

WATER PERMIT NO. 1878-1

Name of Applicant: City of Whitewood

Address: PO Box 36, Whitewood SD 57793

Phone: 605 269-2247

Amount of Water Claimed: 50 AF (0.78 cfs)

Total Acres: NA

Source of Water Supply: groundwater

Water to be used for: municipal

County: Lawrence

Type of Waste Disposal System:

Location:

PRIORITY Date Received: 8-4-06

Application/License Fee: \$200

Corrected Application Received: 2-13-07

Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: NE ¼ SW ¼ Sec 21-T6N-R4E

Land to be Irrigated: NA

Depth of Well: 2100 feet deep

Well Driller:

Remarks:

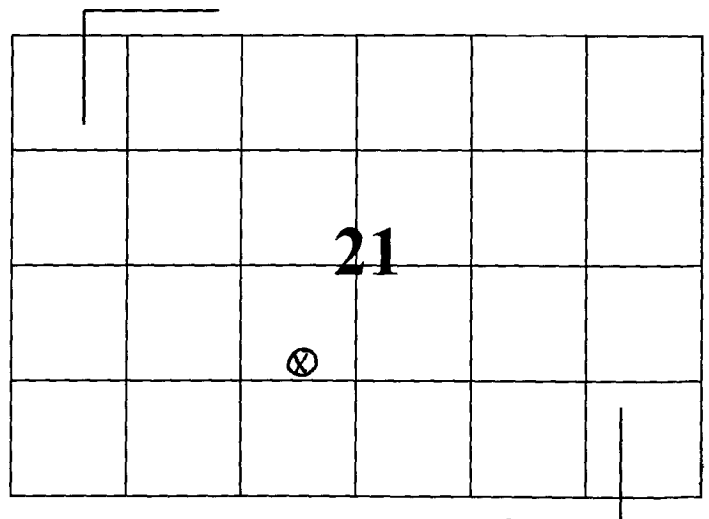
Type of Map: aerial

Prepared by: Greg Wierenga, PE

Reviewed and the Number Assigned on: 2-14-07

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



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

Mail to: Water Rights Program Joe Foss Building 523 E. Capitol Pierre, SD 57501-3181 (605) 773-3352	No. <u>1878-1</u> (office use only)	Hydrologic Unit <u>10120202</u>
	Basin <u>Belle Fourche</u>	
	Newspaper <u>Black Hills Pioneer Spearfish</u>	
	<u>605-642-2261</u>	<u>PO Box 7 57783</u>

RECEIVED

AUG - 4 2006

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. _____		

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

1. Name of Applicant City of Whitewood Phone 605-269-2247
(check one) ☒ Owner ☐ Tenant/lessee
Mailing Address P.O. Box 36, Whitewood State SD 57793-0036
(Street, RR, or Box and City) (Zip Code)

2. Amount of water claimed 0.78 *CFS or 350 **GPM 50 **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 SW 1/4 NE 1/4 section 12-T104N-R53W) County Lawrence
SW 1/4 SW 1/4 Section 21 T6N R4E
NE 1/4

5. County or counties where water will be used Lawrence

6. Annual period during which water is to be used All Year Jan 1 to Dec 31

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)

New municipal water well to supplement existing City Wells 2 and 3. Engineering report "Addendum No. 1 to Preliminary Design Report, Water Study for City of Whitewood, SD, CETEC Engineering, October 28, 2005.

STATE OF SOUTH DAKOTA)

SS

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)

County of Lawrence)

I, Michael Weyrich, Mayor, 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

Subscribed and sworn to before me this 31 day of July 20 06

My Commission Expires June 5, 2010
Fay Bueno

Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 1878-1**

Date of first receipt of application August 4, 2006.

Date of receipt of corrected application February 13, 2007.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1878-1 to the City of Whitewood, PO Box 36, Whitewood SD 57793-0036 authorizing the construction of the water use system and the placing of water to beneficial use subject to the following limitations, conditions and qualifications:

1. Water Permit No. 1878-1 appropriates 50 acre feet of water annually at a maximum diversion rate of 0.78 cubic feet of water per second from one well to be completed into the Madison Aquifer located in the NE 1/4 SW 1/4 Section 21-T6N-R4E.
2. The water appropriated shall be used for the purpose of municipal use and may not exceed the amount of water needed for beneficial use.
3. The water is to be used during the following described annual period: January 1 – December 31.
4. The date of approval of Permit No. 1878-1 is May 14, 2007.
5. The date from which applicant may claim right is February 13, 2007.
6. One-fifth of the construction is to be completed on or before November 14, 2009.
7. All construction is to be completed on or before May 14, 2012.
8. Water is to be put to beneficial use on or before May 14, 2016.
9. Water rights obtained in compliance with the laws of the State of South Dakota may not be unlawfully impaired by this appropriation.

QUALIFICATIONS

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1878-1 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1878-1 may also be cancelled for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. 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.

(continued)

Water Permit No. 1878-1
City of Whitewood
Page 2

3. The well authorized by Permit No. 1878-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
4. The city of Whitewood shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

WATER MANAGEMENT BOARD

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

JUN 20 2007

date



Form 2A Supplemental Information

(Complete applicable portions only)

(type or print in ink)

1. Well Information – Proposed Construction

- a) Drill Hole Diameter 15" & 8 3/4" Depth 1,700' of 15", 400' of 8 3/4"
- b) Casing Type Steel Diameter 10 3/4" Thickness 0.35"
- c) Screen Type None Diameter _____ Thickness _____
- d) Gravel Pack None Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 1,700' (est.)
- f) Depth to Water (ground surface to water level) 330' (est.)
- g) Distance to nearest existing domestic well: City Well 3
- On applicant's property 2,500' On property owned by others _____

2. Wastewater Disposal System Information

- a) Type of System (i.e. septic tank, drain field) City of Whitewood has central sewer system
- b) System Capacity (gallons) _____ Year Constructed _____
- c) Connected to the City of _____ Sanitary System

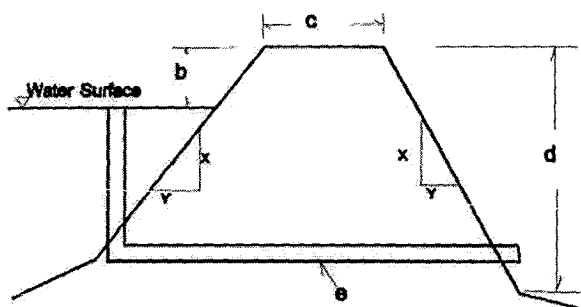
3. Dugout Information

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

4. Water Storage Dams N/A

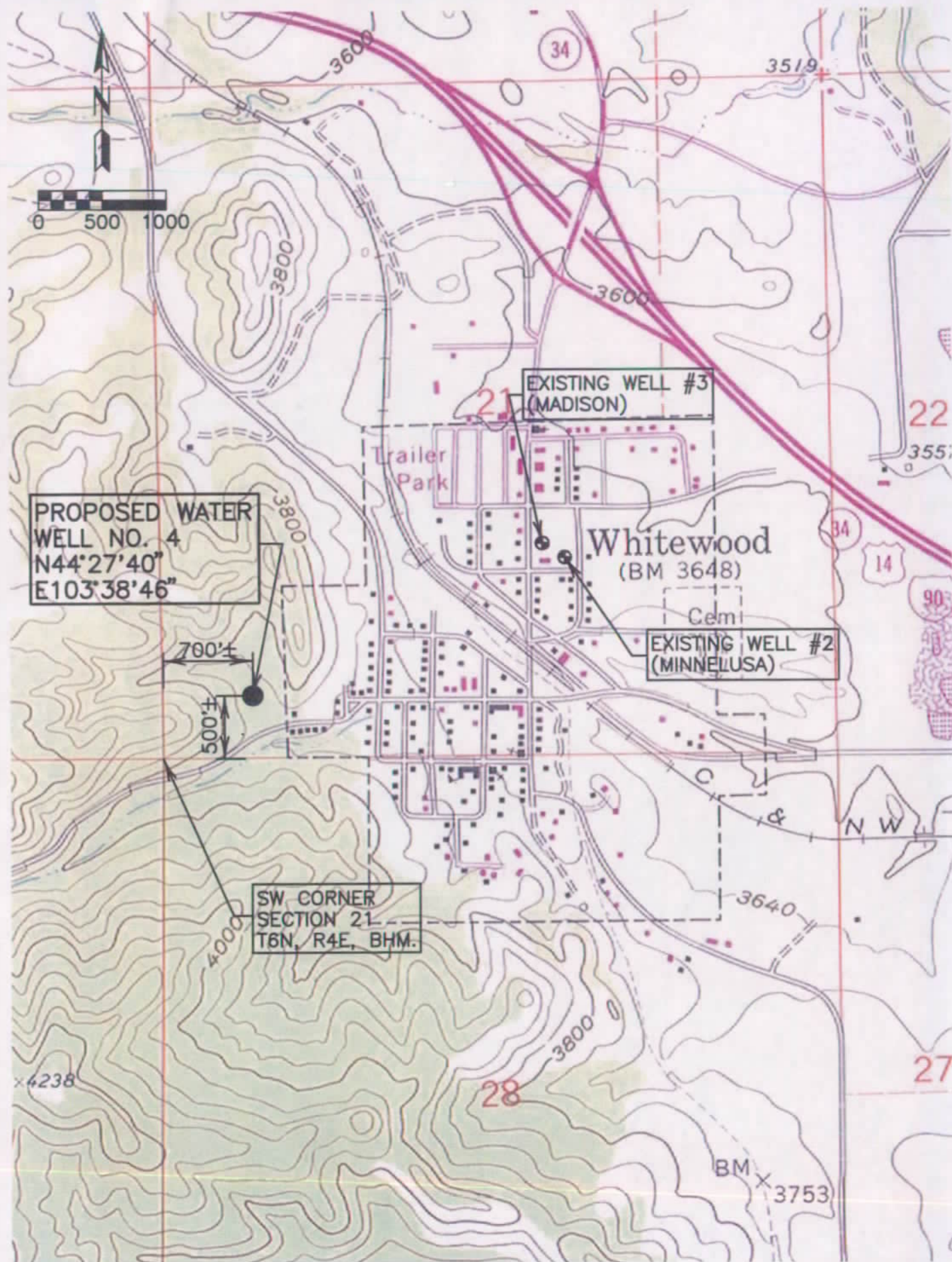
If the proposed water use system contains one or more storage dams, please furnish the information requested below for each dam. The locations of the dams need to be shown on the map submitted with the application.

- 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 _____
- d) Height _____
- e) Primary Outlet Capacity _____
- f) Secondary Spillway Capacity _____
- g) X & Y Slope _____
- Upstream _____
- Downstream _____
- h) Surface Area of Impoundment _____
- i) Storage _____ Acre Feet
- j) Drainage Area Above Dam _____ Acres

July 27, 2008 8:07:19 a.m.
Drawing: VICINITY MAP NO. 4
Drawing: VICINITY MAP NO. 4



VICINITY MAP
WATER WELL NO. 4
WHITEWOOD, SD

cetec

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date August 4, 20 06

RECEIVED OF City of Whitewood, PO Box 36, Whitewood SD 57793

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	300	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. _____	50	00
Fee for Filing Transfer Form _____		
Fee for _____		
Fee for Issuing New Well Driller's License No. _____ for C.Y. _____		
Fee for Renewal of Well Driller's License No. _____ for C.Y. _____		
Fee for Issuing Well Pump Installer's License No. _____ for C.Y. _____		
Fee for Renewal of Well Pump Installer's License No. _____ for C.Y. _____		
(Any Other Work Provided by Law)	TOTAL	350.00

No.

02534

By

Darlene Ebele
Chief Engineer
gm



2400 West Fulton Street
P.O. Box 9100
Rapid City, SD 57709
Phone: (605) 241-4800
Fax: (605) 241-4806
Web: cetec-engineering.com

Letter of Transmittal

DATE: 07-24-2006	JOB NO: 04129.01
ATTENTION: Faye Bueno	
RE: Water Well No. 4.	

TO: City of Whitewood
1025 Meade Street
P.O. Box 36
Whitewood, SD 57793-0036

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change Order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1			Water Rights Permit Application.
1			Well Location Map.
1			Engineering report to accompany the application.

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Reviewed ☐ Revise and resubmit
☐ For your use ☐ Rejected ☐ Resubmit _____ copies for approval
☐ As requested ☐ Make corrections noted ☐ Return _____ corrected prints
☐ For review and comment ☐ Other _____

REMARKS:

Faye:

Please have Mike sign this application, enclose the application fee of \$350 and forward to the Water Rights Division of DENR (mailing address is on top of form). Include the copy of the engineering report with the application.

If you have any questions, call me.

COPY TO: _____

SIGNED: _____

Greg Wierenga, P.E.

ADDENDUM No. 1
TO
PRELIMINARY DESIGN REPORT
WATER STUDY
FOR
CITY OF WHITEWOOD, SD

PREPARED FOR

City of Whitewood
1025 Meade Street
P.O. Box 36
Whitewood, SD 57793-0036

PREPARED BY



1830 West Fulton Street
P.O. Box 9014
Rapid City, SD 57709
Phone (605) 341-7800
Fax (605) 341-7864
www.cetecengineering.com

October 28, 2005
Revised February 24, 2006



Table of Contents

1. INTRODUCTION	1
1.1 Background Information.....	1
1.2 Purpose and Scope.....	1
2. REVIEW OF 2003 STUDY AND REPORT	2
2.1 Planning Area	2
2.2 Existing Facilities	2
2.3 Water Demands	3
2.4 Recommended Improvements	3
2.5 Cost Estimates	6
3. UPDATE OF 2003 STUDY.....	7
3.1 Planning Area Changes.....	7
3.2 Projected Water Demands	7
3.3 Assessment of Supply and Storage Needs	8
3.4 Assessment of Distribution System Needs	9
3.5 Updated Cost Estimates	10
4. PROJECT ALTERNATIVES	11
4.1 Alternatives Considered.....	11
4.2 Alternative Project Scope	14
4.3 Alternative Project Costs.....	14
4.4 Annual Operating Budget.....	17

Figures

Figure 1	Recommended Water System Improvements from 2003 Study.....	5
Figure 2	Alternative Water System Improvements Recommended for 2005.	13

Appendices

- A. Detailed Breakdown of Probable Construction Costs for 2003 Work Scope Updated to 2005 Construction Costs
- B. Cost Breakdown – Inside City Limits Versus Outside City Limits
- C. Typical Project Details
 - Typical Meter Vault
 - Typical PRV Vault
 - Typical Altitude Valve Vault
 - Treatment Building Schematic
- D. City of Whitewood Audit Report (2001-2002)

1. INTRODUCTION

1.1 Background Information

The City of Whitewood conducted a municipal water system study in October 2003 under a consulting agreement with Ferber Engineering Company. The results of this study are reported in the document "*Preliminary Design Report, Water Study for Whitewood, South Dakota*, Ferber Engineering Company, Inc., October, 2003."

The study evaluated population, water demands and capabilities of existing facilities, including production, storage and distribution. The study developed and presented recommended improvements to the overall system. Specific improvements recommended in the study are described in Section 2 of this addendum.

The study presented an overall estimate of probable construction costs totaling \$547,419 for the recommended improvements. This cost did not include engineering or administrative fees, geotechnical investigation, land and easement acquisition and similar project-related costs.

1.2 Purpose and Scope

In August 2005, the Whitewood City Council entered into a consulting agreement with CETEC Engineering Services, Inc. to perform a review and cost update of the 2003 study, and to analyze possible alternatives or additions to the project scope.

The cost update is intended to develop current-year costs for improvements recommended in the 2003 study, plus include estimates for engineering, land acquisition and related costs which were not included in the previous cost estimates. The projected costs are also broken down into work inside of the City limits and outside of the City limits as may be necessary for project funding.

This addendum also includes analysis of an alternative project scope based upon an alternative storage tank location and distribution piping layout. Engineering analysis and comparative costs are presented for the alternative project scope presented herein.

This addendum is intended to support and present current costing data for project funding applications via State and/or Federal programs. The report does not necessarily include all required information, such as environmental reviews associated with specific funding programs.

2. REVIEW OF 2003 STUDY AND REPORT

2.1 Planning Area

The planning area for the Whitewood water system considered in the 2003 study included lands within the existing City limits, the Forest Acres development at the northwest edge of the community, plus developable lands adjacent to the existing City limits. The report presented the following population forecast for Whitewood.

Whitewood Population Projection (2003 Study)

<u>Year</u>	<u>Population</u>	
2000	900	(estimated, including Forest Acres)
2010	1,050	
2020	1,200	
2030	1,350	

The anticipated growth was based upon continued homebuilding and development within Forest Acres, and anticipated residential development and annexation east and south of the current City limits.

2.2 Existing Facilities

As presented in the 2003 study, the major components of the City water system are as follows.

Existing Water System Description

Supply:	Well 1 (Minnelusa)	225 gpm	(324,000 gpd)
	Well 2 (Madison)	500 gpm	(720,000 gpd)
	Total	725 gpm	(1,044,000 gpd)
Storage:	Upper Zone (Hoffman Lane)	275,000 gal.	Elev. 3906
	Raw Tanks (Custer Street) #1	65,000 gal.	
	and #2	35,000 gal.	
	Total	100,000 gal.	Elev. 3761
High Zone Booster: 2 Pumps		300 gpm	
Distribution System: 6" and 4" C.I. and PVC			
Two Pressure Zones		High HGL	3906
		Low HGL	3972
Zonal Boundary at DM&E Railroad.			
3 PRV Stations Reducing from HGL 3906 to 3792.			

The existing wells pump untreated water to the Raw Storage tanks. Chlorine and fluoride are added at the High Zone Booster Station and the treated water is pumped to the high zone storage reservoir. Users within the upper pressure zone (HGL 3906) are serviced from the storage reservoir. The low zone (HGL 3972, north of railroad) is supplied from the upper zone via three pressure reducing stations (Haley Street, Laurel Street and Hooker Street).

The existing system components and operating methodology is the same in 2005 as reported in the 2003 study.

2.3 Water Demands

The following historic water demands were presented in the 2003 study.

Historic Water Use Criteria

Commercial Water Use (including Ridley Block)

Annual Average	46,000 gpd
Peak Month	61,500 gpd
Ratio of Peak Month to Avg. Day	1.3

Residential Water Use

Annual Average	68,900 gpd (77 gpcd*)
Peak Month	192,900 gpd (215 gpcd*)
Ratio of Peak Month to Avg. Day	2.8

Peak Day of Pumping: 476,000 gpd (330 gpm)

Ratio of Peak Day to Peak Month 1.9

Unaccounted For Water Use: 25% of total pumping.

*gpcd, gallons per capita per day based on a residential population of 900 people.

The 2003 study projected a 42% increase in water demands for the year 2025 based upon projected growth and increase in population served.

2.4 Recommended Improvements

The 2003 study presented the following evaluation of water system components and recommended improvements.

Source of Supply:

The existing two wells with a combined pumping capacity of approximately 1,000,000 gpd were judged adequate to meet Year 2025 peak-day demand. No capacity improvements were recommended.

The study recommended the following improvements to treatment and pumping systems, however.

Recommended Supply Improvements

- Remove raw storage tanks.
- Remove booster station and chemical feed at the booster station.
- Construct new chemical feed system near existing Wells 1 and 2.
- Upgrade well pumps to allow direct pumping to the high-level tank, thus eliminating the raw water pumping, storage and piping systems.

Storage:

The 2003 study recommended a total storage volume of 360,000 gallons based upon fire needs of 120,000 gallons and future domestic needs of 240,000 gallons.

A new 250,000-gallon storage reservoir was recommended to supplement the existing 275,000-gallon reservoir, for a total storage of 525,000 gallons. The new reservoir was recommended to be located north of town with an operating elevation equal to the existing tank (elev. 3906).

Distribution System:

Hydraulic modeling of the distribution system was conducted as part of the 2003 study to evaluate fire flow capabilities and hydraulic efficiency within the system. The following distribution piping additions and upgrades were recommended.

Recommended Distribution System Improvements

1. New 8" main in Laurel Street from Hooker to Fillmore (3 blocks).
2. New 8" main in Fillmore (3 blocks).
3. New 8" main in Fillmore from Laurel to Old US Highway 14 (4 blocks, with PRV Station at Railroad).
4. New 6" main in Sherman Street from Pine Street to Ash Street (2 blocks).
5. New 8" high-pressure main from new treatment building at well site to the Oak Street/Hooker Street intersection via Garfield Street (4 ½ blocks).
6. New 6" main from new 250,000-gallon storage tank to Forest Acres at Oak Drive intersection with Old US Highway 14.
7. Tie over existing 6" raw water main in Oak Street to existing 6" potable main in Oak Street at Hooker intersection and convert the 6" raw main so as to be a part of the high zone distribution system.
8. Tie over existing 6" raw water main to 6" potable water main in Custer Street and Emmett Street vicinity to complete the conversion of the existing 6" raw water main to a 6" potable water main.
9. Demolish raw storage tanks and booster pumping system.

Figure 1 shows the existing water system components and the system improvements recommended in the 2003 study.

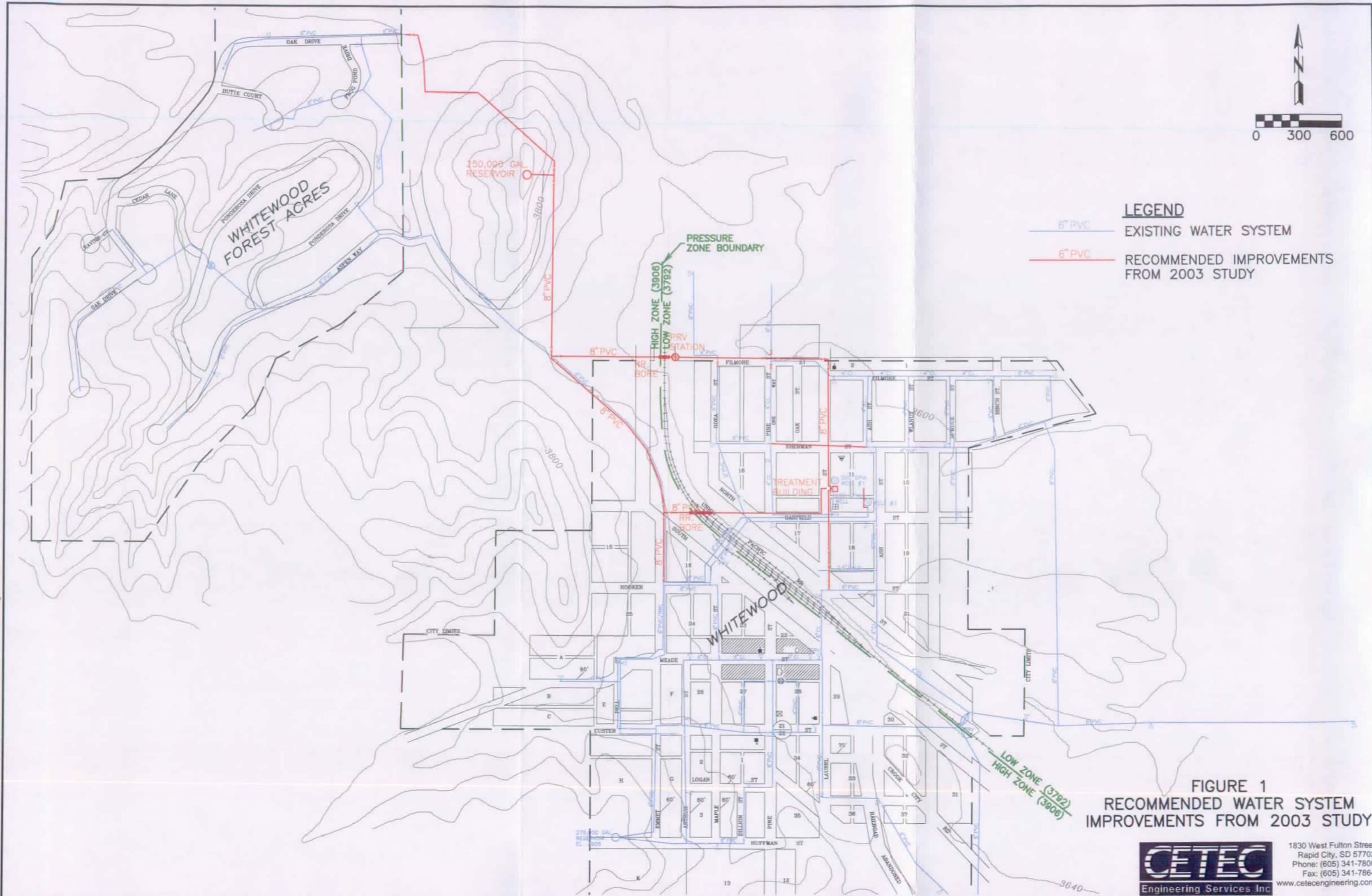


FIGURE 1
RECOMMENDED WATER SYSTEM
IMPROVEMENTS FROM 2003 STUDY

2.5 Cost Estimates

The 2003 study presented the following estimated construction costs for the various supply, storage and distribution system improvements outlined above.

Summary of 2003 Study Cost Estimates

<u>Project Component</u>	<u>Construction Cost</u>
250,000-Gallon Storage Tank	\$ 180,000
Water Treatment System & Wells	\$ 14,600
Distribution Improvements	
• Laurel/Fillmore/Sherman Street (Items 1, 2 & 3)	\$ 135,700
• 8" High Pressure & Reservoir Main (Items 4 & 5)	\$ 153,400
• 6" Forest Acres Loop (Item 6)	\$ 59,700
• Raw Water Tie-Overs and Demolition (Items 7, 8 & 9)	\$ 4,000
Total Construction Cost	\$ 547,400

There was no estimated cost for engineering, administration or land acquisition presented in the 2003 report.

3. UPDATE OF 2003 STUDY

3.1 Planning Area Changes

In 2005, the City approved annexation of the Twin Parks Subdivision adjacent to the southeast City limits. This subdivision will contain 84 lots, including some multi-family properties. The project developer anticipates a total population of up to 300 people (100 dwelling units), with full build-out within 10 years.

The Forest Acres development has continued to develop, with an estimated 39 homes being served with City water as of 2005. A total of about 80 lots are currently platted, with a total of approximately 120 residential lots planned by the developer. The current building rate (2003 to 2005) is about five homes per year.

The anticipated Twin Parks and Forest Acres growth alone exceeds projected increase in population presented in the 2003 study. There are other potentially developable sites adjacent to the easterly City limits, and other significant residential and commercial projects are considered to be likely in future years.

The following revised population projections are recommended based upon known development trends in 2005. Growth is based upon the following assumptions.

Forest Acres:	5 homes/year x	3 people/home	=	15 people/year
Twin Parks:	10 d.u./year x	3 people/d.u.	=	30 people/year
Other Residential Development:	5 d.u./year x	3 people/d.u.	=	15 people/year
Growth Rate				60 people/year

Revised Whitewood Population Projections

<u>Year</u>	<u>Population (with Forest Acres)</u>
2005	950
2010	1,250
2015	1,550
2020	1,850
2025	2,150

The following sections present re-evaluation of existing system components based upon the accelerated growth in population presented above.

3.2 Projected Water Demands

Domestic water demands for Whitewood are anticipated to increase in proportion to projected residential population growth. Commercial water use likely will also increase, although the rate of increase is not predictable. For purposes of this study, commercial water use has been projected to increase by 2% per year, or 40% over a 20-year planning period.

Projected Year 2025 Water Demands

Residential

Average Day	(2,150 people x 77 gpcd)	166,000 gpd
Peak Month	(2.8 x average day)	464,000 gpd
Peak Day	(1.4 x peak month)	649,000 gpd

Commercial

Average Day	(46,300 gpd x 1.4)	64,800 gpd
Peak Month	(1.3 x average day)	84,300 gpd
Peak Day	(1.4 x peak month)	118,000 gpd

Total of Residential and Commercial

Average Day		231,000 gpd
Peak Month		548,000 gpd
Peak Day		767,000 gpd

Total Supply Required With 25% Unaccounted-For Water Use

Average Day	(1.25 x 231,000)	289,000 gpd
Peak Month	(1.25 x 548,000)	685,000 gpd
Peak Day	(1.25 x 767,000)	959,000 gpd

3.3 Assessment of Supply and Storage Needs

Updated projected water demands for 2025 presented in Section 3.2 are substantially higher than projected in the 2003 study. Following is an analysis of supply and storage needs for 2025 based upon the updated water demands.

Supply:

The capacity of the source of supply for a municipal system must equal at least the peak-day demand. AWWA and other references commonly recommend that total supply capacity be equal to 1.5 times the peak-day demand, and be able to supply peak-day demand with one principal supply source out of production.

Supply Safety Factor:

Existing Well Production Capacity: 1,044,000

Ratio of Supply to Demand: $\frac{\text{Supply}}{\text{Demand}} = \frac{1,044,000 \text{ gpd}}{767,000 \text{ gpd}} = 1.4 \text{ Safety Factor } (< 1.5 \text{ Recommended})$

Capacity with Well 2 (Madison Well, 500-gal.) out of service:

Well1 Only: 324,000 gpd

Ratio of Supply to Demand: $\frac{\text{Supply}}{\text{Demand}} = \frac{324,000}{767,000} = 0.4 \text{ Safety Factor } (< 1.0 \text{ Recommended})$

The total production capacity of both sources is nearly adequate to provide a production safety factory of 1.5. However, with only two supply sources, an interruption of the largest supply source will result in a shortfall of about 443,000 gpd under peak-day demands.

It is recommended that long-term water system plans include an additional well with a production capacity of at least 500,000 gpd (350 gpm).

Storage:

Required storage in a municipal system is typically based upon providing storage for fire reserves, plus providing for flow equalization during peak use periods and emergency storage for supply interruptions due to power outage or other emergency conditions.

Minimum fire flow requirements per the International Fire Code for municipal service are 1,500 gpm for a 2-hour duration for commercial and large residential structures. Minimum flows of 1,000 gpm for 2 hours are acceptable for one and two-family dwellings. Large commercial and industrial facilities can require significantly larger fire flows, and these requirements are determined on a case-by-case basis. CETEC discussed fire flow requirements for large facilities in Whitewood (Ridley Block, Hills Materials, Wheeler Lumber) with City fire department officials, and it was determined that a fire flow of 2,500 gpm for a two-hour duration would be appropriate for these facilities. A 2,500-gpm demand for two hours is recommended for evaluating fire reserves.

Equalization storage is water which is withdrawn from storage during periods when peak demand exceeds production capacity. Equalization storage needs vary widely, but a value of 25% of peak-day demand is usually satisfactory for municipal supplies with adequate production capacity.

DENR recommends that emergency storage, exclusive of fire reserves, be equal to at least one average day of total demand.

The total recommended water storage volume for Whitewood is the larger of fire reserves plus equalization storage, or fire reserves plus emergency storage.

Recommended Storage Volume

Fire Reserves	=	2,500 gpm for 2 hrs.	=	300,000 gal.
Equalization Storage	=	.25 x 767,000	=	192,000 gal.
Emergency Reserves	=	1 day x 289,000	=	289,000 gal.
Storage Volume Required	=	300,000 + 192,000	=	492,000 gal.
		or		
Storage Volume Required	=	300,000 + 289,000	=	589,000 gal.

The 2003 study recommended adding 250,000 gallons of storage to the existing 275,000 gallons, for a total of 525,000 gallons. Based upon the revised calculations shown above, it is recommended that a total storage volume of 600,000 gallons be provided. The existing tank provides approximately 250,000 gallons of effective storage, thus a new tank with an effective volume of 350,000 gallons is needed.

3.4 Assessment of Distribution System Needs

A re-evaluation of hydraulic modeling of the distribution system was beyond the scope of this addendum. The distribution piping and looping recommendations are consistent with good engineering practice, and no supplemental or additional improvements are included herein. A minimum pipe size of 8" diameter is recommended in all new mains. Hydraulic modeling is recommended at final design stage for new mains included in this project.

3.5 Updated Cost Estimates

Appendix A presents a detailed breakdown of probable construction costs for the scope of work outlined in the 2003 study. These costs are based upon an independent re-evaluation of quantities of work, plus updated unit costs based upon new budgetary quotations from suppliers and comparison with recent bid tabulations for similar municipal utility work.

The following cost summary presents the updated anticipated construction costs, and includes allowances for other project costs, including engineering, geotechnical investigation, land and easement acquisition, construction contingencies and administrative costs.

Updated Project Costs for 2003 Project Scope Using 2005 Costs

<u>Project Component</u>	<u>Construction Cost</u>
250,000-Gallon Water Tank	\$ 275,000
Water Treatment Systems & Wells / Demolitions	\$ 130,000
Distribution System Improvements	
• Laurel / Fillmore / Sherman Street (Items 1, 2 & 3)	\$ 238,820
• 8" High Pressure & Reservoir Mains (Items 4, 5)	\$ 235,370
• 6" Forrest Acres Loop (Item 6)	\$ 74,660
• Raw Water Tie-overs & Demolition (Items 7, 8 & 9)	\$ 12,000
Construction Subtotal	\$ 965,850
Construction Contingencies	\$ 96,585
Total Construction	\$ 1,062,435
<u>Other Project Costs</u>	
Design and Construction Engineering (10%)	\$ 106,244
Easements and Legal Expenses	\$ 10,000
Total Other Costs	\$ 116,244
Total Project	\$ 1,178,679

*It is anticipated that some or all land and easement requirements may be donated to the City. The nominal cost presented is intended to cover associated legal and survey costs only.

Project costs presented above include costs associated with improvements within the City limits, as well as improvements which are proposed to be located outside of the existing City limits, such as the new storage reservoir and associated piping. Appendix B presents an approximate breakdown of costs inside of City limits and outside of City limits.

4. PROJECT ALTERNATIVES

4.1 Alternatives Considered

The City of Whitewood requested that CETEC Engineering evaluate the overall scope of improvements recommended in the 2003 study, provide a second opinion as to the project scope, and if appropriate, suggest and analyze alternatives or additions to the proposed water system improvements.

CETEC Engineering evaluated the updated growth estimates for the Whitewood water service area and the changed conditions as of 2005. In general, it appears that the City could experience increased water demands in excess of those projected in 2003 as a result of a more rapid rate of development of residential and commercial properties over a 20-year planning period.

CETEC offers the following evaluation and comments relative to the scope of improvements recommended in the 2003 study.

Evaluation of Project Scope

- Source of Supply.

The 2003 study recommended no improvements to capacity provided by two existing wells (approximately 1.0 MGD). Projections presented in Section 3 indicate that the existing wells cannot meet the existing or projected 20-year peak-day demand with one well out of service. CETEC recommends that an additional Madison formation well with a capacity of at least 0.5 MGD (350 gpm) be included in long-range improvement plans.

A new well location on City land in the general vicinity of the west City Park is recommended for consideration and is included in the system layout and cost estimates presented later in this report.

- Storage.

The 2003 study recommended a new 250,000-gallon storage tank be added to the system to supplement the existing 275,000-gallon tank. CETEC's evaluation of storage needs determined that total storage needs are about 600,000 gallons. CETEC recommends a new storage tank with an effective volume of 350,000 gallons.

An alternate tank location on City property about 600' north of the west City Park is recommended for consideration and is included on the system layout and cost estimates presented later in this report.

CETEC recommends adding a control vault with altitude valve and level control telemetry for the new tank and the existing tank. The altitude valve at each location will allow tank filling without tank overflow, and allow each tank to independently control well pump on-off cycling.

- Treatment and Well Modifications

CETEC concurs with the 2003 study recommendation to feed chlorine and fluoride near Wells 1 and 2, and to eliminate the existing raw water storage tanks and booster pump system. This modification will require the following work items.

- New treatment building and chemical feed systems near Well 2 and connection to Well 2 discharge piping.
- New Well 1 discharge piping from the wellhead to the treatment building.
- New 8" high pressure main in Garfield Street from the new treatment building to a connection with the high-zone distribution piping at Oak Street.
- Replace and/or upgrade well pumps and motors for Wells 1 and 2 to maintain production under the higher head conditions.
- Upgrade well house piping systems and controls for control of pressure surge during well pump start and stop. CETEC also recommends adding a "pump to waste" capability as part of well house piping modifications.
- Demolish raw storage tanks and booster station and restore site.
- Distribution System.

CETEC concurs with the 2003 study recommendations to provide a new water main loop on Laurel Street and Fillmore Street, new main in Sherman Street between Pine and Ash Street and new main in Oak Street between Hooker Street and the Fillmore Street loop. CETEC also concurs with converting the existing parallel 6" raw water and high-zone mains south of the railroad to parallel high-zone mains for improved high-zone hydraulics. This project component will include water main tie-overs at South Street and Maple Street, and near the old booster station at Emmet Street and Custer Street.

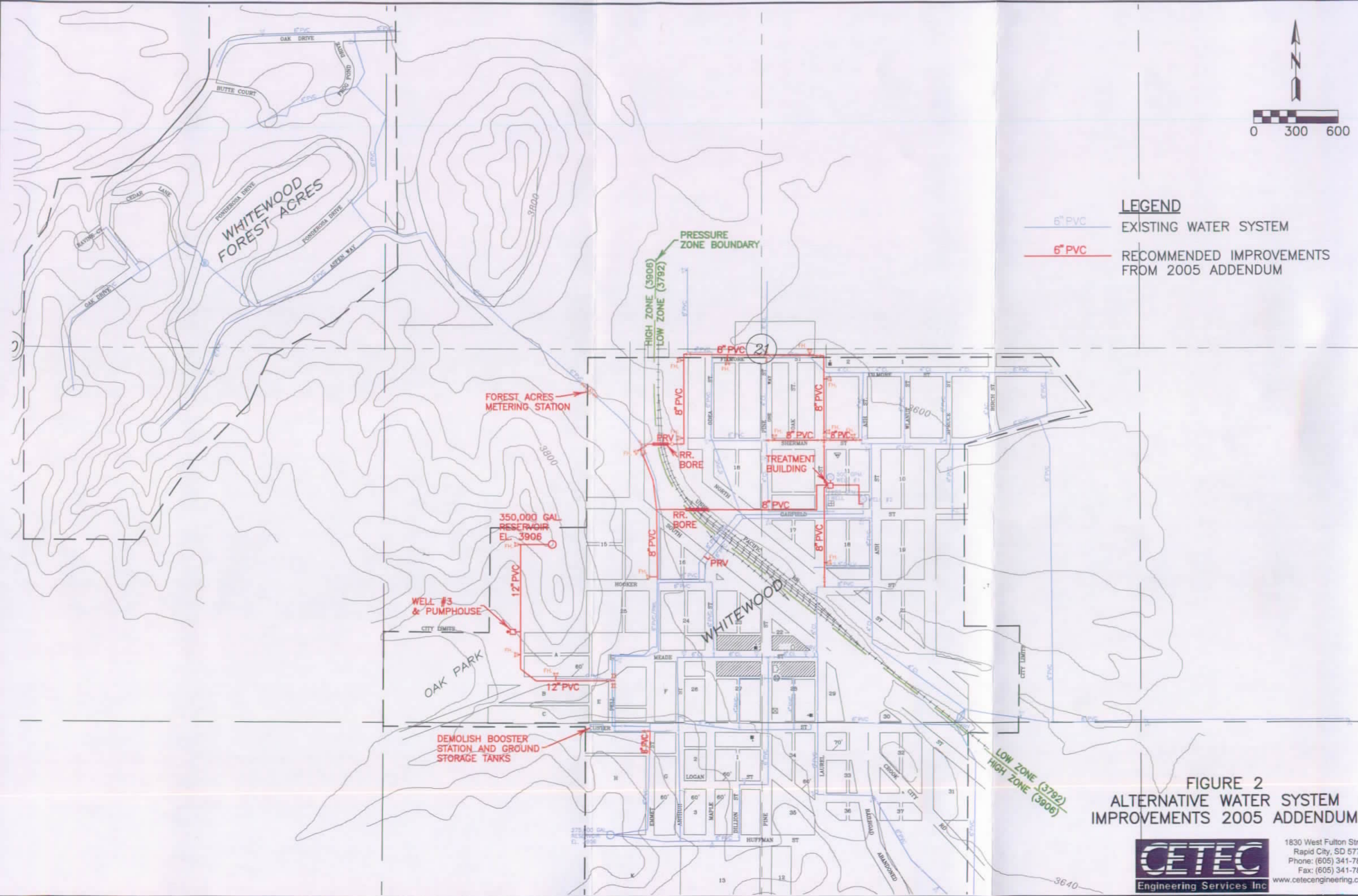
CETEC recommends consideration of alternate pipe routings for portions of the distribution system work so as to accommodate the alternate tank site, shorten overall pipe lengths and improve hydraulic efficiency. CETEC also recommends a minimum pipe size of 8" for all new mains. The revised distribution layout is shown in Figure 2.

- Forest Acres Improvements.

The alternate tank site on City property will not allow construction of a secondary pipe connection to Forest Acres in the manner recommended in the 2003 study. The proposed improvements in Oak Street near the Forest Acres pipe connection to the City system will, however, increase pressure and improve hydraulic efficiency of the Forest Acres supply.

A supplemental parallel main in Old Highway 14 could be considered, but the benefit of this pipeline to the subdivision would probably not warrant the expense. CETEC does not recommend a supplemental pipe feed to Forest Acres as part of the City project.

CETEC does recommend that the City construct a metering station at the City limits on Old Highway 14 to measure and control the supply to Forest Acres. The Forest Acres distribution system is not part of the City system, and City personnel do not control or operate any part of the Forest Acres System. It is recommended that backflow from Forest Acres be prevented in conjunction with the metering station. AWWA standards suggest a dual check backflow preventer be used to separate connections of public water supplies where the operational authority for the receiving system is different from the supplier. This is important where there is a separate principal source of supply for each system. Forest Acres does not have another source of supply at this time, thus the installation of a backflow preventer is considered to be optional. CETEC recommends that at the least, a single check valve be installed in conjunction with the master meter



LEGEND
 6" PVC EXISTING WATER SYSTEM
 8" PVC RECOMMENDED IMPROVEMENTS FROM 2005 ADDENDUM

FIGURE 2
ALTERNATIVE WATER SYSTEM
IMPROVEMENTS 2005 ADDENDUM

station to provide protection of the City system from potential contamination originating within the Forest Acres system. If Forest Acres were to develop a well or other source of supply, then a dual check backflow preventer would be recommended for the City connection.

4.2 Alternative Project Scope

Figure 2 illustrates the overall alternative project scope recommended by CETEC. The principal differences from the 2003 study recommendations are the proposed tank size and location on City land, a new well No. 3, the Forest Acres metering station, plus some minor differences in pipe routing due to the new tank location.

The alternative project is offered for consideration by the City, but does not change the viability of the scope recommended in the 2003 study.

CETEC's recommended alternative scope is summarized following.

Alternative Project Scope

- New Well No. 3 at West Side Park.
- New 350,000-gallon reservoir on City land north of west City Park with 12" pipe connection to existing high-zone piping.
- New treatment building and piping at existing Wells 1 and 2.
- New well pumps and motors and control systems for Wells 1 and 2.
- New high-pressure main in Garfield connecting treatment building to the high-zone distribution system.
- Demolition of existing raw storage tanks and booster station.
- Distribution system improvements, including new mains in Oak Street, Fillmore Street, Laurel Street and Sherman Street (8" pipe size).
- Convert existing 6" raw piping in Pell, Meade and Oak Street to high-pressure zone.
- New metering station and check valve for Forest Acres supply pipeline.

All of the improvements listed above are located on land within the existing City limits.

4.3 Alternative Project Costs

Table 2 presents estimates of probable costs for the recommended alternative project scope. Subtotals are presented for certain components to assist in comparing costs with 2003 study recommendations.

Table 2 Estimate of Probable Costs for Alternative Project Scope

Description	Estimated Quantity	Unit Cost	Total Cost
<u>350,000-Gallon Storage Tank</u>			
• Mobilization	Lump Sum	\$ 5,000	\$ 5,000
• Clearing	1.0 Ac.	\$ 3,000	\$ 3,000
• Site Preparation and Grading	Lump Sum	\$ 5,000	\$ 5,000
• 350,000-Gallon Storage Tank and Foundation (50' x 24')	Lump Sum	\$ 280,000	\$ 280,000
• Site Piping	Lump Sum	\$ 8,000	\$ 8,000
• Access Road Grading	1,000 LF	\$ 15	\$ 15,000
• Gravel Surfacing	400 Tons	\$ 20	\$ 8,000
• Security Fencing / Gates	300 LF	\$ 25	\$ 7,500
• Site Restoration and Seeding	2 Ac.	\$ 3,000	\$ 6,000
• Packaged Altitude Valve Vault	Lump Sum	\$ 45,000	\$ 45,000
• Tank Telemetry	Lump Sum	\$ 7,500	\$ 7,500
		Subtotal	\$ 390,000
<u>Well No. 3</u>			
• Mobilization	Lump Sum	\$ 15,000	\$ 15,000
• Bore Hole	2,000 LF	\$ 50	\$ 100,000
• Logging	Lump Sum	\$ 15,000	\$ 15,000
• 10" Casing / Grouting	800 LF	\$ 40	\$ 32,000
• 7" Casing / Grouting	800 LF	\$ 30	\$ 24,000
• Well Development and Testing	Lump Sum	\$ 5,000	\$ 5,000
• Pitless Unit	Lump Sum	\$ 5,000	\$ 5,000
• Submersible Pump, Column Pipe & Cable	Lump Sum	\$ 35,000	\$ 35,000
• Site Piping, 6"	100 LF	\$ 40	\$ 4,000
• Well House and Piping	Lump Sum	\$ 60,000	\$ 60,000
• Chemical Feed Systems	Lump Sum	\$ 5,000	\$ 5,000
• Electrical, Control & Telemetry	Lump Sum	\$ 20,000	\$ 20,000
• Sitework and Driveway	Lump Sum	\$ 10,000	\$ 10,000
		Subtotal	\$ 330,000
<u>Treatment Building and Well Pump Upgrade for Wells 1 and 2</u>			
• Mobilization			\$ 10,000
• Treatment Building, 12' x 16'			\$ 25,000
• Treatment Building Piping and Valving			\$ 15,000
• Chemical Feed Systems			\$ 3,000
• Replace Pump, Motor and Cable, Well 1			\$ 20,000
• Replace Pump, Motor and Cable, Well 2			\$ 25,000
• Electrical, Control and Telemetry			\$ 10,000
• Well House 1 Piping Alterations			\$ 10,000
• Well House 2 Piping Alterations			\$ 10,000
• Sitework and Driveway			\$ 2,000
		Subtotal	\$ 130,000

Description	Estimated Quantity	Unit Cost	Total Cost
<u>Distribution System</u>			
• Mobilization	Lump Sum	\$ 32,800	\$ 32,800
• Clearing	Lump Sum	\$ 2,000	\$ 2,000
• 12" PVC Water Main	1,610 LF	\$ 40	\$ 64,400
• 8" PVC Water Main	6,720 LF	\$ 30	\$ 201,600
• 6" PVC Water Main	450 LF	\$ 26	\$ 11,700
• 12" D.I. Fittings	12 Ea.	\$ 800	\$ 9,600
• 8" D.I. Fittings	26 Ea.	\$ 400	\$ 10,400
• 6" D.I. Fittings	8 Ea.	\$ 250.00	\$ 2,000
• 12" Gate Valve and Box	4 Ea.	\$ 2,000	\$ 8,000
• 8" Gate Valve and Box	22 Ea.	\$ 1,000	\$ 22,000
• 6" Gate Valve and Box	14 Ea.	\$ 750	\$ 10,500
• Fire Hydrant with Auxiliary Valve and Lead	14 Ea.	\$ 3,000	\$ 42,000
• Connect to Existing Water Main	22 Ea.	\$ 1,000	\$ 22,000
• Reconnect Water Services	20 Ea.	\$ 250	\$ 5,000
• Pipe Bedding	1,800 Tons	\$ 15	\$ 27,000
• Railroad Bore, 20" Dia.	200 LF	\$ 125	\$ 25,000
• Railroad Insurance	Lump Sum	\$ 3,000	\$ 3,000
• Package Pressure Reducing Vault	1 Ea.	\$ 45,000	\$ 45,000
• Remove and Replace AC Pavement	26,500 SF	\$ 3	\$ 79,500
• Remove and Replace Concrete Curb & Gutter	100 LF	\$ 20	\$ 2,000
• Remove and Replace Sidewalk	250 SF	\$ 6	\$ 1,500
• Gravel Surfacing	1,500 Tons	\$ 16	\$ 24,000
• Seed, Fertilize and Mulch	3 Ac.	\$ 3,000	\$ 9,000
• Traffic Control	Lump Sum	\$ 10,000	\$ 10,000
• Incidental Work	Lump Sum	\$ 20,000	\$ 20,000
Subtotal			\$ 690,000

Forest Acres Metering Station

• Packaged Meter Vault	Lump Sum	\$ 45,000	\$ 45,000
• Connect to Existing Water Main	2 Ea.	\$ 1,000	\$ 2,000
• 6" Gate Valve and Box	2 Ea.	\$ 750	\$ 1,500
• Electrical Service	Lump Sum	\$ 1,500	\$ 1,500
Subtotal			\$ 50,000

Demolition and Removals

• Demolish Raw Water Tanks	Lump Sum	\$ 5,000	\$ 5,000
• Demolish Booster Station	Lump Sum	\$ 2,000	\$ 2,000
• Soil Borrow	300 CY	\$ 15	\$ 4,500
• Seed, Fertilize and Mulch	1,000 SY	\$ 0.50	\$ 500
Subtotal			\$ 12,000

Construction Subtotal	\$ 1,602,000
Construction Contingencies, 10%	\$ 160,200
Total Construction	\$ 1,762,200

Other Project Costs

• Design and Construction Engineering (10%)	\$ 176,220
• Pipeline Easements and Legal Expenses	\$ 5,000
Total Other Costs	\$ 181,220
Total Project	\$ 1,943,420

4.4 Annual Operating Budget

The recommended project improvements are proposed to be funded with City reserve funds in combination with Rural Utilities Service (RUS) grant and loan funds. The following table presents a summary of historic and projected operating budgets for the Whitewood Water Utility users. Detailed breakdown of historic costs and budgets are presented in Appendix D.

The summary is based upon RUS funding (grant and loan) totaling \$1,569,000 in 2006.

Summary of Water Operations Budget – City of Whitewood

	<u>2004</u>	<u>2005</u>	<u>2006 (est.)</u>	<u>2007 (est.)</u>
<u>Operating Budget</u>				
Operating Income	\$ 163,464	\$ 166,743	\$ 166,900	\$ 167,300
Operating Expense	\$ (99,165)	\$ (105,183)	\$ (107,579)	\$ (160,760)
Net Operating Income	\$ 64,299	\$ 61,560	\$ 59,321	\$ 6,540
Non-Operating Income	\$ 1,784	\$ 7,002	\$ 7,000	\$ 7,000
Net Income (Loss)	\$ 66,083	\$ 68,562	\$ 66,321	\$ 13,540
<u>Cash Flow</u>				
Income	\$ 66,083	\$ 68,562	\$ 66,321	\$ 13,540
RUS Grant/Loan	\$ 0	\$ 0	\$ 1,569,000	\$ 0
City Cash Contribution	\$ 0	\$ 0	\$ 375,000	\$ 0
Total Income	\$ 66,083	\$ 68,562	\$ 2,010,321	\$ 13,540
Construction Cost	\$ 0	\$ 0	\$ 1,944,000	\$ 0
Principal Payment (RD Loan)	\$ 0	\$ 0	\$ 0	\$ 8,100
Ending Cash Balance	\$ 66,083	\$ 68,562	\$ 66,321	\$ 5,440
RD Reserve	\$ 0	\$ 0	\$ 0	\$ 4,860

Appendix A

**Detailed Breakdown
of
Probable Construction Costs
for
2003 Work Scope
Updated to 2005 Construction Costs**

APPENDIX A

ENGINEER'S ESTIMATE OF PROBABLE CONSTRUCTION COSTS BASED UPON 2003 PRELIMINARY ENGINEERING REPORT ON WHITEWOOD WATER SYSTEM

-- COSTS UPDATED TO 2005 --
By CETEC Engineering Services, Inc.

WHITEWOOD WATER SYSTEM EXPANSION				Engineer's Estimate 10-27-05		
Item No.	Sec. No.	Description of Item	Unit	Quantity (EST)	Unit Cost	Total Cost
Laurel - Fillmore Loop						
1	A0001	Mobilization	LS	1	\$ 11,375	\$ 11,375
2	A0002	Construction Staking	LS	1	\$ 2,500	\$ 2,500
3	D0014	6" PVC Water Main	LF	489	\$ 26	\$ 12,714
4	D0015	8" PVC Water Main	LF	3,054	\$ 30	\$ 91,620
5	D0057	6" x 6" x 6" Tee	EA	1	\$ 250	\$ 250
6	D0059	8" x 8" x 8" Tee	EA	1	\$ 400	\$ 400
7	D0087	8" 90-Degree Bend	EA	1	\$ 400	\$ 400
8	D0107	8" x 8" Cross	EA	4	\$ 400	\$ 1,600
9	D0124	6" Gate Valve w/Box	EA	6	\$ 750	\$ 4,500
10	D0125	8" Gate Valve w/Box	EA	15	\$ 1,000	\$ 15,000
11	D0160	Tie to Existing Water Main	EA	1	\$ 1,000	\$ 1,000
12	D0161	Water Main Encasement	EA	3	\$ 800	\$ 2,400
13	D0190	PRV Pair & Pit Enclosure	LS	1	\$ 45,000	\$ 45,000
14	E00028	Type 1 Bedding Material	TON	847	\$ 15	\$ 12,705
15	H00014	Remove and Dispose AC Pavement	SY	67	\$ 5	\$ 335
16	H00035	Remove Concrete Curb & Gutter	LF	40	\$ 5	\$ 200
17	I00011	Aggregate Base Course	TON	23	\$ 16	\$ 368
18	I00026	Asphalt Concrete, Class G, Type 1	TON	23	\$ 60	\$ 1,380
19	I00071	Concrete Curb & Gutter, Type B66	LF	40	\$ 20	\$ 800
20	K00011	Seeding, Fertilizing, Mulching	SY	7,873	\$ 1	\$ 7,873
21	K00114	Railroad Bore	EA	1	\$ 12,500	\$ 12,500
22	K00115	Railroad Insurance	EA	1	\$ 3,000	\$ 3,000
23	K00117	Set / Reset Property Pins	EA	3	\$ 300	\$ 900
24	M00031	Traffic Control	LS	1	\$ 5,000	\$ 5,000
25	N00019	Incidental	LS	1	\$ 5,000	\$ 5,000
					Subtotal	\$ 238,820
Raw Water Line						
26	A0001	Mobilization	LS	1	\$ 7,178	\$ 7,178
27	A0002	Construction Staking	LS	1	\$ 2,000	\$ 2,000
28	D0015	8" PVC Water Main	LF	3,020	\$ 30	\$ 90,600
29	D0058	8" x 8" x 6" Tee	EA	1	\$ 400	\$ 400
30	D0125	8" Gate Valve w/Box	EA	3	\$ 1,000	\$ 3,000
31	D0161	Water Main Encasement	EA	2	\$ 800	\$ 1,600
32	E00028	Type 1 Bedding Material	TON	735	\$ 15	\$ 11,025
33	H00014	Remove and Dispose AC Pavement	SY	133	\$ 5	\$ 665
34	H00035	Remove Concrete Curb & Gutter	LF	40	\$ 5	\$ 200
35	I00011	Aggregate Base Course	TON	45	\$ 16	\$ 720
36	I00026	Asphalt Concrete, Class G, Type 1	TON	45	\$ 60	\$ 2,700
37	I00071	Concrete Curb & Gutter, Type B66	LF	40	\$ 20	\$ 800
38	K00011	Seeding, Fertilizing, Mulching	SY	6,712	\$ 1	\$ 6,712
39	K00114	Railroad Bore	EA	1	\$ 12,500	\$ 12,500
40	K00115	Railroad Insurance	EA	1	\$ 3,000	\$ 3,000
41	K00117	Set / Reset Property Pins	EA	2	\$ 300	\$ 600
42	M00031	Traffic Control	LS	1	\$ 2,000	\$ 2,000
43	N00019	Incidental	LS	1	\$ 5,000	\$ 5,000
					Subtotal	\$ 150,700

WHITEWOOD WATER SYSTEM EXPANSION					Engineer's Estimate 10-27-05	
Item No.	Sec. No.	Description of Item	Unit	Quantity (EST)	Unit Cost	Total Cost
Oak Street RWL						
44	A0001	Mobilization	LS	1	\$ 4,036	\$ 4,036
45	A0002	Construction Staking	LS	1	\$ 1,000	\$ 1,000
46	D0015	8" PVC Water Main	LF	1,901	\$ 30	\$ 57,030
47	D0059	8" x 8" x 8" Tee	EA	1	\$ 400	\$ 400
48	D0084	8" 11.25-Degree Bend	EA	3	\$ 400	\$ 1,200
49	D0086	8" 45-Degree Bend	EA	1	\$ 400	\$ 400
50	D0125	8" Gate Valve w/Box	EA	3	\$ 1,000	\$ 3,000
51	D0160	Tie to Existing Water Main	EA	1	\$ 1,000	\$ 1,000
52	E00028	Type 1 Bedding Material	TON	472	\$ 15	\$ 7,080
53	K00011	Seeding, Fertilizing, Mulching	SY	4,224	\$ 1	\$ 4,224
54	K00117	Set / Reset Property Pins	EA	1	\$ 300	\$ 300
55	M00031	Traffic Control	LS	1	\$ 2,000	\$ 2,000
56	N00019	Incidental	LS	1	\$ 5,000	\$ 5,000
					Subtotal	\$ 86,670
Forest Acres Loop						
57	A0001	Mobilization	LS	1	\$ 3,560	\$ 3,560
58	A0002	Construction Staking	LS	1	\$ 2,000	\$ 2,000
59	B0010	Clearing and Grubbing, 6" + Tree	EA	20	\$ 200	\$ 4,000
60	B0011	Clearing and Grubbing, 18" + Tree	EA	5	\$ 500	\$ 2,500
61	B0012	Clearing and Grubbing	LS	1	\$ 2,500	\$ 2,500
62	D0014	6" PVC Water Main	LF	1,752	\$ 26	\$ 45,552
63	D0082	6" 45-Degree Bend	EA	2	\$ 250	\$ 500
64	D0083	6" 90-Degree Bend	EA	2	\$ 250	\$ 500
65	D0124	6" Gate Valve w/ Box	EA	2	\$ 750	\$ 1,500
66	D0160	Tie to Existing Water Main	EA	1	\$ 1,000	\$ 1,000
67	E00028	Type 1 Bedding Material	TON	317	\$ 15	\$ 4,755
68	K00011	Seeding, Fertilizing, Mulching	SY	3,893	\$ 1	\$ 3,893
69	M00031	Traffic Control	LS	1	\$ 1,000	\$ 1,000
70	N00019	Incidental	LS	1	\$ 5,000	\$ 5,000
					Subtotal	\$ 78,260
Reservoir and Treatment Improvements						
71	D0001	Municipal Water Reservoir, 250,000-Gal.	EA	1	\$ 275,000	\$ 275,000
72	D0002	Water Treatment Building, 12' x 16'	LS	1	\$ 37,000	\$ 37,000
73	D0003	Water Treatment Equipment / Pumps	LS	1	\$ 93,000	\$ 93,000
74	N00021	Remove Existing Concrete Tanks / Boosters	LS	1	\$ 12,000	\$ 12,000
					Subtotal	\$ 417,000
					Construction Subtotal	\$ 971,450
					Construction Contingencies (10%)	\$ 97,145
					Total Construction	\$ 1,068,595
Other Project Costs						
Design and Construction Engineering (10%)						\$ 106,860
Easements and Legal Expenses (LS)						\$ 10,000
					Subtotal Other Costs	\$ 116,860
					TOTAL PROJECT	\$ 1,185,455

Appendix B

Cost Breakdown

**Inside City Limits
versus
Outside City Limits**

APPENDIX B

COST BREAKDOWN WATER SYSTEM IMPROVEMENTS INSIDE CITY LIMITS VERSUS OUTSIDE CITY LIMITS

Project Components Inside City Limits

Description	Cost
Laurel-Fillmore Loop (82% of segment total)	\$ 191,060
Raw Water Lines (55% of segment total)	\$ 82,890
Oak Street Raw Water Line (55% of segment total)	\$ 47,670
Treatment System / Wells	\$ 130,000
Demolish Tanks and Booster	\$ 12,000
Subtotal	\$ 463,620
Contingencies (10%)	\$ 46,360
Total Inside City Limits	\$ 509,980

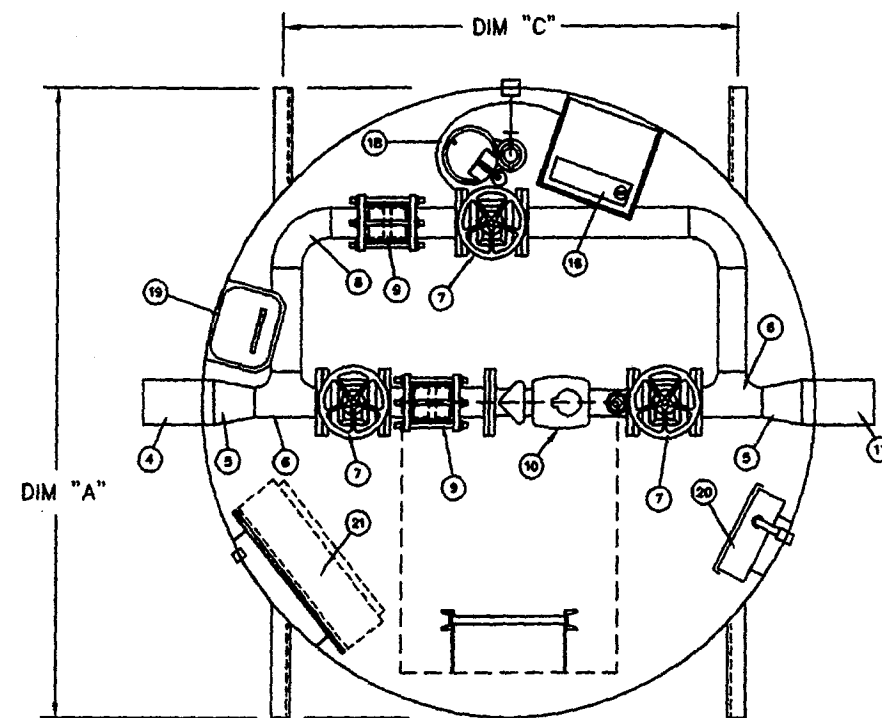
Project Components Outside City Limits

Description	Cost
Reservoir	\$ 275,000
Forest Acres Loop (100% of segment total)	\$ 78,260
Laurel-Fillmore Loop (18% of segment total)	\$ 47,760
Raw Water Line (45% of segment total)	\$ 67,810
Oak Street Raw Water Line (45% of segment total)	\$ 39,000
Subtotal	\$ 507,830
Contingencies (10%)	\$ 50,785
Total Outside City Limits	\$ 558,615

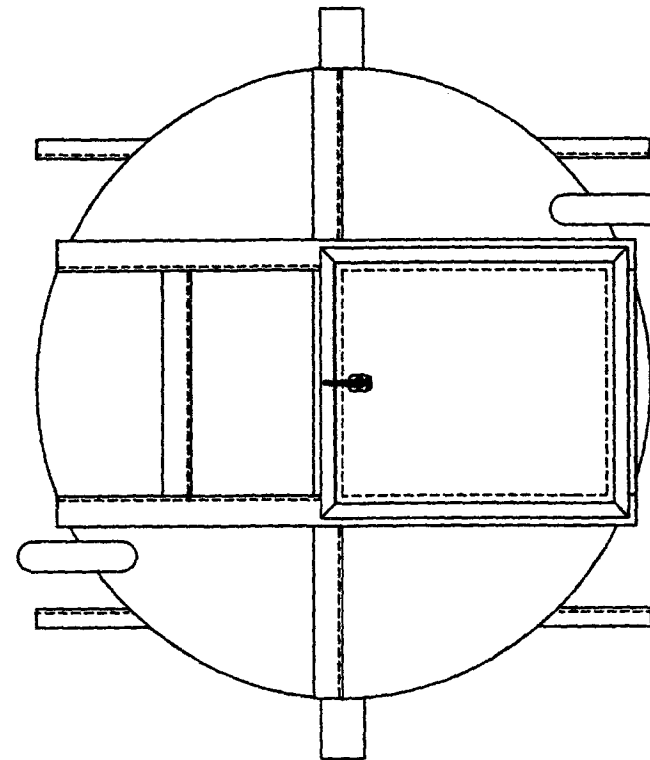
Appendix C

Typical Project Details

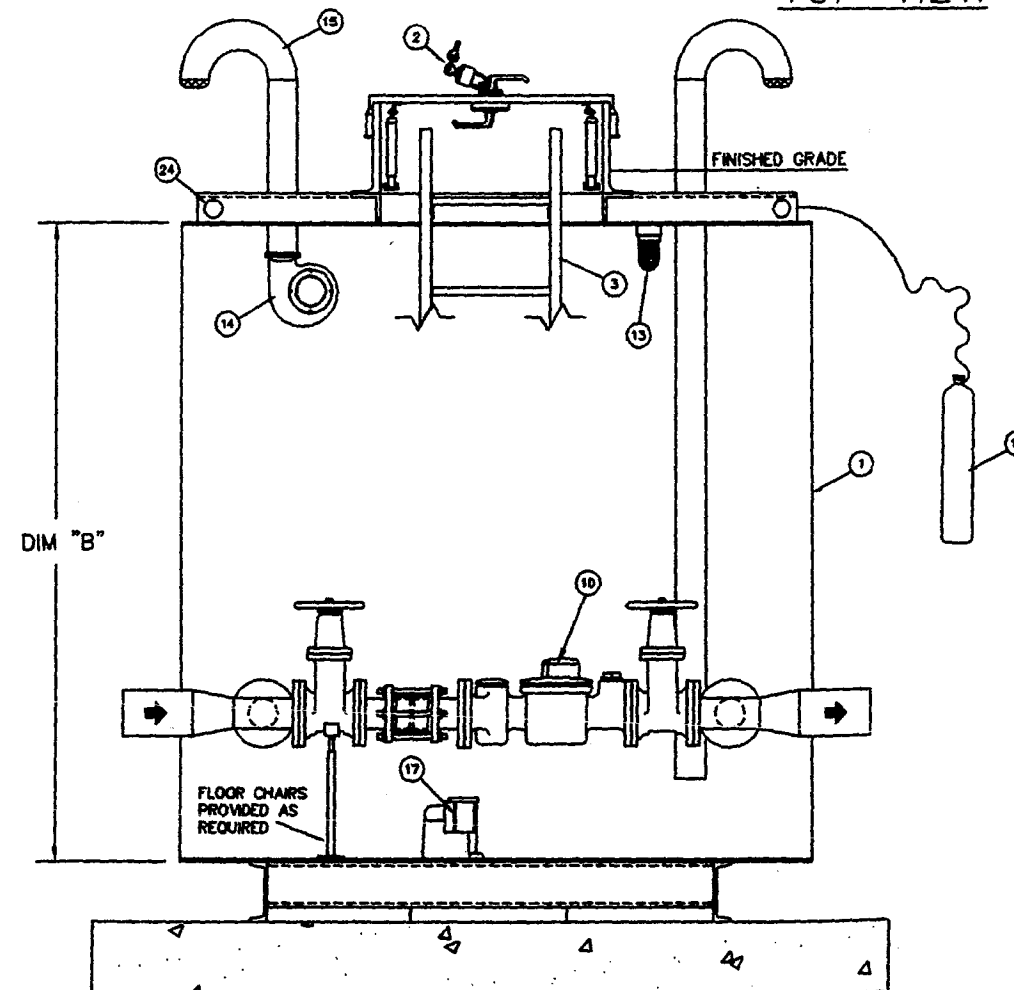
- **Typical Meter Vault**
- **Typical PRV Vault**
- **Typical Altitude Valve Vault**
- **Treatment Building Schematic**



PLAN VIEW



TOP VIEW



SECTIONAL VIEW

DIM	DISTANCE	DESCRIPTION OF MEASUREMENT
C		CENTERLINE OF SKID TO CENTERLINE OF SKID
B		CHAMBER SIDESHELL HEIGHT
A		CHAMBER WIDTH
ITEM	QUANTITY	DESCRIPTION
25	-	DIELECTRIC FLOOR MATTING
24	4	CHAMBER LIFTING HOOKS
23		SINGLE PHASE TRANSFORMER - (IF REQUIRED)
22		CONDUITS
21		TELEMETRY BRACKETS
20	1	LOAD CENTER/DISTRIBUTION PANEL - NEMA 12 ENCLOSURE
19	1	STATION HEATER
18	1	SUMP PIT - 14"W x 20"L x 8"D
17	1	SUMP PUMP - W/1 1/4" GALV. PIPING & VALVES
16	1	DEHUMIDIFIER - ___PT/DAY W/DRAIN TO SUMP PIT
15	2	VENTILATION DUCTS W/SCREEN INSERTS
14	1	VENTILATION BLOWER
13		LIGHTING
12	-	17# MAGNESIUM PACKAGED SAC ANODES (SHIPPED LOOSE FOR FIELD INSTALLATION)
11	1	___" DIA. SCH. 40 STEEL OUTLET LINE
10	1	___" FLOW METER W/STRAINER
9	2	___" DRESSER COUPLINGS W/TIE ROD RESTRAINTS AS REQUIRED
8	2	___" x ___" STEEL WELD 90° ELBOW FITTINGS
7	3	___" RESILIENT WEDGE GATE VALVES - W/HANDWHEEL OPERATORS
6	2	___" x ___" x ___" STEEL WELD TEE FITTINGS
5	2	___" x ___" STEEL WELD CONCENTRIC REDUCER FITTINGS
4	1	___" DIA. SCH. 40 STEEL INLET LINE
3	1	12" x 16" ALUMINUM ENTRANCE LADDER W/1 1/4" NON-SKID RUNGS
2	1	___" x ___" ALUMINUM ENTRANCE HATCH
1	1	___" DIA. x ___" SS CHAMBER WITH ___" TOP, ___" SIDES, & 3/8" BOTTOM
		___" I-BEAM/CHANNEL W/___" I-BEAM/CHANNEL CROSSMEMBER AS REQ'D BOTTOM REINF.
		___" ANGLES/CHANNEL AS REQUIRED FOR TOP REINFORCEMENT



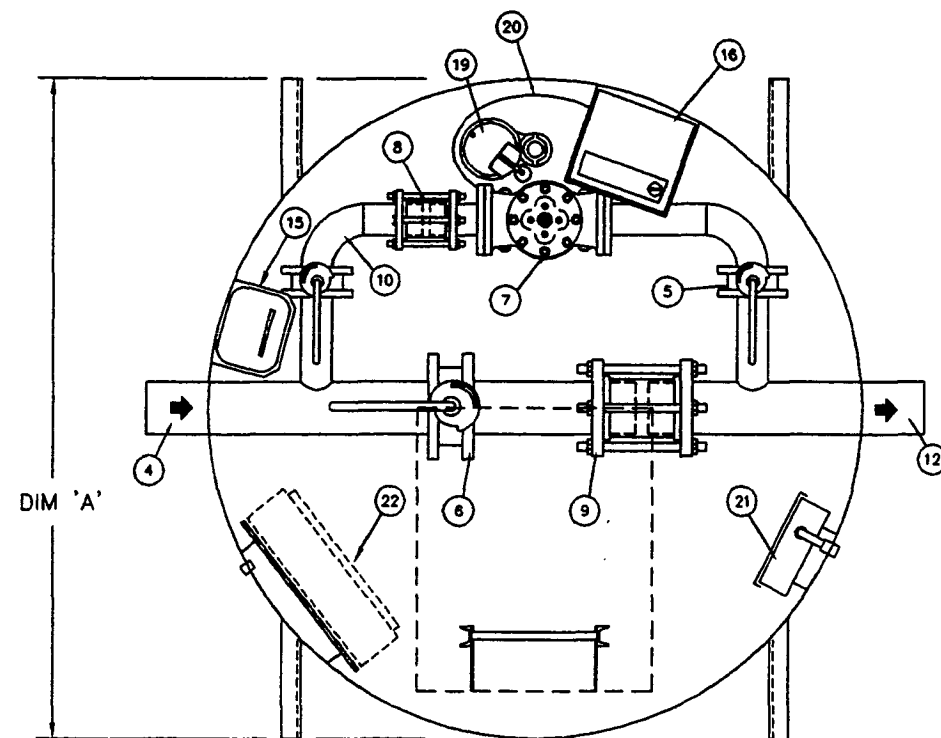
DAKOTA PUMP INC.
Riverside Road, Interstate 1-90
P.O. Box 947
Mitchell, S.D. 57301
Phone #: (605) 996-6636
Fax #: (605) 996-6067

"Designers and Fabricators of
Water and Sewage
Handling Equipment"

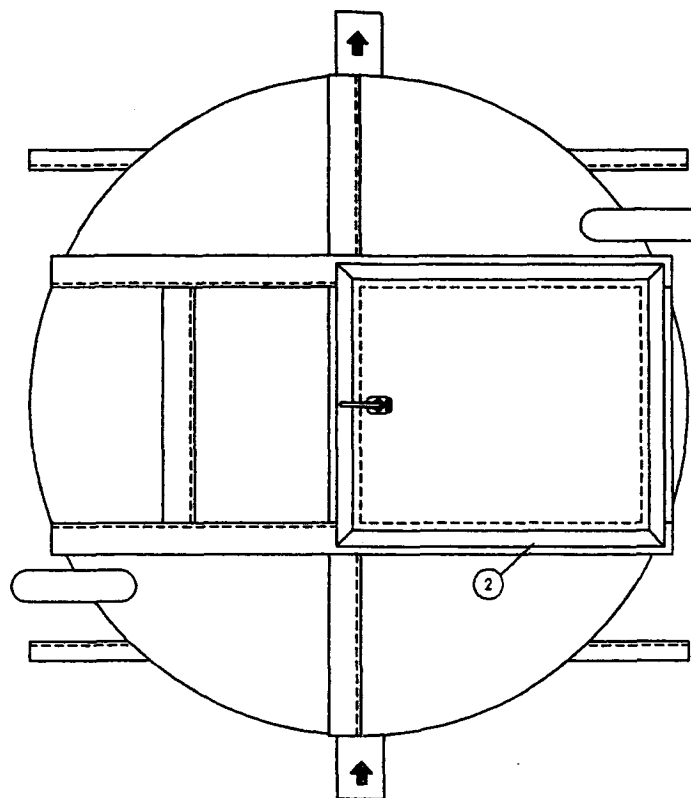
PROJECT:
TYP: MASTER METER VAULT

DRAWN-BY AA	DATE 6-15-01
SCALE NTS	FILE-# C-210 DISK- CAT

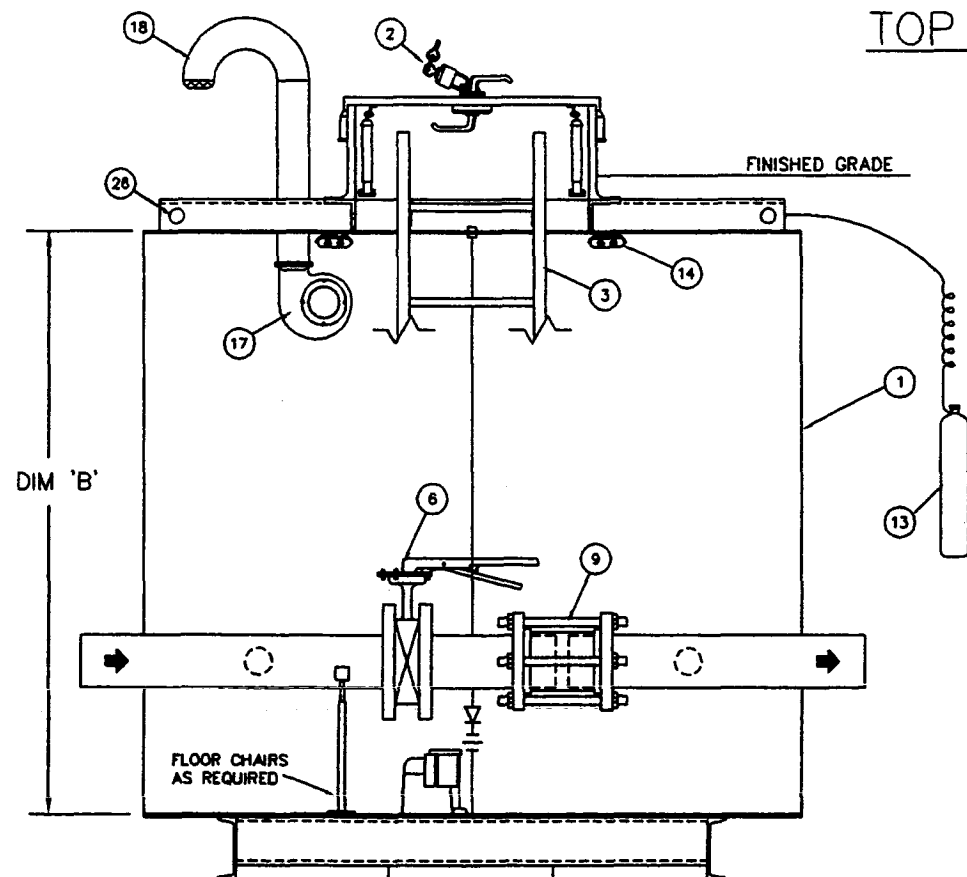
THIS DRAWING IS NOT FOR CONSTRUCTION PURPOSES
LAYOUT IS FOR SUBMITTAL DATA ONLY AND CAN VARY IN THE SHOP
CERTIFIED DIMENSIONS CAN BE FURNISHED UPON REQUEST



PLAN VIEW



TOP VIEW



SECTIONAL VIEW

ITEM	QUANTITY	DESCRIPTION
B		CHAMBER SIDESHELL HEIGHT
A		CHAMBER WIDTH
ITEM	QUANTITY	DESCRIPTION
26	-	CHAMBER LIFTING HOOKS
25	-	DIELECTRIC FLOOR MATTING
24	-	SINGLE PHASE TRANSFORMER - (IF REQUIRED)
23	-	CONDUITS
22	-	TELEMETRY - MOUNTING PROVISIONS PROVIDED (IF REQUIRED)
21	1	LOAD CENTER/DISTRIBUTION PANEL - NEMA 12 ENCLOSURE
20	1	SUMP PIT - ___"W x ___"L x ___"D OVAL, ___"PL STEEL
19	1	SUMP PUMP - W/1 1/4" DISCHARGE PIPING
18	2	VENTILATION DUCTS - WITH SCREEN INSERTS
17	1	VENTILATION BLOWER
16	1	DEHUMIDIFIER - ___PT/DAY W/DRAIN TO SUMP PIT
15	1	HEATER
14	-	STATION LIGHTS
13	-	17# MAGNESIUM PACKAGED SAC ANODES (SHIPPED LOOSE FOR FIELD INSTALLING BY OTHERS)
12	1	___" DIA. SCH. 40 STEEL OUTLET LINE
11	-	___" x ___" STEEL WELD CONCENTRIC REDUCER FITTINGS (IF REQUIRED)
10	2	___" STEEL WELD 90° ELBOW FITTINGS
9	1	___" DRESSER COUPLING W/RESTRAINTS AS REQUIRED
8	1	___" DRESSER COUPLING W/RESTRAINTS AS REQUIRED
7	1	___" PRV VALVE
6	1	___" ISOLATION VALVE W/LEVER OPERATOR
5	2	___" ISOLATION VALVES W/LEVER OPERATORS
4	1	___" DIA. SCH. 40 STEEL INLET LINE
3	1	ALUMINUM ENTRANCE LADDER W/1 1/4" DIA. NON SKID RUNGS
2	1	___" x ___" ALUMINUM ENTRANCE HATCH
1	1	CHAMBER STRUCTURAL - ___"PL STEEL TOP & SIDES, ___"PL BOTTOM
		___" BEAM/CHANNEL SKIPS W/___" BEAM/CHANNEL CROSSMEMBERS BOTTOM REINFORCEMENT
		___" CHANNEL/ANGLE FOR TOP REINFORCEMENT



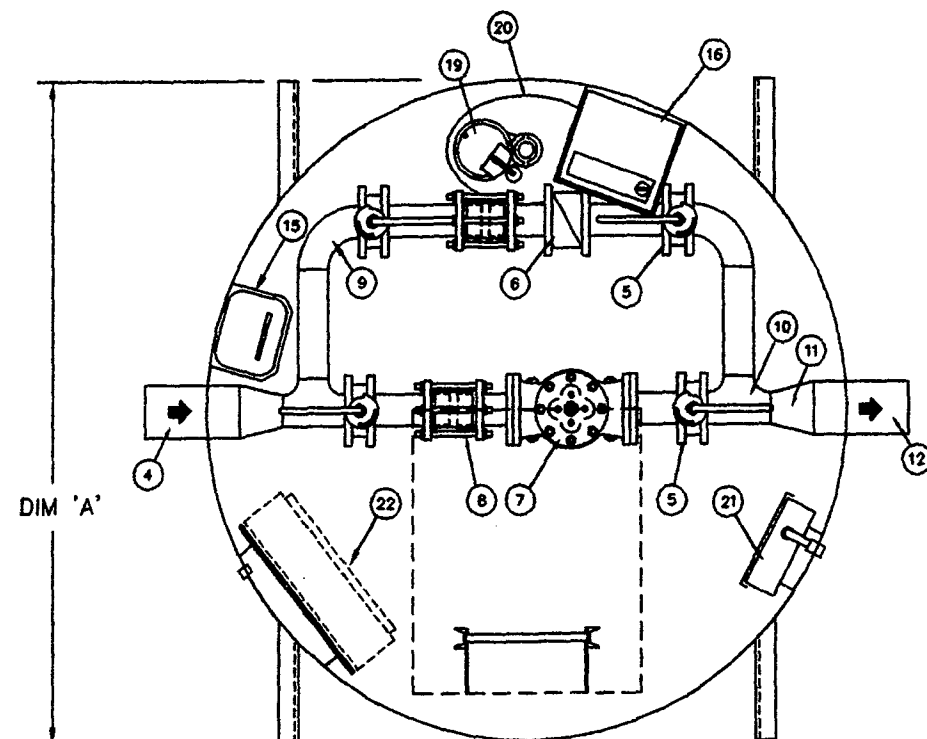
DAKOTA PUMP INC.
Riverside Road, Interstate I-90
P.O. Box 947
Mitchell, S.D. 57301
Phone #: (605) 996-6836
Fax #: (605) 996-6067

"Designers and Fabricators of
Water and Sewerage
Handling Equipment"

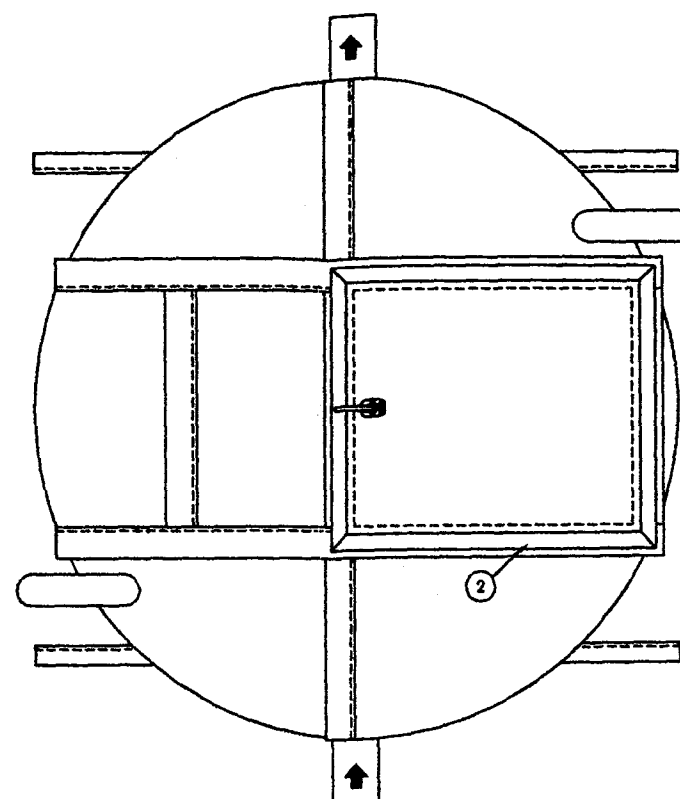
PROJECT:
TYP: PRV VALVE VAULT

DRAWN-BY AA DATE 7-26-01
SCALE NTS FILE-# C-211 DISK- CAT

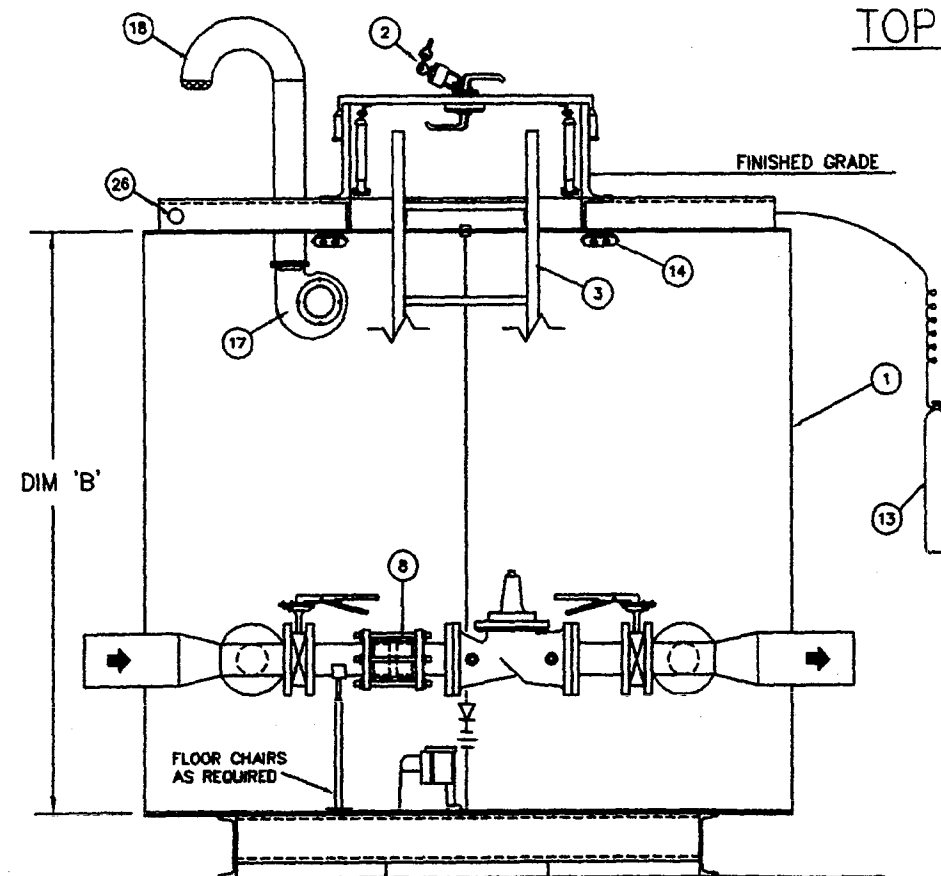
THIS DRAWING IS NOT FOR CONSTRUCTION PURPOSES
LAYOUT IS FOR SUBMITTAL DATA ONLY AND CAN VARY IN THE SHOP
CERTIFIED DIMENSIONS CAN BE FURNISHED UPON REQUEST



PLAN VIEW



TOP VIEW



SECTIONAL VIEW

ITEM	QUANTITY	DESCRIPTION
B		CHAMBER SIDESHELL HEIGHT
A		CHAMBER WIDTH
ITEM	QUANTITY	DESCRIPTION
26	-	CHAMBER LIFTING HOOKS
25	-	DIELECTRIC FLOOR MATTING
24	-	SINGLE PHASE TRANSFORMER - (IF REQUIRED)
23	-	CONDUITS
22	-	TELEMETRY - MOUNTING PROVISIONS PROVIDED (IF REQUIRED)
21	1	LOAD CENTER/DISTRIBUTION PANEL - NEMA 12 ENCLOSURE
20	1	SUMP PIT - ___" W x ___" L x ___" D OVAL, ___" PL STEEL
19	1	SUMP PUMP - W/1 1/4" DISCHARGE PIPING
18	2	VENTILATION DUCTS - WITH SCREEN INSERTS
17	1	VENTILATION BLOWER
16	1	DEHUMIDIFIER - ___PT/DAY W/DRAIN TO SUMP PIT
15	1	HEATER
14	-	STATION LIGHTS
13	-	17# MAGNESIUM PACKAGED SAC ANODES (SHIPPED LOOSE FOR FIELD INSTALLING BY OTHERS)
12	1	___" DIA. SCH. 40 STEEL OUTLET LINE
11	2	___" x ___" STEEL WELD CONCENTRIC REDUCER FITTINGS
10	2	___" STEEL WELD TEE FITTINGS
9	2	___" STEEL WELD 90° ELBOW FITTINGS
8	2	___" DRESSER COUPLINGS W/RESTRAINTS AS REQUIRED
7	1	___" ALTITUDE VALVE
6	1	___" WAFER STYLE SILENT CHECK VALVE
5	4	___" ISOLATION VALVES W/LEVER OPERATORS
4	1	___" DIA. SCH. 40 STEEL INLET LINE
3	1	ALUMINUM ENTRANCE LADDER W/1 1/4" DIA. NON SKID RUNGS
2	1	___" x ___" x ___" ALUMINUM ENTRANCE HATCH
1	1	CHAMBER STRUCTURAL - ___" PL STEEL TOP & SIDES, ___" PL BOTTOM
		___" BEAM/CHANNEL SKIDS W/___" BEAM/CHANNEL CROSSMEMBERS BOTTOM REINFORCEMENT
		___" CHANNEL/ANGLE FOR TOP REINFORCEMENT



DAKOTA PUMP INC.
Riverside Road, Interstate 1-90
P.O. Box 947
Mitchell, S.D. 57301
Phone #: (605) 996-6636
Fax #: (605) 996-6067

"Designers and Fabricators of
Water and Sewage
Handling Equipment"

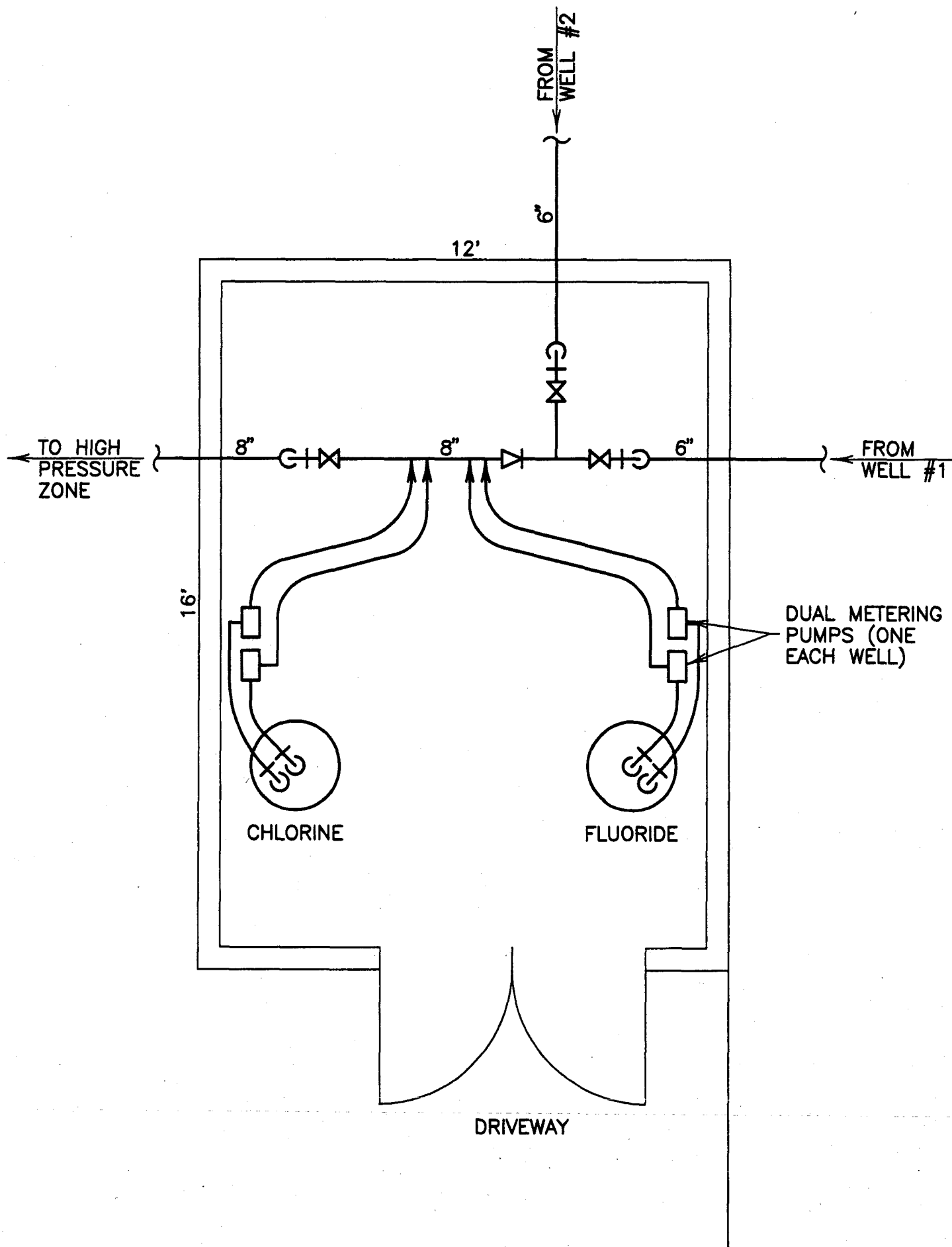
PROJECT:
TYP: ALTITUDE VALVE VAULT

DRAWN-BY AA DATE 7-26-01

SCALE NTS FILE-# C-209 DISK- CAT

THIS DRAWING IS NOT FOR CONSTRUCTION PURPOSES
LAYOUT IS FOR SUBMITTAL DATA ONLY AND CAN VARY IN THE SHOP
CERTIFIED DIMENSIONS CAN BE FURNISHED UPON REQUEST

October 28, 2003 10:08:19 a.m.
Drawing: TREATMENT BUILDING SCHEMATIC.DWG (P100) (C:\CETEC\04129 WHITEWOOD WATER SYSTEM\)



TREATMENT BUILDING SCHEMATIC

Appendix D

City of Whitewood Audit Report

(2001 – 2002)

MUNICIPALITY OF WHITEWOOD

AUDIT REPORT

For the Two Years Ended December 31, 2002



State of South Dakota
Department of Legislative Audit
427 South Chapelle
%500 East Capitol
Pierre, SD 57501-5070

MUNICIPALITY OF WHITEWOOD TABLE OF CONTENTS

	<u>Page</u>
Report on Compliance and on Internal Control Over Financial Reporting Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing Standards</i>	1
Schedule of Prior Audit Findings and Questioned Costs.....	3
Schedule of Current Audit Findings and Questioned Costs	3
Independent Auditor's Report	4
 General Purpose Financial Statements:	
As of December 31, 2002:	
Combined Balance Sheet--All Fund Types and Account Groups	6
For the Year Ended December 31, 2002:	
Combined Statement of Revenues, Expenditures and Changes in Fund Balances--All Governmental Fund Types and Expendable Trust Funds.....	8
Combined Statement of Revenues, Expenditures and Changes in Fund Balances--Budget and Actual--General, Special Revenue and Capital Projects Fund Types	10
Combined Statement of Revenues, Expenses and Changes in Retained Earnings--All Proprietary Fund Types.....	14
Combined Statement of Cash Flows--All Proprietary Fund Types.....	15
For the Year Ended December 31, 2001:	
Combined Statement of Revenues, Expenditures and Changes in Fund Balances--All Governmental Fund Types and Expendable Trust Funds.....	16
Combined Statement of Revenues, Expenditures and Changes in Fund Balances--Budget and Actual--General, Special Revenue and Capital Projects Fund Types.....	18
Combined Statement of Revenues, Expenses and Changes in Retained Earnings--All Proprietary Fund Types.....	21
Combined Statement of Cash Flows--All Proprietary Fund Types.....	22
Notes to the Financial Statements	23
Supplementary Data:	
Municipal Officials	32



427 SOUTH CHAPELLE
C/O 500 EAST CAPITOL
PIERRE SD 57501-5070
(605) 773-3595
FAX (605) 773-6454

MARTIN L. GUINDON, CPA
AUDITOR GENERAL

REPORT ON COMPLIANCE AND ON INTERNAL CONTROL OVER FINANCIAL REPORTING
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED
IN ACCORDANCE WITH GOVERNMENT AUDITING STANDARDS

Municipal Council
Municipality of Whitewood
Whitewood, South Dakota

We have audited the financial statements of the Municipality of Whitewood, South Dakota, as of December 31, 2002, and for the two years then ended and have issued our report thereon dated September 23, 2003.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States.

Compliance

As part of obtaining reasonable assurance about whether the Municipality of Whitewood's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations and contracts, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit and, accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance that are required to be reported under *Government Auditing Standards*.

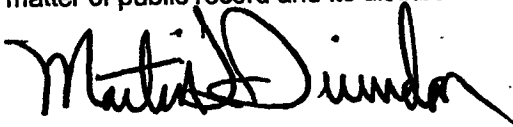
Internal Control Over Financial Reporting

In planning and performing our audit, we considered the Municipality of Whitewood's internal control over financial reporting in order to determine our auditing procedures for the purpose of expressing our opinion on the financial statements and not to provide assurance on the internal control over financial reporting. However, we noted certain matters involving the internal control over financial reporting and its operation that we consider to be reportable conditions. Reportable conditions involve matters coming to our attention relating to significant deficiencies in the design or operation of the internal control over financial reporting that, in our judgment, could adversely affect the Municipality of Whitewood's ability to record, process, summarize and report financial data consistent with the assertions of management in the financial statements. A reportable condition is described in the accompanying schedule of current audit findings and questioned costs as item No. 2002-01. We also noted other matters involving the internal control over financial reporting that we have reported to the management of the Municipality of Whitewood in a separate communication dated September 23, 2003.

A material weakness is a condition in which the design or operation of one or more of the internal control components does not reduce to a relatively low level the risk that misstatements in amounts that would be material in relation to the financial statements being audited may occur and not be detected within a timely period by employees in the normal course of performing their assigned functions. Our consideration of the internal control over financial reporting would not necessarily disclose all matters in the internal control that might be reportable conditions and, accordingly, would not necessarily disclose all reportable conditions that are

also considered to be material weaknesses. However, we consider the reportable condition described above, item No. 2002-01, to be a material weakness.

This report is intended solely for the information and use of the South Dakota Legislature, the governing board and management of the Municipality of Whitewood and is not intended to be and should not be used by anyone other than these specified parties. However, as required by South Dakota Codified Law 4-11-11 this report is matter of public record and its distribution is not limited.



Martin L. Guindon, CPA
Auditor General

September 23, 2003

**MUNICIPALITY OF WHITEWOOD
SCHEDULE OF PRIOR AND CURRENT AUDIT FINDINGS AND QUESTIONED COSTS**

SCHEDULE OF PRIOR AUDIT FINDINGS AND QUESTIONED COSTS

Prior Other Audit Findings:

Finding No. 2000-01:

There is a lack of segregation of duties over the revenue process. This finding is restated as current audit finding number 2002-01.

SCHEDULE OF CURRENT AUDIT FINDINGS AND QUESTIONED COSTS

Current Other Audit Findings:

Segregation of Duties

Finding No. 2002-01:

A lack of proper segregation of duties existed for the revenue function resulting in decreased reliability of reported financial data and increased potential for the loss of public assets. This is the second consecutive audit to contain this finding.

Analysis:

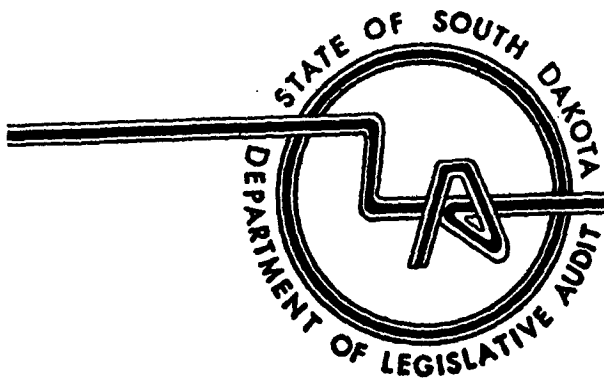
The finance officer was essentially able to process all revenue transactions from beginning to end. The finance officer was able to receive money, issue receipts, record receipts, post receipts in the accounting records, prepare bank deposits, reconcile bank statements and prepare financial statements resulting in an inadequate segregation of duties for the revenue function of the municipality.

RECOMMENDATION:

We recommend that municipal officials be cognizant of this lack of segregation of duties for revenues and attempt to provide compensating internal controls whenever, and wherever possible and practical.

Closing Conference

The contents of this report were discussed with the Finance Officer and Mayor on September 23, 2003.



427 SOUTH CHAPELLE
C/O 500 EAST CAPITOL
PIERRE SD 57501-5070
(605) 773-3595
FAX (605) 773-6454

MARTIN L. GUINDON, CPA
AUDITOR GENERAL

INDEPENDENT AUDITOR'S REPORT

Municipal Council
Municipality of Whitewood
Whitewood, South Dakota

We have audited the accompanying general-purpose financial statements of the Municipality of Whitewood, South Dakota, as of December 31, 2002, and for the two years then ended, as listed in the Table of Contents. These general-purpose financial statements are the responsibility of the Municipality of Whitewood's management. Our responsibility is to express an opinion on these general-purpose financial statements based on our audit.

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the general-purpose financial statements referred to above present fairly, in all material respects, the financial position of the Municipality of Whitewood as of December 31, 2002, and the results of its operations and the cash flows of its proprietary fund types for the two years then ended in conformity with accounting principles generally accepted in the United States of America.

In accordance with *Government Auditing Standards*, we have also issued our report dated September 23, 2003 on our consideration of the Municipality of Whitewood's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations and contracts. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* and, in considering the results of the audit, this report should be read along with the independent auditor's report on the financial statements.

Our audit was performed for the purpose of forming an opinion on the general-purpose financial statements of the Municipality of Whitewood taken as a whole. The schedules listed in the Table of Contents are presented for purposes of additional analysis and are not a required part of the general-purpose financial statements. Such information has been subjected to the auditing procedures applied in the audit of the general-purpose financial statements and, in our opinion, is fairly stated, in all material respects, in relation to the general-purpose financial statements taken as a whole.

Martin L. Guindon, CPA
Auditor General

September 23, 2003

MUNICIPALITY OF WHITEWOOD
COMBINED BALANCE SHEET
ALL FUND TYPES AND ACCOUNT GROUPS
December 31, 2002

	Governmental Fund Types		Proprietary Fund Types		Fiduciary Fund Types		Account Groups		
	General Fund	Special Revenue Funds	Enterprise Funds	Trust and Agency Funds	General Fixed Assets	Long-Term Debt			
Assets:									
Current Assets:									
Cash	\$ 103,738.07	\$ 111,996.43	\$ 90,190.23	\$ 240.00	\$				
Petty Cash		50.00							
Restricted Cash in Banks		347,086.15							
Taxes Receivable--Current	92,444.00								
Taxes Receivable--Delinquent	4,320.43		20,805.69						
Accounts Receivable	17,710.50	3,324.18	7,597.94						
Unbilled Accounts Receivable		145,974.01	2,344.03						
Notes Receivable		150,000.00	1,560.00						
Investments			469,634.04		0.00	0.00			
Unamortized Discounts on Bonds Sold				240.00					
Total Current Assets	218,213.00	411,344.62							
Fixed Assets:									
Land			23,253.33		20,200.00				
Buildings			854,411.62		208,000.00				
Accumulated Depreciation--Buildings (Credit)			(430,794.41)		24,824.00				
Improvements Other Than Buildings			1,499,274.89						
Accumulated Depreciation--Improvement Other Than Buildings (Credit)			(410,438.48)		159,264.70				
Machinery and Equipment			71,198.05						
Accumulated Depreciation--Machinery and Equipment (Credit)			(19,254.18)						
Total Fixed Assets	0.00	0.00	1,587,650.82	0.00	412,288.70	0.00			
Other Assets:									
Amount to be Provided for Other Long-Term Debt									5,288.52
TOTAL ASSETS	\$ 218,213.00	\$ 411,344.62	\$ 2,057,284.86	\$ 240.00	\$ 412,288.70	\$ 5,288.52			

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCES
ALL GOVERNMENTAL FUND TYPES AND EXPENDABLE TRUST FUNDS
For the Year Ended December 31, 2002

	Governmental Fund Types			Fiduciary
	General	Special	Capital	Fund Type
	Fund	Revenue	Project	Expendable
		Funds	Funds	Trust
Revenue:				
Taxes	\$ 148,859.42	\$ 90,538.39	\$	\$
Licenses and Permits	1,352.00		41,694.98	
Intergovernmental Revenue	20,705.32			
Charges for Goods and Services	31,720.15	700.00		
Fines and Forfeits	140.00	11.75		
Miscellaneous Revenue	92,379.54	18,131.30		
Total Revenue	295,156.43	109,381.44	41,694.98	0.00
Expenditures:				
General Government	71,155.90			
Public Safety	97,354.75		78,086.28	
Public Works	79,357.44			
Health and Welfare	66.22			
Culture and Recreation	13,520.47	43,527.60		
Conservation and Development	300.00	230.25		
Miscellaneous	40,453.11	15.92		
Total Expenditures	302,207.89	43,773.77	78,086.28	0.00

Other Financing Sources (Uses):				
Operating Transfers In	8,000.00		9,782.65	
Operating Transfers (Out)		(9,782.65)		
Total Other Financing Sources (Uses)	<u>8,000.00</u>	<u>(9,782.65)</u>	<u>9,782.65</u>	<u>0.00</u>
Excess of Revenue and Other Sources Over (Under) Expenditures and Other Uses	948.54	55,825.02	(26,608.65)	0.00
Fund Balance, January 1, 2002	<u>107,697.16</u>	<u>355,278.18</u>	<u>26,608.65</u>	<u>240.00</u>
FUND BALANCE, DECEMBER 31, 2002	<u>\$ 108,645.70</u>	<u>\$ 411,103.20</u>	<u>\$ 0.00</u>	<u>\$ 240.00</u>

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCES
BUDGET AND ACTUAL--GENERAL, SPECIAL REVENUE AND CAPITAL PROJECTS FUND TYPES
For the Year Ended December 31, 2002

	General Fund			Special Revenue Funds		
	Budget	Actual	Variance Favorable (Unfavorable)	Budget	Actual	Variance Favorable (Unfavorable)
Revenue:						
Taxes:						
General Property Taxes	\$ 91,030.00	\$ 90,543.08	\$ (486.92)	\$ 37,884.00	\$ 39,117.00	\$ 1,233.00
General Sales & Use Taxes	52,000.00	57,672.07	5,672.07	30,000.00	51,421.39	21,421.39
Amusement Taxes	180.00	228.00	48.00			
Penalties and Interest on Delinquent Taxes	0.00	416.27	416.27			
Licenses and Permits	850.00	1,352.00	502.00			
Intergovernmental Revenue:						
Federal Grants	0.00	2,828.00	2,828.00			
State Shared Revenue:						
Bank Franchise Tax	0.00	338.74	338.74			
Liquor Tax Reversion	4,500.00	4,152.45	(347.55)			
Motor Vehicle Licenses (5%)	7,000.00	5,422.19	(1,577.81)			
Local Government Highway and Bridge Fund	5,000.00	6,312.98	1,312.98			
County Shared Revenue:						
County HBR Tax (25%)	900.00	1,650.96	750.96			
Charges for Goods and Services:						
Sanitation	24,000.00	26,223.31	2,223.31			
Culture and Recreation	3,000.00	5,496.84	2,496.84	0.00	700.00	700.00
Other						
Fines and Forfeits:						
Court Fines and Costs	150.00	0.00	(150.00)	0.00	11.75	11.75
Library	500.00	140.00	(360.00)			
Other						
Miscellaneous Revenue:						
Investment Earnings	30,000.00	26,542.25	(3,457.75)	0.00	10,991.30	10,991.30
Contributions and Donations from Private Sources				0.00	7,140.00	7,140.00
Liquor Operating Agreements	71,025.00	64,166.30	(6,858.70)			
Other	1,000.00	727.37	(272.63)			
Gaming Revenue	0.00	943.62	943.62			
Total Revenue	291,135.00	295,156.43	4,021.43	67,884.00	109,381.44	41,497.44

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCES
BUDGET AND ACTUAL--GENERAL, SPECIAL REVENUE AND CAPITAL PROJECTS FUND TYPES
For the Year Ended December 31, 2002
(Continued)

	Capital Projects Funds		
	Budget	Actual	Variance Favorable (Unfavorable)
Revenue:			
Intergovernmental Revenue:			
Federal Shared Revenue	\$ 0.00	\$ 41,694.98	\$ 41,694.98
Expenditures:			
Public Works:			
Highways and Streets	78,086.28	78,086.28	0.00
Other Financing Sources (Uses):			
Operating Transfers In	0.00	9,782.65	9,782.65
Excess of Revenue and Other Sources Over (Under) Expenditures and Other Uses	(78,086.28)	(26,608.65)	51,477.63
Fund Balance, January 1, 2002	26,608.65	26,608.65	0.00
FUND BALANCE, DECEMBER 31, 2002	\$ (51,477.63)	\$ 0.00	\$ 51,477.63

The notes to the financial statements are an integral part of this statement.

**MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENSES
AND CHANGES IN RETAINED EARNINGS
ALL PROPRIETARY FUND TYPES
For the Year Ended December 31, 2002**

	<u>Proprietary Fund Types Enterprise Funds</u>
Operating Revenue:	
Charges for Goods and Services	\$ 253,824.00
Miscellaneous	1,305.60
Total Operating Revenue	<u>255,129.60</u>
Operating Expenses:	
Personal Services	53,212.82
Other Current Expense	72,582.41
Depreciation	77,938.68
Total Operating Expenses	<u>203,733.91</u>
Operating Income (Loss)	51,395.69
Nonoperating Revenue (Expense):	
Interest Expense and Fiscal Charges	<u>(17,843.45)</u>
Income (Loss) Before Operating Transfers	33,552.24
Operating Transfers Out	<u>(8,000.00)</u>
Net Income (Loss)	25,552.24
Retained Earnings, January 1, 2002	<u>961,404.54</u>
RETAINED EARNINGS, DECEMBER 31, 2002	<u>\$ 986,956.78</u>

The notes to the financial statements are an integral part of this statement.

**MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF CASH FLOWS
ALL PROPRIETARY FUND TYPES
For the Year Ended December 31, 2002**

	<u>Proprietary Fund Types Enterprise Funds</u>
Cash Flows from Operating Activities:	
Operating Income	\$ 51,395.69
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:	
(Increase) Decrease in Receivables	(432.64)
Depreciation Expense	77,938.68
Increase (Decrease) in Accounts Payable	(6,459.54)
Increase (Decrease) in Vested Leave Liability	746.57
Increase in Customer Deposits	1,247.40
(Increase) in Unbilled Accounts Receivable	(1,321.75)
Decrease in Notes Receivable	11,764.69
	<u>134,879.10</u>
Net Cash Provided (Used) by Operating Activities	
Cash Flows from Noncapital Financing Activities:	
Operating Transfers Out	<u>(8,000.00)</u>
Cash Flows from Capital and Related Financing Activities:	
Purchase of Equipment	(101,208.08)
Interest Expense	(17,583.45)
Payments on Debt	(86,368.87)
Contributed Capital	699.20
Total Cash Flows from Capital and Related Financing Activities	<u>(204,461.20)</u>
Net Increase (Decrease) in Cash and Cash Equivalents During the Fiscal Year	(77,582.10)
Cash and Cash Equivalents at Beginning of Year	<u>514,908.48</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 437,326.38</u>

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCES
ALL GOVERNMENTAL FUND TYPES AND EXPENDABLE TRUST FUNDS
For the Year Ended December 31, 2001

	Governmental Fund Types				Fiduciary
	General Fund	Special Revenue Funds		Capital Project Funds	Fund Type
					Expendable Trust
Revenue:					
Taxes	\$ 146,397.32	\$ 93,952.55	\$		\$
Licenses and Permits	882.00				
Intergovernmental Revenue	17,119.83			114,630.02	
Charges for Goods and Services	25,775.41				
Fines and Forfeits	479.25	495.25			
Miscellaneous Revenue	103,399.49	1,175.49			
Total Revenue	294,053.30	95,623.29		114,630.02	0.00
Expenditures:					
General Government	76,022.04				
Public Safety	94,397.34				
Public Works	61,191.62			239,872.42	
Health and Welfare	13.71				
Culture and Recreation	11,691.21	39,185.61			
Conservation and Development	300.00				
Miscellaneous	52,007.16				
Total Expenditures	295,623.08	39,185.61		239,872.42	0.00

Other Financing Sources (Uses):				
Operating Transfers In	17,500.00		151,851.05	
Operating Transfers (Out)		(151,851.05)		
Total Other Financing Sources (Uses)	<u>17,500.00</u>	<u>(151,851.05)</u>	<u>151,851.05</u>	<u>0.00</u>
Excess of Revenue and Other Sources Over (Under) Expenditures and Other Uses	15,930.22	(95,413.37)	26,608.65	0.00
Fund Balance, January 1, 2001	<u>91,766.94</u>	<u>450,691.55</u>	<u>0.00</u>	<u>240.00</u>
FUND BALANCE, DECEMBER 31, 2001	<u>\$ 107,697.16</u>	<u>\$ 355,278.18</u>	<u>\$ 26,608.65</u>	<u>\$ 240.00</u>

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCE AND
BUDGET AND ACTUAL--GENERAL, SPECIAL REVENUE AND CAPITAL PROJECTS FUND TYPES
For the Year Ended December 31, 2001

	General Fund			Special Revenue Funds		
	Budget	Actual	Variance Favorable (Unfavorable)	Budget	Actual	Variance Favorable (Unfavorable)
Revenue:						
Taxes:						
General Property Taxes	\$ 86,977.00	\$ 86,176.24	\$ (800.76)	\$ 40,384.00	\$ 40,384.00	\$ 0.00
General Sales & Use Taxes	50,000.00	59,742.27	9,742.27	30,000.00	53,568.55	23,568.55
Amusement Taxes	180.00	252.00	72.00			
Penalties and Interest on Delinquent Taxes	0.00	226.81	226.81			
Licenses and Permits	1,000.00	882.00	(118.00)			
Intergovernmental Revenue:						
State Grants	0.00	808.00	808.00			
State Shared Revenue:						
Bank Franchise Tax	0.00	438.10	438.10			
Liquor Tax Reversion	4,700.00	4,212.86	(487.14)			
Motor Vehicle Licenses (5%)	5,000.00	5,107.31	107.31			
Local Government Highway and Bridge Fund	4,000.00	5,679.31	1,679.31			
County Shared Revenue:						
County HBR Tax (25%)	900.00	874.25	(25.75)			
Charges for Goods and Services:						
Sanitation	24,000.00	22,585.87	(1,414.13)			
Culture and Recreation	3,000.00	3,189.54	189.54			
Fines and Forfeits:						
Court Fines and Costs	200.00	116.25	(83.75)			
Library				0.00	495.25	495.25
Other	300.00	363.00	63.00			
Miscellaneous Revenue:						
Investment Earnings	6,000.00	23,386.73	17,386.73			
Liquor Operating Agreements	129,220.00	77,611.91	(51,608.09)		1,175.49	1,175.49
Other	1,500.00	2,400.85	900.85			
Total Revenue	316,977.00	294,053.30	(22,923.70)	70,384.00	95,623.29	25,239.29

MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENDITURES AND
CHANGES IN FUND BALANCES
BUDGET AND ACTUAL--GENERAL, SPECIAL REVENUE AND CAPITAL PROJECTS FUND TYPES
For the Year Ended December 31, 2001

(Continued)

	Capital Projects Funds		
	Budget	Actual	Variance Favorable (Unfavorable)
Revenue:			
Intergovernmental Revenue:			
Federal Shared Revenue	\$ 156,325.20	\$ 114,630.02	\$ (41,695.18)
Expenditures:			
Public Works:			
Highways and Streets	296,325.20	239,872.42	56,452.78
Other Financing Sources (Uses):			
Operating Transfers In	48,000.00	151,851.05	103,851.05
Excess of Revenue and Other Sources Over (Under) Expenditures and Other Uses	(92,000.00)	26,608.65	118,608.65
	0.00	0.00	0.00
Fund Balance, January 1, 2001	\$ (92,000.00)	\$ 26,608.65	\$ 118,608.65
FUND BALANCE, DECEMBER 31, 2001			

The notes to the financial statements are an integral part of this statement.

**MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF REVENUES, EXPENSES
AND CHANGES IN RETAINED EARNINGS
ALL PROPRIETARY FUND TYPES
For the Year Ended December 31, 2001**

	<u>Proprietary Fund Types Enterprise Funds</u>
Operating Revenue:	
Charges for Goods and Services	\$ 241,555.95
Miscellaneous	407.61
Total Operating Revenue	<u>241,963.56</u>
Operating Expenses:	
Personal Services	55,979.05
Other Current Expense	61,242.94
Depreciation	71,154.02
Total Operating Expenses	<u>188,376.01</u>
Operating Income (Loss)	53,587.55
Nonoperating Revenue (Expense):	
Interest Expense and Fiscal Charges	<u>(15,853.93)</u>
Income (Loss) Before Operating Transfers	37,733.62
Operating Transfers Out	<u>(17,500.00)</u>
Net Income (Loss)	20,233.62
Retained Earnings, January 1, 2001	<u>941,170.92</u>
RETAINED EARNINGS, DECEMBER 31, 2001	<u>\$ 961,404.54</u>

The notes to the financial statements are an integral part of this statement.

**MUNICIPALITY OF WHITEWOOD
COMBINED STATEMENT OF CASH FLOWS
ALL PROPRIETARY FUND TYPES
For the Year Ended December 31, 2001**

	<u>Proprietary Fund Types Enterprise Funds</u>
Cash Flows from Operating Activities:	
Operating Income	\$ 53,587.55
Adjustments to Reconcile Operating Income to Net Cash Provided by Operating Activities:	
(Increase) Decrease in Receivables	(2,165.21)
Depreciation Expense	71,154.02
Increase (Decrease) in Accounts Payable	6,436.55
Increase (Decrease) in Vested Leave Liability	2,303.58
Increase in Customer Deposits	660.01
Decrease in Unbilled Accounts Receivable	(196.58)
Increase in Notes Receivable	(14,108.72)
	<u>117,671.20</u>
Net Cash Provided (Used) by Operating Activities	
Cash Flows from Noncapital Financing Activities:	
Operating Transfers Out	<u>(17,500.00)</u>
Cash Flows from Capital and Related Financing Activities:	
Purchase of Equipment	(159,349.58)
Interest Expense	(15,593.93)
Payments on Debt	(19,028.03)
Contributed Capital	55,139.89
SRF Loan	39,297.00
Total Cash Flows from Capital and Related Financing Activities	<u>(99,534.65)</u>
Net Increase (Decrease) in Cash and Cash Equivalents During the Fiscal Year	636.55
Cash and Cash Equivalents at Beginning of Year	<u>514,271.93</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR	<u>\$ 514,908.48</u>

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF WHITEWOOD
NOTES TO THE FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

a. Reporting Entity:

The funds and account groups included in this report are controlled by or dependent upon the municipality's governing board.

The municipality participates in a cooperative unit with several other local governments. See detailed note entitled "Joint Ventures" for specific disclosures.

The accounting policies of the municipality conform to generally accepted accounting principles as applicable to governments.

b. Fund Accounting:

The accounts are organized on the basis of funds and account groups, each of which is considered a separate accounting entity. The operations of each fund are accounted for with a separate set of self-balancing accounts that comprise its assets, liabilities, fund equity, revenues, and expenditures, or expenses, as appropriate. Government resources are allocated to and accounted for in individual funds based upon the purposes for which they are to be spent and the means by which spending activities are controlled. The various funds are grouped, in the financial statements in this report, into three broad fund categories and five generic fund types as follows:

Governmental Funds:

General Fund - the General Fund is the general operating fund of the municipality. It is used to account for all financial resources except those required to be accounted for in another fund.

Special revenue funds - special revenue funds are used to account for the proceeds of specific revenue sources (other than expendable trusts or major capital projects) that are legally restricted to expenditures for specified purposes.

Capital Projects funds - capital projects funds are used to account for financial resources to be used for the acquisition or construction of major capital facilities (other than those financed by proprietary funds and trust funds). The South Street Project Fund is the only capital projects fund maintained by the municipality.

Proprietary Funds:

Enterprise funds - enterprise funds are used to account for operations (a) that are financed and operated in a manner similar to private business enterprises, where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.

The enterprise funds do not apply any FASB Statements and Interpretations issued after November 30, 1989.

Fiduciary Funds:

Trust and agency funds - trust and agency funds are used to account for assets held in a trustee capacity or as an agent for individuals, private organizations, other governments, and/or other

funds. These include expendable trust funds. Expendable trust funds are accounted for in essentially the same manner as governmental funds.

c. Fixed Assets and Long-Term Liabilities:

Fixed assets used in governmental fund type operations (general fixed assets) are accounted for in the general fixed assets account group, rather than in governmental funds. Public domain (infrastructure) general fixed assets consisting of certain improvements other than buildings, including bridges, curbs and gutters, streets and sidewalks, drainage systems, and lighting systems, are not capitalized along with other general fixed assets. No depreciation has been provided on general fixed assets.

All fixed assets are valued at historical cost or estimated historical cost if actual historical cost is not available. ~~Donated fixed assets are valued at their estimated fair value on the date donated.~~

Interest costs incurred during construction of fixed assets are not capitalized along with other fixed asset costs.

The total December 31, 2002 balance of general fixed assets includes approximately 10 percent for which the costs were determined by estimates of the original costs. The total December 31, 2002 proprietary fund fixed assets includes approximately 10 percent for which the costs were determined by estimations of the original cost. These estimated original costs were established by reviewing applicable historical costs of similar items and basing the estimations thereon.

Depreciation of all exhaustible fixed assets used by proprietary funds is charged as an expense against their operations. Accumulated depreciation is reported on proprietary fund balance sheets. Depreciation has been provided over the estimated useful lives using the straight-line method.

Long-term liabilities expected to be financed from governmental funds are accounted for in the general long-term debt account group, not in the governmental funds.

The two account groups are not "funds." They are concerned only with the measurement of financial position. They are not involved with measurement of results of operations.

d. Basis of Accounting:

Basis of accounting refers to when revenues and expenditures or expenses are recognized in the accounts and reported in the financial statements.

All governmental funds and expendable trust funds are accounted for using the modified accrual basis of accounting. Their revenues are recognized when they become measurable and available. The revenues which are accrued at December 31, 2002 are reimbursements from municipal liquor establishments and sales tax. Expenditures are generally recognized when the related fund liability is incurred. Exceptions to this general rule include principal and interest on general long-term debt which is recognized when due.

All proprietary funds are accounted for using the accrual basis of accounting. Their revenues are recognized when they are earned, and their expenses are recognized when they are incurred. Unbilled utility accounts receivable are included in the financial statements.

e. Budgets and Budgetary Accounting:

The municipality follows these procedures in establishing the budgetary data reflected in the financial statements:

1. At the first regular board meeting in September of each year or within ten days thereafter, the governing board introduces the annual appropriation ordinance for the ensuing fiscal year.

2. After adoption by the governing board, the operating budget is legally binding and actual expenditures for each purpose cannot exceed the amounts budgeted, except as indicated in number 4.
3. A line item for contingencies may be included in the annual budget. Such a line item may not exceed 5 percent of the total municipal budget and may be transferred by resolution of the governing board to any other budget category that is deemed insufficient during the year.
4. If it is determined during the year that sufficient amounts have not been budgeted, state statute allows the adoption of supplemental budgets.
5. Unexpended appropriations lapse at year end unless encumbered by resolution of the governing board.

Encumbrance accounting, under which purchase orders, contracts, and other commitments for the expenditure of monies are recorded in order to reserve that portion of the applicable appropriation, is employed as an extension of formal budgetary integration in the General Fund, special revenue funds and capital projects funds.

The municipality did not encumber any amounts at either December 31, 2001, or December 31, 2002.

6. Formal budgetary integration is employed as a management control device during the year for the General Fund, special revenue funds and capital project funds.
7. Budgets for the General Fund, special revenue funds and capital projects funds are adopted on a basis consistent with generally accepted accounting principles (GAAP).

f. Deposits and Investments:

The municipality follows the practice of aggregating the cash assets of various funds to maximize cash management efficiency and returns. Various restrictions on deposits and investments are imposed by statutes. These restrictions are summarized below:

Deposits - The municipal deposits are made in qualified public depositories as defined by SDCL 4-6A-1, 9-22-6, 9-22-6.1 and 9-22-6.2. Qualified depositories are required by SDCL 4-6A-3 to maintain at all times, segregated from their other assets, eligible collateral having a value equal to at least 100 percent of the public deposit accounts which exceed deposit insurance such as the FDIC and NCUA. In lieu of pledging eligible securities, a qualified public depository may furnish irrevocable standby letters of credit issued by federal home loan banks accompanied by written evidence of that bank's public debt rating which may not be less than "AA" or a qualified public depository may furnish a corporate surety bond of a corporation authorized to do business in South Dakota.

Deposits are reported at cost, plus interest, if the account is of the add-on type.

State law allows income from deposits and investments to be credited to either the General Fund or the fund making the investments. The municipality's policy is to credit all income from deposits and investments to the fund making the investment.

The actual bank balances at December 31, 2002 were as follows:

	<u>Bank Balance</u>
Insured (FDIC/NCUA)	\$ 77,947.20

The carrying amount of deposits on the December 31, 2002 balance sheet was \$16,998.61.

Investments - In general, SDCL 4-5-6 permits municipal funds to be invested in (a) securities of the United States and securities guaranteed by the United States government either directly or indirectly; or (b) repurchase agreements fully collateralized by securities described in (a); or in shares of an open-end, no-load fund administered by an investment company whose investments are in securities described in (a) and repurchase agreements described in (b). Also, SDCL 4-5-9 requires that investments shall be in the physical custody of the political subdivision or may be deposited in a safekeeping account with any bank or trust company designated by the political subdivision as its fiscal agent.

Investments are stated at fair value.

The entity's investments, except for mutual funds, are categorized to give an indication of the level of risk assumed by the entity at year-end. Category 1 includes investments that are insured or registered or for which the securities are held by the entity or its agent in the entity's name. Category 2 includes uninsured and unregistered investments for which the securities are held by the broker's or dealer's trust department or agent in the entity's name. Category 3 includes uninsured and unregistered investments for which the securities are held by the broker or dealer, or by its trust department or agent but not in the entity's name.

The investments at December 31, 2002 were as follows:

	Category 1	Fair Value
Fannie Mae	\$ 9,000.00	\$ 9,000.00
U.S. Government Securities	201,916.74	201,916.74
Subtotal	210,916.74	210,916.74
Mutual Funds:		
Wells Fargo Government Money Market		73,562.68
Morgan Stanley Money Market		4,642.81
External Investment Pools:		
SDFIT		347,130.04
TOTAL INVESTMENTS		<u>\$ 636,252.27</u>

The South Dakota Public Fund Investment Trust (SDFIT) is an external investment pool created for South Dakota local government investing. It is regulated by a nine member board with representation from municipalities, school districts and counties. The net asset value of the SDFIT money market account (GCR) is kept at one dollar per share by adjusting the rate of return on a daily basis. Earnings are credited to each account on a monthly basis.

Also reported as an investment is a building valued at \$150,000 that is owned by the Economic Development Fund. The building is leased to Mountain West Millwork, Inc.

g. Deferred Revenue:

Under the modified accrual basis of accounting, receivables may be measurable but not available. Available means collectible within the current period or soon enough thereafter to be used to pay liabilities of the current period. Reported deferred revenues are those where asset recognition criteria have been met but for which revenue recognition criteria have not been met.

h. Cash Flows:

For the purposes of the Statement of Cash Flows, the municipality considers all highly liquid investments (including restricted assets) with a term to maturity of three months or less when purchased to be cash equivalents.

2. PROPERTY TAX

Property taxes attach as an enforceable lien on property as of January 1 of each year. Taxes are levied on or before October 1 and payable in two installments on or before April 30 and October 31 of the following year. The county bills and collects the municipality's taxes and remits them to the municipality.

The municipality is permitted by state statute to levy the following amounts of taxes per \$1,000 of taxable valuation of the property in the municipality:

General Fund	\$27
Bond Redemption Funds	Amounts Required by Bond Agreements
Judgment Fund (Upon Judgment Being Made)	\$10

State statute allows the tax rates to be raised by special election of the voters.

3. CHANGES IN GENERAL FIXED ASSETS

A summary of changes in general fixed assets for the two years ended December 31, 2002 is as follows:

	Balance 1/1/01	Additions	Deletions	Balance 12/31/02
Land	\$ 20,200.00	\$	\$	\$ 20,200.00
Buildings	208,000.00			208,000.00
Improvements Other Than Buildings	24,824.00			24,824.00
Machinery and Equipment	135,235.73	24,028.97		159,264.70
TOTAL	\$ 388,259.73	\$ 24,028.97	\$ 0.00	\$ 412,288.70

4. LONG-TERM DEBT

A summary of the changes in long-term debt follows:

	General Obligations	Sewer Bonds	Compensated Absences	Total
Debt Payable, January 1, 2001	\$ 256,364.70	\$ 75,000.00	\$ 7,280.82	\$ 338,645.52
New Issues	39,296.72			39,296.72
Change in Compensated Absences			2,341.92	2,341.92
Retired	(32,103.15)	(75,000.00)		(107,103.15)
DEBT PAYABLE, DECEMBER 31, 2002	\$ 263,558.27	\$ 0.00	\$ 9,622.74	\$ 273,181.01

Debt payable at December 31, 2002 is comprised of the following:

General Obligation Bonds:

State Revolving Funds-1992; Maturing September 8, 2008;
Interest Rate of 4%; Payable from Wastewater Fund

\$ 82,269.52

State Revolving Funds-2001; Maturing July 1, 2021;
Interest Rate of 5%; Payable from Wastewater Fund

\$ 181,288.75

Compensated Absences:

Unpaid Vacation Leave

\$ 9,622.74

Payment to be made by the fund that the payroll expenditures are charged to.

The annual requirements to amortize all debt outstanding as of December 31, 2002, except for compensated absences but including interest payments of \$109,350.59, are as follows:

Annual Requirements to Amortize Long-Term Debt
December 31, 2002

Year Ending December 31,	General Obligation
2003	\$ 31,042.32
2004	31,042.32
2005	31,042.32
2006	31,042.32
2007	31,042.32
2008	27,020.50
2009	14,955.04
2010	14,955.04
2011	14,955.04
2012	14,955.04
2013	14,955.04
2014	14,955.04
2015	14,955.04
2016	14,955.04
2017	14,955.04
2018	14,955.04
2019	14,955.04
2020	14,955.04
2021	11,216.28
Total	<u>\$ 372,908.86</u>

5. SEGMENT INFORMATION FOR ENTERPRISE FUNDS

Water and Wastewater Funds are maintained by the municipality which provide water and sewer services financed partially by user charges. Segment information for enterprise funds is as follows:

	Year Ended December 31, 2002	
	Water Fund	Wastewater Fund
Operating Revenue	\$ 123,506.72	\$ 131,622.88
Operating Expenses:		
Depreciation	24,242.83	53,695.85
Other	75,964.09	49,831.14
Operating Income (Loss)	23,299.80	28,095.89
Operating Transfers:		
Out	(8,000.00)	
Net Nonoperating Revenue (Expense)		(17,843.45)
Net Income (Loss)	15,299.80	10,252.44

	Water Fund	Wastewater Fund
Current Capital: Contributions		699.20
Plant, Property and Equipment: Additions	77,960.60	23,247.48
Net Working Capital	278,927.10	165,926.91
Bonds and Other Long-Term Liabilities Outstanding, December 31, 2002: Payable from Operating Revenue	2,689.31	265,202.40
Total Assets	1,006,686.34	1,050,598.52
Total Liabilities	20,897.20	271,774.54
Fund Equity	985,789.14	778,823.98
	<u>Year Ended December 31, 2001</u>	
	Water Fund	Wastewater Fund
Operating Revenue	\$ 120,280.25	\$ 121,683.31
Operating Expenses:		
Depreciation	19,069.40	52,084.62
Other	63,403.67	53,818.32
Operating Income (Loss)	37,807.18	15,780.37
Operating Transfers:		
Out	(17,500.00)	
Net Nonoperating Revenue (Expense)		15,853.93
Net Income (Loss)	20,307.18	(73.56)
Current Capital: Contributions		55,139.89
Plant, Property and Equipment: Additions	28,912.32	130,437.26
Net Working Capital	316,736.81	210,757.46
Bonds and Other Long-Term Liabilities Outstanding, December 31, 2001: Payable from Operating Revenue	2,081.05	351,432.96
Total Assets	989,245.52	1,099,806.34
Total Liabilities	18,756.18	364,750.00
Fund Equity	970,489.34	735,056.34

6. RETIREMENT PLAN

All employees, except for part-time employees, participate in the South Dakota Retirement System (SDRS), a cost-sharing, multiple employer public employee retirement system established to provide retirement benefits for employees of the State of South Dakota and its political subdivisions. The SDRS provides retirement, disability and survivors benefits. The right to receive retirement benefits vests after three years of credited service. Authority for establishing, administering and amending plan provisions are found in South Dakota Codified Law 3-12. The SDRS issues a publicly available financial report that includes financial statements and required supplementary information. That report may be obtained by writing to the SDRS, P.O. Box 1098, Pierre, SD 57501-1098 or by calling (605) 773-3731.

General employees are required by state statute to contribute 6 percent of their salary to the plan, while public safety and judicial employees contribute at 8 percent and 9 percent. State statute also requires the employer to contribute an amount equal to the employee's contribution. The municipality's share of contributions to the SDRS for the fiscal years ended December 31, 2002, 2001 and 2000 were \$8,436.71, \$7,635.04, and \$7,630.66, respectively, equal to the required contributions each year.

7. LITIGATION

At December 31, 2002 the municipality was not involved in any litigation.

8. JOINT VENTURES

The municipality participates in a joint venture, known as the Northern Hills Drug Task Force, formed for the purpose of implementing and improving state and local drug law enforcement.

The members of the joint venture and their relative percentage of participation are as follows:

Butte County	10%
Lawrence County	10%
Meade County	10%
Spearfish City	10%
Newell	10%
Deadwood	10%
Belle Fourche	10%
Lead	10%
Sturgis	10%
Whitewood	10%

The joint venture's governing board is composed of ten representatives, who are the sheriffs from each county and the police chief for each municipality. The board is responsible for adopting the budget and setting service fees at a level adequate to fund the adopted budget.

The municipality retains no equity in the net assets of the joint venture, but does have a responsibility to fund deficits of the joint venture in proportion to the relative participation described above.

Separate financial statements for this joint venture are available from Lawrence County Sheriffs Office.

At December 31, 2002 this joint venture had total fund equity of \$124,801.36 and no long-term debt.

9. RISK MANAGEMENT

The municipality is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. During the period ended December 31, 2002, the municipality managed its risks as follows:

Employee Health Insurance:

The municipality joined the South Dakota Municipal League Health Pool. This is a public entity risk pool currently operating as a common risk management and insurance program for South Dakota local government entities. The municipality pays a monthly premium to the pool to provide health insurance coverage for its employees. The pool purchases reinsurance coverage with the premiums it receives from the members. The coverage provides a deductible of \$100 per person up to \$200 per family. The plan also provides for coinsurance of 80 percent up to \$5,000. The coverage also includes a \$2,500,000 lifetime maximum payment per person.

The municipality does not carry additional health insurance coverage to pay claims in excess of this upper limit. Settled claims resulting from these risks have never exceeded the liability coverage.

Liability Insurance:

The municipality joined the South Dakota Public Assurance Alliance, a public entity risk pool currently operating as a common risk management and insurance program for South Dakota local government entities. The municipality pays an annual premium to the pool to provide coverage for police, fire and vehicles.

The agreement with the South Dakota Public Assurance Alliance provides that the above coverage's will be provided to a \$1,000,000 limit. Member premiums are used by the pool for payment of claims and to pay for reinsurance for claims in excess of \$250,000 to the upper limit. The municipality carries a \$2,000 deductible for the police and fire, and \$100 - \$250 deductible for vehicle coverage.

The municipality does not carry additional insurance to cover claims in excess of the upper limit. Settled claims resulting from these risks have never exceeded the liability coverage.

Workmen's Compensation:

The municipality joined the South Dakota Municipal League Worker's Compensation Fund, a public entity risk pool currently operating as a common risk management and insurance program for South Dakota local government entities. The municipality pays an annual premium to the pool to provide worker's compensation coverage for its employees. Coverage limits are set by state statute. The pool pays the first \$250,000 of any claim per individual. The pool has reinsurance which covers up to an additional \$1,750,000 per individual per incident.

The municipality does not carry additional insurance to cover claims in excess of the upper limit. Settled claims resulting from these risks have never exceeded the liability coverage.

Unemployment Benefits:

The municipality provides coverage for unemployment benefits by paying into the Unemployment Compensation Fund established by state law and managed by the State of South Dakota.

10. ACCOUNTING PRINCIPLES CHANGE

On June 10, 1999, the Governmental Accounting Standards Board (GASB) issued Statement of Governmental Accounting Standards No 34 - Basic Financial Statements - and Management's Discussion and Analysis - for State and Local Governments (No. 34). GASB No. 34 establishes new requirements for the annual financial reports for state and local governments, including states, cities, towns, villages, counties, school districts and special purpose governments. For the city, GASB No. 34 implementation is first required for the calendar year ending December 31, 2004. The effect of the implementation of GASB No. 34 on the financial statements of the city has not yet been determined.

**MUNICIPALITY OF WHITEWOOD
MUNICIPAL OFFICIALS
December 31, 2002**

Mayor:

Kenneth J. Williams

Governing Board:

**Brenda Clark
Albert Derby
Joe Garry
Julie Karlson
Jim Rotert
Dan Schmidt**

Finance Officer:

Fay Bueno

Attorney:

Bruce Hubbard

Gronlund, Eric

From: Gronlund, Eric
Sent: Thursday, September 07, 2006 8:56 AM
To: 'Greg Wierenga'
Subject: RE: Whitewood Water Rights Application

Greg

Based on our phone conversation from August 8th, the city of Whitewood's application has been on hold awaiting quantification of the annual volume to be pumped. Your email provides us this information.

At that time you also stated the city was looking to amend the location of the well and provide a map showing the location. The present application can certainly be amended at any time.

My question is do you want Water Rights to begin processing the present application which is for a well in the SW 1/4 SW 1/4 Section 21, T6N, R4E or do you want the application to remain on hold until everything is secured for the new location? I get the impression from your email that you want to application to remain on hold until the city has everything ready.

Processing and public noticing the application will take about 2 1/2 to 3 months (assuming the application is not contested). I'm not sure of the city's timeframe for getting the permit in place and drilling the well. I know that we talked briefly about the city making a request to drill a "test well" prior to the permit being finalized.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

-----Original Message-----

From: Greg Wierenga [<mailto:GregW@cetecengineering.com>]
Sent: Thursday, September 07, 2006 8:32 AM
To: Gronlund, Eric
Subject: Whitewood Water Rights Application

Eric:

The City plans to select a different location for proposed Well 4 based on a technical study performed by Weston Engineering. Some land aquisition is needed, and final location is subject to land negotiations. My understanding is that we can amend the water rights application with a new location map when we are ready. The estimated annual volume to be pumped from the new well is 50 acre-feet per year. Let me know if you need anything else at this time.

Greg Wierenga

09/07/2006

Schlaak, Karen

From: Gronlund, Eric
Sent: Thursday, September 07, 2006 10:20 AM
To: Schlaak, Karen
Subject: FW: Whitewood Water Rights Application

FYI

-----Original Message-----

From: Greg Wierenga [mailto:GregW@cetecengineering.com]
Sent: Thursday, September 07, 2006 10:06 AM
To: Gronlund, Eric
Cc: whitewood@mato.com
Subject: RE: Whitewood Water Rights Application

Eric:

The two well sites under consideration are in the NE 1/4 SW 1/4 and NW 1/4 SE 1/4 of Section 21 respectively, thus the location described in the application is not correct. I think that placing the application on hold is ok for now. We had anticipated bidding the well construction this fall, but have been instructed by Rural Development to bid all work (tank, distribution piping and well) all at one time. We are anticipating an overall project bid date in December or January, with construction starting in March, 2007. If 3 months is enough for processing the application, then I do not anticipate needing "test well" approval. The City plans to make a final decision on well location in two to four weeks, and we will provide the location data and map then.

Greg

From: Eric.Gronlund@state.sd.us [mailto:Eric.Gronlund@state.sd.us]
Sent: Thursday, September 07, 2006 6:56 AM
To: Greg Wierenga
Subject: RE: Whitewood Water Rights Application

Greg

Based on our phone conversation from August 8th, the city of Whitewood's application has been on hold awaiting quantification of the annual volume to be pumped. Your email provides us this information.

At that time you also stated the city was looking to amend the location of the well and provide a map showing the location. The present application can certainly be amended at any time.

My question is do you want Water Rights to begin processing the present application which is for a well in the SW 1/4 SW 1/4 Section 21, T6N, R4E or do you want the application to remain on hold until everything is secured for the new location? I get the impression from your email that you want to application to remain on hold until the city has everything ready.

Processing and public noticing the application will take about 2 1/2 to 3 months (assuming the application is not contested). I'm not sure of the city's timeframe for getting the permit in place and drilling the well. I know that we talked briefly about the city making a request to drill a "test well" prior to the permit being finalized.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

09/07/2006

-----Original Message-----

From: Greg Wierenga [mailto:GregW@cetecengineering.com]

Sent: Thursday, September 07, 2006 8:32 AM

To: Gronlund, Eric

Subject: Whitewood Water Rights Application

Eric:

The City plans to select a different location for proposed Well 4 based on a technical study performed by Weston Engineering. Some land aquisition is needed, and final location is subject to land negotiations. My understanding is that we can amend the water rights application with a new location map when we are ready. The estimated annual volume to be pumped from the new well is 50 acre-feet per year. Let me know if you need anything else at this time.

Greg Wierenga

09/07/2006



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

January 17, 2007

Cetec Engineering Services, Inc.
Greg Wierenga
PO Box 9014
Rapid City SD 57709

RE: Application to Appropriate Water for the City of Whitewood

Dear Mr. Wierenga:

On August 4, 2006, you submitted an Application for Permit to Appropriate Water Within the State of South Dakota on behalf of the City of Whitewood. Subsequent emails with Eric Gronlund indicate that the application would be put on hold until a determination could be made on the well location and quantification of an acre-feet amount. This letter is a reminder that we have not received the above information and the required map.

If you have any questions, please contact me.

Sincerely,

Karen Schlaak
Water Rights Program
Phone: (605) 773-3352
karen.schlaak@state.sd.us

c: City of Whitewood

RECEIVED
FEB 13 2007
WATER RIGHTS
PROGRAM

February 8, 2007

Mr. Eric Gronlund, P.E.
S.D. Dept. of Environment & Natural Resources
Water Rights
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3182

Re: **Whitewood Water Rights Application**

Dear Mr. Gronlund:

I am enclosing herewith a revised well location map for the City of Whitewood's application to appropriate water for proposed Well No. 3. The proposed well location is in the NE ¼ SW ¼ Section 21, T6N, R4E, BHM.

Please proceed with processing the revised application. Call if you need any additional information.

Sincerely,

CETEC Engineering Services, Inc.


Greg Wierenga, P.E.
Project Manager

GW/sjf

Enclosure

cc: City of Whitewood

1830 West Fulton St.
PO Box 9014
Rapid City, SD
57709-9014

www.cetecengineering.com

cetec

Gronlund, Eric

From: Greg Wierenga [GregW@cetecengineering.com]
Sent: Tuesday, February 13, 2007 4:11 PM
To: Gronlund, Eric
Subject: RE: Whitewood water permit application

Eric:

Yes, 50 ac.-ft./yr. is good.

Greg

From: Eric.Gronlund@state.sd.us [mailto:Eric.Gronlund@state.sd.us]
Sent: Tuesday, February 13, 2007 2:10 PM
To: Greg Wierenga
Cc: Karen.Schlaak@state.sd.us
Subject: Whitewood water permit application

Greg:

I received your letter and the map specifying the location of Well No. 3 for the city of Whitewood. In a previous email (Sept. 7, 2006) you specified the estimated annual volume to be pumped from the well is 50 acre feet of water. Is this still correct? If so, we will begin processing the application.

Please understand that the new water right permit will be quantified by the diversion rate (350 gpm) and the annual volume of water to be used.

Eric Gronlund
Water Rights Program, DENR
605 773-3352
eric.gronlund@state.sd.us

02/13/2007



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1878-1, City of Whitewood**

Pursuant to SDCL 46-2A-2, the following is the recommendation of the Chief Engineer, Water Rights Program, Department of Environment and Natural Resources concerning Water Permit Application No. 1878-1, City of Whitewood, c/o Michael Weyrich, Mayor, PO Box 36, Whitewood SD 57793-0036.

The Chief Engineer is recommending APPROVAL of Application No. 1878-1 for a 20 year term because 1) the proposed diversion can be developed without unlawful impairment of existing rights, 2) the proposed use is a beneficial use and 3) it is in the public interest with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1878-1 is issued for a 20-year term. Pursuant to SDCL 46-2A-21, the 20-year term may be deleted at any time during the 20-year period or following its expiration. If the 20-year term is not deleted at the end of the term, the permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1878-1 may also be cancelled for nonconstruction, forfeiture, abandonment, or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1 and ARSD 74:02:01:37.
2. 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.
3. The well authorized by Permit No. 1878-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
4. The city of Whitewood shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.

See report on application for additional information.

Garland Erbele, Chief Engineer
April 17, 2007

REPORT ON WATER PERMIT APPLICATION NO. 1878-1
CITY OF WHITEWOOD
MARCH 26, 2007

Water Permit Application No. 1878-1 proposes to appropriate 50 acre-feet of water annually, at a maximum diversion rate of 0.78 cubic feet of water per second (cfs), from one well to be completed into the Madison aquifer located in the NE¼ SW¼ Section 21, T6N-R4E. The water is to be used for municipal purposes.

Water Source: Madison aquifer (MDSN)

Geology and Aquifer Characteristics:

The Madison (Pahasapa) Limestone is a massive limestone and dolomite that underlies much of the Western United States. The Madison Limestone is estimated to be about 400 feet thick in this area (Carter and Redden, 1999a, and Carter and Redden, 1999b). The top portion of the Madison Limestone contains randomly distributed zones of secondary porosity and permeability formed by weathering of exposed surfaces, groundwater solution and fracturing, and is considered the Madison aquifer. The Madison is generally considered an excellent aquifer both in terms of quality and quantity, especially near the outcrop (recharge area). The aquifer underlies approximately 30,000 square miles of western South Dakota and contains at least 640 million acre-feet of recoverable water in storage in the State (Allen and others, 1985). The well site proposed by this permit is located about two and one-quarter miles north of the Madison outcrop (recharge area), (Strobel and others, 1999). The top of the Madison Limestone is expected to be approximately 950 feet below grade at this site (Carter and Redden, 1999a). The well site is located on the Whitewood Anticline, a structural feature that may have enhanced secondary permeability and porosity in this area. A municipal well drilled in 1995 for the City of Whitewood which purportedly yields 1,000 gallons per minute with only five feet of drawdown, probably reflects the influence of the structure.

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge for the entire Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward Clyde, 1981). Average annual recharge from 1931-1998 was estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001a).

The high cost of Madison wells, except very near the outcrop, and the availability of groundwater from shallower aquifers, has limited domestic development and generally restricted usage from the Madison to those uses which require water rights. There are a total of 148 permits/rights which appropriate water from the Madison aquifer in South Dakota plus one deferred application (Application No. 2585-2 Southern Black Hills Water System). In addition, there are five future use permits (369-1 City of Belle Fourche, 1833-2 Weston Heights Home Owners, 2086-2 The City of Rapid City, 2560-2 Fall River Water User's

District, and 2580-2 Southern Black Hills Water System) that reserve 8,202.8 acre-feet of water annually from the Madison aquifer. The majority of the water rights/permits from the aquifer are from Butte, Lawrence, Meade, Pennington and Fall River Counties. The Madison supplies water for irrigation, geothermal, industrial, and commercial use. However, by far the major use of the aquifer is for common distribution systems (suburban housing development and municipal use). The cities of Spearfish, Belle Fourche, Sturgis, Rapid City, Box Elder, and Edgemont all depend on water from the Madison aquifer.

If the worst case assumptions are made that (1) permits/rights with an annual withdrawal limitation (ac-ft/yr) will use the maximum allowable; and (2) permits/rights that are limited by a diversion rate only, will use 60% of the maximum allowable (considered reasonable for water distribution systems); the total water use from the Madison would be less than 50,000 acre-feet per year. The actual amount of water used from the Madison is considerably less than this estimate. Withdrawals from wells completed into the Madison aquifer were estimated to be 12,163 acre-feet annually from 1987-1996 (Carter and others, 2001b). Comparison of the estimated annual recharge to the Madison with the water use estimated from the aquifer indicates unappropriated water is available from the Madison aquifer.

This application proposes to appropriate 50 acre-feet of water annually from the Madison aquifer. Comparison of the estimated annual recharge to the Madison with the water use estimated from the aquifer indicates unappropriated water is available from the Madison aquifer.

A water budget is not intended to suggest that all of the water that is in storage in the Madison or that all of the recharge is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2007a). Madison aquifer observation well LA-90A is located approximately four miles southeast of this proposed well site and LA-95A is located approximately four and one-half miles west-northwest of this proposed well site. Hydrographs of these observation wells are shown below in figure 1 and figure 2, respectively.

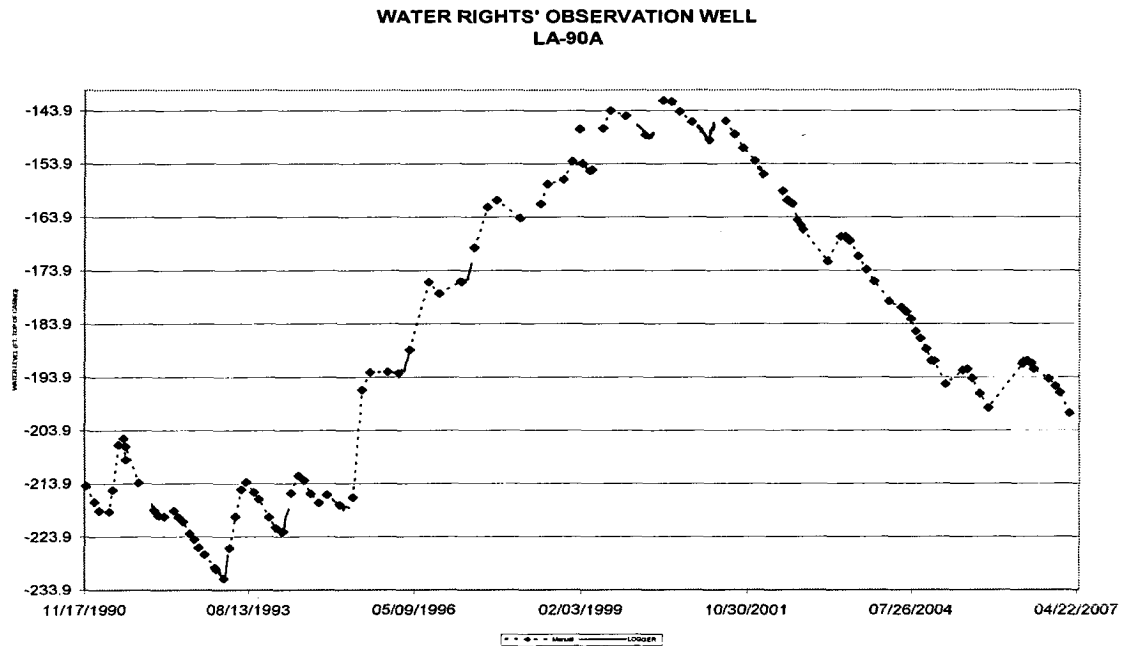


Figure 1. Hydrograph of Water Rights' Observation Well LA-90A, located approximately four miles southeast of the well site proposed by Application No. 1878-1.

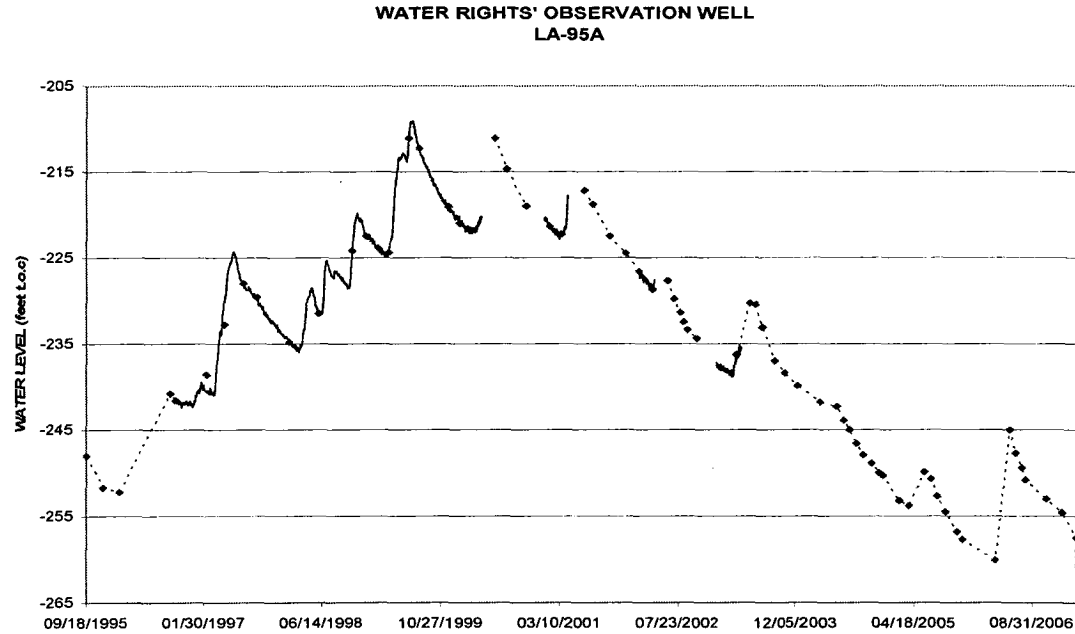


Figure 2. Hydrograph of Water Rights' Observation Well LA-95A, located approximately four and one-half miles west-northwest of the well site proposed by Application No. 1878-1.

The hydrographs document that the potentiometric surface of the Madison aquifer fluctuates 50-90 feet at the observation wells in response to seasonal and climatic variations. The potentiometric surface measured at these sites rose during the late 1990's in response to wet climatic conditions. The water levels have decreased since about 1999 or 2000 in response to less recharge. A comparison of these hydrographs with data from Water Rights' observation wells completed into the Madison aquifer that have longer periods of record, suggest the fluctuations represented in figure 1 and figure 2 are representative of climatic conditions instead of pumping from the aquifer. Long-term water level declines are not apparent from the hydrographs of wells with longer periods of record. Observation well data suggest that at the existing level of development, natural influences dominate the water levels of the aquifer and the effects of pumping as yet are not obvious.

Affects on Existing Rights:

Wells, including domestic wells, completed into aquifers shallower than the Madison aquifer (i.e. Inyan Kara aquifer, Minnekahta aquifer, and Minnelusa aquifer) are not expected to be affected by this proposed appropriation since the lower Minnelusa aquifer can be considered a confining bed that isolates the Madison hydraulically from shallower aquifers.

There are no water rights/permits belonging to others that appropriate water from the Madison aquifer within three miles of this proposed well site. The nearest Water Rights/Permits appropriating water from the Madison aquifer are shown in table 1.

PERMIT NO	NAME	USE	Distance from 1878-1
1547-1	HILLS MATERIALS COMPANY	IND	4 miles
1707A-1	ELKHORN RIDGE @ FRAWLEY RANCHES LLC	IRR	3.5 miles
1707B-1	CITY OF SPEARFISH	SHD	3.5 miles
1707C-1	CITY OF SPEARFISH	MUN	3.5 miles
1707D-1	CITY OF SPEARFISH	MUN	3.5 miles
1707E-1	FRAWLEY RANCHES, INC	IRR	3.5 miles
1840-1	APPLE CREEK DEVELOPMENT LLC	SHD	4 miles

Table 1. Water Rights/Permits appropriating water from the Madison aquifer within approximately four miles of the well proposed by application No. 1878-1

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. At this time, it is not practical to attempt to quantify the specific affect this well may have on area wells since the aquifer characteristics have not been determined for this area, and the aquifer characteristics of the Madison can vary considerably within a short distance.

Well interference is not expected to be an issue due to the distance between wells. However, even though the impact of this appropriation cannot be quantified precisely, it is still possible to address whether this appropriation can be made without adversely affecting existing water rights, including domestic wells.

Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide for the regulation of large capacity wells to the degree necessary to maintain an adequate depth of water for a prior appropriator in wells that have the ability to produce water **independent of artesian head pressure**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

To a certain extent, the Madison wells in this area rely on the artesian head pressure of the aquifer. If the water levels in the Madison aquifer were to decline, the well owners bear the responsibility of lowering the pump inlet in the well to the top of the aquifer if necessary. Increased lift would decrease the pump discharge; or require a larger pump or a different type of a pump to maintain the same output.

An increase in operating expenses that may result from interference between wells is not necessarily an adverse impact. The Water Management Board considered a similar situation in the matter of Water Permit Application 2313-2, Coca-Cola Bottling Company of the Black Hills (Water Rights, 1995). The Board adopted findings of fact and conclusions of law that if applied here, basically would say that area Madison wells were voluntarily constructed in such a way as to expose them to an increased cost or decreased production as a result of any draw down by other legitimate users. If the increased cost or decreased production is considered an adverse impact, it could be in conflict with SDCL 46-1-4, which requires South Dakota's water resources to be put to beneficial use to the fullest extent of which they are capable.

TERM LIMITATION:

SDCL 46-2A-20 requires that "... no water permit for construction of works to withdraw water from the Madison formation in Butte, Fall River, Custer, Lawrence, Meade and Pennington counties may be issued for a term of more than twenty years, unless the water management board determines, based upon the evidence presented at the hearing that:

- (1) Sufficient information is available to determine whether any significant adverse hydrologic effects on the supply of water in the Madison formation would result if the proposed withdrawal were approved; and
- (2) The information, whether provided by the applicant or by other means, show that there is a reasonable probability that issuance of the proposed permit would not have a significant adverse effect on nearby Madison formation wells and springs."

Since this application proposes to increase the appropriation from a well which was authorized under Water Permit No. 1807-1, construction of works would not be authorized by this permit, if approved; therefore SDCL 46-2A-20 is not applicable.

Conclusions:

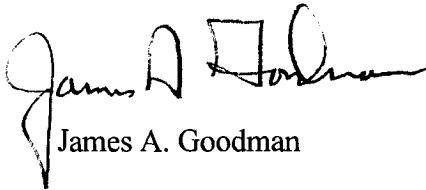
1. The Madison aquifer is a viable aquifer in this area.
2. This diversion will not adversely impair existing water rights.
3. Information is not available to approve this application without a 20 year term limit



Ken Buhler

Natural Resources Engineering Specialist

Approved by



James A. Goodman

Natural Resources Engineering Director

References:

- Allen, J.C., Iles, D.L., and Petres, A.K., 1985, Analysis of Groundwater and Streamflow Data Western Dakotas Region of South Dakota, Tasks 3A.B.C. and 4A.B.: Groundwater Resource Inventory: South Dakota Department of Water and Natural Resources
- Carter, J.M., Redden, J.A., 1999a, Altitude of the Top of the Madison Limestone in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-D, 2 sheets, scale 1:100,000
- Carter, J.M., Redden, J.A., 1999b, Altitude of the Top of the Deadwood Formation in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-744-E, 2 sheets, scale 1:100,000
- Carter, J.M., Driscoll, D.G., and Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 1931-98: U.S. Geological Survey Water-Resources Investigations Report 00-4278, 66 p
- Carter, J.M., Driscoll, D.G., Hamade, G.R., and Jarrell, G.J., 2001b, Hydrologic Budgets for the Madison and Minnelusa Aquifers, Black Hills of South Dakota and Wyoming, Water Years 1987-1996, Water-Resources Investigations Report 01-4119, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD

Strobel, M.L., Jarrell, G.J., Sawyer, J.F., Schleicher, J.R., and Fahrenbach, M.D., 1999, Distribution of Hydrogeologic Units in the Black Hills Area, South Dakota: U.S. Geological Survey Hydrologic Investigations Atlas HA-743, 3 sheets, scale 1:100,000

Water Rights Program, 2007a, Observation Well Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2007b, Water Permit/Right Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Water Rights Program, 2007c, Well Completion Report Files, DENR-Water Rights Program, Joe Foss Building, Pierre, SD 57501

Woodward Clyde Consultants, 1981, Well Field Hydrology Technical Report, for the ETSI Coal Slurry Pipeline Project, U.S. Dept. of the Interior, Bureau of Land Management

Affidavit of Publication

STATE OF SOUTH DAKOTA:
COUNTY OF LAWRENCE:

Stewart Huntington of said County and State being first duly sworn, on his oath says: That the BLACK HILLS PIONEER is a legal daily newspaper of general circulation, printed and published in the City of Spearfish, in said County and State by Stewart Huntington, and has been such a newspaper during the times hereinafter mentioned; and that said newspaper has a bonafide circulation of at least 200 copies weekly, and has been published within said County in the English language for at least one year prior to the first publication of the notice herein mentioned, and is printed in whole or in part in an office maintained at the place of publication; and that I, Stewart Huntington, the undersigned, am the Publisher of said newspaper and have personal knowledge of all the facts stated in this affidavit; and that the advertisement headed:

Notice of Application
No. 1878-1

a printed copy of which is hereto attached, was printed and published in said newspaper for 2 successive and consecutive weeks, the first publication being made on the 25th day of April, 2007, and the last publication on the 2nd day of May, 2007, that the full amount of fees charged for publishing same, to-wit: The sum of \$ 41.06, insures solely to the benefit of the publisher of the BLACK HILLS PIONEER, that no agreement or understanding for a division thereof has been made with any person and that no part thereof has been agreed to be paid to any other person whomsoever.

[Signature]
Subscribed and sworn to before me this 2nd day of May, 2007

[Signature]
Notary Public, Lawrence County, South Dakota
My commission expires: 10-24-2010



RECEIVED
MAY 16 2007
WATER RIGHTS
PROGRAM

NOTICE OF APPLICATION NO. 1878-1 to Appropriate Water

Notice is given that the City of Whitewood, Michael Weyrich, Mayor, PO Box 36, Whitewood SD 57793 has filed an application for a water permit to appropriate 50 acre feet of water annually at a maximum diversion rate of 0.78 cubic feet of water per second from one well to be completed into the Madison Aquifer located in the NE 1/4 SW 1/4 Section 21-T6N-R4E. The water is for municipal use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1878-1 for a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20-year term limitation, 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) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, 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 May 14, 2007.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.

#281
April 25, May 2



April 18, 2007

BLACK HILLS PIONEER
PO BOX 7
SPEARFISH SD 57783

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 1878-1 to Appropriate Water to be published twice. Please publish the first notice on April 25, 2007 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

The applicant must verify to you that the notice is to be published, before you make the first publication. **Please BILL the APPLICANT for the cost of publication.** The APPLICANT is City of Whitewood, Po Box 36, Whitewood, SD 57793 (Ph # 605-269-2247).

Please send the Water Rights Program the first publication immediately. The publication is checked for accuracy so any corrections can be made in the second publication. You may use the form below or fax a copy of the first publication. Any fax should be sent to the attention of Karen Schlaak at (605) 773-4068. Publication errors can invalidate the public notice.

After the second publication, **please send us an affidavit or use the enclosed Proof of Publication form.** The applicant pays the cost of publication, but the Water Rights Program records require an affidavit or Proof of Publication. Delays in receiving the affidavit can be costly to the applicant.

Sincerely,

Eric Gronlund
Natural Resources Engineer
605 773-3352

enclosures

-----CUT HERE-----

No. 1878-1

TO: Eric Gronlund
Water Rights Program
Joe Foss Building
Pierre SD 57501-3181

Date _____

We are in receipt of your letter of April 18, 2007 enclosing Notice to Appropriate Water by Application No. 1878-1 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

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

April 18, 2007

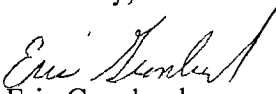
CITY OF WHITEWOOD
MICHAEL WEYRICH
PO BOX 36
WHITEWOOD SD 57793

Dear Mr. Weyrich:

Water Permit Application No. 1878-1 for municipal use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Black Hills Pioneer printed at Spearfish SD (Ph # 605-642-2761). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and reports on the applications 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 and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks. The newspaper has also 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

c: Greg Wierenga, CETEC Engineering

NOTE: If you plan to contest any part of the Chief Engineer's recommendation, 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 application.

Instruction to Newspaper - Publish first Notice on April 25, 2007 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 1878-1 to Appropriate Water

Notice is given that the City of Whitewood, Michael Weyrich, Mayor, PO Box 36, Whitewood SD 57793 has filed an application for a water permit to appropriate 50 acre feet of water annually at a maximum diversion rate of 0.78 cubic feet of water per second from one well to be completed into the Madison Aquifer located in the NE ¼ SW ¼ Section 21-T6N-R4E. The water is for municipal use.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1878-1 for a 20 year term pursuant to SDCL 46-1-14 and 46-2A-20 because 1) although evidence is not available to justify issuing this permit without a 20 year term limitation, 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) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on these applications, as recommended, unless a petition is filed opposing the application or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the application or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider this application. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting this application or recommendations must file a written petition with BOTH the applicant and Chief Engineer. The applicant must file a petition if contesting the Chief Engineer's recommendation. The Chief Engineer's address is "Water Rights Program, 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 May 14, 2007.

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. Contact Eric Gronlund at the above Water Rights Program address to request copies of information pertaining to this application. Steven M. Pirner, Secretary, Department of Environment and Natural Resources.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

JUN 20 2007

City of Whitewood
PO Box 36
Whitewood SD 57793

Dear Sir:

Enclosed is Water Permit No. 1878-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit. At the time of application, a \$350 application/license filing fee was submitted (receipt enclosed). The correct filing fee for this permit is \$200. Therefore, \$150 will be refunded to you. You should be receiving this refund within the next couple of weeks.

Form 10, *Notice of Completion of Works and Application of Water to Beneficial Use*, is enclosed. Please return this completed form after you have finished the system and have put the water to beneficial use. An investigation can then be scheduled so the water license may be issued, thus completing the acquisition of a water right.

An informational sheet ? *Common Water Right Questions?* is also enclosed. This sheet is intended to answer some of the questions associated with obtaining and keeping a water right.

Sincerely,

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

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

1878-1

Location SE $\frac{1}{4}$ NE $\frac{1}{4}$ Sec 21 Twp 6N Rg 4E

County

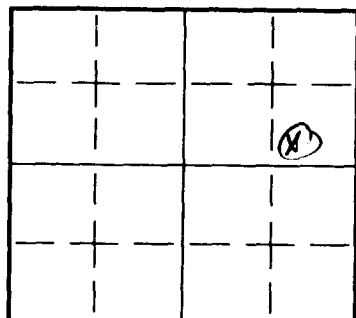
LAWRENCE

Please mark well location with an "X"

W

E

Well Completion Date

02-08

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well,

feed lot, etc.)? 150' ft. from NOPE FOUND (identify source).

PROPOSED USE:

- ☐ Domestic/Stock ☒ Municipal ☐ Business ☐ Test Holes
☐ Irrigation ☐ Industrial ☐ Institutional ☐ Monitoring well

METHOD OF DRILLING:

Mud RotaryCASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
LB/FT <u>16</u>	IN <u>10</u>	FT <u>0</u>	FT <u>40</u>	IN <u>20</u>
<u>40.50</u> LB/FT	<u>10.75</u> IN	<u>0</u> FT	<u>1027</u> FT	<u>14.75</u> IN
LB/FT <u>OPEN</u>	IN <u>1027</u>	FT <u>1147</u>	FT <u>9 7/8</u>	IN <u>9 7/8</u>

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Chem Grout</u>	<u>359</u>	<u>13.5</u> lb./gal	<u>0</u> ft	<u>1027</u> ft
<u>NEAT GROUT</u>	<u>100</u>	<u>17.5</u> lb./gal	<u>0</u> ft	<u>40</u> ft

Describe grouting procedure _____

POSITIVE DISPLACEMENTSCREEN: ☐ Perforated pipe ☐ Manufactured N/A

Diameter _____ IN Length _____ FEET

Material _____

Slot Size _____ Set From _____ Feet to _____ Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

☒ YES, How: CHLORINE

Laboratory sent to for water _____ NO, Why Not? _____

quality analysis 2ND BACT TAKEN AFTER Pump houseCompletion PRIOR TO 1ST USE By City of white woodWell Owner: CITY OF WHITEWOOD

Business Name: _____

Address: 1025 MEADE ST.
WHITE WOOD SD 5793

WELL LOG:

DEPTH

FORMATION	FROM	TO
<u>SPEARISH</u>	<u>0</u>	<u>350</u>
<u>MINNEKATA LIMESTONE</u>	<u>350</u>	<u>390</u>
<u>OPECHE SHALE</u>	<u>390</u>	<u>450</u>
<u>MINNEKOTA SANDSTONE</u>	<u>450</u>	<u>1022</u>
<u>RED MARKER</u>	<u>(768</u>	<u>776)</u>
<u>MADISON LIMESTONE</u>	<u>1022</u>	<u>1147</u>

STATIC WATER LEVEL 180 Feet

If flowing: closed in pressure _____ PSI

GPM flow _____ through _____ inch pipe

Controlled by ☐ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? _____

WELL TEST DATA:

☒ Pumped Describe: 125 hp SUBMERSIBLE☐ Bailed _____☐ Other _____

Pumping Level Below Land Surface

190 ft. After 28 Hrs. pumped 875 GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate 415 GPM

REMARKS

E-logs & Bond log Included.This well was drilled under license # 698

And this report is true and accurate.

Drilling firm WATER SYSTEM DRILL INC

Signature of License Representative:

Scott Ackman

Signature of Well Owner or Equitable Property Holder

[Signature]Date: 10-8-09

RECEIVED
OCT 13 2009
WATER RIGHTS
PROGRAM

Goodwell Incorporated

ACOUSTIC CEMENT BOND LOG

[illegible]

FOLD HERE

SERVICE TICKET NO.:	API SERIAL NO.:	PGM VERSION:
THE WELL NAME, LOCATION, CEMENTING DATA, & BOREHOLE DESCRIPTION FURNISHED BY CLIENT		
CEMENTING DATA		

CEMENTING DATA			
CEMENT PUMPED	BBL/MIN ●	PSI	/JOINT FROM TO
PRECEDING FLUID	VOLUME	BBL	CENTRALIZERS /JOINT FROM TO
RETURNS? FULL	PARTIAL	NONE	/JOINT FROM TO
PIPE ROTATED/RECIP. DURING PUMPING?	YES	NO	
AFTER PLUG DOWN?	YES	NO	/JOINT FROM TO
PLUG BUMPED?	YES	NO	SCRATCHERS /JOINT FROM TO
PLUG LANDING PRESSURE:	PSI		/JOINT FROM TO
PRESSURE HELD	PSI	HOURS AFTER PUMPING	

EQUIPMENT DATA

EQUIPMENT DATA	
GAMMA	NEUTRON
RUN NO.	RUN NO.
SERIAL NO.	SERIAL NO.
MODEL NO.	MODEL NO.
DIAMETER	NO OF CENT.
DETECTOR MODEL NO.	SPACING
TYPE	
LENGTH	
DISTANCE TO SOURCE	

LOGGING DATA

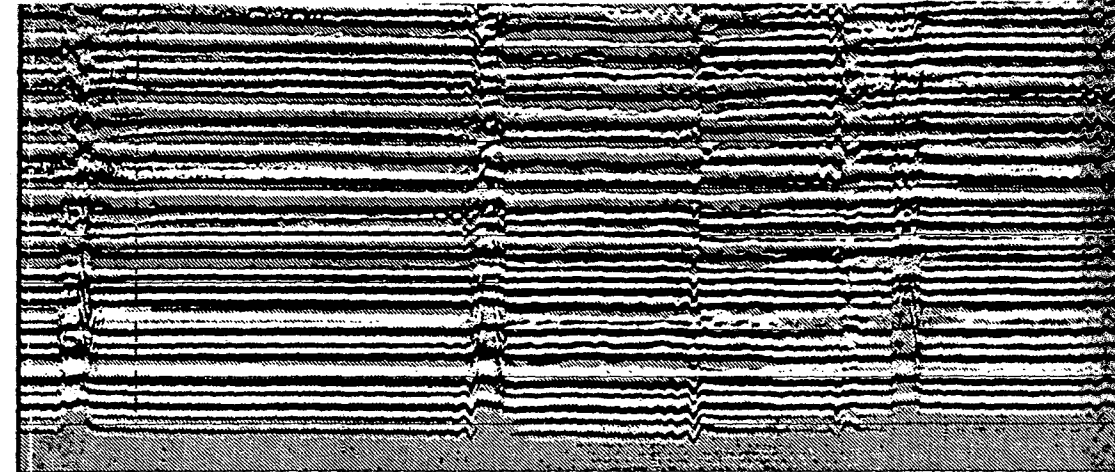
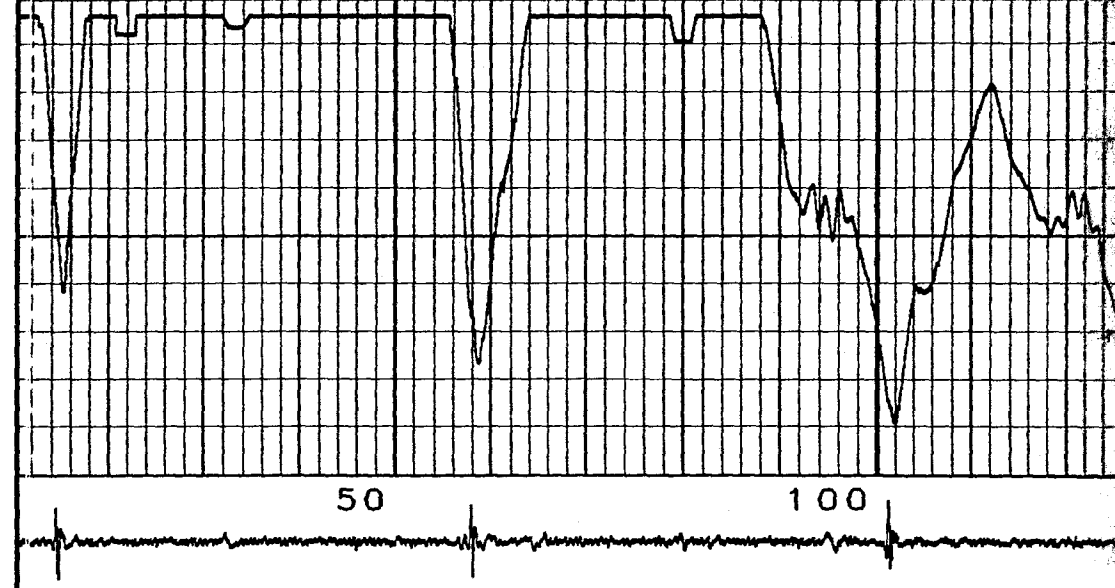
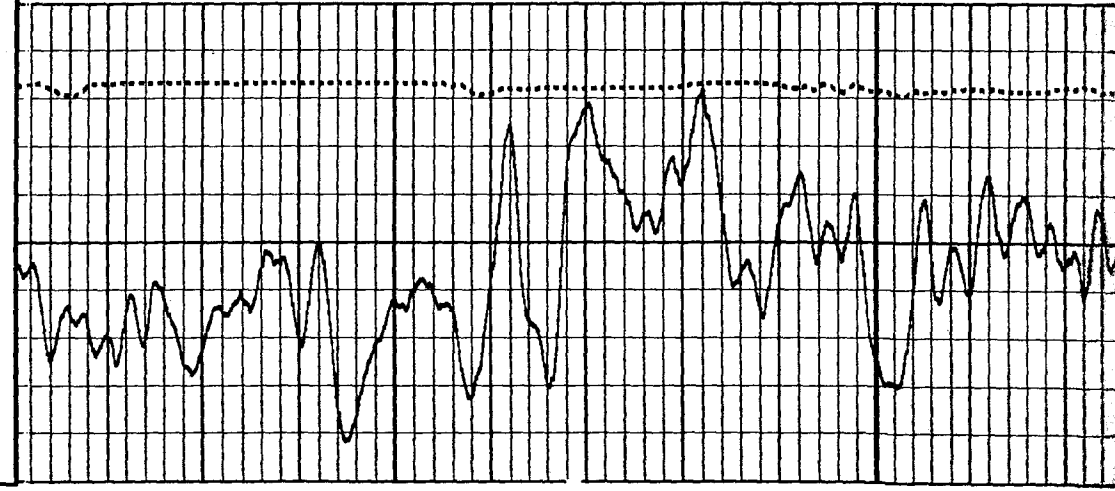
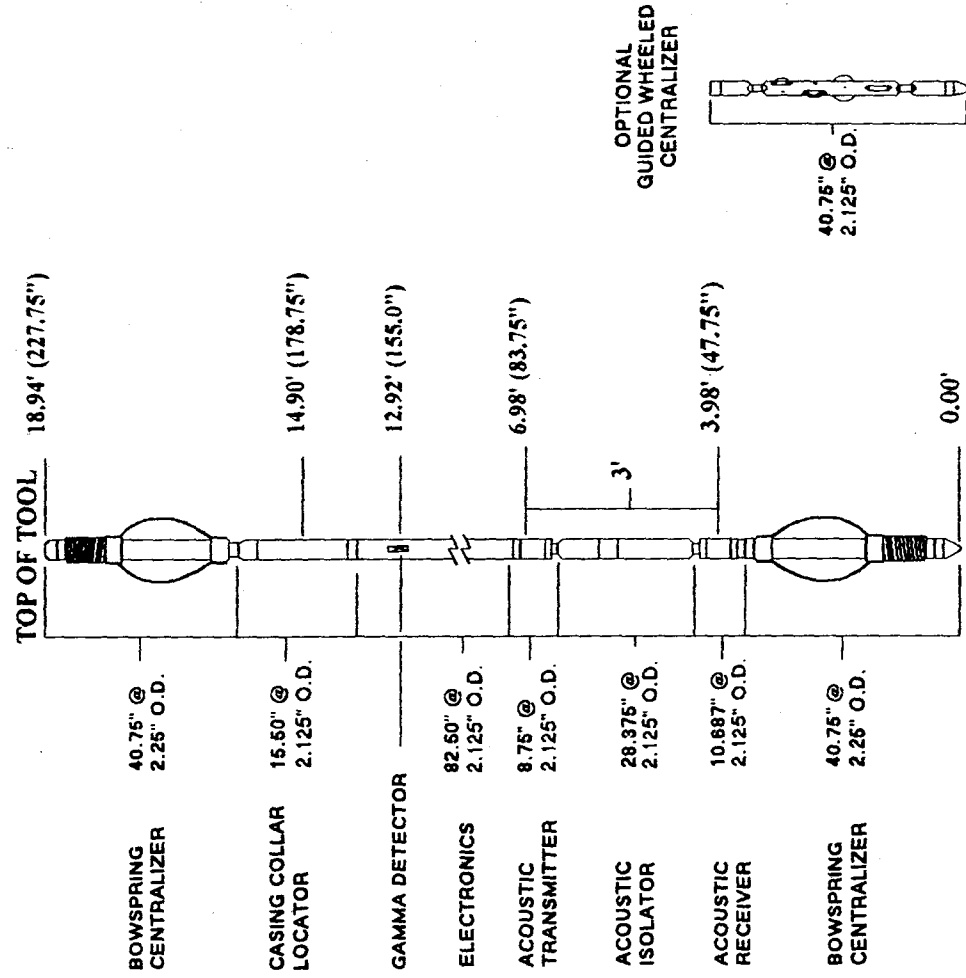
[illegible]

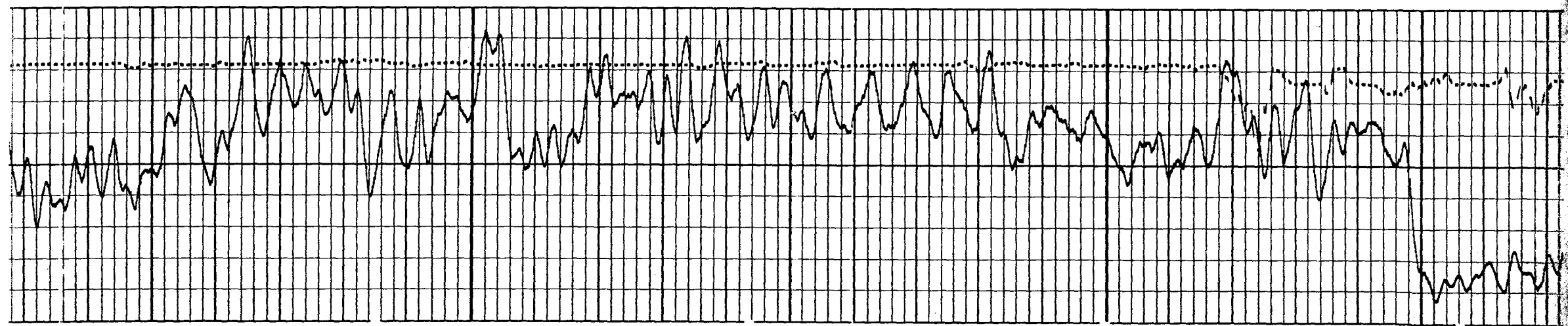
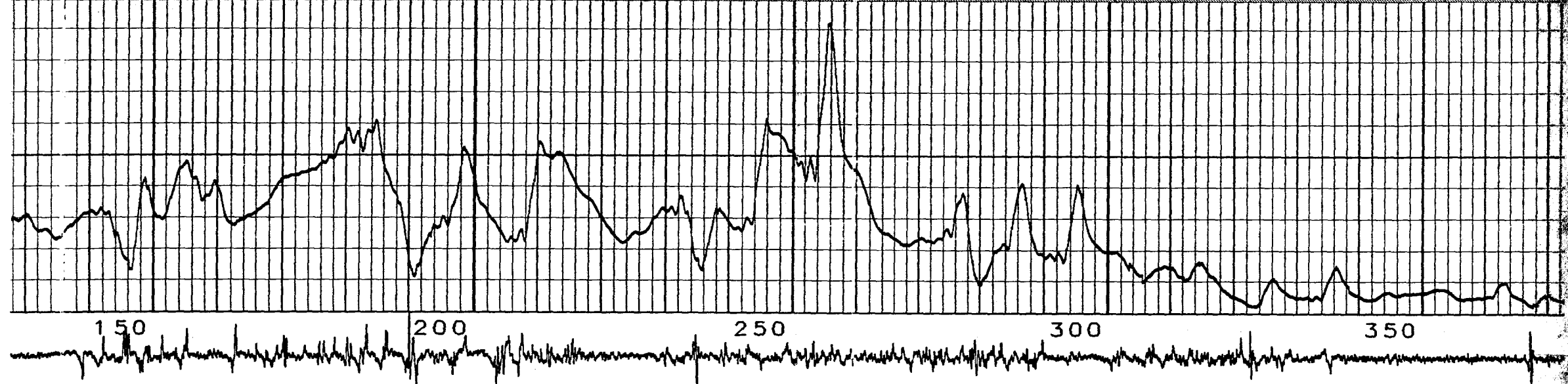
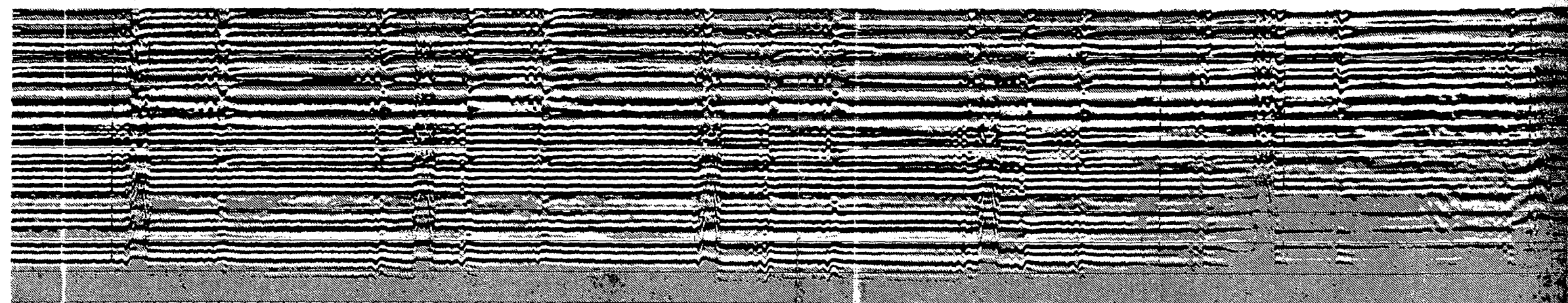
REMARKS

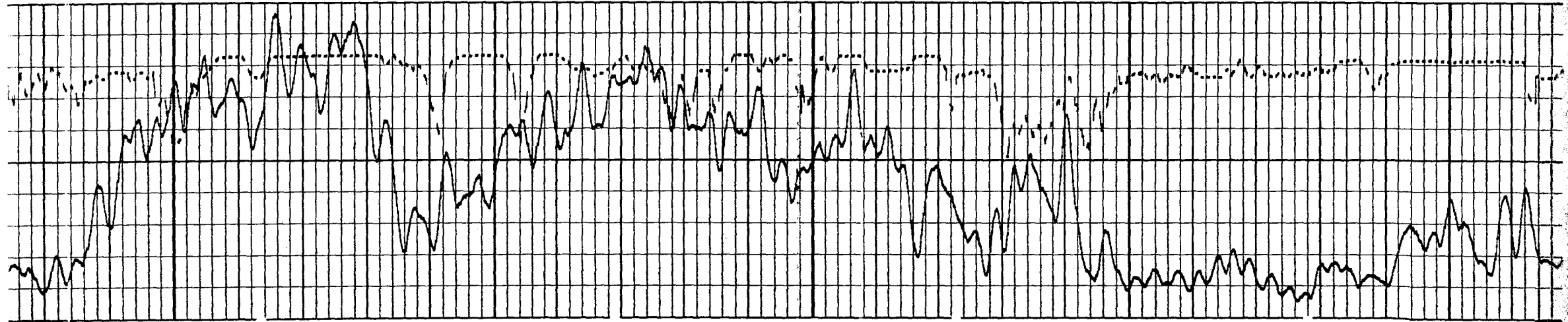
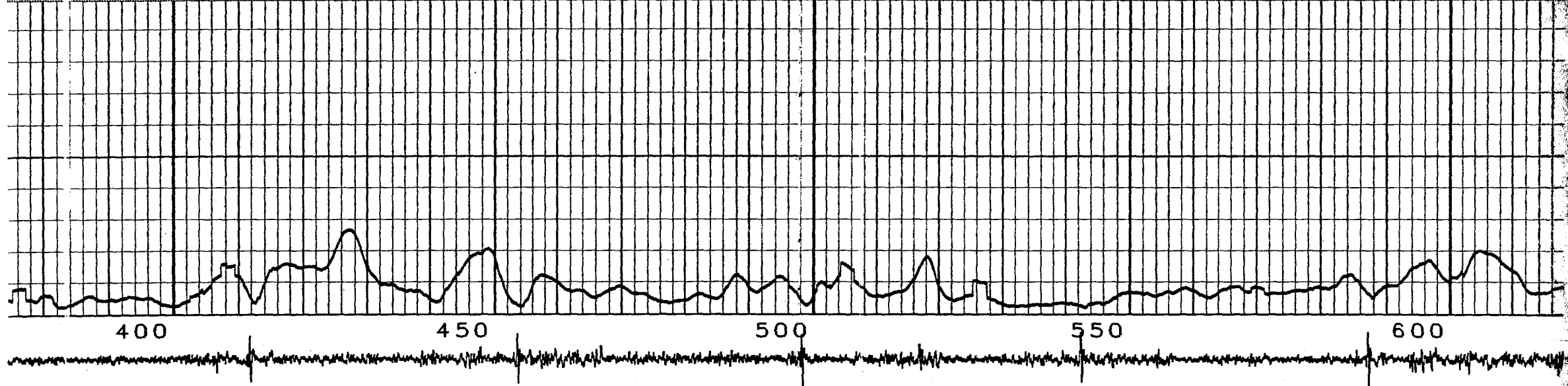
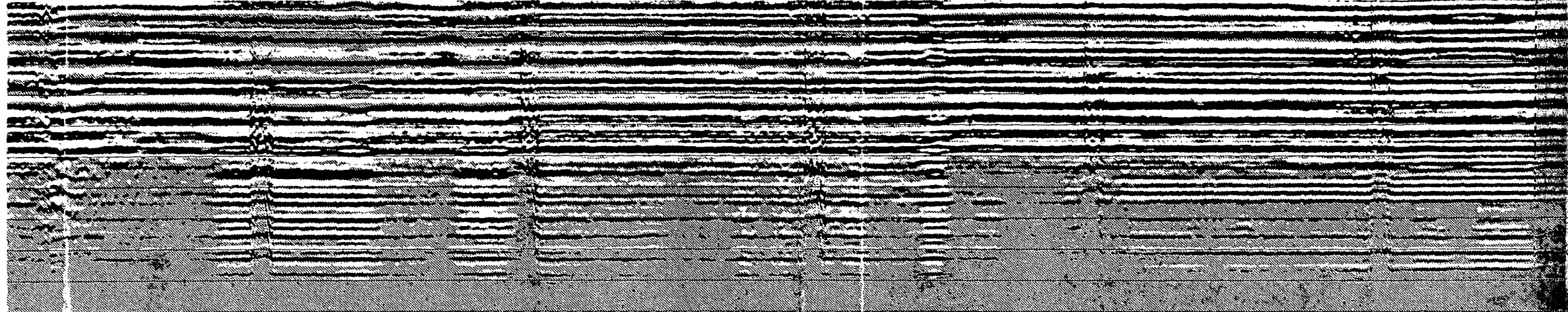
T O O L D I A G R A M

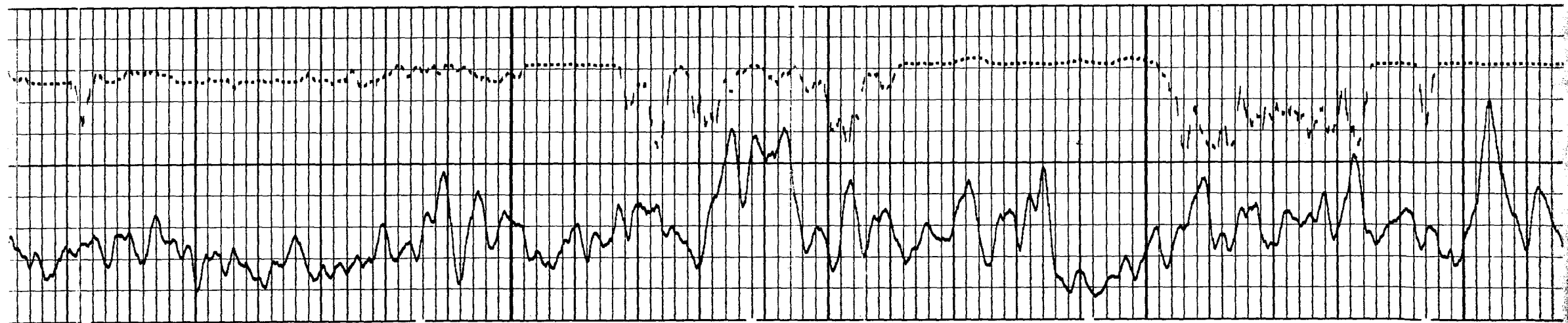
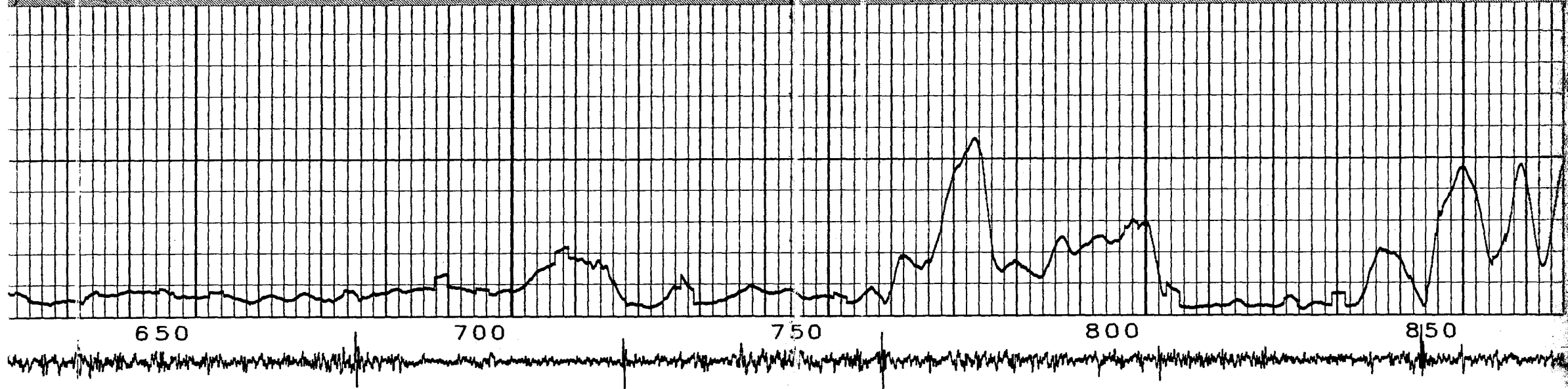
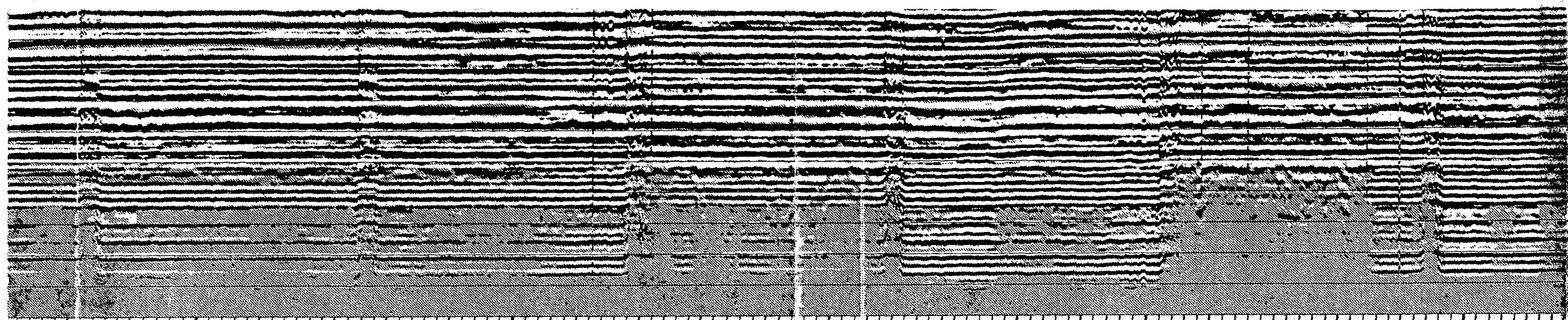
TOOL TYPE:
2 1/8" CCL, GR, SNGL RCVR CBL

TOOL MODEL: 2108-1RX-TX









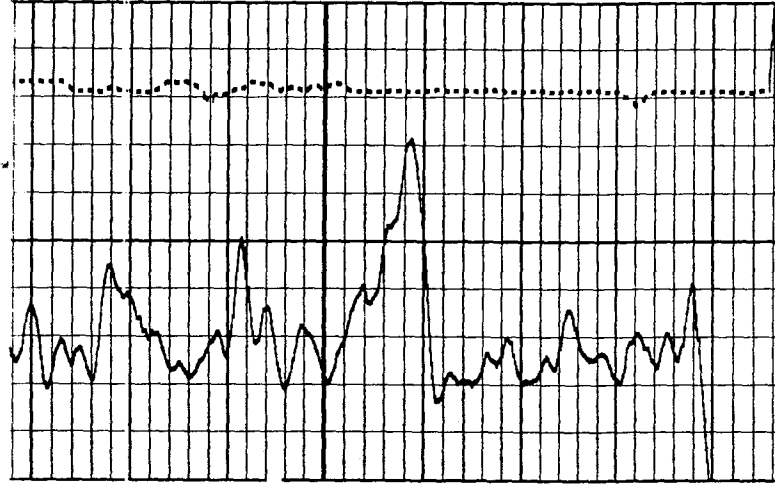


CHART SCALING

0.00	GAMMA	120.00
120.00	API	240.00
1150.00	TIME	150.00
		USECS

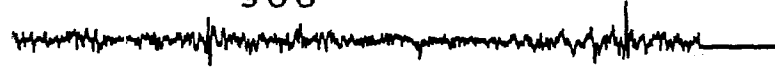


CHART SCALING

0.00	AMP	1500.00
	MVS	

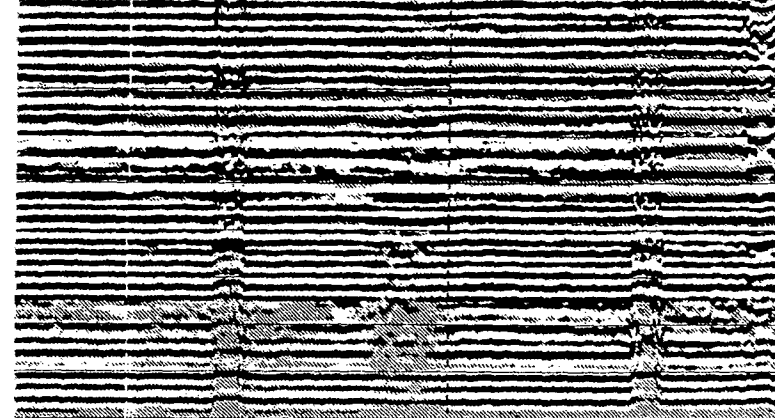
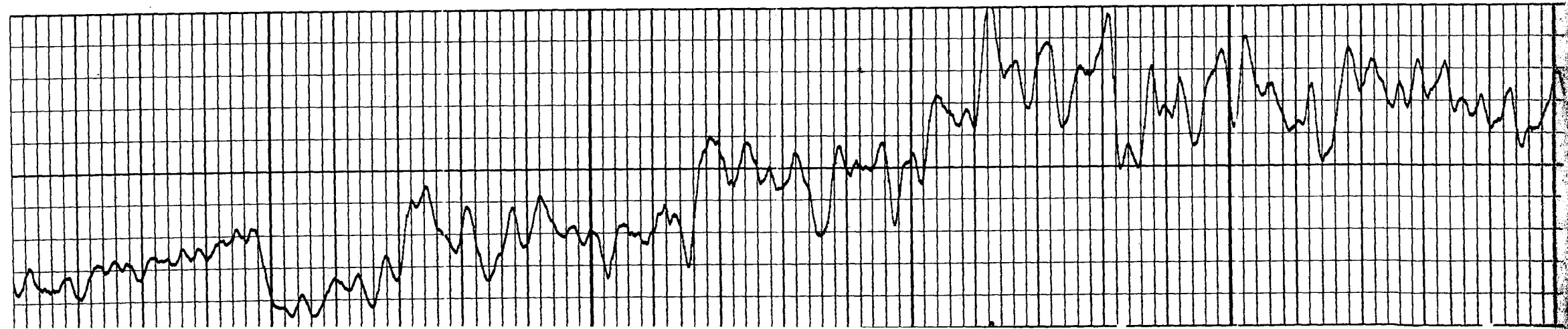
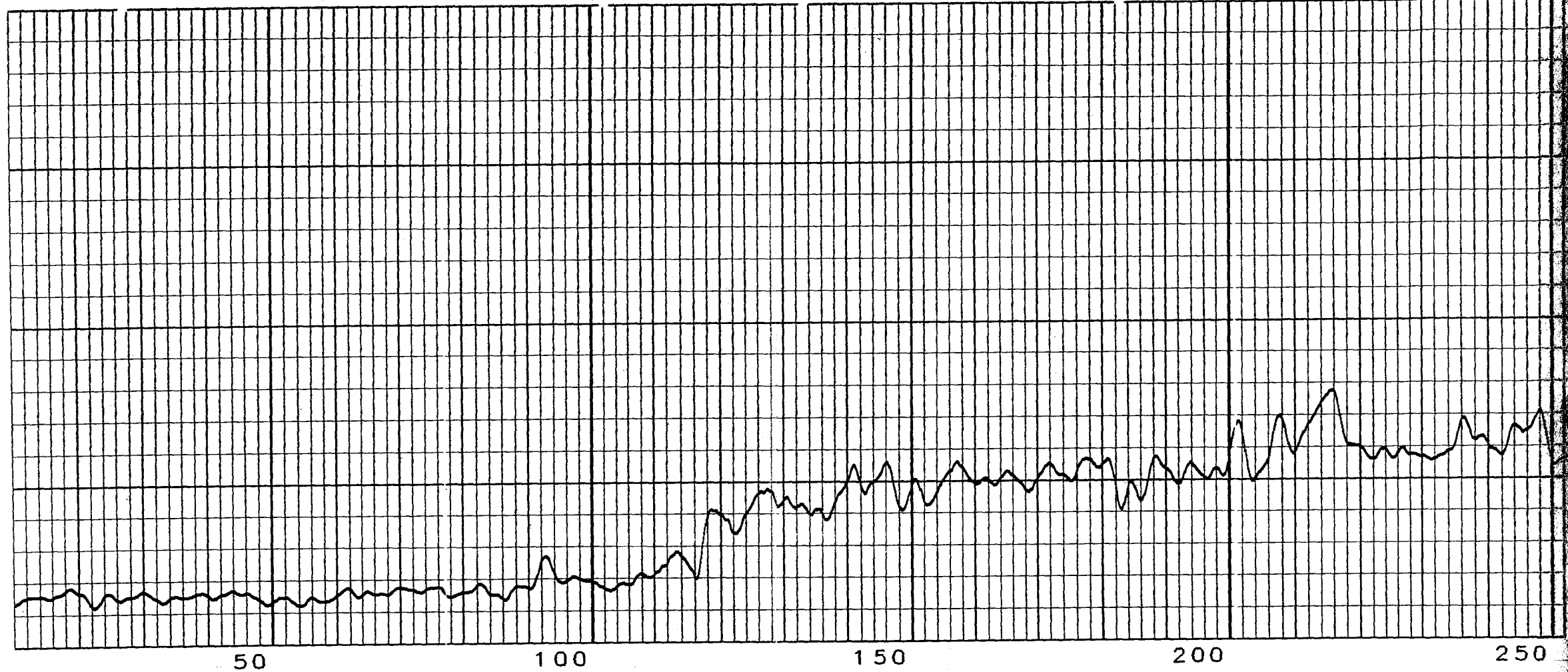
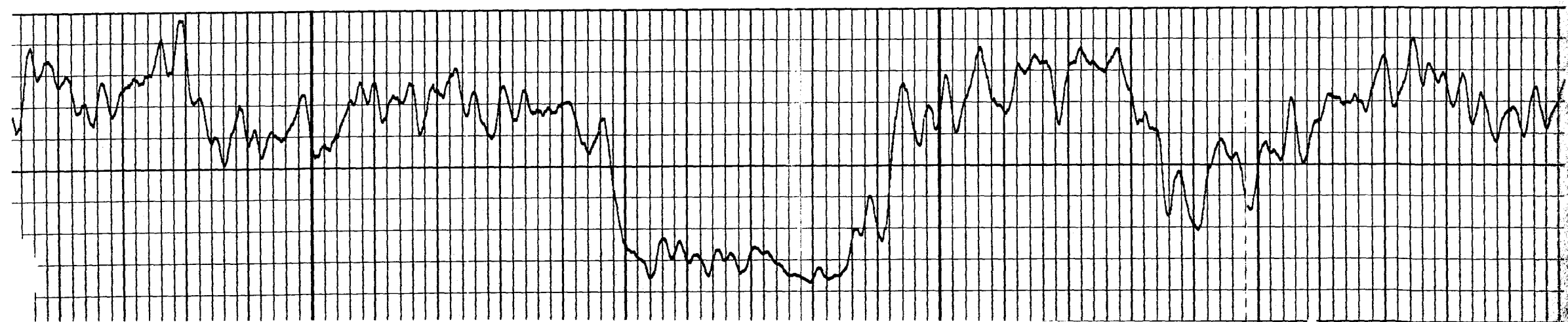
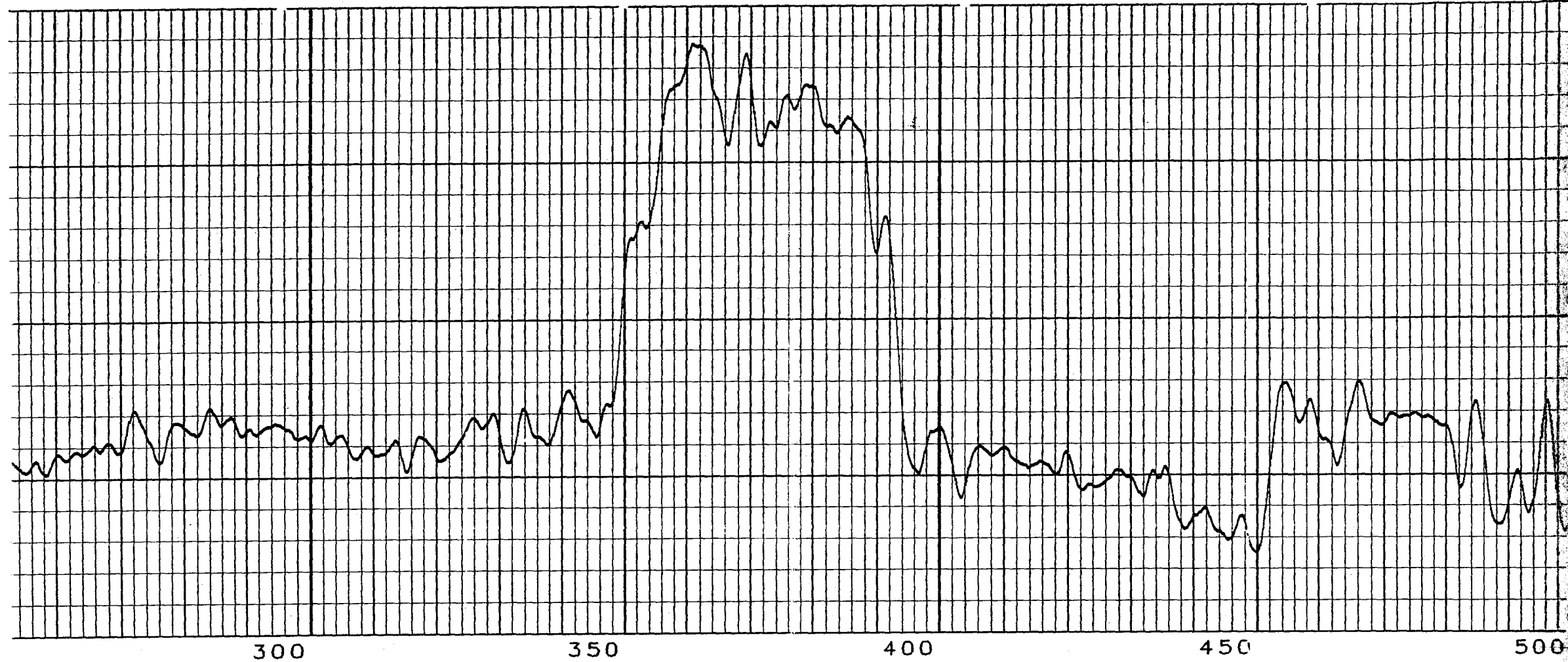
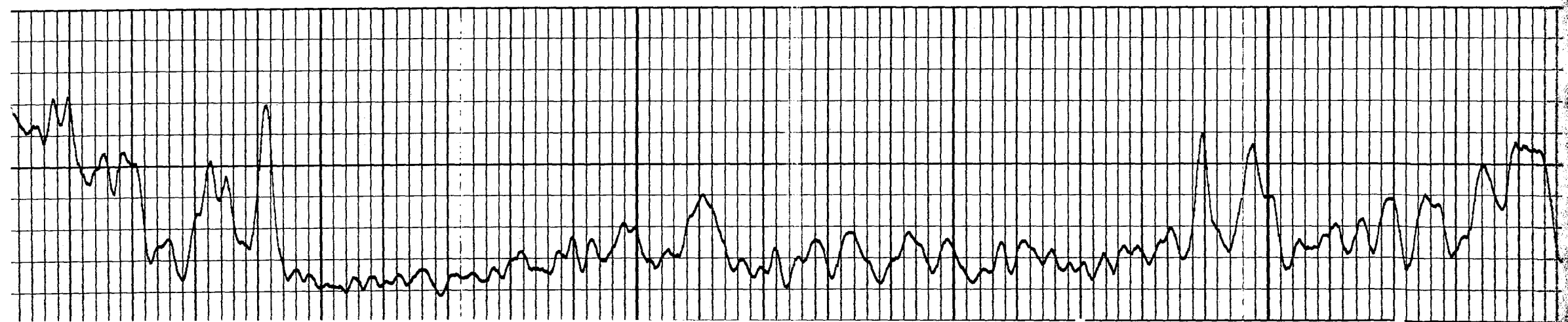
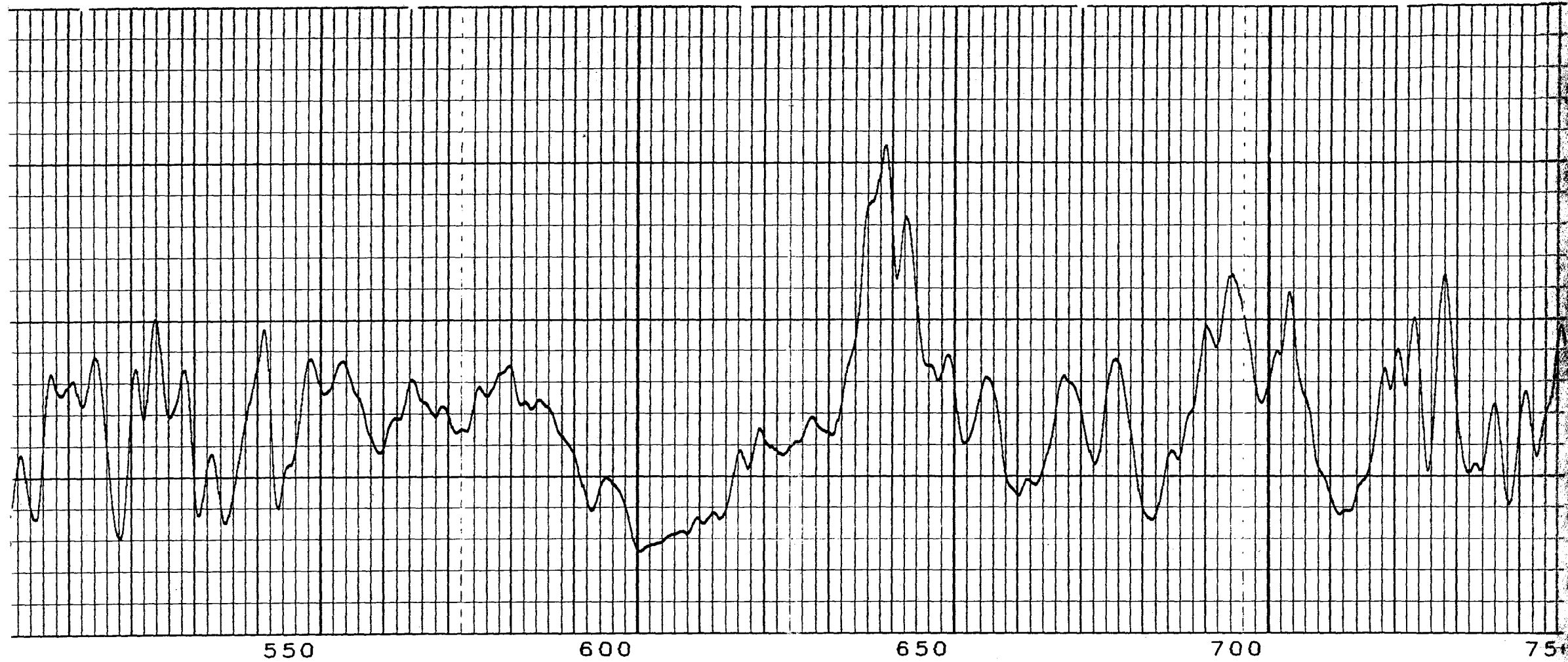


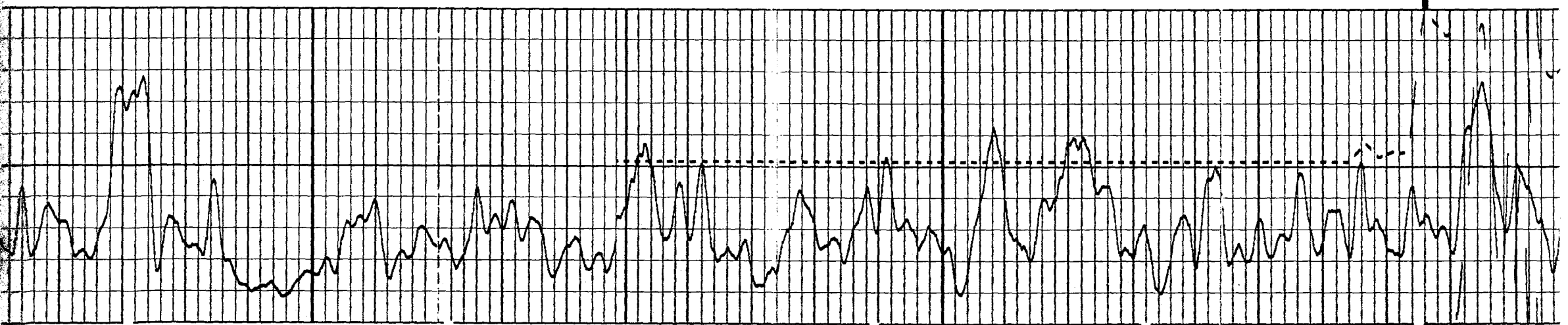
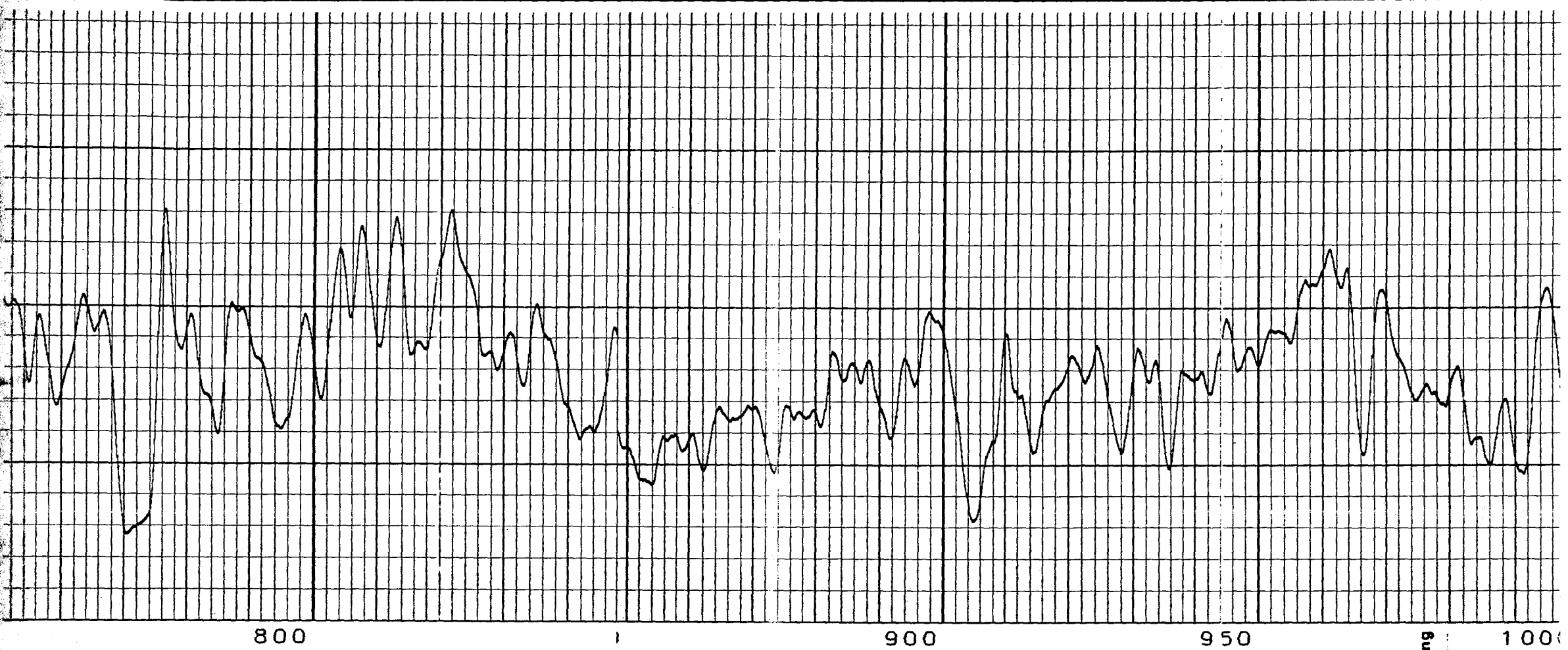
CHART SCALING

0.00	AMP	1500.00
	MVS	









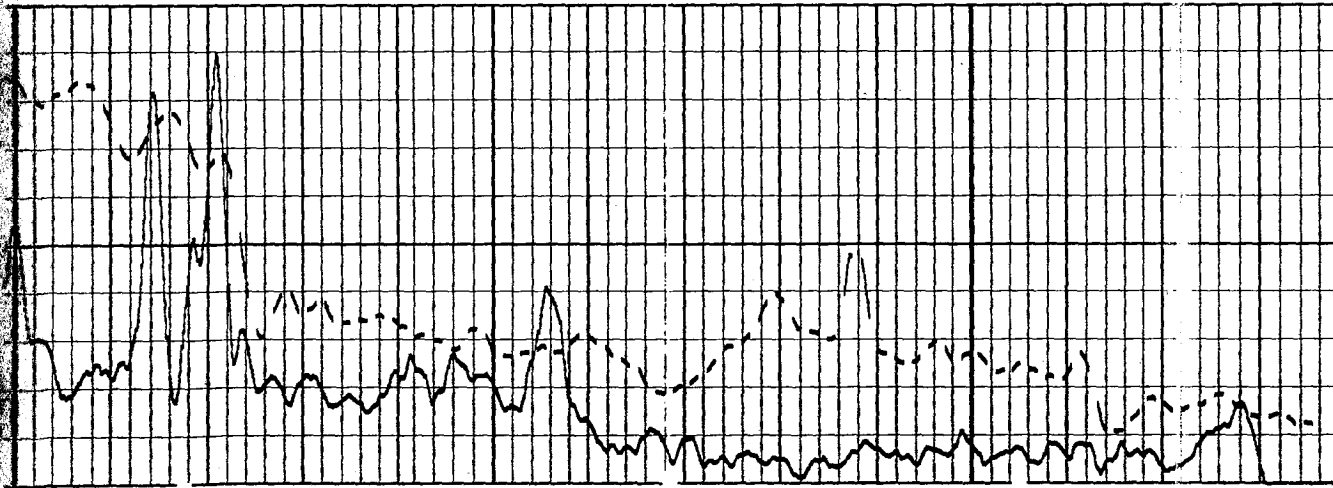


CHART SCALING	
0.00	GAMMA RAY 120.00
120.00	GAPI 240.00
5.00	CALIPER 15.00
15.00	INCHES 25.00

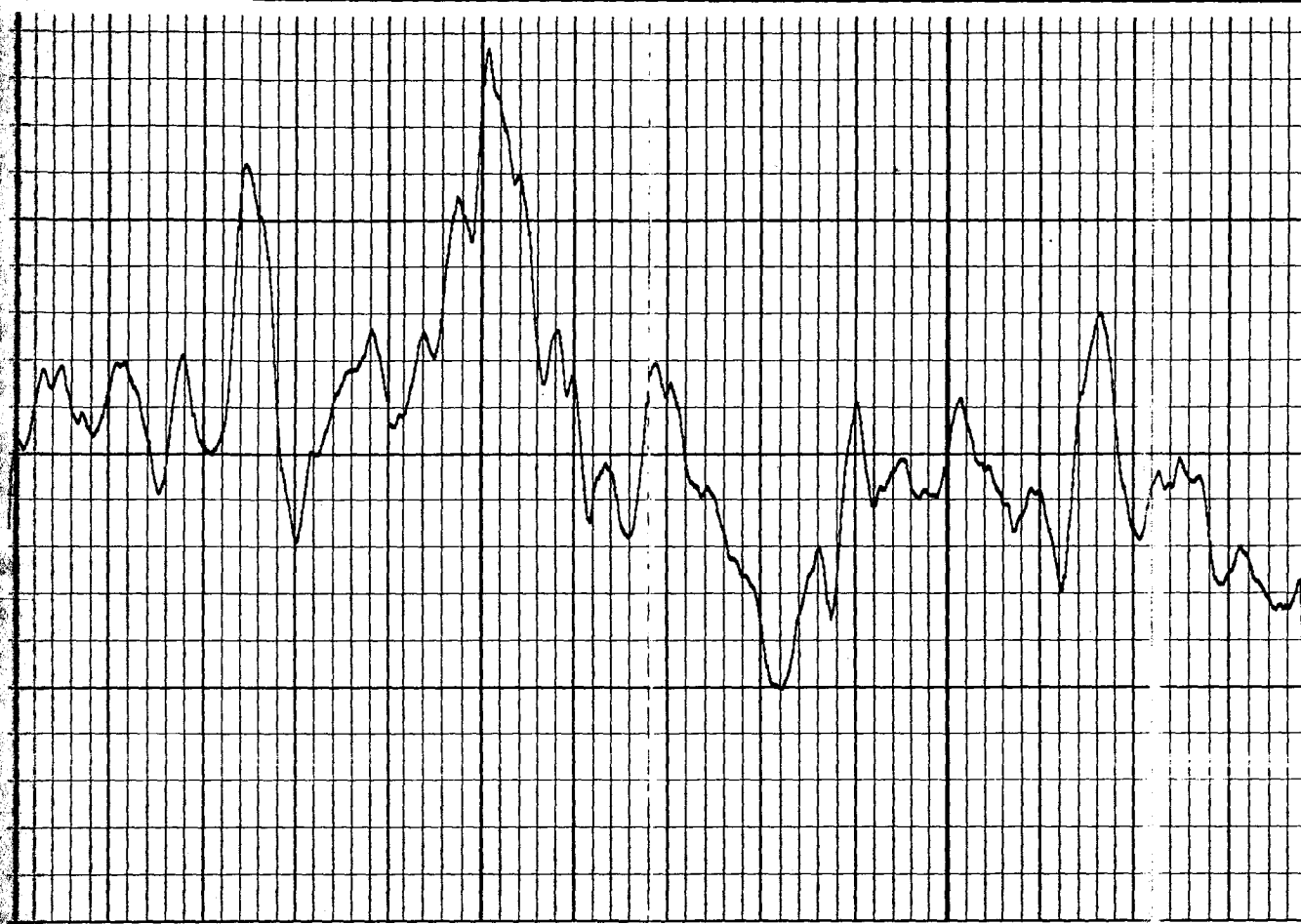


CHART SCALING	
0.00	NEUTRON
200.00	CPS

START DEPTH: 1058.80

DEPTHS

Thu Jan 01 01:35:55 1998

LOG UP

Permit Nos. 1878-1
Upper Cheyenne River - Water District

Report of Examination of Works and/or Application of Water to Beneficial Use

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

I have on this day, 9/15/2015, made a thorough examination of the water use system constructed by City of Whitewood, PO Box 36, Whitewood, SD 57793 holder of Permit no. 1878-1, bearing the priority date of February 13, 2007. Permit No. 1878-1 is authorized to appropriate a total of 0.78 (350 gpm) from one well (Madison Aquifer) for municipal purposes, in Lawrence County.

Inspection contact and relationship to
permit holder, if applicable:

Corey Heckenlaible,
Public Works

A. Works used to divert the water:

Goulds submersible pump 350 gpm capacity (0.78 cfs).

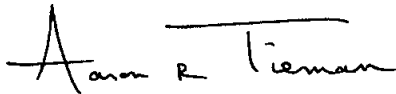
B. Works used to transport water to place of use:

Municipal distribution lines & storage reservoirs.

The system is in the following condition good. The point of diversion (well) for Permit No. 1602-1 is located specifically at Lat/Lon – N44.464115/W-103.640919 which is the approximately 1700 feet north and 2200 feet east of the SW corner of Section 21, T6N-R4E. The works are capable of diverting 0.78 cfs which is to be used for municipal purposes. The license should be issued for 0.78 cfs.

All structures, wells and lands on map Y

Exceptions to compliance are: none.



Aaron Tieman
Natural Resources Engineer II
DENR, Water Rights Program

Date report completed: September 28, 2015

FIELD INVESTIGATION REPORT FOR PERMIT NO. 1878-1

DATE OF INVESTIGATION:	September 15, 2015
NAME & ADDRESS OF PERMIT HOLDER	City of Whitewood PO Box 36 Whitewood, SD 57793
INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Cory Heckenlaible, Public Works
DIVERSION POINT LEGAL LOCATION	NE¼ SW¼ Section 21, T6N-R4E
WATER SUPPLY SOURCE	Groundwater, Madison Aquifer

Other permit(s) associated with the project:

WELL INFORMATION:

- 1) Well Drilling Firm: **Water Well Drilling System Inc.**
- 2) Number of Wells: **One**
- 3) Depth(s): **1147** feet
- 4) Well log available: **yes**

Casing:

- 1) Diameter: **10¾** inches **16** inches
- 2) Length: **1027** feet **40** feet
- 3) Type: **Steel** **Steel**

Screen:

- 1) Type: **Open hole**
- 2) Length: **N/A** feet
- 3) Static water level: **180** feet

Pump:

- 1) Make: **Goulds**
- 2) Model:
- 3) Capacity: **350** gpm

Motor:

- 1) Make: **Franklin**
- 2) Model: **24886544628**
- 3) Horsepower rating: **50** hp

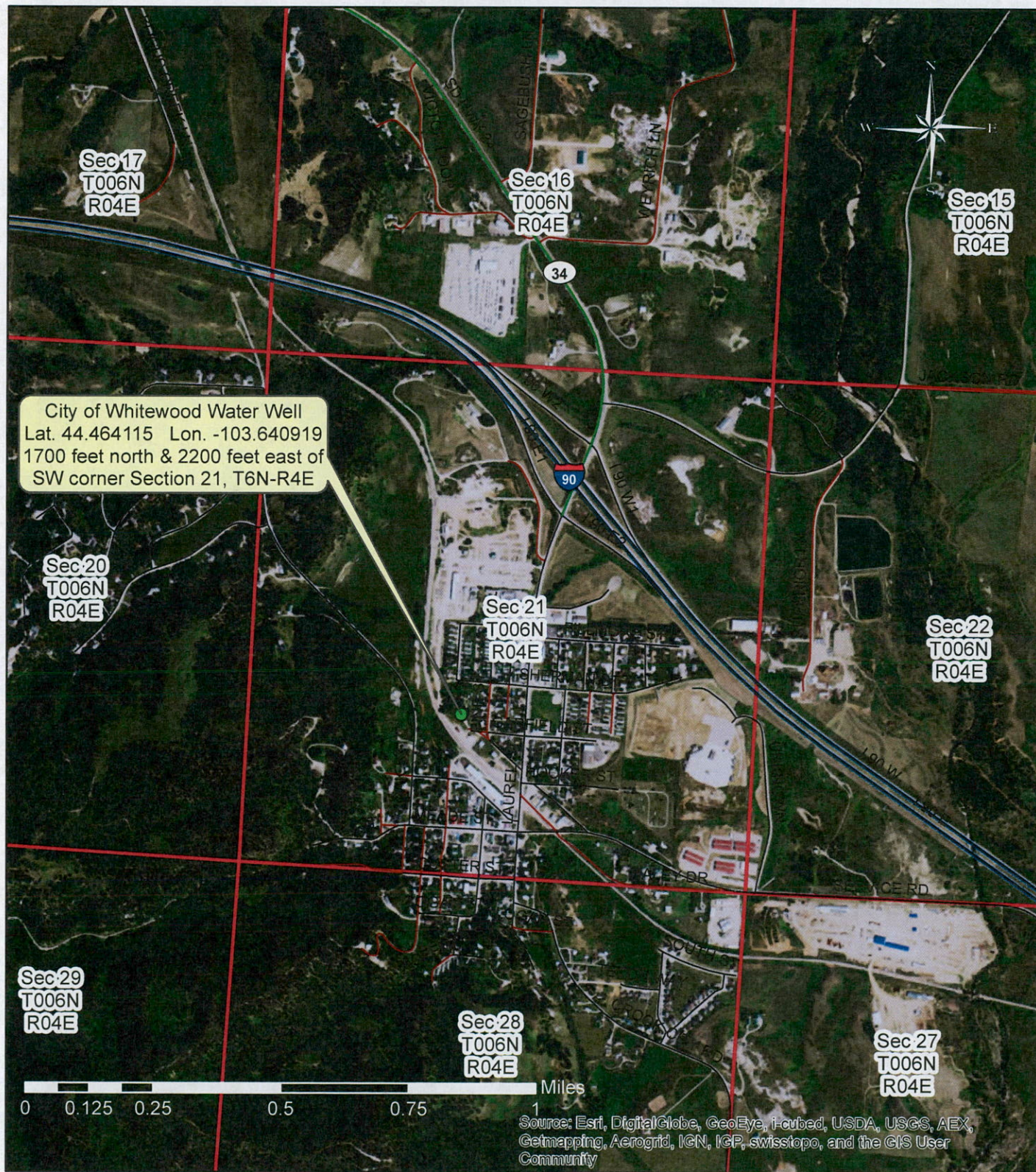
DISTRIBUTION LINES OR CANALS:

- 1) Type: **Storage reservoirs and municipal distribution lines.**

PERMIT QUALIFICATIONS:

- 1) Special qualifications to permit being abided by **Yes**
- 2) All structures, wells and lands on map **Yes**

Water Right 1878-1
City of Whitewood
September 28, 2015



Aaron R. Tieman

Aaron Tieman
Natural Resources Engineer II
DENR Water Rights Program





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE SOUTH DAKOTA 57501-3182
<http://denr.sd.gov>

OCT 19 2015

1878-1

Corey Heckenlaible, Finance Officer
City of Whitewood
1025 Meade St
Whitewood SD 57793-3053

Dear Sir:

Enclosed is Water License No. 1878-1. This is the final water right document completing your process of obtaining a Water Right. Included with your license is a map prepared by the staff engineer who conducted the field investigation.

For your information SDCL 46-6-27 requires that if the owner of an existing well, such as the well authorized by Water Right No. 1878-1, 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.

Sincerely,

Jeanne Goodman, Chief Engineer
Water Rights Program
(605) 773-3352

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 1878-1**

(1) The City of Whitewood, 1025 Meade St., Whitewood SD 57793-3053 made Application No. 1878-1, August 4, 2006 for a water permit to divert 0.78 cubic feet of water per second, with an annual volume of 50 acre feet from ground water – one well (Madison Aquifer), Meade County, South Dakota for municipal purposes. Permit No. 1878-1, with a priority date of February 13, 2007 was approved May 14, 2007 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before May 14, 2012 and for the application to beneficial use of water on or before May 14, 2016.

(2) It is certified that the permit holder 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 0.78 cubic feet of water per second for beneficial use. The location of the diversion point is:

- approximately 1,700 feet N & 2,200 feet E of the SW corner of Section 21, T6N-R4E (NE ¼ SW ¼).

(3) The permit holder has complied with the provisions of South Dakota State Law relating to the application of water to beneficial use.

(4) Pursuant to South Dakota Water Law 46-5-30.1 the City of Whitewood, 1025 Meade St., Whitewood SD 57793-3053 the holder and/or owner of Water Right No. 1878-1 is issued a license to appropriate water, the right to use 0.78 cubic feet of water per second with an annual volume of 50 acre feet of water from ground water – one well (Madison Aquifer) with a priority date of February 13, 2007 from the location specified in (2) of this license for municipal purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1878-1 and subject to the following qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1878-1 is issued for a twenty year term. Pursuant to SDCL 46-2A-21, the twenty year term may be deleted at any time during the twenty year period or following its expiration. If the twenty year term is not deleted at the end of the term, the Permit may either be cancelled or amended with a new term limitation of up to twenty years. Permit No. 1878-1 may also be cancelled for non-construction, forfeiture, abandonment or three permit violations pursuant to SDCL 46-1-12, 46-5-37, 46-5-37.1, and Board Rule ARSD 74:02:01:37.
- 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.
- The well authorized by Permit No. 1878-1 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28. ***The well was drilled in February, 2008 by Water System Drilling Inc. A copy of the log is on file with the Water Rights Program.***

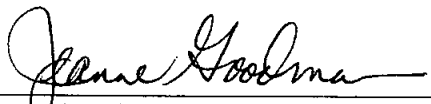
continued

Page 2

Water License No. 1878-1

City of Whitewood

- The City of Whitewood shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.



Jeanne Goodman, Chief Engineer
Water Rights Program
Department of Environment and Natural Resources

OCT 19 2015
date

