

WATER PERMIT NO. 1928-1

Name of Applicant: Bear Bute Valley Water, Inc.

Address: PO Box 351, Sturgis SD 57785 Phone: 605 347-4360

Amount of Water Claimed: 1.0 cfs Total Acres: NA

Source of Water Supply: groundwater (1 well

Water to be used for: rural water system use County: Meade

Type of Waste Disposal System:

Location: 2 miles east of Sturgis

PRIORITY Date Received: 4-20-12 Application/License Fee: \$ 1,350

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

Remarks: RWS will serves users in Meade and extreme eastern Lawrence Counties

Diversion Point: NW ¼ SW ¼ Sec 5-T5N-R6E

Land to be Irrigated: NA

Depth of Well: 3250 feet deep

Well Driller:

Remarks:

Type of Map: aerial

Prepared by: Matthew N Oedekoven, PE

Reviewed and the Number Assigned on: 4-20-12

By: Karen Schlaak

Notice of Hearing - date to intervene: _____

	⊗	5			

SD EForm - 1585LD V3

FORM 2: Application for uses other than irrigation

(type or print)

RECEIVED

APR 20 2012

Mail to: PMB 2020 DENR - Water Rights 523 E Capitol Ave Pierre, SD 57501-3182 ph. (605) 773-3352	(office use only)	
	No. <u>1928-1</u>	Hydrologic Unit <u>10130202</u>
	Basin <u>Belle Fourche River</u>	
	Newspaper <u>Meade Co. Times 1022 Main Sturgis 57785</u> <u>Black Hills Pioneer PO Box 7 Spearfish 57783</u>	

605-347-2503 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 Bear Butte Valley Water, Inc. Phone 605-347-4360
(check one) ☒ Owner ☐ Tenant/lesseeMailing Address PO Box 351 (Address) Sturgis (City) SD (State) 57785 (Zip Code)2. Amount of water claimed 1.0 *CFS or 450 **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (***)Acre Feet - storage capacity of dam/dugout or annual use if applicable)3. Source of water supply Madison formation groundwater4. Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County Meade
1 well in the NW 1/4 of SW 1/4 Section 5 - T5N - R6E5. County or counties where water will be used Meade and extreme eastern Lawrence6. Annual period during which water is to be used January 1st to December 31st

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)

Bear Butte Valley Water Inc. is proposing a new rural water system north and east of the city of Sturgis in Meade County, South Dakota. The northern boundary of the system is the Butte-Meade Sanitation District. The western edge is the city of Sturgis and the Black Hills. The eastern boundary is the Belle Fourche River. The proposed system would serve an area of approximately 320 square miles and initially 215 rural residents.

STATE OF SOUTH DAKOTA)
County of Meade) SS

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

I, Neal Rowett, 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

Neal RowettSubscribed and sworn to before me this 18 day of April 20 12

Notary Public signature

**SOUTH DAKOTA
WATER PERMIT NO. 1928-1**

Date of first receipt of application April 20, 2012.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 1928-1 to Bear Butte Valley Water, Inc., PO Box 351, Sturgis SD 57785 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. 1928-1 appropriates 1.0 cubic feet of water per second from one well to be completed into the Madison Formation (3250 feet deep) located in the NW 1/4 SW 1/4 Section 5-T5N-R6E.
2. The water appropriated shall be used for the purpose of rural water system use serving users in Meade and eastern Lawrence Counties 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. 1928-1 is July 16, 2012.
5. The date from which applicant may claim right is April 20, 2012.
6. One-fifth of the construction is to be completed on or before January 16, 2015.
7. All construction is to be completed on or before July 16, 2017.
8. Water is to be put to beneficial use on or before July 16, 2021.
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. 1928-1 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. 1928-1 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. 1928-1 shall be constructed by a licensed well driller and construction 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 Bear Butte Valley Water, Inc. 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

AUG 16 2012
date



Supplemental Information

(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 16 Depth 3250
- b) Casing Type steel Diameter 10 Thickness 0.365"
- c) Screen Type stainless steel Diameter 7 Thickness
- d) Gravel Pack Length of Gravel Pack
- e) Depth to Top of Water Bearing Material Approximately 2910'
- f) Depth to Water (ground surface to water level) 165'
- g) Distance to nearest existing domestic well:

On applicant's property N/A

On property owned by others 1/2 mile

2. Wastewater Disposal System Information

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

3. Dugout Information

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

4. Water Storage Dams

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

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

b) Freeboard

c) Crest Width

Crest Length

d) Height

e) Primary Outlet Capacity

If pipe, diameter

f) Secondary Spillway Capacity

Spillway Width

g) X & Y Slope (e.g. 3 to 1 is a typical slope)

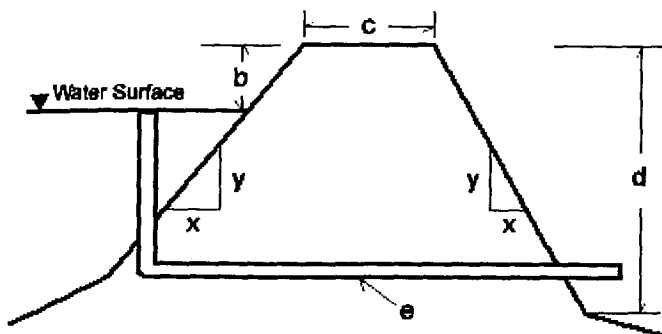
Upstream

Downstream

h) Surface Area of Impoundment

i) Storage Acre Feet

j) Drainage Area Above Dam Acres





DeWild Grant Reckert and Associates Company
Consulting Engineers and Land Surveyors
Rock Rapids, IA - Sioux City, IA - Sioux Falls, SD

Date: APR 2012
Designed By: JMG
Project Manager: MNO
Project Number: R04001
Plot Date: 4/13/12

REV	DATE

WELL SITE PLAN
BEAR BUTTE VALLEY WATER INC.
STURGIS, SOUTH DAKOTA

RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date 4/20, 20 12

RECEIVED OF Bear Butte Valley Water Inc PO Box 351 Sturgis SD 57785

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

Fee for Application for Permit No. <u>1928-1</u> to Appropriate Water, to construct and to put water to beneficial use	1150	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. <u>1928-1</u>	200	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	1350 00

No. 05419

By 
Chief Engineer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 15, 2012

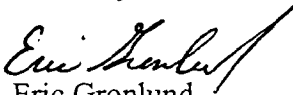
Water Resources & Environment
Rosebud Sioux Tribe
PO Box 430
Rosebud SD 57570

Sir:

Please find enclosed the staff report, recommendation and publication notice for a water permit application filed by Bear Butte Valley Water, Inc. in Meade County. Public notice is to be published in the Meade County Times & Tribune and Black Hills Pioneer.

This information is being sent to you as part of the DENR's commitment to keep the Rosebud Sioux Tribe informed of water permitting issues that may be of interest to the Tribe. The proposed well is approximately 3 miles south of Bear Butte in Meade County.

Sincerely,


Eric Gronlund
Water Rights Program
(605) 773-3352

Enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 15, 2012

Dave Nelson
Environmental Protection Department
Cheyenne River Sioux Tribe
PO Box 590
Eagle Butte SD 57625

Dear Mr. Nelson:

Please find enclosed the staff report, recommendation and publication notice for a water permit application filed by Bear Butte Valley Water, Inc. in Meade County. Public notice is to be published in the Meade County Times & Tribune and Black Hills Pioneer.

This information is being sent to you as part of the DENR's commitment to keep the Cheyenne Sioux Tribe informed of water permitting issues that may be of interest to the Tribe. The proposed well is approximately 3 miles south of Bear Butte in Meade County.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

June 15, 2012

Michael Catches Enemy
Natural Resources Regulatory Agency
Oglala Sioux Tribe
PO box 320
Pine Ridge SD 57770

Dear Mr. Catches Enemy:

Please find enclosed the staff report, recommendation and publication notice for a water permit application filed by Bear Butte Valley Water, Inc. in Meade County. Public notice is to be published in the Meade County Times & Tribune and Black Hills Pioneer.

This information is being sent to you as part of the DENR's commitment to keep the Oglala Sioux Tribe informed of water permitting issues that may be of interest to the Tribe. The proposed well is approximately 3 miles south of Bear Butte in Meade County.

Sincerely,

Eric Gronlund
Water Rights Program
(605) 773-3352

enclosures



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 1928-1, Bear Butte Valley Water, Inc.**

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. 1928-1, Bear Butte Valley Water, Inc., c/o Neal Rowett, PO Box 351, Sturgis SD 57785.

The Chief Engineer is recommending Approval of Application No. 1928-1 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 with the following qualifications:

1. In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1928-1 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. 1928-1 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. ¹⁹²⁸⁻¹~~2440-2~~ shall be constructed by a licensed well driller and construction 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 Bear Butte valley Water, Inc. 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
June 14, 2012

WATER PERMIT APPLICATION NO.1928-1
BEAR BUTTE VALLEY WATER, INC.
JUNE 2, 2012

Water Permit Application No. 1928-1 proposes to appropriate 1.0 cubic feet of water per second from one well to be completed into the Madison aquifer (approximately 3,250 feet deep) located in the NW¼ SW¼ of Section 5, T5N-R6E, Meade County. The water is to be used to for a rural water system north and east of the City of Sturgis. The proposed rural water system is to serve an area of approximately 320 square miles and initially 215 rural residents. The northern boundary of the proposed system is the Butte-Meade Sanitation District. The western edge is the City of Sturgis and the Black Hills. The eastern boundary is the Belle Fourche River.

AQUIFER: Madison aquifer (MDSN)

GEOLOGY AND AQUIFER CHARACTERISTICS:

The Madison aquifer is a major regional aquifer that underlies parts of Montana, North Dakota, South Dakota, Wyoming and Canada. The aquifer underlies most of western South Dakota and parts of Eastern South Dakota (figure 1).

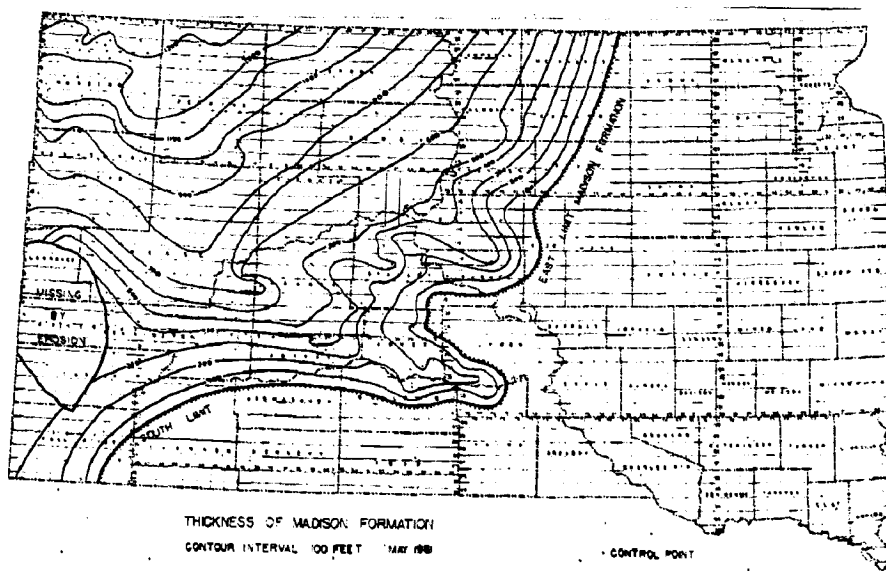


Figure 1. Areal Extent of the Madison Formation in South Dakota: modified from Gries, 1981

The Madison aquifer contains an estimated 644,827,200 acre-feet of recoverable water in storage in Western South Dakota (Allen and others, 1985) and 51,512,300 acre-feet of recoverable water in storage in Eastern South Dakota (Hedges and others, 1982).

The Madison aquifer occurs within the Mississippian aged Madison Limestone which is locally known as the Pahasapa Limestone. The Madison Limestone is a massive limestone and dolomite with relatively low primary permeability and porosity. Extensive secondary porosity and permeability occur within the Madison in the form of fractures and solution

openings. The upper portion of the Madison Limestone in particular is karstic with caves, solution collapse features and enlarged conduits. A number of high yield wells have been developed in the Madison aquifer where these enhanced porosity and permeability features are favorable. The average porosity of the Madison is estimated to be 11% and the effective porosity from which recoverable water can be obtained by wells is assumed to be 5% (Rahn, 1979). The Madison Limestone is estimated to be approximately 475 feet in this area (Gries, 1981). The top of the Madison is estimated to be approximately 2,900 feet below ground surface at the proposed well site (Carter and Redden, 1999a). The Madison is generally considered an excellent aquifer in terms of its potential to supply good quality water to relatively productive wells, especially near the outcrop (recharge area). This well site is located about five miles northeast of the Madison outcrop, (Strobel and others, 1999). The lower portion of the Madison and the underlying Englewood Formation form a lower confining zone (Strobel and others, 1999). The Minnelusa Formation unconformably overlies the Madison aquifer and generally serves as an upper confining layer. Although "The hydraulic connection between the Madison Limestone and Minnelusa Formation is spatially variable and probably results from faults, fractures, and breccia pipes. Collapse features ... may be pathways for vertical movement of water between these two units." (Putnam and Long, 2007),

SDCL 46-2A-9

Pursuant to SDCL 46-2A-9, a permit to appropriate water may be issued only if there is reasonable probability that there is unappropriated water available for the applicant's proposed use, that the proposed diversion can be developed without unlawful impairment of existing rights and that the proposed use is a beneficial use and in the public interest. This report addresses water availability and existing rights.

WATER AVAILABILITY:

The probability of unappropriated water available for appropriation can be evaluated by considering SDCL 46-6-3.1 which requires that:

"No application to appropriate groundwater may be approved if, according to the best information reasonably available, it is probable that the quantity of water withdrawn annually from a groundwater source will exceed the quantity of the average estimated annual recharge of water to the groundwater source."

Water Balance:

Recharge to the Madison aquifer occurs through streamflow losses and direct infiltration of precipitation at the outcrop area. Recharge to the Madison aquifer in South Dakota has been estimated to range from 140,000 to 400,000 acre-feet per year (Woodward-Clyde, 1981). Woodward-Clyde however, defined the Madison aquifer as everything between the Precambrian and the Cretaceous shales. As part of the Black Hills Hydrology Study, the average annual recharge to the Madison aquifer 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 sources, has limited domestic development from the aquifer. Carter and others, (2001b) estimate "Self-supply Domestic" and "Livestock Watering" only

account for approximately 2.25% of the water use from the Madison aquifer. In general, well withdrawals from the Madison are for uses which require water rights/permits. 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 water 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 wells completed into the Madison aquifer.

There are currently a total of 164 appropriations plus one deferred application from the Madison aquifer in South Dakota. These appropriations include: seven future use permits; 137 water rights/permits for non-irrigation uses; 27 water rights/permits for irrigation (Water Rights, 2012b). Almost all water use from the Madison aquifer is from the Black Hills area. Withdrawals from all wells completed into the Madison aquifer in the Black Hills of South Dakota and Wyoming, where estimated to average 12,310 acre-feet annually from 1987-1996 (Carter and others, 2001b). Well withdrawals from the Madison aquifer for 2008 were estimated to be less than 20,000 ac-ft/yr (Water Rights, 2008). Table 1 lists new appropriations made from the Madison aquifer since the 2008 well withdrawal estimate was made. Table 2 lists the appropriations from the Madison aquifer that have been cancelled since the 2008 well withdrawals were estimated.

PERMIT NO	NAME	USE	CFS	ANNUAL APPROPRIATION (AC-FT/YR)
1899-1	DAVIS RANCHES INC	IRR	1.43	200
1910-1	CITY OF STURGIS WATER COMPANY	COM	1.44	724
1911-1	STURGIS WATER COMPANY	MUN	0.89	645
1916-1	HILLS MATERIALS CO.	IND	0.222	*96
1923-1	JIM MONTIETH	IRR	1.33	*578
2631-2	CITY OF BOX ELDER	MUN	1.00	435
2632-2	CITY OF BOX ELDER	MUN	1.00	435
2633-2	SOUTHERN BLACK HILLS WATER SYSTEM	RWS	0.67	484
2634-2	EBEN W STREETER	RWS	0.00	0
2669-2	DIOCESE OF RAPID CITY	IRR	0.10	14
2676-3	DIOCESE OF RAPID CITY	IRR	0.044	No add'l.
TOTAL = 3,611 ac-ft/yr				
* not limited to an annual volume, appropriation calculated at 60% continuous pumping at maximum diversion rate				

Table 1. New appropriations from the Madison aquifer since 2008 review

PERMIT NO	NAME	USE	CFS	ANNUAL APPROPRIATION (AC-FT/YR)
1569-1	STAGEBARN SANITARY DIST	SHD	0.28	121.63*
1676-1	STAGEBARN SUBDIVISION	SHD	0.28	121.63*
1807-1	28 BOMB WING	IND	1.11	806.00
1875-1	28 BOMB WING	INS	1.33	968.00
2392-2	SCHWARZ TRUST	COM	0.25	108.60*
2440-2	TETRAD CORPORATION	DOM	0.17	72.54*
TOTAL = 2,198.4 ac-ft/yr				
* not limited to an annual volume, appropriation calculated at 60% continuous pumping at maximum diversion rate				

Table 2. Appropriations from the Madison aquifer that have been cancelled since the 2008 review

Accounting for the changes represented by tables 1 and 2, the total well withdrawals from the Madison aquifer is expected to be just over 20,000 ac-ft/yr.

A simple water balance comparing the estimated average annual recharge and the potential withdrawal by existing wells and current appropriations shows that unappropriated water is available from the Madison aquifer to satisfy additional appropriations.

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 to the aquifer is available for this appropriation, merely to demonstrate that in general the Madison aquifer is an immense resource that is relatively untapped.

Localized Hydrologic Budget:

Carter and others (2001b) developed hydrologic budgets for the Madison and Minnelusa aquifers combined, for subareas that were identified based on the hydrogeology. The hydrologic budget for the subarea that includes the site proposed by this application, for 1987-1996, estimated that inflows which occurred through streamflow recharge and precipitation; equaled outflows which occurred through groundwater outflow or well withdrawals. Well withdrawals were estimated to be less than one-half of a percent of estimated recharge for the subarea.

Obviously, if a new hydrologic budget is to balance in this area (i.e. a new condition of dynamic equilibrium), with an increase of well withdrawals, groundwater outflow must decrease, or more groundwater flow will have to come into the subarea from another subarea. It can be assumed that with a very subtle change in the hydraulic gradient at either the inflow zone or the outflow zone, a new dynamic equilibrium would be established in this area with virtually immeasurable impacts to the amount of water in storage. Therefore, there is a reasonable probability that unappropriated water is available from this subarea for this proposed use.

Observation Well Data:

The analysis of the DENR-Water Rights Program observation well data provides a qualitative means of assessing the aquifer and provides the best information reasonably available to evaluate the hydrologic budget for the Madison aquifer. In addition, Administrative Rule of South Dakota Section 74:02:05:07 requires that "the Water Management Board shall rely upon the record of observation well measurements to determine that the quantity of water withdrawn annually from the aquifer does not exceed the estimated average annual recharge to the aquifer."

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2012a). This well site is located within about nine and one-half miles of four Water Rights' Observations completed into the Madison aquifer. Hydrographs for the wells show the aquifer's response to climatic conditions and clearly demonstrate the system is recharged, (see figures 2-6).



Figure 2. Hydrograph of Water Rights' Observation well located approximately five miles southwest of the well site proposed by Application No. 1928-1



Figure 3. Hydrograph of Water Rights' Observation well located approximately seven miles west of the well site proposed by Application No. 1928-1



Figure 4. Hydrograph of Water Rights' Observation well located approximately ten miles southwest of the well site proposed by Application No. 1928-1



Figure 5. Hydrograph of Water Rights' Observation well located approximately eight and one-half miles south of the well site proposed by Application No. 1928-1

The hydrographs show the potentiometric surface measured at these sites rose during the late 1990's and the late 2000's in response to wet climatic conditions. The water levels decreased in the early 2000's in response to less recharge.

A comparison of these hydrographs with data from other Water Rights' Observation wells completed into the Madison aquifer, suggest the fluctuations shown in figures 2-5 are representative of climatic conditions instead of pumping from the aquifer. The observation well data verifies that for the period of record, withdrawals have not exceeded recharge. In fact the observation well document that there is more water in storage now than when the respective observation wells were completed.

AFFECTS ON EXISTING RIGHTS:

There are a number of wells on file with the DENR-Water Rights Program within approximately one and one-half miles of the well that is to be used to supply this application. Existing Water Rights/Permits appropriating groundwater that are located within one and one-half miles are listed in table 3. The approximate location of the wells and appropriations are shown in figure 6.

PERMIT NO	NAME	STATUS	USE	CFS	ACRES
1277-1	PLEASANT VALLEY HOMEOWNERS ASSN	LC	SHD	0.04	
1287-1	CITY OF STURGIS	LC	MUN	0.89	
1483-1	BLACK HILLS NATIONAL CEMETERY	IL	IRR & INS		
1484-1	BLACK HILLS NATIONAL CEMETERY	IL	IRR & INS		
1581-1	BEAR BUTTE WATER ASSOC	PE	RWS & DOM	0.1	
1609-1	BLUCKSBERG MT WATER ASSN	LC	SHD	0.18	
1635-1	BLACK HILLS NATIONAL CEMETERY	LC	IRR & INS	0.82	54.5
1684-1	MIKE RINGER	LC	COM & DOM	0.022	
1780-1	ROD WOODRUFF	IL	COM		
1780A-1	ROD WOODRUFF	LC	COM	0.444	
1789-1	STURGIS WATER DEPARTMENT	PE	MUN	1	
1858-1	GLENCOE CAMP RESORT II LLC	LC	IRR & COM	0.86	34
1910-1	STURGIS WATER DEPT	PE	COM	1.44	
1911-1	STURGIS WATER DEPT	PE	MUN	0.89	
441-1	CITY OF STURGIS WATER DEPT	IL	MUN		
441A-1	CITY OF STURGIS WATER DEPT	LC	MUN	0.89	
441B-1	STURGIS WATER DEPT	LC	MUN	0.51	
780-1	CITY OF STURGIS WATER DEPT	LC	MUN	0.66	
LC= Water Right, PE= Water Permit, IL= Incorporated License, SHD= Suburban Housing Development, MUN= Municipal, IRR= Irrigation, INS= Institutional, RWS= Rural Water System, DOM= Domestic, COM=Commercial.					

Table 3. Appropriations from the Madison aquifer within approximately five miles of 1928-1

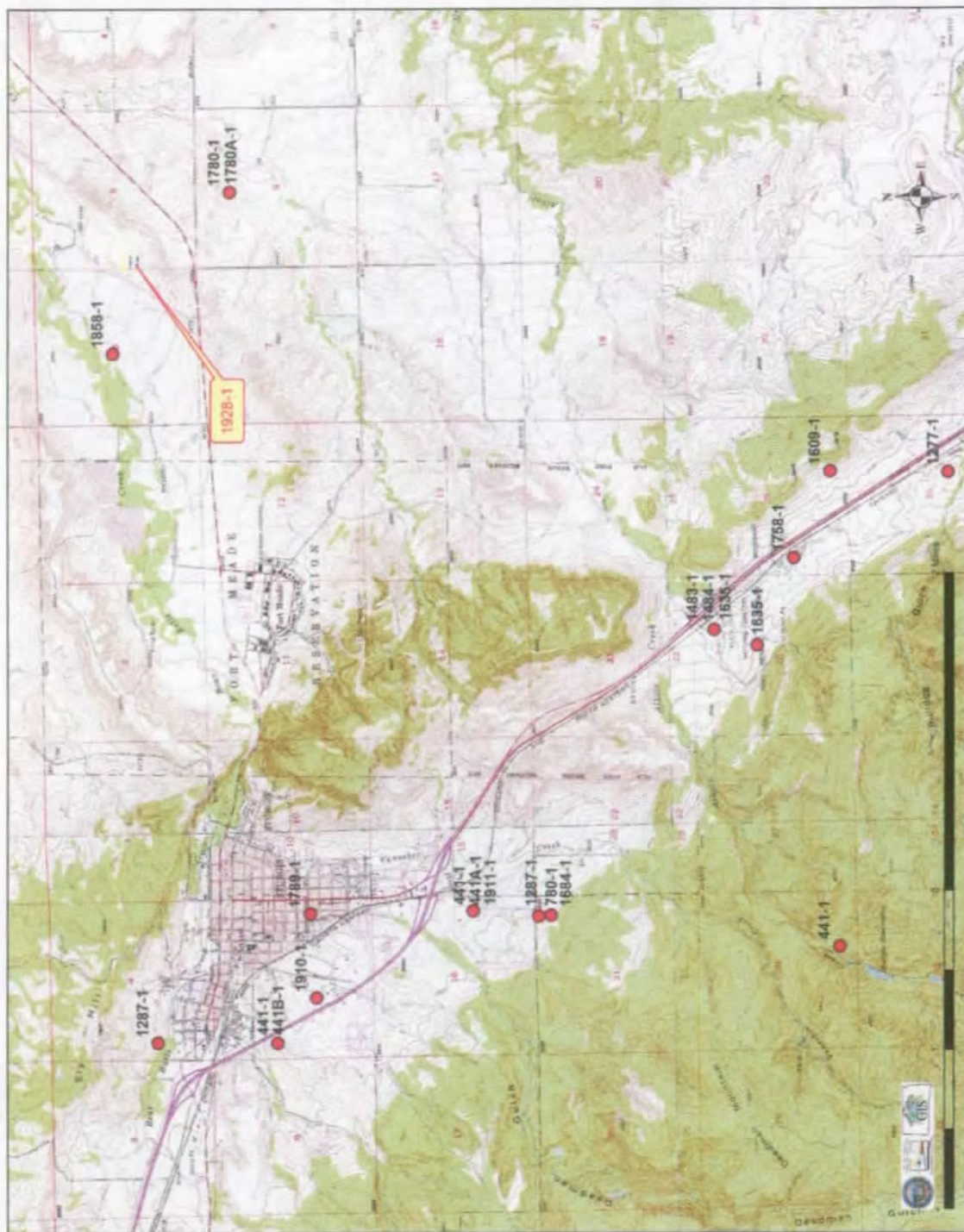


Figure 6. Vicinity map with approximate locations of existing Madison aquifer appropriations

Water Rights/Permits supplied by wells completed into aquifers that are above the Madison are not expected to be affected by Madison aquifer withdrawals since the lower Minnelusa generally serves as an upper confining unit for the Madison.

Since the Madison is under artesian conditions in this area, drawdown from pumping a well may extend over a fairly large area. The transmissivity of the aquifer is very heterogeneous with values that range over several orders of magnitude (Putnam and Long, 2007). In addition the aquifer characteristics of the Madison can vary considerably within a short distance (Greene, 1993). The transmissivity of the Madison was estimated for the subareas near this well site to be 3,196 ft²/d (427 gal/day/ft) (Carter and others, 2001).

Well interference should not be significant. This is especially the case when considering the Madison is under artesian conditions with 870 feet of head pressure at this well site and further recognizing that there is over 90 feet of natural fluctuation in this area (see figure 7).

Wells supplying existing Water Rights/Permits and domestic uses are protected from adverse impacts per Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1. These rules 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 pressure**. Simply put, the pump placement in a prior appropriator's well is not necessarily protected.

If the water levels in the Madison aquifer were to decline, owners of existing wells 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 this 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 basically state that 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.

It should be noted however, that well interference (drawdown) measured at Water Rights' observation wells located near high capacity municipal wells in Spearfish, Sturgis and Rapid City has never been significant (i.e. drawdown of only a few feet or tens of feet) (Water Rights, 2012a).

Given the distance between the well that is to supply this appropriation and existing Madison wells well interference is not expected to be adverse.

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."

Pursuant to SCL 46-2A-21, "at the end of the twenty-year limitation, the board may cancel a permit or amend the permit with a new term limitation of up to twenty years, if the board is unable to make a finding after notice and hearing that sufficient information is available to delete the term."

Although the criteria for approval of a water permit established by SDCL 46-2A-9 are met, (i.e., there is a reasonable probability that unappropriated water is available for the applicant's proposed use, and this proposed diversion can be developed without unlawful impairment of existing rights); evidence is not available to justify issuing this permit without a term limitation of 20 years.

CONCLUSIONS:

1. The Madison aquifer is a major regional aquifer and a viable source of water for this proposed appropriation.
2. This application proposes to appropriate 1.0 cubic feet of water per second. There is no limit to the annual volume of water that can be diverted other than the physical constraints of the maximum diversion rate.
3. There is a reasonable probability that unappropriated water is available in the Madison aquifer to supply this appropriation.
4. There is a reasonable probability this appropriation can be made without adversely impacting existing water rights including domestic users.
5. Information is not available to justify issuing these permits without a term limitation of 20 years.
6. Following notice and a public hearing, the Water Management Board can cancel this permit or amend it with a new term limitation after twenty years.



Ken Buhler
Natural Resources Engineer

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RECEIVED

JUL - 9 2012

WATER RIGHTS
PROGRAM

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
County of Meade) SS

I, Pam Barker

certify that the attached printed Notice was
taken

from the Meade County
Times Tribune

printed and published in Sturgis

County of Meade and

state of South Dakota. The notice was
published

in the newspaper on the following two dates:

June 27
July 4

Cost of Printing \$44.67

Pam Barker
(Signature)

office manager / H&M
(Title)

7/6/2012
(Date Signed)

NOTICE OF APPLICATION NO. 1928-1 to Appropriate Water

Notice is given that Bear Butte Valley Water, Inc., c/o Neal Rowett, PO Box 351, Sturgis SD 57785 has filed an application for a water permit to appropriate 1.0 cubic feet of water per second from one well to be completed into the Madison Formation (3250 feet deep) located in the NW 1/4 SW 1/4 Section 5-T5N-R6E for rural water system use serving users in Meade and eastern Lawrence Counties.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1928-1 subject to a 20-year term limitation because:

1) Although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable

probability that there is unappropriated water available,

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 this application, 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 recommendation 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 July 16, 2012.

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.

Published twice at the total approximate cost of \$44.67.

Published Wed., June 27
and Wed., July 4, 2012
Meade County Times
Tribune

RECEIVED

JUL - 9 2012

WATER RIGHTS
PROGRAM

Affidavit of Publication

STATE OF SOUTH DAKOTA:
COUNTY OF LAWRENCE:

Letitia Lister of said County and State being first duly sworn, on her 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 Letitia Lister, 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, Letitia Lister, 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. 1928-1

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 27th day of June, 2012 and the last publication on the 3rd day of July, 2012 that the full amount of fees charged for publishing same, to-wit: The sum of \$ 43.96, 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.

Letitia Lister
Subscribed and sworn to before me this 5th day of July, 2012

C. Dittler

Notary Public, Lawrence County, South Dakota

My commission expires: 10-24-2016

NOTICE OF APPLICATION NO. 1928-1

~~to Appropriate Water~~

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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
Published twice at the
total approximate cost of
\$44.76.

#783
June 27, July 3



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

June 15, 2012

Meade County Times & Tribune
1022 Main St
Sturgis SD 57785

ATTENTION: Legal Public Notice

Enclosed is a Notice on Application No. 1928-1 to Appropriate Water to be published twice. Please publish the first notice on June 27, 2012 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 Bear Butte Valley Water Inc., c/o Neal Rowett, PO Box 351, Sturgis SD 57785 (Ph # 605-347-4360).

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. 1928-1

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

Date _____

We are in receipt of your letter of June 15, 2012 enclosing Notice to Appropriate Water by Application No. 1928-1 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
denr.sd.gov

June 15 2012

Black Hills Pioneer
PO Box 7
Spearfish SD 57783

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Natural Resources Engineer
605 773-3352

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Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

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

June 15, 2012

Bear Butte Valley Water Inc
Neal Rowett
PO Box 351
Sturgis SD 57785

Dear Mr. Rowett:

Water Permit Application No. 1928-1 for rural water system use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publishers of the following papers, Meade County Times and Tribune printed at Sturgis SD (Ph # 605-347-2503) and the Black Hills Pioneer printed at Spearfish SD (Ph # 605-642-2761). You will need to contact the newspapers and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspapers to authorize publication of your Notice and to arrange for payment. Early contact with the papers can eliminate delays. Upon receiving authorization, the publishers have been instructed to publish your notice once each week for two consecutive weeks. The newspapers have also been instructed to send us the Proof of Publication. We must receive Proof of Publication before action can be taken on the application.

Sincerely,

Eric Gronlund
Natural Resources Engineer
(605) 773-3352

enclosures

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 June 27, 2012 with the second publication 7 days later. The applicant is responsible for payment. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352 or email: Karen.schlaak@state.sd.us.

NOTICE OF APPLICATION NO. 1928-1 to Appropriate Water

Notice is given that Bear Butte Valley Water, Inc., c/o Neal Rowett, PO Box 351, Sturgis SD 57785 has filed an application for a water permit to appropriate 1.0 cubic feet of water per second from one well to be completed into the Madison Formation (3250 feet deep) located in the NW ¼ SW ¼ Section 5-T5N-R6E for rural water system use serving users in Meade and eastern Lawrence Counties.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 1928-1 subject to a 20-year term limitation because 1) although evidence is not available to justify issuing the permit without a 20 year term limitation, there is reasonable probability that there is unappropriated water available, 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 this application, 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.

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Published twice at the total approximate cost of _____.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

AUG 16 2012

Bear Butte Valley Water Inc
PO Box 351
Sturgis SD 57785

Dear Mr. Rowett:

Enclosed is Water Permit No. 1928-1 authorizing construction of your water diversion system and beneficial use of the water, not exceeding the limits as specified in the Water Permit.

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

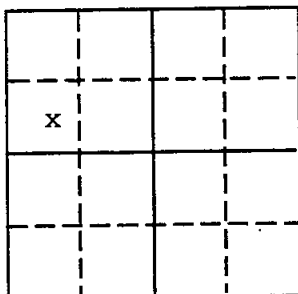
11-02

Location SW $\frac{1}{4}$ NW $\frac{1}{4}$ Sec 5 Twp 5N Rg 6E

County

Meade

North



Please mark well location with an "X"

Well Completion Date

10-16-14

Distance to nearest potential pollution source (Septic tank, abandoned well, feed lot, etc.)

? ft. from (Identify source)

PROPOSED USE:

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

METHOD OF DRILLING:

Rotary airCASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe

PIPEWEIGHT LB/FT	DIAMETER IN	FROM FT	TO FT	HOLE DIAMETER IN
40.5	10 3/4	0	1310	12.25
23	7	1300	3095	9.5

GROUTING DATA:

Grout Type	No. of Sacks	Grout Weight Lb/gal	From FT	To FT
ext. lite	160	11.5	0	1310
Class G	100	15.8	1310	3095

Describe grouting procedure

SCREEN: ☐ Perforated pipe ☐ ManufacturedDiameter Inches Length FeetMaterial Slot Size Set From Feet to Feet

Other information

Open holeWAS A PACKER OR SEAL USED? ☒ Yes ☐ NoIf so, what material? neoprene rubber

Describe packer(s) and location

DISINFECTION: Was well disinfected upon completion?

☒ Yes, How? Calcium☐ No, Why Not? hypochlorite

Lab sample sent to for water quality analysis

Energy LabWell Owner: Bear Butte Valley Water, Inc.Business Name: Address: PO Box 351City, State, Zip: Sturgis, SD 57785

WELL LOG:

DEPTH

FORMATION

FROM

TO

AttachedSTATIC WATER LEVEL 197 FEETIf flowing: closed in pressure PSIGPM flow through Inch pipeControlled by ☐ Valve ☐ Reducers ☐ Other Reduced flow rate GPM

Can well be completely shut in?

WELL TEST DATA:

☐ Pumped Describe: Air lifted☐ Bailed☐ Other

Pumping Level Below Land Surface

800 Ft. After 18.5 Hrs. pumped 500 GPM Ft. After Hrs. pumped GPMIf pump installed, pump rate: 400 GPM

REMARKS

RECEIVED

FEB 03 2015

WATER RIGHTS PROGRAM

This well was drilled under license # 604

And this report is true and accurate.

Drilling firm: Weston Engineering, Inc.Signature of License Representative: Signature of Well Owner or Equitable Property Holder: Date: 1-29-15

Bear Butte Valley Water Well

Lithologic Log

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
0	70	Belle Fourche Shale		No sample	
70	100		Shale	Olive-black firm, calcareous shale	
100	130		Shale	Olive-black firm, calcareous shale	
130	154		Shale	Olive-black firm, moderately calcareous shale	
154	183		Shale	Olive-black firm, moderately calcareous shale	
183	213		Shale	Olive-black firm shale	
213	245		Shale	Olive-black soft shale	
245	276		Shale	Olive-black firm, weakly calcareous shale	
276	307		Shale	Olive-black hard, weakly calcareous shale	
307	338		Shale	Olive-black and olive-gray soft shale	
338	369		Shale	Sample missing	
369	400		Shale	Olive-black soft, fissile shale	
400	437		Shale	Olive-black soft, fissile shale	
437	463		Shale	Olive-black soft, fissile shale	
463	494		Shale	Olive-black soft, fissile shale	
494	526		Shale	Olive-black soft, fissile shale	
526	557		Shale	Olive-black soft, fissile shale	
557	587		Shale	Olive-black soft fissile shale; brown-gray soft, fissile shale	
587	620		Shale	Olive-black soft fissile shale; brown-gray soft, fissile shale	
620	651		Shale	Olive black firm shale; light olive-gray soft shale	
651	681		Shale	Olive black firm, splintery shale; light olive-gray soft shale	
681	713	Mowry Shale	Shale	Olive black firm shale; light olive-gray soft shale	
713	744		Shale	Olive-black soft, fissile shale	
744	773		Shale	Olive-black and minor brown-gray soft, fissile shale	
773	805		Shale	Olive-black soft shale	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
805	836	Mowry Shale	Shale	Olive-black firm shale	
836	868		Shale	Olive-black fissile shale	
868	890	Skull Creek Shale	Shale	Olive-black fissile shale; minor yellow-brown fissile shale	
890	900		Shale	Olive-black to olive-gray fissile shale	
900	915		Shale	Olive-black to olive-gray splintery, fissile shale	
915	930		Shale	Olive-black firm shale	
930	961		Shale	Olive-black hard shale	
961	976		Shale	Olive-black to olive-gray weakly calcareous, splintery shale	
976	993		Shale	Olive-black to olive-gray weakly calcareous, splintery shale	
993	1025	Fall River Formation	Shale and Sandstone	Olive-black to olive-gray weakly calcareous, splintery shale; light olive-gray very fine-grain, weakly cemented, silty sandstone	
1025	1055		Shale and Sandstone	Olive-black to olive-gray weakly calcareous, splintery shale; light olive-gray fine-grain, bedded, calcite cemented, subangular, subrounded sandstone	
1055	1086		Shale and Siltstone	Black splintery shale; light olive-gray bedded siltstone; light olive-gray fine-grain, bedded, calcite cemented, subangular, subrounded sandstone	
1086	1118		Shale	Black splintery shale; light gray weakly cemented, fine-grain, silty sandstone and sandy siltstone; moderate red-brown shale; rare light gray medium-grain, friable, rounded, quartz sandstone	
1118	1149	Lakota Formation	Siltstone and Shale	Pale yellow-gray soft, bedded siltstone; black splintery shale; rare moderate red-brown shale	
1149	1181		Siltstone and Shale	Pale yellow weakly calcareous, soft bedded siltstone; black fissil shale; pale olive-gray mudstone; rare moderate red-brown shale	
1181	1212		Shale and Siltstone	Black splintery fissile shale; yellow-gray finely bedded, soft siltstone; black carbonaceous shale	
1212	1243		Shale and Mudstone	Black splintery, fissile shale; yellow-gray to brown-gray soft mudstone	
1243	1274		Shale and Sandstone	Gray-black to black splintery, fissile shale; yellow-gray medium-grain (rounded quartz) to very fine-grain, bedded, hard, porous sandstone; minor light brown-gray well indurated siltstone; rare moderate red-brown shale	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
1274	1304	Lakota Formation	Shale and Sandstone	Brown-black to black to medium light gray shale; yellow-gray fine-grain, rounded, calcite cemented, bedded, quartz sandstone	
1304	1320	Morrison Formation	Shale	Olive-gray, brown-gray, and black calcareous, splintery shale	
1320	1336		Shale	Olive-gray, brown-gray, and black calcareous, splintery shale; white calcite	
1336	1367		Siltstone	Green-gray soft siltstone with very fine-grain sand	
1367	1398		Limestone and Siltstone	Yellow-gray finely bedded, finely crystalline limestone; green-gray bedded siltstone with very fine-grain sand	
1398	1430		Mudstone and Limestone	Moderate red-brown mudstone; olive-gray soft shale; yellow-gray finely bedded, finely crystalline limestone	
1430	1461		Mudstone	Green-gray moderately indurated, calcareous mudstone	
1461	1493		Mudstone	Green-gray moderately indurated, calcareous mudstone; minor moderate red-brown mudstone	
1493	1524		Mudstone	Green-gray moderately indurated, calcareous mudstone	
1524	1556		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone; minor white calcite	
1556	1618		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone; minor white calcite	
1618	1648		Siltstone	Olive-gray soft, finely bedded, calcareous siltstone; light olive-gray soft shale; minor white calcite	
1648	1679		Shale	Olive-gray to dark green-gray splintery, fissile, calcareous shale; rare white calcite; rare moderate red-brown shale	
1679	1710	Sundance Formation	Shale and Sandstone	Olive-gray to dark green-gray splintery, calcareous shale; medium light gray fine-grain, well cemented (calcite), rounded, quartz sandstone; rare moderate red-brown shale	
1710	1742		Sandstone and Shale	Light olive-gray fine-grain, glauconitic, subangular, calcite cemented, bedded, silty sandstone; black splintery shale; light brown soft mudstone	
1742	1774		Shale	Dark green-gray fissile, calcareous shale; moderate red-brown soft mudstone	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
1774	1805	Sundance Formation	Sandstone	Light olive-gray and moderate red-brown, very fine-grained, finely bedded, friable sandstone; white to pink-gray gypsum; dark green-gray fissile, calcareous shale	
1805	1836		Sandstone	Light green-gray fine-grain, glauconitic, calcite cemented, bedded, rounded, quartz sandstone; dark green-gray calcareous, splintery shale; rare light orange gypsum	
1836	1867		Shale	Dark green-gray fissile shale; green-gray calcareous, soft silty shale; rare moderate red-brown shale	
1867	1900		Shale	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; red-brown-gray soft fissile shale; minor moderate red-brown shale	
1900	1930		Shale	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; red-brown-gray soft fissile shale; white to yellow-gray anhydrite; minor gray-green soft shale; minor moderate red-brown shale	
1930	1961		Shale and Sandstone	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; minor gray-green soft shale; light red-brown fine to very fine-grain, bedded sandstone; yellow-gray to white calcite	
1961	1992		Shale and Siltstone	Light olive-gray fissile, calcareous shale; dark olive-gray splintery shale; minor gray-green soft shale; light red-brown bedded siltstone with very fine-grain sand; yellow-gray to white calcite	
1992	2024		Sandstone	Moderate red-brown with minor pale red fine-grain, bedded, friable, silty sandstone; olive-gray soft, fissile shale	
2024	2054	Spearfish Formation	Siltstone	Moderate red-brown, bedded, friable, sandy siltstone; rare pink-gray medium-grain, calcite cemented, rounded, quartz sandstone	Green-gray shale is present in all samples to a depth of 3,100 feet and is not included in sample description below.
2054	2086		Siltstone	Moderate red-brown, bedded, friable, sandy siltstone	
2086	2117		Siltstone	Moderate red-brown, bedded, friable, sandy siltstone with parting and veins of white anhydrite	
2117	2149		Siltstone	Moderate red-brown bedded, calcareous, sandy siltstone with partings of white anhydrite	
2149	2180		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2180	2211		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2211	2243	Spearfish Formation	Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2243	2274		Shale	Moderate red-brown calcareous, soft shale with partings and veins of white anhydrite	
2274	2306		Shale	Moderate red-brown calcareous, soft shale with minor white anhydrite	
2306	2337		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2337	2369		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2369	2400		Shale	Moderate red-brown calcareous, soft shale with minor white selenite	
2400	2431	Minnehata Limestone	Limestone	Pale yellow-brown finely crystalline, bedded limestone; moderate red-brown calcareous, soft shale	
2431	2463	Opeche Shale	Shale and Limestone	Moderate red-brown, brittle, calcareous shale; pale yellow-brown finely crystalline, bedded limestone	
2463	2494		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2494	2526		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2526	2557		Shale and Limestone	Moderate red-brown soft, fissile shale; yellow-brown limestone; pale yellow-gray crystalline, bedded limestone	
2557	2589	Minnelusa Formation	Limestone and Shale	Pink-gray finely crystalline limestone; moderate red-brown soft, fissile shale; white anhydrite	
2589	2619		Dolomite	Pink-gray finely crystalline dolomite	Moderate red-brown shale persists in all samples to a depth of 3,100 feet and is not included in sample descriptions below.
2619	2650		Dolomite	Pale red finely crystalline dolomite	
2650	2712			Samples missing	
2712	2744		Limestone	Pale red and pink-gray crystalline limestone; white calcite	
2744	2775		Limestone	Pale red and pink-gray crystalline limestone; white calcite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2775	2800	Minnelusa Formation	Limestone	Pink-gray crystalline limestone; white selenite veins	
2800	2810		Limestone	Pale red and pink-gray crystalline limestone; white calcite	
2810	2820		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone	
2820	2830		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone; moderate brown soft calcareous shale	
2830	2840		Dolomite and Limestone	Pale red bedded, finely crystalline to granular dolomite; pink-gray finely crystalline limestone; moderate brown soft calcareous shale	
2840	2850		Dolomite and Limestone	Pale red shaley dolomite; pink-gray finely bedded, finely crystalline limestone	
2850	2860		Limestone	Pink-gray finely bedded, finely crystalline limestone	
2860	2870		Dolomite	Pink-gray bedded, granular dolomite	
2870	2880		Dolomite	Yellow-gray, bedded, cryptocrystalline dolomite	
2880	2890		Sandstone	Light red-orange fine-grain, well cemented, rounded, frosted quartz sandstone	
2890	2900		Dolomite	Pale red finely bedded dolomite; yellow-gray cryptocrystalline massive dolomite	
2900	2910		Dolomite	Pink-gray, finely bedded, granular dolomite	
2910	2920		Sandstone	Yellow-gray, very fine to fine-grain, calcite cemented, finely bedded, subrounded, quartz sandstone	
2920	2930			Sample missing	
2930	2940		Dolomite	Pale red finely bedded, finely crystalline dolomite	
2940	2950		Dolomite	Pink-gray finely bedded, finely crystalline dolomite	
2950	2960		Dolomite	Pale red finely bedded, granular dolomite; yellow-gray granular dolomite	
2960	2970		Sandstone and Dolomite	Pale red very fine-grain, angular, calcite cemented, bedded sandstone; yellow-gray finely bedded dolomite	
2970	2980		Dolomite	Yellow-gray finely bedded, crystalline dolomite; granular pale yellow-gray calcite	
2980	2990		Dolomite	Yellow-gray very finely bedded, finely granular dolomite	

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
2990	3000	Minnelusa Formation	Shale and Dolomite	Moderate red-brown soft, fissile shale; yellow-gray very finely bedded, finely granular dolomite; white calcite	
3000	3010		Limestone and Shale	Yellow-gray massive limestone; moderate red-brown soft, fissile shale;	
3010	3020		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale	
3020	3030		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale; moderate orange gypsum	
3030	3040		Shale	Moderate red-brown to pale yellow-orange soft, fissile shale; moderate orange gypsum	
3040	3050		Shale	Moderate red-orange to moderate red-brown soft, fissile shale; pale red splintery shale	
3050	3060	Madison Limestone	Limestone	Pale yellow-gray bedded, granular limestone; rare pale red finely crystalline dolomite	
3060	3070		Limestone	Yellow-gray finely bedded, finely crystalline limestone; minor white bedded gypsum	
3070	3080		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone; minor white bedded gypsum; rare pale red finely bedded dolomite	
3080	3085		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone; minor white bedded gypsum; rare pale red finely bedded dolomite	
3085	3090		Limestone	Yellow-gray and pale brown-gray finely bedded, finely crystalline limestone; minor white bedded gypsum; rare pale red finely bedded dolomite	
3090	3100		Limestone	Yellow-gray finely bedded, crystalline limestone	
3100	3280		Limestone	No samples	
3280	3311		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3311	3343		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3343	3374		Limestone	Pale yellow-gray granular limestone	Sample is ground into coarse sand
3374	3405		Limestone	Pale yellow-gray with minor pale brown-gray granular limestone; white calcite	Sample is ground into coarse sand
3405	3436		Limestone	Pale yellow-gray with minor pale brown-gray finely granular limestone; white calcite	Sample is ground into coarse sand

Depth (feet)		Geologic Unit	Principal Lithology	Description (listed in order of decreasing abundance; cuttings logged wet)	Comments
From	To				
3436	3520	Madison Limestone	Limestone	No sample	
3520	3530		Limestone	Pale yellow to white finely granular limestone with white calcite	Sample is ground into fine to coarse sand
3530	3540		Limestone	Pale yellow to white finely granular limestone with white calcite	Sample is ground into fine to coarse sand
3540	3550		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3550	3560		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3560	3570		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3570	3580		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3580	3590		Limestone	Pale yellow finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3590	3600		Limestone	Pale yellow and minor gray-orange finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3600	3610	Englewood Formation	Limestone	Pale yellow, gray-orange, and minor pink-gray finely granular limestone with abundant white calcite	Sample is ground into fine to coarse sand
3610	3623		Limestone	Gray-red finely bedded, finely crystalline limestone; pink gray and yellow-gray finely granular limestone; white calcite	Sample is ground into fine to coarse sand

Total Depth - 3,623 feet

SP-16"-64" RESISTIVITY

COMPANY Weston Engineering
WELL Bear Butte Valley Water
FIELD
COUNTY Meade STATE S. Dak

LOCATION:

OTHER SERVICES

Mineral

MM人

AAF

API 114

SEC

TWP

RGE

NOTES

RECEIVED

JUL 21 2014

WATER RIGHTS PROGRAM

PERMANENT DATUM GL

ELEVATION

K. B.

LOG MEAS. FROM GL

ABOVE PERM DATUM

D. F.

DRILLING MEASURED FROM GL

G. L.

DATE	07/03/2014	07/03/2014
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RUN NO.	ONE	TWO
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TYPE LOG	SP 16 64	GR/Cal
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DEPTH-DRILLER	3100'	3100
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DEPTH-LOGGER	3085'	3085'
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BTM LOGGED INTERVAL	3085'	3085'
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TOP LOGGED INTERVAL	1280'	1280'
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TYPE FLUID IN HOLE	WATER	WATER
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LOGGED ON BOTTOM

EQUIPMENT

LOCATION

MAX. REC. TEMP. DEG C.

RECORDED BY	B. Hall	B. Hall
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WITNESSED BY	J. Hunt	J. Hunt
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REMARKS

CASING RECORD

BOREHOLE RECORD

RUN

NO.	BIT	FROM	TO	SIZE	WEIGHT	FROM	TO
1	17.5	0	51'	16'		0	51'
2	12.25	51'	1310'	10.75		51'	1310'

2	12.25	51'	1310'	10.75	51'	1310'
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3	9.75	1310'	3100'
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

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120.00	CPS	240.00
-100.00	SP	100.00
MVS		

CHART SCALING

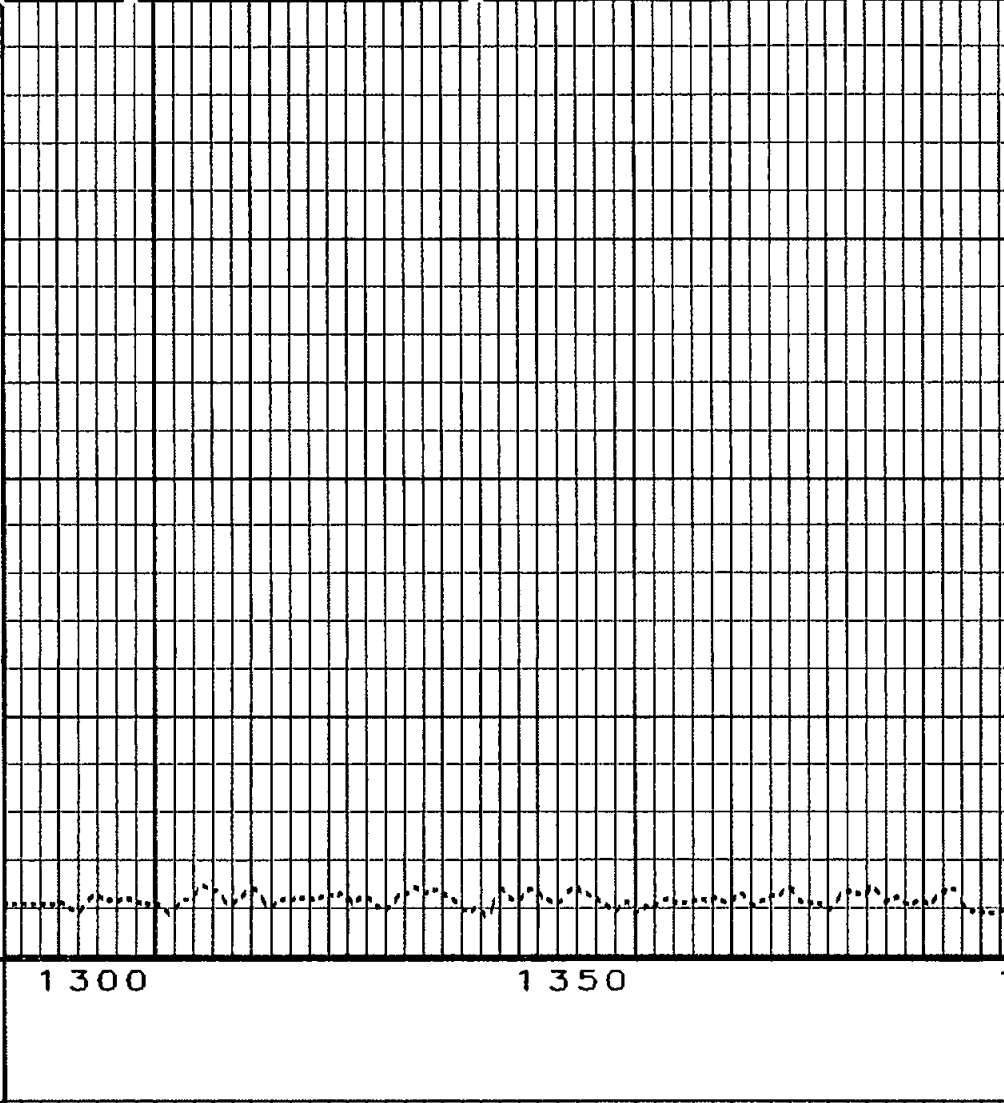
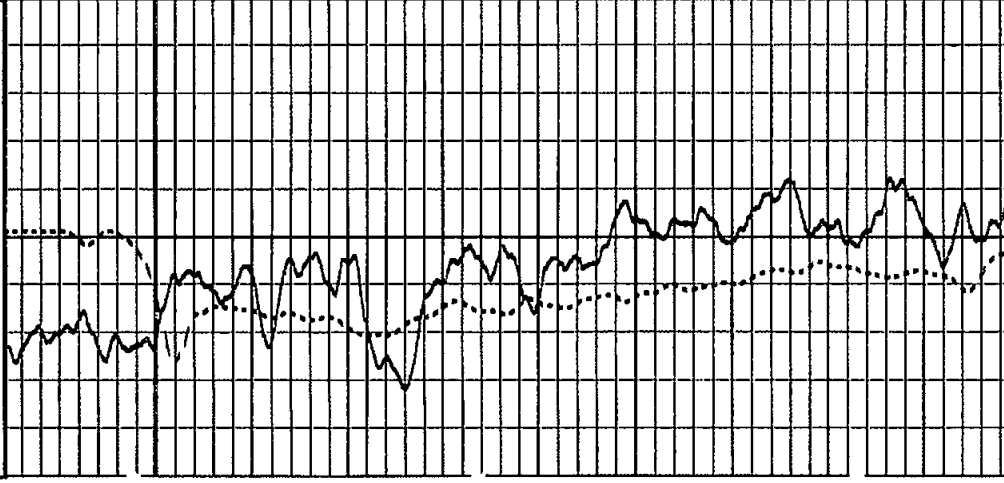
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0.00	64"	50.00
50.00	OHMS	100.00

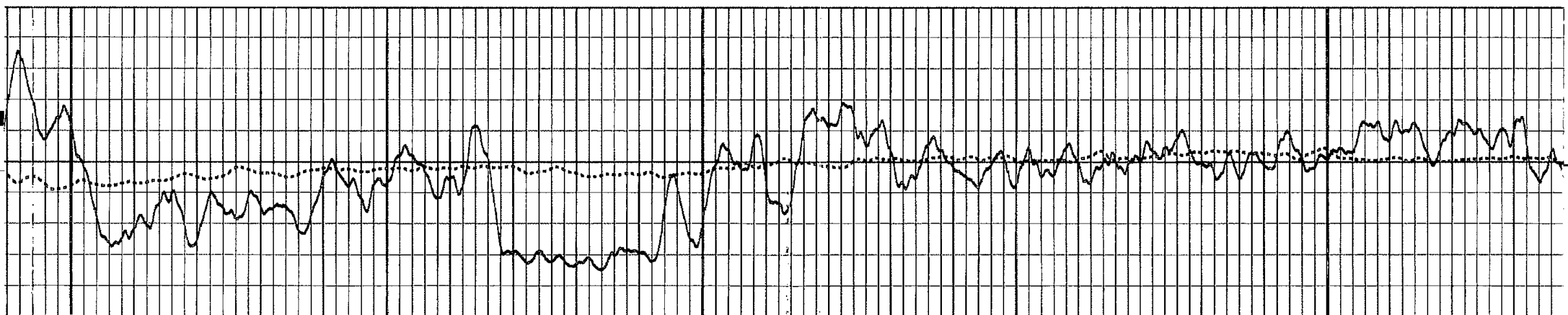
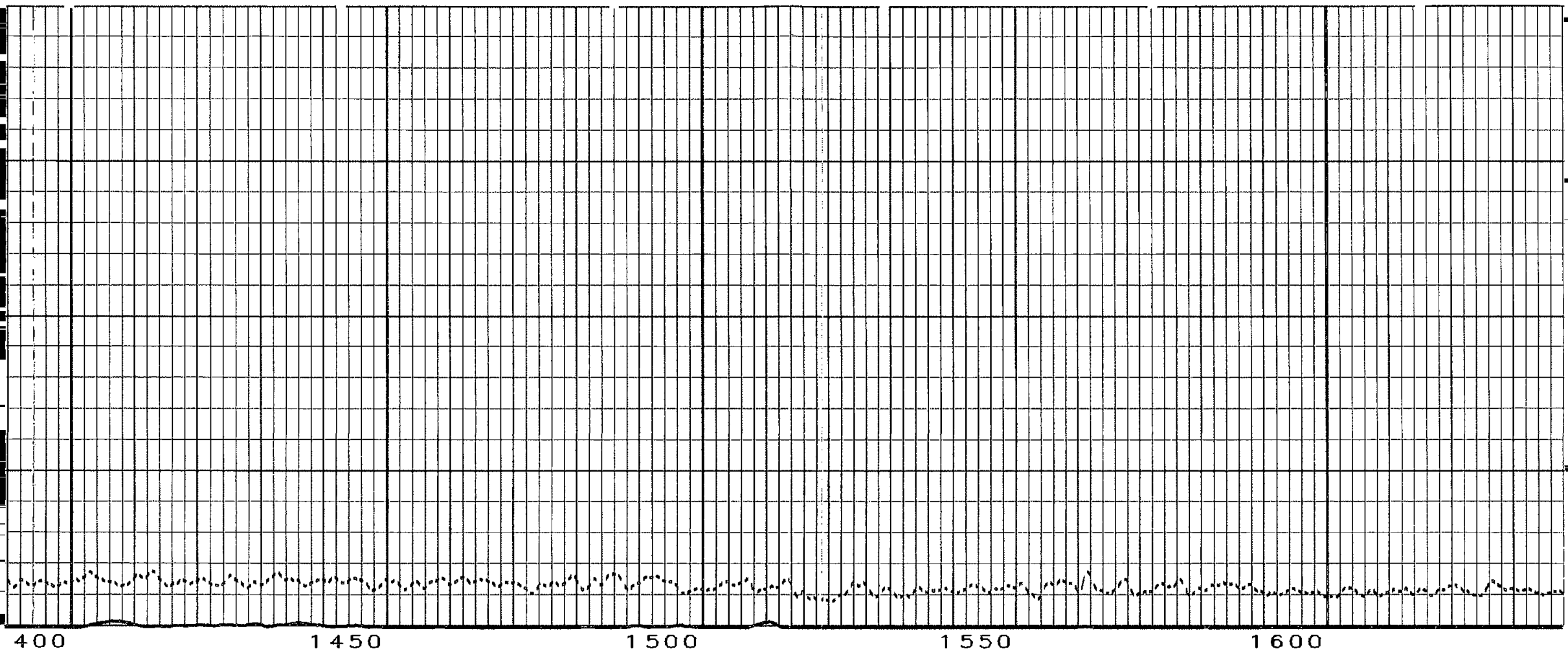
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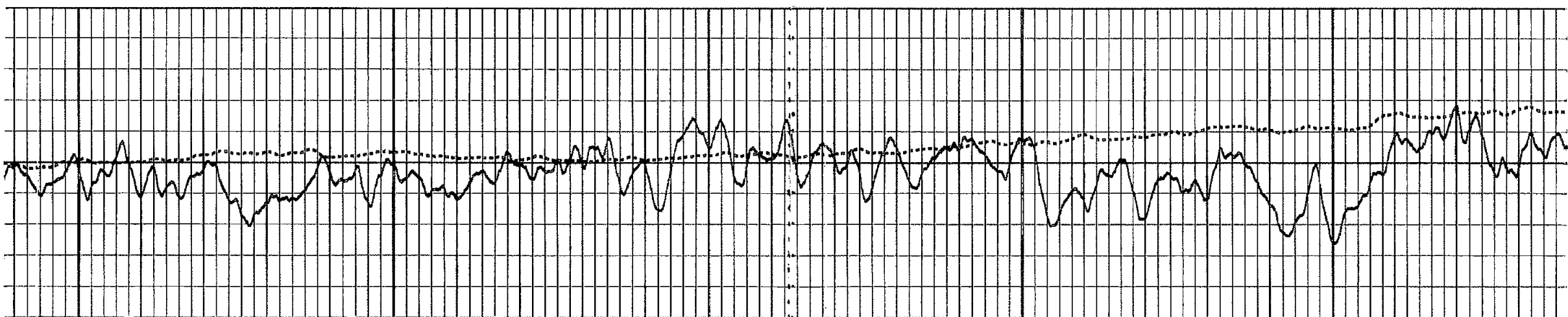
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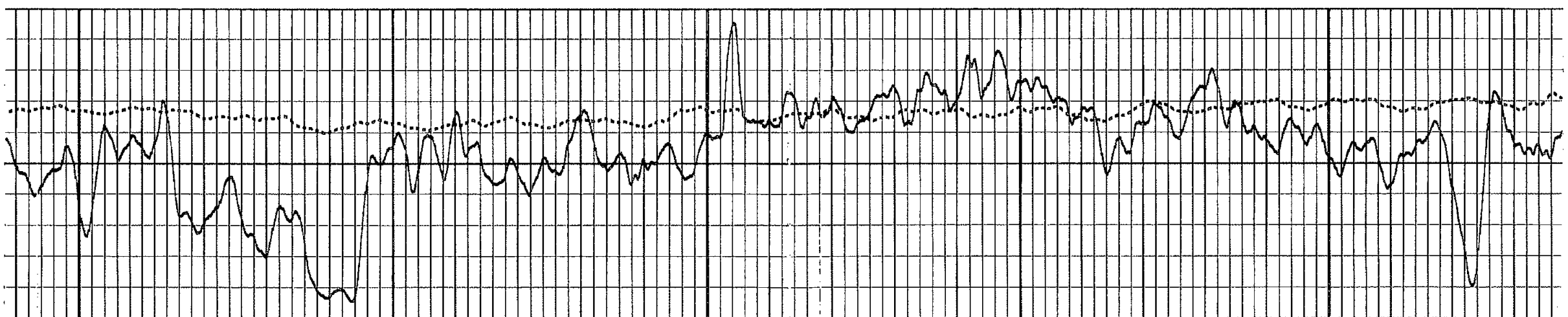
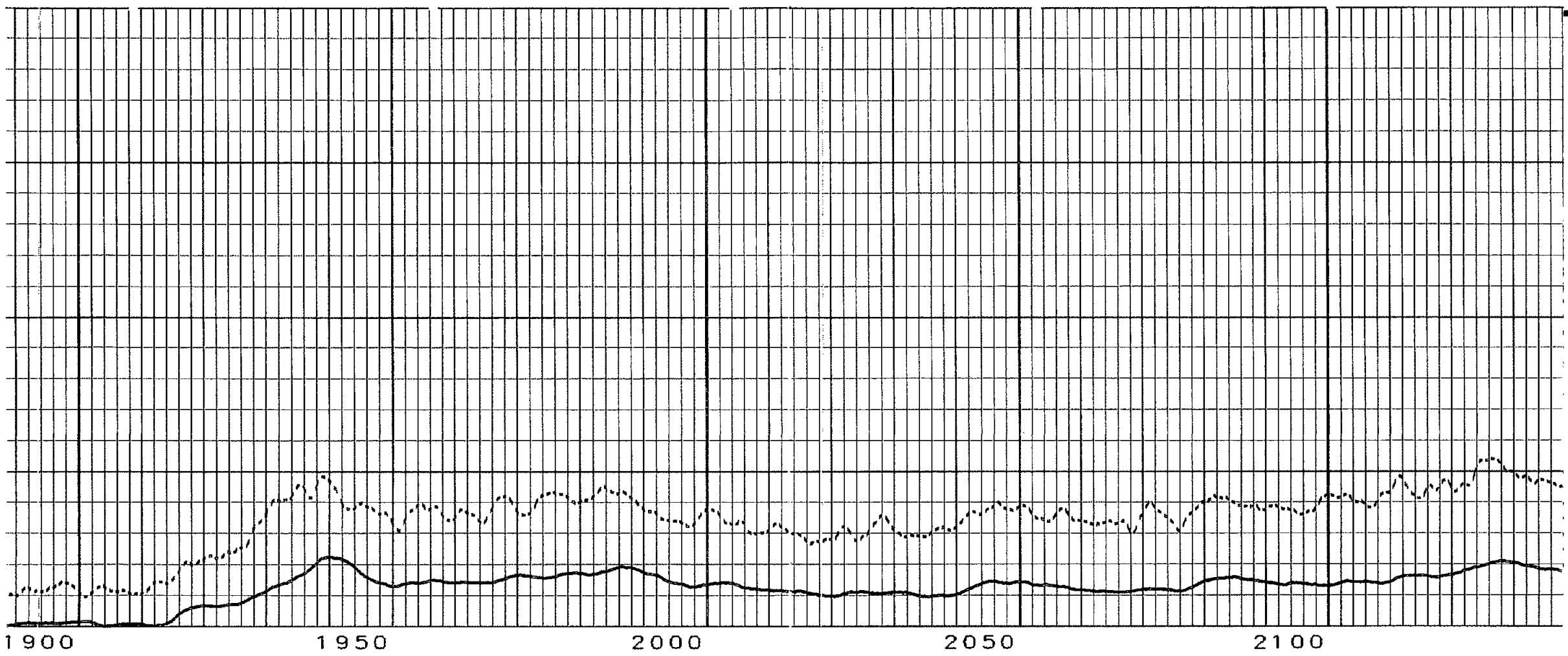
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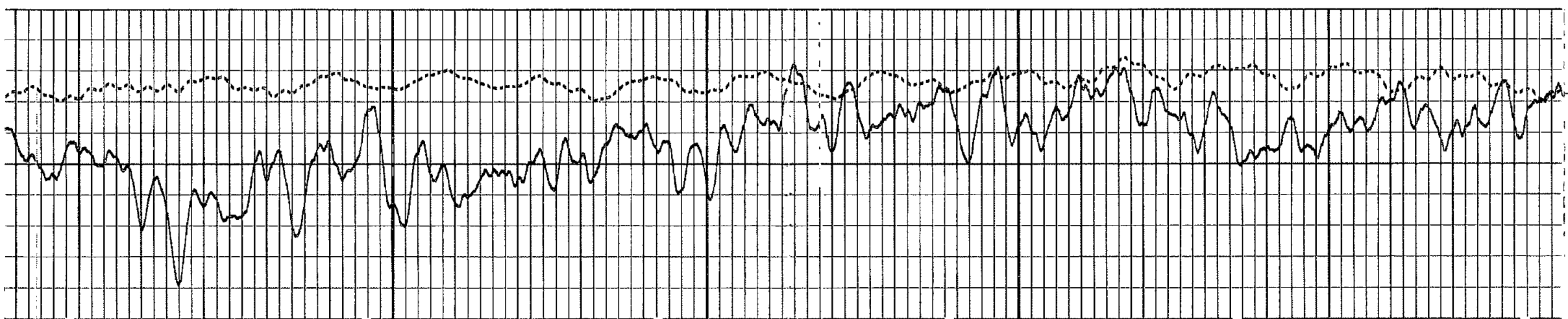
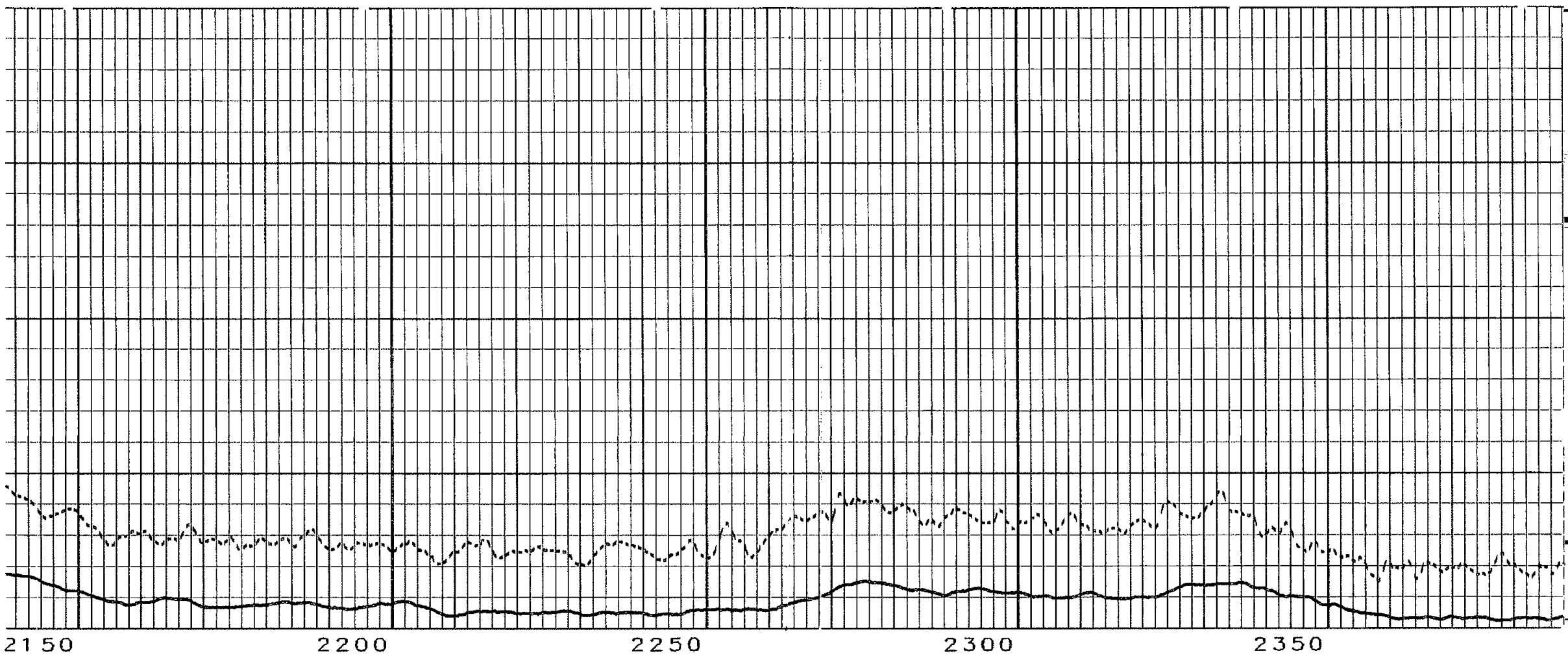
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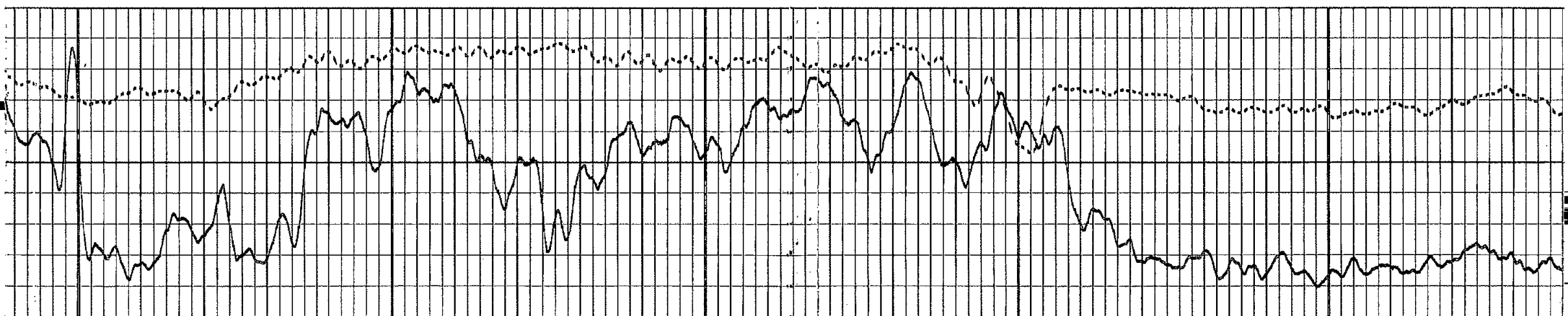
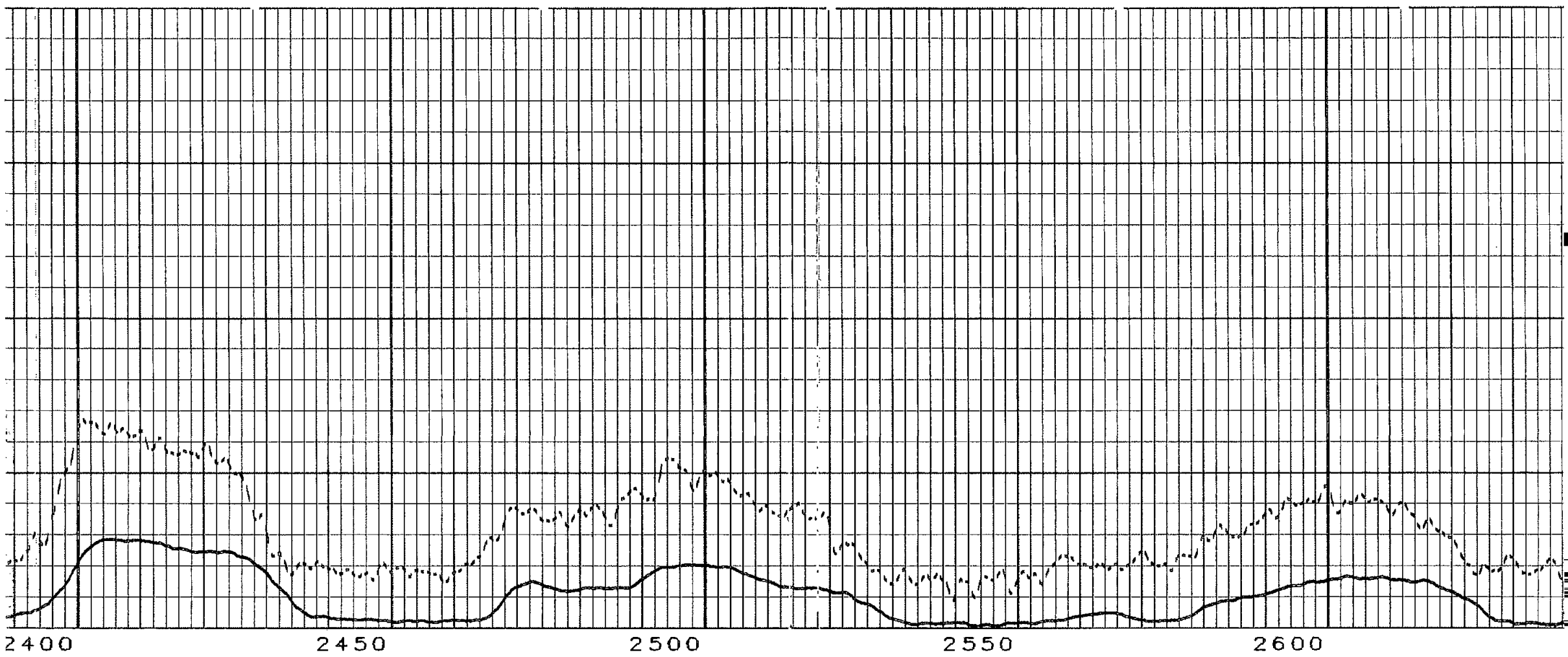


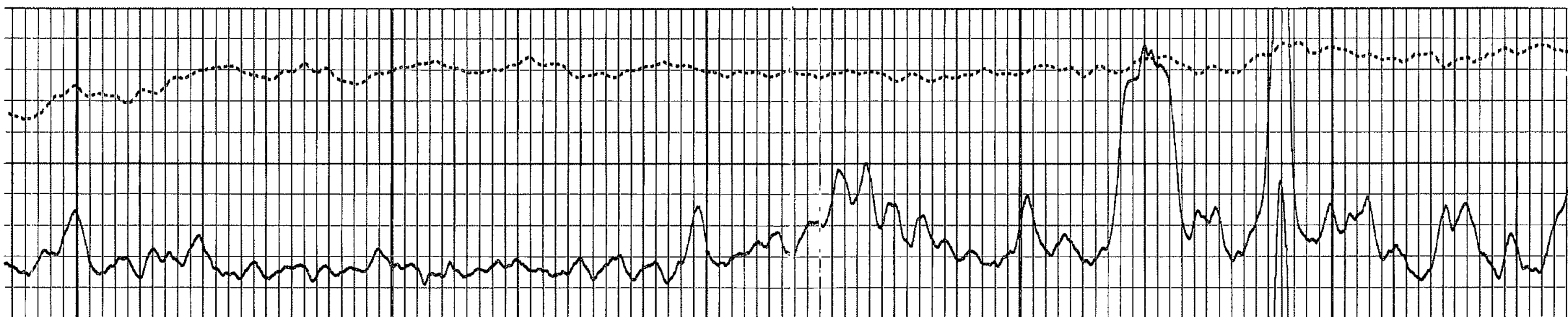
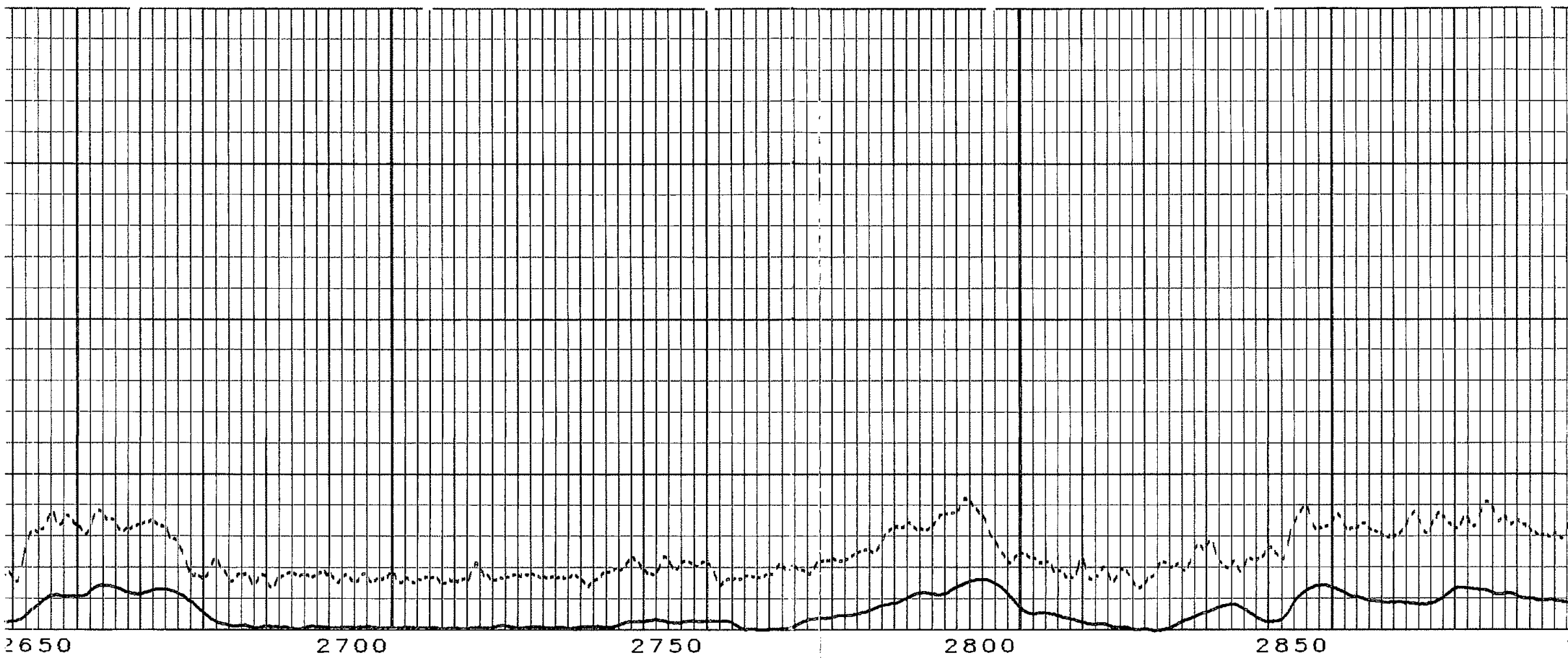












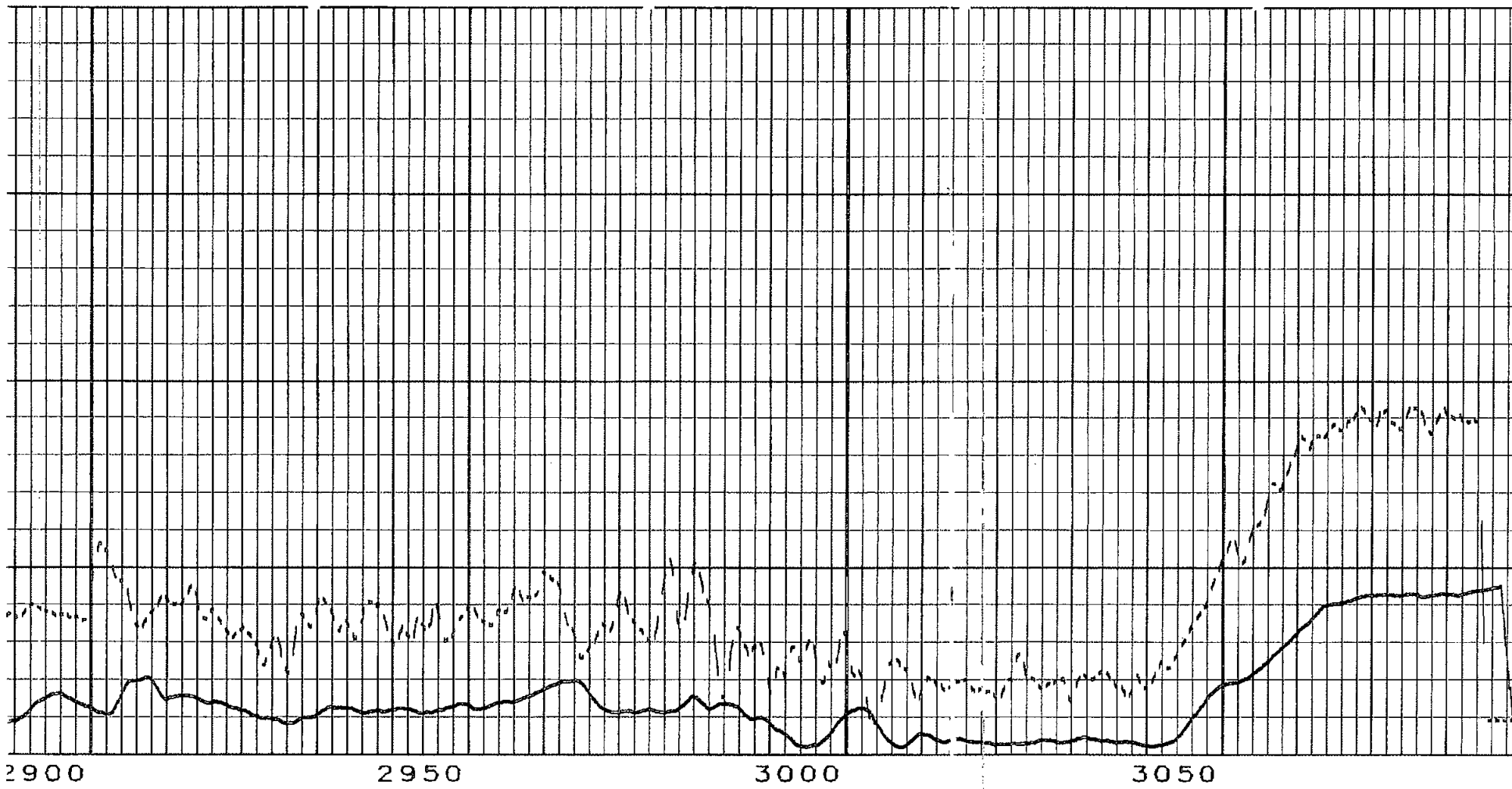


CHART SCALING

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0.00	64"	50.00
50.00	OHMS	100.00

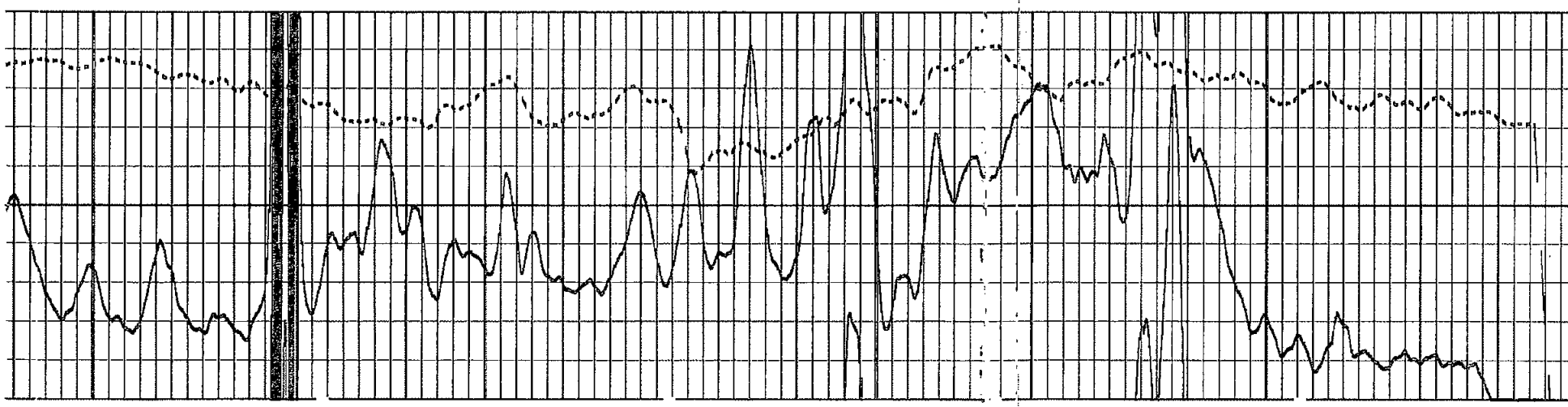


CHART SCALING

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120.00	CPS	240.00
-100.00	SP	100.00
	MVS	

Goodwell Incorporated

G/R - CAL - NEUTRON

SP-16"-64" RESISTIVITY

Mineral

WYW#:

AFE#:

API#:

COMPANY Weston Engineering
WELL Bear Butte Valley Water
FIELD
COUNTY Meade STATE S. Dak

LOCATION:

OTHER SERVICES

SEC

TWP

RGE

NOTES

RECEIVED

JUL 21 2014

WATER RIGHTS
PROGRAM

PERMANENT DATUM GL

ELEVATION

LOG MEAS. FROM GL

ABOVE PERM DATUM

DRILLING MEASURED FROM GL

K. B.

D. F.

G. L.

DATE	07/09/2014	07/09/2014
RUN NO.	ONE	TWO
TYPE LOG	SP 16 64	GR/Cal
DEPTH-DRILLER	3469'	3469'
DEPTH-LOGGER	3469'	3469'
BTM LOGGED INTERVAL	3469'	3469'
TOP LOGGED INTERVAL	3080'	16'
TYPE FLUID IN HOLE	WATER	WATER
LOGGED ON BOTTOM		
EQUIPMENT		
LOCATION		
MAX. REC. TEMP. DEG C.		
RECORDED BY	B. Hall	B. Hall
WITNESSED BY	J. Hunt	J. Hunt

REMARKS

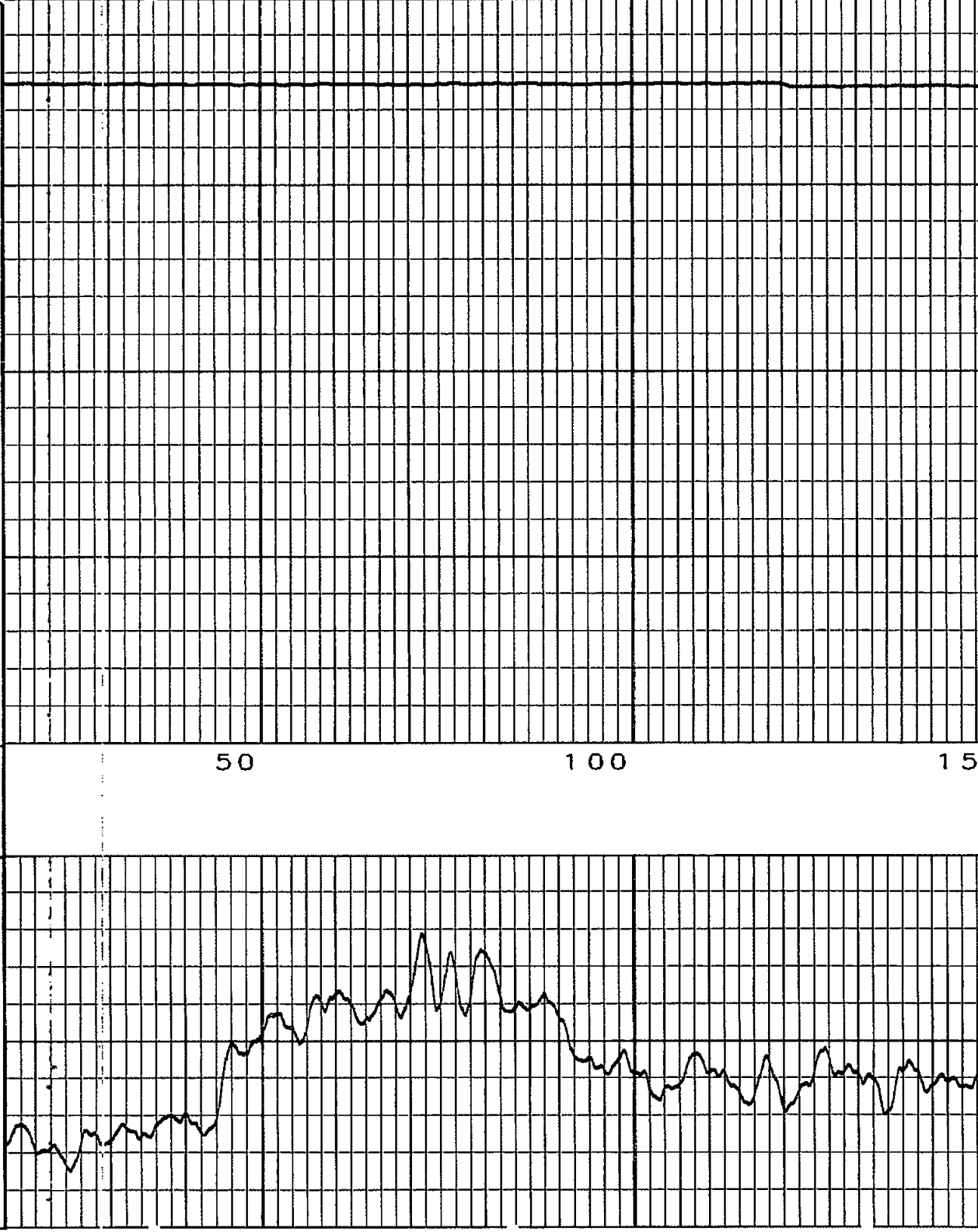
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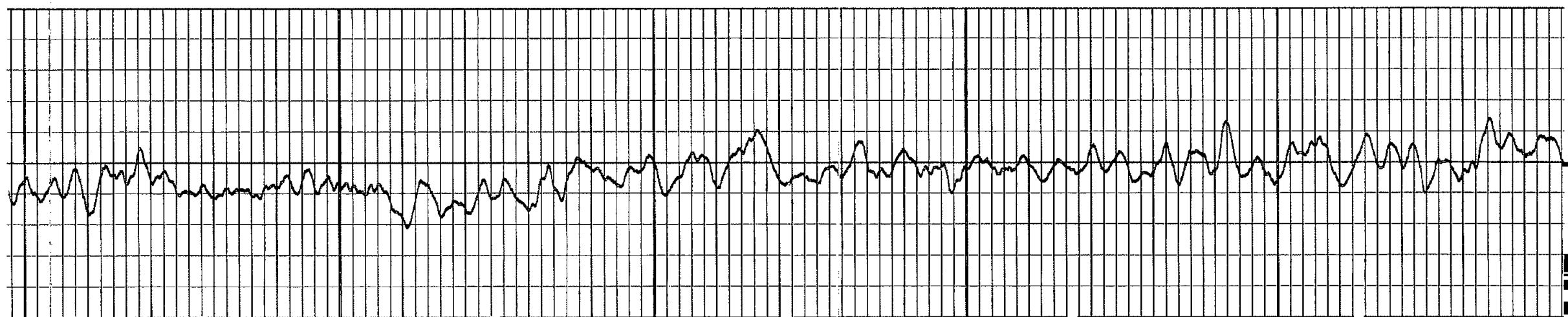
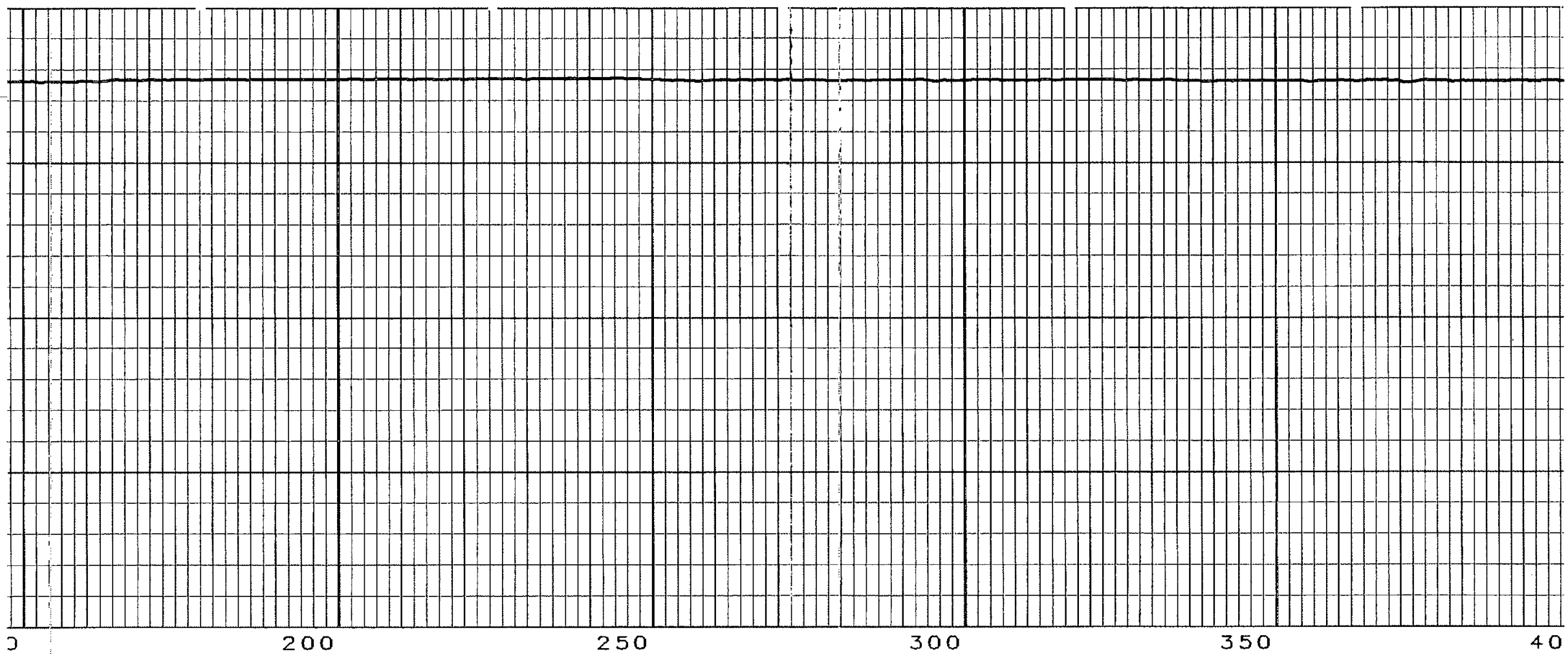
BOREHOLE RECORD

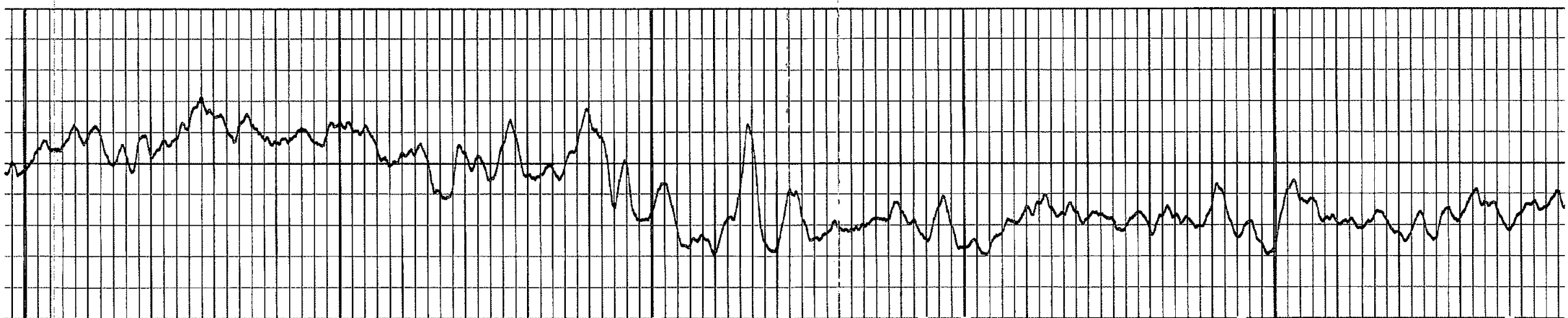
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		FROM	TO	SIZE	WEIGHT	FROM TO
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2	12.25	51'	1310'	10.75		51' 1310'
3	9.75	1310'	3100'	7"		1310' 3095'
4						

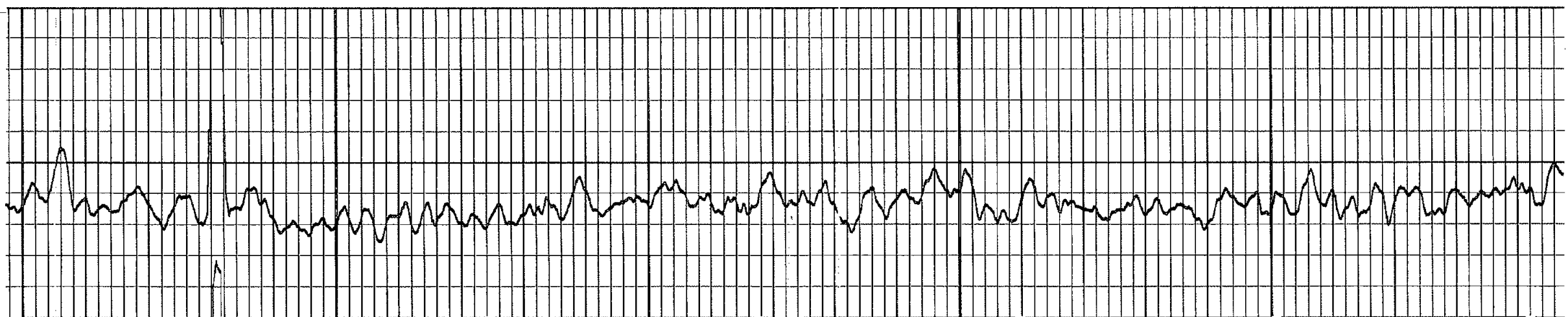
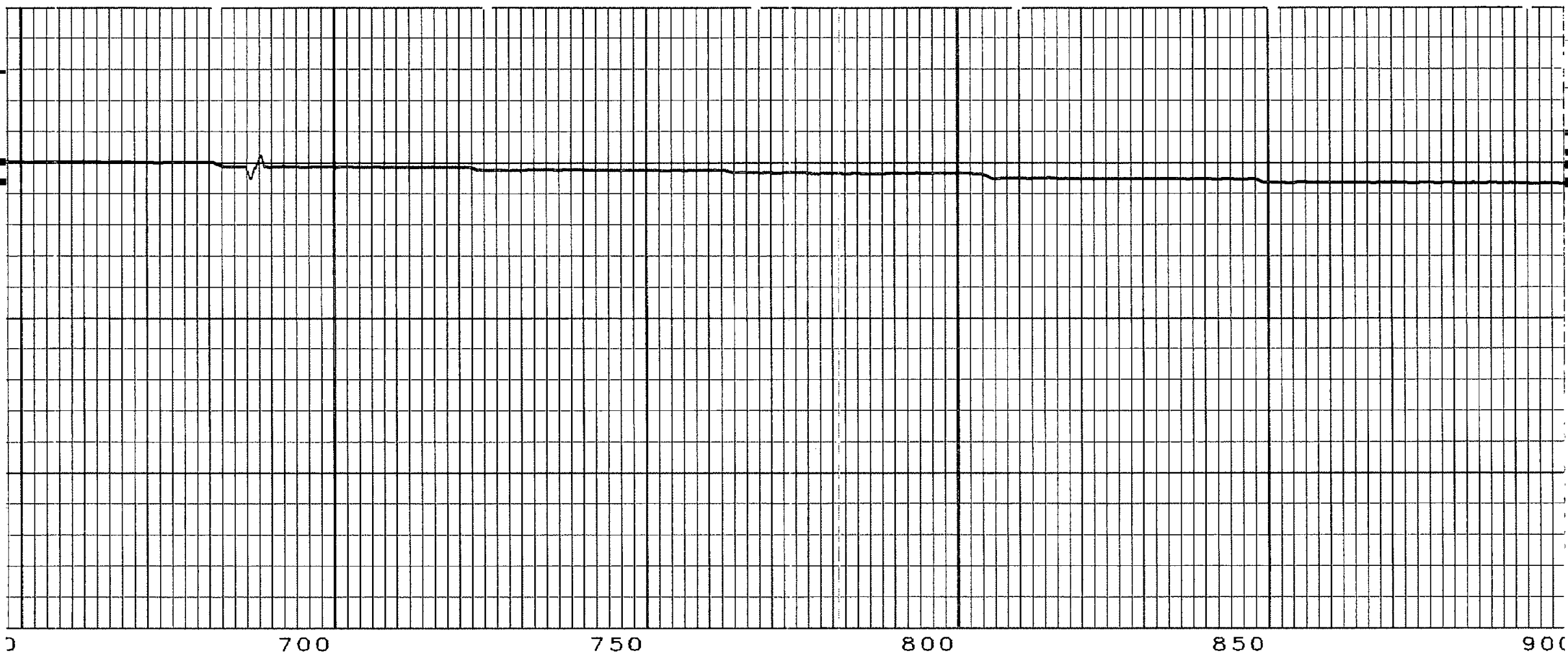


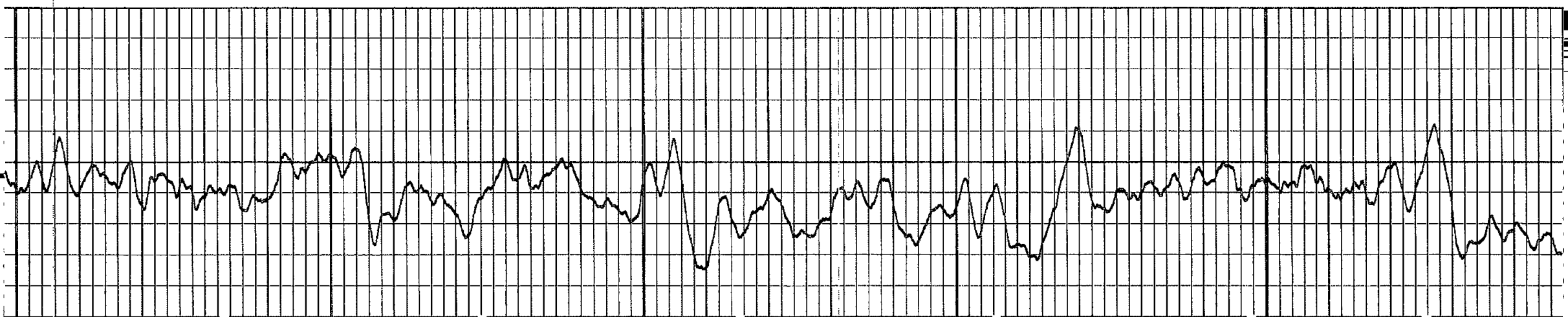
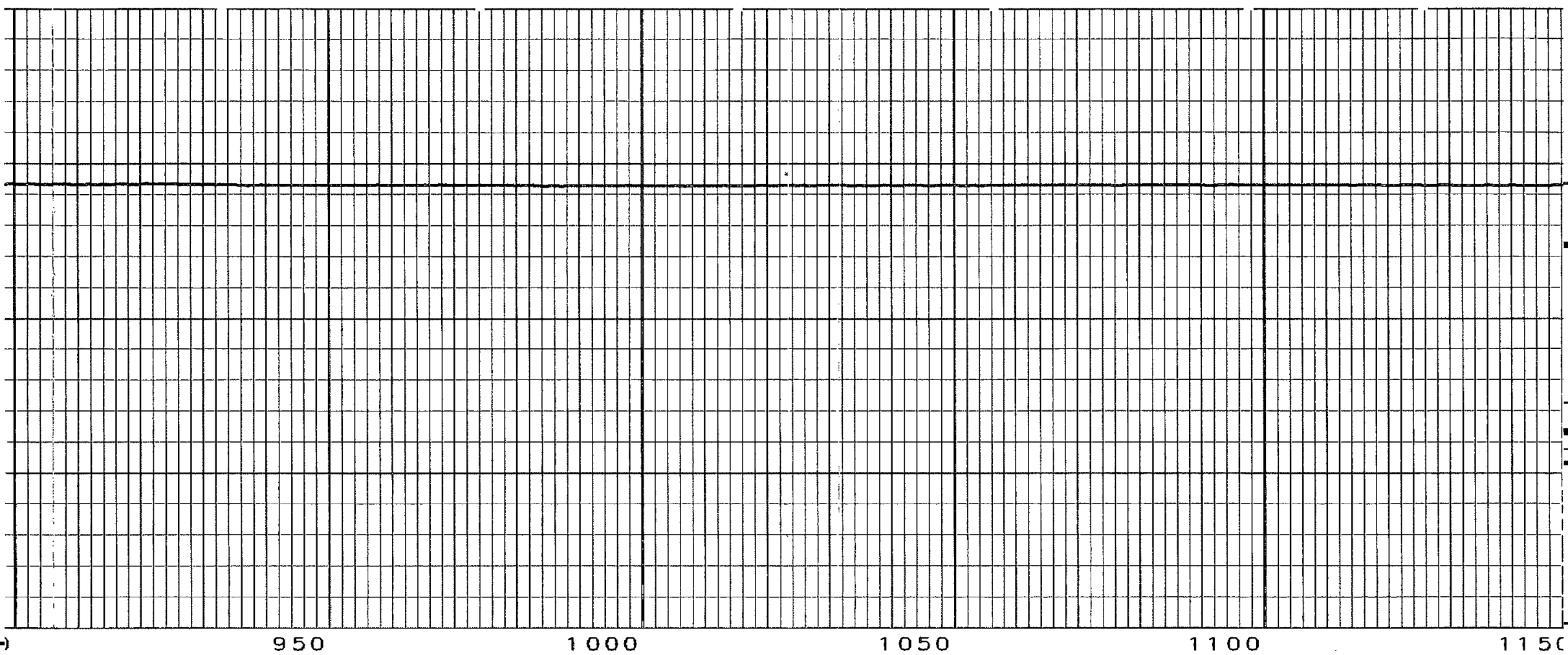
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120.00	CPS	12.00	INCHES
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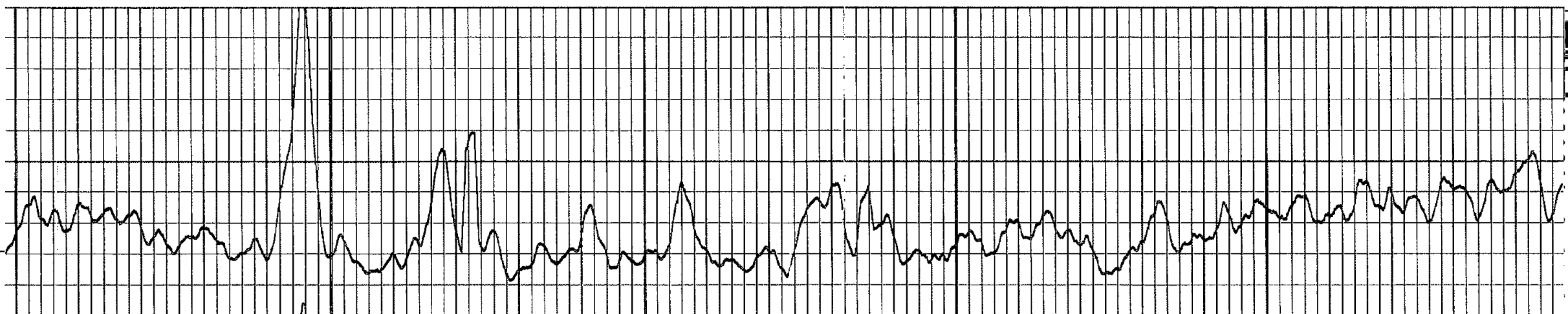
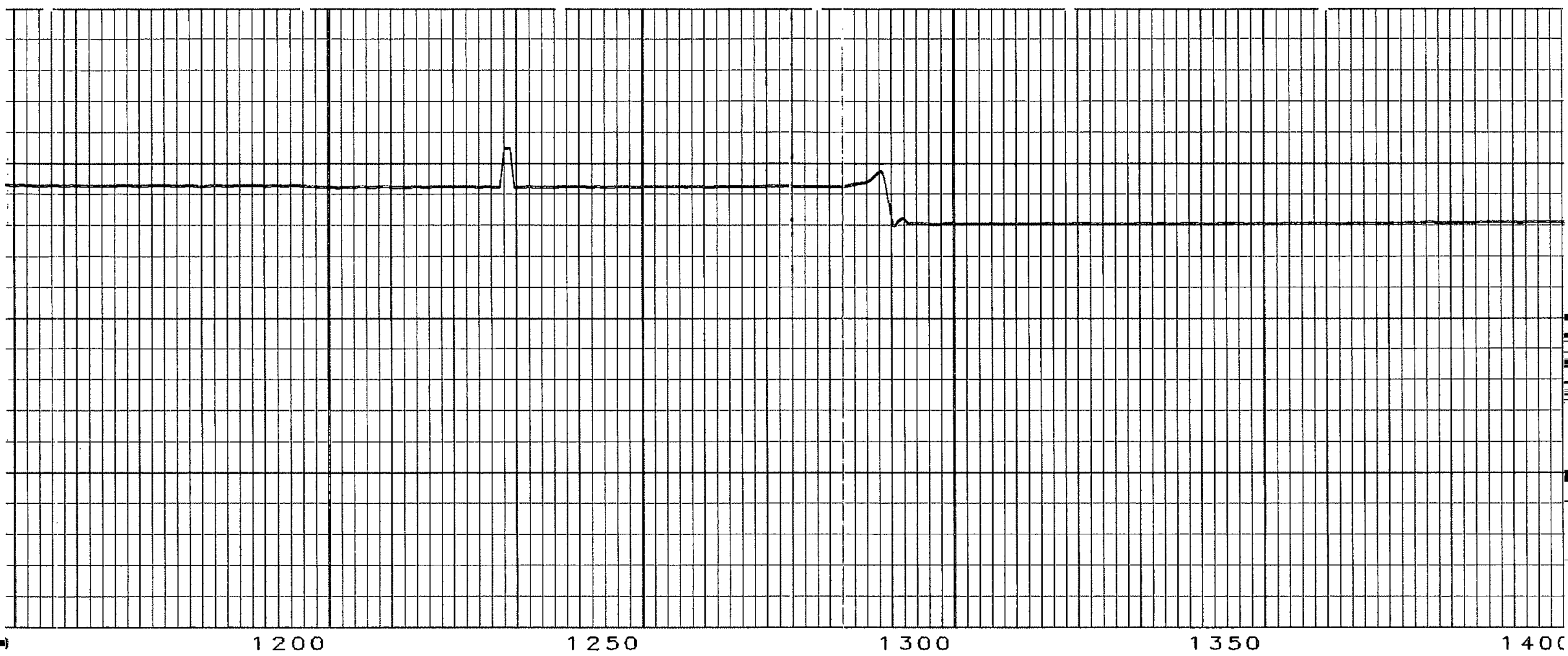


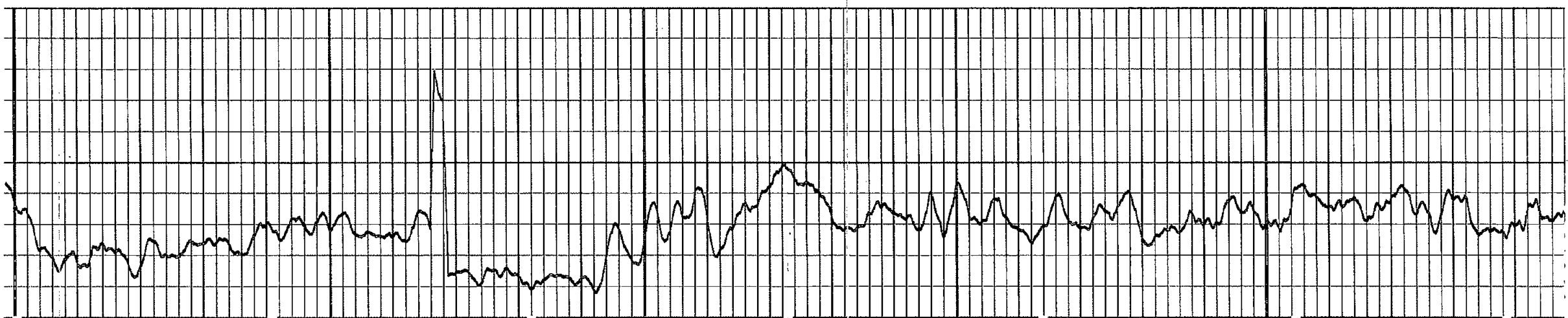


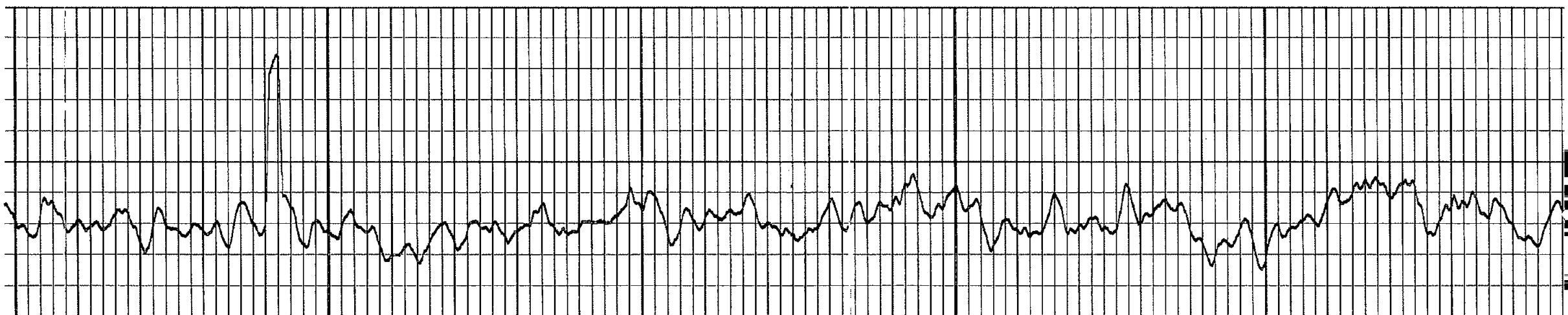
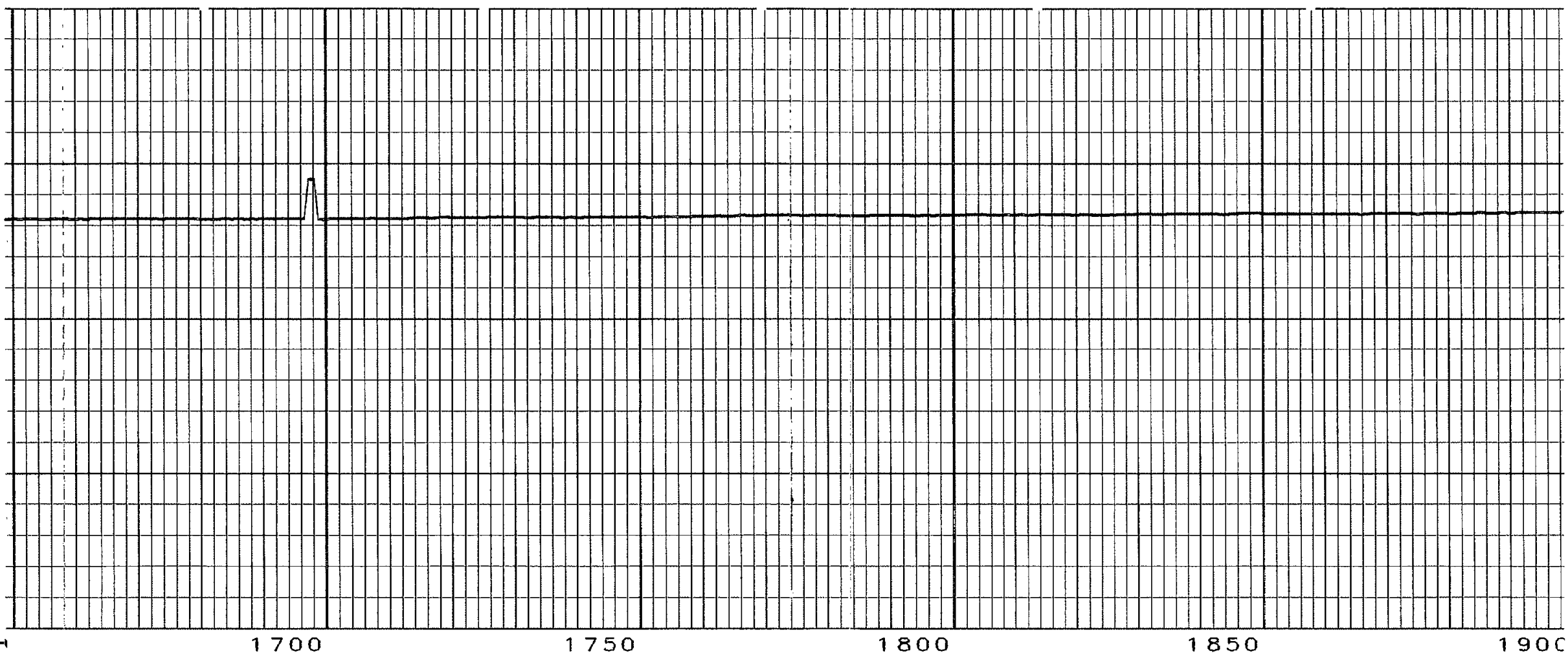


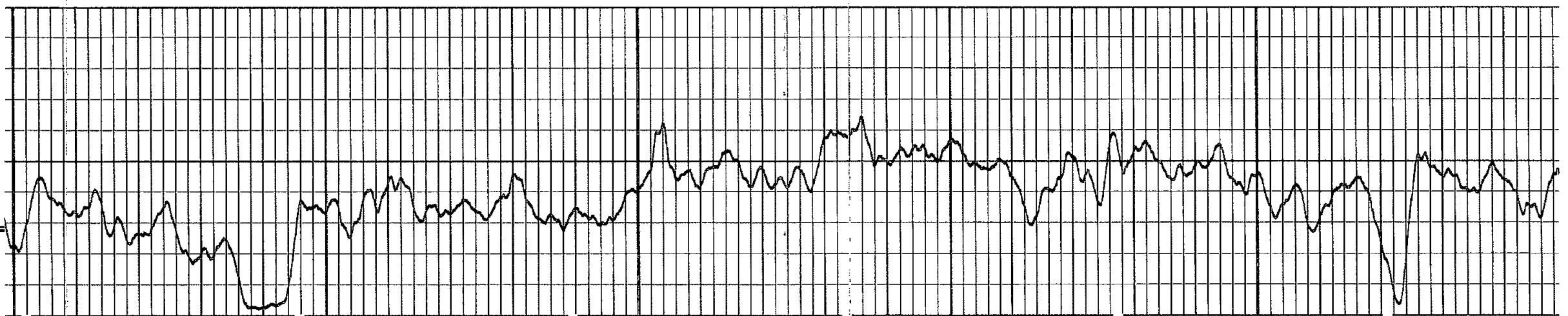
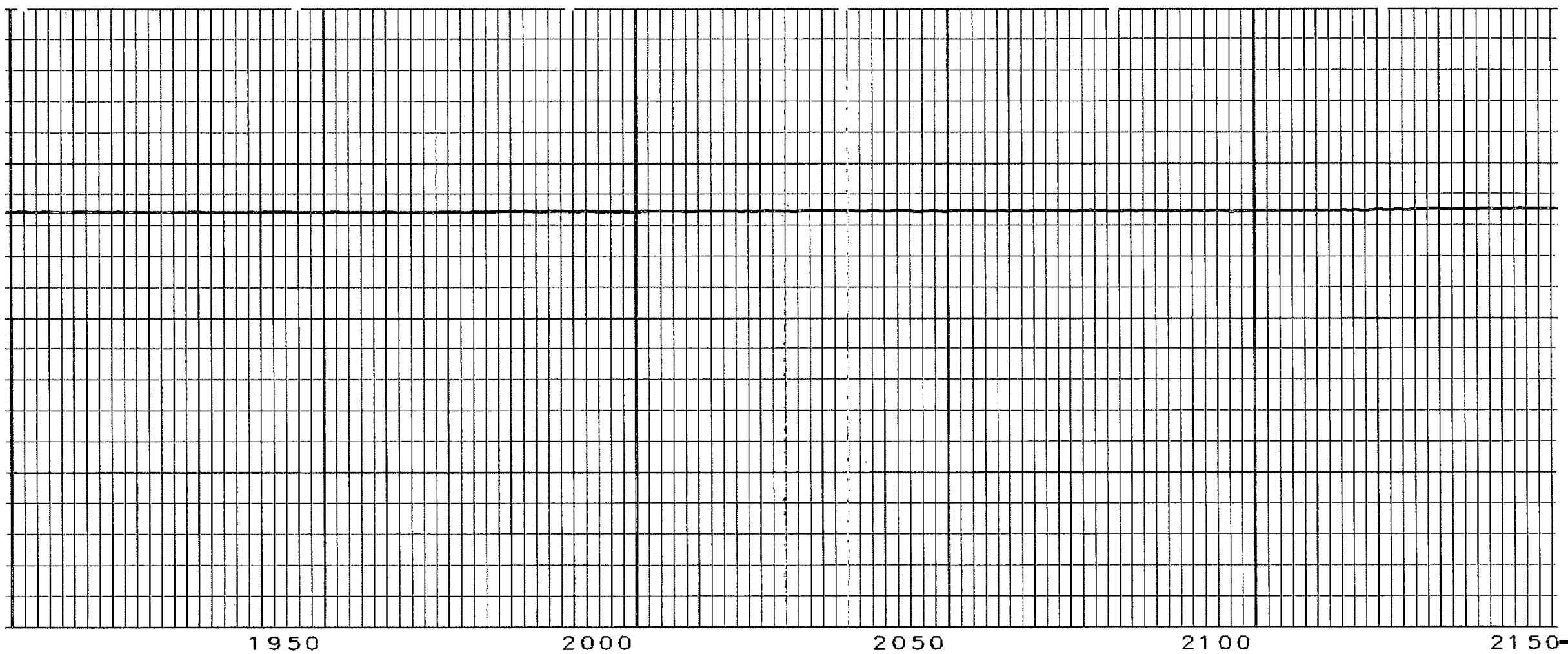


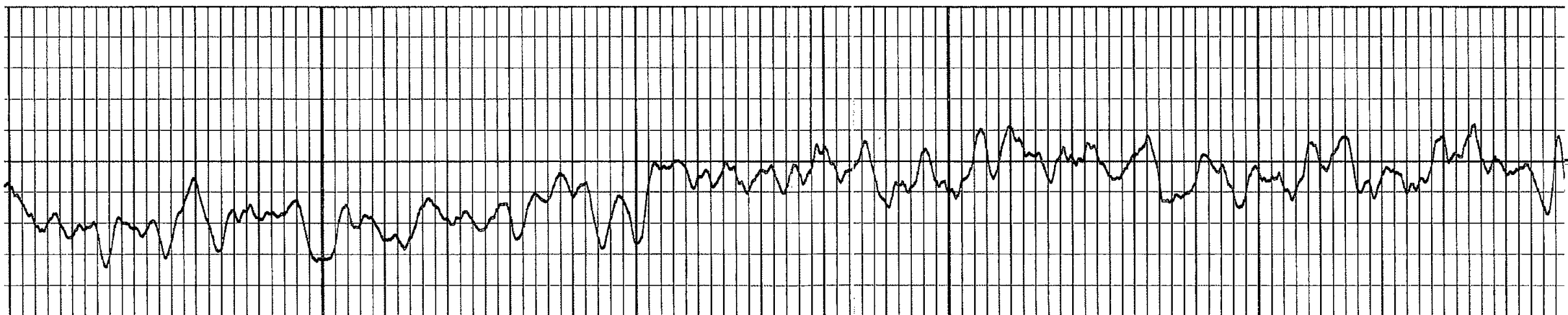
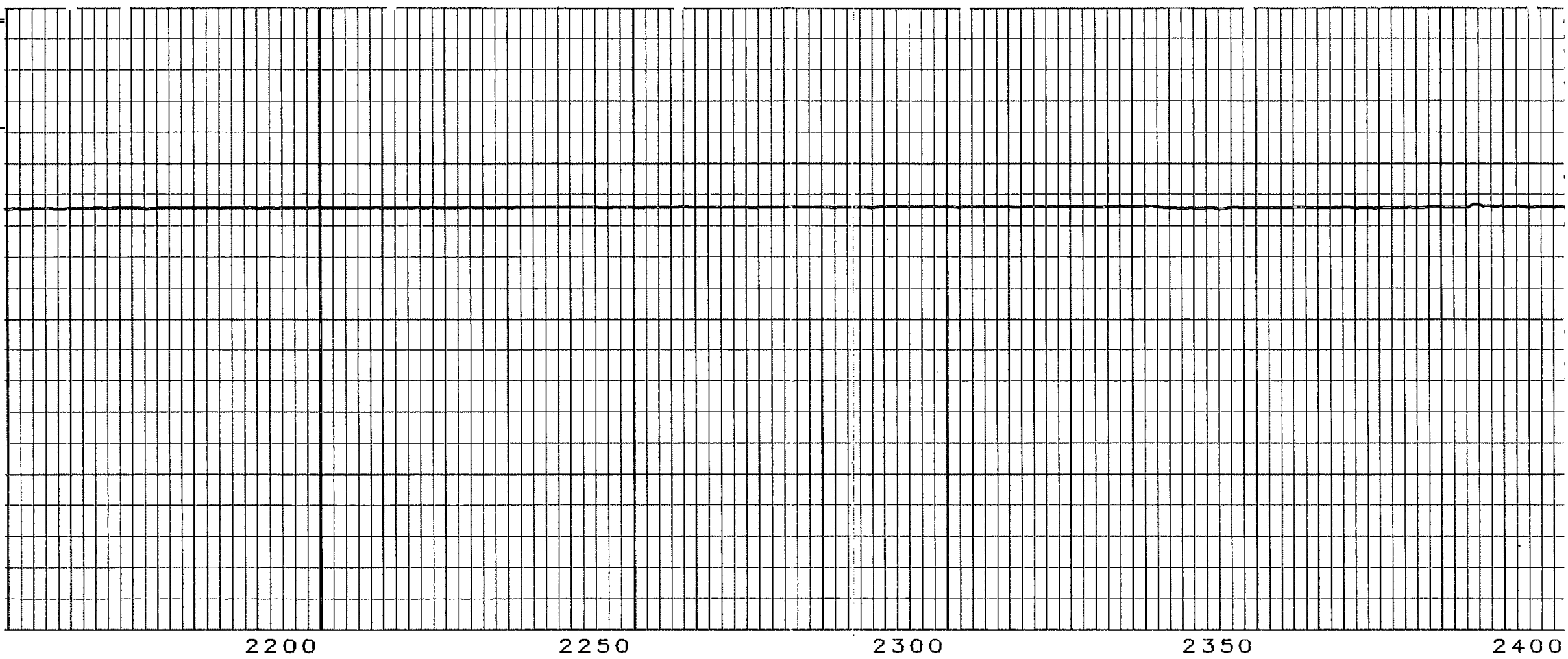


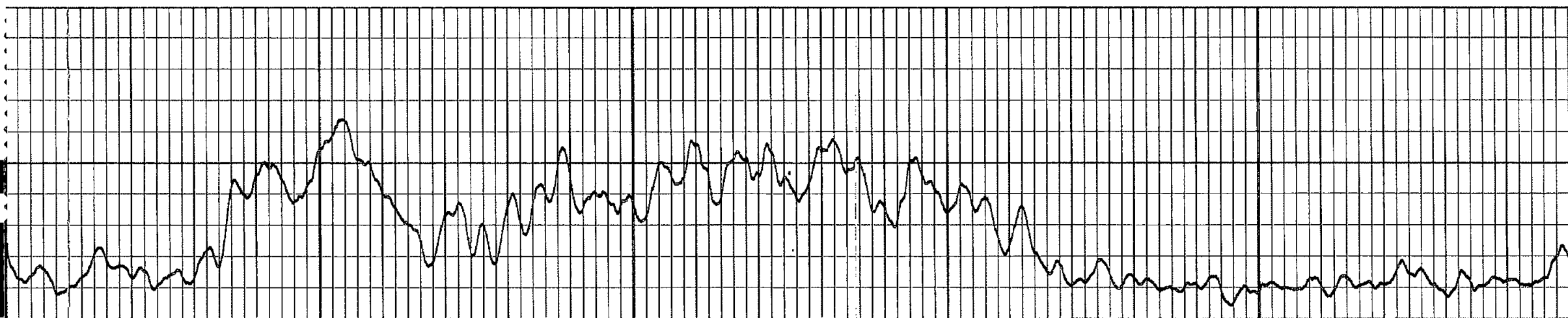
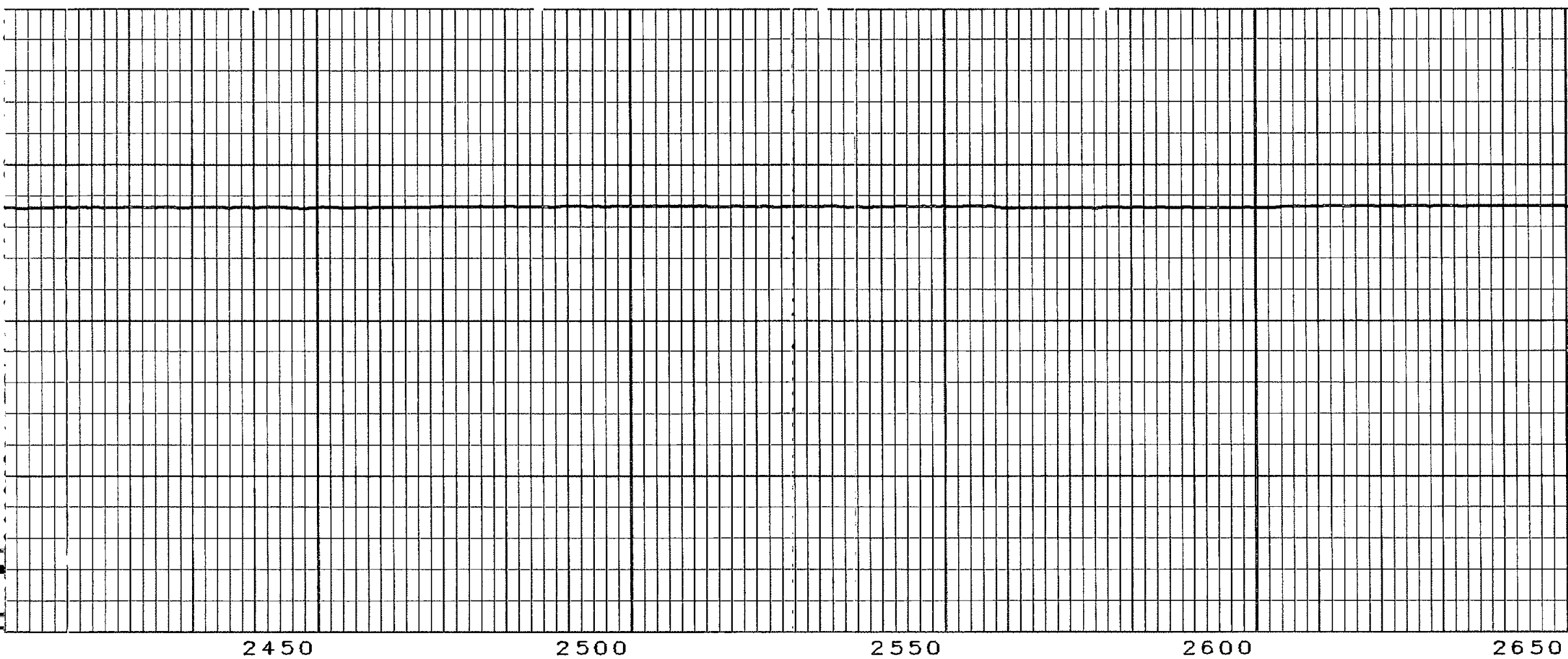


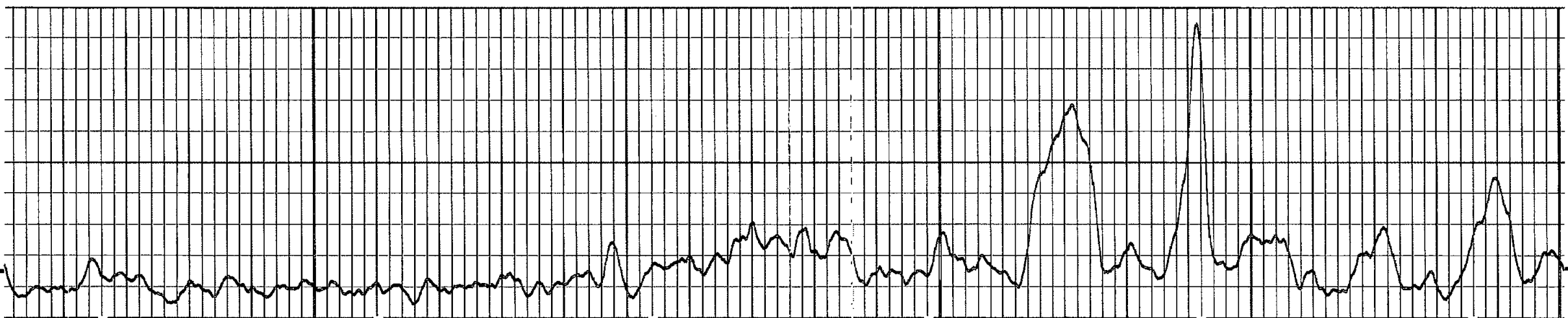
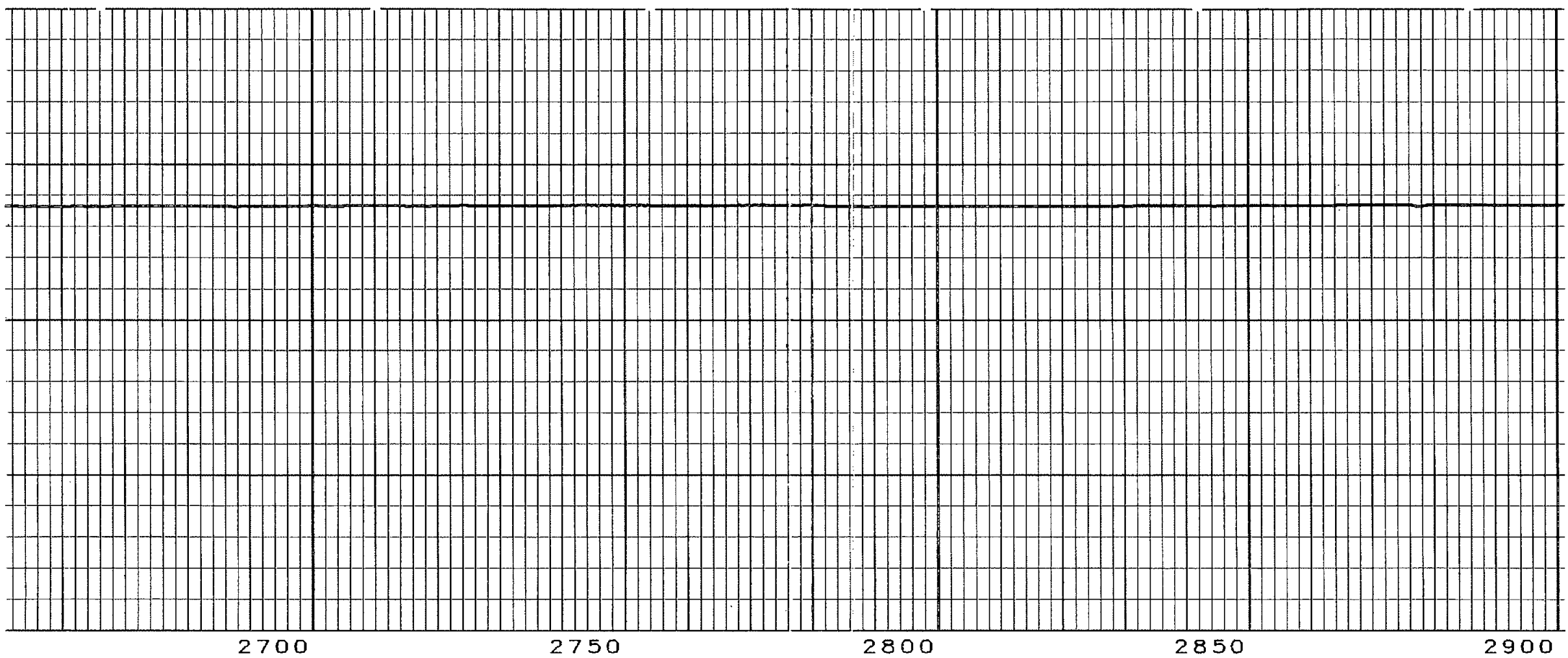


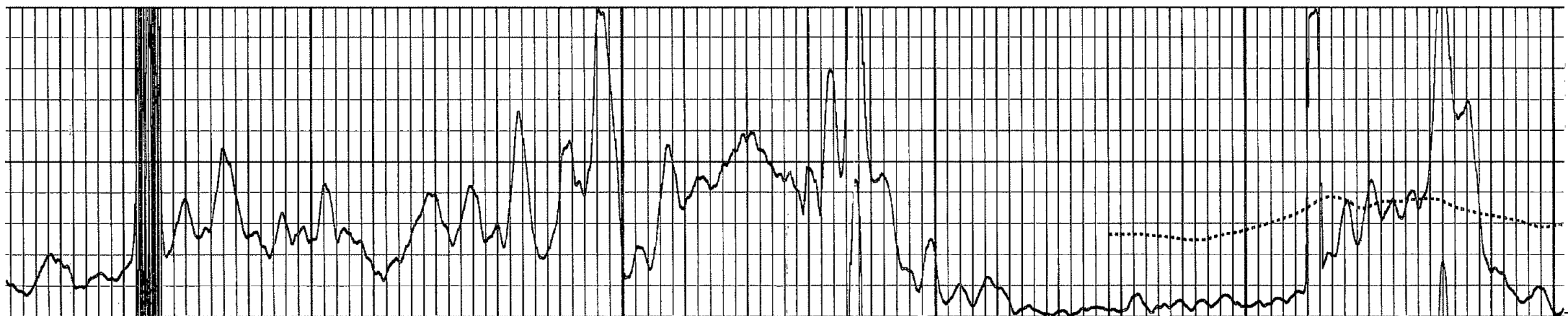
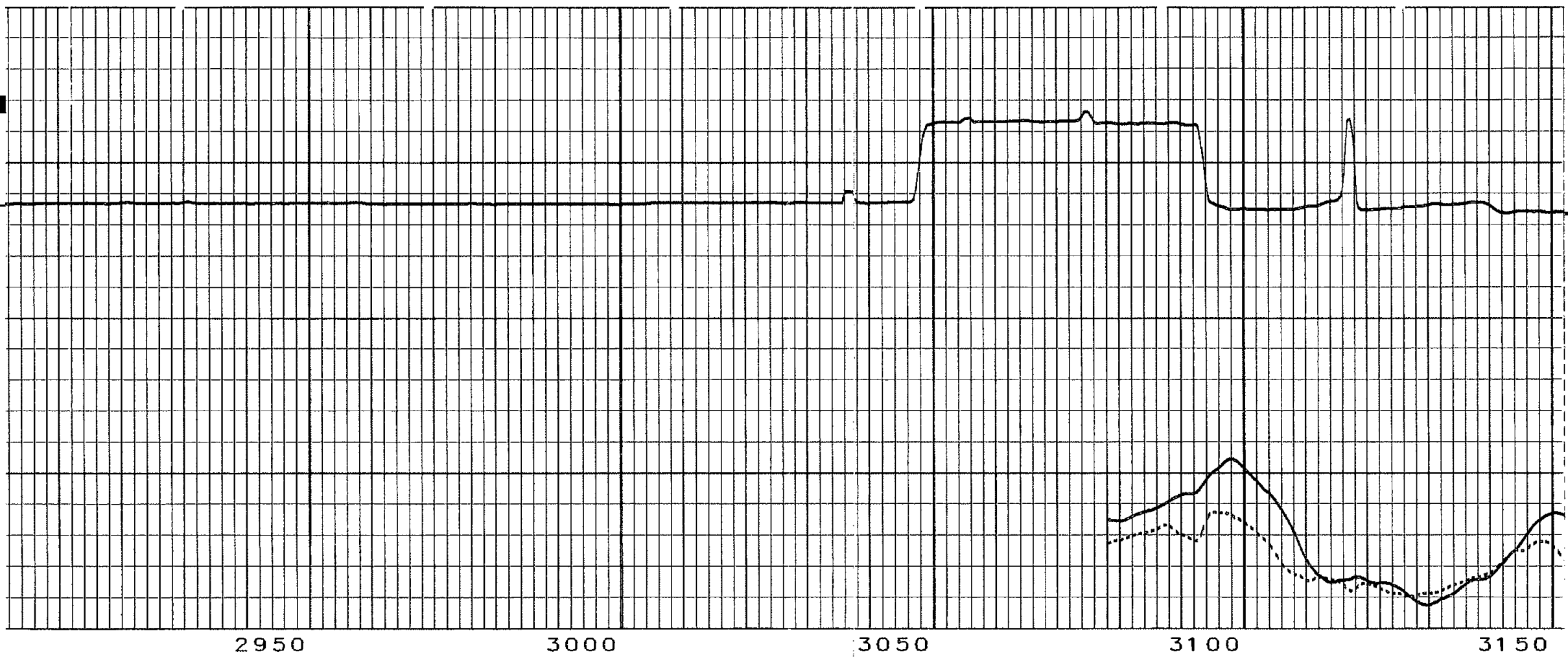


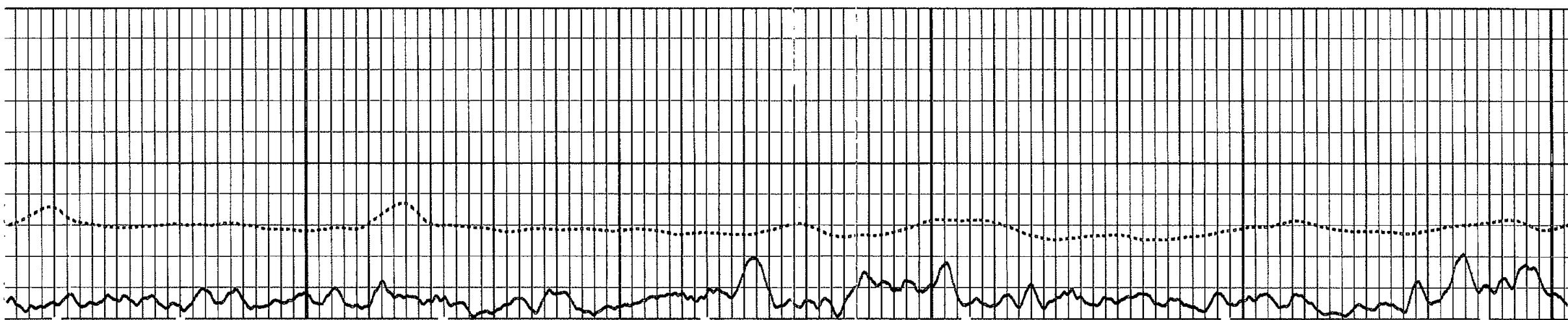
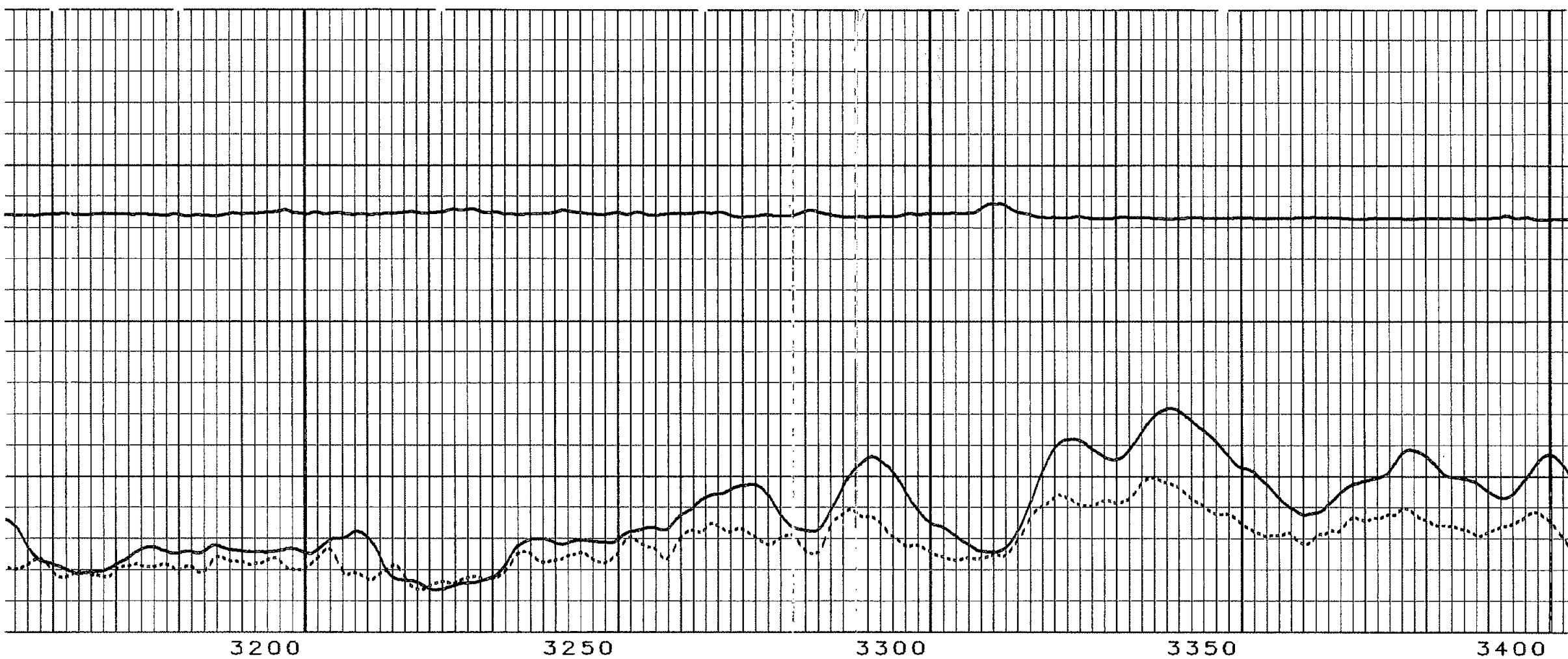












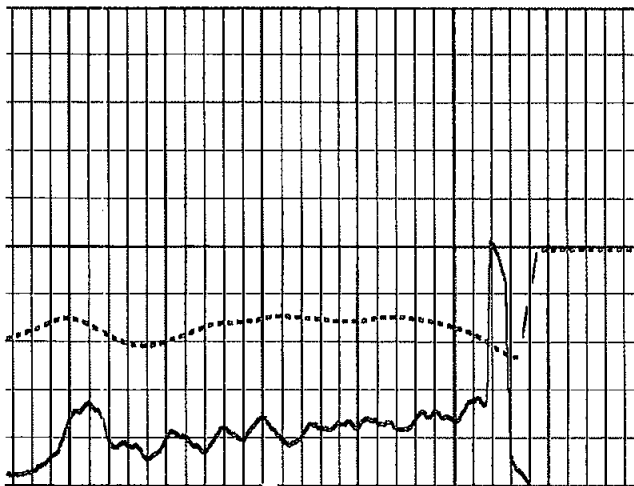


CHART SCALING

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 120.00 CPS 240.00
 -500.00 SP 500.00
 MVS

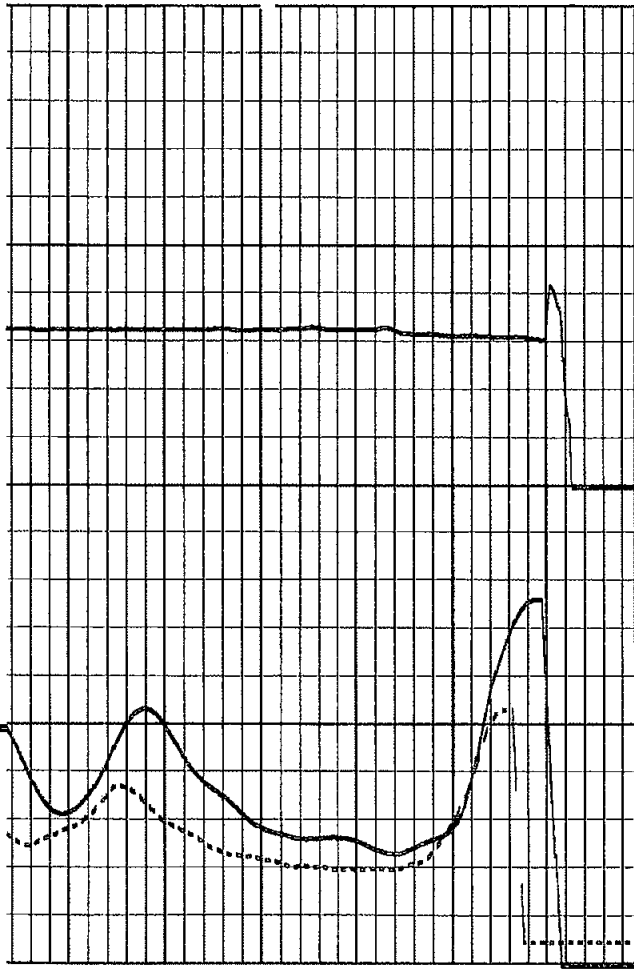


CHART SCALING

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 100.00 OHMS 200.00
 0.00 64" 100.00
 100.00 OHMS 200.00

3.00 CALIPER 12.00
 INCHES

3450

START DEPTH: 3469.16

DEPTHS

Wed Jul 09 20:09:31 2014

LOG UP



RECEIVED

FEB 03 2015

WATER RIGHTS
PROGRAM

1401 Highway 16 East
P.O. Box 260
Upton, Wyoming 82730

January 29, 2015

Water Rights Program
523 East Capitol
Pierre, South Dakota 57501-3181

RE: Completion Report – Bear Butte Valley Water, Inc.

Dear Mr. Buhler:

Enclosed please find the completion report and lithologic log for Bear Butte Valley Water.

Should you have any questions or concerns, please call our office.

Thank you for your attention to this matter.

Sincerely,

Julie Abbott, Secretary
Weston Engineering, Inc.

**NOTICE OF COMPLETION OF WORKS AND
APPLICATION OF WATER TO BENEFICIAL USE**

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

Date 5/31/17

FROM: BEAR BUTTE VALLEY WATER INC.
(name)

P.O. Box 351
(address)

Sturgis S.D. 57785 605-206-0703
(city) (state) (zip) (phone)

I have completed the construction of the water use system and I have put the water to beneficial use to the maximum extent it is going to be used.

Water Permit No. 1928-1 states that the water use system is to be constructed by
7/16/2017, and water is to be put to beneficial use by 7/16/2021
(date) (date)

The water use system was completed on June 1, 2016
(date)

Applying the water to beneficial use was completed on June 1, 2016
(date)

You may schedule an investigation so that the water license may be issued.

Dennis Kinslow
X Dennis Kinslow



Report of Examination of Works and/or Application of Water to Beneficial Use For Permit Nos. 1928-1

I have this day, May 31, 2017 made a thorough examination of the water use system constructed by **Bear Butte Valley Water Inc., P.O. Box 351, Sturgis, SD 57785** of Permit No. **1928-1**, bearing the priority of **4/20/2012** authorizing the diversion of **1.0** cu. ft. per second of the water from one well for **rural water system use** in **Meade** County.

Inspection contact & relationship to permit holder, if applicable: **Dennis Kinslow, System Manager**
605-206-0703

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: Weston Engineering (2014)
- 2) No. of Wells 1
- 3) Depth(s) 3,623 feet
- 4) Well log is available Yes

Casing:

- 1) Diameter 14" 0 to 50' surface casing
10 3/4" 0' to 1,310'
7" 1,300' to 3,095'
- 2) Length 3,095 feet
- 3) Type steel

Screen:

- 1) Type open hole
- 2) Length 528 feet
- 3) Static water level 197 ft. at time of well completion, 190' at time of inspection

Pump:

- 1) Make Franklin Electric (FPS)
- 2) Model 400SR100F86
- 3) Size 8" 13 stage
- 4) Capacity 230 GPM

Comment: This is a 400 gpm rated variable speed controlled submersible turbine pump set to deliver 230 gpm. Drawdown at 230 gpm is 70 ft. measured via transducer. The well was air tested at 500 gpm at time of completion.

- 5) Horsepower rating 100 hp

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

- 1) Type PVC
- 2) Size Varies from 8" to 3"
- 3) Length approximately 148 miles

C. Works used to apply water to beneficial use:

The well pumps to a 158,000 gallon steel storage tank located at the well site. The storage gravity feeds a portion of the system and also serves as a reservoir for booster pumps located at the well site. A second 158,000 gallon steel storage tank and two additional booster stations are installed at remote locations. The system supplies 253 metered connections of which 80 are pasture taps providing livestock water only and 173 serve residences only or residences with livestock.

D. Compliance with Permit Requirements:

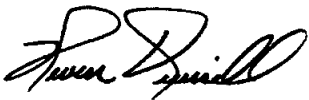
- 1) Permit qualifications being abided by: Yes, water use was reported in 2016 which was the first year of operation and included water used for flushing and testing. 2017 will be the first full year of operation.
- 2) Exceptions to compliance are: none

E. Condition and Location:

1. The system is in good condition with the point of diversion located as follows:
2,372' N and 625' E of the SW corner Section 5 T5N R6E (44.423053, -103.426193)
2. The works are capable of diverting and conveying to the place of use .51 cu. ft. per second (230 gpm) of water which is to be used for **rural water system** use and the license should be issued for .51 cfs.
3. All structures, wells and lands on map: **No, well location only.**

F. Comments or other permit(s) associated with the project:

The well pump operated a total of 4 ½ - 5 hours every other day during the month of May. The operator believes the current pump rate will be adequate even as use increases in summer and fall months and as all connections begin fully using water.



Steven Quissell
Water Rights Inspector
DENR Water Rights Program

Date Report Completed: 6/1/2017



Well site, storage and well (left center)



Booster pumps and piping



Well and storage



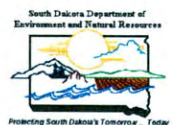
Controls and appurtenances

Water Right #1928-1
Bear Butte Valley Water Inc.
5/31/2017



Steven Quissell

Steven Quissell
Water Rights Inspector
DENR Water Rights Program



**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 1928-1**

(1) Bear Butte Valley Water Inc., PO Box 351, Sturgis SD 57785 made Application No. 1928-1, April 20, 2012 for a water permit to divert 1.00 cubic feet of water per second from ground water (one well, Madison Formation), Meade County, South Dakota for rural water system purposes. Permit No. 1928-1, with a priority date of April 20, 2012 was approved July 16, 2012 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 16, 2017 and for the application to beneficial use of said water on or before July 16, 2021.

The Permit holder submitted a *"Notice of Completion of Works and Application of Water to Beneficial Use"* on May 31, 2017. The *"Notice"* stated the water use system was completed and water placed to beneficial use on June 1, 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 0.51 cubic feet of water per second for beneficial use. The location of the diversion point is: 2,372'N and 625'E of the SW corner of Section 5, T5N R6E (NW 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. The rural water system serves users in Meade and eastern Lawrence Counties.

(4) Pursuant to South Dakota Water Law 46-5-30.1 Bear Butte Valley Water Inc., PO Box 351, Sturgis SD 57785 the holder and/or owner of Water Right No. 1928-1 is issued a license to appropriate water, the right to use 0.51 cubic feet of water per second from ground water (one well, Madison Formation) with a priority date of April 20, 2012 from the location specified in (2) of this license for rural water system purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 1928-1 and subject to the following qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 1928-1 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. 1928-1 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. 1928-1 shall be constructed by a licensed well driller and construction 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 by Weston Engineering Inc. in October, 2014. A copy of the well completion report is on file with the Water Rights Program.***

- Bear Butte Valley Water Inc. shall report to the Chief Engineer annually the amount of water withdrawn from the Madison Aquifer.



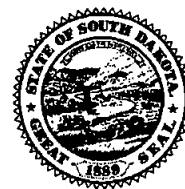
Jeanne Goodman, Chief Engineer

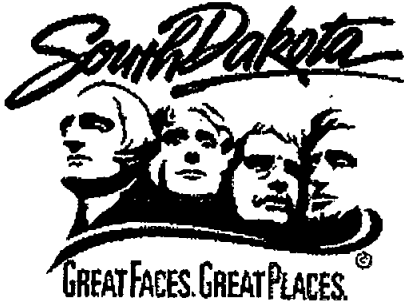
Water Rights Program

Department of Environment and Natural Resources

JUN 21 2017

date





DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

JUN 21 2017

1928-1

Dennis Kinslow, Mgr.
Bear Butte Valley Water Inc.
PO Box 351
Sturgis SD 57785-0351

Dear Mr. Kinslow:

Enclosed is Water License No. 1928-1. 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 in the future, the owner of an existing well, 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