

WATER PERMIT NO. VR 2264-2

Phone: 673-2521

Name of Applicant: SD Department of Human Services

Post Office Address: RR 1, Box 98, Custer SD 57730

Amount of Water Claimed: 0.18 Total Acres: NA

Source of Water Supply: groundwater - gallery system

Water to be used for: institutional County: Custer

About 4 miles south of Custer

PRIORITY Date Received: 3-1-93 Fee: NA Remarks: Priority

date of January 1, 1926

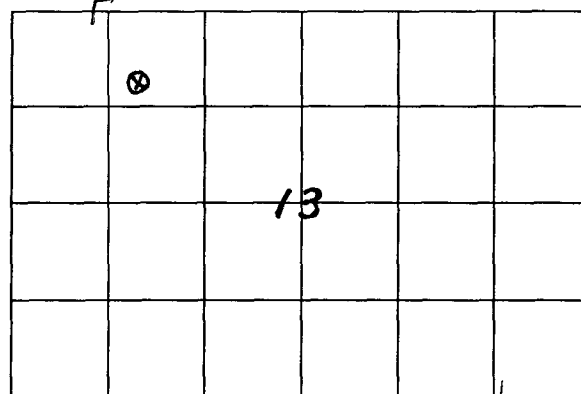
Corrected Application Received: _____ Period of Annual Use: Jan 1 - Dec 31

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

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

Diversion Point: NW 1/4 NW 1/4 Sec 13-T4S-R4E

Land to be Irrigated: _____



Well Log: Driller: _____ Licensed YES _____ NO _____

Depth of Well: 65' REMARKS: _____

Type of Map: plat PREPARED BY: James P. Heald, P.E. Reviewed and the Number

Assigned on: 3-9-93 By: Karen Schlaak

SOUTH DAKOTA

VESTED WATER RIGHT NO. 2264-2

Date of Receipt of Claim March 1, 1993.

Date of Validation June 8, 1993.

The Chief Engineer, on behalf of the Water Management Board validated Vested Water Right Claim No. 2264-2 for the South Dakota Department of Human Services, South Dakota Developmental Center, RR 1, Box 987, Custer SD 57730 with the following limitations, conditions and qualifications:

1. Vested Water Right No. 2264-2 appropriates up to 0.18 cubic feet of water per second (cfs) from a shallow gallery system, 65 feet deep located in the NW 1/4 NW 1/4 Section 13-T4S-R4E.
2. The appropriated water is used for supplying water to the developmental center and may not exceed the amount of water needed for beneficial use for institutional purposes.
3. The water is to be used during the following annual period: January 1 - December 31.
4. The priority date of the Vested Water Right is January 1, 1926.
5. The water use system has been constructed and water has been applied to beneficial use.
6. Water Rights obtained in compliance with the laws of the State of South Dakota must not be unlawfully impaired by this appropriation.

QUALIFICATION

Combined diversion rates under all permits/rights (Nos. 894-2, 2264-2, 2265-2 and 2266-2) held by the Development Center may not exceed 0.18 cfs.

WATER MANAGEMENT BOARD

By: 
John Hatch, Chief Engineer
Water Rights Division
Department of Environment and
Natural Resources

AUG 10 1993
date

STATE OF SOUTH DAKOTA

VESTED RIGHT WATER LICENSE NO. 2264-2

(1) The South Dakota Department of Human Services, South Dakota Developmental Center of RR #1 Box 987, Custer, SD 57730, made Application No. 2264-2, March 1, 1993 for validation of a vested right claim to appropriate 0.18 cubic feet of water per second from groundwater (shallow gallery system), Custer County, South Dakota, for institutional purposes. Vested Water Right No. 2264-2 was validated June 8, 1993 with a priority date of January 1, 1926. Construction of the described water supply system and application of water to beneficial use has been completed and complies with applicable provisions of South Dakota State Law.

(2) The vested right owner is entitled to divert 0.18 cubic feet of water per second for beneficial use. The location of the diversion point is in the NW 1/4 NW 1/4 Section 13, T4S, R4E.

(3) Pursuant to Section 46-5-30.1 the South Dakota Department of Human Services, SD Developmental Center of RR #1 Box 987, Custer, SD 57730 the holders and/or owners of Vested Water Right No. 2264-2 is issued a license to appropriate 0.18 cubic feet of water per second from groundwater (shallow gallery system) with a priority date of January 1, 1926 from the location specified in (2) of this license. The water is to be used for the purpose of institutional. This license is subject to any limitations, conditions or qualifications listed in Vested Water Right No. 2264-2 and subject to South Dakota State Law.



AUG 10 1993

JOHN HATCH, Chief Engineer
Water Rights Division
Department of Environment and Natural Resources

Mail to:
Water Rights Division
Joe Foss Building
523 E Capitol
Pierre SD 57501-3181
605 773-3352

No. 2264-2 Hydrologic Unit 10120109
Basin Upper Cheyenne
Newspaper Custer Co Chronicle, Box 551
(office use only)



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

Check use of water:

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

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

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

- Name of Applicant South Dakota Department of Human Services Phone 605-673-2521
Mailing Address SD Developmental Center RR1 Box 98 Custer State SD 57730
(Street, RR, or Box) (City) (Zip Code)
- Amount of water claimed 0.18 *CFS or 81 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Shallow gallery system-soils/gravels above bedrock
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W)
Refer to attached map. NW1/4 NW1/4 Sec 13-T4S-R4E
County Custer
- County or counties where water will be used Custer
- Annual period during which water is to be used Year around use at SD Developmental center.
Jan 1 - Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

Water has been continuously withdrawn since approximately 1910 to serve the State Sanitarium which has since become the South Dakota Developmental Center near Custer. This permit is for the Sans Gallery system. This permit, in conjunction with other permits for the SD Developmental Center near Custer, will utilize a combined maximum withdrawal of 0.18CFS.

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

STATE OF SOUTH DAKOTA)

County of Custer ss

I, SD Dept of Human Services, the applicant, certify that I have read this application, have examined the attached map and that the matters stated are true and that I intend, and am able to complete the necessary construction.

Signed _____

Subscribed and sworn to before me this 18 day of February 19 93

Vera Livingston
Notary Public

(type or print in ink)



Cistern

1. ~~अवस्था~~ Information - Proposed Construction

- a) Drill Hole Diameter N/A Depth 65'
- b) Casing Type Concrete (perforated) Diameter 10' ± Thickness Unknown
- c) Screen Type N/A Diameter N/A Thickness N/A
- d) Gravel Pack Thickness N/A Length of Gravel Pack N/A
- e) Depth to Top of Water Bearing Material Concrete casing penetrates alluvium & enters bedrock*
- f) Depth to Water (ground surface to water level) typically 8'
- g) Distance to nearest existing domestic well:
On applicants property 370' On property owned by others greater than 1000'

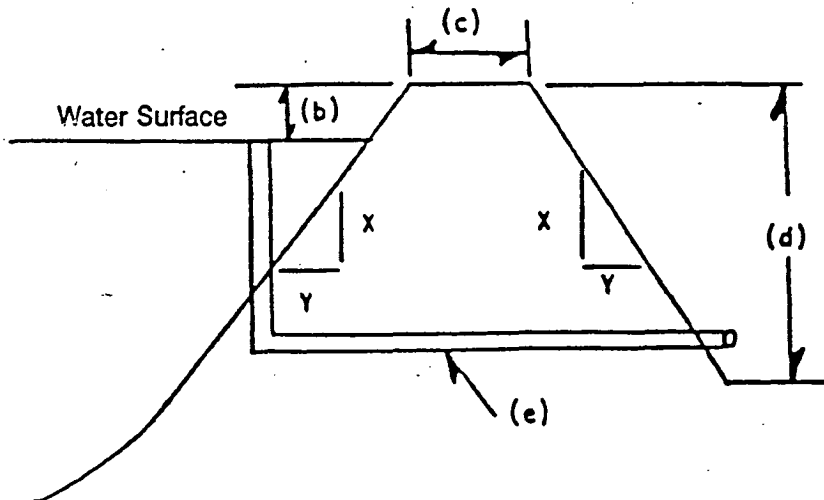
2. Dugout Information

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

3. Water Storage Dams

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

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



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

*Cistern is diversion point. Collection occurs at cistern and through gallery system in valley above. Gallery system includes clay dikes in valley. See enclosed topographical map.

Form 2B
(Type or Print in Ink)

Affidavit of Water Use

No. _____

Note: This Form is supplemental to Form 2 and is to be used when an affidavit pertaining to construction and water use already constructed is needed, primarily with vested right claims.



Affidavit Of Construction Of Water Use System And Application Of Water To Beneficial Use

Name of Applicant (Same as Form 2) South Dakota Department of Human Services

Mailing Address SD Developmental Center RRI Box 98 Custer SD 57730
(Street, RR or Box) (City) (State) (Zip Code)

- A. Notice of Appropriation _____ Date of Posting _____
Date of Recording _____ Recording Date _____
- B. Date of start of construction of water supply system approximately 1910
- C. Date that water was first applied to beneficial use 1926
- D. Name of owner of original water supply system State of South Dakota-Board of Charities & Corrections
- E. Amount of water originally applied to beneficial use 0.18CFS (81gpm)
- F. Present use of water - amount of water now being used 0.18CFS (81gpm)
Date that this water was first used 1926
- G. Chronological History of Water Use

Continuous withdrawal since 1926 for use by the State Sanitarium which has since become the South Dakota Developmental Center near Custer.

Attach to this Form 2B any copies of notices, postings, filings, publications, affidavits, or other records that apply. You may also attach any written statement by you, or by others, that you deem pertinent.

State of South Dakota)
ss
County of Custer)

I, SD Department of Human Services the applicant, certify that I have read the foregoing and that
(print or type)
the matters therein are true.

Signed _____

Subscribed and sworn to before me _____

Notary Public

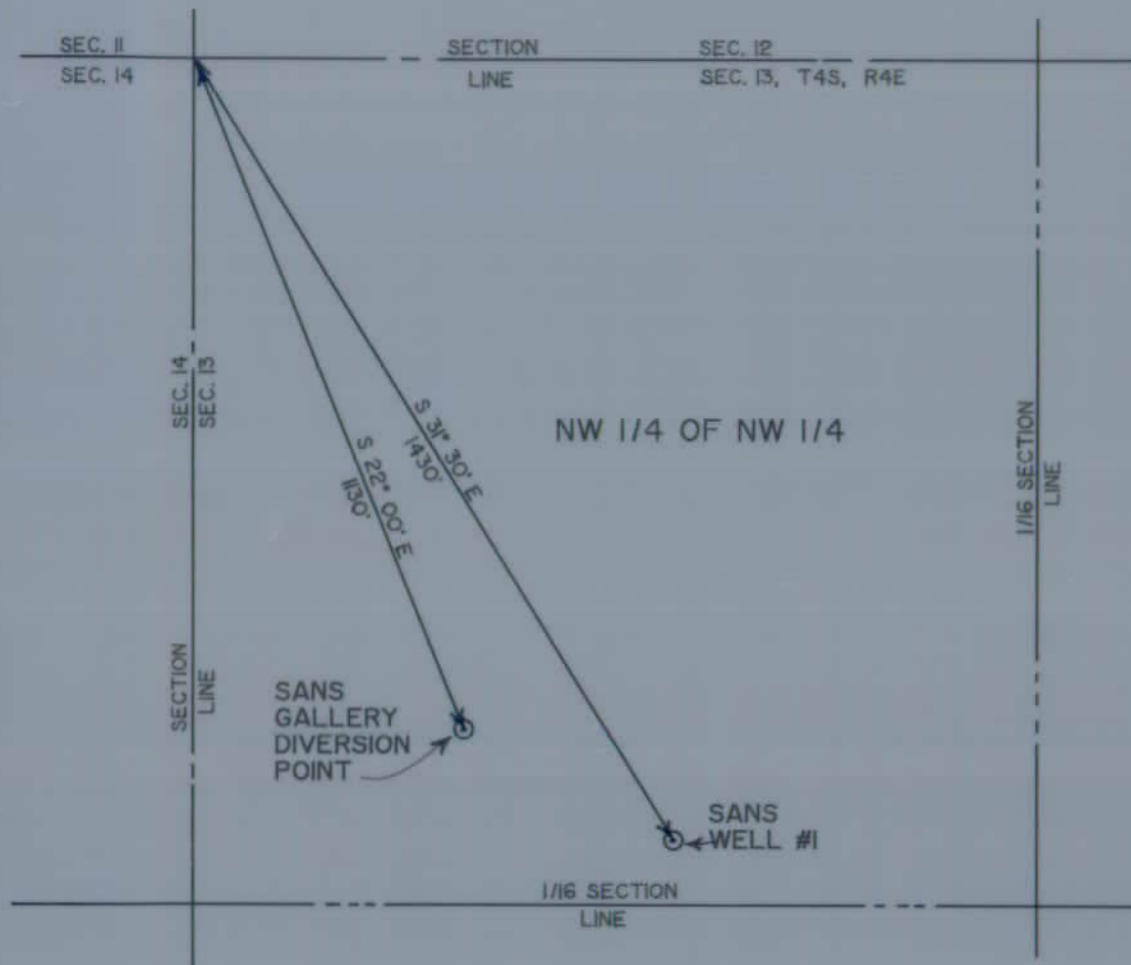
I, the undersigned do hereby certify that I know about the water use system described above, that I have read the foregoing, and that the matters therein stated are true.

Jim Rumbolz, Administrator February 19, 1993
(Print name)

_____, 19_____
(Print name)

WATER DIVERSION LOCATION MAP

SOUTH DAKOTA DEPARTMENT OF HUMAN SERVICES
SD DEVELOPMENTAL CENTER NEAR CUSTER
SANS GALLERY AND SANS WELL #1
LOCATED IN NW 1/4 OF SECTION 13, T4S, R4E,
B.H.M., CUSTER COUNTY, SOUTH DAKOTA



OSE PROJECT NO. HI7939279L



ONEY ENGINEERING
SERVICES, INC.

P.O. BOX 786
CUSTER, SOUTH DAKOTA 57730
(605) 673-3243

App'l No. 2264-2



**BUREAU OF
ADMINISTRATION**

OFFICE OF STATE ENGINEER

Joe Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182
Phone: (605) 773-3466 FAX: 773-5980



TRANSMITTAL

Date: 3/1/93

To: Ron Duvall Project: Mayo/Endicott Quantity
SD DENR Investigation & Review
Pierre SDPC/C

From: Bill Nardner OSE #: H17939279L

Description: Ron - Attached is letter from Ron Oney
& the originals of the water right applications
at S.D. Developmental Center / Custer. Please
process. Bill N.

- ☐ Plans
- ☐ Specifications
- ☐ Reply Requested
- ☐ Your File Copy
- ☐ Telephone Confirmation

- ☐ Air Monitoring Reports
- ☐ As You Requested
- ☐ For Your Information
- ☐ For Your Approval
- ☐ Review/Comment
- ☐ Other (See Remarks)

ROUTING	
File	

Copy To: _____

Remarks/Reply - Date _____ Time _____

Reply Signature: _____

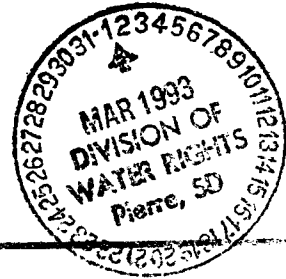
INSTRUCTIONS TO SENDER:

1. KEEP PINK COPY. 2. SEND WHITE AND YELLOW COPIES INTACT.

INSTRUCTIONS TO RECEIVER:

1. WRITE REPLY. 2. DETACH STUB, KEEP YELLOW COPY, RETURN WHITE COPY TO SENDER.

Post Office Box 786 • Custer, SD 57730 • (605) 673-3243



OFFICE OF
FACILITY SERVICES

B, 11

FEB 23 1993

FILE —

RECEIVED
PIERRE, L. J. DAY

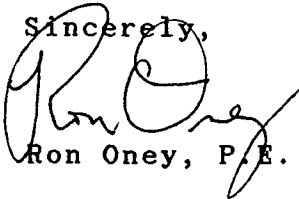
Re: Mayo/Endicott Quantity
Investigation and Review
South Dakota Developmental Center/Custer
OSE #H17939279L

You will find our progress invoice for work to date on the above referenced project. As per your direction earlier this week we will suspend work on the easement document preparation until you authorize us to continue.

Mayo/Endicott Quantity
OSE #H17939279L
February 19, 1993
page 2

If you have any questions or if I can be of any additional assistance please give me a call.

Sincerely,

A handwritten signature in black ink, appearing to read "Ron Oney", written over the printed name.

Ron Oney, P.E.

Enclosures

RO:lo

cc: Rumbolz w/enc

5392

Post Office Box 786 • Custer, SD 57730 • (605) 673-3243

57730 • (605) 673-3243

Don - Give me a
F.Y.I. BUN

OFFICE OF THE
STATE ENGINEER

1992 - 1

Dear Bill:

Per our discussions our firm has investigated the Mayo and Endicott water sources. The investigation was accomplished with the assistance of Weston Engineering of Upton, Wyoming. Weston Engineering is a well drilling/servicing company. The Custer Developmental Center assisted with providing a pump and personnel to dewater the Endicott cistern. This report letter details our findings.

A. GENERAL:

As you are aware, the Endicott source has not been used for many years. We believe it was disconnected in the 1970's due to a break in the pipeline between Endicott and the Mayo pipeline. (Note: This break was located this summer during the SDDOT reconstruction of the Mayo line. The Endicott line is presently valved and connected to the Mayo line via the new SDDOT valve manhole.)

Subsequent to a electrical meter review about two years ago the meter at Endicott was removed. The power lines into the service entrance have been cut. Additional work will be needed to restore electrical service to the site.

Photo #1 shows the pump station building at Endicott. If you look carefully you can see the the existing overhead power pole in the background behind the building.

B. CISTERN AND PUMP STATION:

With the help of the Center's trash pump we lowered the level in the Endicott cistern. The enclosed Photo #2 shows the red trash pump in operation. The orange pump in the picture is the existing turbine at the facility. The turbine pump was reportedly operative a couple of years ago. It should be replaced with a modern pump and controls if the source is placed in service.

Photo #3 shows an access opening into the cistern. This photo was taken below the main floor of the building. There is about four feet of headroom in this service vault area.

There is no lock on the door of the building nor a secured cover on the cistern access. This poses a safety hazard to people who might trespass and accidentally fall into the cistern.

Photo #4 was taken looking down into the cistern. If you look very carefully you will note two sets of three (3) influent pipes in the photograph. One set is covered by the date on the photograph. Another set is just about at the center of the photo. The pipes appeared to be four (4) inch in diameter and are approximately twelve feet below the top of the curb of the access opening. We found four (4) total sets of influent pipes coming into the cistern; each set had three (3) pipes. Additionally, another lone pipe enters from the southwest for a total of 13 pipes. To the best of our knowledge, this is the first time in about 15-20 years that anyone has actually observed the inflow pipes at Endicott. I have heard rumor from several people that there are water collection facilities in the valley above the pump station but have not found any evidence of such. I believe that the 13 pipes entering the cistern are from radial galleries in the immediate area of the cistern/pump building.

No perforations in the cistern walls (such as at Sans) were found. The cistern is ten (10) feet in diameter. The total depth of the cistern is 52'-10" below the access curb.

C. INFLOW:

At the start of the dewatering the cistern's water surface was 41.5" below the access curb. At the end of pumping (approximately 2 1/2 hours later) the water surface was 123.5" below the curb. After pumping the cistern down we allowed it to recover by inflow from the galleries. We found that an average inflow of 20-25 gpm entered the cistern. After about an hour of recovery the cistern level was 96" below the curb.

During dewatering, we noted that the water level also lowered in an adjacent, abandoned metal cistern. If the Endicott source is used as a water supply the abandoned cistern should be removed and associated any interconnecting piping disconnected. The old cistern is obviously contaminated due to surface exposure. The old cistern also does not have a secured cover and is a potential safety hazard.

D. ESTIMATE:

The following is a planning estimate of the costs needed to renovate the Endicott source and bring it on line as a supply for the Center. Realize that this is only a general planning estimate. Since design elements have not been completed actual construction costs will vary from these figures.

Radio Interface w/Treatment Plant	\$10,000
Electrical.	2,500
Pump and Controls	5,000
Piping, Renovate Cistern/Building	3,500
Pipe (3") - Endicott to SDDOT Line, 1550 LF .	18,600
Miscellaneous	1,400
Engineering/Contingency (20%)	8,200
TOTAL	\$49,200

MAYO WATER SOURCE

A. GENERAL:

Records indicate that the Mayo source was originally a spring. We suspect that the abandoned spring building/vault in Photo #5 is that spring. In 1940-1941 the first cistern structure (Mayo I) was built in conjunction with, we believe, associated galleries. In 1948 another cistern structure (Mayo II) was constructed, again we believe, with additional galleries. The galleries at Mayo are extensive and are constructed throughout the Echo Valley. Construction details of the galleries and cisterns are not known.

Photo #6 was taken at the Mayo deepwell (looking down the valley). The deepwell was constructed in 1967 to supplement the gallery system. Note the currently used Mayo I cistern/pump station (white colored building) 1500' away. The abandoned Mayo II cistern/pump station can also be seen to the right of Mayo I. Galleries are believed to be constructed throughout the entire length of the valley shown in the photograph.

B. MAYO I CISTERN AND PUMP STATION:

Photo #7 was taken looking down into a concrete settling box (4.5' square) near the Mayo I pump station. The purpose of this box is to allow solids in the water to settle prior to flow entering the cistern storage. The water surface is 5' below the top of the concrete box. The inlet pipe is located near the top of the photo while the outlet is a vertical "drain" at the lower right of the photo. The inlet brings in water from both the galleries in the valley and from the Mayo deepwell. The weir in the box is deteriorated and the box needs to have accumulated mud removed. Exterior concrete patching is also needed.

Photo #8 is the interior of the Mayo I station. This station boosts water from the cistern and moves it about 1.5 miles to the Center. The Mayo water that moves through this station is presently the primary source of water for the Center. We noted that the pressure gauge shown in the photo was stuck while we were working at the station. Another gauge located just below the picture fell off when we were disconnecting piping. That gauge was loosely connected by a deteriorated metal stem.

The existing pump at Mayo I was not pulled during the inspection. It is powered by a 3 phase, 480 volt motor. The power distribution equipment in the building rated at 10 horsepower (Franklin). We believe the pump motor is 5 hp.

There is evidence of rodents undermining the slab at the station. Photo #9 is a typical hole caused by rodents and runoff. Such areas should be repaired with structural grout.

We believe a single pipe (4" D) brings water from the galleries and deepwell into the cistern (via the settling box). The cistern is approximately 14' in diameter and 65' deep below the access curb. We did not observe any perforations in the cistern sidewalls.

The building over the cistern is about 12' wide by 14' deep by 15' high. The roof is comprised of several layers of constructed ceilings and roofs. The plywood covered access in the roof for pump rigs is in need of repair.

C. MAYO I CISTERN INFLOW:

When we first arrived for the investigation work the cistern water surface level was 7 1/2' below the access curb and rising due to water coming in from the galleries. The deepwell pump was off as was the booster pump in the station. We visually estimated about 30 gpm was moving through the settling box towards the cistern.

We pulled the existing submersible pump in the cistern enough to be able to discharge out of the building. We noted that the inline check valve in the above grade 4" piping was leaking; we also noted that the check valve at the pump held water in the 2" drop pipe. The existing pump produced 55-60 gpm during the dewatering of the cistern while drawing 13.0 amps. (Note: This checks with a crude bucket test done last summer on the SDDOT project while the pump was operating.)

The enclosed graph shows the results of limited test pumping at the cistern. We estimate that the drawdown of the cistern would have stabilized with approximately 53' of water remaining in the cistern. Note that we allowed natural recovery at about 1.75 hours to occur (i.e. we shut off the pump).

Prior to the investigation I thought I remembered reviewing an old OSE file that showed a contract for sealing the sidewalls of the Mayo I cistern. As mentioned above we did not observe any perforations, but also we only lowered the cistern down to a little over 11' below the access curb. With a constant diameter cistern, a constant inflow from the galleries, and a relatively constant pump discharge we expected a linear drawdown "curve". The fact that the drawdown portion of the graph is an actual curve and that it appears to stabilize (with somewhat over 53' of water remaining in the cistern) implies that there is another source of inflow into the cistern other than the water coming in from the settling box.

Calculations using a 14' diameter cistern and the recovery portion of the test indicate an average inflow of 40 gpm over 100 minutes. The first 10 minutes of the recovery show an average inflow of 125 gpm. This couldn't occur if only the 30 gpm from the settling box was entering the cistern. The conclusion that we reach is that water is entering the cistern from either the sidewalls or the bottom or from other gallery piping such as at Endicott. In any event the Mayo I cistern and associated galleries can probably be relied upon to produce over 100 gpm during years with similar precipitation patterns.

D. MAYO DEEPWELL FACILITIES:

Photo #10 is of the deepwell wellhead. As mentioned this well is about 1500' upstream from the Mayo I cistern/pump station. A copy of the well log and an old pump test are enclosed. During our inspection and operation of the deepwell system we noted the following deficiencies:

1. When we pulled the pump for inspection we noted that both O-rings were missing from the pitless adapter spool. We suspect that much pumped water has been returning to the well. Weston Engineering replaced these seals when reinstalling the pump.
2. The pump would not start when energized. The capacitor start unit only hummed. The starter unit appears defective and needs replacement. We can only conclude that the deepwell pump has not been providing water to the Mayo cistern for an unknown period of time. Weston Engineering had a starter with them that they were able to temporarily use to test the pump. Unfortunately their starter was not of the type to permanently install and leave at the site.
3. Photo #11 is of the power/control facilities. Appropriate NEMA enclosures are needed. Lightning protection improvements should be made. Additionally the pump has no low water protection. The well controls should be upgraded to provide automatic operation in conjunction with the water plant control system.
4. We could not get the curbstop adjacent to the well to work. It appears to be stuck in the open position.
5. The water surface in the well was above the pitless adapter unit during the inspection. We suspect that the well has the ability to provide some water by gravity flow through the pump and out the pitless adapter. There is some question how much can be delivered in such a manner due to the unknown resiliency of the check valve and other factors such as grade and pipe diameter. However, during operation of the pump we noted that water bubbled out of the ground about 25' to the north of the well. We suspect that the piping between the well and Mayo I cistern may be broken in several places. We did not note any visual increase in flow in the Mayo I settling box when the deepwell pump was operating.
6. The well head at the site is located in the floodplain and should be raised. Top of casing is presently 14" above the ground.
7. The water surface in the abandoned spring building lowered during the test pumping of the well. Photo #12 shows one of many spots on the vault wall where rodents, bats, birds and surface water can enter. Additionally the building access is closed with only a piece of plywood secured by a couple of nails. The vault has only about 3' of water in

it and is not a high risk area but there is the possibility of small children getting hurt or drowned in the building. We recommend that the structure and upper foundation walls be removed. Clean rock fill should be placed in the remaining vault area and the site covered with 12"-18" of clay and seeded.

We pulled the pump at the well and obtained the following data:

- * Drop pipe--1.5" diameter
- * Top of pump/motor set at 105' depth
- * Power cable--#6 copper
- * Pitless unit at 7' burial depth
- * Control box--2 hp, 230 volt, single phase (Franklin)
- * Motor--Franklin model 2243066314, 2 hp, single phase, 230 volt, serial #334602909, date code K-83, max draw 13.2 amps (normal 10 amps)
- * Pump--Grundfos serial #3728, type 5P8-7
- * Casing--6" diameter steel

E. MAYO DEEPWELL TESTING:

Enclosed you will find a graph of limited test pumping of the well. The water at the beginning of the test was 4.5' below the ground. We used the existing pump and discharged the flow away from the wellhead. We measured pump production at 56 gpm with 12 amp draw on yellow, 8.5 amp on red, and 4.5 amp on black. Over the period of test pumping we noted the water surface in the abandoned spring vault dropped about 6". No water surface drop in the adjacent low lying "swamp" was found.

The graph shows a drawdown very similar to the old pump test accomplished in 1967. The well has an excellent recovery. We believe that the well should not have any problems producing 75 gpm for the Center. This yield was selected because it is the rated capacity of the treatment plant.

The enclosed water quality test from Twin City Testing was a hindsight after Weston Engineering had completed the pump test. The sample was taken from the abandoned spring and shows essentially no iron or manganese.

F. MAYO II CISTERN AND PUMP STATION:

As stated this cistern and pump station is abandoned. The pump is a Fairbanks Morse turbine powered by a 3 phase, 220 volt, 7 1/2 hp motor. A cistern access hatch is located inside the building. There are no locks on either the building or access hatch to prevent entrance to the deep cistern. This

poses a possible safety hazard to anyone trespassing.

The cistern is approximately 7' wide by 10' long by 38' deep and is located below a building of the same size. Records indicate that the cistern was constructed 55' deep. We may have encountered an obstruction while measuring the depth. We found the water surface about 8' below the lip of the cistern access curb on the day of the inspection. The cistern's concrete appeared to be in excellent condition. The structure was without power and needs to be completely renovated. The station will need to have all new wiring, controls, and pump equipment prior to use. There is not an adequate access road to this station.

There are some reports that this cistern has better producing galleries than Mayo I. We did not do any testing while on site since renovating the facility does not seem like an immediate option for the State.

We also found an old well upstream from Mayo II. This well is about 45.5' deep with a water surface three (3) feet below the ground surface. It is assumed that this well is abandoned and not connected to any currently used water collection system.

G. ESTIMATES:

Following are two general planning estimates for improving the Mayo water sources. Since design elements have not been completed actual construction costs will vary from these figures. The first estimate is for improvements in the Mayo I cistern/gallery and also the Mayo deepwell system as presently used. The second estimate is for improving only the deepwell system to allow it to operate as a stand alone source for the Center (i.e., without the galleries/cistern/Mayo I pump station).

Both estimates include new piping between the deepwell and the cistern area. The first estimate will tie the deepwell directly into the cistern. The second estimate ties the deepwell into the Mayo pipeline near the cistern building. The one known leak should be repaired and a pressure test performed prior to committing to actually replacing the line. It would not be prudent to replace a serviceable line. If the piping between the well and cistern is serviceable a considerable expense can be eliminated.

MAYO CISTERN/PUMP STATION/DEEPWELL ESTIMATE

Interface Pump Station Controls w/Treatment Plant . . .	\$10,000
Electrical at Pump Station	400
Piping, Renovate Cistern/Building	2,500
Deepwell Controls/Enclosure	900
Abandon Spring/Raise Wellhead	1,300
Pipe (3"), Deepwell to Cistern, 1550 LF	18,600
Miscellaneous	1,300
Engineering/Contingency (20%)	7,000
TOTAL	\$42,000

MAYO DEEPWELL IMPROVEMENT ESTIMATE

Interface Deepwell Controls w/Treatment Plant	\$10,000
Electrical at Deepwell	1,700
Deepwell Controls/Enclosure	1,500
Abandon Spring/Raise Wellhead	1,300
Pipe (3"), Deepwell to Mayo Pipeline, 1550 LF	18,600
New 75 GPM Pump at Deepwell	6,500
Drop pipe (2.5"), 125 LF	1,800
Miscellaneous	1,600
Engineering/Contingency (20%)	8,600
TOTAL	\$51,600

Note that we are proposing equipment to interface a Mayo source with the water treatment plant. This equipment will be radio controlled. Such equipment can be relocated and used at another site in the future provided the new topography allows signal transmission.

RECOMMENDATIONS

The Mayo valley obviously has greater production capability than Endicott. As we understand, the Echo Valley property (Mayo) is being considered for disposal as surplus property. If the property is sold we recommend keeping a water source in the valley for use by the Center. This would allow water to be withdrawn from two distinct watersheds which is advantageous especially during droughts. Either the cistern/gallery source or deepwell source appears to have adequate capacity as a sole source for the institution. It seems to us that only one of the sources will be needed since the Center also has the Sans watershed on which to rely. In our opinion the Mayo Deepwell should be the source of choice for the following reasons:

- * Deep groundwater is less susceptible to contamination than surface water from galleries
- * There will be less maintenance costs with the deepwell than with an above grade pump station

Mayo/Endicott Layout-Quantity Investigation
OSE #H17890000L
October 28, 1992
Page 10

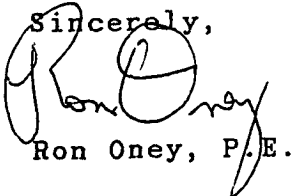
- * Less land use restrictions will need to be implemented to protect the State's interest in safe, potable water
- * There will be less potential liability for the State by not owning the unsafe structures/cisterns
- * The galleries are aged and will likely produce less water over time

OUR RECOMMENDATIONS ARE AS FOLLOWS:

1. Retain the Mayo Deepwell and make the recommended improvements to insure an adequate, safe supply of water for the Center.
2. Survey and plat the location of the well and associated pipeline to the Center. Secure the required easements to legally insure access to the facilities for maintenance, repair and operation. The plat should address the need for required access by vehicles and personnel.
3. Initiate required measures to address the discussed safety concerns.

Bill, if you need an additional assistance as the evaluation process continues, please give me a call. As always if there are questions on the enclosed material I will be happy to discuss the concerns.

Sincerely,


Ron Oney, P.E.

RO:dh

Enclosures
(including extra report/photos)



PHOTO NO. 1

ENDICOTT PUMP STATION
NOTE STOCK POND IN FOREGROUND

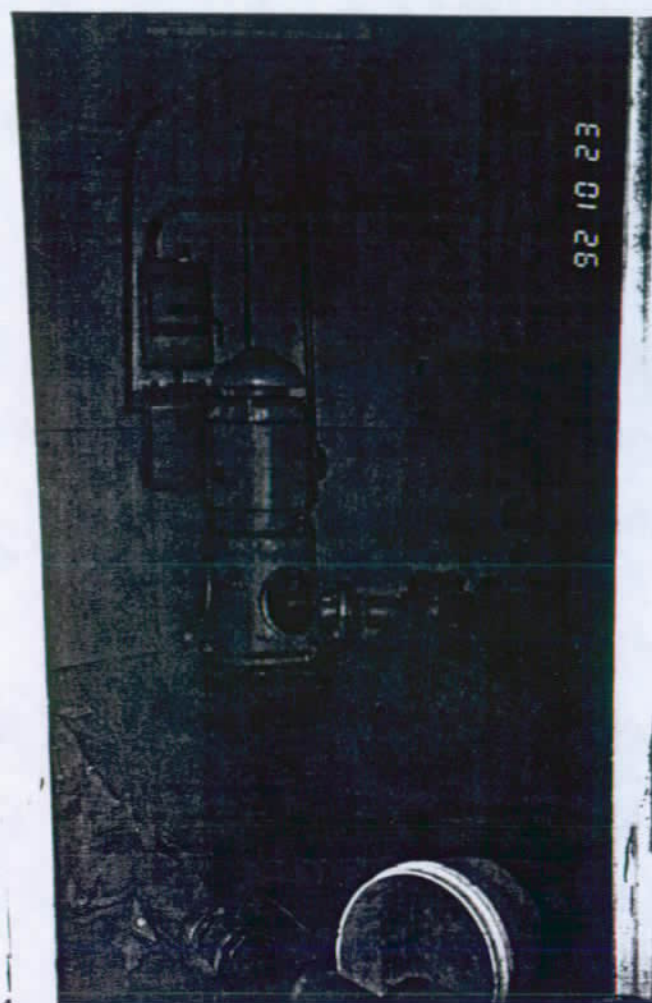


PHOTO NO. 2
ENDICOTT PUMP STATION

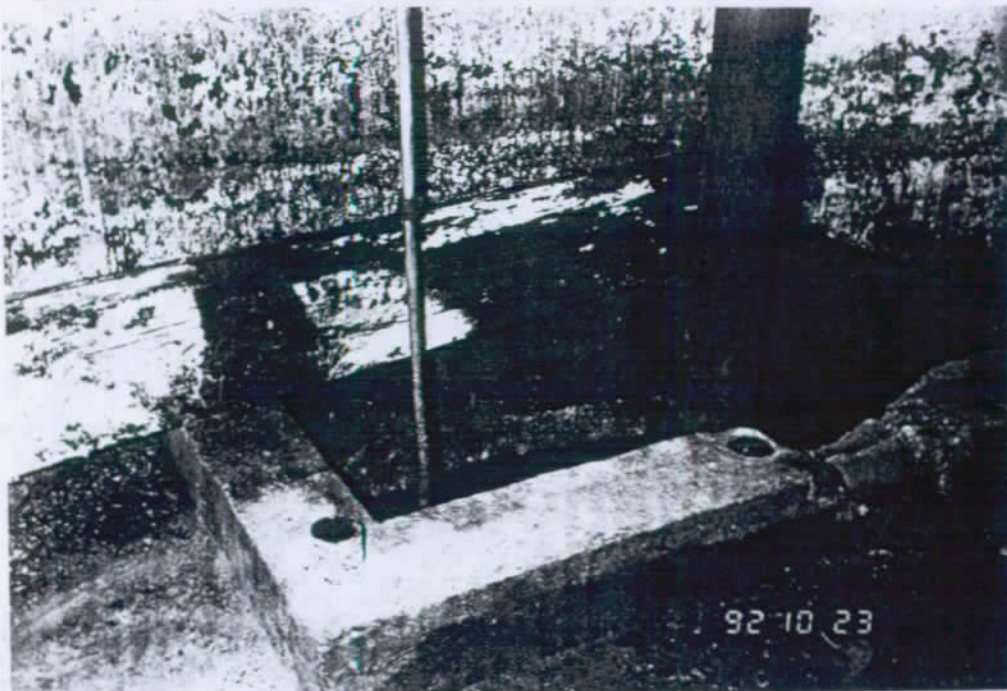


PHOTO NO. 3
ENDICOTT PUMP STATION CISTERN ACCESS



PHOTO NO. 4
ENDICOTT PUMP STATION LOOKING
DOWN INTO CISTERN



PHOTO NO. 5

MAYO DEEP WELL IN FOREGROUND;
ABANDONED SPRING/BUILDING IN BACKGROUND



PHOTO NO. 6

ECHO VALLEY FROM MAYO DEEP WELL
NOTE: MAYO PUMP STATION 1500' DOWNSTREAM

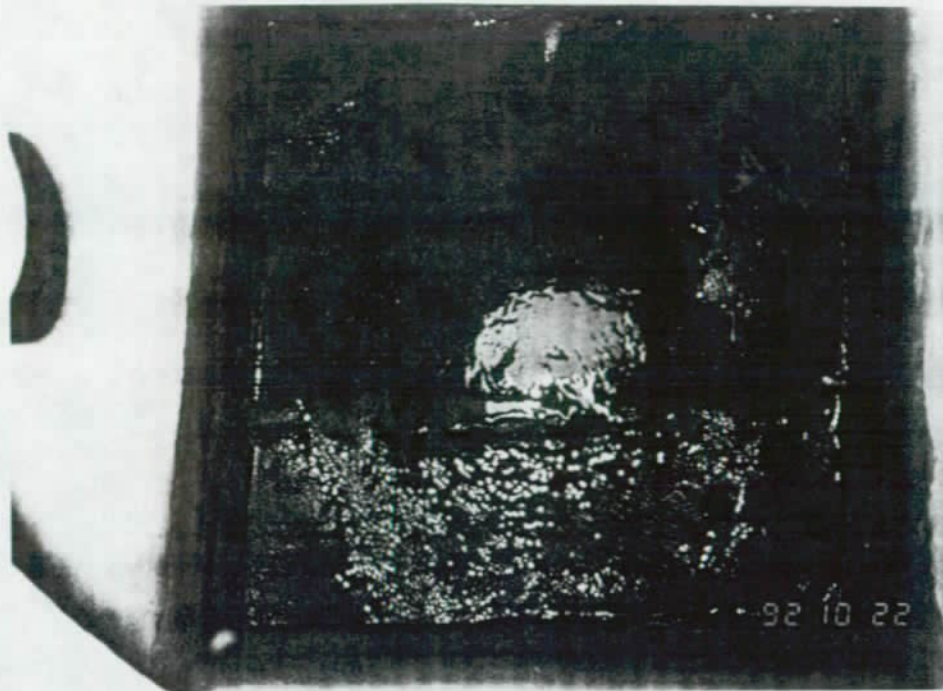


PHOTO NO. 7
SETTLING BOX AT MAYO I. NOTE OVERFLOW
AT EXTREME LEFT OF PHOTO

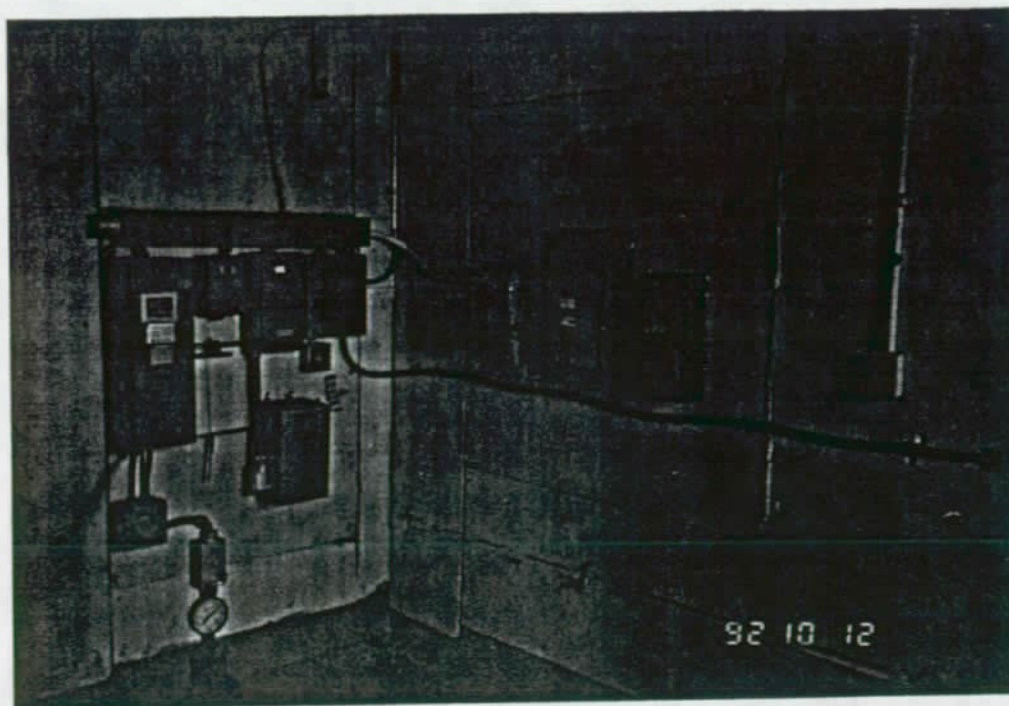


PHOTO NO. 8
INTERIOR OF MAYO I PUMP STATION



PHOTO NO. 9
MAYO I
RODENT /RUNOFF UNDERMINING OF SLAB

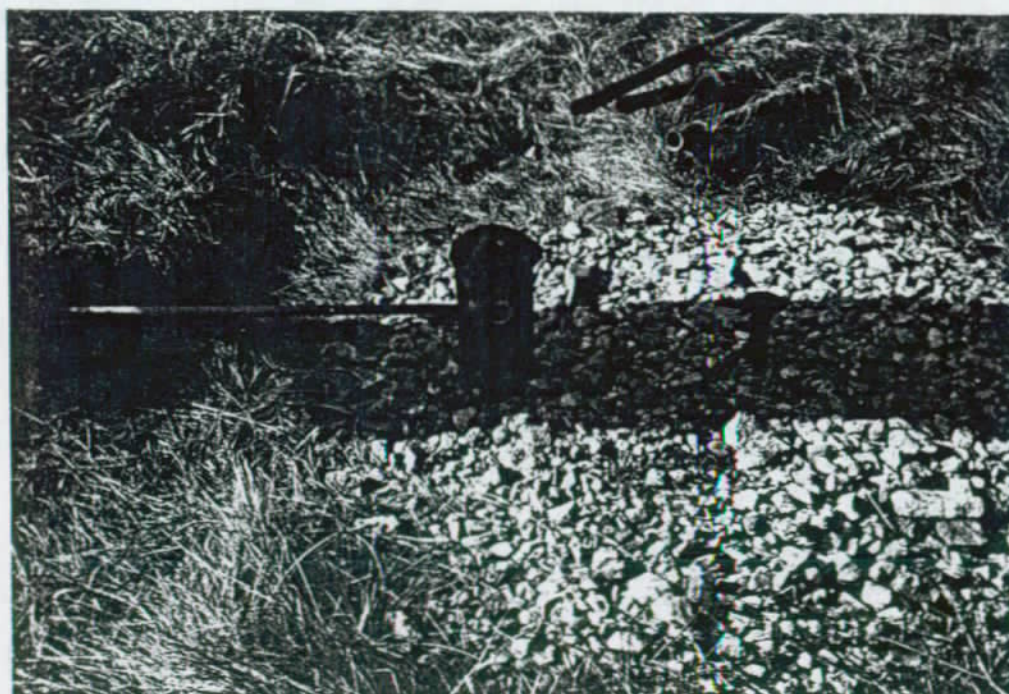


PHOTO NO. 10
MAYO DEEP WELL
NOTE CURBSTOP TO RIGHT INOPERATIVE

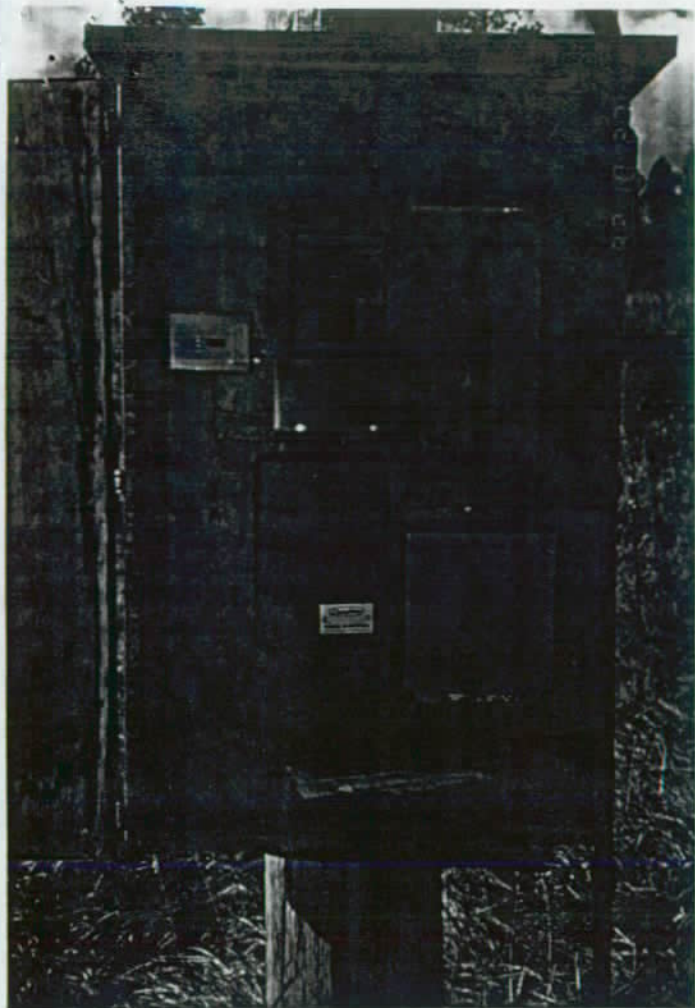


PHOTO NO. II
MAYO DEEP WELL CONTROLS
AND POWER EQUIPMENT

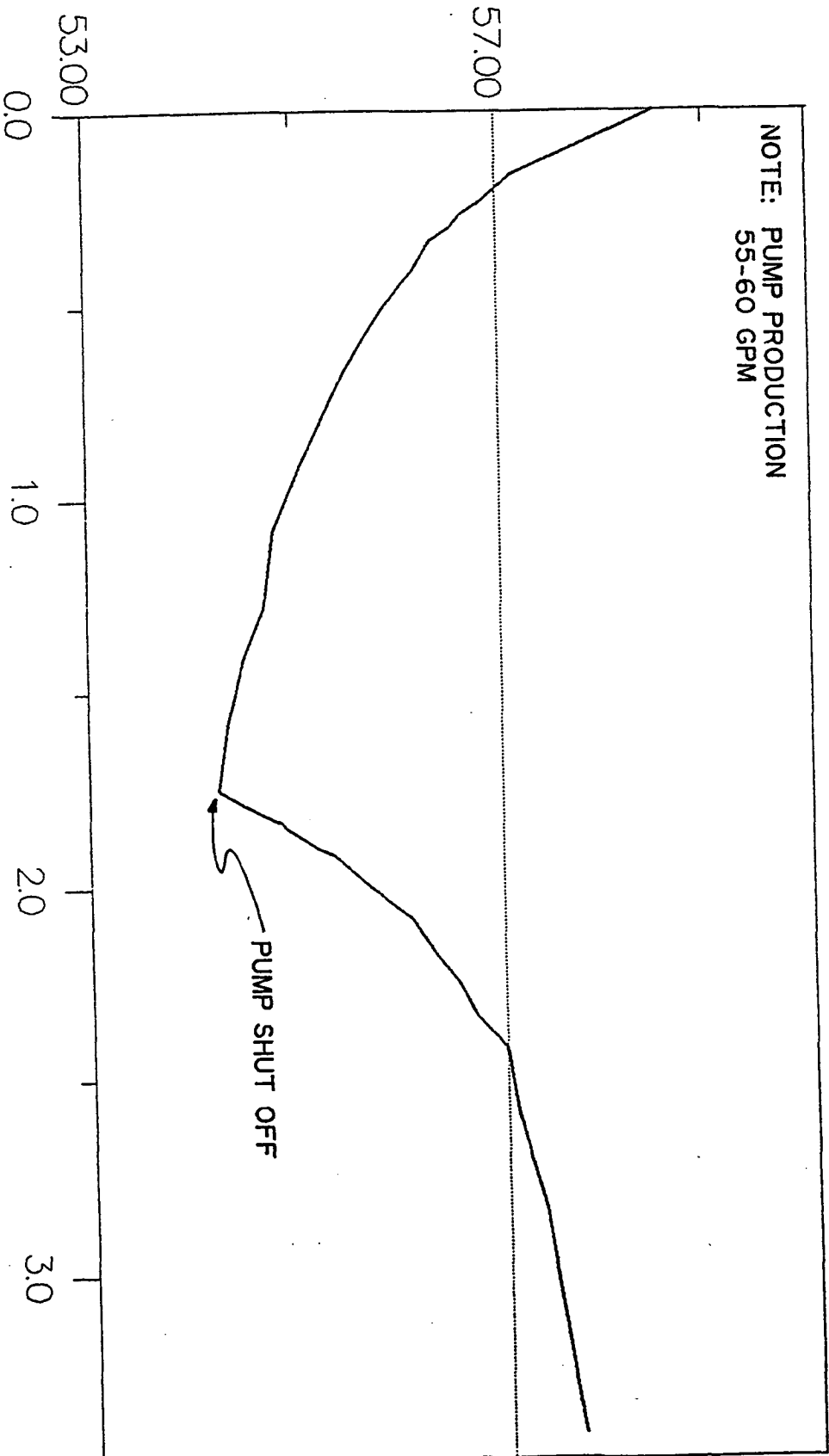
PHOTO NO. 12
DETERIORATED SPRING VAULT AT
MAYO DEEP WELL



FEET OF WATER ABOVE BOTTOM OF CISTERN

MAYO PUMP STATION #1 TEST PUMPING

NOTE: PUMP PRODUCTION
55-60 GPM

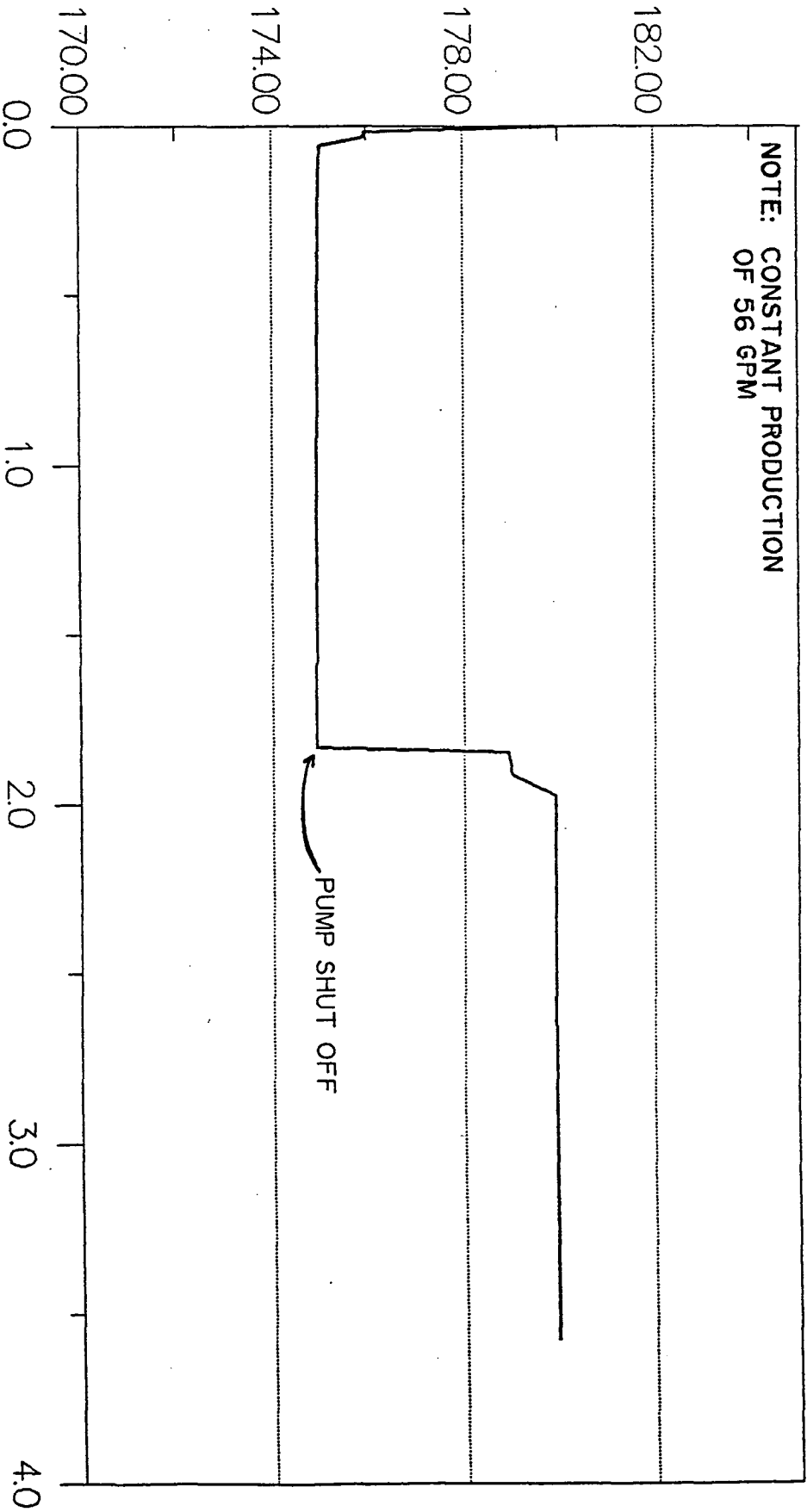


HOURS OF TEST PUMPING AND RECOVERY

DEPTH OF WATER ABOVE BOTTOM OF WELL

MAYO DEEP WELL TEST PUMPING

NOTE: CONSTANT PRODUCTION
OF 56 GPM



HOURS OF TEST PUMPING

PUMP SHUT OFF


twin city testing
 corporation

 LABORATORY #: 730
 JOB #: 6110-93-12
 REPORT DATE: 10/27/92

 RUSH X
 NORMAL

 781 INDUSTRIAL AVENUE
 RAPID CITY, SD 57702
 PHONE 605/348-5850

 COMPANY: Oney Engineering Services
 ADDRESS: HCR 83, Box 27K
 CITY-STATE: Custer, SD 57730

 CHEMISTRY LABORATORY
 1854 LOMBARDY DRIVE
 RAPID CITY, SD 57701
 PHONE 605/341-7284

PROJECT DESCRIPTION:

SAMPLE DESCRIPTION: Spring Vault
Mayo Well

WORK ORDER #:

METALS ANALYSIS

SAMPLE MATRIX WATER

RESULTS REPORTED IN: mg/l

PARAMETER	TOTAL RESULT	X DISS. RESULT	TOT. RES. FLAME LDL	FURNACE LDL	EPA METHOD	ANALYZED
Antimony (Sb)			1.0	0.005	204.	
Aluminum (Al)			0.10	0.005	202.	
Arsenic (As)			1.0	0.005	206.	
Barium (Ba)			1.0	0.05	208.	
Beryllium (Be)			0.03	0.0005	210.	
Cadmium (Cd)			0.03	0.0005	213.	
Calcium (Ca)			0.10	N/A	215.1	
Chromium (Cr)						
Total			0.10	0.005	218.	
Chromium (Cr)					7195	
Hexavalent			0.01	N/A	218.4	
Chromium (Cr)						
Trivalent			N/A	N/A	** Cal.	
Cobalt (Co)			0.03	0.005	219.	
Copper (Cu)			0.01	0.005	220.	
Gold (Au)			0.50	0.005	231.	
Iron (Fe)	<0.05		0.05	N/A	236.1	10/27/92 JO
Lead (Pb)			0.10	0.005	239.	
Lithium (Li)			0.10	0.005	3111B	
					* St.Meth.	
Magnesium (Mg)			0.10	N/A	242.1	
Manganese (Mn)	<0.03		0.03	N/A	243.1	10/27/92 JO
Mercury (Hg)			0.0002	N/A	245.1	
Molybdenum (Mo)			10.0	0.005	246.	
Nickel (Ni)			0.05	0.005	249.	
Potassium (K)			1.0	N/A	258.1	
Selenium (Se)			0.002	N/A	270.3	
Silicon (Si)			1.0	N/A	3111D	
					* St.Meth.	
Silver (Ag)			0.01	0.0005	272.	
Sodium (Na)			1.0	N/A	273.1	
Sodium Absorption						
Ratio			N/A	N/A	** Cal.	
Vanadium (V)			10.0	0.005	286.	
Zinc (Zn)			0.005	N/A	289.1	

* - Standard Methods

** - Calculation

COMMENTS:

 DATE SAMPLED: 10/27/92
 DATE RECEIVED: 10/27/92
 REVIEWED BY: *K. Coops*

 FAXED: 10/28/92
 RESULTS PHONED:
 REVISED 5/90

LOG OF WELL
CUSTER STATE, S. D.
SUNBUR, S. D.

Drilling started Jan. 24, 1967 Finished Feb. 9, 1967

0' to 12' Overburden
12' to 55' A massive hard schist with a lot of quartz bedding. This area was fractured to the extent that continual caving was encountered during drilling, and ~~casing had to be set to a depth of 55'.~~
55' to 100' The same as above but with no caving, this area still has a lot of rock fracture. **FIRST TEST PUMP.**

An eight hour test pumping was done at this depth, with the attached results.

100' to 140' Schist, and some quartz layers. Caving would indicate still quite a few fractures.
140' to 150' Some schist, but this area had an intrusion of pegmatite.
150' to 180' Schist, quartz, and some thin mica layers.
180' to 185' Massive pegmatite, drilling ended.

A twenty four hour test pumping was conducted.

It is the opinion of the contractor that the amount of fracturing in the area of the well indicates real good water storage for this type of formation.

by *[Signature]*
Feb. 1967

This well was completed with six inch casing, with perforated casing extending from the thirty five foot level to the bottom of the well. Grout ~~was~~ poured in upper fifteen feet of area around casing.

Pegmatite intrusions

Pegmatite

PUMPING TESTS AT
CUSTER STATE HOSPITAL TEST WELL

Jackman

#1. eight hour test conducted Feb. 4, 1967

TIME	METER READING	WATER LEVEL	
8:00 AM	500 cu. ft.	5 ft.	START
8:10 AM	590	12' 9"	
9:00 AM	1050	16' 4"	
10:00 AM	1600	17' 6"	
11:00 AM	2140	17' 10"	
12:00	2650	18' 0"	
1:00 PM	3230	18' 2"	
2:00 PM	3770	18' 7"	
3:00 PM	4310	13' 8"	
4:00 PM	4850	13' 10"	STOP
4:05 PM	"	9' 6"	

well depth 100'

THIS WAS PREPARED
AT THE 100 FOOT
DEPTH.
3697 gal / ft of
drawdown

#2 Twenty four hour test conducted Feb 9, 1967

well depth 100'

1:00 PM	4850 cu. ft.	5 ft.	START
1:10 PM	4940	9'	
2:00 PM	5350	9' 8"	
3:00 PM	5920	11' 0"	
4:00 PM	6450	12' 0"	
5:00 PM	6980	12' 5"	
6:00 PM	7510	13' 2"	
7:00 PM	8050	13' 0"	
8:00 PM	8590	13' 2"	
9:00 PM	9130	13' 4"	
10:00 PM	9670	13' 3"	
11:00 PM	10200	13' 4"	
12:00	10730	13' 6"	2/10/67
1:00 AM	11260	13' 7"	
2:00 AM	11790	13' 9"	
3:00 AM	12320	13' 10"	
4:00 AM	12850	13' 11"	
5:00 AM	13400	14' 0"	
6:00 AM	13930	14' 1"	
7:00 AM	14460	14' 2"	
8:00 AM	15000	14' 3"	
9:00 AM	15530	14' 4"	
10:00 AM	16070	14' 4 1/2"	
11:00 AM	16610	14' 1"	
12:00 PM	17150	14' 3"	

10078 GPM
PER FOOT OF
DRAWDOWN

AVERAGE TEST
PUMPING RATE
IS 66 GPM.

(5 minute break in)
STOP

This hole seems to appear
6' high per minute with pump on,
with only a 10 ft. draw down
on 24 hr test

Hf.

W. J. JACKMAN
BY *[Signature]*

REPORT ON VESTED RIGHT APPLICATION NO. 2264-2
for SD Department of Human Services
April 13, 1993

Vested Right Application No. 2264-2 proposes to appropriate 0.18 cfs (80 gpm) from a shallow gallery system, 65 feet deep located in the NW 1/4 NW 1/4 of section 13, T4S R4E in Custer County. The water has a claimed priority date of January 1, 1926 and is used for institutional purposes by the SD Development Center.

AQUIFER - PRECAMBRIAN ROCK (CRSL) & ALLUVIUM (ALQ)

The Precambrian rock in this area is a metagraywacke described as a medium to dark gray siliceous mica schist and impure quartzite (DeWitt, 1989). Ground water is obtained from fractures and natural foliations within the rock type. The aquifer is unconfined and under water table conditions. There is no estimate for water in storage for this rock. Also, this is the headwaters of Beaver Creek and along with a thin layer of alluvium (sand and gravel) associated with the creek, both the creek and alluvium would be hydraulically connected or at least provide access of recharge water to the Precambrian rock.

This well is described as a gallery although information provided in the Oney report filed with Water Permit Application No. 2265-2 also indicates that this well has perforations to allow ground water into the well. This would be a combination gallery and well.

The Division of Water Rights does not monitor any observation in this area. The nearest observation well is in Custer about 4 1/2 miles north. Water levels for this well show good response to climatic conditions, that is, rising water levels during wet years due to recharge and gradually declining water levels during dry years. The ground water levels in this area would respond in a similar manner (Water Rights, 1993).

REVIEW OF EXISTING WATER PERMITS/RIGHTS

There is an existing well called SANS #1 located about 350 feet southeast of this diversion. This well is covered by Water Permit Application No. 2265-2. Interference is not expected to be a concern. Both of these diversions are owned and controlled by the same user. There are no other nearby existing water permits/rights which would be affected by this diversion.

CONCLUSIONS

1. Water is available from the Precambrian rock and alluvium in this area.

2. This is an existing system and has been in use for many years. The affidavit filed with this application indicates that water has been used continuously for these purposes since 1926. This application can be recognized as a Vested Right.
3. This is described as a gallery. However, very little information is included in this application to determine construction. Apparently the diversion point (described as a cistern) also functions as a well in addition to a collection point.
4. This application states that the combined diversion rate for the facility would be 0.18 cfs (includes No. 2265-2, No. 2266-2 and this application).



James A Goodman
Natural Resources Engineer

BIBLIOGRAPHY

DeWitt, E., J.A. Redden, D. Buscher, A.B. Wilson, 1989, Geologic Map of the Black Hills Area, South Dakota and Wyoming, USGS Map I-1910, scale 1:250,000.

Water Rights, 1993, Unpublished Observation Well Data for Custer County, SD DENR, Division of Water Rights, Pierre, SD, 57501.

RECOMMENDATION OF CHIEF ENGINEER FOR VALIDATION OF VESTED WATER
RIGHT APPLICATION NO. 2264-2, SD Department of Human Services

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Division, Department of Environment and Natural Resources concerning Validation of Vested Water Right Application No. 2264-2, SD Department of Human Services, c/o Dr. Jim Rumbolz, RR 1 Box 98, Custer, SD 57730.

The Chief Engineer is recommending VALIDATION of Application No. 2264-2 for up to 0.18 cfs because 1) water has been appropriated as described for institutional use with a priority date of January 1, 1926, 2) the use has been developed without unlawful impairment of existing rights, 3) the use is a beneficial use and 4) it is in the public interest subject to the following:

Combined diversion rates under all permits/rights
(Nos. 894-2, 2264-2, 2265-2 and 2266-2) held by the
Development Center may not exceed 0.18 cfs.

See report on application for additional information.

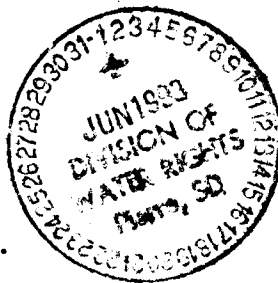
for Eric Lundberg
JOHN HATCH, Chief Engineer
April 20, 1993

Affidavit of Publication

STATE OF SOUTH DAKOTA

COUNTY OF CUSTER

)
)SS.
)



Terri Tuggle

of said county, being duly sworn, on oath says that she is publisher or _____ of the CUSTER COUNTY CHRONICLE, a weekly newspaper printed and published in Custer City, said County of Custer and has full and personal knowledge of all the facts herein stated; that said newspaper is a legal newspaper and has a bona-fide circulation of at least two hundred copies weekly, and has been published within said County for fifty-two successive weeks next prior to the publication of the notice herein, mentioned, and was and is printed wholly or in part in an office maintained at said place of

publication: that the SD Developmental Center
RR 1 Box 98

Notice of Hearing

a printed copy of which, taken from the paper in which the same was published, is attached to this sheet, and is made a part of this Affidavit, was published in said newspaper at least once each week for 2 successive week(s), on which said newspaper was regularly published, to wit:

5/12 19 93 _____ 19 _____;
5/19 19 93 _____ 19 _____;
_____ 19 _____; _____ 19 _____;
_____ 19 _____; _____ 19 _____;
_____ 19 _____; _____ 19 _____;

the the full amount of the fees for the publication of the annexed notice is \$ 61.60

Terri Tuggle

Subscribed and sworn to me before this 28th

d May 19 93;

John Zweber

Notary Public

My commission expires: May 14, 2001

NOTICE OF HEARING TO VALIDATE VESTED WATER RIGHT APPLICATION NO. 2264-2 TO APPROPRIATE WATER

Notice is given that the South Dakota Department of Human Services, SD Developmental Center, RR 1 Box 98, Custer, SD 57730 has filed an application to validate a vested water right claim to appropriate up to 0.18 cubic feet of water per second (cfs) from a shallow gallery system, 65 feet deep located in the NW 1/4 NW 1/4 Section 13-T4S-R4E. The water has a claimed priority date of January 1, 1926, and is used as an institutional supply for the SD Development Center. Combined diversion rates under all permits/rights (Nos. 894-2, 2264-2, 2265-2, and 2266-2) held by the Development Center may not exceed 0.18 cfs.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends VALIDATION of Vested Water Right Application No. 2264-2 because 1) water has been appropriated as described for institutional use with a claimed priority date of January 1, 1926, 2) the use has been developed without unlawful impairment of existing rights, 3) it is a beneficial use of water, and 4) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the vested water right application as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 777-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 1, 1993. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

For purposes of publishing 1) the notice of hearing on Application No. 2264-2 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for June 8, 1993, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the June 8, 1993, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The June 8, 1993, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by June 1, 1993.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve the validation, 2) approve the validation with qualifications, 3) defer, or 4) deny validation of the application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by June 1, 1993, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 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, 46-2A-18, 46-2A-22; 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, 46-5-49; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; 74:02:01:19 thru 74:02:01:22.

Robert E. Roberts, Secretary,
Department of Environment
and Natural Resources.

6343 5/12/93



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

April 30, 1993

Dr. Jim Rumbolz
SD Department of Human Services
SD Developmental Center
RR 1 Box 98
Custer, SD 57730

Dear Dr. Rumbolz:

Water Permit Application Nos. 2265-2 and 2266-2 and Vested Water Right Application No. 2264-2 for institutional use have been examined and found to comply with the South Dakota Water Laws and applicable rules. Notice of hearings have been sent to the Publisher of the Custer Co. Chronicle printed at Custer, SD (Ph # 673-2271). For your information, a copy of the notices, the recommendations of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

April 30, 1993

Custer Co. Chronicle
Box 551
Custer, SD 57730

ATTENTION: Legal Department

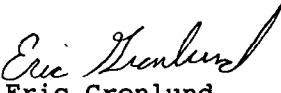
Enclosed is a Notice of Hearing on Application Nos. 2265-2 and 2266-2 and a Notice of Hearing on Vested Water Right Application No. 2264-2, each to be published twice. Please publish the first notice on May 12, 1993, with the second publication 7 days later.

The APPLICANT MUST VERIFY TO YOU THAT THE NOTICES ARE TO BE PUBLISHED, before you make the first publication. Please BILL the APPLICANT for the cost of publication. The APPLICANT is the South Dakota Department of Human Services, SD Developmental Center, RR 1 Box 98, Custer, SD 57730 (Ph # 673-2521).

A copy of BOTH publications must be SENT to the WATER RIGHTS DIVISION. IMMEDIATELY return the FIRST publication with the FIRST Transmittal form on the bottom of this page. The first copy is needed to check the publication for errors so any corrections can be made in the second publication. Publication errors can invalidate the public notice and cause the applicant costly delays.

Please be sure the SECOND publication is returned IMMEDIATELY with the enclosed Proof of Publication form. DO NOT WAIT until the end of the month or the billing cycle. No action may be taken on the permit applications until proof of publication has been received.

Sincerely,


Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----
FIRST TRANSMITTAL NOTICE TO: Eric Gronlund
Water Rights Division
Joe Foss Building
Pierre SD 57501-3181

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

Name

Newspaper

Instruction to Newspaper - Publish first Notice on May 12, 1993, with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF HEARING To Validate
Vested Water Right Application No. 2264-2 to Appropriate Water

Notice is given that the South Dakota Department of Human Services, SD Developmental Center, RR 1 Box 98, Custer, SD 57730 has filed an application to validate a vested water right claim to appropriate up to 0.18 cubic feet of water per second (cfs) from a shallow gallery system, 65 feet deep located in the NW 1/4 NW 1/4 Section 13-T4S-R4E. The water has a claimed priority date of January 1, 1926, and is used as an institutional supply for the SD Development Center. Combined diversion rates under all permits/rights (Nos. 894-2, 2264-2, 2265-2, and 2266-2) held by the Development Center may not exceed 0.18 cfs.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends VALIDATION of Vested Water Right Application No. 2264-2 because 1) water has been appropriated as described for institutional use with a claimed priority date of January 1, 1926, 2) the use has been developed without unlawful impairment of existing rights, 3) it is a beneficial use of water, and 4) it is in the public interest. Unless a petition is filed opposing the application or the applicant files a petition contesting the chief engineer's recommendation, the Water Management Board will NOT CONDUCT a HEARING to consider this application and the chief engineer will issue the vested water right application as recommended. Petitions filed in support of the application will NOT require the Board to hear the application.

Any person interested in opposing or supporting this application must file a written petition with BOTH the applicant and Chief Engineer. The applicant must also file a petition if opposed to the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Division, Foss Building, 523 E Capitol, Pierre SD 57501 (605 773-3352)" and the applicant's mailing address is given above. A petition filed by either an interested person or the applicant must be filed by June 1, 1993. The petition may be informal, but must include a statement describing the petitioner's interest in the application, the petitioner's reasons for opposing or supporting the application, and the signature and mailing address of the petitioner or the petitioner's legal counsel, if legal counsel is obtained.

For purposes of publishing 1) the notice of hearing on Application No. 2264-2 and 2) the chief engineer's recommendation, a meeting at the Division of Water Rights office to hear this application is scheduled for June 8, 1993, at 9:00 am in Room 413, Joe Foss Building, 523 E Capitol, Pierre SD. If this application is opposed or the recommendation is contested, the June 8, 1993, hearing date will be rescheduled for a regularly scheduled Board meeting. Notice of the time and place of the rescheduled hearing before the Board will be given by First Class Mail to the applicant and persons filing petitions. Anyone not filing a petition, but interested in attending the hearing, may contact the Division of Water Rights to confirm a hearing date and location. The June 8, 1993, hearing date will be automatically delayed for at least 20 days upon written request to the Chief Engineer from the applicant or any interested person opposing the application. The request for an automatic delay must be filed by June 1, 1993.

If a hearing is held, the Chief Engineer's recommendation is not final or binding upon the Board. The Board is authorized to 1) approve the validation, 2) approve the validation with qualifications, 3) defer, or 4) deny validation of the application based on the facts presented at the public hearing. Any hearing will be an adversary proceeding. Any person filing a petition and/or the applicant have the right to be represented by a lawyer and may present evidence or cross-examine witnesses according to SDCL 1-26. These and other due process rights will be forfeited if not exercised. Decisions of the Board may be appealed to the Circuit Court and State Supreme Court as provided by law. Contact Eric Gronlund by June 1, 1993, at the above Water Rights Division address to request copies of information pertaining to this application, to assure access to the hearing by the handicapped or to obtain an interpreter for the hearing impaired.

This application is made pursuant to SDCL 46-1-1 thru 46-1-9, 46-1-12 thru 46-1-16; 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, 46-2A-18, 46-2A-22; 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, 46-5-49; 46-6-3, 46-6-3.1, 46-6-6.1, 46-6-10, 46-6-13, 46-6-14, 46-6-26; and Board Rules ARSD 74:02:01:01 thru 74:02:01:15; 74:02:01:19 thru 74:02:01:22. Robert E. Roberts, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

AUG 10 1993

Dr. Jim Rumbolz
South Dakota Department of Human Services
South Dakota Developmental Center
RR 1 Box 987
Custer, SD 57730

Dear Dr. Rumbolz:

Enclosed are Vested Water Right No. 2264-2 and Water Permit Nos. 2265-2 and 2266-2. As long as you use the water beneficially, as stated in the Water License and Water Permits, the State Law provides that you have a continuing right to use the water.

We will schedule an inspection so that the Water Licenses may be issued for Water Permit Nos. 2265-2 and 2266-2, thus completing your acquisition of a Water Right.

Very truly yours,

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

enclosures

NOTICE OF TRANSFER OF OWNERSHIP



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

No. 2264-2

Date: June 13, 1996

I\We request that Vested Water Right No. 2264-2

formerly owned by: SD Department of Human Services, SD Developmental Center

be transferred to: (name & address) Department of Corrections at Custer

115 E Dakota Ave Pierre SD 57501

Telephone No. (605) 773-3478

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

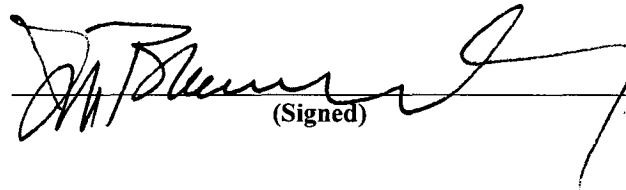
(shallow gallery system) NW 1/4 NW 1/4 Section 13, T4S, R4E

I\We understand that the validity of Vested Water Right No. 2264-2 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).

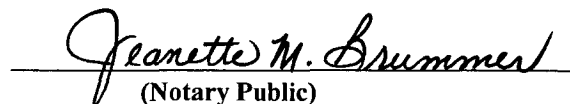
You are requested to file this "Notice of Transfer" in the appropriate file with the Water Rights Program, as evidence of the change of ownership.

STATE OF SOUTH DAKOTA)
County of Hughes)

I\We Jeff Bloomberg 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, and that I know of my own personal knowledge that the information herein stated is true.


(Signed)

Subscribed and sworn to before me this 13th day of June, 19 96.


(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.



2264-2

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 23, 1996

894-2

2264-2

2265-2

2266-2

Jeff Bloomberg
Department of Corrections
115 E. Dakota Ave.
Pierre, SD 57501

Dear Mr. Bloomberg:

This is to notify you that transfer of ownership has taken place on Water Right No. 894-2, Vested Water Right No. 2264-2, and Water Permit Nos. 2265-2 and 2266-2. Our records now show the Department of Corrections at Custer as owner of the above listed Water Rights/Permits.

Sincerely,

Cheryl F. Frost
Secretary
Water Rights Program
(605) 773-3352

**Permit Nos. 2265-2 & 2266-2
Custer County**

To: Chief Engineer, Water Rights Program, DENR Foss Bldg., Pierre, SD 57501

Other permit/license(s) associated with project: 894-2, 2230-2 & 2264-2

Contact Person & Address: **Bob Etzkorn, South Dakota Dept. of Corrections HC 83 Box 69A, Custer, SD 57730**

Report of Examination of Works:

On **June 4, 2001**, I made a thorough examination of the water use system in use by the **South Dakota Department of Corrections, HC 83 Box 69A, Custer, SD 57730** holder of Permits Nos. **2265-2 and 2266-2**, bearing the priority of **March 1, 1993** and authorizing a **total appropriation, combined with Permit/License 894-2 and Vested Water Right 2264-2, not exceeding 0.18 cubic feet per second (cfs) of ground water for institutional purposes, in Custer County.**

Only two (2) wells are presently used by the **South Dakota Department of Corrections** to supply water to the **Custer Youth Corrections Center (CYCC)** West portion of the institution. All shallow, large diameter wells and galleries previously used to supply water to the **CYCC West** have been plugged, filled, and/or dismantled.

A 170-foot well is located in the **SW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 23 T4S R4E, 792 feet East 2376 feet South of the NW corner of Section 23 at longitude W103 $^{\circ}$ 36.888' latitude N43 $^{\circ}$ 41.302'.** This well can be pumped at 40 gallons per minute (gpm). This location and depth corresponds to the **Permit No. 2265-2 (Oney Engineering Services Map, Mayo #2) well.**

A 214-foot well is located in the **NW $\frac{1}{4}$ NW $\frac{1}{4}$ Section 13 T4S R4E, 475 feet East 1426 feet South of the NW corner of Section 13 at longitude W103 $^{\circ}$ 35.734' latitude N43 $^{\circ}$ 42.338'.** This well can be pumped at 75 gpm. This location corresponds to the **Vested Water Right No. 2264-2 and Permit No. 2266-2 (Oney Engineering Services Map, Sans #1) well.**

- 1) Special qualifications to permit being abided by: **Yes**
- 2) All structures, wells and lands on map: **Diversion locations shown on map.**
- 3) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period: **NA**
- 4) Exceptions to compliance are: **The combined capacity of the two wells in use exceeds the qualification of 0.18 cfs.**

Report on Specifics of the System:

Diversion Point Information:

- | | |
|---------------------------------------|---|
| 1) Well Drilling Firm: Unknown | 2) No. of Wells: 2 |
| 3) Depth(s) 170 & 214 feet | 4) Well logs available: Old log for Mayo Deep Well |

Casing:

- 1) Diameter: 6 inches 2) Length: Unknown feet 3) Type: Steel

Screen:

- 1) Type: Perforated Steel 2) Length: Unknown feet
3) Static water level: Unknown feet

Pump\ Motor:

- 1) Pump Make: Unknown 2) Pump Model: NA
3) Capacity: Mayo #2-40 gpm, Sans #1-75 gpm 4) Motor Make: NA
5) Motor Model No.: NA 6) Horsepower rating: NA hp

Distribution System:

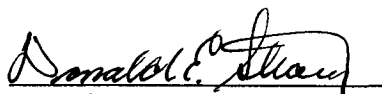
- 1) Type: Unknown 2) Size: 10 inches 3) Length: Unknown-from well sites to storage reservoirs

COMMENTS:

The well in Section 23 T4S R4E should be licensed incorporating the applicable portions of Water Right License No. 894-2, and Permit No. 2265-2. This well is located in the same metamorphic rock water source and the same area as authorized by the above referenced license and permit. Water Right License No. 894-2 and Permit No. 2265-2 can be incorporated into one document with priority dates of September 7, 1966 for 0.14 cfs and March 1, 1993 for 0.04 cfs withdrawals.

Vested Water Right 2264-2 should remain as issued and a memorandum placed in the file noting that the gallery system has been dismantled and only a 214 deep well in the same metamorphic rock water source as the licensed shallow gallery system is in use in Section 13 T4S R4E. Permit No. 2266-2 can be cancelled as this withdrawal is authorized by Vested Water Right 2264-2.

The new license should have the following qualification: **The total combined and/or individual withdrawal rate for Vested Water Right 2264-2 and this license may not exceed 0.18 cfs of water.**



Donald E. Stroup
Natural Resources Project Engineer
DENR, Water Rights Program

9/19/01
Date

Attachments: Oney Engineering Services Inc. Water Diversion Maps



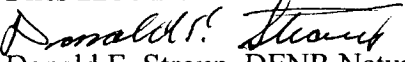
**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

November 14, 2001

MEMO

To: Files 2264-2 & 2266-2

From: 
Donald E. Stroup, DENR Natural Resources Project Engineer

Subject: Vested Water Right No. 2264-2 and Permit No. 2266-2

The gallery system previously used as a water source for Vested Water Right No. 2264-2 has been dismantled. A well, 214-feet deep, located in the same metamorphic rock in Section 13 T4S R4E as was the shallow gallery system is now used as the water source for this Vested Water Right. Water is primarily stored in fissures and joints in metamorphic rocks and increasing the well depth in the same rock zone only changes the depth the water is diverted from, not the water source. Therefore, this change will not affect any permits or licenses in the area.

~~Permit No. 2266-2 can be cancelled as this withdrawal is authorized by Vested Water Right No. 2264-2.~~

Nōs. 2264-2 and 2266-2 were incorporated together rather than cancelling No. 2266-2.



Donald M. C. Thuring

Donald E. Stroup
Natural Resources Project Engineer
DENR Water Rights Program

STATE OF SOUTH DAKOTA
REISSUED VESTED RIGHT WATER LICENSE NO. 2264-2

(1) South Dakota Department of Human Services was issued Vested Right Water License No. 2264-2, August 10, 1993 for a water right to appropriate 0.18 cubic feet of water per second (cfs) from ground water (shallow gallery system), Custer County, South Dakota for institutional purposes. Vested Right Water License No. 2264-2, with a priority date of January 1, 1926 was issued to the applicant for diversion of water with construction of the described water supply system completed and the application to beneficial use of water completed.

On June 17, 1996, Vested Right Water License No. 2264-2 was transferred to the Department of Corrections at Custer.

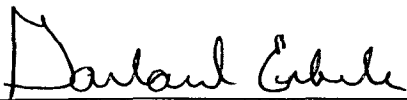
Water Permit No. 2266-2, with a priority date of March 1, 1993, authorized diversion of 0.18 cfs from a well located in the NW ¼ NW ¼ Section 13, T4S, R4E. A June 4, 2001, investigation of the water use system found the gallery system described in Vested Right No. 2264-2 had been dismantled and only one well existed at the site. The well currently being used in that location is from the same water source as Nos. 2264-2 and 2266-2. The well is capable of 75 gpm or approximately 0.17 cfs.

The applicable portions of Water Permit No. 2266-2 are being incorporated into Vested Right No. 2264-2. Since the diversion rate of Sans Well #1 is within the limit authorized by the vested right, a priority date of January 1, 1926 can be retained for the entire amount.

(2) The water supply system has been completed and water applied to beneficial use in accordance with South Dakota State Law. Pursuant to South Dakota Codified Law 46-5-30.1, SD Department of Corrections at Custer, HC 83 Box 69A, Custer SD 57730 the holder and/or owner of Incorporated Vested Water Right No. 2264-2 is issued a license, bearing a priority date of January 1, 1926 to appropriate 0.17 cubic feet of water per second from ground water (one well) to be used for institutional purposes. The diversion point for Sans Well #1 is located: 475 feet east & 1,426 feet south of the NW corner of Section 13, T4S, R4E (NW ¼ NW ¼)

(3) This license is subject to South Dakota Water Law, any limitations or conditions listed in Incorporated Vested Water Right No. 2264-2 including the following qualifications:

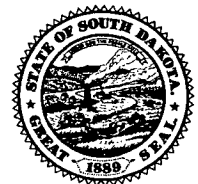
- The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.
- Combined diversion rates under Vested Water Right No. 2264-2 and Water Right No. 2265-2 may not exceed 0.18 cfs. *(The second well used by the Center, known as Mayo Well #2, is licensed under Water Right No. 2265-2 and is capable of 40 gpm or approximately 0.09 cfs)*



Garland Erbele, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

JUL 11 2005

date





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUL 11 2005

2264-2
2265-2

Bob Etzkorn
SD Dept of Corrections
HC 83 Box 69A
Custer SD 57730

Dear Mr. Etzkorn:

Enclosed is Reissued Vested Right Water License No. 2264-2 and Water License No. 2265-2. Also enclosed is a map of showing the location of the wells utilized by the center. The map was prepared by the staff engineer who conducted the investigation of your water use system.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Nos. 2264-2 and 2265-2, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Sincerely,


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

enclosures

Note: The applicable portions of Water Right No. 894-2 were incorporated into Water License No. 2265-2. The applicable portions of No. 2266-2 were incorporated into Vested Right Water License No. 2264-2. The combinations of diversions under Nos. 2264-2 and 2265-2 may not exceed 0.18 cubic feet of water per second.