to medium, anhydritic, white to pale yellow
770 sand, medium to coarse, white

- 770 - 780 sand, medium, with few coarse grains, sub-round to round faintly pinkish
 790 sand, fine to medium, few coarse grains, white to faintly pink
 800 sand, same
 810 sand, fine, some medium, incoherent, white
 820 sandstone, fine, yellow-orange, anhydritic, subangular
 830 sandstone, fine to medium, same
 840 sandstone, same, very calcareous
 850 sandstone, same, anhydritic; trace greenish gray shale
 860 sand, fine to coarse, sub-round, orange to white, 2/3; dolomite, dense, cream, 1/3
 870 sand, red-brown, medium, argillaceous, with streaks of red shale
 890 sand, same, 1/3; dolomite, same, 2/3; some shale streaks probably in dolomite
 900 shale, maroon, silty
 910 clay, maroon, sandy
 920 shale, fissile, maroon, streaks of sand?
 930 shale, same, with some new finely crystalline light gray-brown limestone
 937 shale, variegated red, maroon, green, gray, lavender, 50%; limestone as above, 20%; sandstone, fine, white, porous, 30%
 940 sand, fine to medium with some coarse sub-round to round, nearly white
 970 dolomite, calcareous, dense, gray to red-brown, slightly porous, slightly argillaceous
 980 dolomite, same, 70%; sand, fine, medium, 30%-possibly oolitic
 990 sand, fine, white, calcareous, 1/2; limestone, finely crystalline, cream, 1/2
 1000 sand, fine, 1/2; dolomite, calcareous, cream, very finely crystalline, 1/2
 1010 dolomite, calcareous, very finely crystalline, dense, light gray-brown; trace sand and sandy dolomite
 1020 sample same
 1030 same, and much sand which may be caved
 1045 sand, fine, nearly white to cream, calcareous
 1050 dolomite, fine to medium crystalline, red-brown, argillaceous
 1060 sand, fine to medium with some coarse FOG, white
 1070 sand same and some new finely crystalline cream to white dolomite with some of it sandy.

Cem. 405' of 12"

10" to 945

8" 945 - 1075 TD (not cem.)

Perf: 547-861