

Considered: _____

WATER PERMIT NO. 1346-1

MAP No. same

Name of Applicant Wharf Resources

Post Office Address P.O. Box 897 Lead, S.D.

Amount of Water Claimed 0.25 cfs Total Acres —

Source of Water Supply Groundwater - 1 well

Water to be used for Dom, H₂O Quality Monitoring County Lawrence

About 6 miles W of Lead.

PROOF OF PUBLICATION: Received lt 1-13-86 Not Received _____

APPLICATION: Approved 3/5/86 Subject to _____

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

PRIORITY _____ Date Received 11-2-85 Fee \$225⁰⁰ Remarks _____

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

WATER QUALITY APPROVAL RECEIVED N.A. APPROVED/CONDITIONAL (Circle one)

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

Diversion Point NW⁴ NW⁴ sec. 3 T4N-R2E

Land to be Irrigated N.A.

		⊗			
	4		3		

Well Log: Driller Taylor Drilling Licensed YES X NO _____

Depth of Well 390 ft. REMARKS _____

Type of Map Drawn PREPARED BY Steve Stampli Reviewed and the Number

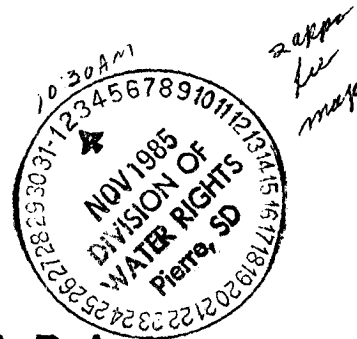
assigned on 11-4-85 By Kevin C. Larson

Lead Daily Call
P.O. Box 876
Lead, S.D.

Form 2 - Application for Permit to Appropriate Water-Original (Includes Approval and Permit)

No. 1346-1

Map No. same Water Division No. Belle Fourch 10120202 District _____
Above for Office Use



APPLICATION FOR PERMIT To Appropriate Water within the State of South Dakota

Check one of the following:

New XX Vested Right _____ Future Use _____
Change in Diversion --- Additional Diversion ---
Change in Acreage --- Additional Acreage ---

1. Name of Applicant Wharf Resources Phone No. (605) 584-1441
Post Office Address PO Box 897 Lead South Dakota 57754
(Street, RR, or Box) (Town) (State) (Zip Code)
If a corporation show date and place of incorporation 1978 Colorado
2. Method of accomplishing work (contract, employment of others, or by direct labor) drilled by contractor
3. Name of diversion work Wharf Resources well - HDH-8
4. Amount of water claimed (cubic feet per second) .25 ft³/sec
5. Source of water supply well
6. Location of point of diversion well (see attached map) /NW/4 of NW/4
section 3, T4N, R2E
County Lawrence
7. Annual period or periods during which water is to be used year round
8. Use to be made of water, (irrigation, industrial, municipal, commercial, recreation, etc.) domestic water; WQ monitoring
9. For irrigation use, Total number of acres to be irrigated NA/industrial

List below each forty acre subdivision, or lot, or fraction thereof and show number of acres to be irrigated in each.

Land Description	No. Acres Irr.	Land Description	No. Acres Irr.
NA		NA	

Attach sheet if more space is needed

10. Time required to complete construction of water supply system 5 years. Additional time required to complete application of water to the proposed beneficial use 4 years.
11. Choice of county newspaper for publication of Notice of Intent to Appropriate Water Lead Daily Call
12. Principal Features of the Proposed Water Supply System.
- A. Works proposed to divert water from its natural source.
well
- B. Works proposed to transport water to place of use.
submersible pump and 1½ inch PVC pipeline
- C. Works proposed to apply water to beneficial use.
well, submersible pump, pipeline, pressure tank

Estimated Total Cost \$ 10,000

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

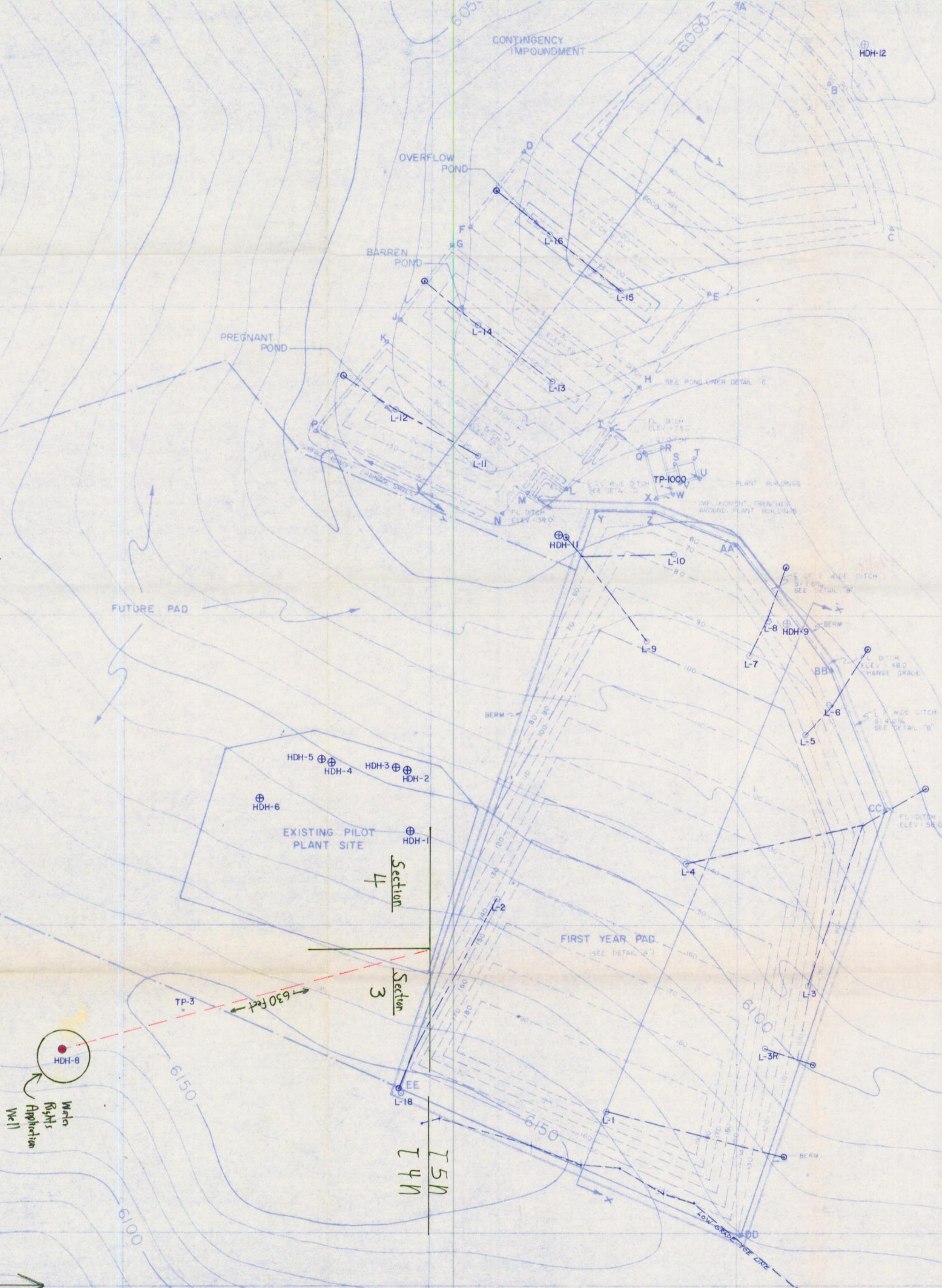
STATE OF SOUTH DAKOTA)
)ss.
County of Lawrence)

I, WHARF RESOURCES the applicant, certify that I have read the foregoing application and 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 [Signature] Vice Pres. Mining
Subscribed and sworn to before me this 30th day of October, 1985
Charles Hansenbach
Notary Public (or other qualified officer)

REFERENCE POINT COORDINATES		
PT	N	E
A	50496	44509
B	50650	44638
C	50755	44870
D	50850	44743
E	50482	44977
F	50082	44868
G	50033	44897
H	50339	45188
I	50293	45197
J	49949	45020
K	49928	45056
L	50221	45295
M	50158	45302
N	50117	45334
P	49809	45201
Q	50347	45236
R	50376	45229
S	50395	45282
T	50429	45244
U	50438	45278
V	50404	45286
W	50394	45302
X	50385	45309
Y	50267	45330
Z	50362	45332
AA	50497	45382
BB	50655	45688
CC	50745	45817
DD	50506	46504
EE	49952	46766

SCALE 1" = 100'



Section 4
Section 3
T 4 N
R 2 E

Water Rights Application Well

Wharf Resource, Inc.
October 1985 Application for water right
on HDH-8

Copy 1

App. # 1346-1

North

Scale 1" = 100' Site Stamp 11

SMS

WATER RIGHT APPLICATION APPROVAL

The Water Management Board hereby approves Water Right Application No. 1346-1

Wharf Resources

PO Box 897, Lead

SD

57754

(Applicant)
(State)

(Post Office Address)

With the following qualifications

The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

Date of first receipt of application November 2, 1985

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

Date of receipt of corrected application _____, 19____

Approved March 5, 1986, Recorded in Book _____ Page _____

WATER RIGHT PERMIT NO. 1346-1

The Water Management Board hereby grants and issues this Water Right Permit No. 1346-1 authorizing the construction of the water use system and the putting of water to beneficial use as stated in the Application and as qualified in the Water Right Application approval, subject, however, to the following limitations and conditions:

1. The date from which applicant may claim right is November 2, 1985
2. The equivalent of at least one-fifth of the work above specified is to be completed on or before August 5, 1988
3. The whole of said work is to be completed on or before March 5, 1991
4. The limit of time from proof of beneficial use of water appropriated in accordance herewith is March 5, 1995
5. The water appropriated shall be used for the purpose of domestic use and water quality monitoring
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 injuriously affected by this appropriation.
7. The amount of the appropriation herein granted shall not exceed .25 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 if for irrigation purposes said appropriation must be limited to not more than 2 acre feet per acre per year and 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 March 5, 1995; said water to be used during the following described annual period: Jan 1 - Dec 31

APR 21 1986

Witness my hand this _____ day of _____, 19____

THE WATER MANAGEMENT BOARD

By:

John H. H. H.
Chief Engineer, Water Rights

Certificate of Construction Issued _____, 19____

Water License Issued _____, 19____

D Well Information

- (1) Drill Hole, Diameter 6.25 inch, Depth 390 feet
- (2) Casing, Type schedule 40 PVC, Diameter 4.5" I.D., Thickness .173 inch
(wood, concrete, steel, etc.)
- (3) Screen, Type slotted PVC, Diameter 4.5" I.D., Length 75 feet
- (4) Gravel Pack, Thickness NA, Length of gravel pack NA

E. Dugout Information or Estimates

- (1) Surface dimensions, NA, Depth NA

F. Fill out for Either a Well or a Dugout.

- (1) Water Bearing Materials. (Attach a copy of test well log)

Depth to top of water bearing material 315 feet

Depth to bottom of water bearing material unknown

Depth to water (ground surface to water level) 262 feet

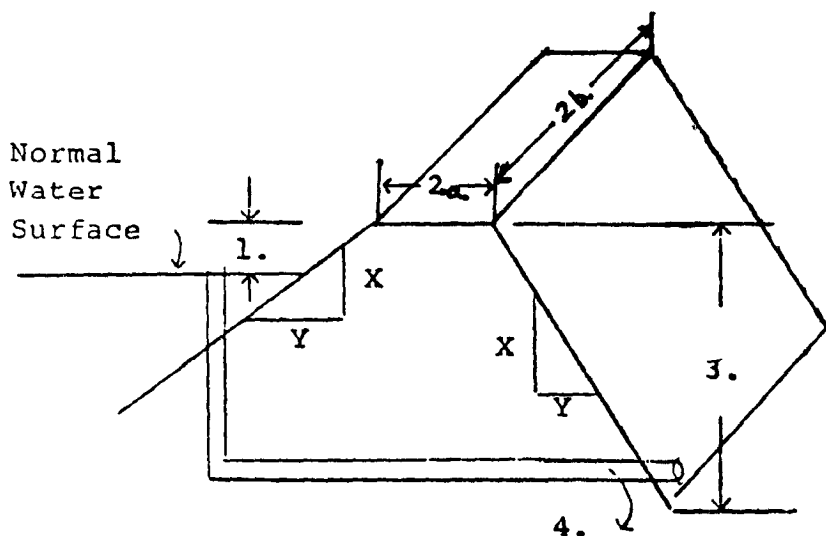
- (2) Distance to nearest existing household or livestock watering well.

On same owner's property 133 rds. (16.5 ft/rod)

On property owned by others 215 rds. (16.5 ft/rod)

G Water Storage Dams NA

If the proposed water use system contains one or more water storage dams, please show in the space below, the height, length, maximum water depth, surface area, drainage area, storage capacity, dam slope, dimensions, location and size of outlet works, of each storage dam. The location of each water storage dam should be shown on the water right map.



1. Freeboard _____
- 2a Crest width b length _____
3. Height of Dam _____
4. Outlet dimensions:
 - Pipe diameter _____
 - Spillway width _____
- X & Y slope:
 - Upstream _____
 - Downstream _____
- Surface area of impoundment _____
- Drainage area above dam _____

X. H. Scholz Vice Pres. Mining
Signature of Applicant

RECEIPT

Division of Water Rights

No 4 10225

South Dakota Department of Water and Natural Resources

Pierre, November 4, 1985, 19

RECEIVED OF Wharf Resources, PO Box 897, Lead, South Dakota 57754

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

1346-1		
Fee for Application for Permit No. to Appropriate Water, to construct works and to put water to beneficial use	225	00
Fee for Application for Permit No. to Appropriate Water for Future Use		
Fee to retain Future Use Permit No. after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No.		
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	225 00

By

Chief Engineer

JOHN HATCH/ES

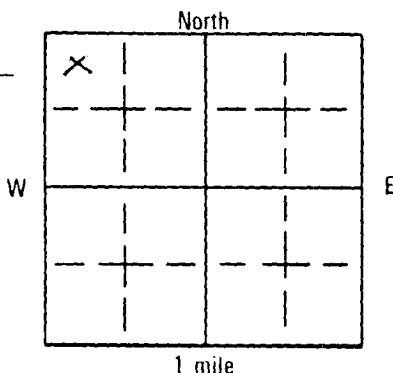
SOUTH DAKOTA WATER WELL COMPLETION REPORT

1346-1

10-85

Location NW 1/4, NW 1/4 Sec 3 Twp 4N Rg 2E

County

LawrenceReplacement for
Well HDH-8
Please mark well
location with
an "X"Well Completion Date February 21, 1986

PROPOSED USE:

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

Method of Drilling:

Air Rotary

CASING DATA:

☒ Steel ☒ Plastic ☐ OtherIf other describe Steel surface casing

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>200</u> 150 <u>PSI</u>	<u>6 5/8</u> IN	<u>0</u> FT	<u>322</u> FT	<u>7 1/8</u> IN
<u>24</u> LB/FT	<u>8 3/8</u> IN	<u>0</u> FT	<u>51</u> FT	<u>12 1/4</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUT:

Was the well grouted? ☒ YES ☐ NO 0-250To what depth? 0-51 ~~0-250~~ FEETWhat is grouting material? cementIf cement, number of sacks? 25 sacks

Describe grouting procedure

pressure groutedWhat was grout weight? 15 LB/GALSCREEN: ☒ Perforated pipe ☐ ManufacturedDiameter 6 5/8 IN Length 60 FEETMaterial PVCSlot Size 1/4" Set From 260 Feet To 320 Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Slot Size _____ Set From _____ Feet To _____ Feet

Other information _____

Was a packer or seal used? ☒ YES ☐ NOIf so, what material? rubberDescribe packer(s) and location? 250' ~~3 packers~~3 rubber shale packersWas well disinfected upon completion? ☐ YES ☒ NO

Explain _____

Bacteriological analysis ☐ YES ☒ NO

Laboratory sent to _____

Well Owner:

Name WHARF ResourcesAddress P.O. Box 897 Lead, SD 57754

Well Log:

Depth

Formation

From

To

<u>Clay</u>	<u>0</u>	<u>2</u>
<u>Fractured & broken limestone</u>	<u>2</u>	<u>45</u>
<u>white limestone</u>	<u>45</u>	<u>130</u>
<u>light grey limestone</u>	<u>130</u>	<u>190</u>
<u>grey & brown siltstone</u>	<u>190</u>	<u>215</u>
<u>grey limestone</u>	<u>215</u>	<u>220</u>
<u>tan, yellow, pink & grey ss.</u>	<u>220</u>	<u>265</u>
<u>mostly tan limestone</u>	<u>265</u>	<u>305</u>
<u>gray ss</u>	<u>305</u>	<u>360</u>
	<u>320</u>	

STATIC WATER LEVEL 272 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other

If other; specify _____

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped☐ BailedDescribe: pump tested☐ Other

Pumping Level Below Land Surface

288 ft. After 24 Hrs. pumped 100 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

REMARKS:

This well was drilled under license # 331

And this report is true and accurate.

Drilling firm TAYLOR DRILLING CO.

Signature of License Representative:

Kathy Taylor

Signature of Well Owner:

Date _____

Mailing Address
TAYLOR DRILLING CO.
P.O. Box 7738
Rapid City, S.D. 57709

JOHN PAUL GRIES

Consulting Geologist

238 ST. CHARLES STREET

RAPID CITY, SOUTH DAKOTA

Scholz Engineering D. H. No. 8.

Location:

Collar Elevation: 6137 feet

Drilled by Taylor Drilling Co., Rapid City, S.D.

- 0 - 10 dol, fx, gray to yellow, weathered
- 20 dol, vy fx, grayer and fresher
- 30 dol, same
- 40 dol, vy fx, light gray to nearly white
- 60 dol, fx, light to medium gray
- 70 dol, vy fx, very light gray
- 80 dol, fx, light to medium gray
- 90 dol, same, with abundant dark gray to black chert
- 100 dol, fx very light to medium gray
- 10 dol, fx to mx, very light gray to yellow
- 20 dol, same, with thin layers of chert
- 40 dol, same, with chert and yellow clay pocket?
- 50 dol, fx, light to medium gray
- 60 dol, fx, medium gray
- 70 dol, same
- 80 dol, fx, medium gray
- 90 dol, fx, medium to dark gray
- 200 dol, fx, medium to dark gray. Samples above 200 feet, field description only
- 200 - 205 dol, fx to mx, dense and dol, granular, rhombic xtls, light gray, high porosity
- 10 dol, fx, mostly dense, medium gray to pale yellow
- 15 dol, fx, dense, gray; dol, oolitic, rhombic xtls, gray
- 20 dol, fx to mx, fx is dense, mx is rhombic, porous, medium gray
- 25 dol, same, faintly pink to gray mottled
- 30 dol, fx, pink, salmon, yellow, mottled and black speckled
- 35 dol, vy fx, light pink, yellow, mottled as above
- 40 dol, fx, some pinpoint porosity, lavender to gray; some glassy
- 45 dol, finely rhombic gray with lavender cast, porous-vuggy
- 50 dol, same, trace oolitic
- 55 dol, vy fx, medium to dark gray, dense; trace flesh pink lime
- 60 dol, fx to mx, rhombic, silver gray to cream, very porous
- 65 dolomite, same
- 70 dol, fx, light gray to pale pink and yellow, earthy
- 75 dol, same, tight
- 80 dol, calc, fx, mottled gray and yellow-brown
- 85 dol, fx, mottled gray, pink, yellow
- 90 dol, calc, fx, yellow gray brown, orange
- 95 dol, fx, dense to oolitic, trace rhombic, porous, med to dk gray
- 300 dol, fx to mx, hard, dark gray, rhombic to glassy
- 05 dol, vy fx, very light gray with black specks
- 10 no sample
- 15 dol, same like 300-305; now dark gray rhombic, some vuggy porosity

Drill Hole No. 8 cont'd

315 - 320 back into light gray dol that looks like neat cement
25 dol, fx rhombic glassy and porous. Few fragments rhyolite
30 dol, same and some lenticles
35 dol, fx, glassy, more rhombic, some pinpoint porosity
40 dol, same and some slight lenticles or pellets
50 dol, vy fx, med to dark gray, slightly vuggy
70 dol, same to rhombic, porous
80 dol, fx, rhombic, dark gray
85 dol, same
90 dol, same, some iron stained Total depth

Note: Driller reported 8-inch dry void at 207 feet. Converted to foam. Reported hitting noticable water at about 315 feet. At total depth, the driller was able to blow the well at a consistent 11 gallons per minute. Initial static level after casing reported to be about 275 feet below collar.



(A Montana General Partnership)

Wharf Resources Ltd.

Wharf Resources (U.S.A.) Inc.

October 30, 1985

Mr. Kevin Larson
DWNR - Office of Water Rights
Joe Foss Building
Pierre, SD 57501-3181



RE: HDH-8 Water Rights Application

Dear Kevin:

Attached please find Wharf Resources application for a water rights permit covering well number HDH-8. Along with two original copies of the notarized application please find two copies of the drilling log, two copies of the well location map and a check in the amount of \$225 for the requested application of .25 ft 3/sec.

I trust that these submissions will cover all requirements for making application. Please contact me if you have any remaining questions.

Respectfully,

Steve Stampfli

Steve Stampfli
Environmental Coordinator

/ld

Attachment

xc: Water Rights File - HDH-8
H.A. Scholz

Conversation or File Documentation

NAME OF PERSON OR FILE: Wharf ResourcesADDRESS: P.O. Box 897 Lead COUNTY LaurelDATE: 11-5-85 TELEPHONE _____RE: Construction of monitoring well HDH-8

COMMENTS:

Called Steve Stangli of Wharf and asked him
how this well was constructed. He said it was drilled
in 1982 as a monitoring well by Taylor Drilling. He has
contacted them about a well log but they cannot find one.
He said the well was sealed with bentonite from the
top of the screen to the ground surface.

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

NAME: Kevin C. Larson

Conversation or File Documentation

NAME OF PERSON OR FILE: LUTHER RUSSELL OF WATER RESOURCES

ADDRESS: _____ COUNTY _____

DATE: 8/21/86 TELEPHONE _____RE: CHANGE OF DIVERSION POINT FOR PERMIT #1346-1

COMMENTS:

- A NEW WELL HAS BEEN DRILLED APPROXIMATELY 40 FEET FROM THE
OLD WELL WHICH SUPPLIED WATER FOR PERMIT #1346-1. THE OLD WELL
WAS ABANDONED AND THE NEW WELL IS COMPLETED INTO THE SAME AQUIFER (MADISON L_s).
- MR RUSSELL WAS TOLD THE NEW WELL WOULD BE COVERED UNDER 1346-1
- HE (RUSSELL) WILL SEND JOHN HATCH A LETTER FOR SIGNATURE STATING THAT THE
NEW WELL IS COVERED BY 1346-1

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

NAME: Int. Butler



WHARF RESOURCES

(A Montana General Partnership)

Wharf Resources Ltd.

Wharf Resources (U.S.A.) Inc.

September 12, 1986

Mr. John Hatch, Chief Engineer
Water Rights Division
Department of Water and Natural Resources
Joe Foss Building, 4th Floor
523 East Capitol
Pierre, South Dakota 57501-3181



Dear Mr. Hatch:

Enclosed please find our Water Right Application to appropriate 0.25 ft³/sec from a well located on our Joseph mining claim. This well may possibly be utilized to supply water for our Annie Creek mining operation located in Lawrence County.

I have enclosed maps, application forms, drillers' log, and a check in the amount of Two Hundred Twenty-five Dollars (\$225.00) for the requested appropriation. I trust these submissions will cover all requirements for making a water right application. If additional information is required, please contact me at 584-1441.

As you are aware, we have previously received approval of a Water Right Permit Application (No. 1364-1) for appropriation of up to 0.25 CFS from another well (HDH-8) located elsewhere on our property. It is my understanding, pursuant to SDCL 46-5-31 and your letter of April 21, 1986, that changes in location for wells into the same aquifer can be made up to 660 feet without application. This letter will serve to advise you that due to operational conflicts, Well HDH-8 (Water Right Permit No. 1346-1) has been moved approximately 50 feet and a new well (HDH-8A) drilled into the same aquifer. The original well (HDH-8) has been abandoned and plugged following State Well Construction Plugging Standards (Chapter 74:02:04). It is my understanding that our Water Permit No. 1346-1 will apply to this new well. Your confirmation of this would be appreciated.

Sincerely,

Luther A. Russell, Director
Governmental Affairs

LJR/lkm
Enclosures

CC: H. A. Scholz
R. B. Barnes

REPORT ON APPLICATION NO. 1346-1

WHARF RESOURCES

November 20, 1985

Application No. 1346-1 is for 0.25 cfs from one Madison Limestone well 390 feet deep. The water is to be used for domestic use and water quality monitoring.

Aquifer - Madison Limestone

The Madison (Pahasapa) Limestone is a fine to medium crystalline, cavernous limestone and dolomite as much as 600 feet thick, underlying approximately 314,880 acres of Lawrence County (Allen, 1984). The importance of the Madison as an aquifer is largely due to the well developed zones of secondary porosity and permeability formed by weathering of exposed surfaces and ground water solution. Investigators of the Madison generally all agree the Madison is an excellent aquifer near the outcrop (recharge) area of the Black Hills. The Madison is recharged from direct precipitation falling on the outcrop area. The actual quantity of water that recharges the Madison is unknown, and a controversial subject. Rahn (1979) states that the recharge rate "must be fairly low", because water from the Madison was determined to be about 30,000 years old at Midland and Phillip. The water presumably took 30,000 years to migrate from the recharge area near the Black Hills. In a report prepared for the BLM by Woodward-Clyde Consultants, the upper and lower bounds of average annual recharge are estimated to be 400,000 acre-feet/year and 140,000 acre-feet/year respectively. In Lawrence County, the Pahasapa contains an estimated 9,446,400 acre-feet of recoverable water (Allen, 1984). The Minnelusa Formation is possibly hydrologically connected with the Madison Limestone allowing natural discharge. Natural discharge also occurs along numerous springs which have incised the potentiometric surfaces.

A review of geologic maps (Darton, 1925) and the geologist log which accompanies this application, suggest the well is possibly not located in a typical Pahasapa section. Metamorphism resulting from nearby Tertiary intrusives has altered the constitution of the limestone, both structurally and internally and thus effected the ground water flow system. Zones of secondary porosity and permeability may not be present. The aquifer characteristics and the specific capacities of wells completed into this altered zone could vary considerably from well to well, and would be nearly impossible to predict. The static water level from the applicant's well was reported to be 262 feet below the land surface, which is above the creek levels. At total depth, the driller was able to blow the well at a consistent 11 gpm. A properly completed well should yield the amount of water requested by this application. The Division of Water Rights does not have any observation wells in this area, and no historical data (water levels) is available.

Review of Existing Permits

There are 16 water right permits, which appropriate 6805.05 acre-feet per year from the Madison in Lawrence County. The only permit in the same area as this application is No. 1173-1. Permit No. 1173-1, Warbonnet, Inc., is a vested right for 0.20 cfs spring flow from the Pahasapa. The permit diverts water from the same legal description as this permit requests. Maps are not available to locate the specific location of the spring.

Conclusions

1. Little hydrologic data is available. The Madison is probably a viable source of water in this area, but well capacities and storage in the area are unknown.
2. The Madison is basically untapped in Lawrence County, with only 0.072% of the estimated recoverable water appropriated. Water is available for appropriation.
3. The well is located near the recharge area.
4. The well penetrates porous zones in the Madison and the static water level is 262 feet below land surface. The well was tested using airlift at 11 gallons per minutes.
5. The source of water for the well in the application is the same as the spring under Permit No. 1173-1. The exact location and elevation of the spring is not available. Interference could be a problem if the spring near the well, is located high on the potentiometric surface and the specific capacity of the well is low, causing large drawdown.
6. It is recommended that testing be done in order to prevent possible controversy.



KENT BUHLER
Natural Resources Engineer

Bibliography

- Allen, J.C., Iles, D.L., Peters, A.K., 1984, Analysis of Groundwater and Streamflow Data, Western Dakotas Region of South Dakota: Tasks 3 & 4: Groundwater Resource Inventory: Department of Water and Natural Resources, Division of Geologic Survey, Vermillion SD 57069; U.S. Army Corps of Engineers Constrct No. DAWC 45-82-C-0151.
- Darton, N.H., Paige, S., 1925, Geologic Atlas of the Unites States, Central Black Hills Folio, South Dakota, USGS, Folio No. 219
- Rahn, P.H., 1979, Groundwater Resources of Western South Dakota, U.S.Army Corps, Draft Final Report.
- Woodward-Clyde Consultants, 1981, Well Field Hydrology, Bureau of Land Management, Final Technical Report.
- Division of Water Rights, Water Permit and Domestic Well Files, DWNr, Pierre SD, 1985.

RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT

APPLICATION NO. 1346-1, Wharf Resources

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. 1346-1, Wharf Resources, PO Box 897, Lead SD.

The Chief Engineer is recommending APPROVAL of Application No. 1346-1 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 with the following qualifications:

The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner, under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

See the attached report for additional information.

A handwritten signature in black ink, appearing to read "John Hatch", with a stylized, cursive script.

JOHN HATCH, Chief Engineer
November 27, 1985

No. 1346-1

Instruction to Newspaper - Publish first publication of the following Notice on or before January 2, 1986 with 2nd publication 1 week later. The applicant is responsible for payment.

NOTICE OF HEARING on Application No. 1346-1 to Appropriate Water
~~and/or to Amend Water Permit or Water Right No. _____~~

Notice is hereby given that Wharf Resources whose mailing address is PO Box 897, Lead, South Dakota has made an application for a permit to appropriate 0.25 cubic feet per second from one well 390 feet deep (Madison Formation) located in NW 1/4 NW 1/4 Section 3, T4N, R2E. Water will be used for domestic use and water quality monitoring

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends APPROVAL of Application No. 1346-1 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 Room 216, Joe Foss Building, 523 E Capitol, Pierre SD on March 5 19 86 at 10:00 am.

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 21, 1986. 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 21, 1986.

AFFIDAVIT OF PUBLICATION

STATE OF SOUTH DAKOTA, { ss.
COUNTY OF LAWRENCE

William B. Kemper, of said county and state, being
duly sworn, on his oath says: That the Lead Daily Call Deadwood Pioneer T

is a legal newspaper of general circulation, printed and published in Lead,
in said county and state, by the Seaton Publishing Company, and has been
such a newspaper during the times hereinafter mentioned; and that I,
William B. Kemper, the undersigned, am the
Business Manager of the said newspaper, in charge of the advertising
department thereof, and have personal knowledge of all the facts in this
affidavit, and that the advertisement headed NOTICE OF HEARING ON APPLICAT
APPROPRIATE WATER (Wharf Resources)

a printed copy of which is hereto attached, was printed in said newspaper
for 1 successive and consecutive week, the respective publi-
cations thereof being made on Jan. 2, 1986

and on _____, 19____

_____, 19____

_____, 19____

_____, 19____

_____, 19____

_____, 19____

and the last publication thereof on Jan 9, 1986

and that the full amount of fees charged for publishing the same, to-wit:
the sum of \$ 41.10, inures solely to the benefit of aforesaid

publisher and that no arrangement or understanding for a division thereof
has been made with any person other than the publisher, and that no part
thereof has been agreed to be paid to any other person whomsoever.

Subscribed and sworn to before me this 2

day of Jan, 1986

[Signature]
Notary Public, Lawrence County, S. Dak.

My commission expires July 14, 89

NOTICE OF HEARING ON APPLICATION NO. 1346-1 TO APPROPRIATE WATER

Notice is hereby given that Wharf Resources whose mailing address is PO Box 897, Lead, South Dakota has made an application for a permit to appropriate 0.25 cubic feet per second from one well 390 feet deep (Madison Formation) located in NW1/4 NW1/4 Section 3, T4N, R2E. Water will be used for domestic use and water quality monitoring.

Pursuant to SDCL 46-2A-2 the Chief Engineer of the Water Rights Division recommends **APPROVAL** of Application No. 1346-1 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 Room 216, Joe Foss Building, 523 E Capitol, Pierre SD on March 5 1986 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 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 21, 1986**. 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, 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 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 21, 1986.

January 2



Department of Water & Natural Resources

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501

Water Rights Division
605 773-3352

APR 21 1986

Wharf Resources
PO Box 897
Lead SD 57754

Dear Sir:

Enclosed herewith is your Water Permit No. 1346-1 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. 1346-1.

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,

A handwritten signature in cursive script that reads "John Hatch". The signature is written in dark ink and is positioned above the printed name and title.

JOHN HATCH, Chief Engineer
Water Rights Division

JH: ks

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.

WNR-809-5/83



Department of Water & Natural Resources

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

WATER RIGHTS DIVISION
(605) 773-3352

1278-1
1288-1
1346-1

June 6, 1988

Wharf Resources
PO Box 446
Deadwood, South Dakota 57732

Dear Sir:

The inspection of your water use systems and inspection of the extent of the application of water to beneficial use, as developed under your Water Right Nos. 1278-1, 1288-1 and 1346-1 has been completed. Your final water right documents, the Water Licenses, can now be issued.

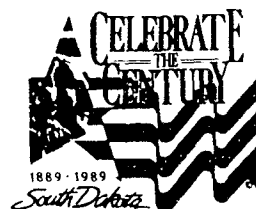
Statutes require that we charge a \$50.00 fee for the inspection and issuing of the Water License. Upon receipt of the \$50.00 fee from you for each permit, total of \$150.00 for the three, your Water Licenses will be sent to you.

South Dakota Water Law 46-5-30.1 requires that a permit holder may not divert water until this \$50.00 license fee for each permit has been paid. Please contact us if you have any questions.

Sincerely,

Maxine Stirling
Secretary

NOTE: On check or money order, please indicate the number of the water permit.
This insures proper handling of the fees.



RECEIPT

Division of Water Rights

South Dakota Department of Water and Natural Resources

411284

Pierre, June 15, 19 98

RECEIVED OF Wharf Resources, P.O. Box 446, Deadwood, SD 57732

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. <u>1346-1</u>	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 John Hatch
Chief Engineer JOHN HATCH 



WHARF RESOURCES

(A Montana General Partnership)

Wharf Resources Ltd.

Wharf Resources (U.S.A.) Inc.

June 14, 1988



Ms. Maxine Stirling, Secretary
Water Rights Division
Department of Water and Natural Resources
Joe Foss Building, Room 413
523 East Capitol
Pierre, South Dakota 57501-3181

Dear Ms. Stirling:

Pursuant to your June 6, 1988 letter, enclosed please find our check for One Hundred Fifty Dollars (\$150.00) for fees associated with the inspection and issuance of Water Licenses 1278-1, 1288-1, and 1346-1.

I trust this submittal will allow you to issue the Water Licenses pursuant to each of these water right applications. If additional information is required, please feel free to contact me at 584-1441.

Sincerely,

Luther J. Russell, Director
Governmental/Environmental Affairs

LJR/lkm

CC: WR 1288-1
WR-1278-1
WR-1346-1

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 Wharf Resources
(USA) Inc. of P.O. Box 446, Deadwood, S.D. 57732 holder of
Permit No. 1346-1, bearing the priority of November 2 1985 authorizing
the diversion of 0.25 cu. ft. per second of the waters of groundwater- Madison well
for WQ monitoring-Domestic purposes, in Lawrence County.

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

A. Works used to divert the water:

A submersible pump, 100 gallons per minute capacity.
A submersible motor, 15 horse power.

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

3 inch Polyvinyl Chloride (PVC) pipe, 1320 feet long.

C. Works used to apply water to beneficial use:

The water is used as makeup water to be mixed with Sodium cyanide and also for domestic use and water quality monitoring.

The system is in the following condition good

The point of diversion is located approximately 600 feet south, 200 feet east from the Northwest
corner of Section 3, T4N-R2E, (NW $\frac{1}{4}$ NW $\frac{1}{4}$)

The works are capable of diverting and conveying to the place of use 0.22
cu. ft. per second of water which is to be used for WQ monitoring-domestic-makeup water for Cyanide.

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

The well (HDH-8A) is a replacement well for HDH-8. The new well is drilled into the
same aquifer as HDH-8 (Madison). The water is used for the offices, for water quality
monitoring and also as makeup water for dilution of Sodium Cyanide which is used in
heap leaching process to extract gold.

comprising a total of NA acres of land and the license should be issued for 0.22 cfsApplicable permit qualifications have been complied with X Yes NoExceptions to compliance are: _____ Date 5/26/88

(signature)

M. A. Hadi

LICENSE FOR PERMIT NUMBER 1346-1

1. Legal location of wells: NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 3, T4N-R2E

dams & structures: NA

2. Well Information: Well Drilling Firm Taylor Drilling Company

No. of wells 1 Depth 360 feet

Casing a) diameter 6 5/8 inches
b) length 322 feet
c) type Steel- Plastic

Screen a) type Polyvinyl Chloride (PVC)

b) length 60 feet

Static Water Level 272 feet

Pump a) make submersible
b) model _____
c) size _____
d) capacity 100 GPM
e) turbine pump
no. of stages _____

Motor a) make submersible

b) model no. _____

c) horsepower rating 15

d) motor efficiency rating _____

3. Distribution lines:

a) size of lines 3 inches
b) type Polyvinyl Chloride (PVC)
c) length 1320 feet

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 _____

i) Outlet tubes:

1) diameter _____
2) type _____
3) valued (Y/N) _____
4) valve type _____
5) location on structure _____

h) Distribution lines or canals:

1) size _____
2) type _____
3) length _____

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

____ NA ____

1. Soil and water permit lands agree with lands being irrigated and lands listed on permit.

X ____

2. Special Qualifications to permit being abided by.

X ____

3. All Structures, wells and lands on map.

REMARKS:

14N

4911

4910

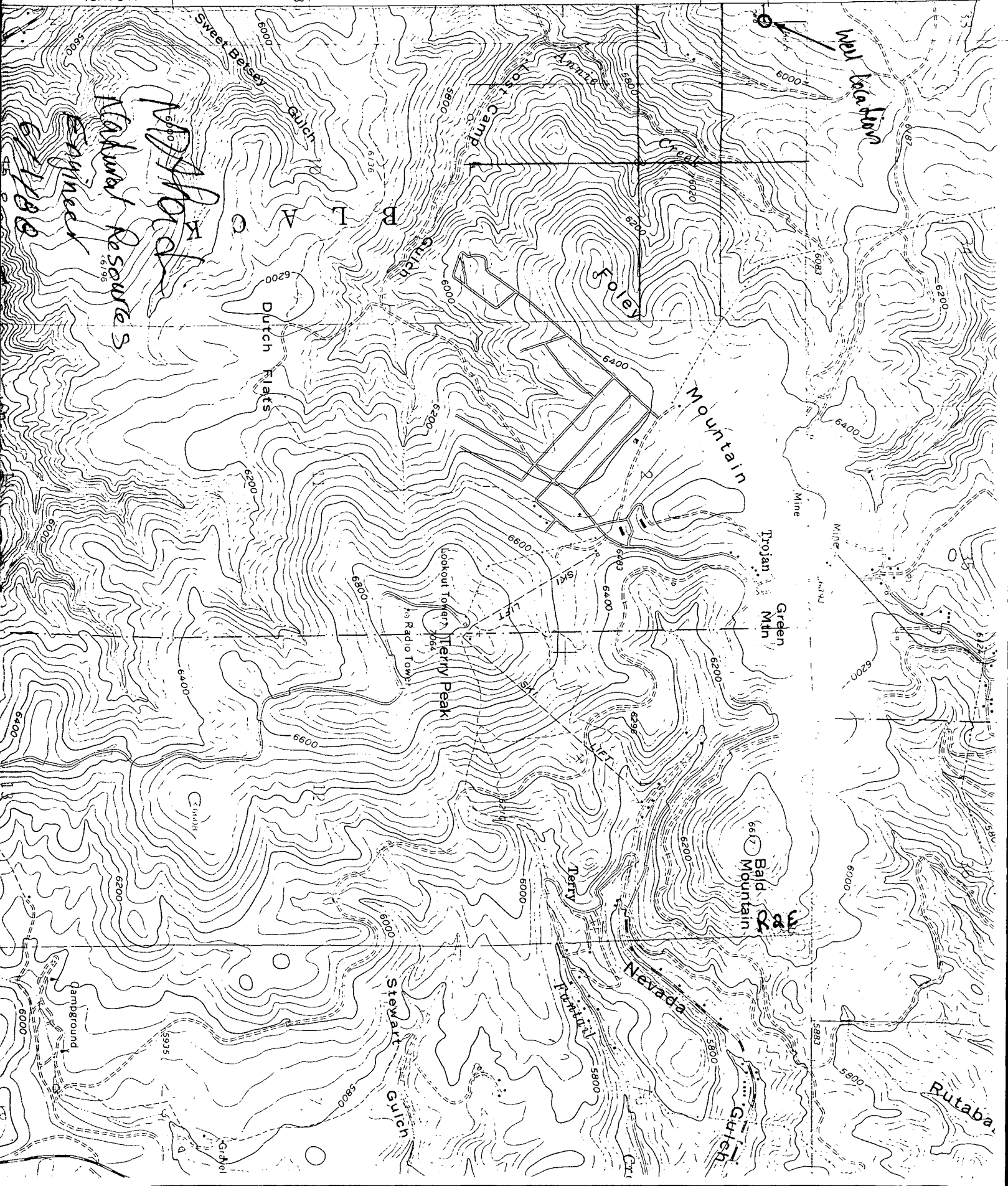
20'

4909

4908

5272 IV SW
(SAVOY)

WA# 1346-1



State of South Dakota

Water License No. 1346-1

(1) Wharf Resources
of PO Box 446, Deadwood, South Dakota 57732
made Application No. 1346-1, November 2, 1985 for a water permit to appropriate
0.25 cubic feet per second of water from groundwater (one well),
Lawrence County, South Dakota for domestic use and water quality monitoring purposes.
Permit No. 1346-1, with a priority date of November 2, 1985
was approved March 5, 1986 and issued to applicant(s) for diversion of water with construction of the described
water supply system to be completed on or before March 5, 1991 and for the application to beneficial use of said
water on or before March 5, 1995.

and

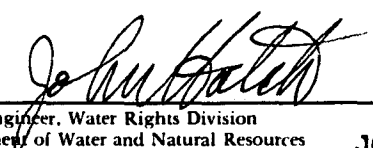
(2) It is certified that the applicant has complied with the provisions of South Dakota State Law relating to completion of
the construction of the water supply system and is entitled to divert 0.22 cubic feet per second of water
for beneficial use. The location of the diversion point(s) is 600 feet South, 200 feet East from the
NW Corner of Section 3, T4N, R2E (NW $\frac{1}{4}$ NW $\frac{1}{4}$)

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,~~ _____

(4) Pursuant to §46-5-30.1 Wharf Resources
of PO Box 446, Deadwood, South Dakota 57732
the holder(s) and/or owner(s) of Water Permit No. 1346-1 is issued a license to appropriate water, the right to use
0.22 cubic feet per second of water from groundwater (one well) with a priority date
of November 2, 1985 from the location specified in (2) of this license. The water to be
~~conducted to and upon lands specified in (3) of this license~~ diverted for the purpose of domestic use and water
quality monitoring

This license is subject to any limitations or qualifications listed in Water Permit No. 1346-1 and subject to South Dakota State Law.



Chief Engineer, Water Rights Division
Department of Water and Natural Resources
JOHN HATCH
MAR 10 1989



Department of Water & Natural Resources

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

MAR 10 1989

1278-1
1288-1
1346-1

Wharf Resources, Inc.
PO Box 446
Deadwood, South Dakota 57732

Dear Sir:

Enclosed is Water License Nos. 1278-1, 1288-1 and 1346-1. This is the final water right document completing your process of obtaining a Water Right.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right Nos. 1278-1, 1288-1 and 1346-1, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Very truly yours,

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

enclosures



SOUTH Dakota Department of
Water & Natural Resources

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

April 18, 1990

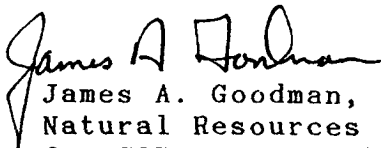
John Lawson
Wharf Resources
PO Box 446
Deadwood SD 57732-0446

Dear Mr. Lawson:

I am writing to follow-up on the April 17, 1990, telephone conversation, between yourself and Ken Buhler, concerning expansion of Pad 2 over well HDH-8A. Wharf Resources proposes to salvage the well by extending the well casing with a pitless adapter 20-25 feet through the berm on the extended portion of Pad 2. The well casing will be extended inside a "false casing", and the annular space between the well casing and the false casing will be pressure grouted to the bottom of the pitless adapter in one continuous operation.

This proposal will be acceptable for the HDH-8A well. We would like to be present when HDH-8A is pressure grouted.

Sincerely,



James A. Goodman, P.E.
Natural Resources Engineer
for JOHN HATCH, Chief Engineer
Water Rights Division
605 773-3352

cc: Steve Pirner, Division of Environmental Regulation

**WHARF RE**

(A Montana General

Wharf Resources Ltd.

Post-It™ brand fax transmittal memo 7671

of pages 2

To <i>Mike Cepak</i>	From <i>J. Lawson / J. Winter</i>
Co. <i>Wharf</i>	Co.
Dept.	Phone #
Fax #	Fax #

April 12, 1990

Mr. Mike Cepak
 Department of Water and Natural Resources
 Joe Foss Building
 523 East Capitol
 Pierre, South Dakota 57501-3181

RE: EXTENSION OF HDH-8A

Dear Mike:

As per the condition on page 7 of your April 4, 1990, approval letter, I have enclosed the plan for the extension of HDH-8A.

The well will be extended 20-25 feet (as illustrated in the plan schematic) through the berm on the extended portion of Pad 2. The well extension will follow the provisions of ARSD Chapter 74:02:04 and, in particular, the rule regarding grouting (74:02:04:30).

The overall function of the well will not change, so that we will continue to use the well as an upgradient monitor site and as a water source for production and drinking water at the mine.

As we plan to begin construction of the area surrounding the well within the next ten days, we would appreciate your review of this plan as soon as possible. If you have any questions, please contact me.

Sincerely,

John A. Lawson
 Environmental Coordinator

JAL/bls

CC: L. Russell
 C. Calderon
 V. Franzen
 E. DeLilla
 J. Winter
 203-08-06-22
 109-02-01
 jal\exthdh8a

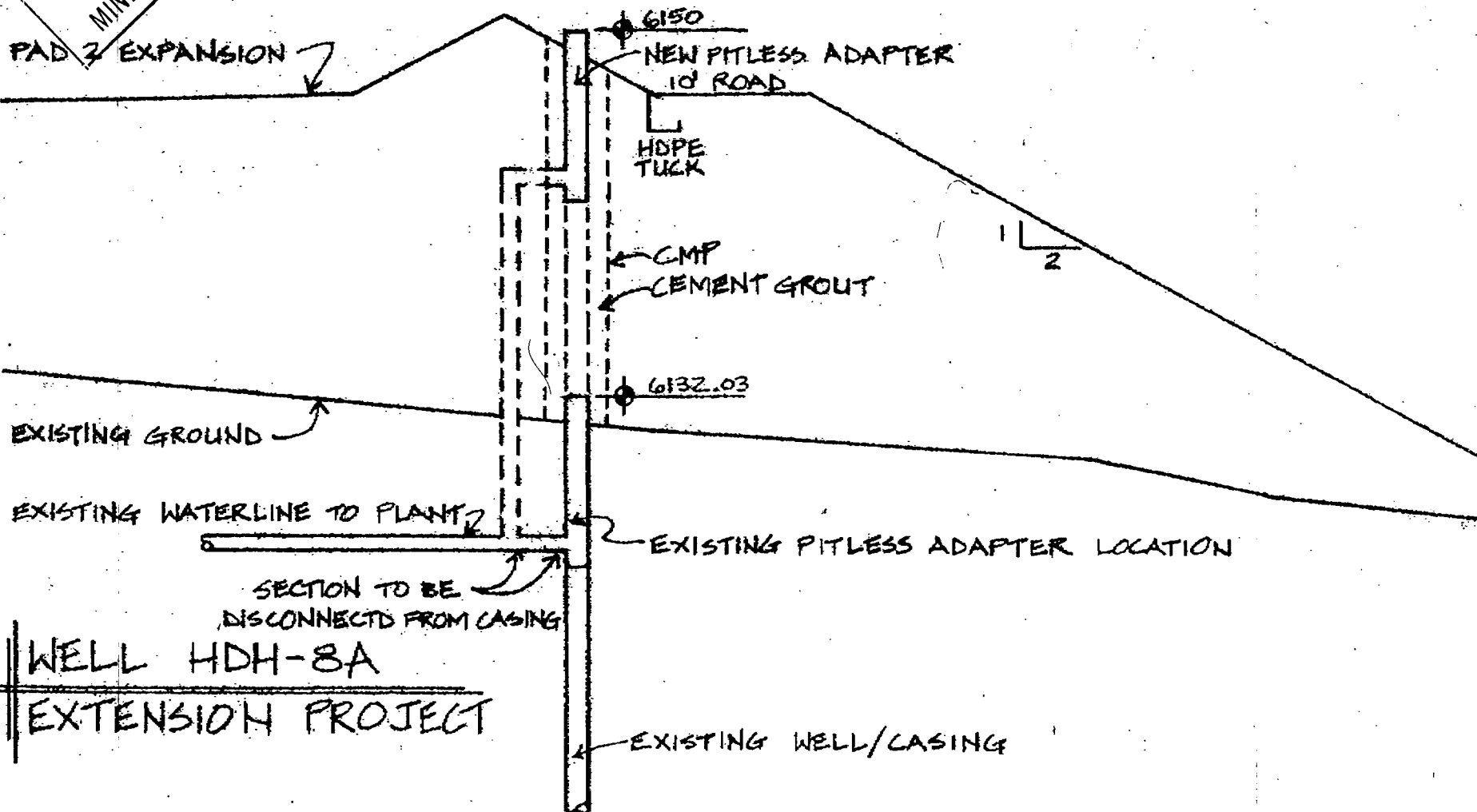
RECEIVED
 APR 12 1990
 MINERALS & MINING

RECEIVED

APR 12 1981

MINERALS & MINING

NOTE: WELL, CASING & PITLESS ADAPTER WILL BE EXTENDED. CASING WILL BE GROUTED & PIPE/ELECTRICAL WILL BE RECONNECTED.



WHARF RESOURCES
BOX 446 DEADWOOD, S.D. 57732

DATE 4-10-70 SCALE 1" = 10'

DRAWN BY BRAD WARE

CHECKED BY

PAGE

1 OF 1



WHARF RESOURCES (U.S.A.), Inc.

A wholly owned subsidiary of Goldcorp Inc.

1346-1

Wharf Resources (U.S.A.), Inc.
HC 37 Box 811
Lead SD 57754



SD DENR WATER RIGHTS PROGRAM
523 EAST CAPITOL
PIERRE SD 57501-3181

As a matter of corporate simplification, Wharf Resources will now be doing business as Wharf Resources (U.S.A.), Inc. Therefore, all contracts, statements, invoices, or other documents you may have with Wharf Resources, a Montana General Partnership, or simply in the name of Wharf Resources, should be changed to Wharf Resources (U.S.A.), Inc. All purchase orders or other correspondence to you in the future will be from Wharf Resources (U.S.A.), Inc. The management structure of the company remains the same.

If you have any questions, please do not hesitate to contact me.

Sincerely,

John A. Begeman
General Manager

CHRISTENSEN, MOORE, COCKRELL & CUMMINGS, P.C.

Dana L. Christensen
Mikel L. Moore
Dale R. Cockrell**
Steven E. Cummings***
Tracy Axelberg

Two Medicine Building
160 Heritage Way
P.O. Box 7370
Kalispell, MT 59904-0370

Office: (406) 751-6000
Fax: (406) 756-6522
*Also Admitted in Arizona
**Also Admitted in South Dakota
***Also Admitted in Washington

April 16, 1999

John Hatch
Chief Engineer, Water Rights Program
Department of Environment and Natural Resources
Joe Foss Building, 523 East Capitol
Pierre, South Dakota 57501-3181



Re: Wharf Resources

Dear Mr. Hatch:

This letter is being written on behalf of Wharf Resources, a Montana general partnership, and Wharf Resources (U.S.A.), Inc. Pursuant to a corporate reorganization, Wharf Resources, a Montana general partnership, has transferred the following water right permit and license numbers to Wharf Resources (U.S.A.), Inc.:

1346-1	1514-1
1365-1	1173-1
1406A-1	1437-1
1460-1	1493-1
PW-1	1667-1

If you have any questions, please do not hesitate to contact me.

Sincerely,

CHRISTENSEN, MOORE, COCKRELL
& CUMMINGS, P.C.

Dale R. Cockrell
Direct Line No. (406) 751-6003

DRC/bls
cc: John Begeman
Carol Koerner



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

JOE FOSS BUILDING
523 EAST CAPITOL

PIERRE, SOUTH DAKOTA 57501-3181

www.state.sd.us/denr

May 24, 1999

Dale R Cockrell
Christensen, Moore, Cockrell & Cummings, PC
PO Box 7370
Kalispell, MT 59904-0370

RE: Water Permits and Water Rights held by Wharf Resources

Dear Mr. Cockrell:

Thank you for your letter of April 16th regarding the transfer of water rights and permits held by Wharf Resources.

Enclosed are seven partially completed "Notice of Transfer of Ownership" forms for use in filing the transfers with Vested Water Right No. 1173-1, Water Right Nos. 1346-1, 1365-1, 1406A-1 and 1493-1 and Water Permit Nos. 1437-1 and 1667-1

Please review the enclosed forms and complete as needed. The forms should be signed in the presence of a notary public by a representative of Wharf Resources (U.S.A.), Inc. Please return the completed forms to our office with a required filing fee of \$2.50 each (total of \$17.50).

Thank you for your help and if I can answer any questions for you, please give me a call.

Sincerely,

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

enclosures

1346-1



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

June 16, 1999

Dale R Cockrell
Christensen, Moore, Cockrell & Cummings, PC
PO Box 7370
Kalispell, MT 59904-0370

RE: Wharf Resources (U.S.A.) Inc.

Dear Mr. Cockrell:

I am writing to acknowledge receipt of the transfer of ownership forms for Vested Water Right No. 1173-1, Water Right Nos. 1346-1, 1365-1, 1406A-1 and 1493-1 and Water Permit Nos. 1437-1 and 1667-1. The transfers have been completed and the above water rights and permits are now listed in the name of **Wharf Resources (U.S.A.) Inc.** Enclosed are the receipts for the filing fees.

I noticed when transferring the records that Wharf had an additional water right that I did not send a transfer form to you for. I am including a copy of Vested Right No. 1174-1 to give you an idea of which system the water right pertains to. I apologize for overlooking this in my first correspondence to you.

Enclosed is a partially completed "Notice of Transfer of Ownership" form for Vested Water Right No. 1174-1. The form will need to be signed in the presence of a notary by a representative of Wharf Resources (U.S.A.) Inc. Upon completion, please forward the form and a \$2.50 filing fee to our office.

Thanks again for your help and if I can answer any questions for you please give me a call.

Sincerely,

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

enclosures

c: John Begeman, General Manager of Wharf Resources (U.S.A.) Inc

RECEIPT

Water Rights Program

South Dakota Department of Environment and Natural Resources

№ 416140

Pierre, June 14, 19 99

RECEIVED OF Wharf Resources, Inc., HC 33, Box 811, Lead, SD 57754
the following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct
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. _____

Fee for Filing Transfer Form Water Right No. 1346-1

Fee for Filing Extension Request _____

Fee for _____

(Any Other Work Provided by Law)

Total

2 50

2 50

By

Chief Engineer

John H. Hatcher

NOTICE OF TRANSFER OF OWNERSHIP

To: Chief Engineer
Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181



No. 1346-1

Date: 6-7-99

I/We request that Water Right No. 1346-1

formerly owned by: Wharf Resources, a Montana general partnership

be transferred to: (name & address) Wharf Resources (U.S.A.) Inc., HC37, Box 811, Lead, SD57754

Telephone No. (605)584-1441

Title to the following described land(s)/property has been transferred as described above:

diversion point location: NW 1/4 NW 1/4 Section 3, T4N, R2E

I/We understand that the validity of Water Right No. 1346-1 has not been determined by this transfer action. If I/We have any questions on validity, I/We understand that only the Water Management Board has the authority to determine if a water permit/right is valid (see note).

You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

A fee of Two Dollars and Fifty Cents (\$2.50) is required to cover the filing fees as required under SDCL 46-2-13. This form must be signed by the new owner.

STATE OF SOUTH DAKOTA)

County of Lawrence)

I/~~W~~x John A. Begeman being first duly sworn on my oath depose and say that my relation to the above described undertaking is that of **, that I have read the above foregoing statement, and that I know of my own personal knowledge that the information herein stated is true.

**** General Manager of Wharf Resources (U.S.A.) Inc.**

John A. Begeman
(Signed)

Subscribed and sworn to before me this 7th day of June, 1999.

Julian J. Benson
(Notary Public)

NOTE: Water permits may be cancelled for nonconstruction within the five year construction period. Once a water permit is developed and the water used, the permit becomes a right. A water right may be lost for three reasons:

1. Abandonment - no intent to use water and use is abandoned.
2. Forfeiture - no use of water for three year period without legal excuse.
3. For a third violation of a condition of a water permit/right.

1346-1 + 1761-1



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
denr.sd.gov

July 6, 2010

Ron Waterland
Wharf Resources
10928 Wharf Road
Lead SD 57754-9710

Dear Mr. Waterland:

I am writing in regard for an additional well for industrial use authorized by Water Right Nos. 1346-1 & 1493-1 and Water Permit No. 1761-1.

Water Right No. 1346-1 appropriates 0.22 cubic feet of water per second from one Madison Formation well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 3, T4N, R2E. Wharf designates this well as HDH-8A.

Water Right No. 1493-1 appropriates 97 acre feet annually at a maximum diversion rate of 0.356 cfs from a well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 33, T5N, R2E. Wharf designates this well as PW-1.

Water Permit No. 1761-1 appropriates an additional 179.2 acre feet of water annually and an additional diversion rate authority of 0.314 cfs from well PW-1 authorized by Water Rights no. 1493-1. Combined, Nos. 1493-1 and 1761-1 appropriate 276.2 acre feet of water annually at a maximum diversion rate of 0.67 cfs.

Upon review of the request and pursuant to SDCL 46-5-13.1, an additional well to be completed into the Madison is authorized without application or publication of a notice of hearing. The additional well is to be located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 33, T5N, R2E.

No additional appropriation above the amounts authorized by Water Right Nos. 1346-1 & 1493-1 and Water Permit No. 1761-1 is authorized. If the diversion rate or volume is increased, a new water permit must be obtained.

If you have any questions, please contact Eric Gronlund at (605) 773-3352.

Sincerely,

Garland Erbele, Chief Engineer
Water Rights Program

Request for Additional Diversion Point

NAME: Wharf Resources - c/o Ron Waterland**ADDRESS:** 10928 Wharf Road, Lead SD 57754-9710**DATE:** July 1, 2010 **COUNTY:** Lawrence**TELEPHONE:**

Wharf Resources Inc. has made a request to authorize an additional Madison well to the two existing Madison wells authorized by Water Right Nos. 1346-1 and 1493-1 and Water Permit No. 1761-1. The new well is to be located in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ Section 33, T5N, R2E. The request states that they will not increase the amount of water authorized by their existing water rights. The request for the additional well is to enable Wharf to have a well that has not been impacted by nitrates. The company also wants continue to pump the nitrate impacted water from the existing wells to manage the nitrate remediation. The additional well will be used at the facilities and used for flush water in the nitrate impacted zones to aid in ground water restoration. Diversion among the wells will be managed to stay within the permitted limits.

NOTE: In the cover letter accompanying the request, the second paragraph refers to the three existing wells. Mr. Waterland verbally confirmed by phone on July 1, 2010 that there are only two existing wells and that the statement referencing three existing wells was in error.

Water Right No. 1346-1 appropriates 0.22 cubic feet of water per second from one Madison Formation well located in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 3, T4N, R2E. Wharf designates this well as HDH-8A. The well completion report on file has the well depth being 320 feet deep.

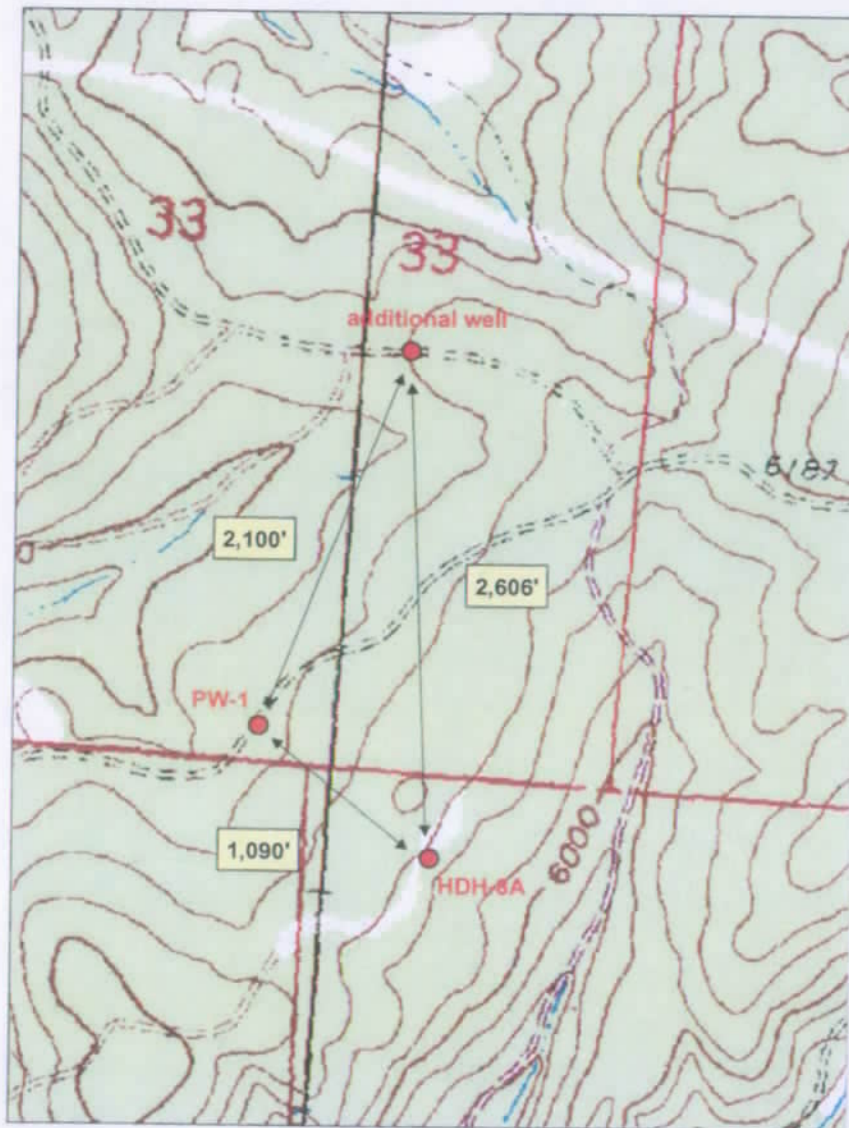
Water Right No. 1493-1 appropriates 97 acre feet annually at a maximum diversion rate of 0.356 cfs from a well located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 33, T5N, R2E. Wharf designates this well as PW-1. This water right involves the incorporation of Water Right Nos. 1278-1 and 1288-1 into No. 1493-1 for industrial use. The well completion report on file has the well depth being 512 feet deep

Water Permit No. 1761-1 appropriates an additional 179.2 acre feet of water annually and an additional diversion rate authority of 0.314 cfs from well PW-1 authorized by Water Rights no. 1493-1. Combined, Nos. 1493-1 and 1761-1 appropriate 276.2 acre feet of water annually at a maximum diversion rate of 0.67 cfs.

AUTHORITY:

Pursuant to SDCL 46-5-13.1, the location of a diversion point may be changed or additional diversion points may be licensed provided the following conditions are met and the potential for interference with other existing diversions is not increased:

Location of existing wells and additional well in respect to each other



- **Developed water source same as permitted source and no additional water appropriated**

The water source remains the Madison Aquifer. No additional water is to be appropriated by this request. The well authorized by Water Right No. 1346-1 is licensed for 0.22 cfs and the well authorized by Water Right No. 1493-1 and Permit No. 1761-1 is authorized 0.67 cfs. These diversion rates will not be exceeded. In addition, the total volume of 276.2 acre feet annually is permitted by Nos. 1493-1 and 1761-1. Water Right No. 1346-1 is limited only by its diversion rate of 0.22 cfs which equates to 159 acre feet annually. The well is likely not pumped continuously.

- **Review of Existing Diversions**

The Water Rights Program's database of well completion reports was also reviewed. Driller reports for domestic wells located in the neighboring sections is as follows:

Location	Drilled for	Depth (feet)	Use
NW ¼ NE ¼ Section 3, T4N, R2E	Wells	105	Domestic
SW ¼ SW ¼ Section 4, T4N, R2E	Brink	290	Domestic
SW ¼ SW ¼ Section 4, T4N, R2E	Fischer	204	Domestic

NW ¼ NW ¼ Section 9, T4N, R2E	Polyakov	23	Domestic
NW ¼ SE ¼ Section 9, T4N, R2E	Wheeler	85	Domestic
NW ¼ Section 9, T4N, R2E	Schirber	100	Domestic
SE ¼ Section 9, T4N, R2E	Perron	58	Domestic
SE ¼ SW 1/4 Section 9, T4N, R2E	Paradis	35	Domestic
NW ¼ NW ¼ Section 9, T4N, R2E	Wagehaupt	26	Domestic
SW ¼ SW 1/4 Section 9, T4N, R2E	Scott	100	Domestic
SW ¼ Section 9, T4N, R2E	Welker	165	Domestic
SW ¼ NW ¼ Section 9, T4N, R2E	Schmidt	62	Domestic
NW ¼ SW ¼ Section 9, T4N, R2E	Brueckner	180	Domestic
SE ¼ SW 1/4 Section 9, T4N, R2E	McKean	147	Domestic
NW ¼ SW ¼ Section 2, T4N, R2E	Wagner	210	GHP
SE ¼ SE ¼ Section 3, T4N, R2E	Bosma	197	GHP
SE ¼ SW ¼ Section 26, T5N, R2E	Robbins	260	Domestic
SE ¼ SW ¼ Section 26, T5N, R2E	Robbins	260	Domestic
SW ¼ NW ¼ Section 26, T5N, R2E	Conroy	400	Domestic
NE ¼ SE ¼ Section 34, T5N, R2E	Perkins	186	Domestic
NE ¼ Section 34, T5N, R2E	Dunning	205	Domestic
NW ¼ NE ¼ Section 35, T5N, R2E	Muth	260	Domestic
NW ¼ SE ¼ Section 35, T5N, R2E	Muth	300	Domestic

Of the domestic wells in the area many are shallow wells likely in the alluvium along Spearfish Creek in Sections 4 and 9 of T4N, R2E. There are domestic wells completed into the Madison Aquifer in the area. In all instances, the wells appear to be at least a mile from the Wharf's wells.

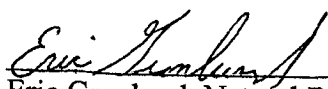
The nearest water rights from the Madison Aquifer are located 8 miles or greater from Wharf's Madison wells. In addition, no water rights from the Madison Aquifer will be affected by this additional well because this well site is located on a 4,400 acre erosional remnant of the Madison surround by outcrop of older geologic formations and/or Tertiary aged intrusives (source: Strobel and others, 1999 based on Buhler report for Application No. 1761-1). The geologic setting of this portion of the Madison Aquifer is such that it is isolated from and not hydraulically connected to the regional Madison Aquifer.

CONCLUSION

- The additional well does not appropriate additional water.
- The purpose of the additional well is to complete a well not impacted by nitrates to supply the facility and to flush water in nitrate impacted zones. The two wells impacted by nitrates will still be used in the remediation efforts.
- The wells will be managed in a manner that existing diversion rate and volume authority will not be increased.
- The additional well is to be completed into the Madison Aquifer.
- Interference is not expected to be a concern.
- Existing domestic wells will not be adversely impacted by authorizing this change in well location.

RECOMMENDED ACTION

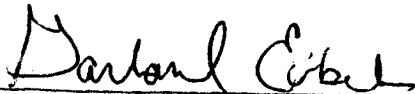
Based on the above criteria, it is recommended that the additional diversion point be authorized pursuant to SDCL 46-5-13.1.



Eric Gronlund, Natural Resources Engineer
Water Rights Program

The Chief Engineer makes a finding pursuant SDCL 46-5-13.1 and ARSD 74:02:01:14.01 that:

This additional diversion point does not increase the potential for adverse effects to existing diversions.



Garland Erbele, Chief Engineer
Water Rights Program

≡GOLDCORP

WHARF RESOURCES (USA) INC.

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JUN 17 2010

**WATER RIGHTS
PROGRAM**

June 16, 2010

Mr. Garland Erbele, Chief Engineer
Water Rights Program
Joe Foss Building
532 East Capitol
Pierre, SD 57501

Re: Add a diversion and combine Madison Aquifer Rights 1346-1, 1493-1, and 1761-1.

Dear Mr. Erbele:

I am writing you to request an additional diversion well for Wharf Resources into the Madison Aquifer. We do not need or want to increase the amount of water claimed but have a need to drill an additional well into the Madison Aquifer for use at the mine site. We would also like to combine the three Madison Aquifer Permits (1346-1, 1493-1, and 1761-1) so that we can pump water from multiple wells at our site at various times and quantities. The additional diversion well would be added to the combined Permit.

The two wells associated with Permits 1346-1, 1493-1 and 1761-1 have been impacted with nitrates from our processing plant. We are developing a plan to stop the source of the nitrate and remediate the ground water impacted by nitrates. The reason for this request is so that we have a new source of water that has not been impacted by nitrates and also continue to pump the nitrate impacted water from the aquifer from the three existing wells in order to manage the nitrate remediation. Our monitoring has identified the extent of the nitrate impacts and the direction of ground water flow. We propose to drill a new well into the Madison Aquifer up-gradient from the nitrate zone. This water would be used at our facilities and used for flush water in the nitrate impacted zones to aid in ground water restoration. We would propose to not exceed 0.89 CFS from all three wells allowed by combining the three Permits.

We have not drilled the well yet but propose to drill it in the NW ¼ of the SE ¼ of Section 33 T5N R2E in Lawrence County. We will survey the well and supply the drillers log when drilling is completed. I have attached the completed Form 2 Application for Permit to Appropriate Water within the State of South Dakota along with the Form 2A Supplemental Information relative to the proposed well construction. I have also attached a map showing the location of the proposed wells and the location of the existing permitted wells.

Sincerely,



Ron Waterland
Environmental Manager

Encl.

SD EForm - 1585LD V3

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

Mail to:
PMB 2020
DENR - Water Rights
523 E Capitol Ave
Pierre, SD 57501-3182
ph. (605) 773-3352

(office use only)
No. _____ Hydrologic Unit _____
Basin _____
Newspaper _____

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JUN 17 2010

WATER RIGHTS
PROGRAM

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

Check use(s) of water:

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

Type of Application:
(check one)

☐ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☒ Amendment/Correction to Permit No. 134614931761

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

Combine Water rights from all three Permits 1346-1, 1493-1, and 1761-1 and add a third diversion.

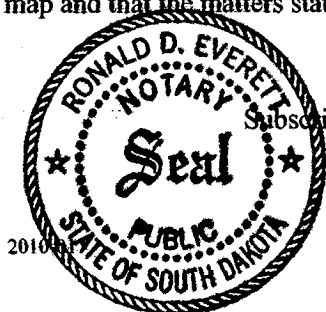
1. Name of Applicant Wharf Resources (USA) Inc. Phone 605-584-1441
 (check one) ☒ Owner ☐ Tenant/lessee
 Mailing Address 10928 Wharf Road Lead SD 57754
 (Address) (City) (State) (Zip Code)
2. Amount of water claimed No additional *CFS or **GPM ***AF
 (*Cubic Feet per Second) (**Gallons per Minute) (***Acre Feet - storage capacity of dam/dugout or annual use if applicable)
3. Source of water supply Madison Aquifer
4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Lawrence
Exist Wells: HDH-8A in NW1/4 NW1/4 Section 3 T4N R2E and PW-1 in SW1/4 SE1/4 Section 33 T5N R2E
Proposed Well: NE1/4 SE 1/4 Section 33 T5N R2E
5. County or counties where water will be used Lawrence
6. Annual period during which water is to be used All Year
7. Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

See Attached Letter

STATE OF SOUTH DAKOTA)
 County of Lawrence) SS

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

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

Applicant's signature Bill ShandSubscribed and sworn to before me this 16 day of June 20 10Notary Public signature Ronald D. Everett

Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 12 1/4 " or 7" Depth 300 '
- b) Casing Type Steel or PVC Diameter 8 5/8 " or 5" Thickness Unknown
- c) Screen Type Steel or PVC Diameter 8 5/8 " or 5" Thickness Unknown
- d) Gravel Pack Pea Length of Gravel Pack 100 '
- e) Depth to Top of Water Bearing Material Unknown
- f) Depth to Water (ground surface to water level) Unknown
- g) Distance to nearest existing domestic well:

On applicant's property 2200 '

On property owned by others 9900 '

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field)
- b) System Capacity (gallons) 3,000.00 Year Constructed 19882009
- c) Connected to the City of 3 septic tanks w drain f Sanitary System

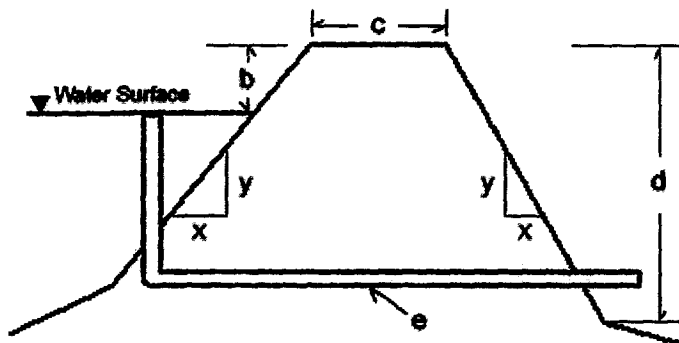
3. Dugout Information

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

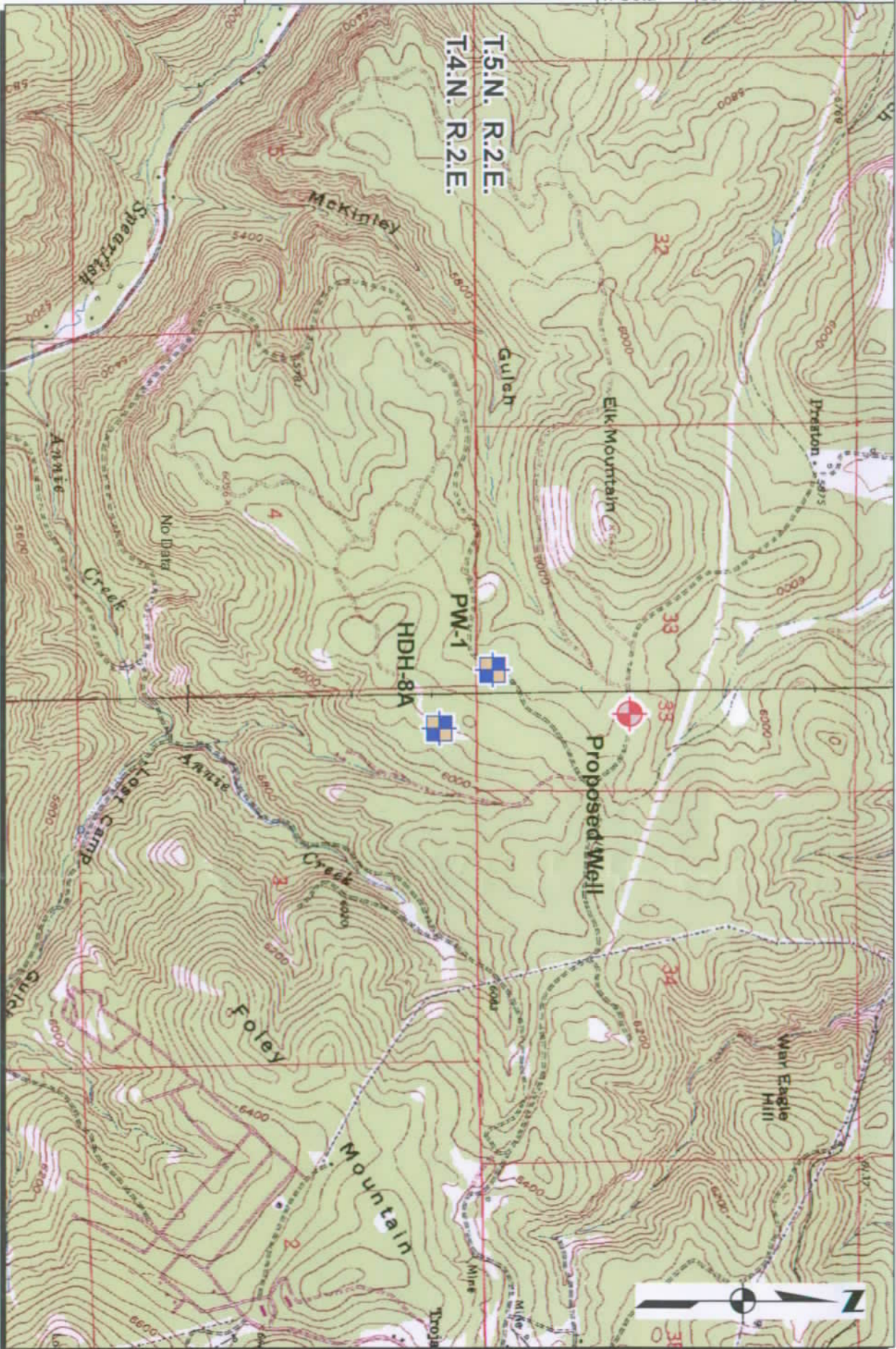
4. Water Storage Dams

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

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



- b) Freeboard NA
- c) Crest Width NA
Crest Length _____
- d) Height NA
- e) Primary Outlet Capacity NA
If pipe, diameter NA
- f) Secondary Spillway Capacity NA
Spillway Width NA
- g) X & Y Slope (e.g. 3 to 1 is a typical slope)
Upstream NA
Downstream NA
- h) Surface Area of Impoundment NA
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres



0 1,000 2,000
Feet

RECEIVED
JUN 17 2010

Figure 1

Michael F. Kraeski, P.E.
Colorado P.E. No. 28360

Date

6-14-10

WATER RIGHTS
PROGRAM

Location of Proposed Water Well
Wharf Resources
10928 Wharf Road
Lead, South Dakota