

WATER PERMIT NO. 2527-2

Name of Applicant: Signature Development Co., LLC

Address: 2843 Samco Rd #F, Rapid City SD 57702

Phone: 605 348-0542

Amount of Water Claimed: 0.67 cfs Total Acres:

Source of Water Supply: groundwater (one well)

Water to be used for: suburban housing development

County: Pennington

Type of Waste Disposal System:

Location: approximately 5 miles south of Rapid City

PRIORITY

Date Received: 4-29-04

Application/License Fee: \$325

Corrected Application Received:

Period of Annual Use: January 1 – December 31

Remarks:

Diversion Point: SW ¼ SW ¼ Sec 9-T1S-R8E

Land to be Irrigated:

Depth of Well: 2200 feet deep

Well Driller:

Remarks:

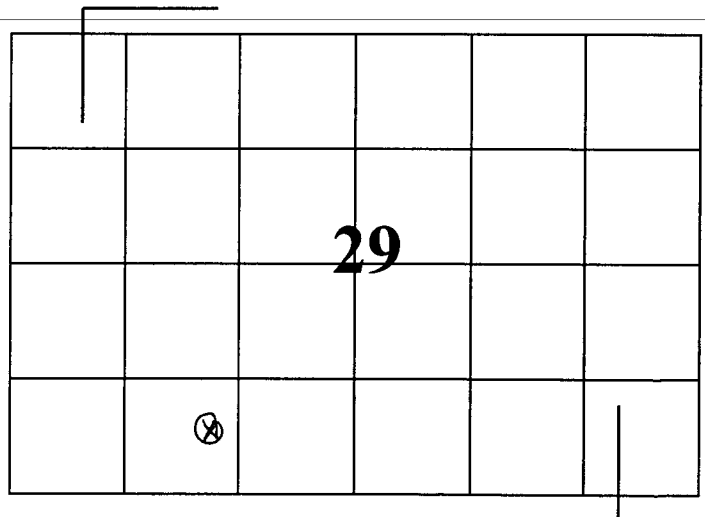
Type of Map: aerial

Prepared by: Eric Gronlund

Reviewed and the Number Assigned on: 4-29-04

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

(office use only)
No. 2527-2 Hydrologic Unit 10120110
Basin Upper Cheyenne
Newspaper Rapid City Journal, Rapid City

RECEIVED
APR 29 2004
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: ☒ New ☐ Vested Right (Use predates Mar 2, 1955) ☐ Future Use Reservation
(check one) ☐ Place to Beneficial Use Water Reserved by Future Use Permit No. _____
☐ Amendment/Correction to Permit No. _____

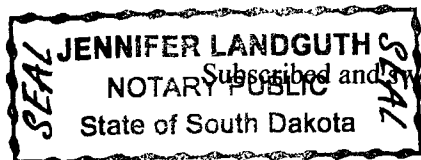
Description of amendment/correction: (i.e. change diversion point(s), add diversion point(s), change use, etc.) _____

- Name of Applicant Signature Development Co LLC Phone 605-348-0542
(check one) ☐ Owner ☐ Tenant/lessee
Mailing Address 2843 Sencer Rd #F Rapid City State SD 57702
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 0.67 *CFS or 300± **GPM ***AF
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply Madison
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) 1-Well
SW1/4 SW1/4 Sec 9-T1S-R8E
County Pennington
- County or counties where water will be used Pennington
- Annual period during which water is to be used Year Round Jan 1-Dec 31
- Give a description of the project. When available include any preliminary engineering report or other reports or information that will help explain the project. (Attach sheet if more space is needed)

STATE OF SOUTH DAKOTA)
County of Pennington 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)

I, Jeff Lage, 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 28th day of April 2004

Jennifer Landguth
Notary Public signature

My commission expires
8/25/2004

**SOUTH DAKOTA
WATER PERMIT NO. 2527-2**

Date of first receipt of application April 29, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 2527-2 to Signature Development Co, LLC, 2843 Samco Rd #F, Rapid City SD 57702 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. 2527-2 appropriates 0.67 cubic feet of water per second from one well (Madison aquifer) located in the SW 1/4 SW 1/4 Section 9-T1S-R8E.
 2. The water appropriated shall be used for the purpose of suburban housing development 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. 2527-2 is July 26, 2004.
 5. The date from which applicant may claim right is April 29, 2004.
 6. One-fifth of the construction is to be completed on or before January 26, 2007.
 7. All construction is to be completed on or before July 26, 2009.
 8. Water is to be put to beneficial use on or before July 26, 2013.
-
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. 2527-2 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. 2527-2 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. Permit No. 2527-2 authorizes a total annual diversion of 300 acre feet of water annually for suburban housing development use.
4. Signature Development shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation for municipal use.

WATER MANAGEMENT BOARD

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

JUL 30 2004
date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 9 7/8" & 14 3/4" Depth 2200 ft ^{Bottom} & 760 ft ^{Top}
- b) Casing Type Steel Diameter 7" & 10 3/4" Thickness 3/8" & 1/2"
- c) Screen Type / Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material 3,000 ft ±
- f) Depth to Water (ground surface to water level) 400 ft ±
- g) Distance to nearest existing domestic well:

On applicants property 100 ft Ingoten On property owned by others Over 2000 ft

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 _____

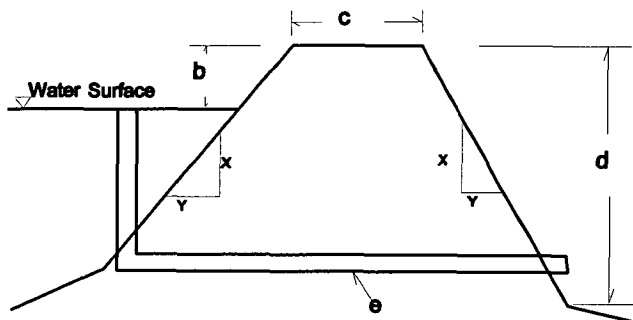
Upstream _____

Downstream _____

- h) Surface Area of Impoundment _____

- i) Storage _____ Acre Feet

- j) Drainage Area Above Dam _____ Acres



RECEIPT

WATER RIGHTS PROGRAM

South Dakota Department of Environment and Natural Resources

Date April 29, 2004

RECEIVED OF Signature Development Co LLC, 2843 Samco Rd #f, Rapid City SD 57702

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

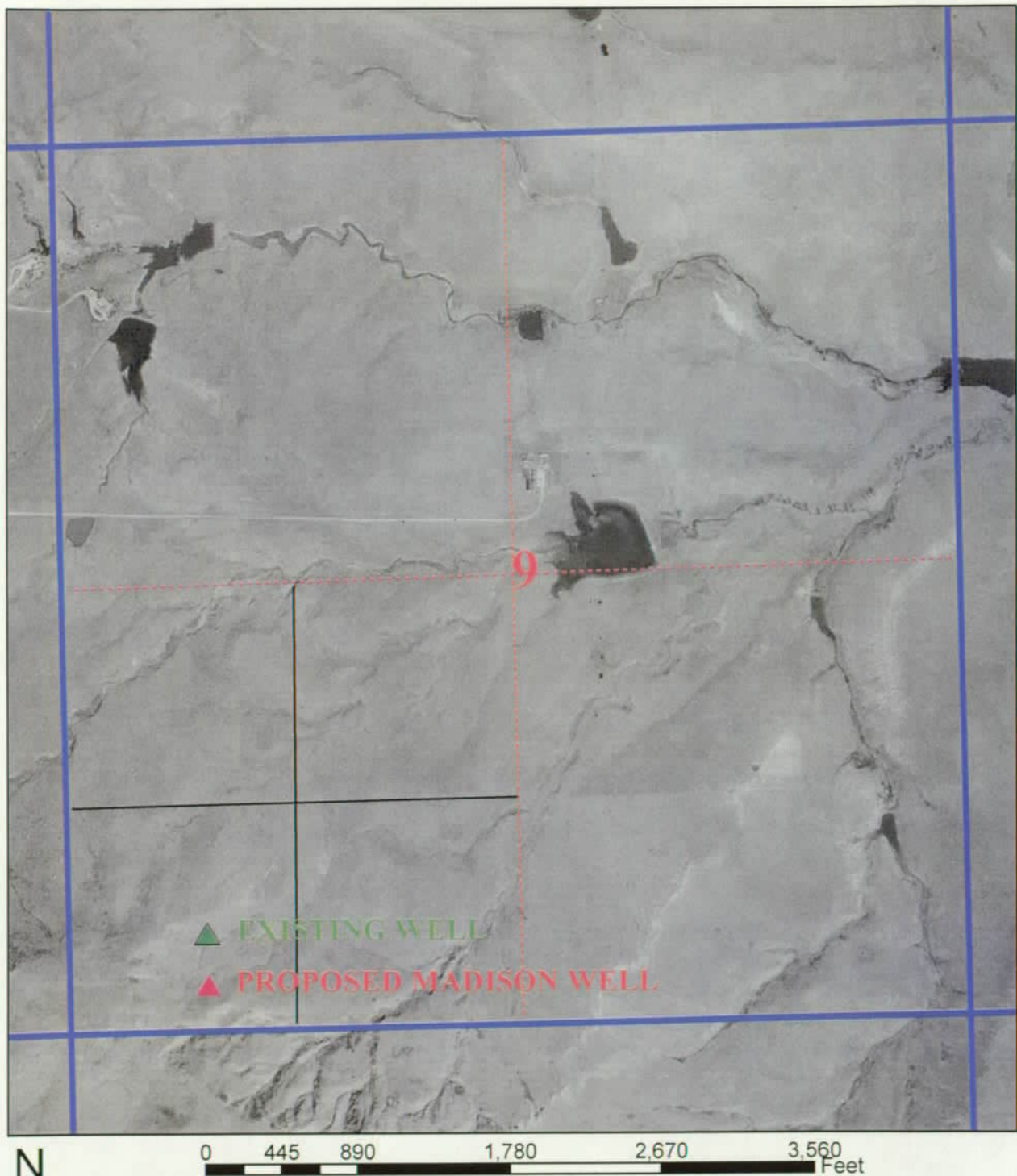
Fee for Application for Permit No. <u>2527-2</u> to Appropriate Water, to construct and to put water to beneficial use	275	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. <u>2527-2</u>	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	325.00

No. 001784

By Darland Elbe

Chief Engineer gm

Water Permit Application for new Madison well, Signature Development Co. Inc.



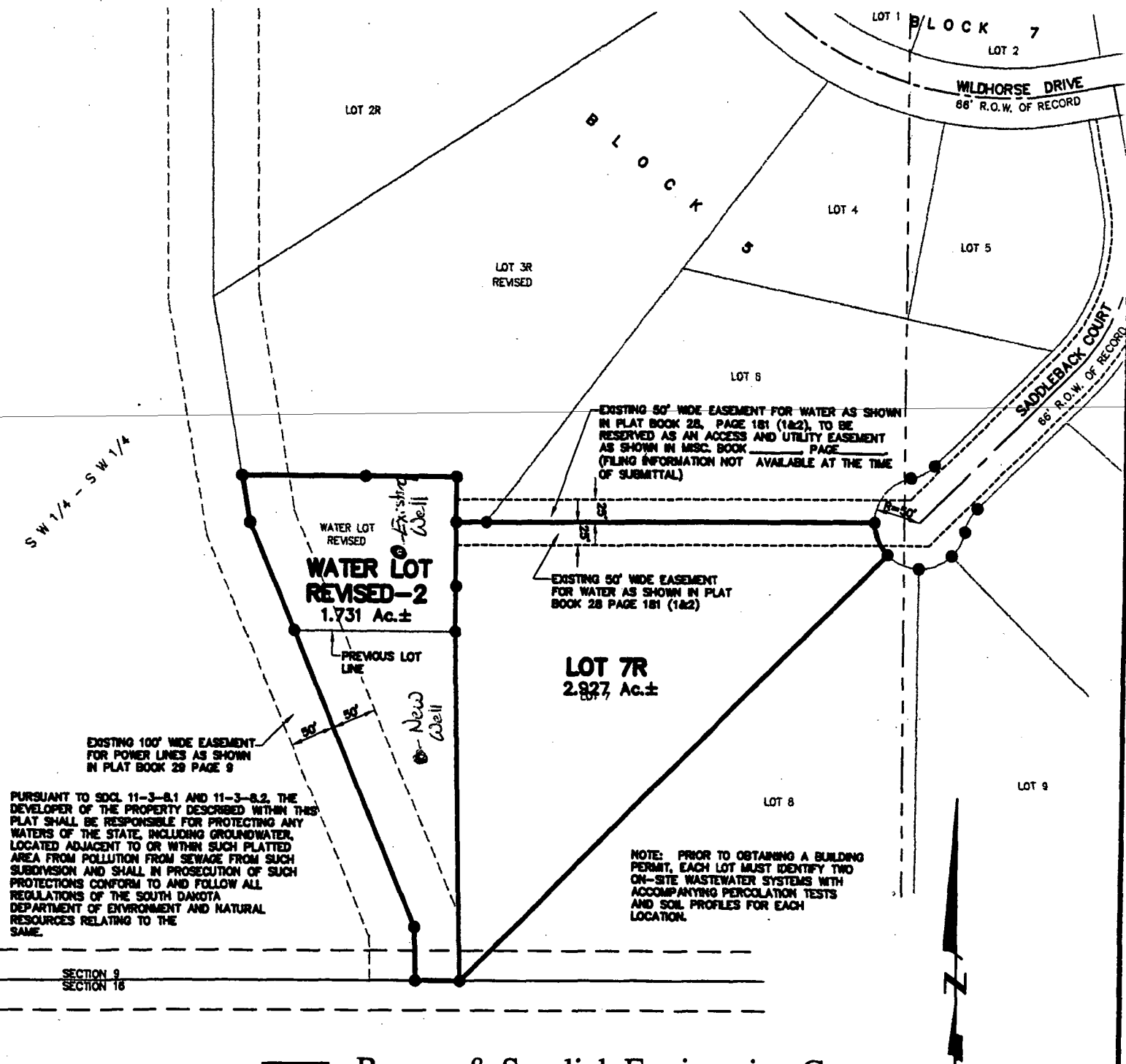
Well located in the SW 1/4 SW 1/4 of
Section 9, T1S, R8E

Eric Gronlund
Eric Gronlund
Water Rights Program, DENR

PLAT OF WATER LOT REVISED-2, AND LOT 7R OF BLOCK 5, THE RANCH AT BLACK GAP

(formerly Water Lot Revised, and Lot 7 of Block 5, Of The Ranch At Black Gap)

LOCATED IN THE SW $\frac{1}{4}$ OF THE SW $\frac{1}{4}$
SECTION 9, T1S, R8E, B.H.M.
PENNINGTON COUNTY, SOUTH DAKOTA



Renner & Sperlich Engineering Co.

616 Sixth St. • Rapid City, SD 57701 • 605/342-1191
FAX: 605/342-1405 • E-MAIL: RSEC@RAPIDNET.COM

FEBRUARY 10, 2003

N.T.S.

RB
Signature Development, L.L.C.



2843 Samco Road #F • Rapid City, SD 57702
(605) 348-0542 • Fax (605) 348-1250
e-mail: lagedev@rapidnet.com

April 19, 2004

Water Rights Program, DENR
Joe Foss Building
523 East Capitol
Pierre, SD 57501-3181

RECEIVED

APR 29 2004

WATER RIGHTS
PROGRAM

RE: The Ranch at Black Gap Public Water System (EPA ID 2203)

Dear DENR,

Attached is the application for a new well and the application fee.

If there is any more information required for submission, please contact me at you earliest convenience.
My cell number is (605) 381-2003, and my E-mail address is gripandrip@juno.com.

Sincerely,

Jeffrey S. Lage
The Ranch at Black Gap Water System Manager

Attachments:

Application
Map

Cc: Fee
File

WATER PERMIT APPLICATION NO. 2527-2
SIGNATURE DEVELOPMENT CO., LLC
JUNE 28, 2004

Water Permit Application No. 2527-2 proposes to appropriate 0.67 cubic feet of water per second from one well (Madison aquifer) located in the SW¼ SW¼ Sec. 9, T1S-R8E, Pennington County. The water is for use in a suburban housing development known as The Ranch at Black Gap

AQUIFER: Madison aquifer (MDSN)

Aquifer Characteristics:

The Madison Limestone, locally known as the Pahasapa Limestone, is a fine to medium crystalline, cavernous limestone and dolomite approximately 500 feet thick in this area (Carter and Redden, 1999a) (Carter and Redden, 1999b). The Madison underlies approximately 1,489,920 acres of Pennington County and contains an estimated 29,798,400 acre-feet of recoverable water in storage in the county (Allen and others, 1985). The Madison extends into the counties adjacent to Pennington County, and in fact underlies much of the Western United States. The top portion of the Madison Limestone is karstic, therefore it 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 Madison outcrop is located about seven and one-half miles west of this well site and the top of the Madison limestone is expected to be about 3050 feet below grade at this proposed well site (Carter and Redden, 1999a). 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 is recharged through infiltration of precipitation falling directly on the outcrop area, possibly upward leakage from the Deadwood aquifer, and from streamflow losses. The estimated average annual recharge for the Madison aquifer in South Dakota ranges from 140,000 to 400,000 acre-feet annually (Woodward Clyde, 1981). Average annual recharge from 1931-1998 is estimated to be approximately 137,000 ac-ft/yr (Carter and others, 2001).

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 129 permits/rights which appropriate water from the Madison aquifer in South Dakota. In addition, there are two Future Use Permits (1833-2 Weston Heights Home Owners, and 2086-2 The City of Rapid City), that reserve water 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 10,990.2 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.

Observation Well Data:

The Water Rights Program monitors 26 observation wells completed into the Madison aquifer in the Black Hills area (Water Rights, 2004b). Records from the observation wells indicated the potentiometric surface of the Madison aquifer fluctuates 30-40 feet per year near the recharge area in response to seasonal and climatic variations. Long-term water level declines are not apparent from any of the hydrographs. 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.

The nearest Water Rights' Madison aquifer observation well (PE-86A) is located about five miles west of this well site. The hydrograph for the observation well is shown below in figure one.

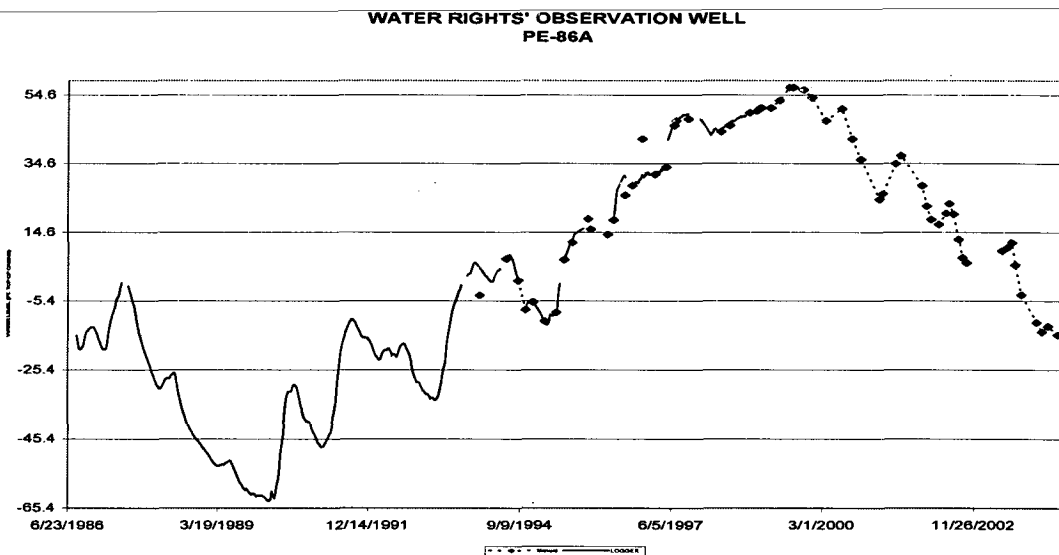


Figure 1. Hydrograph of Water Rights' observation well located approximately five miles west of the well site proposed by this application.

Affects on Existing Rights:

There are ten Water Rights/Permits appropriating groundwater within approximately five miles of this proposed well (Water Rights, 2004c), they include:

PERMIT NO.	NAME	AQUIFER	USE	CFS	ACRES
1147-2	CALVIN KNOCK	SNDC	SHD	0.08	0.00
1877-2	HART RANCH DEVELOPMENT CO	MDSN	SHD	0.55	0.00
1880-2	RUSHMORE WATERSLIDE INC	MNLS	COM	0.17	0.00
1911-2	HART RANCH DEVELOPMENT CO	MDSN	IRR	0.88	124.00
1913-2	HAPPY HOLIDAY RV RESORT	MNLS	COM	0.10	0.00
2323-2	ZITA KWARTEK	INKR	IRR	1.36	95.00
2333-2	BERDELL DUNWORTH	MNLS	COM	0.04	0.00
2376-2	EDWARD J GRIFFITH	INKR	COM	0.02	0.00
2410-2	FLYING T CHUCKWAGON	MNLS	COM	0.04	0.00
2414-2	SIGNATURE DEVELOPMENT CO	INKR	SHD	0.10	0.00

Table 1. Groundwater Appropriations within five miles of 2527-2

Wells, including domestic wells, completed into aquifers shallower than the Madison aquifer (i.e. Inyan Kara aquifer, Sundance aquifer, and Minnelusa aquifer) are not expected to be affected by this proposed appropriation since the lower Minnelusa aquifer is a confining bed that isolates the Madison hydraulically from shallower aquifers. The appropriations from the Madison aquifer (1877-2 and 1911-2) are located approximately two and one-half and three and one-half miles west, respectively, of the well site proposed in this application.

At this time it is not practical to attempt to quantify the specific affect pumping this well will have on area wells since aquifer characteristics have not been determined for this area, and the variability of the hydraulic characteristics has been well documented (Greene, 1993). In addition, Greene concluded that the transmissivity of the Madison is not equal in all directions (anisotropic); therefore the drawdown cone will extend farther in one direction than another.

Although the impact of this appropriation cannot be quantified precisely, it is still possible to address whether this appropriation can be made without adversely affecting water rights, including domestic wells. In the first place, the distance from other Madison wells should be sufficient to minimize interference. Secondly, Water Management Board rules 74:02:04 and 74:02:05, which were promulgated pursuant to SDCL 46-6-6.1, provide protection to prior appropriators only to the degree necessary to maintain an adequate depth of water 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. In fact, in past action, the Water Management Board it has concluded that if 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.

Although there are a limited number of domestic wells completed into the Madison aquifer in this area (Water Rights, 2004a) the potential affect of this appropriation to domestic wells must be considered. It is likely that even if a domestic well completed into the Madison aquifer in this area experienced interference, it would still be capable of delivering sufficient water with a pump inlet placed near the top of the aquifer. Therefore adverse impact to domestic wells is not probable.

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."

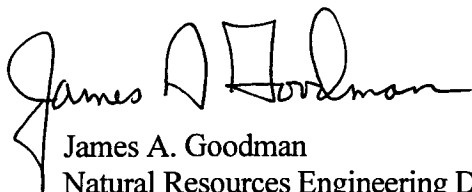
Evidence is not available to justify issuing this permit without a term limitation of 20 years.

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 justify issuing this permit without a term limitation of 20 years.



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., Driscoll, D.G., Hamade, G.R., 2001, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 191-98, Water-Resources Investigations Report 00-4278, 66 p.
- 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., Hamade, G.R., 2001a, Estimated Recharge to the Madison and Minnelusa Aquifers in the Black Hills Area, South Dakota and Wyoming, Water Years 191-98, Water-Resources Investigations Report 00-4278, U.S. Department of the Interior, U.S. Geological Survey, Rapid City, SD
- 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
- Greene, E.A., 1993, Hydraulic Properties of the Madison Aquifer System in the Western Rapid City Area, South Dakota: U.S. Geological Survey Water-Resources Investigations Report 93-4008, 56 p.
- Long, A.J., Putnam, L.D., 2002, Flow-System Analysis of the Madison and Minnelusa Aquifers in the Rapid City Area, South Dakota-Conceptual Model: U.S. Geological Survey Water-Resources Investigations Report 02-4185, 100 p.
- Rahn, P.H., 1979, Ground Water Resources of Western South Dakota: U.S. Army Corps of Engineers, SDSM&T Project #2533
- Water Rights Program, 2004a, "Domestic Well Log Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program, 2004b, "Unpublished Observation Well Records", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD
- Water Rights Program, 2004c, "Water Permit/Right Files", South Dakota DENR-Water Rights Program, Joe Foss Building, Pierre, SD

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



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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. 2527-2, Signature Development, Co., LLC**

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. 2527-2, Signature Development Co, LLC, c/o Jeff Lage, 2843 Samco Rod # F, Rapid City SD 57702.

The Chief Engineer is recommending APPROVAL of Application No. 2527-2 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. 2527-2 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. 2527-2 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. Permit No. 2527-2 authorizes a total annual diversion of 300 acre feet of water annually for suburban housing development use.
4. Signature Development shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation for municipal use.

See report on application for additional information.

Garland Erbele, Chief Engineer

June 30, 2004

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS

County of Pennington)

I, Patricia K. Van Patten

certify that the attached printed Notice was
taken

from the Rapid City Journal

printed and published in Rapid City

County of Pennington and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

July 8, 2004

July 15, 2004

Cost of Printing Ninety - eight dollars

and twenty-eight cents (\$98.28)

Patricia K. Van Patten
(Signature)

Legal Advertising Rep.
(Title)

7/15/04
(Date Signed)

RECEIVED
JUL 16 2004
WATER RIGHTS
PROGRAM

July 8, 15 L1700320

NOTICE OF APPLICATION NO. 2527-2 TO APPROPRIATE WATER

Notice is given that Signature Development Co., LLC, c/o Jeff Lage, 2843 Samco Rd. #F, Rapid City, SD 57702, has filed an application for a water permit to appropriate 0.67 cubic feet of water per second from one well (Madison aquifer) located in the SW¼SW¼ Section 9-T1S-R8E. The water is for use in a suburban housing development known as The Ranch at Black Gap.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2527-2 for a 20 year term 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 the 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 the 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 26, 2004.

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

Instruction to Newspaper - Publish first Notice on July 8, 2004 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NO. 2527-2 to Appropriate Water

Notice is given that Signature Development Co., LLC, c/o Jeff Lage, 2843 Samco Rd #F, Rapid City SD 57702 has filed an application for a water permit to appropriate 0.67 cubic feet of water per second from one well (Madison aquifer) located in the SW ¼ SW ¼ Section 9-T1S-R8E. The water is for use in a suburban housing development known as The Ranch at Black Gap.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application No. 2527-2 for a 20 year term 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 the 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 the 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 26, 2004.

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

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

July 1, 2004

Rapid City Journal
PO Box 450
Rapid City SD 57709-0450

ATTENTION: Legal Public Notice

Enclosed is a Notice of Hearing on Application No. 2527-2 to Appropriate Water to be published twice. Please publish the first notice on July 8, 2004 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 Signature Development Co LLC, % Jeff Lage, 2843 Samco Rd #F, Rapid City SD (Ph # 605-348-0542).

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. 2527-2

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

Date _____

We are in receipt of your letter of July 1, 2004 enclosing Notice of Hearing to Appropriate Water by Application No. 2527-2 which was first published in our issue of _____. **ENCLOSED IS A COPY OF THIS FIRST PUBLICATION.**

Name

Newspaper



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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.**

July 1, 2004

Signature Development Co LLC
% Jeff Lage
2843 Samco Rd #F
Rapid City SD 57702

Dear Mr. Lage:

Water Permit Application No. 2527-2 for suburban housing development use has been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice of hearing has been sent to the Publisher of the Rapid City Journal printed at Rapid City, SD (Ph # 605-394-8300). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendation of the Chief Engineer and a report on the application are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

Be sure to contact the above newspaper to authorize publication of your Notice of Hearing and to arrange for payment. Early contact with the paper can eliminate delays. Upon receiving authorization, the publisher has been instructed to publish your notice once each week for two consecutive weeks with the last publication to occur twenty days before the board meeting. The newspaper has 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.



JUL 30 2004

**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

Signature Development Co LLC
% Jeff Lage
2843 Samco Rd #F
Rapid City SD 57702

Dear Mr. Lage:

Enclosed is Water Permit No. 2527-2 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.

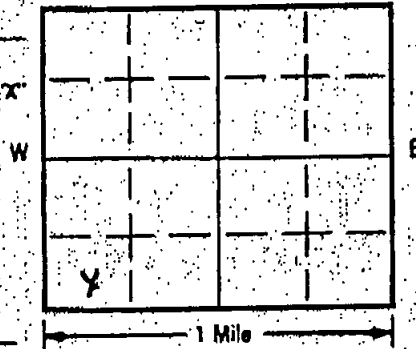
Sincerely,

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

enclosures

SOUTH DAKOTA WATER WELL COMPLETION REPORT

Location Sul 1/4 SW 1/4 Sec 9 Twp 15 Rg 8E
 County Perkins Co
 Please mark well location with an "X"



Well Completion Data

Well Owner: Jeff Lage
 Business Name: Signature Development Co LLC
 Address: 2843 Sanka Rd # F
Rapid City SD

WELL LOG:	DEPTH	
	FROM	TO
<u>FUSION SHALE</u>	<u>1000</u>	<u>1090</u>
<u>LAKOTA</u>	<u>1090</u>	<u>1120</u>
<u>MORRISON SHALE</u>	<u>1120</u>	<u>1260</u>
<u>SUNNYSIDE</u>	<u>1260</u>	<u>1450</u>
<u>SPEARFISH</u>	<u>1450</u>	<u>2120</u>
<u>MINNEKATA</u>	<u>2120</u>	<u>2180</u>
<u>6 Pecho</u>	<u>2180</u>	<u>2250</u>
<u>MINNELUSA</u>	<u>2250</u>	<u>2980</u>
<u>MADISON</u>	<u>2980</u>	<u>3307</u>

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? _____ ft. from _____ (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
<u>40.50</u> LB/FT	<u>10 3/4</u> IN	<u>0</u> FT	<u>990</u> FT	<u>14 3/4</u> IN
<u>23</u> LB/FT	<u>7</u> IN	<u>940</u> FT	<u>2934</u> FT	<u>9 3/8</u> IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Water Based</u>	<u>251</u>	<u>12" / 15" lb./gal.</u>	<u>0</u> ft	<u>990</u> ft
<u>Water Based</u>	<u>445</u>	<u>12" / 15" lb./gal.</u>	<u>990</u> ft	<u>2935</u> ft

Describe grouting procedure Positive Displacement
0-801' 500 SCK PORTLAND to SEAL FRACTURE

SCREEN: ☐ 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 N/A

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

☒ YES, How: liquid Cl² 30 gal

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

STATIC WATER LEVEL _____ 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: AIRLIFT
☐ Bailed
☒ Other _____

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

This well was drilled under license # 698

And this report is true and accurate.

Drilling firm WATER SYSTEM ONLY INC

Signature of License Representative: _____

Scott Adkins

Signature of Well Owner or Equitable Property Holder: _____

Date: _____

2527-2

Signature Water Company L.L.C.

2843 Samco Rd #F; Rapid City, SD 57703: 605-348-0542

RECEIVED
JUL 27 2006
WATER RIGHTS
PROGRAM

July 26, 2006

SD DENR, Drinking Water Program
523 East Capitol Avenue
Pierre, SD 57501

RE: The Ranch at Black Gap Public Water System (EPA ID 2203)
Madison Well Completion

Dear Mr. Ken Buhler,

Attached are the Well Completion Report, Drilling Sequence, Acoustic Cement Bond Log and Radioactivity Log. Sorry that it has taken me so long to get this completion report to you. I was not sure if our well has been completed to date, due to so many problems.

As you can see from the reports the well drilling was started in 2004 and finished in 2005. The well was put into service in July of 2005. Since starting this well the water it produces has been anything but great. During the entire 2005 and into 2006 the well produced mostly Dirty Water and Mud.

In March/April/May of 2006, Water Systems Drilling pulled the motor and pump and then airlifted the well. What they were thinking is that the well was not air lifted thoroughly enough the first time. After the air lift they sent a camera down the well to see why the water would not clear up. It was noticed that there was a leak in the casing between the 10 3/4" and the 7" casing. A Rubber Packer was ordered and pushed down the casing to seal the leak. After the packer was installed the well was not air lifted or camera viewed. The pump was reinstalled and started in June. Once the pump was reinstalled it pumped 24 hrs/day and the water ran inconsistently between dirty, really milky, and milky until July 3rd when the motor and pump shut down and would not restart.

The motor and pump were down approximately 5 days during the reinstallation. After pulling the pump it was noticed that the pump was cracked. A new motor and pump were reinstalled in the well. Since reinstallation the water still varied from dirty at pump start for approximately 4 to 6 hours then stained to milky from that point on. At no time has the well run clear water and I must keep the pump running 24hrs/day mostly to waste just to keep that water marginal. A particle analysis was done and the suspended solids range from under 20 Micron to less than 5 Micron. A filter system was installed in July but has performed poorly since it takes almost constant attention and the cloudiness still is present after the 5 Micron filter. Also there is enough grit in the water, over the past year that the meter has totally deteriorated and is not operational.

Due to the milky water, of course my customers are not happy, and are asking many questions that I can't answer. I am in the process of installing a whole house filter in my house with a 1 micron filter to see if the milkiness can be removed effectively and efficiently. If the filter works I will recommend it to my customers, of course not everybody will be happy about that solution.

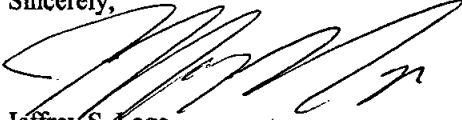
Essentially I am at my wits end with the whole water quality issue. I am looking for some possible answers why the Madison Well that was drilled is producing such undesirable water. I can't afford to drill another well and my small Inyan Kara well can't keep up with watering demand. Everybody that I talk to say that the Madison Formation should not be producing poor water and there is something wrong with the well itself. Here it what I have heard; there is a leak in the casing; the casing is not deep enough; there is channeling behind the casing. I am wondering if you have any ideas of what to do next, or if there is a problem with the Madison formation that people have not run into before. I am not going to be able to

shut down the well for any long period of time until the sprinkling season is over and my small well can keep up.

There is a little time before any actual action needs to take place but I would like to try and get an idea of what to do next. I would like to meet to discuss possible options and we should probably have Scott Heimer from Water Systems Drilling present to discuss these options.

If there is any more information required for submission, please contact me at you earliest convenience. My cell number is (605) 381-2003, and my address is Signature Water LLC, 2843 Samco Rd Unit F Rapid City, SD 57702. My e-mail address is: signaturewater@rap.midco.net

Sincerely,



Jeffrey S. Lage

The Ranch at Black Gap Water System Manager

Attachments:

Water Well Completion
Drilling Sequence
Acoustic Cement Bond Log
Radioactivity Log

Cc: File

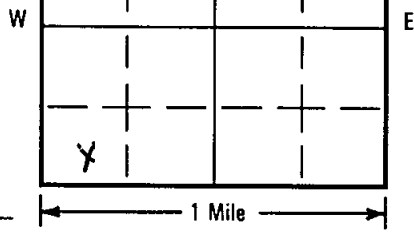
SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location SW 1/4 SW 1/4 Sec 9 Twp 15 Rg 8E

County Pennington Co

Please mark well location with an "X"



Well Completion Date _____

LOCATION:

Distance from nearest potential pollution source (septic tank, abandoned well, feed lot, etc.)? _____ ft. from _____ (identify source).

PROPOSED USE:

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

METHOD OF DRILLING:

Mud Rotary

CASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN
<u>40.50</u> LB/FT	<u>10 3/4</u> IN	<u>0</u> FT	<u>990</u> FT	<u>14 3/4</u> IN
<u>23</u> LB/FT	<u>7</u> IN	<u>940</u> FT	<u>2934</u> FT	<u>9 1/2</u> IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
_____	_____	_____ lb./gal	_____ ft	_____ ft
<u>Water Premium</u>	<u>251</u>	<u>12#/15#</u> lb./gal	<u>0</u> ft	<u>990</u> ft
<u>Water Premium</u>	<u>445</u>	<u>12#/15#</u> lb./gal	<u>990</u> ft	<u>2935</u> ft

Describe grouting procedure Positive Displacement

0-801' 500 SKE portland to seal fractures

SCREEN: ☐ 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 N/A

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

☒ YES, How: liquid Cl² 30gal

NO, Why Not? _____

Laboratory sent to for water quality analysis _____

Well Owner: JEFF LAGE

Business Name: Signature Development Co LLC

Address: 2843 Samco Rd # F

Rapid City SD

WELL LOG:

FORMATION	DEPTH	
	FROM	TO
<u>FUSION SHALE</u>	<u>1000</u>	<u>1090</u>
<u>IAKOTA</u>	<u>1090</u>	<u>1120</u>
<u>MORRISON SHALE</u>	<u>1120</u>	<u>1260</u>
<u>SUNDRIUS</u>	<u>1260</u>	<u>1450</u>
<u>SPEARFISH</u>	<u>1450</u>	<u>2120</u>
<u>MINNEKATA</u>	<u>2120</u>	<u>2180</u>
<u>6 PECKE</u>	<u>2180</u>	<u>2290</u>
<u>MINNEUSA</u>	<u>2290</u>	<u>2930</u>
<u>MADISON</u>	<u>2930</u>	<u>3307</u>

STATIC WATER LEVEL _____ 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: AIRLIFT

☐ Bailed

☒ Other

Pumping Level Below Land Surface

_____ ft. After _____ Hrs. pumped _____ GPM

_____ ft. After _____ Hrs. pumped _____ GPM

If pump installed, pump rate _____ GPM

REMARKS

This well was drilled under license # 698

And this report is true and accurate.

Drilling firm WATER SYSTEM DRILLING INC

Signature of License Representative:

SCOTT A. ADAMS

Signature of Well Owner or Equitable Property Holder:

Jeff Lage

Date: 7/26/06



Scott Heimer

6300 Hitt Blvd. · P.O. Box. 368 · Gillette, WY 82717-0368

Phone: (307) 686-1747 · Fax: (307) 687-0408

8/8/05

Signature Development LLC
Rapid City, SD

Well Drilling Sequence

11/26/04 Start mob to site
12/07/04 Drill, set and cement 40' of 16" Sch. 40 steel
12/08/04 Drill 14 3/4" hole to 80', surface seal leaking, Recement surface again with 60sks.
12/09/04 Drill to 101' Fluid coming up 6' from hole on location, recement with 100sks.
12/13/04 Drill ahead with 14 3/4" bit from 40' to 213'
12/14/04 Drill ahead from 213' to 520'
12/15/04 Drill ahead from 520' to 804'
12/16/04 Drill ahead from 804' to 990'
12/17/04 Drill ahead from 990' to 1000' trip hole, condition for casing, run 996' of 10 3/4' casing
12/18/04 Circulate hole and cement with 251 sks cement. Good returns, very cold
12/20/04 Return to rig, pickup drill collars and pipe, trip to 980' – cement plug
12/21/04 Drill from 980' to 1184', trip out, trouble at 1010' stuck, Rig water brake troubles.
12/22/04 Work pipe, spin off of shock sub and bit, trip out of hole, shut down for Holidays
12/28/04 Pick up tools, trip in, thread into sub and bit, work free and trip out with bit very cold shut down for Holidays and weather
1/06/05 Return to rig. Warm up and trip in hole, Clean pits and repair pumps.
1/07/05 Drill from 1184' to 1350' very cold
1/08/05 Very cold Rig hard to start, Shut down for weather
1/10/05 Return to rig, start up, drill from 1350' to 1410'
1/11/05 Drill from 1410' to 1533' work on mud pumps.
1/12/05 Work on rig repairs
1/13/05 Drill from 1533' to 1610'
1/14/05 Work on rig, change drill line, repair mud pumps
1/17/05 Return to rig, trip in drill from 1610' to 1696', clean mud pits
1/18/05 Drill from 1696 to 1801'
1/19/05 Drill from 1801' to 1910', clean mud pits
1/20/05 Drill from 1910' to 2037' Got stuck 30' off bottom, good circulation no movement
1/21/05 Circulate hole, try to pull pipe, no luck, good circulation
1/22/05 Continue to circulate while waiting for a compressor.

1/23/05 Circulate hole, try to pull pipe Compressor arrives at 5:30pm
 1/24/05 Rig up for air lift to free pipe, lift mud out of hole and pipe pulled free, trip out
 1/25/05 Trip in, Drill from 2037' to 2185
 1/26/05 Drill from 2185' to 2247', got differentially stuck again
 1/27/05 Rig up compressor, free up pipe, pull 240' circulate hole clean
 1/28/05 Finish tripping out to lay down 8" shock sub, trip in start drilling at 6:00 pm
 1/29/06 Drilling from 2653' to 2715', work on pump #1
 1/30/05 Drilling very slow from 2745' to 2748'
 1/31/05 Trip out for bit, wait for new bit
 2/01/05 Trip in with new bit, start drilling, clean pits and mix mud
 2/02/05 Drill from 2748' to 2940', find Madison top, circulate hole for trip
 2/03/05 Log hole to verify Madison top, Run 7" casing Wait on cementers, cement well,
 cement job bad, no returns
 2/05/05 Run Cement Bond Log Perforate holes.
 2/07/05 Pick up packer, trip in hole, seat packer 1400', wait on cementers, cement at
 4:00pm, unseat packer and trip up in to 10', circulate overlap cement out and an
 additional 150 bbls clear water.
 2/08/05 Finish tripping out of hole with packer, pick up 4 3/4' collars and pipe and trip in
 hole to 1445', found cement and started drilling out
 2/09/05 Finish drilling out cement to plug and float shoe
 2/13/05 Drill from 2938' to 3019' through shoe and into limestone, good clean limestone
 2/14/05 Drill from 3019' to 3050' very firm and dense, no fractures
 2/15/05 Trip out for new bit,
 2/16/05 Trip in with new bit, Drill from 3050' to 3175'
 2/17/05 Drill from 3175' to 3307', found fractures and a 2' crack, lost circulation, trip
 out
 2/18/05 Start airlift.
 2/19/05 Continue airlifting while pumping water over hill.
 2/21/05 Lay down drill pipe and dismantle rig for demob

Goodwell Incorporated

RADIOACTIVITY LOG

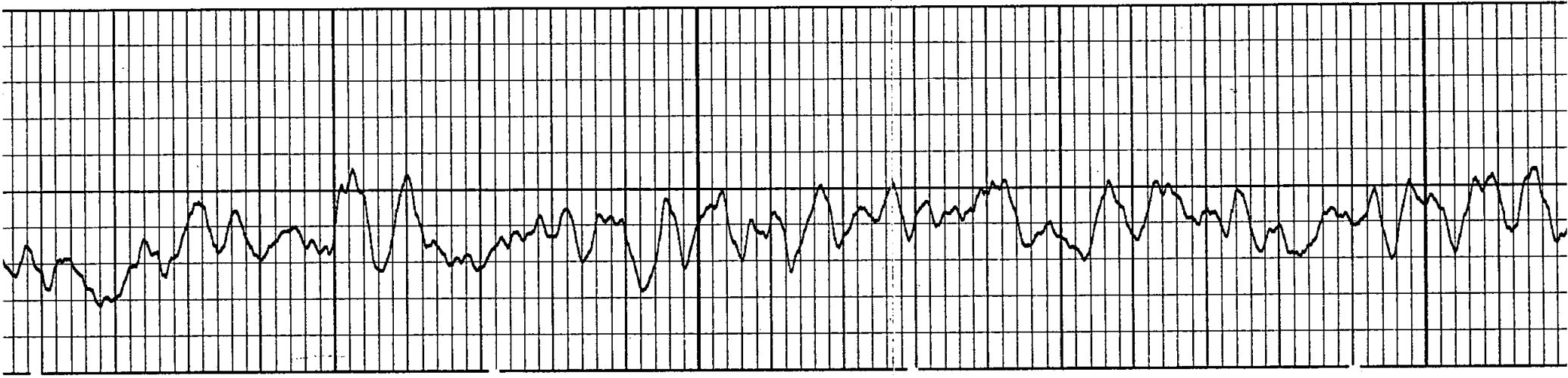
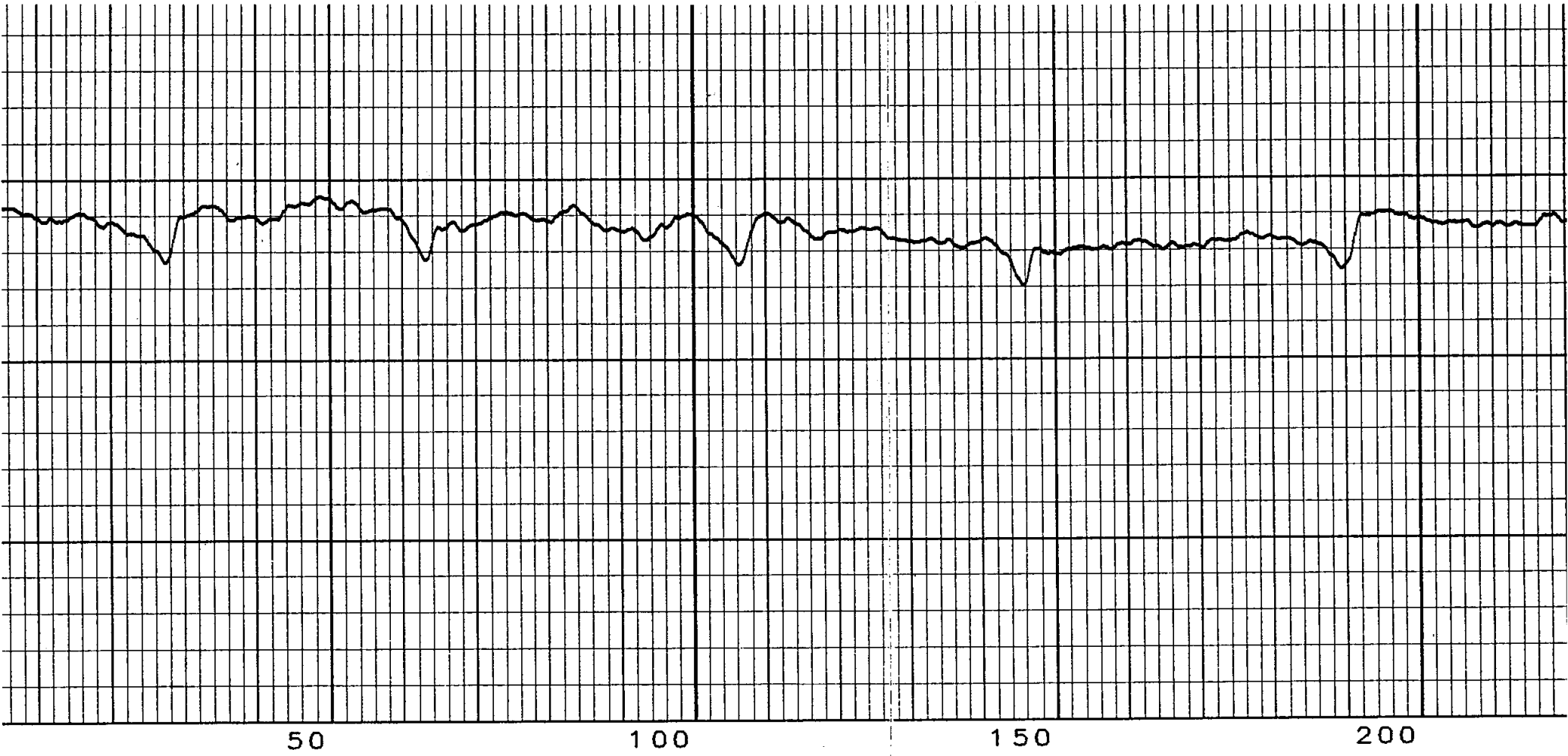
COMPANY WATER SYSTEM DRIG WELL SIGNATURE DEV. #2 FLDBLACK RIDGE CTYPEPENNINGTON STATE SO.DAK. FILING NO	COMPANY WATER SYSTEM DRIG WELL SIGNATURE DEV. #2 FIELD BLACK RIDGE COUNTY PENNINGTONSTATE SO. DAK. LOCATION: SEC TWP RGE OTHER SERVICES
PERMANENT DATUM G. L. ELEVATION 3506' K. B. LOG MEAS. FROM G. L. FT. ABOVE PERM DATUM D. F. DRILLING MEASURED FROM G. L. G. L. 3506'	
DATE	2-2-2005
RUN NO. DIV	ONE
TYPE LOG	GN
DEPTH-DRILLER	2934'
DEPTH-LOGGER	2915'
BTM LOGGED INTERVAL	2914'
TOP LOGGED INTERVAL	10'
TYPE FLUID IN HOLE	MUD
SALINTY	
DENSITY	
LEVEL	277'
MAX. REC. TEMP. DEG F.	
OPERATING RIG TIME	2 HOURS
RECORDED BY	T. BICKETT
WITNESSED BY	S. HEIMER

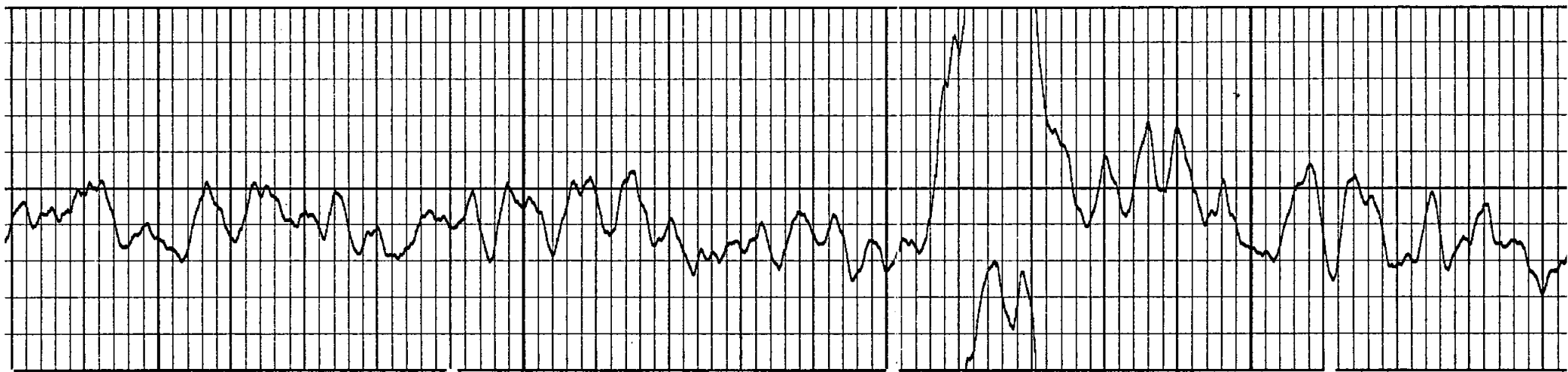
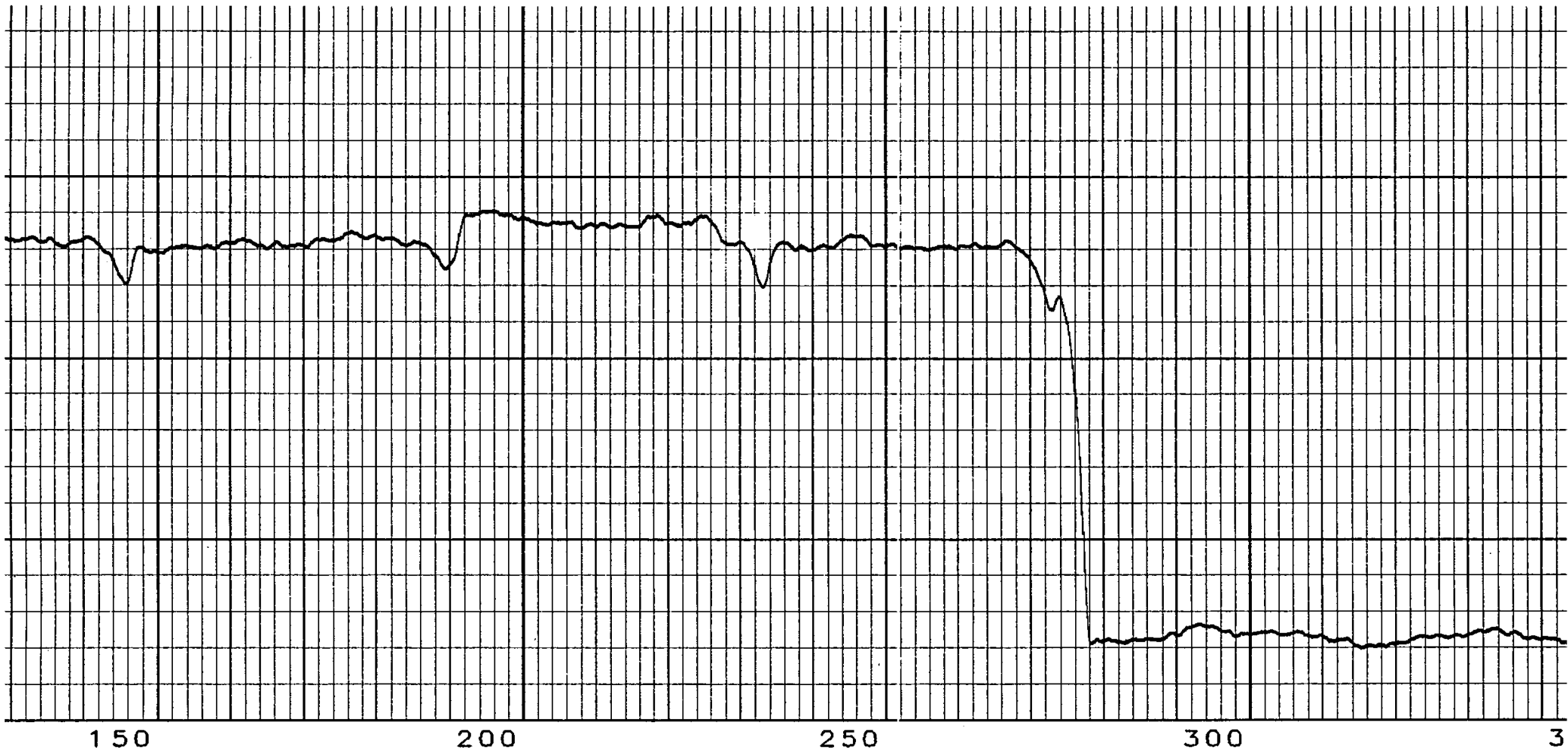
RUN NO.	BOREHOLE RECORD			CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	14.75	0'	990'	10.75		0'	990'
2	9 7/8	990'	2934'				

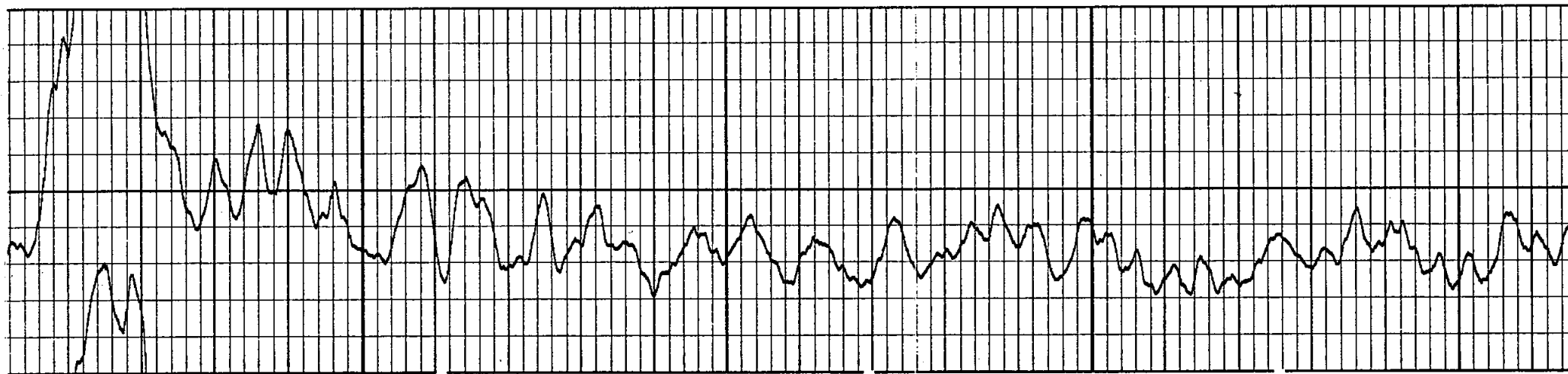
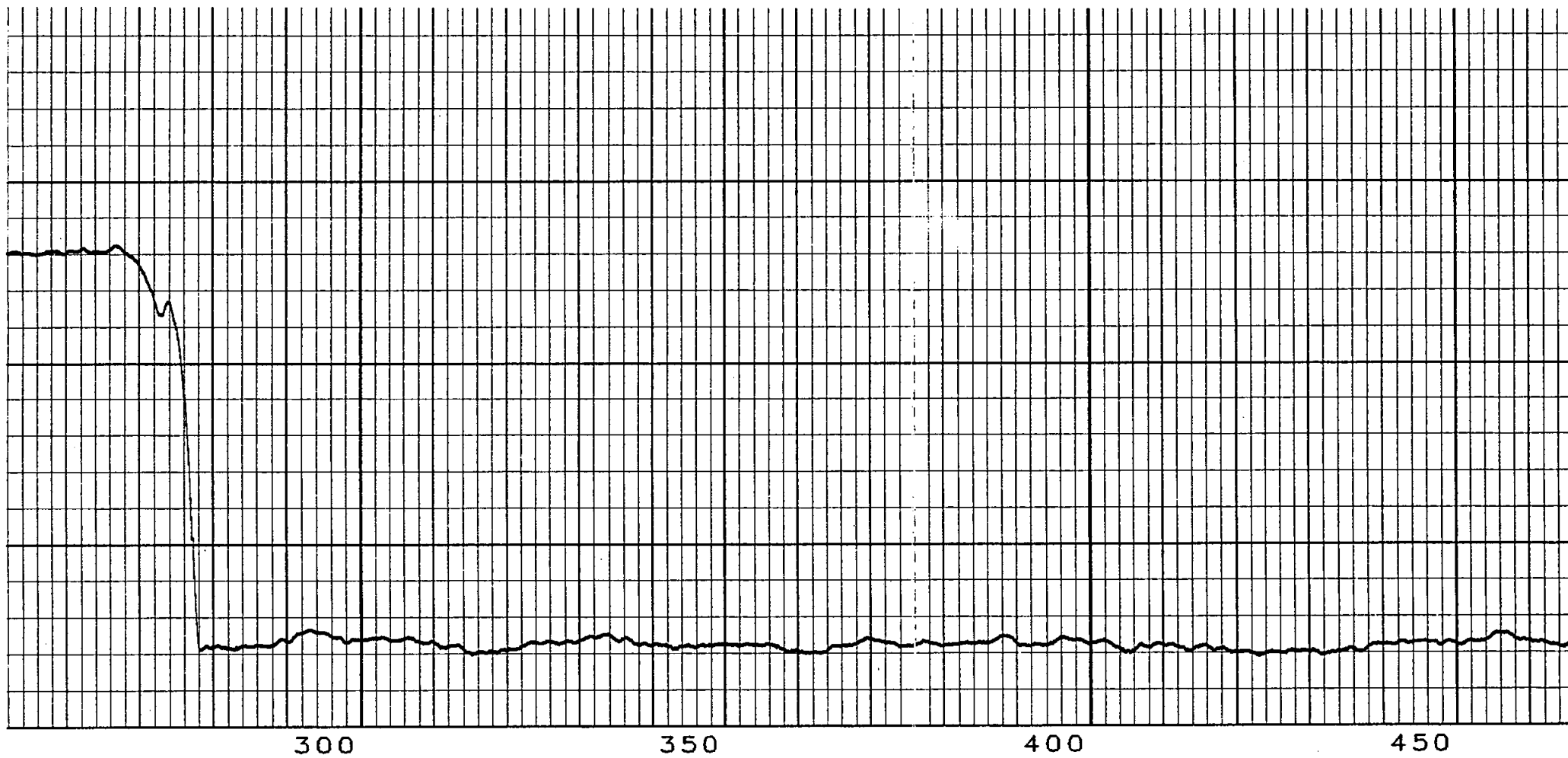
EQUIPMENT DATA									
GAMMA RAY					NEUTRON				
RUN NO.					RUN NO.				
TOOL MODEL NO.					LOG TYPE				
DIAMETER					TOOL MODEL NO.				
DETECTOR MODEL NO.					DIAMETER				
TYPE					DETECTOR MODEL NO.				
LENGTH					TYPE				
DISTANCE TO N. SOURCE					LENGTH				
					SOURCE MODEL NO.				
					SERIAL NO.				
					SPACING				
					TYPE				
					STRENGTH				

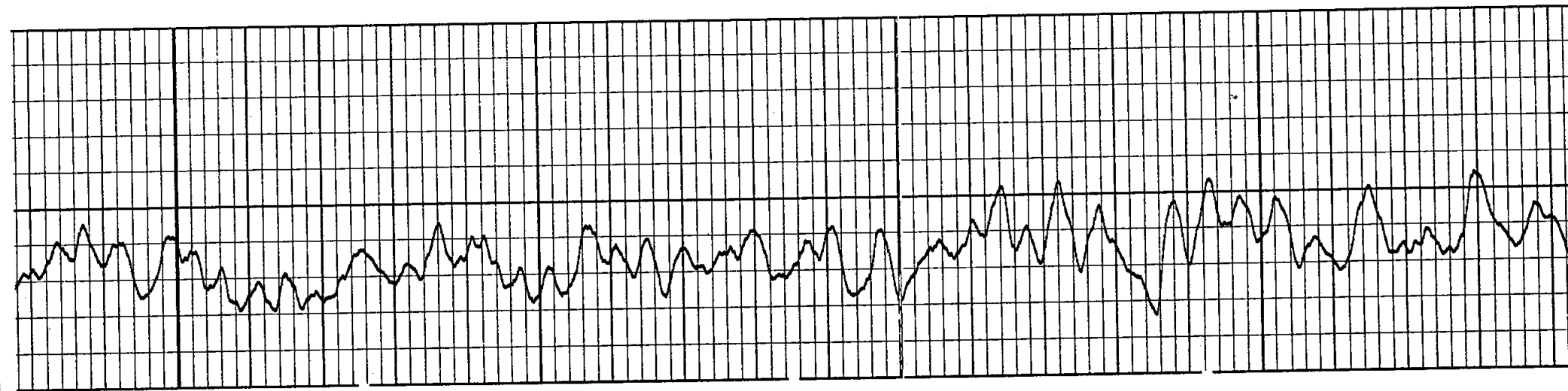
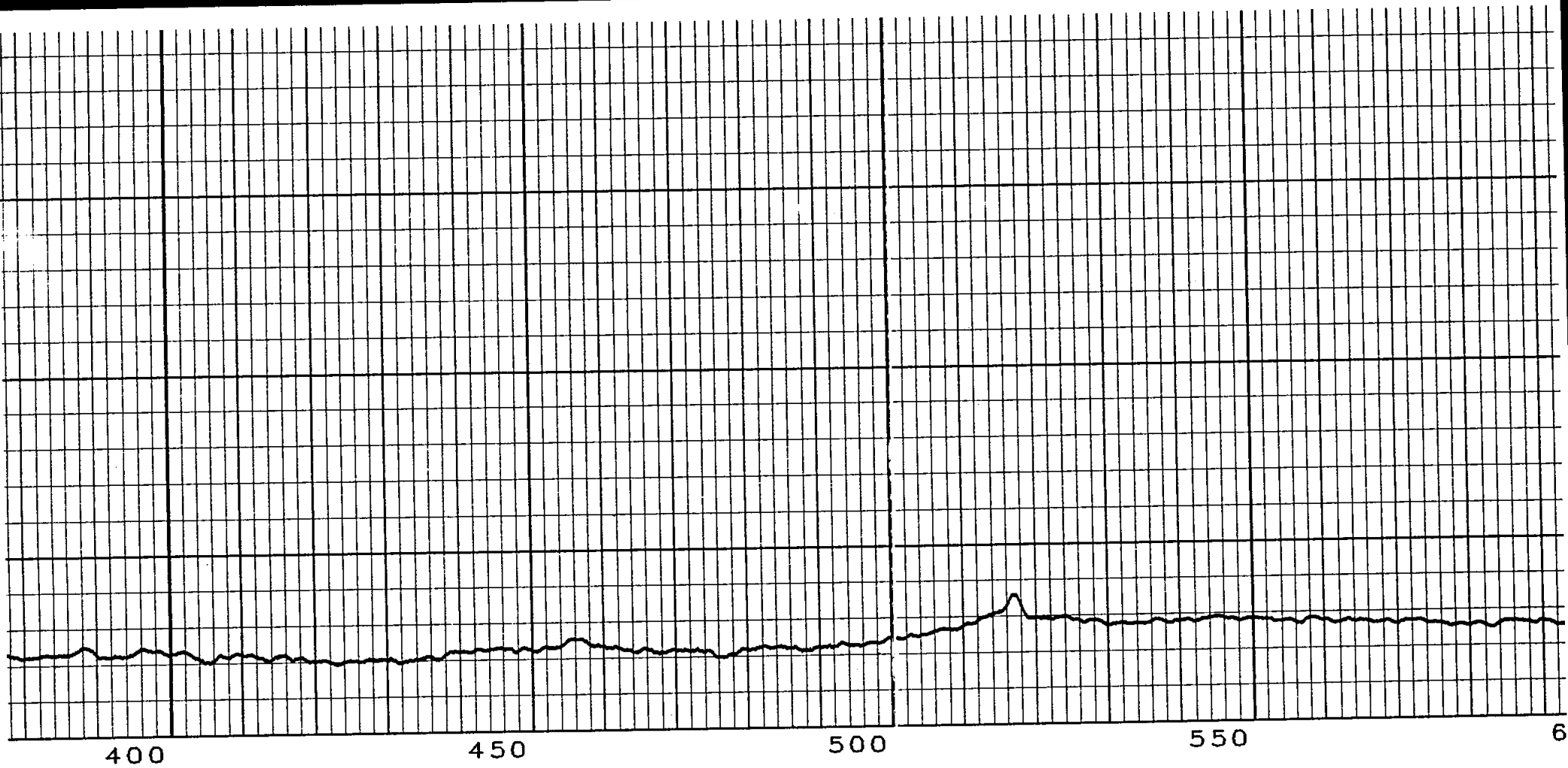
LOGGING DATA										
GAMMA RAY					NEUTRON					
RUN NO.	SPEED		T. C.	SENS.	ZERO	API GR UNITS	T. C.	SENS.	ZERO	API N UNITS
	FROM	TO								

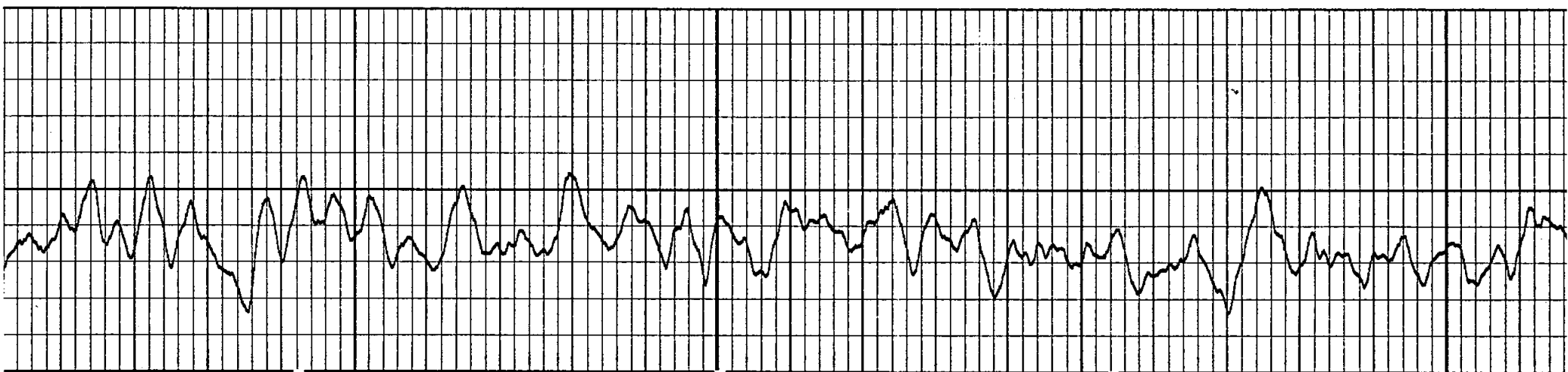
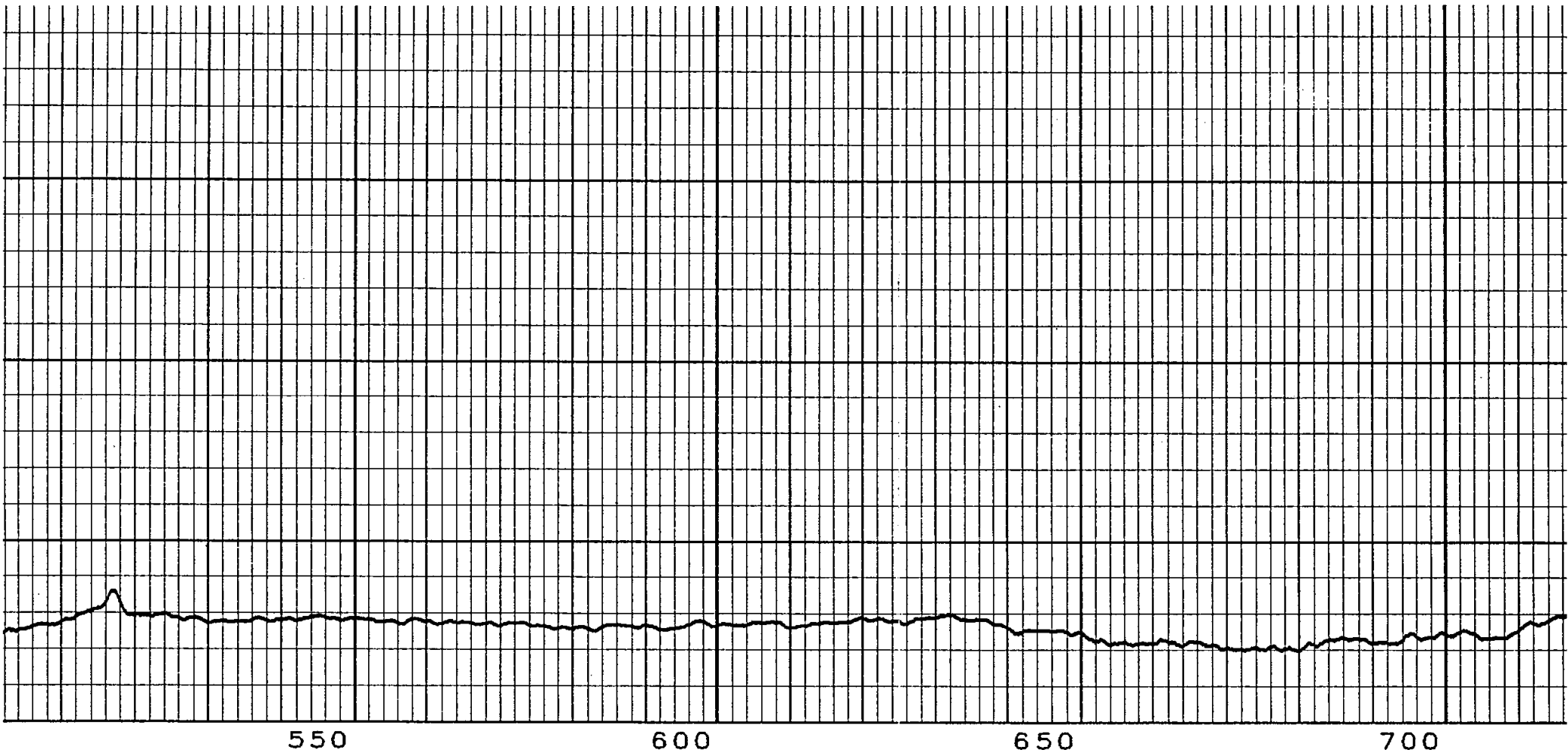
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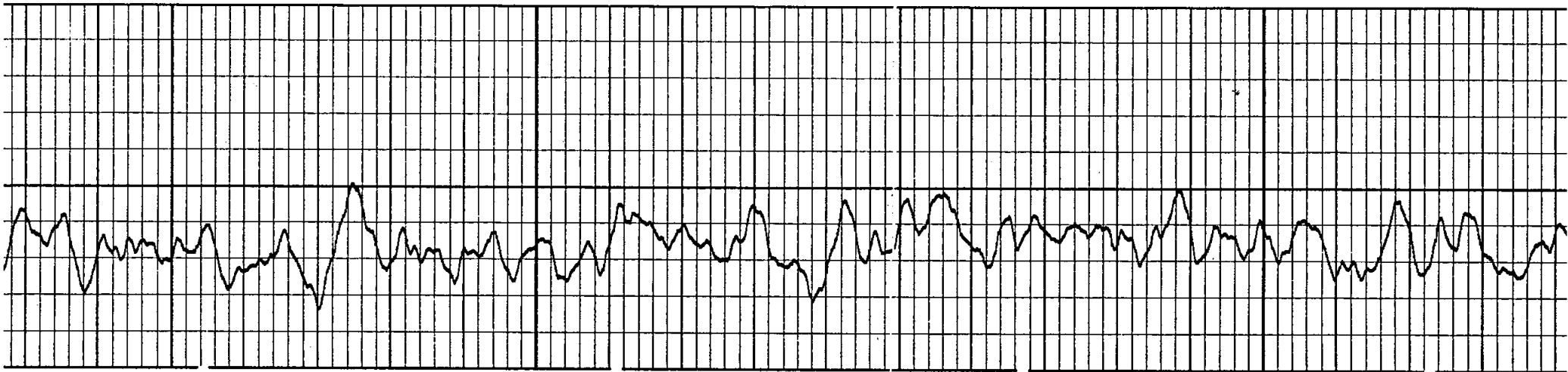
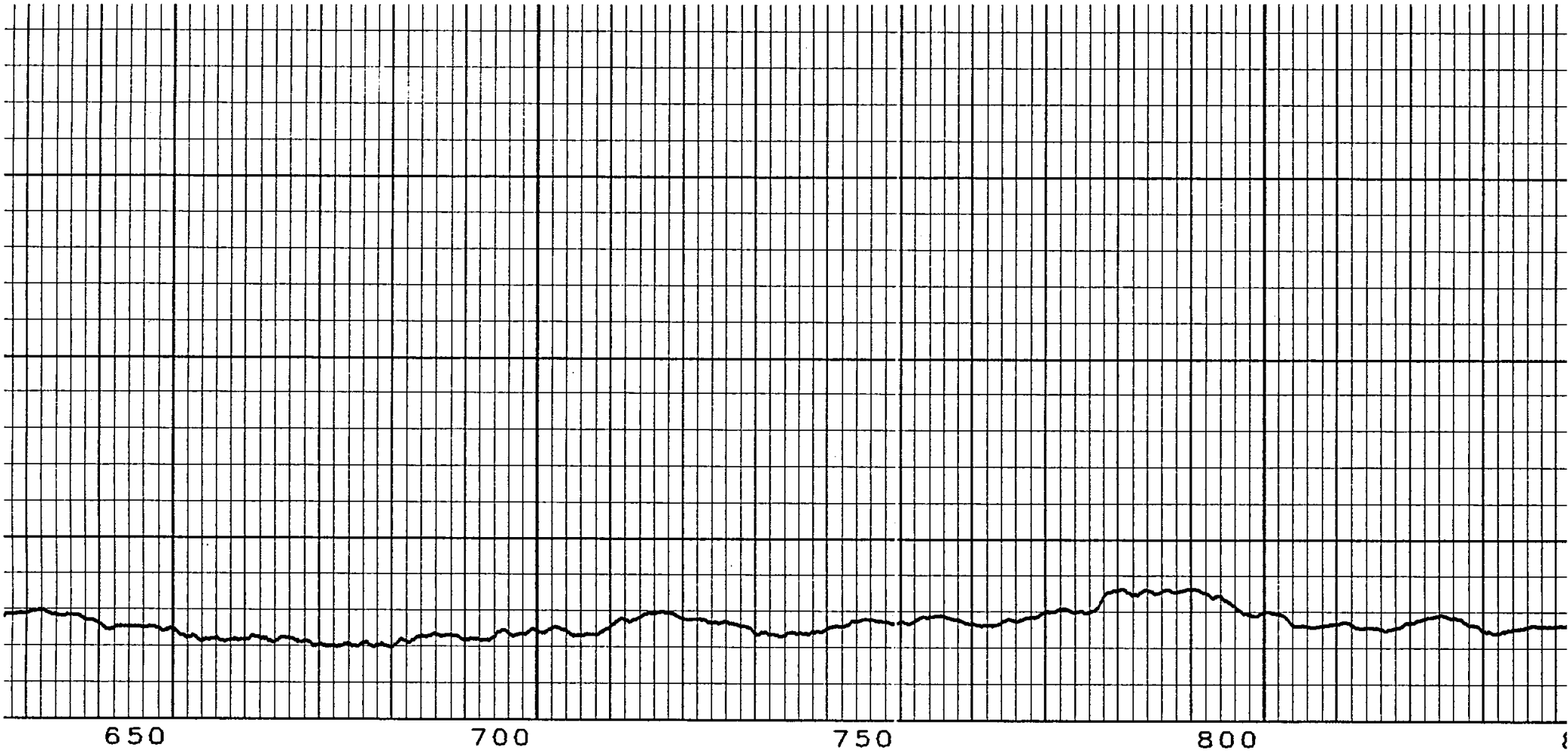


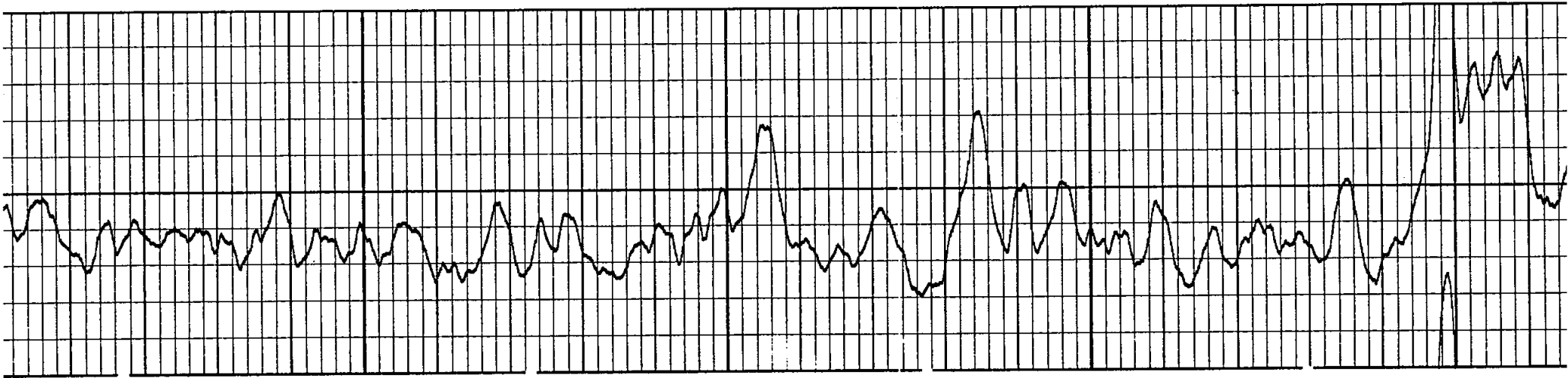
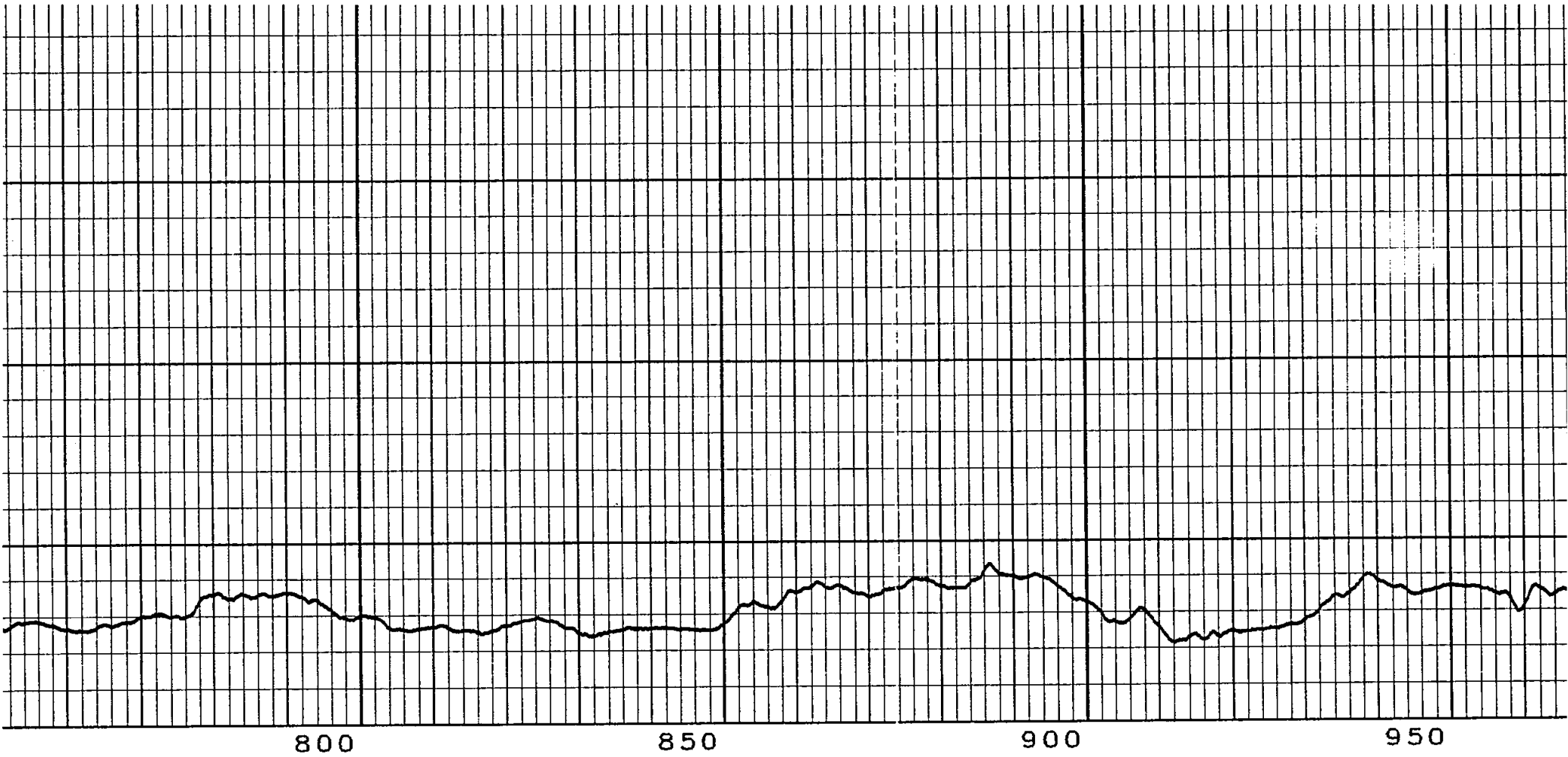


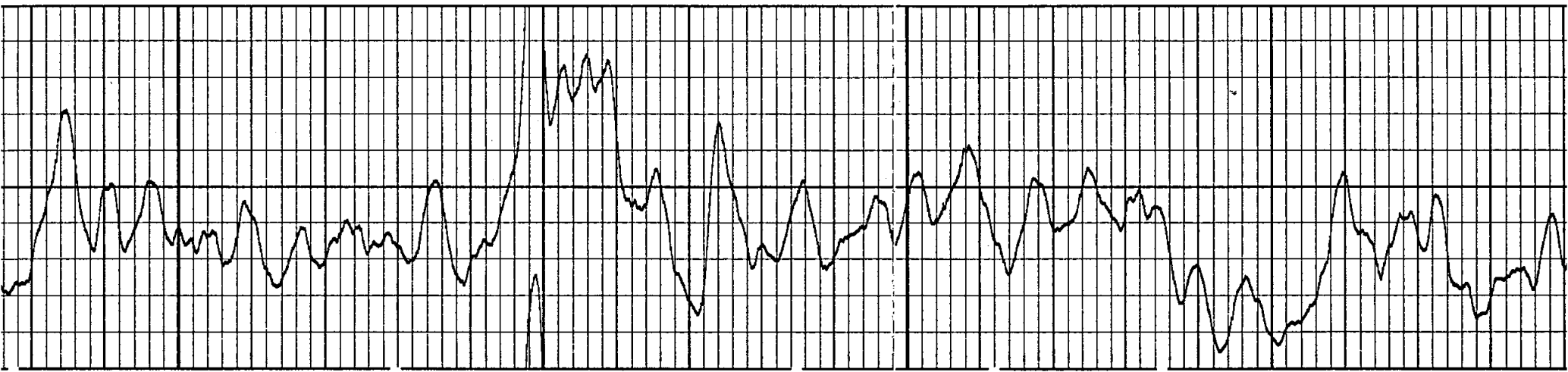
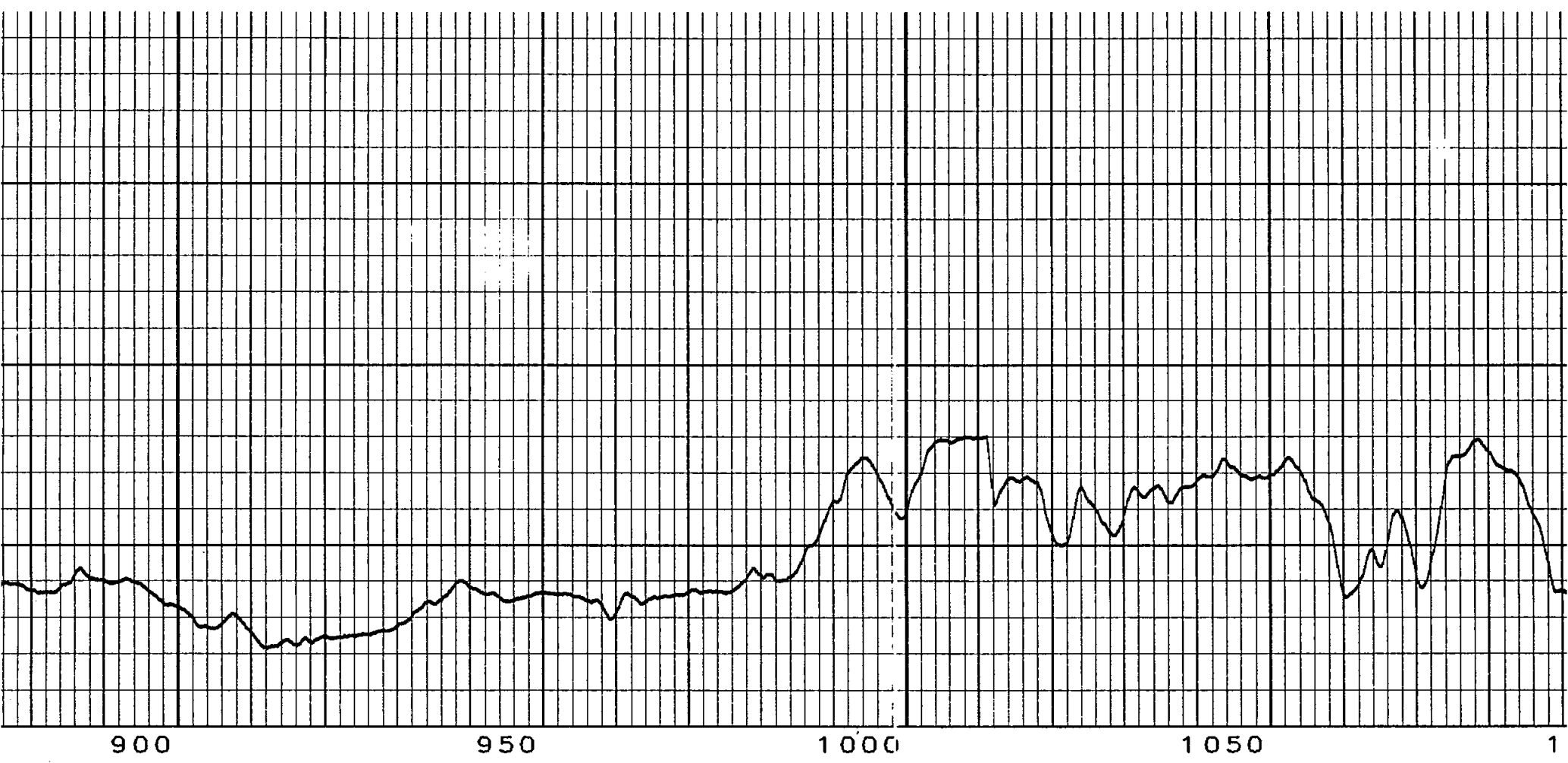


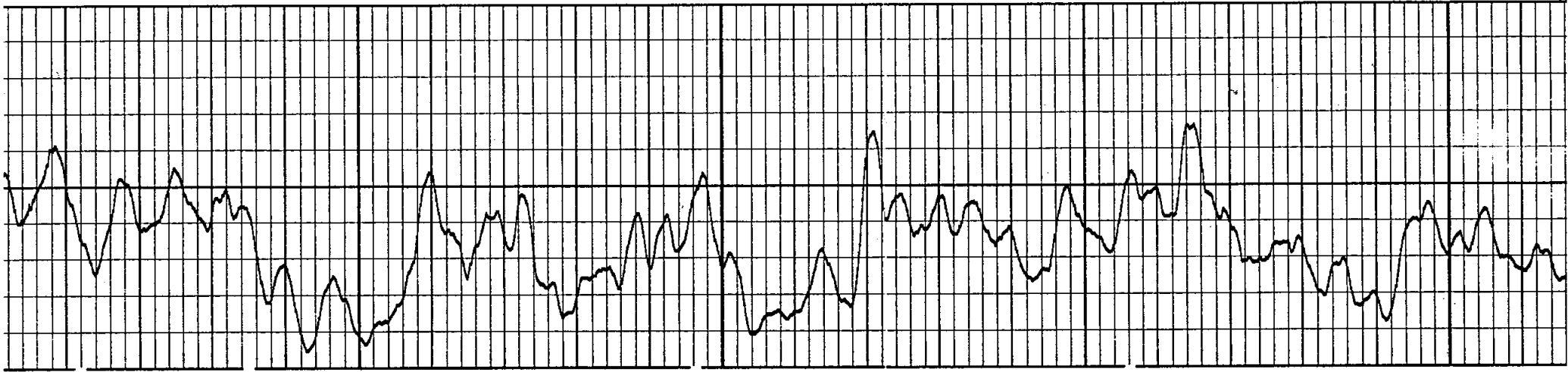
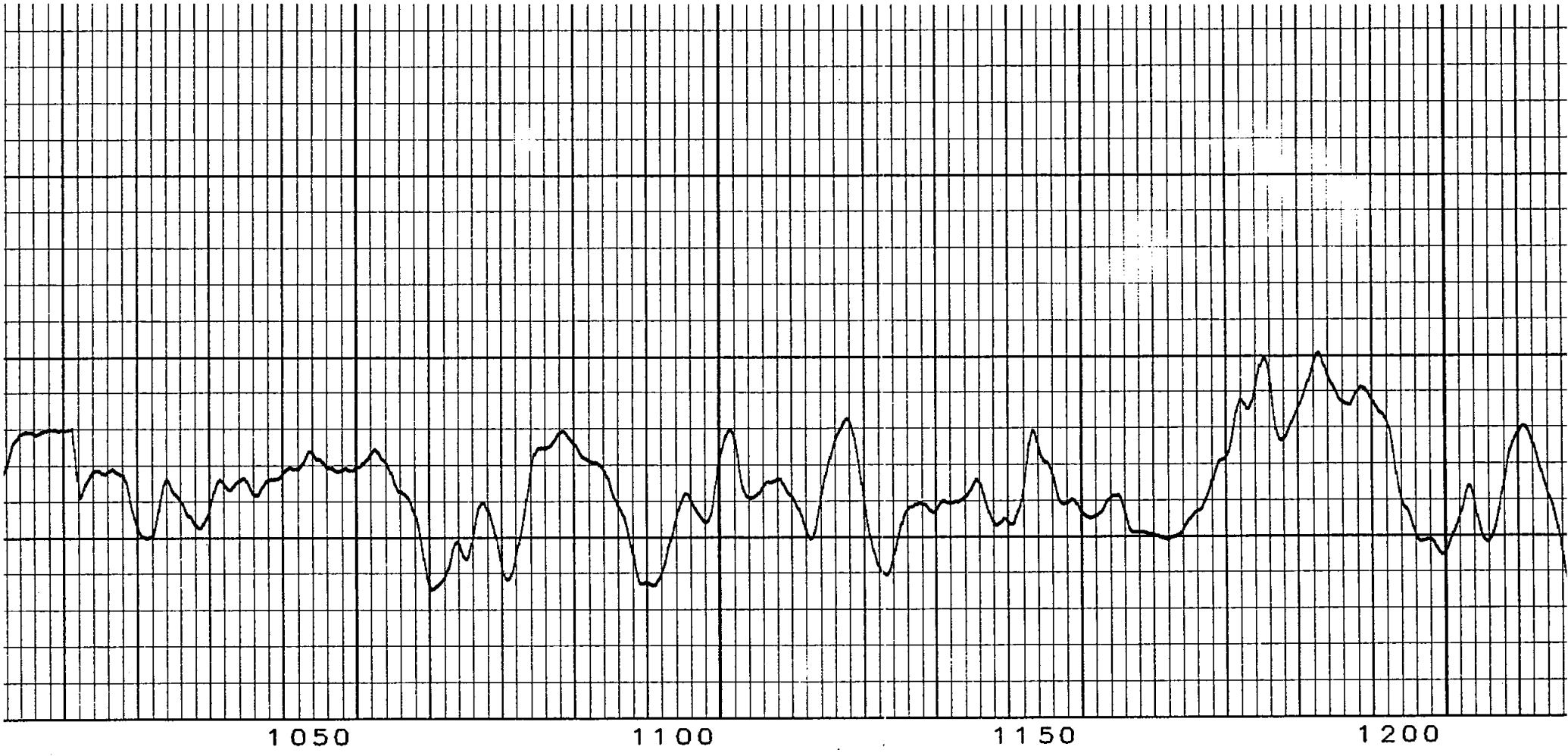


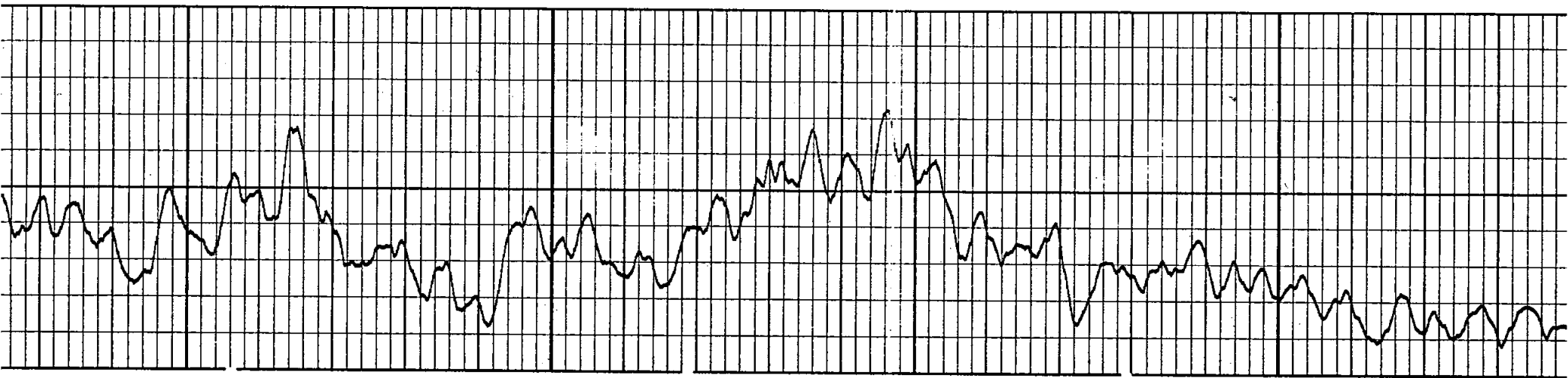
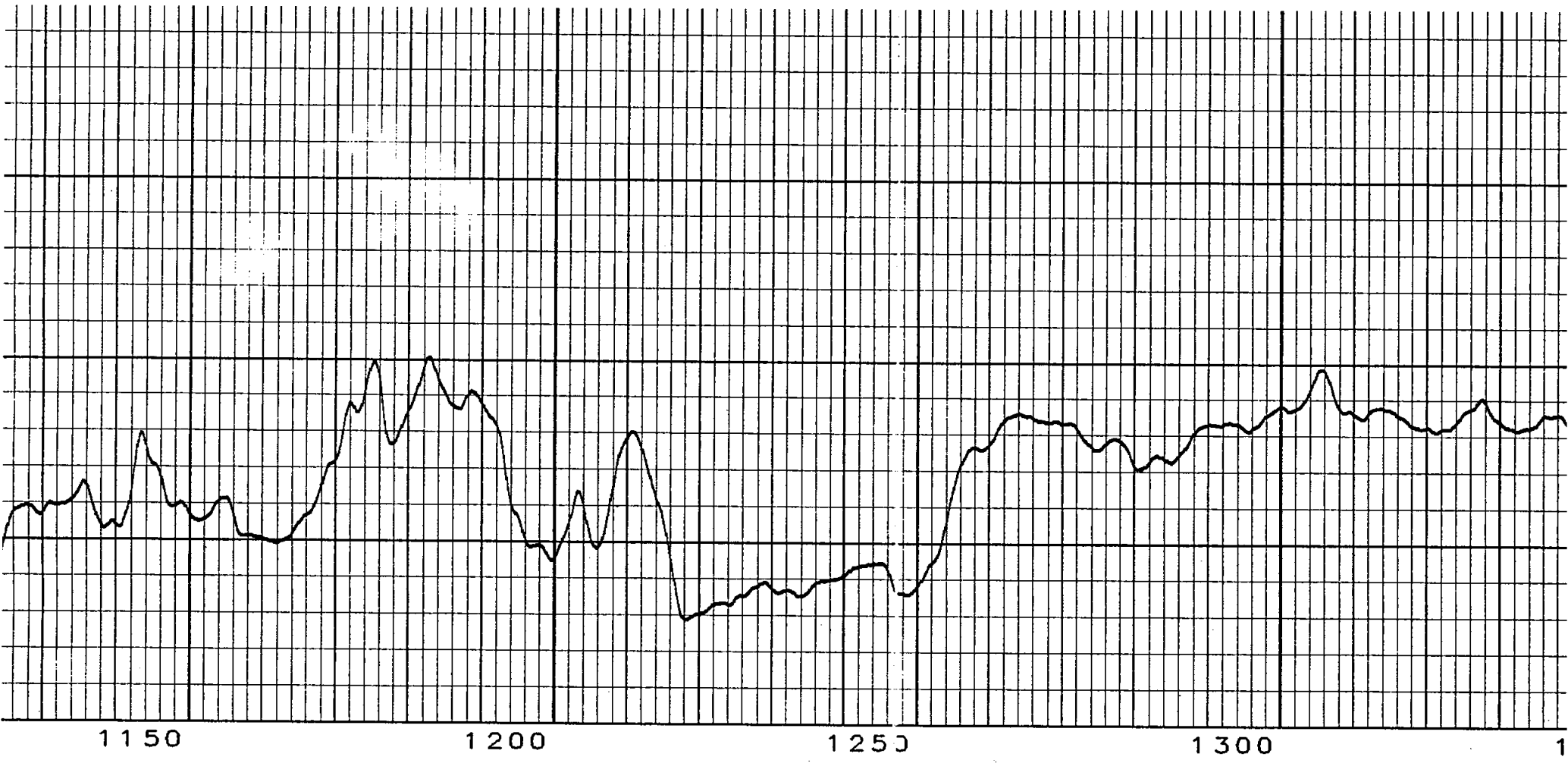


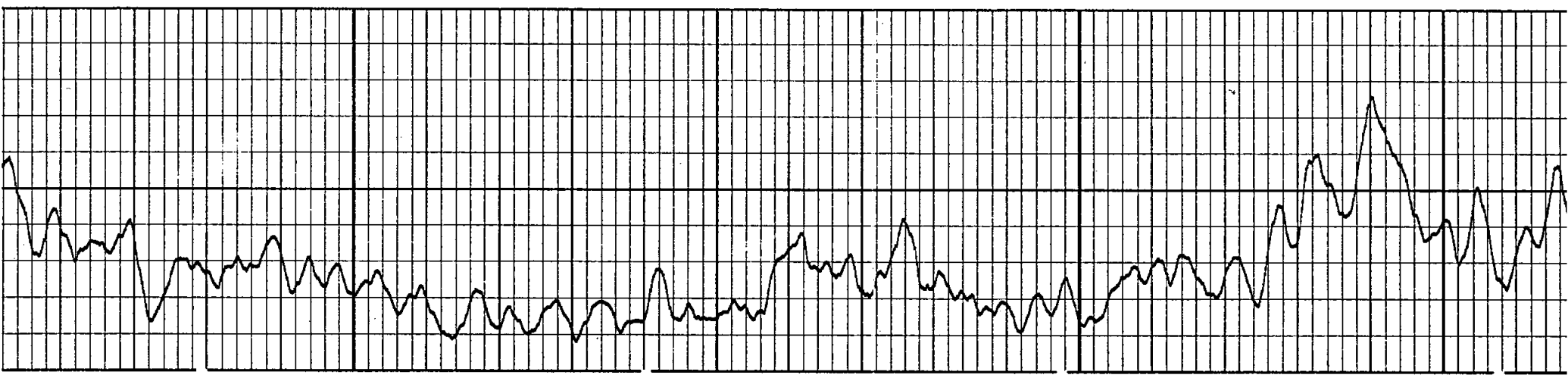
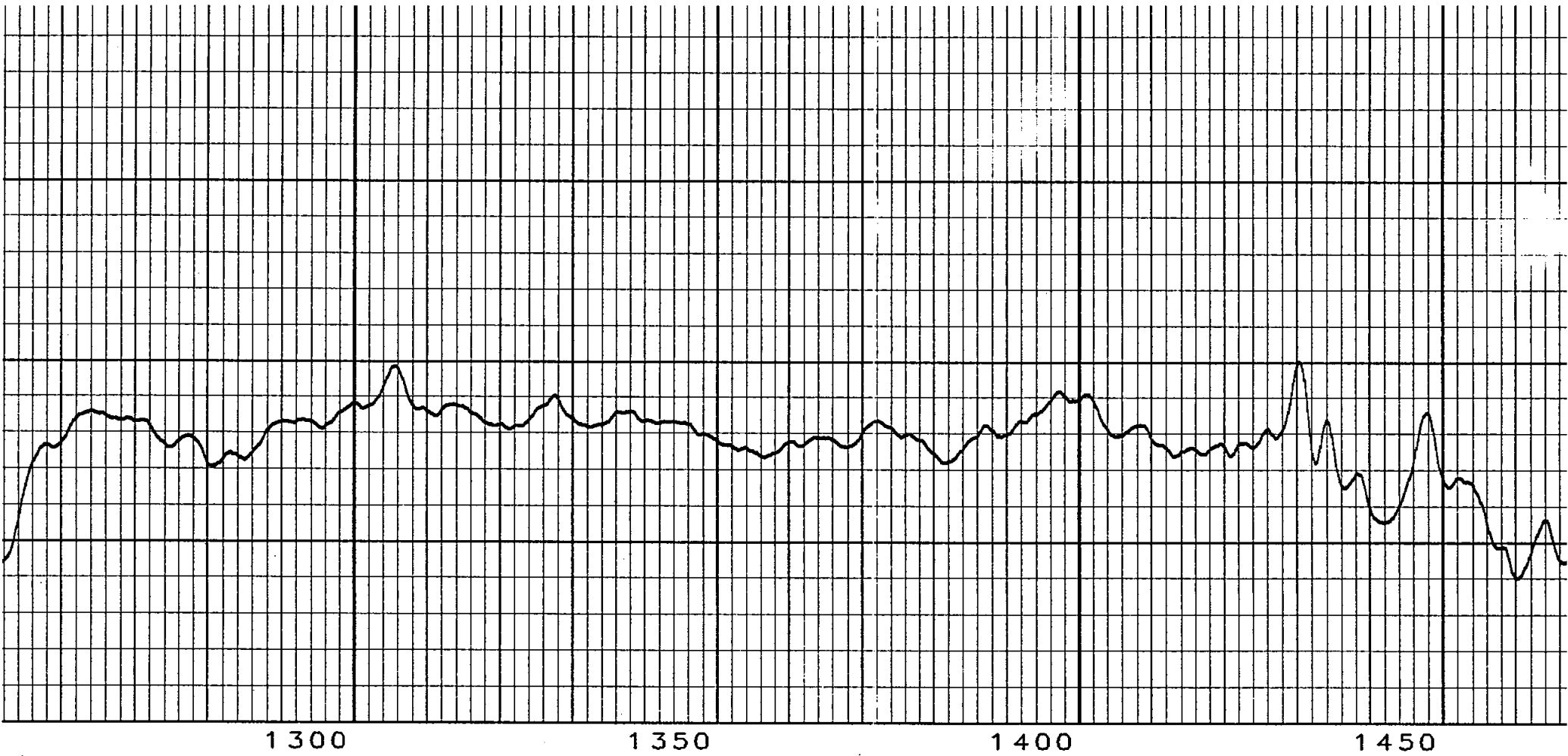


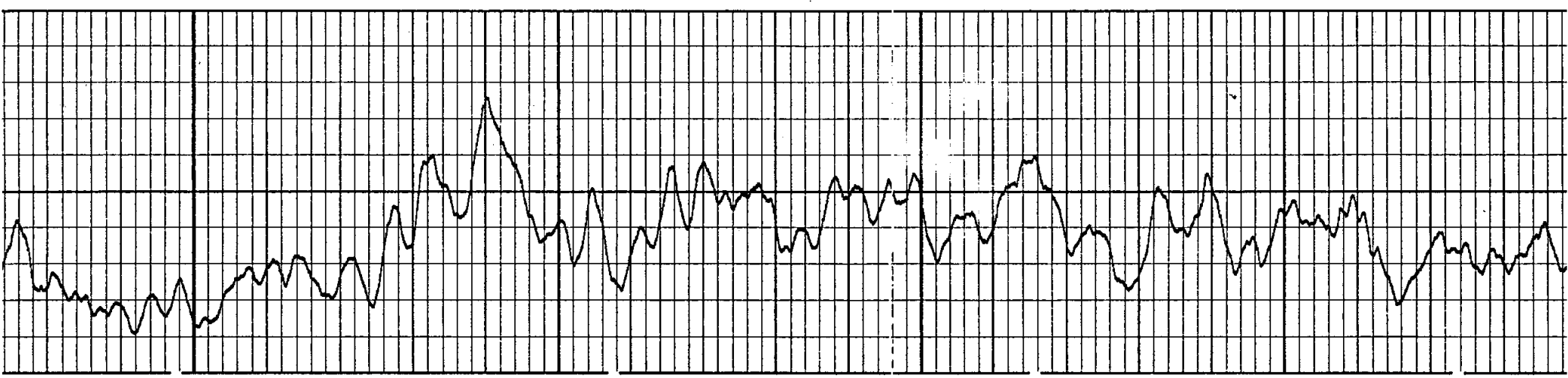
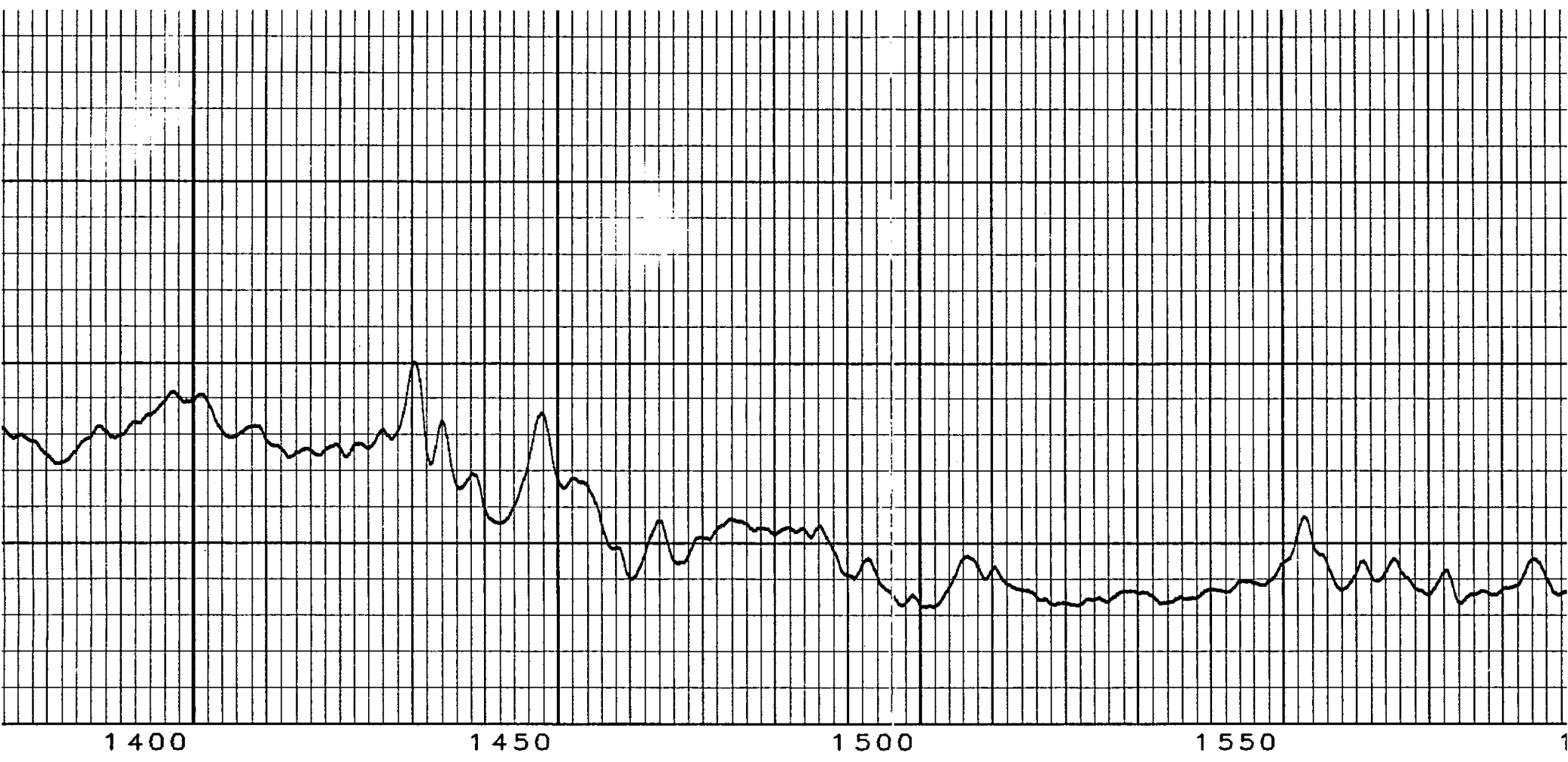


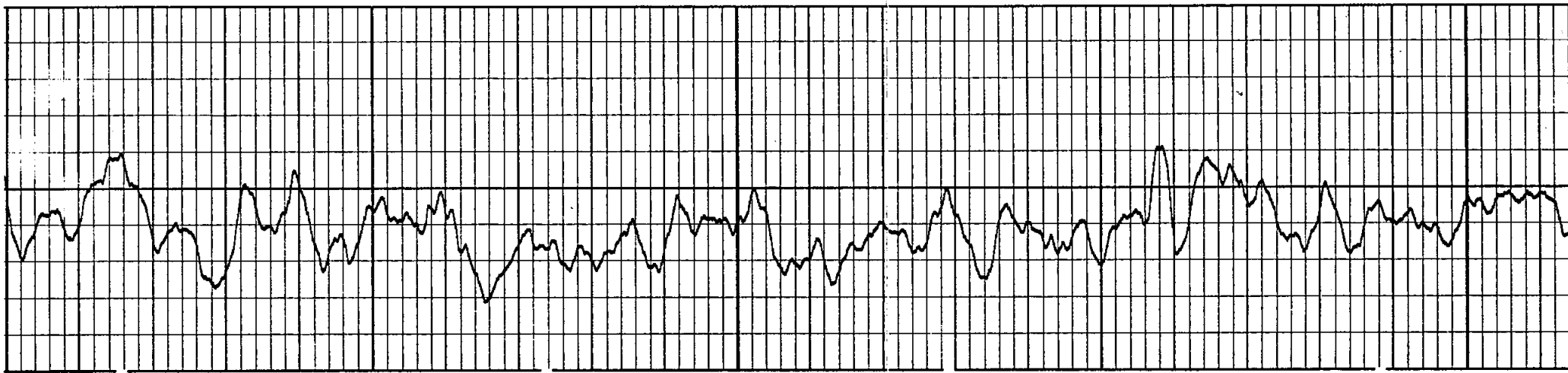
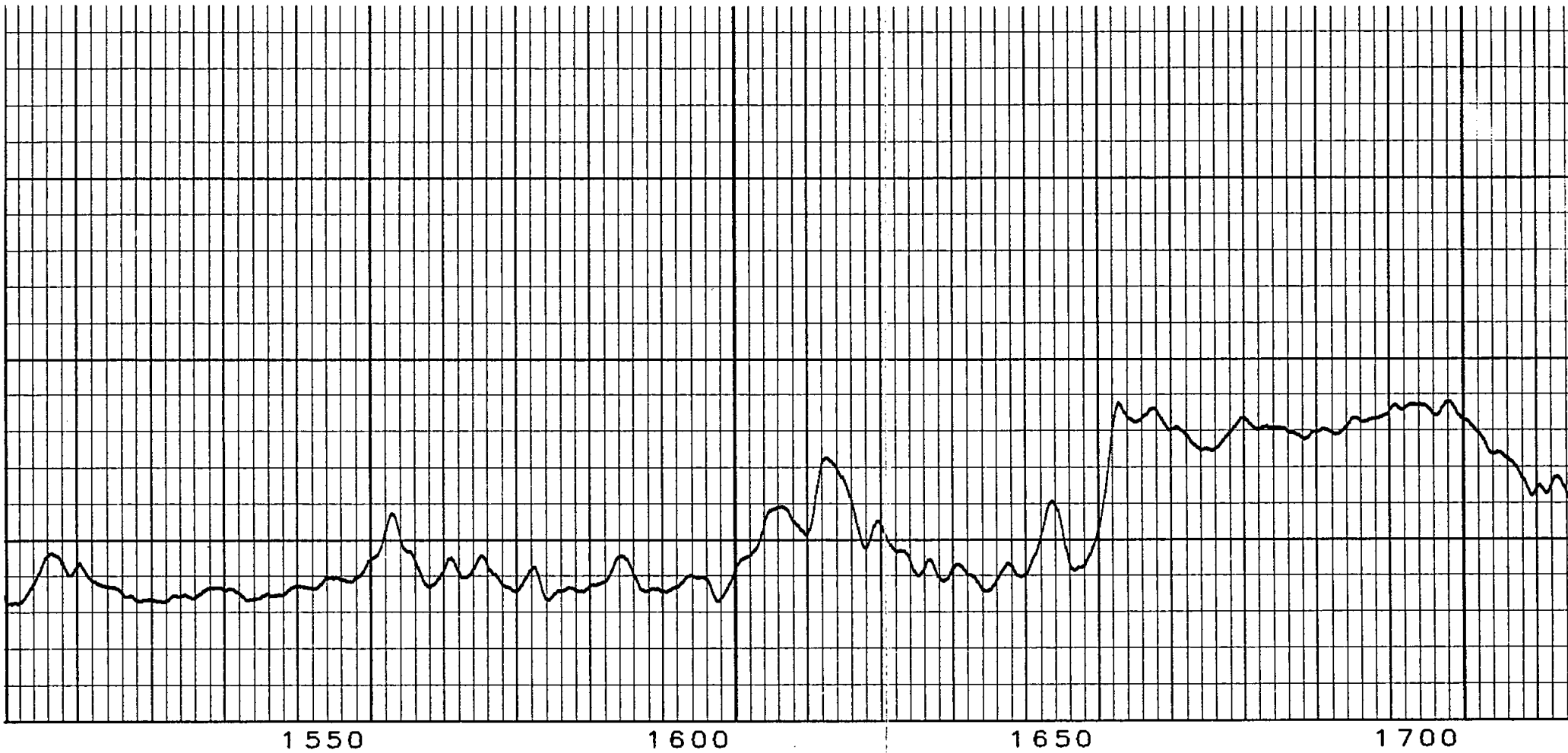


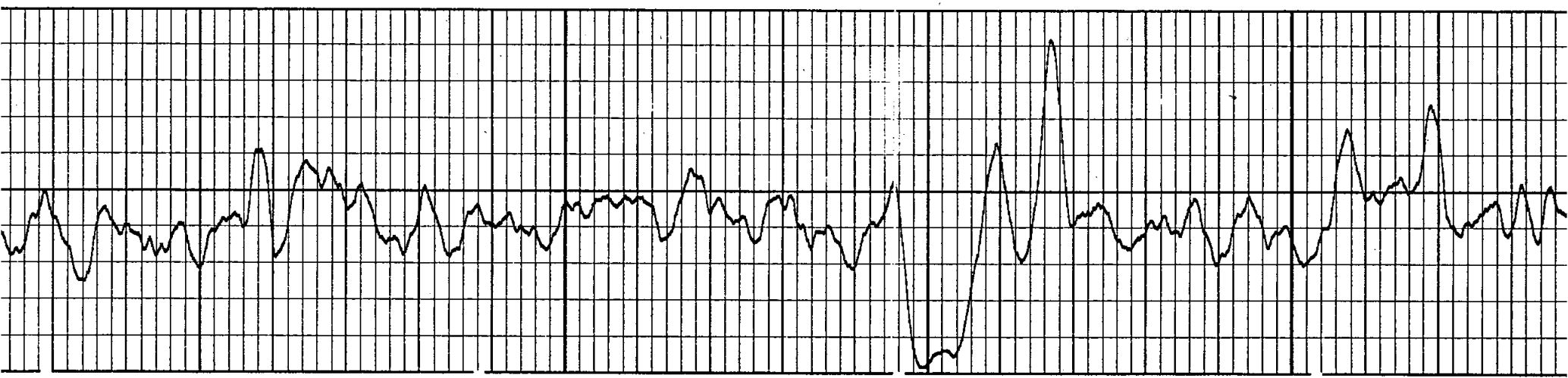
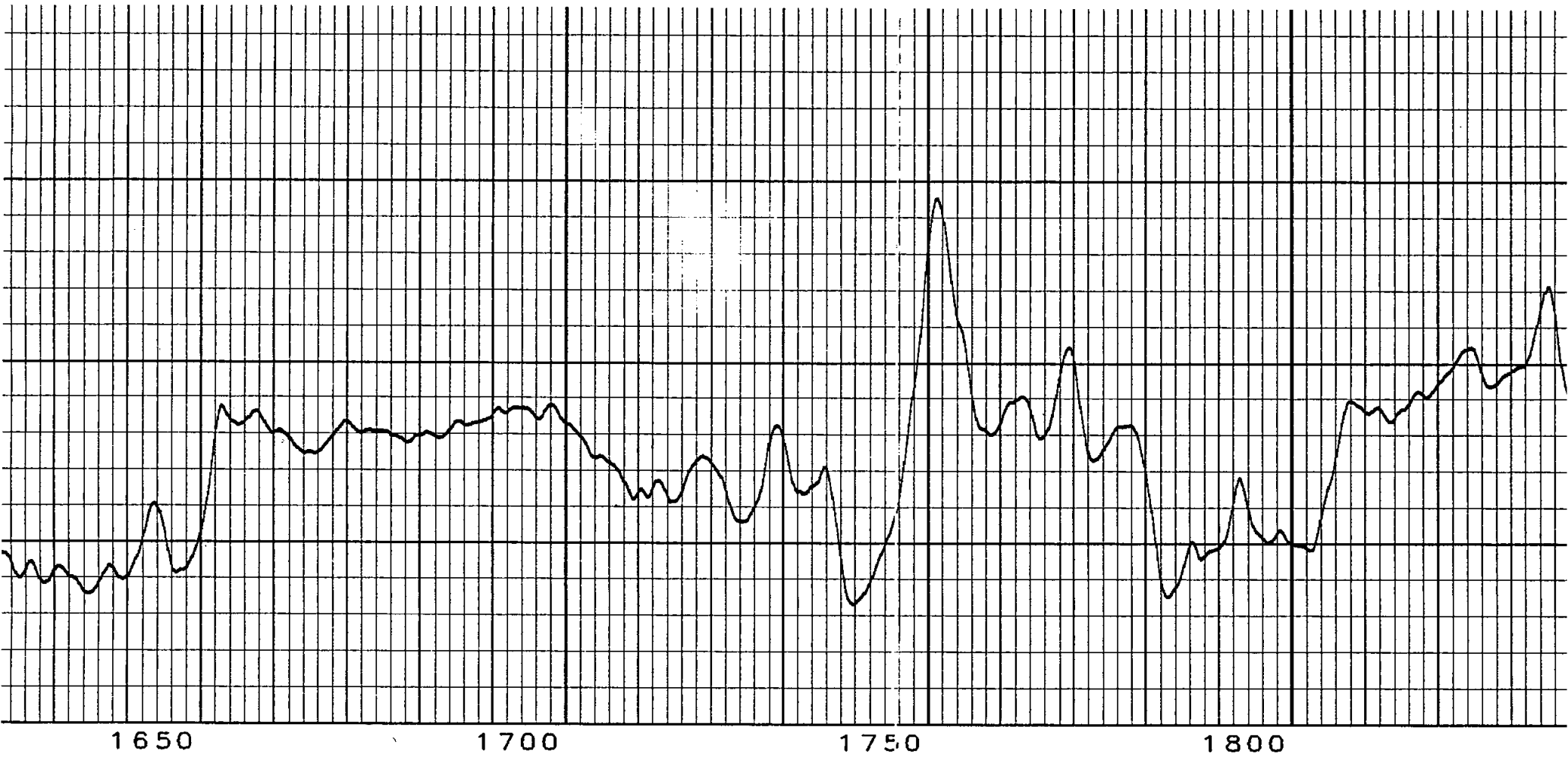


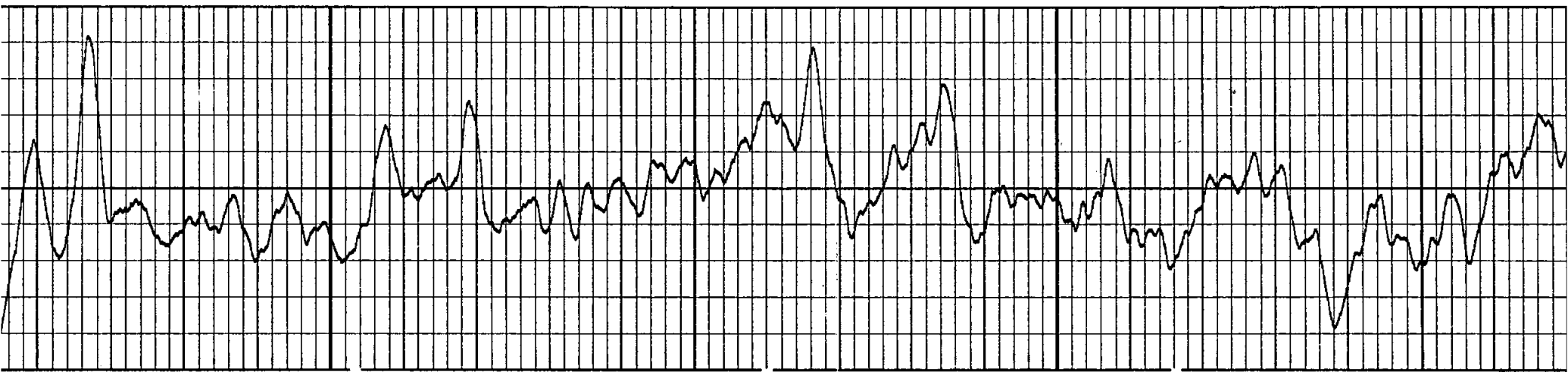
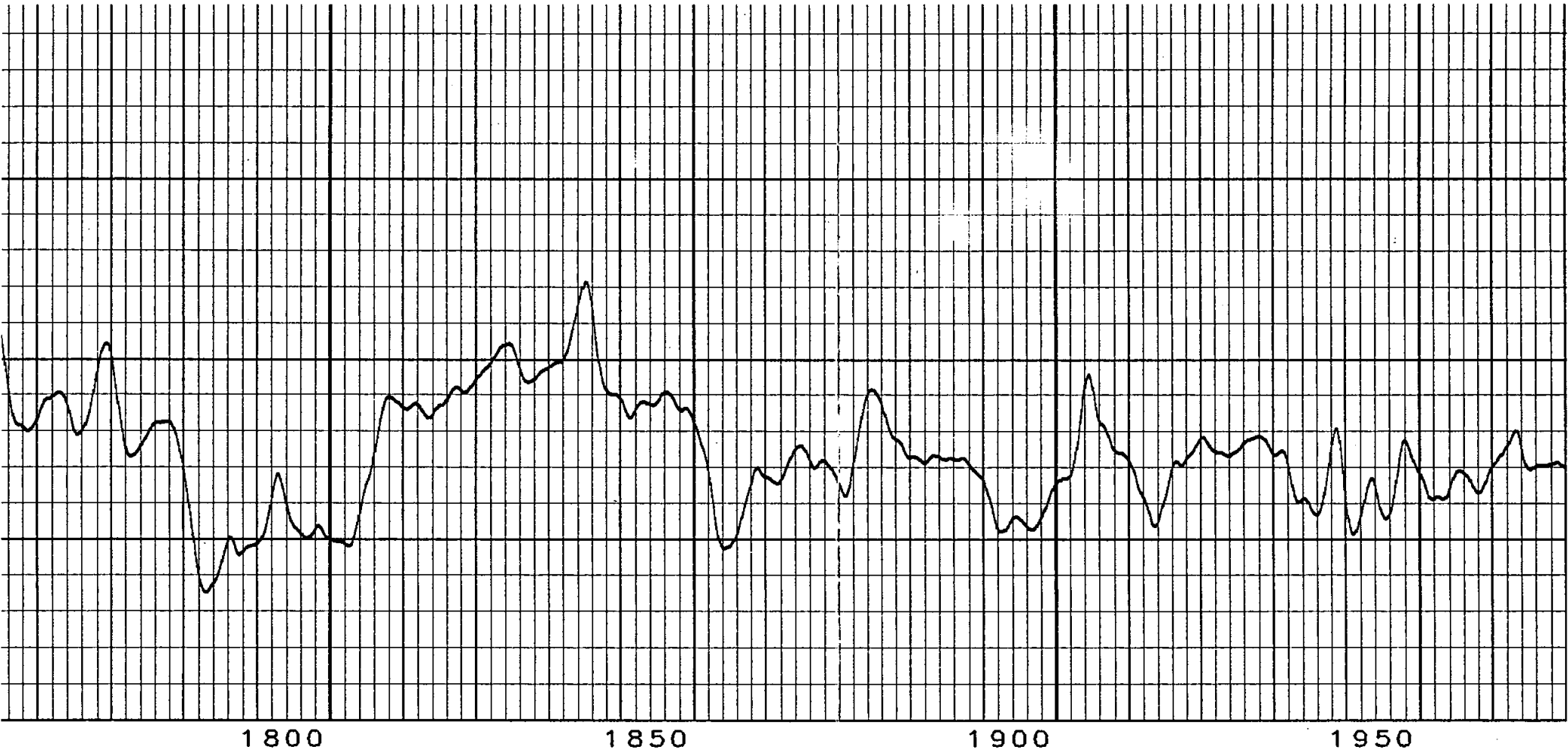


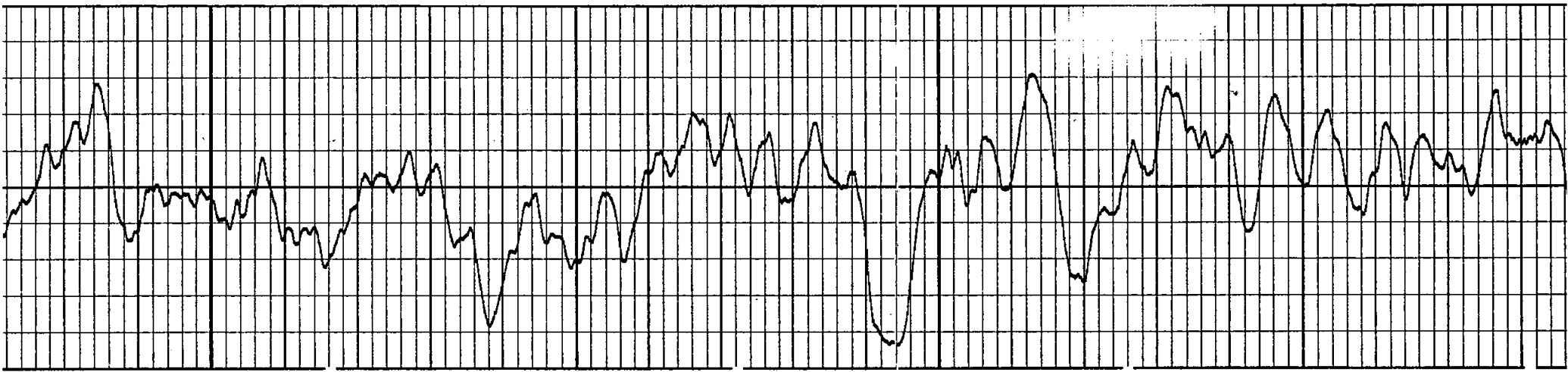
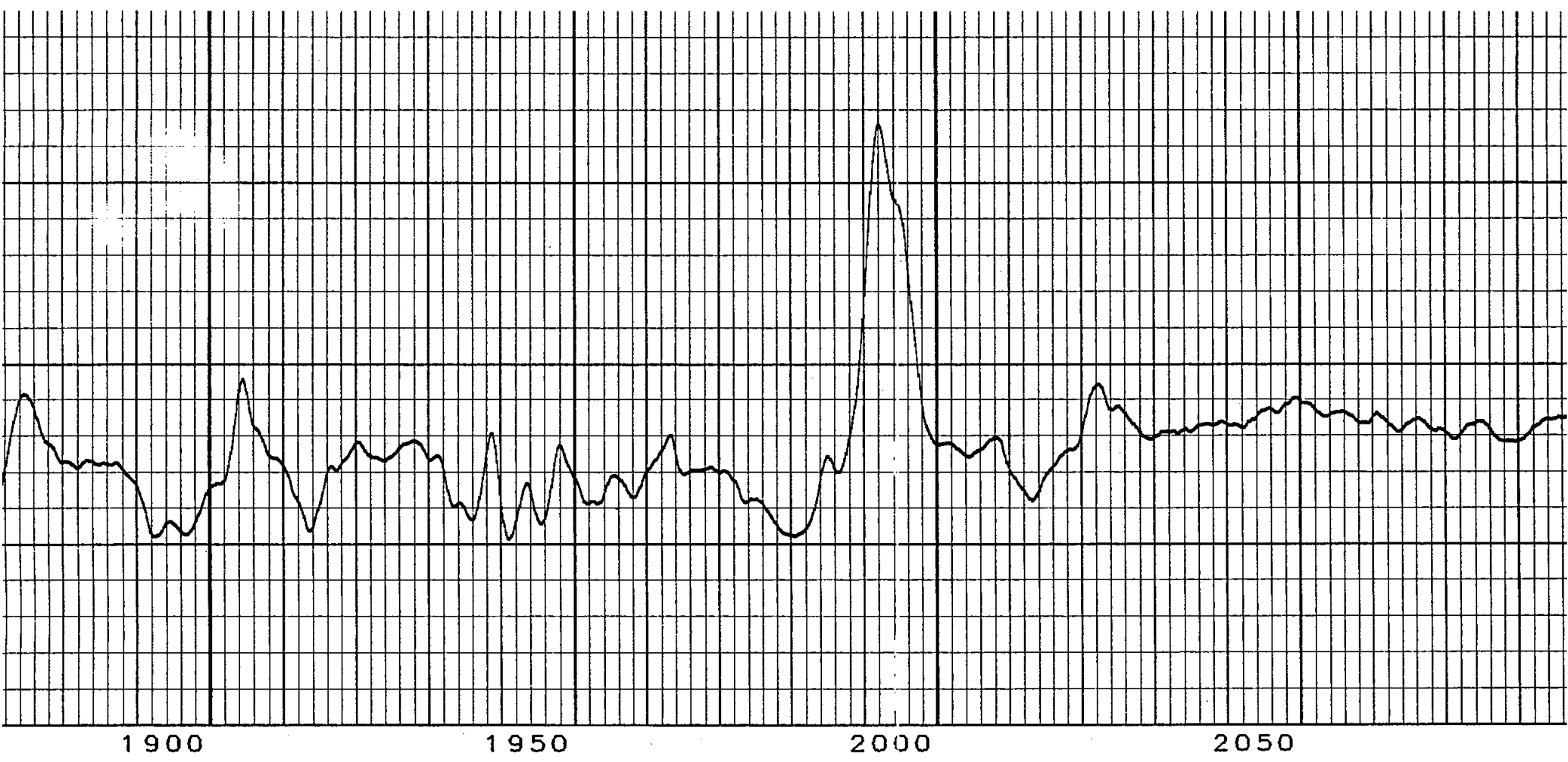


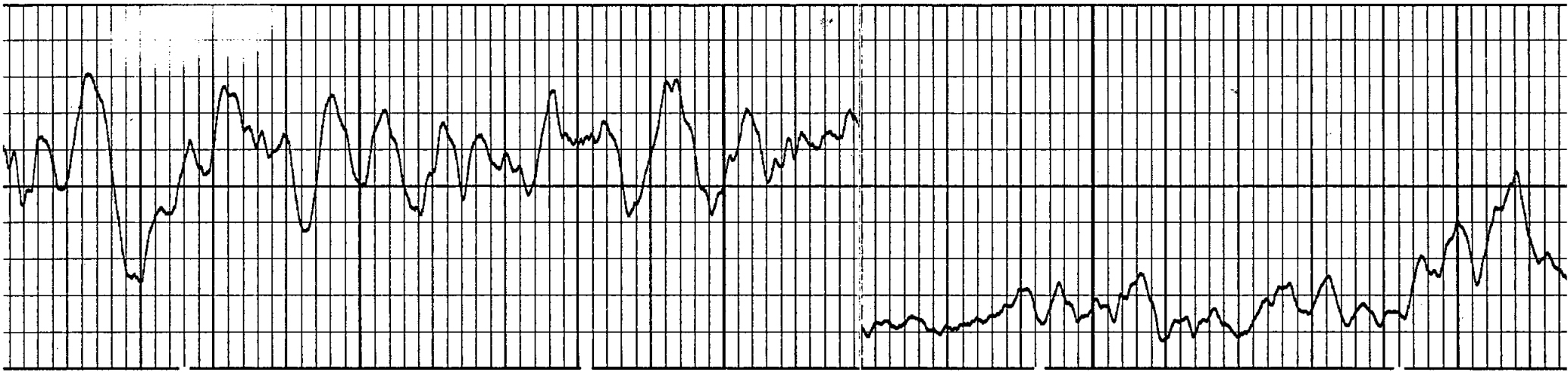
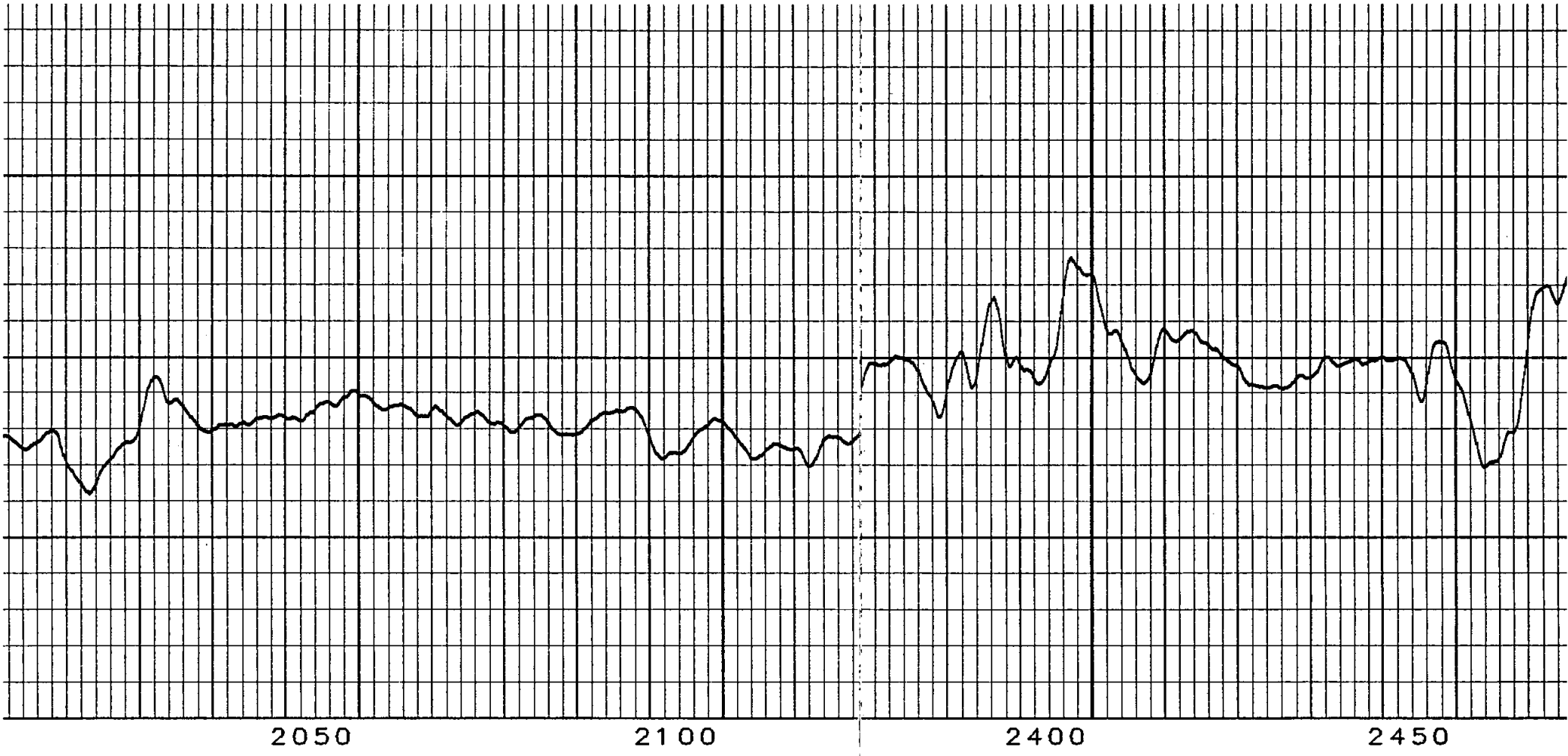


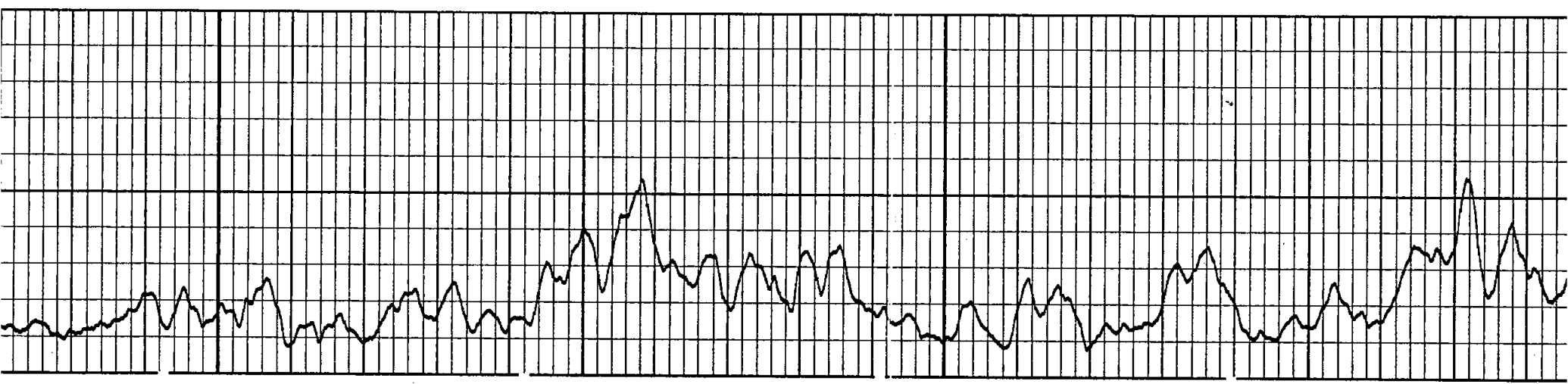
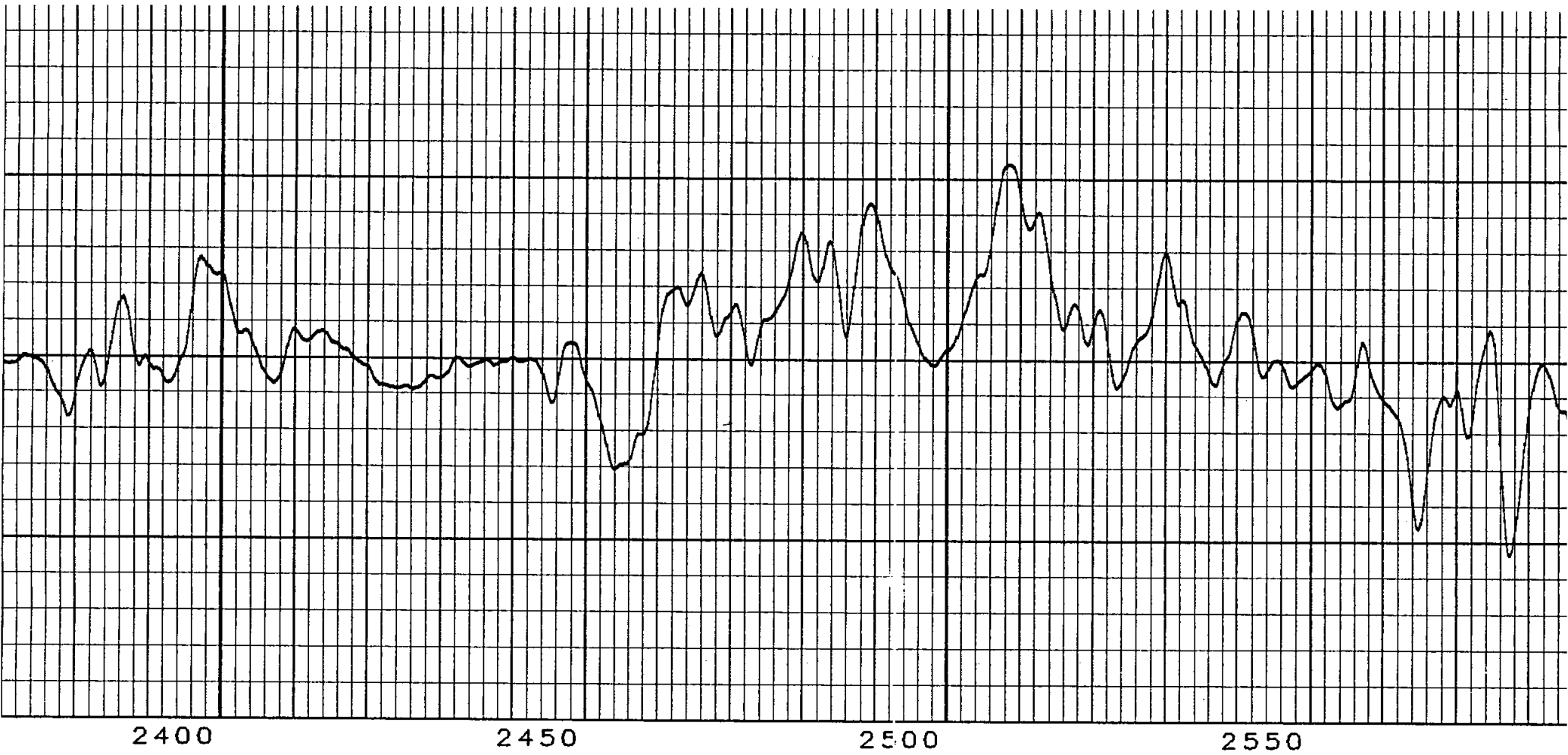


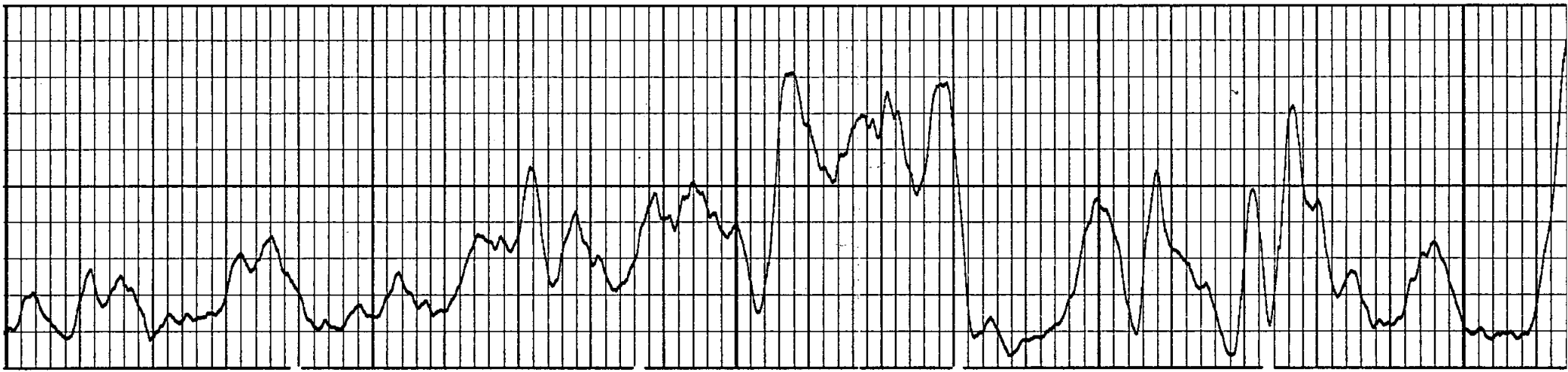
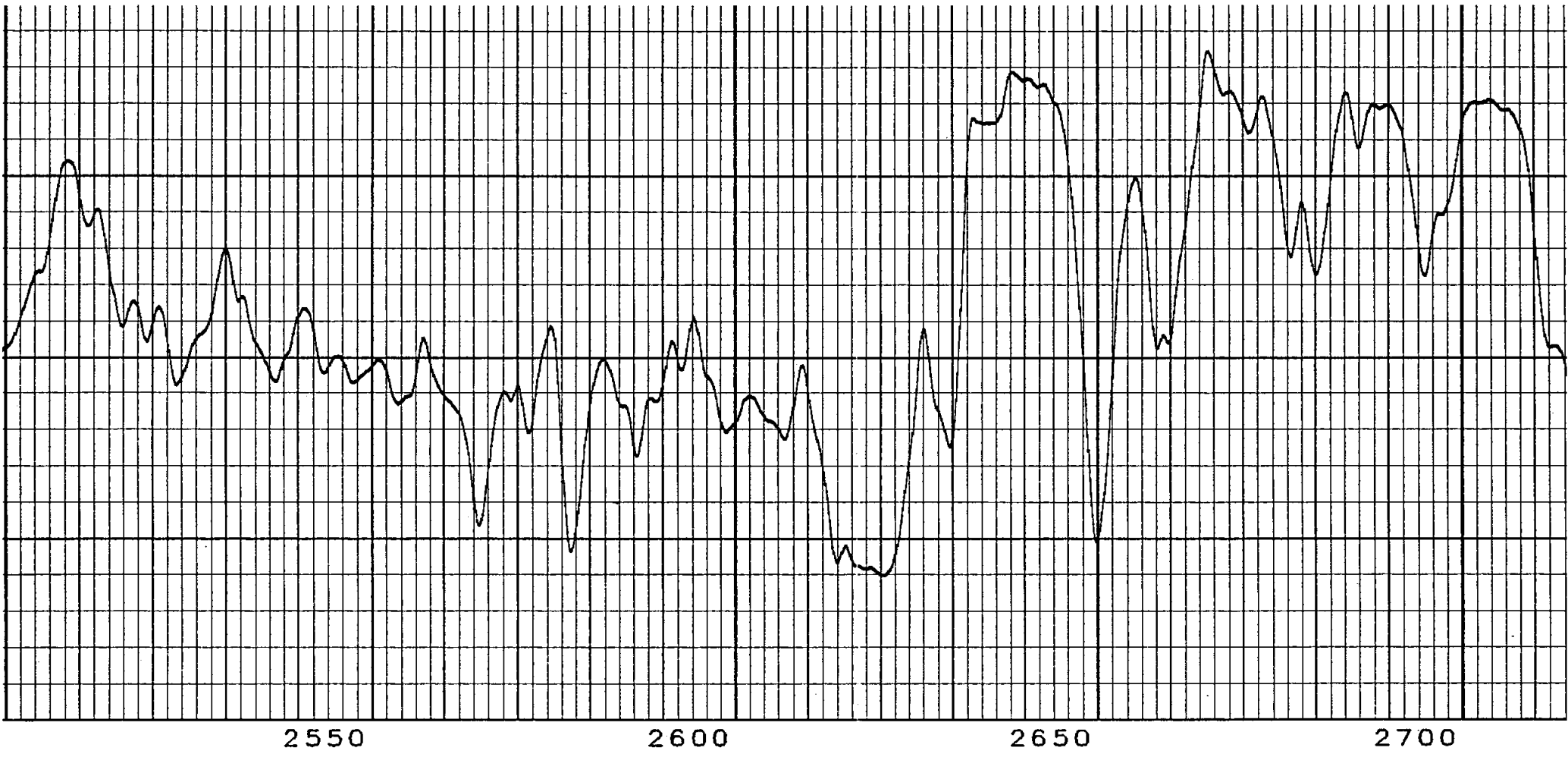












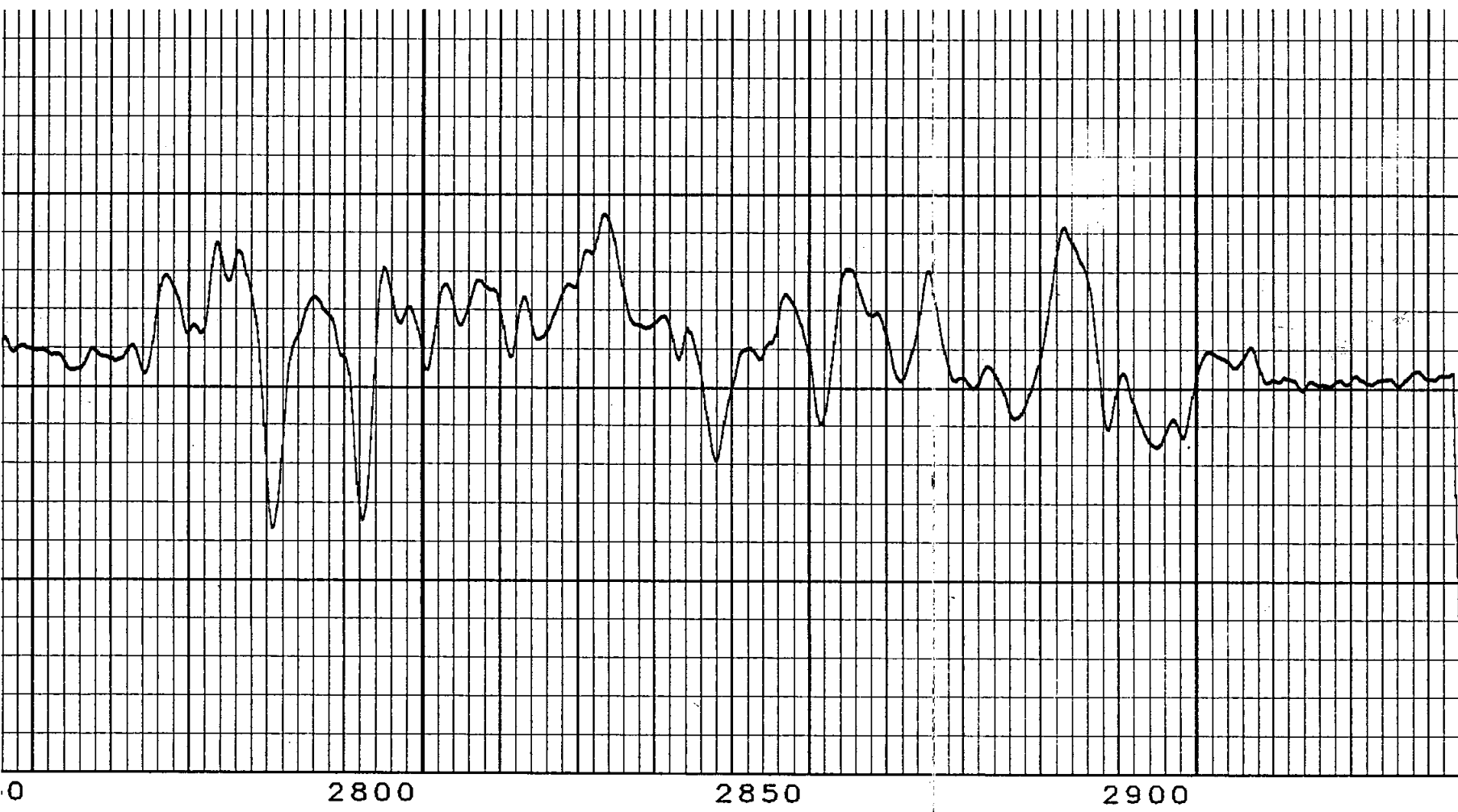


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NEUTRON
CPS
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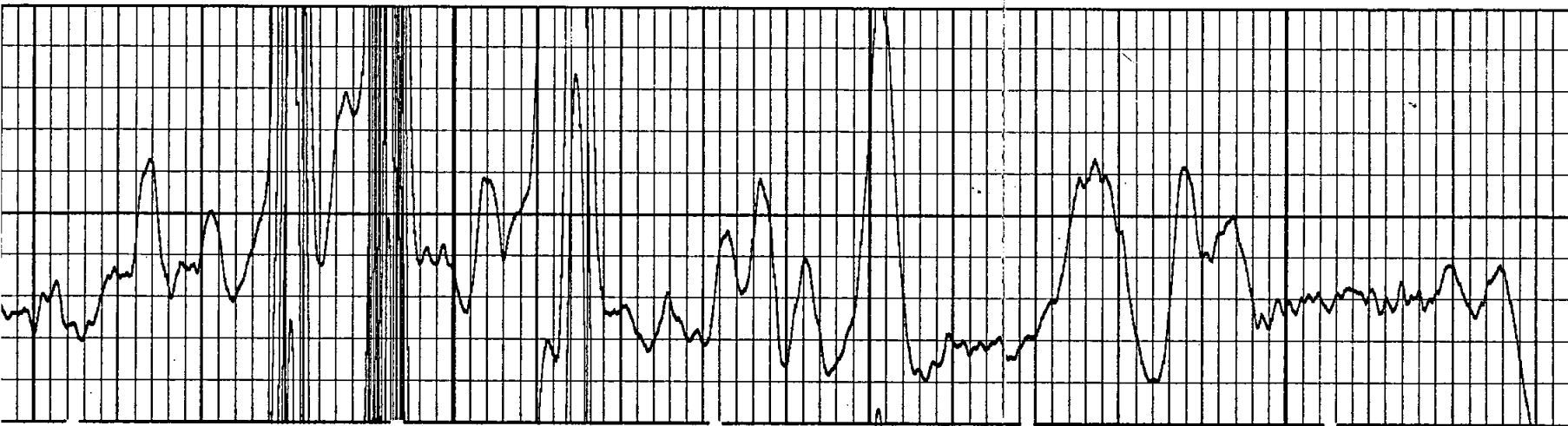


CHART SCALING
GAMMA RAY 120.00
GAPI 240.00
0.00 120.00

Goodwell
Incorporated

ACOUSTIC CEMENT
BOND LOG

FILE NO.	COMPANY WATER SYSTEM DRILLING WELL SIGNATURE DEV. WSW #2 FIELD BLACK RIDGE COUNTY PENNINGTON STATE SO. DAK.		
API SER. NO.	LOCATION:	OTHER SERVICES	
	SEC TWP RGE		
PERMANENT DATUM G. L.	ELEVATION	K. B.	
LOG MEAS. FROM G. L.	FT. ABOVE PERM DATUM	D. F.	
DRILLING MEASURED FROM G. L.		G. L.	
DATE & TIME LOGGED	2-5-2005	TYPE FLUID	WATER
RUN NO.	ONE	DENSITY	
DEPTH-DRILLER	2940'	FLUID LEVEL	128'
DEPTH-LOGGER	2754'	CEM TOP EST	1546'
BTM LOGGED INTERVAL	2751'	EQUIP-LOC	#783
TOP LOGGED INTERVAL	128'	RECORDED BY	T. BICKETT
MAX. TEMP. F.		WITNESSED BY	S. HEIMER
CEMENTING DATA	SURFACE PROTECTION PRODUCTION LINER		
DATE/TIME CEMENTED			
PRIMARY SQUEEZE			
EXP. COMP. STRENGTH			
CEMENT VOLUME			
CEMENT TYPE/WEIGHT			
FORMULATION			
MUD TYPE/WEIGHT			

RUN NO.	BOREHOLE RECORD			CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	14.75	0'	990'	10.75	40.5	0'	990'
2	9 7/8	990'	2940'	7"	23#	940'	2740'

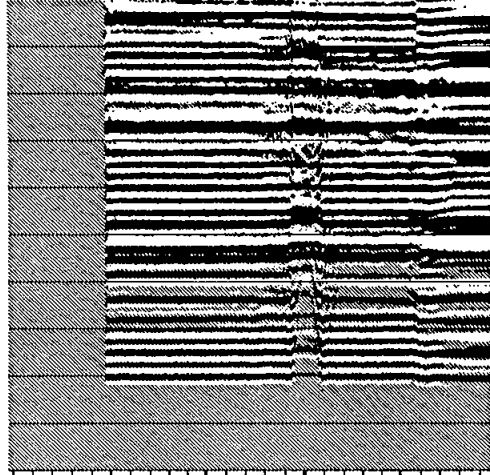
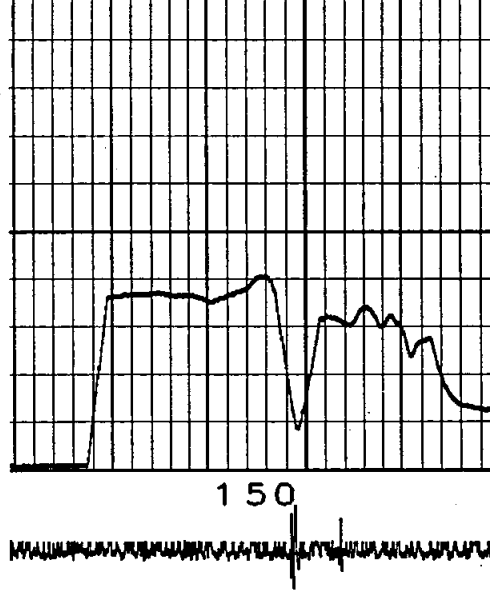
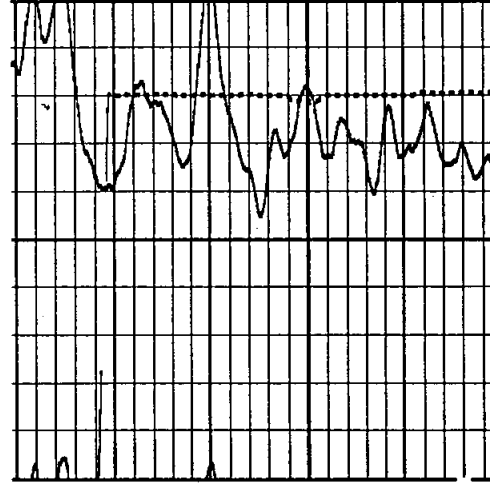
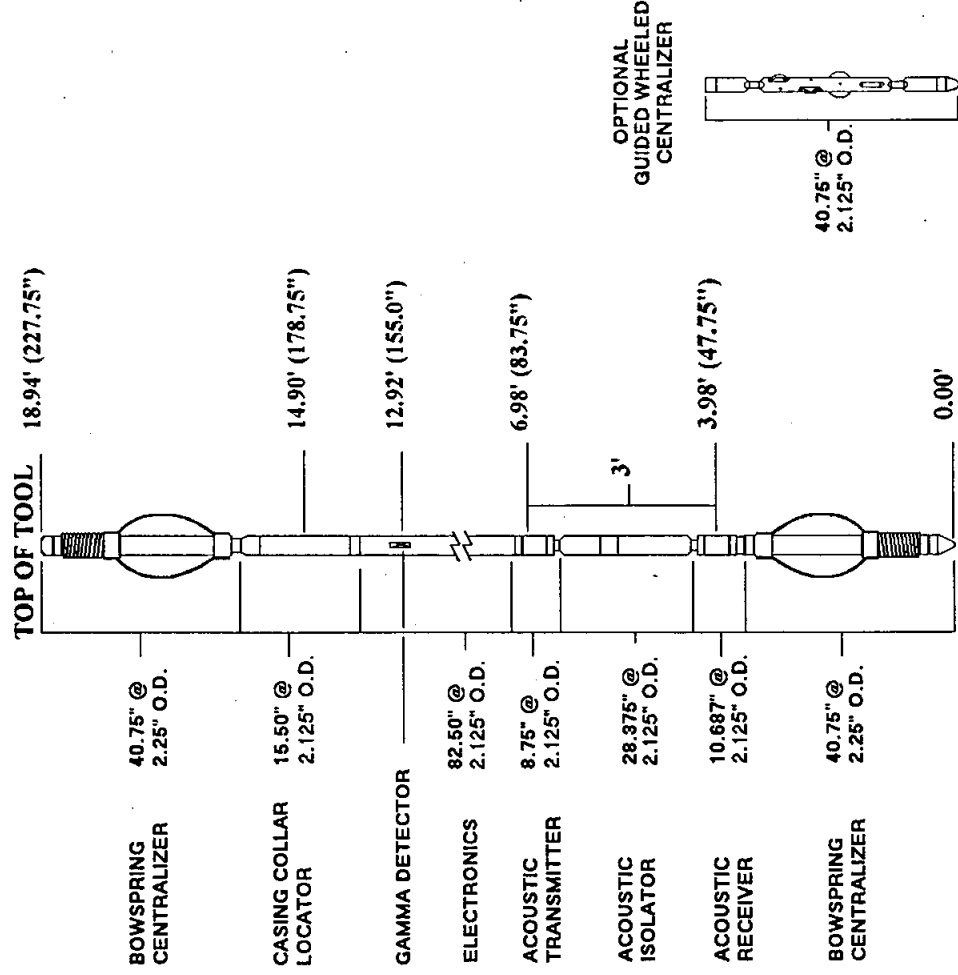
FOLD HERE		API SERIAL NO.:		PGM VERSION:	
SERVICE TICKET NO.:		THE WELL NAME, LOCATION, CEMENTING DATA, & BOREHOLE DESCRIPTION FURNISHED BY CLIENT			
CEMENT PUMPED		BBL/MIN @	PSI	CEMENTING DATA	
PRECEDING FLUID	VOLUME	BBL	CENTRALIZERS	/JOINT FROM	TO
RETURNS? FULL	PARTIAL	NONE		/JOINT FROM	TO
PIPE ROTATED/RECIP. DURING PUMPING?	YES	NO		/JOINT FROM	TO
AFTER PLUG DOWN?	YES	NO	SCRATCHERS	/JOINT FROM	TO
PLUG BUMPED?	YES	NO	PSI	/JOINT FROM	TO
PLUG LANDING PRESSURE:	PSI	HOURS AFTER PUMPING			
PRESSURE HELD	PSI				
EQUIPMENT DATA					
GAMMA			NEUTRON		
RUN NO.	RUN NO.	RUN NO.	RUN NO.	RUN NO.	RUN NO.
SERIAL NO.	SERIAL NO.	SERIAL NO.	SERIAL NO.	SERIAL NO.	SERIAL NO.
MODEL NO.	MODEL NO.	MODEL NO.	MODEL NO.	MODEL NO.	MODEL NO.
DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER	DIAMETER
DETECTOR MODEL NO.	LOG TYPE	LOG TYPE	LOG TYPE	LOG TYPE	LOG TYPE
TYPE	SOURCE TYPE	SOURCE TYPE	SOURCE TYPE	SOURCE TYPE	SOURCE TYPE
LENGTH	SERIAL NO.	SERIAL NO.	SERIAL NO.	SERIAL NO.	SERIAL NO.
DISTANCE TO SOURCE	STRENGTH	STRENGTH	STRENGTH	STRENGTH	STRENGTH
LOGGING DATA					
GENERAL		GAMMA		NEUTRON	
WELL HEAD		SCALE		SCALE	
SPEED		SCALE		SCALE	
PRESSURE		SCALE		SCALE	
FT/MIN		FT/MIN		FT/MIN	
FROM		TO		TO	
ACoustic		ACoustic		ACoustic	
SCALE		SCALE		SCALE	
L		L		L	
R		R		R	

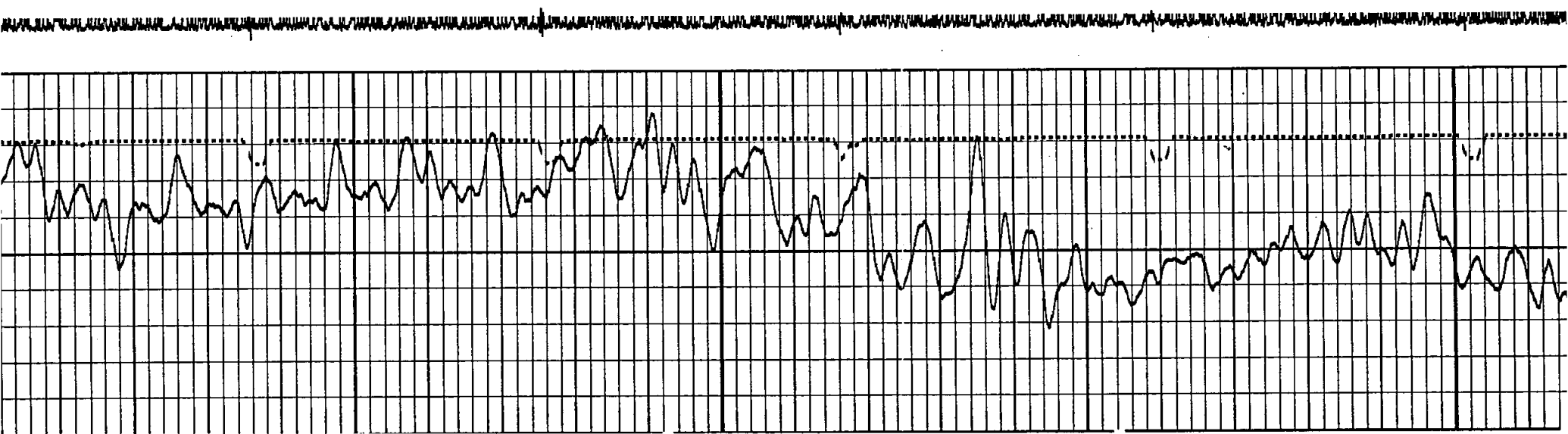
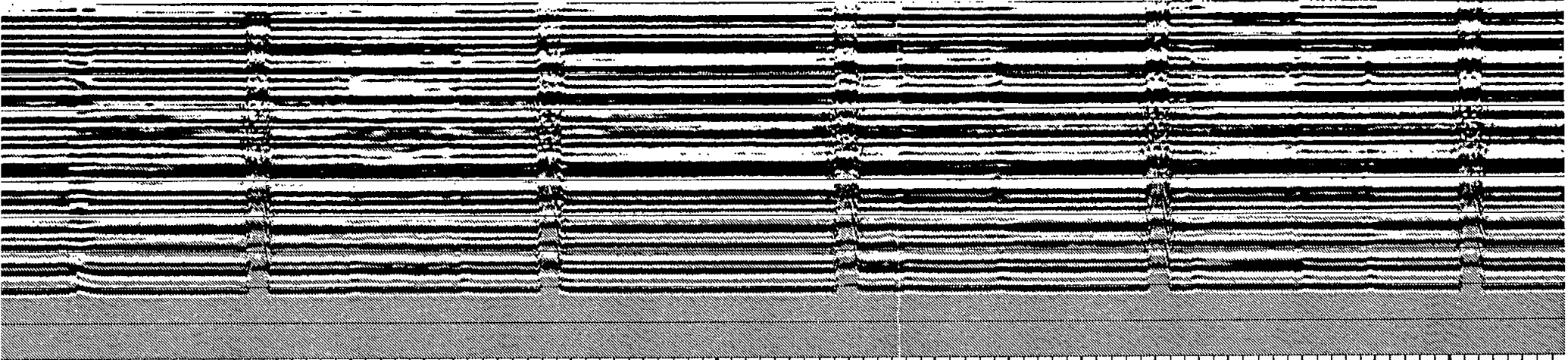
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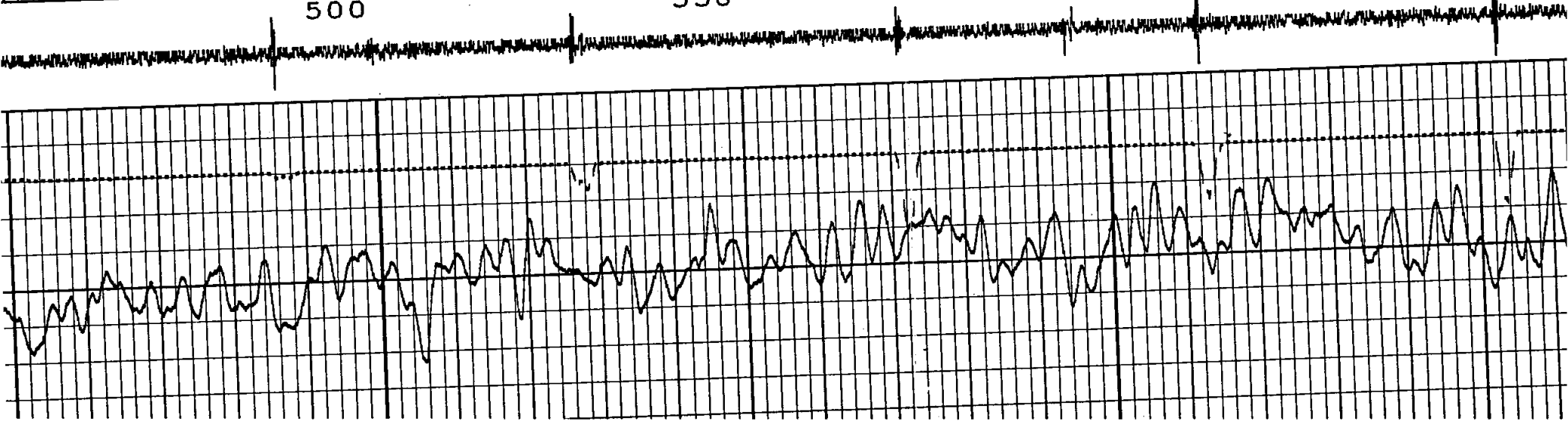
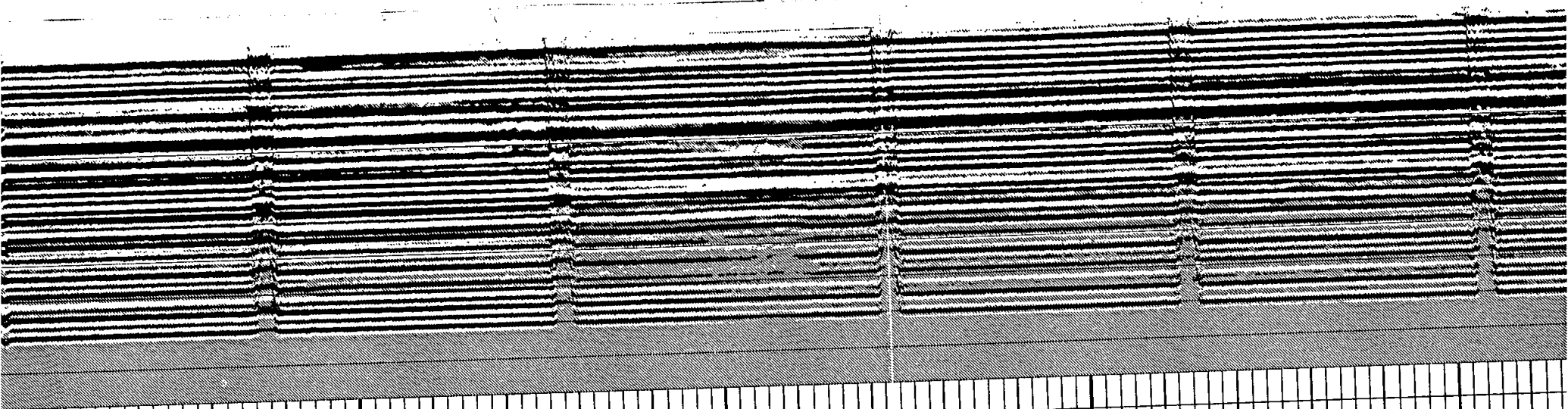
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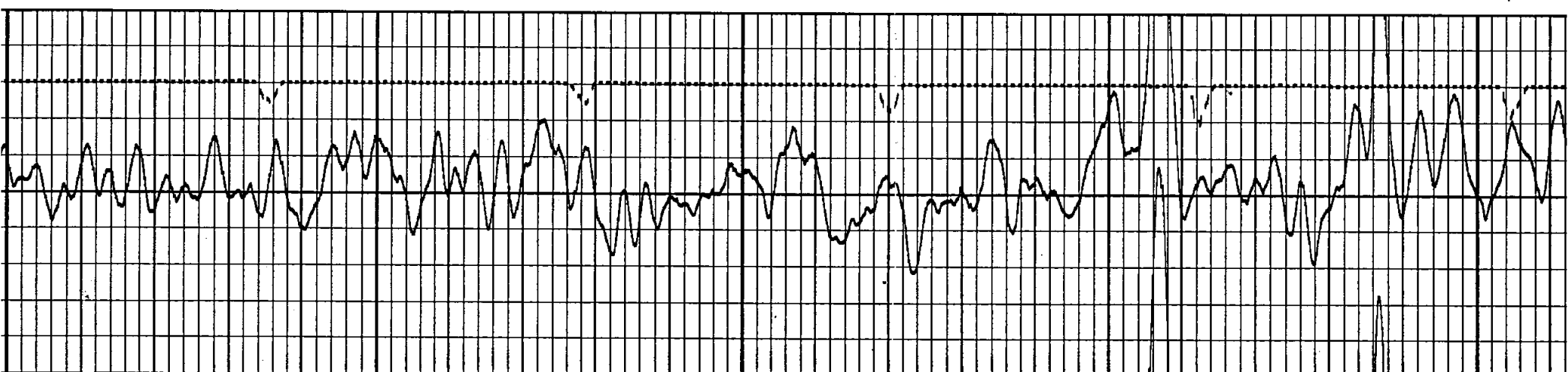
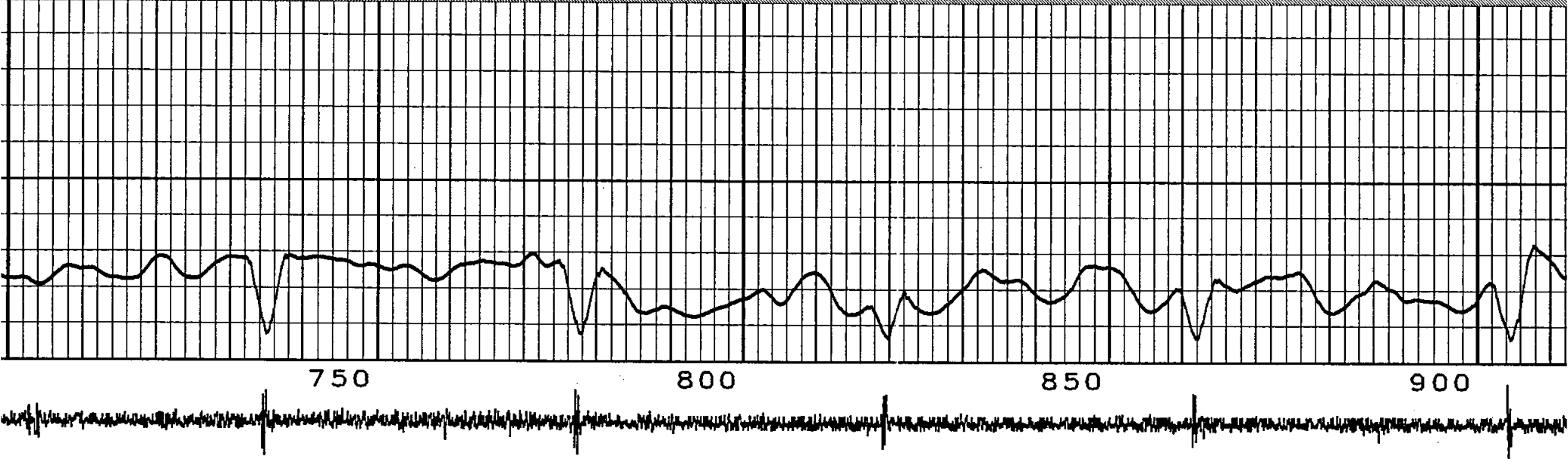
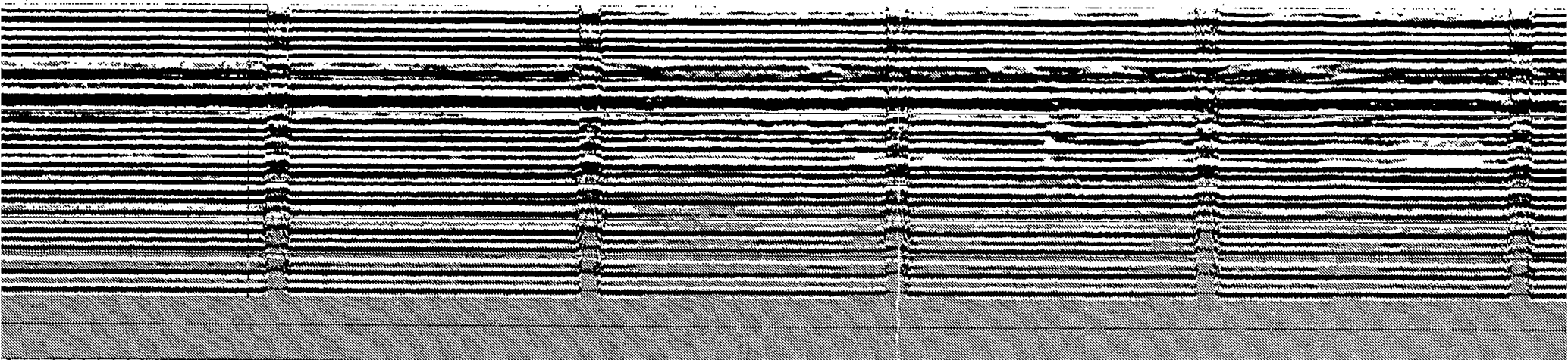
2 1/8' CCL, GR, SNGL RCVR CBL

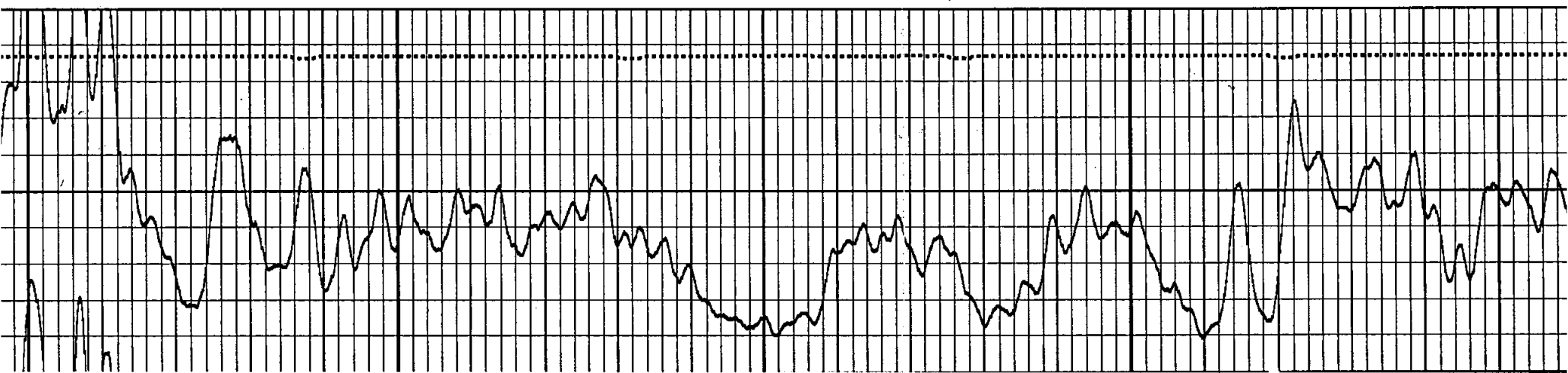
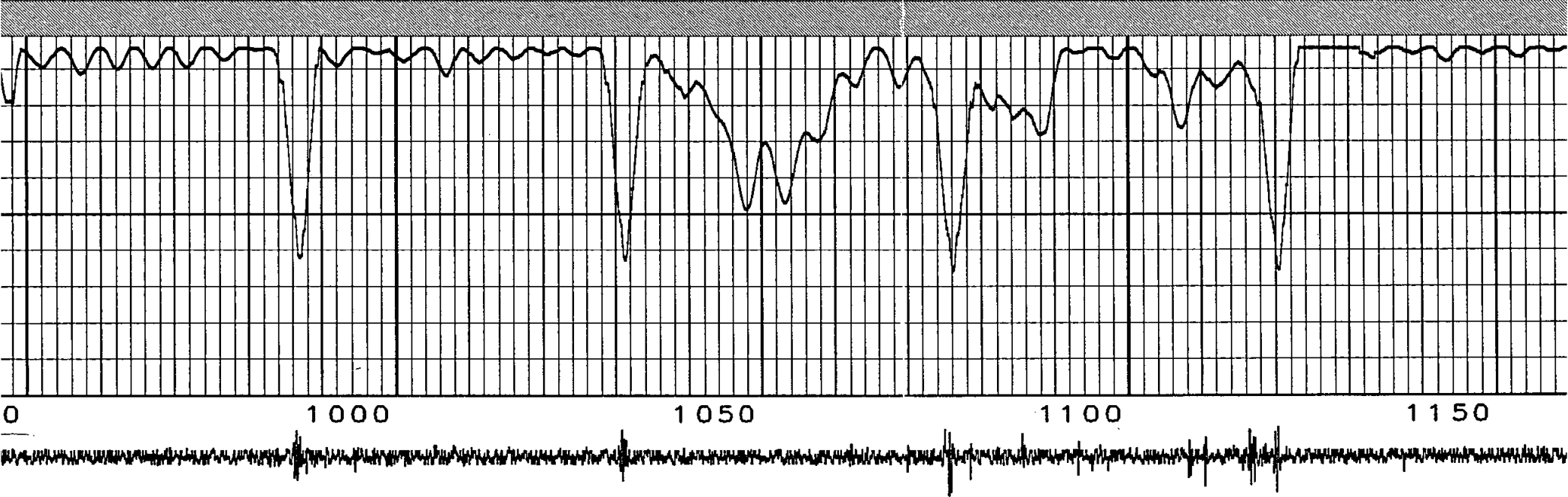
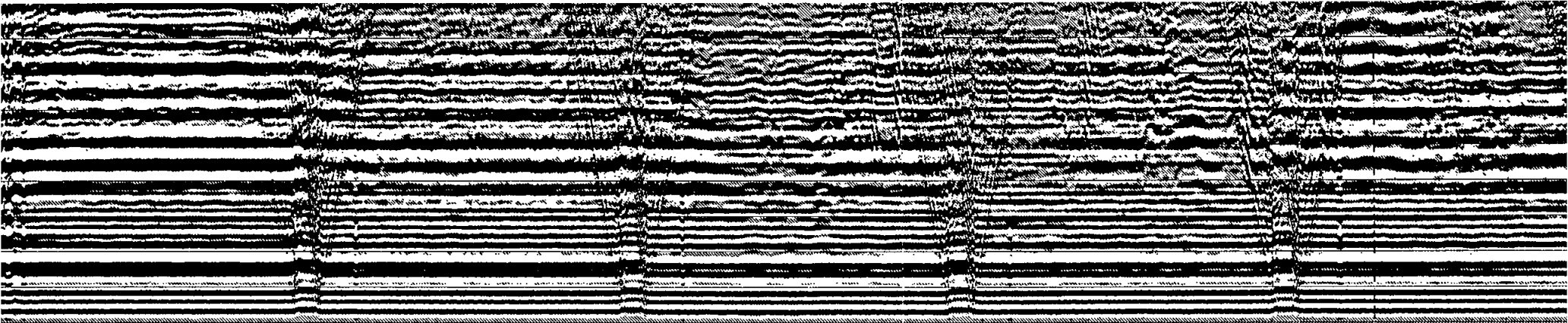
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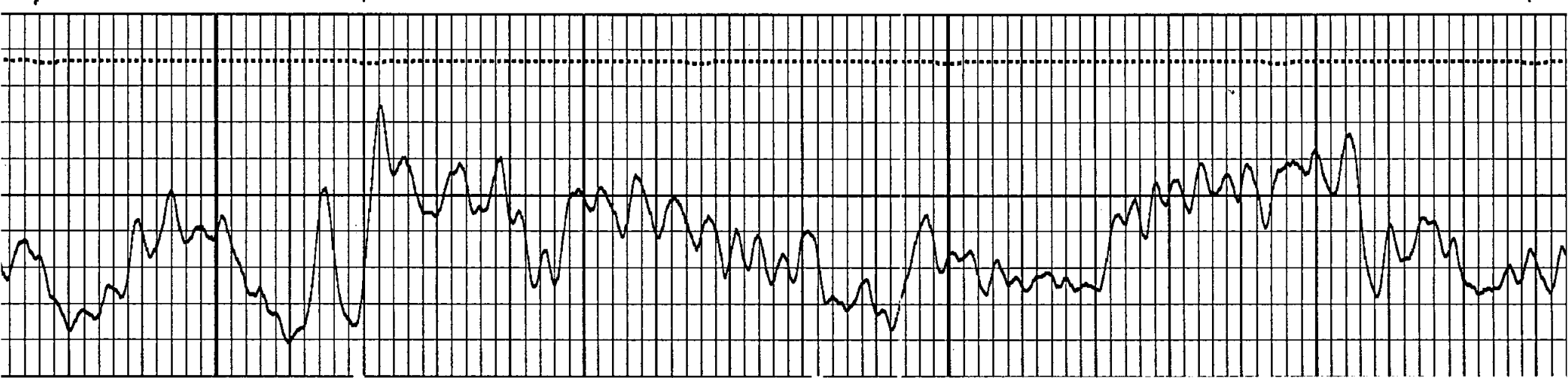
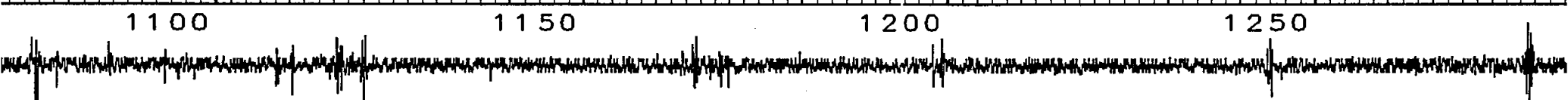
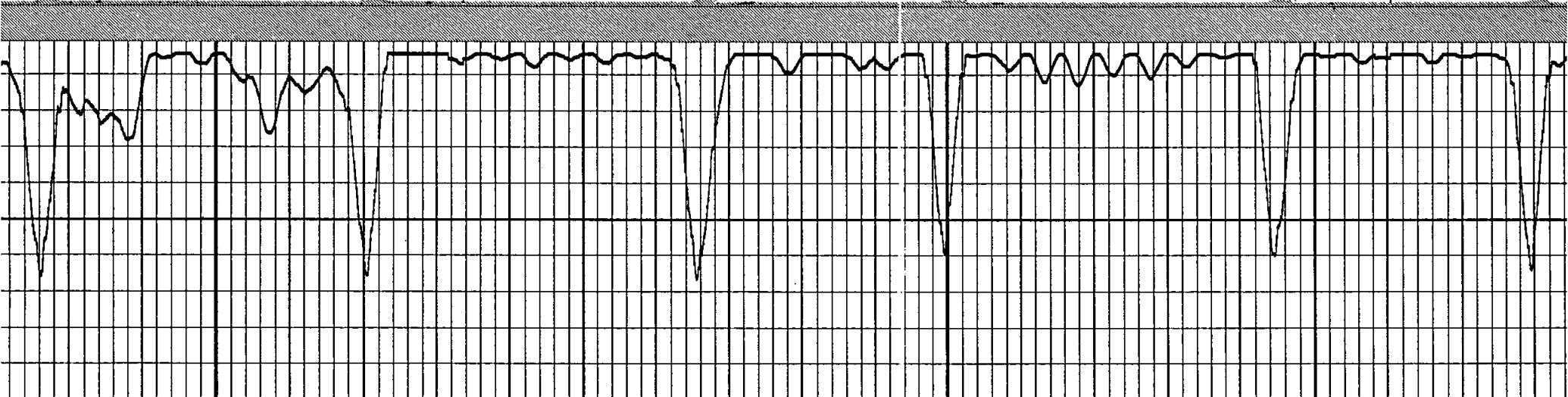
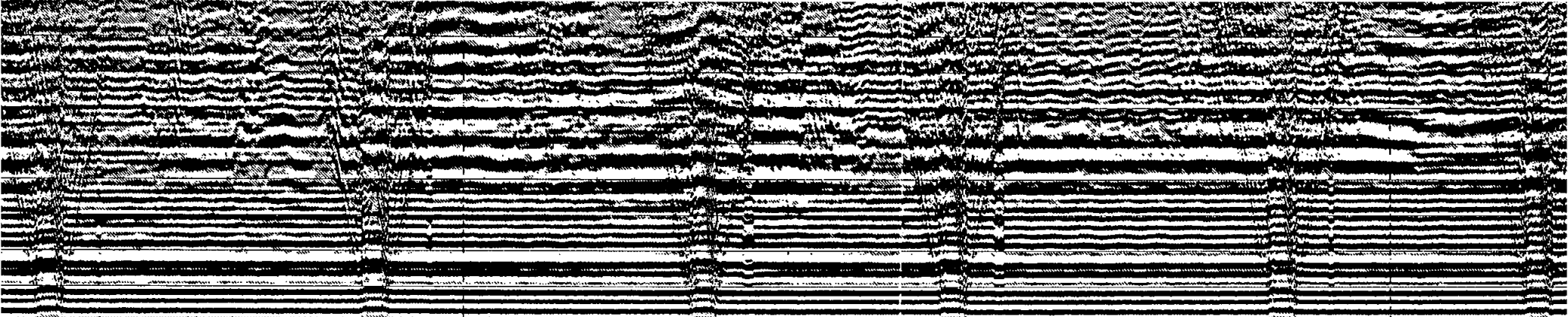


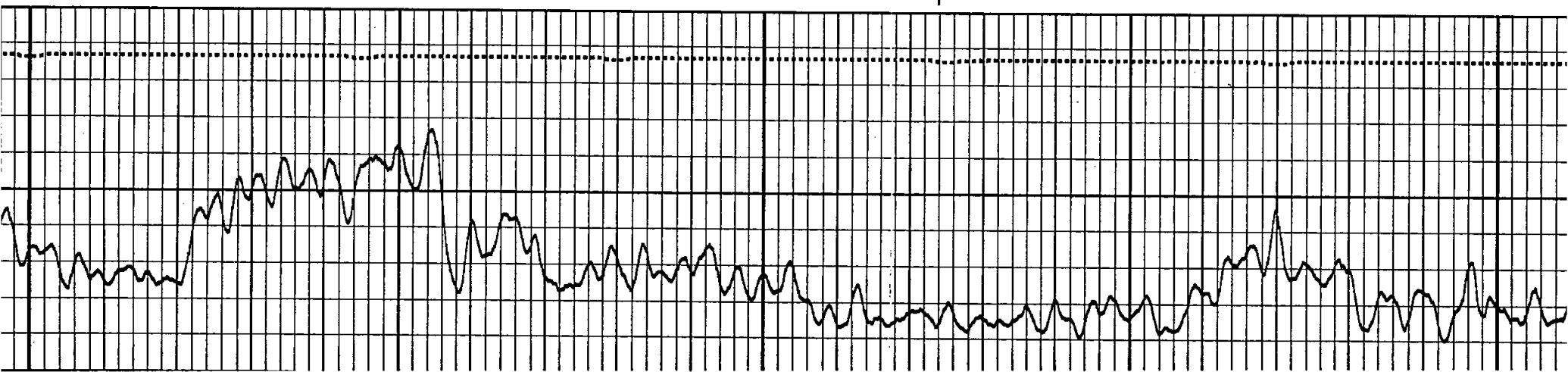
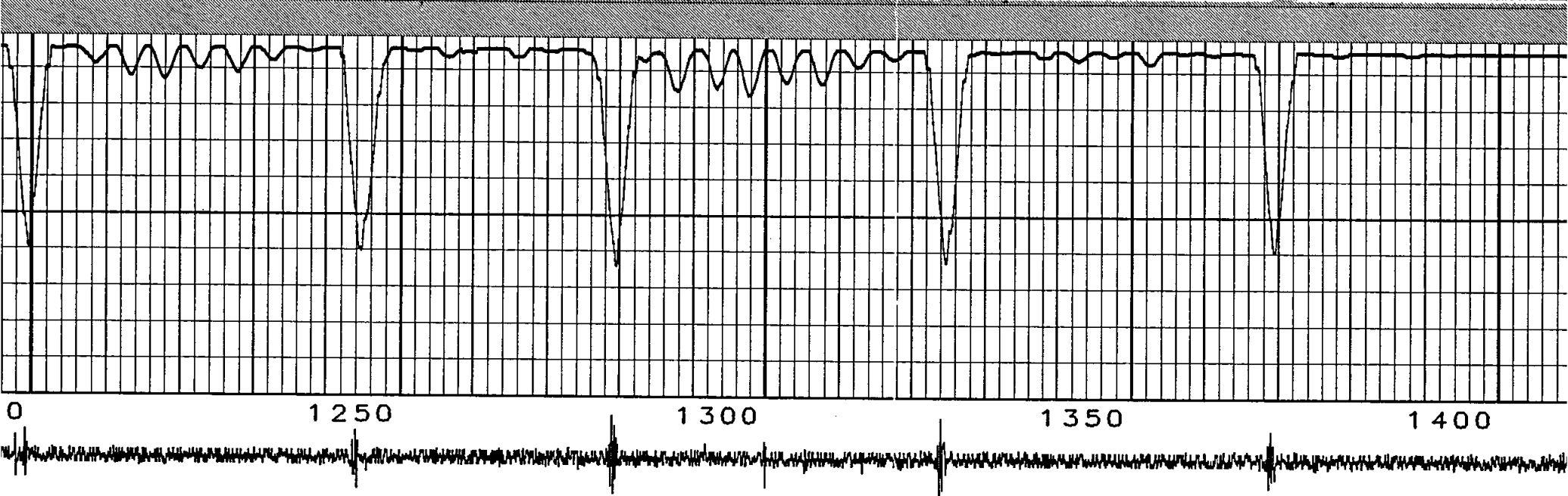
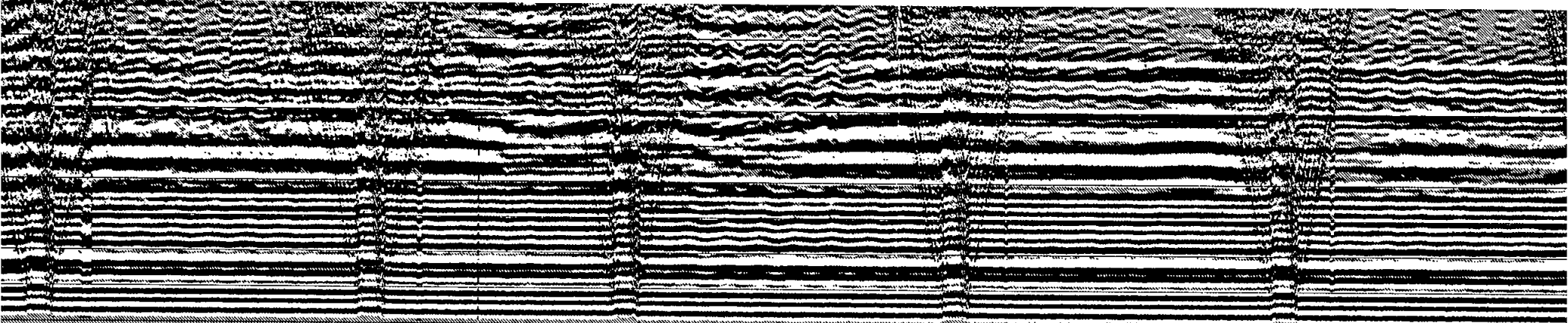


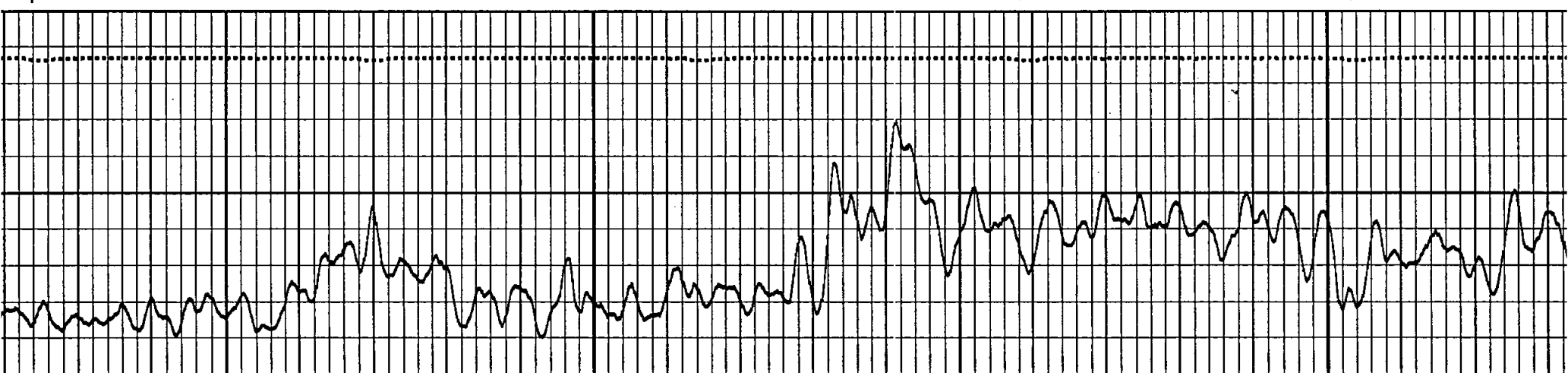
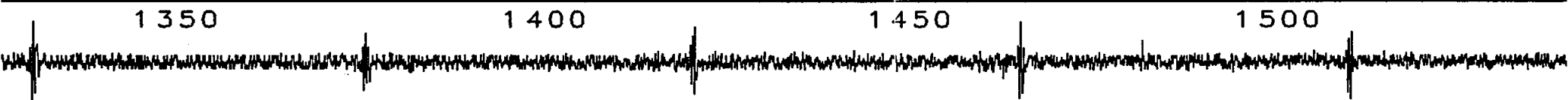
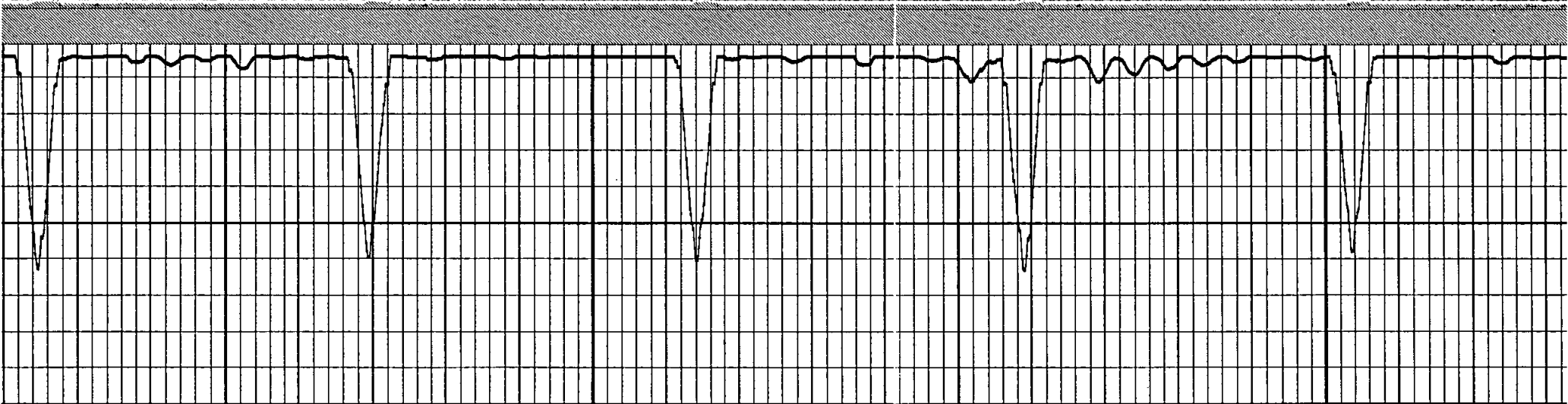
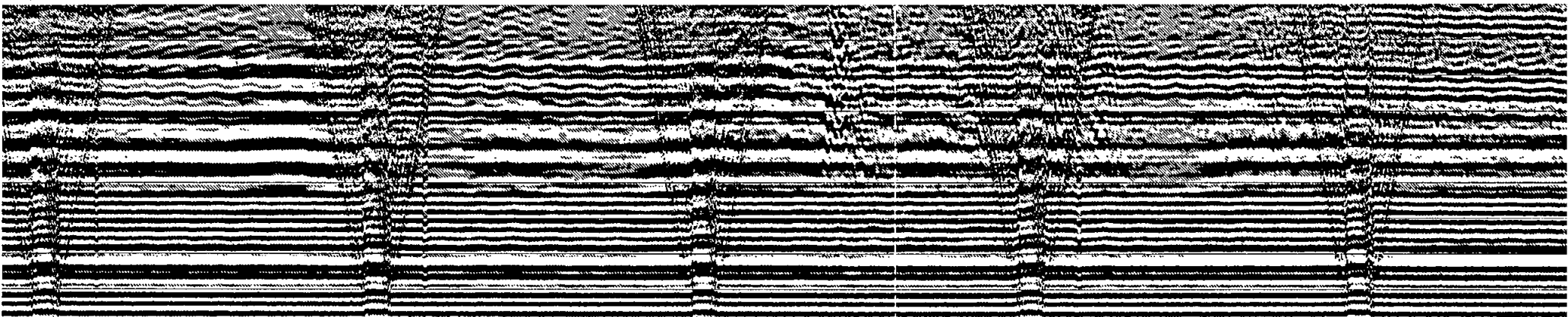


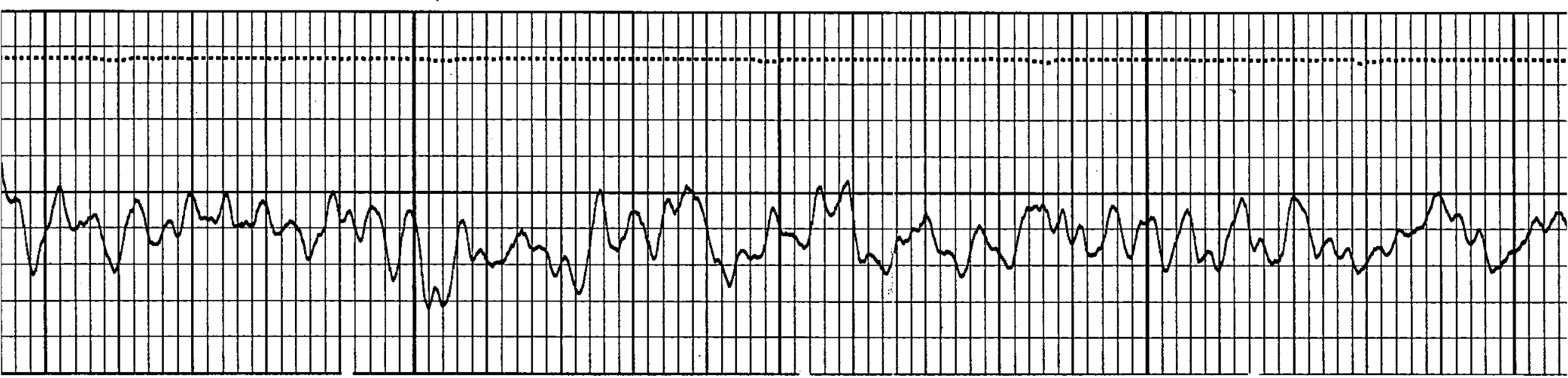
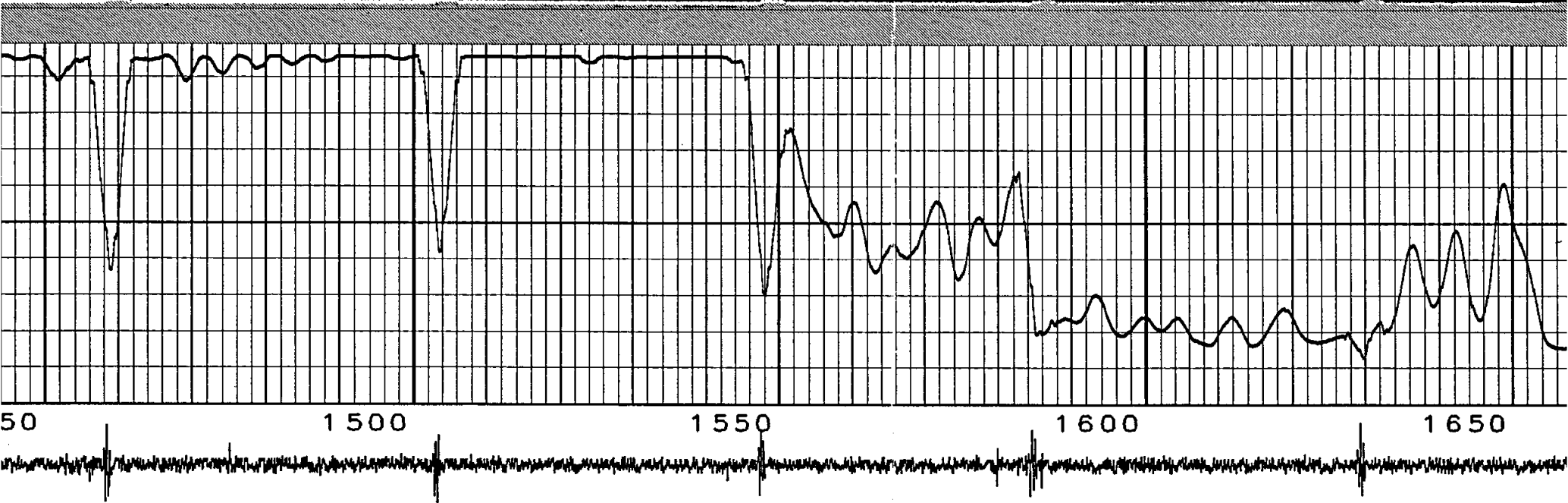
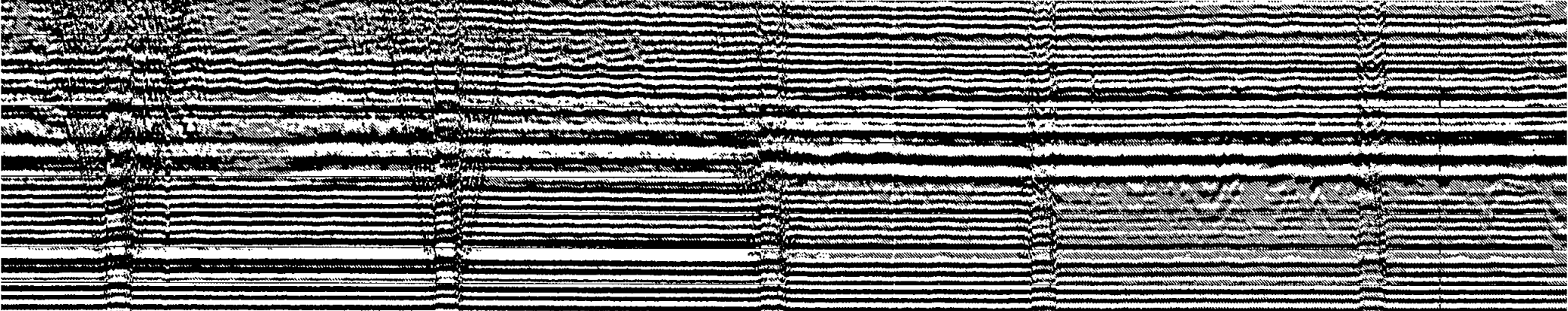


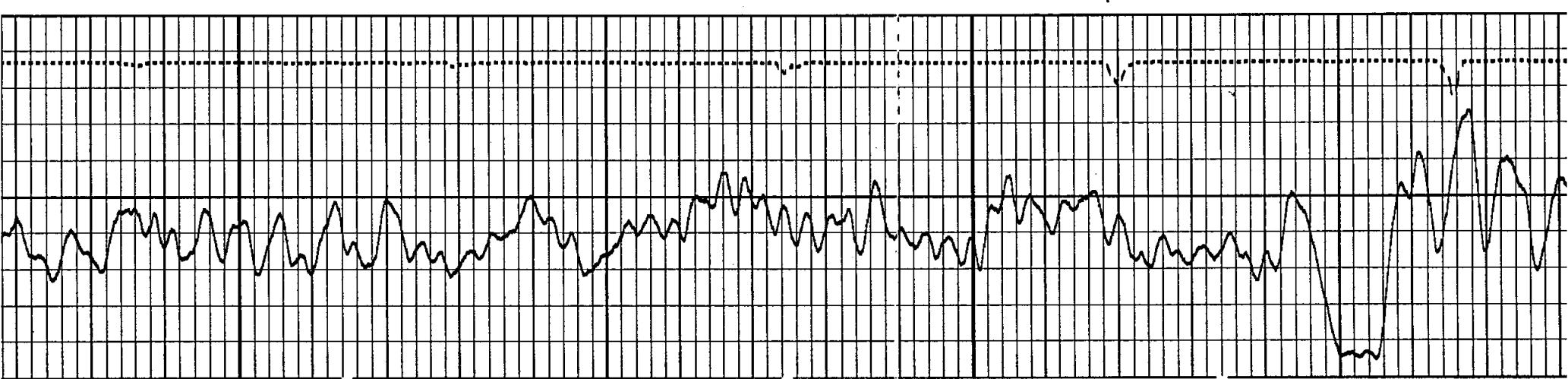
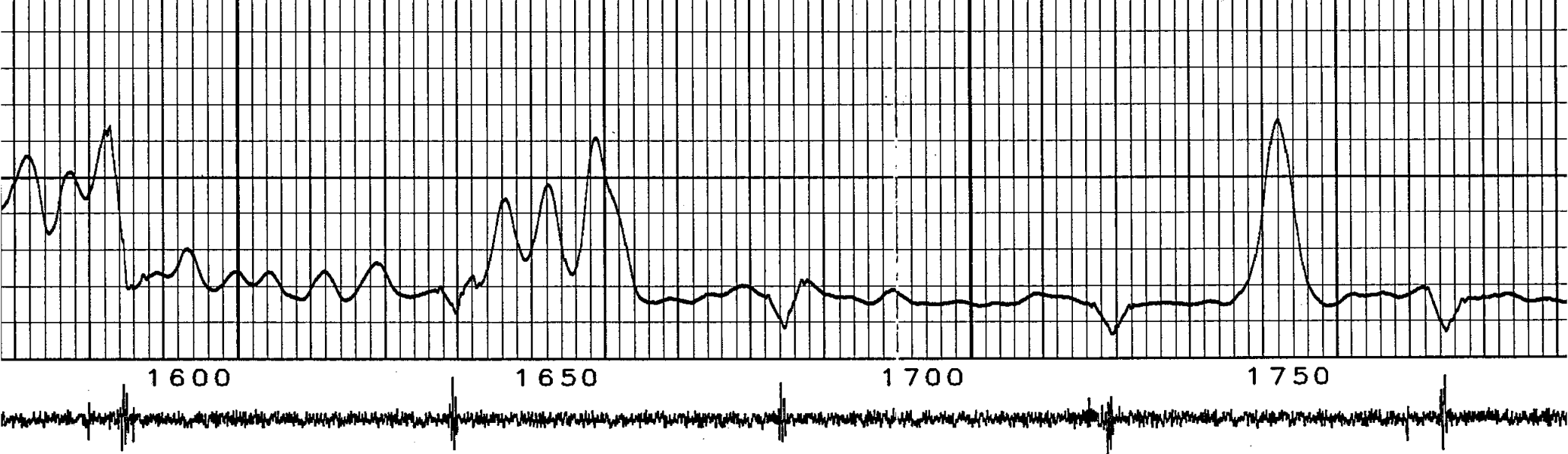
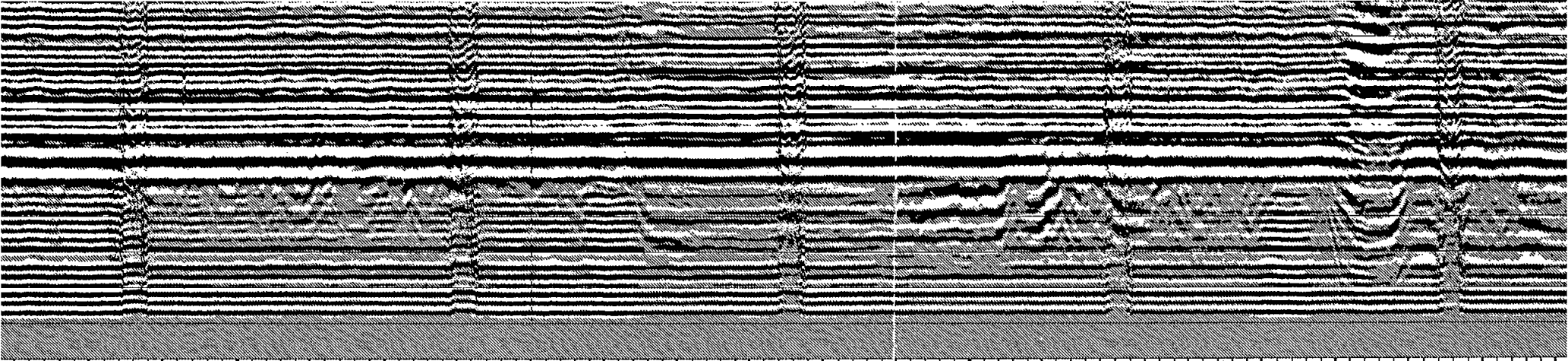


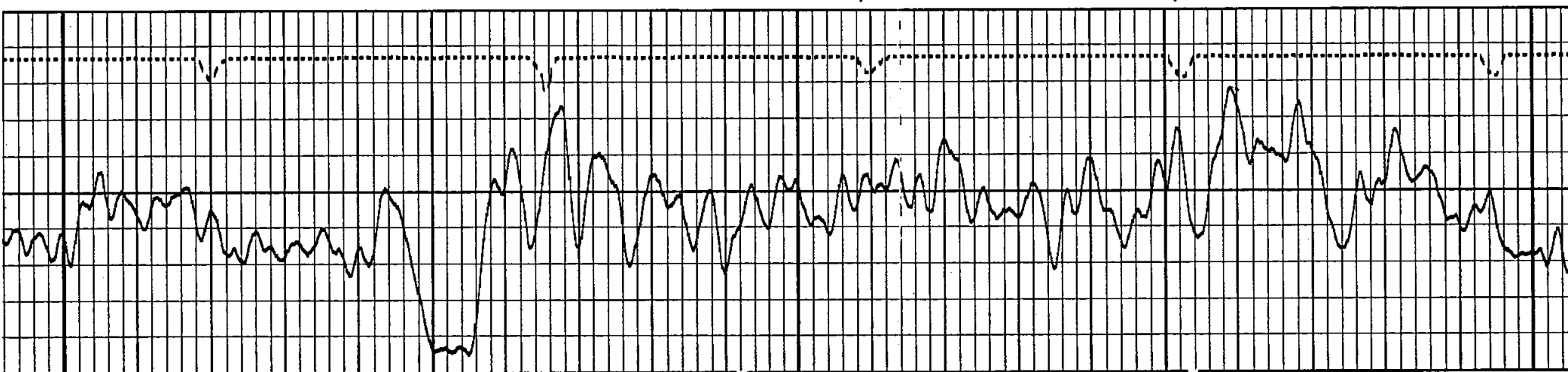
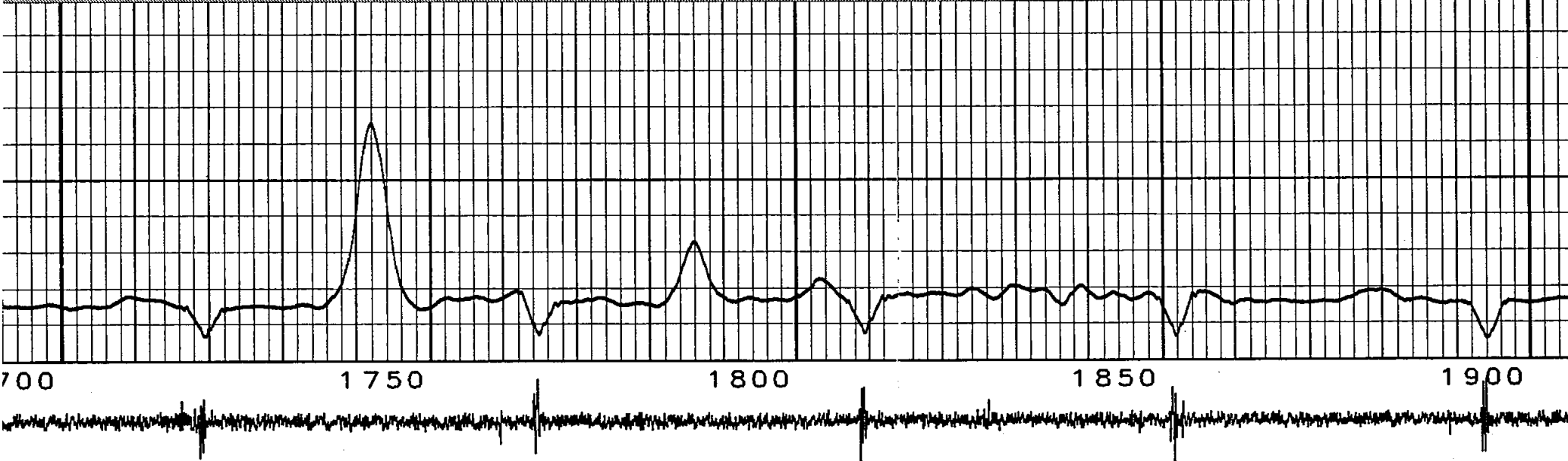
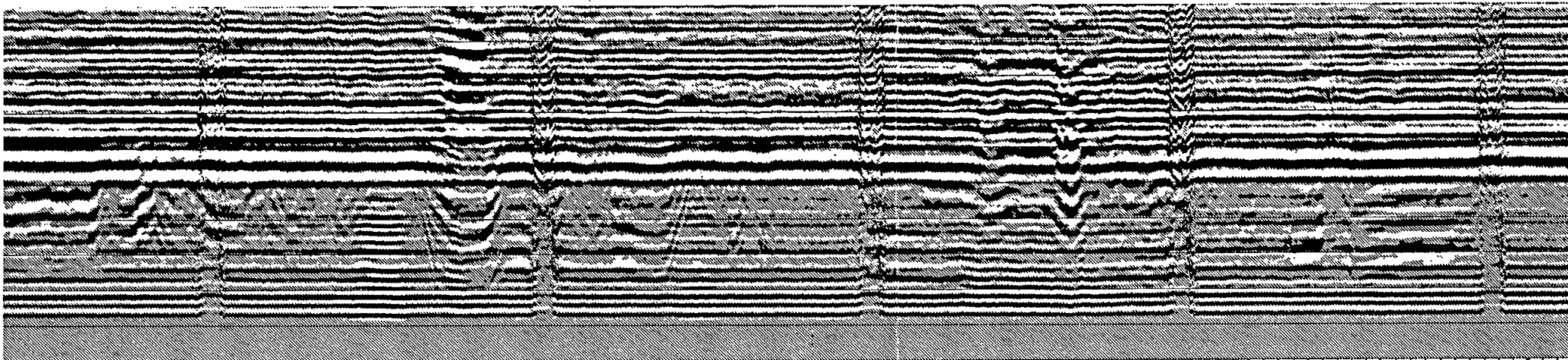


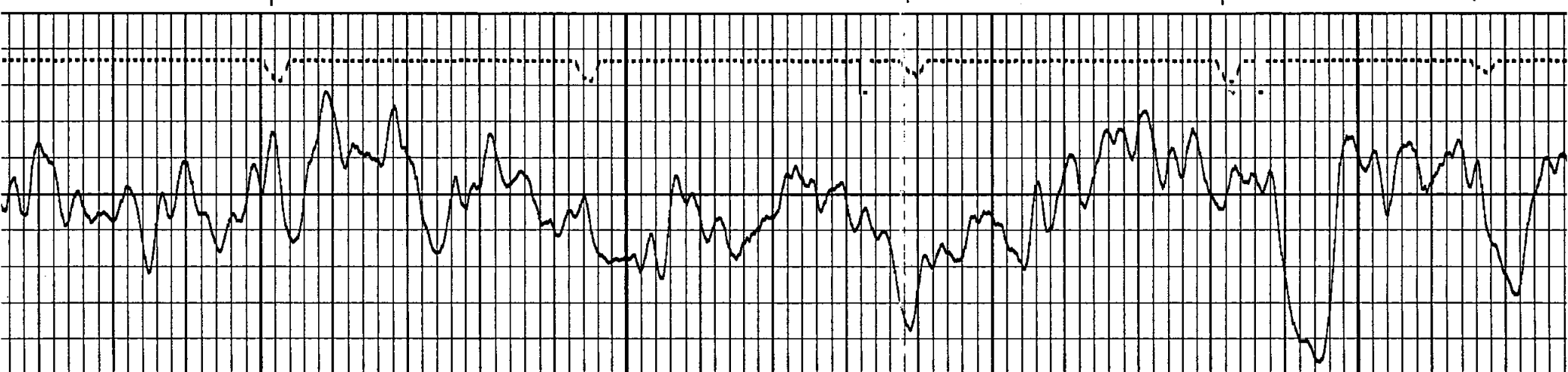
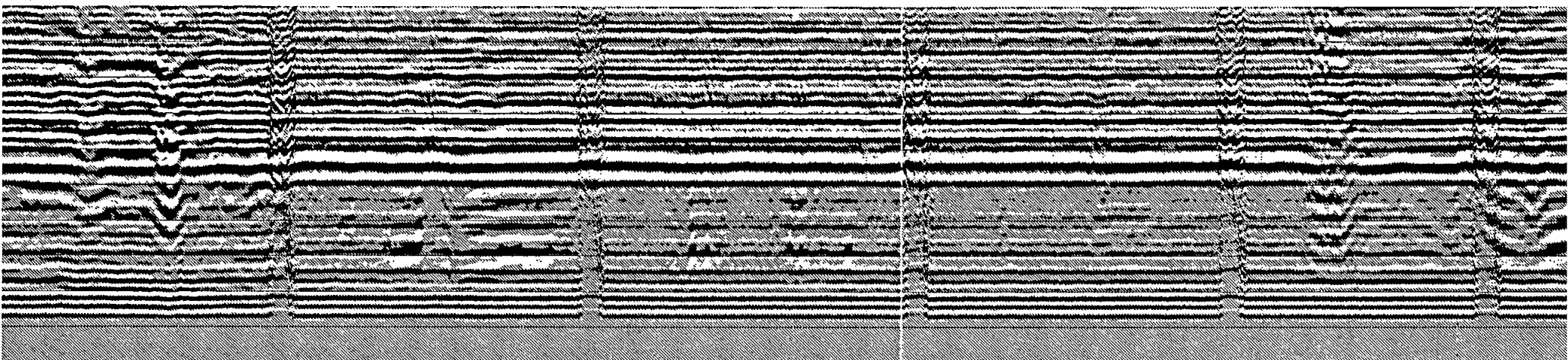


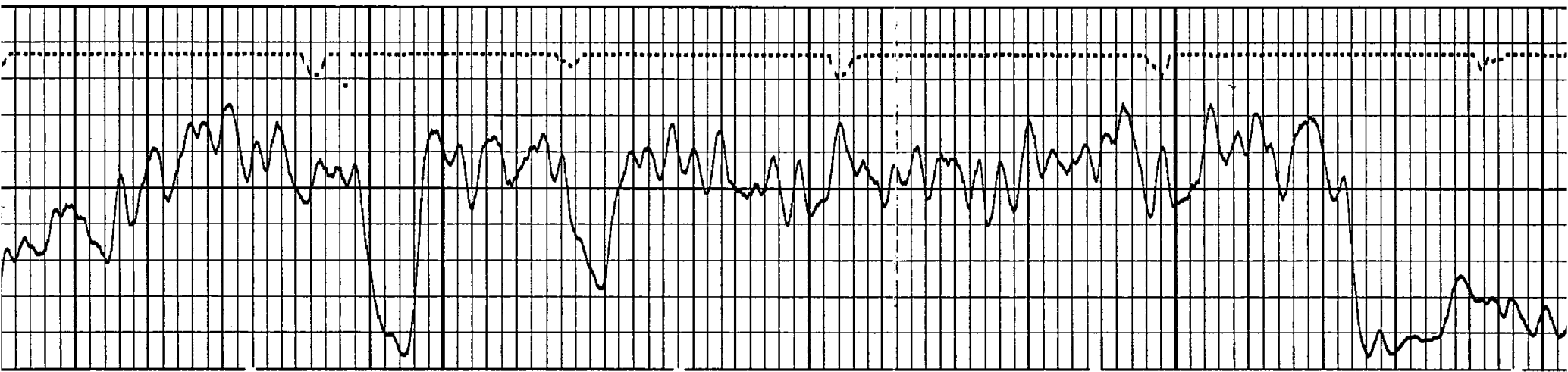
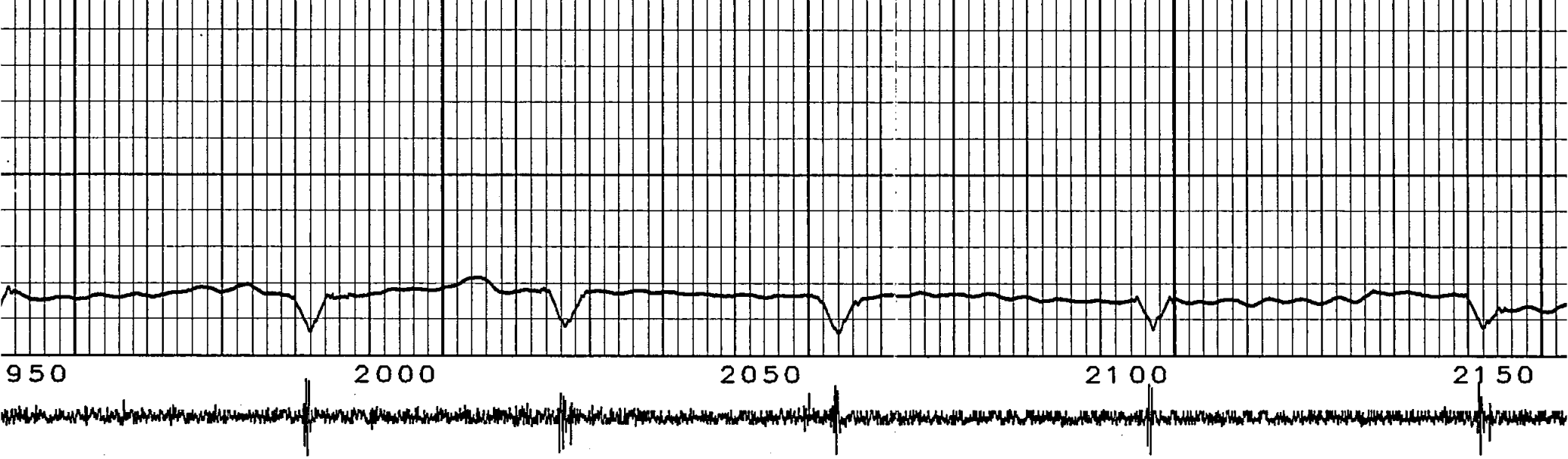
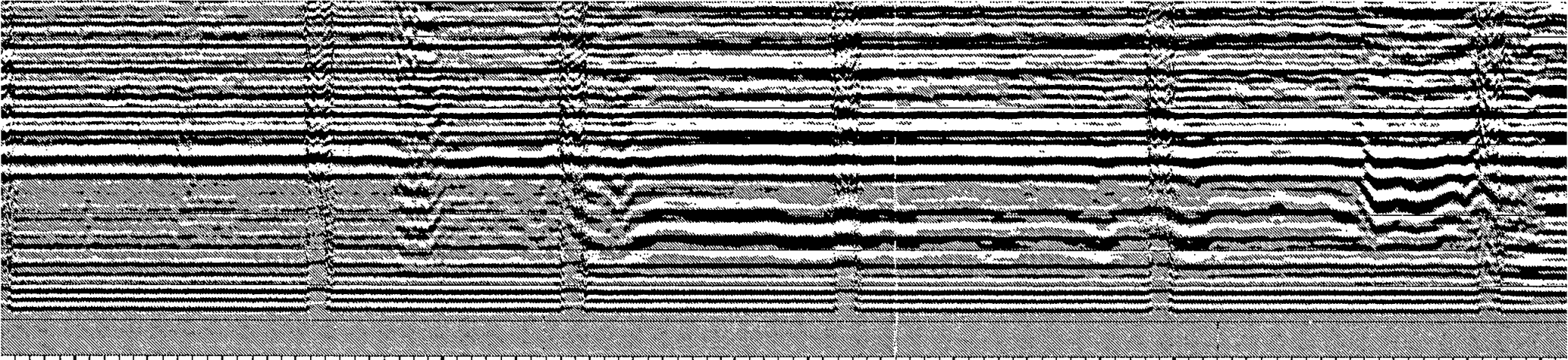


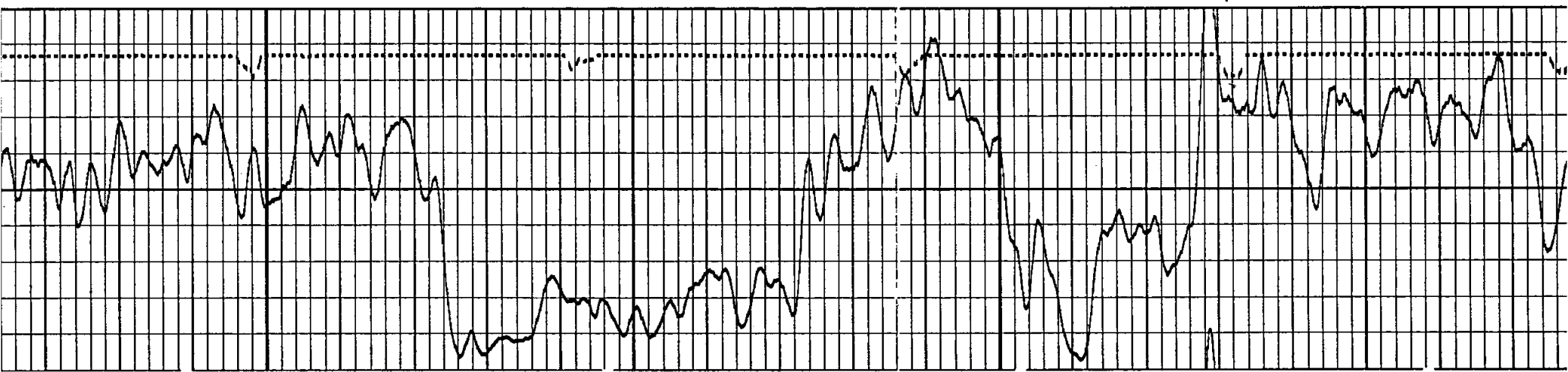
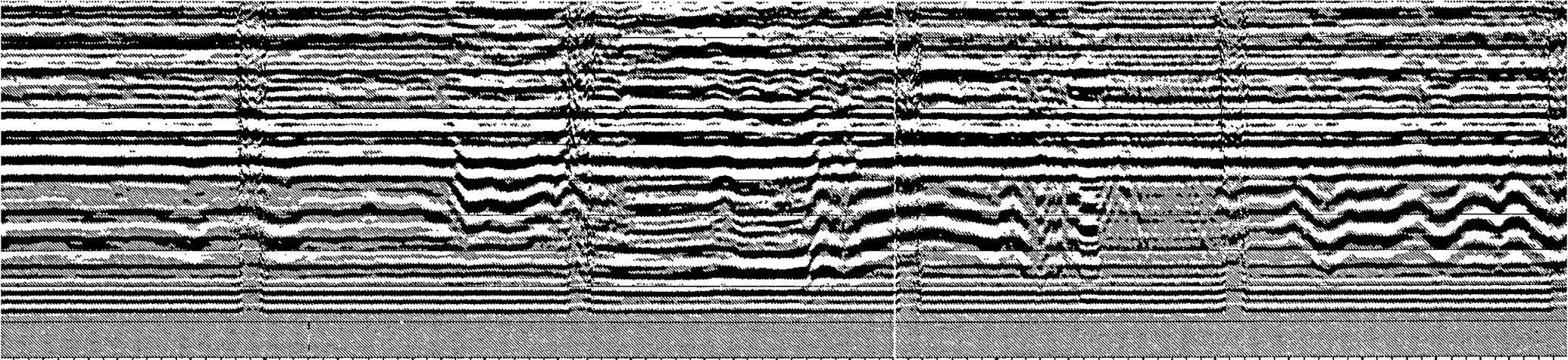


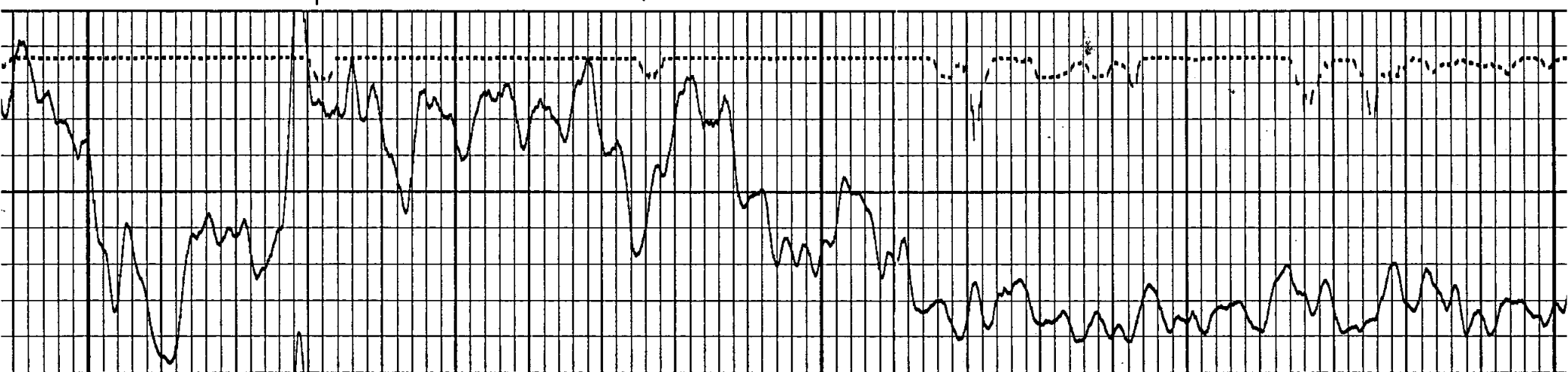
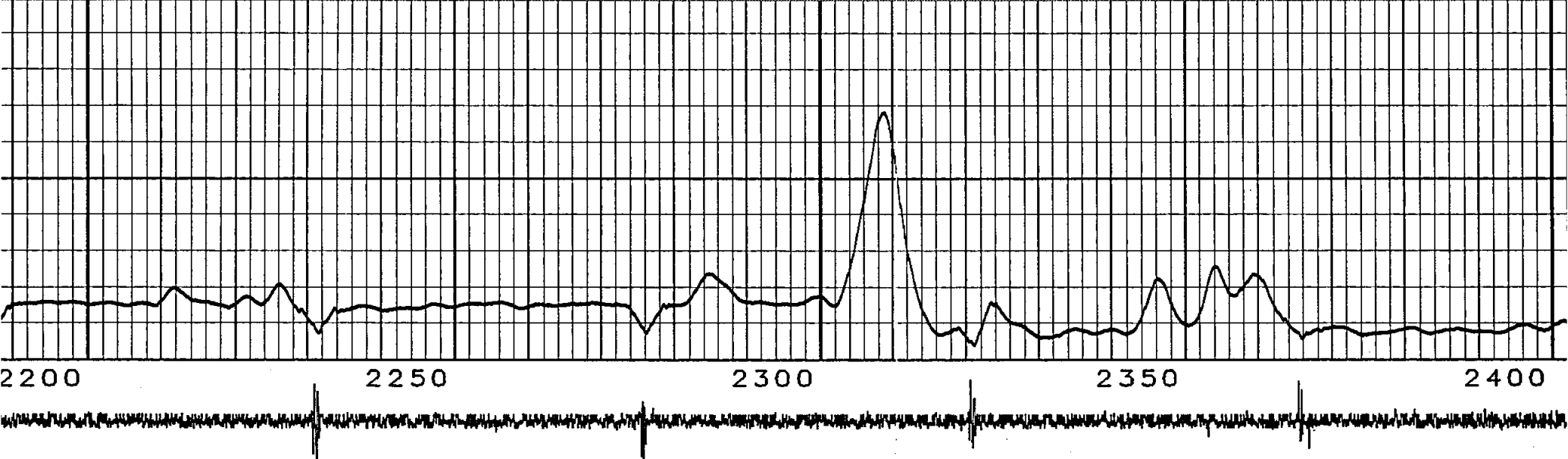
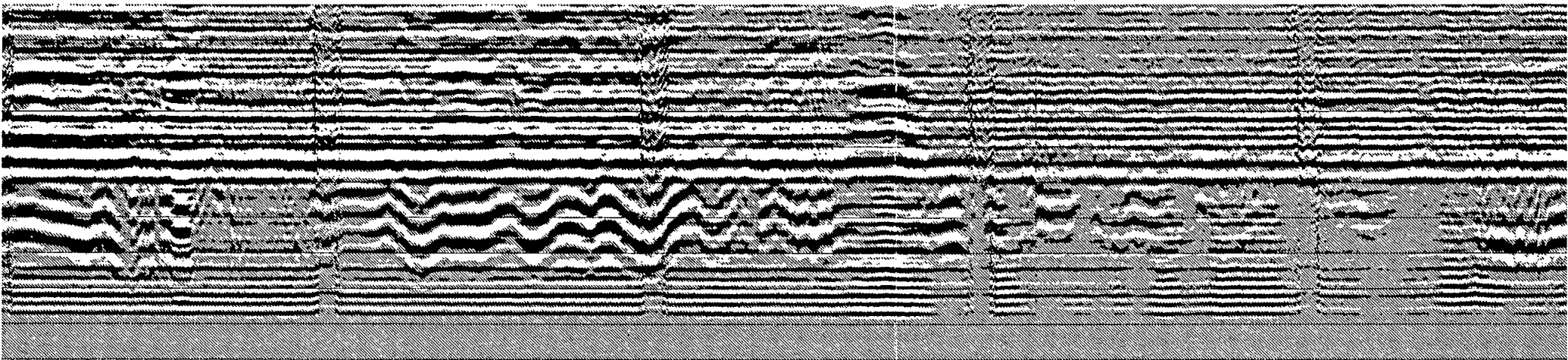


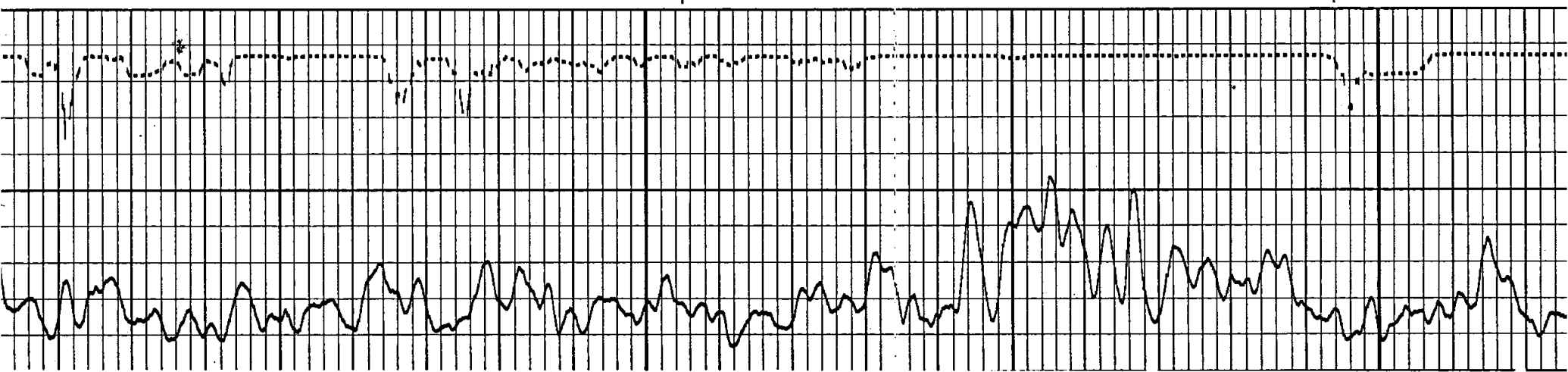
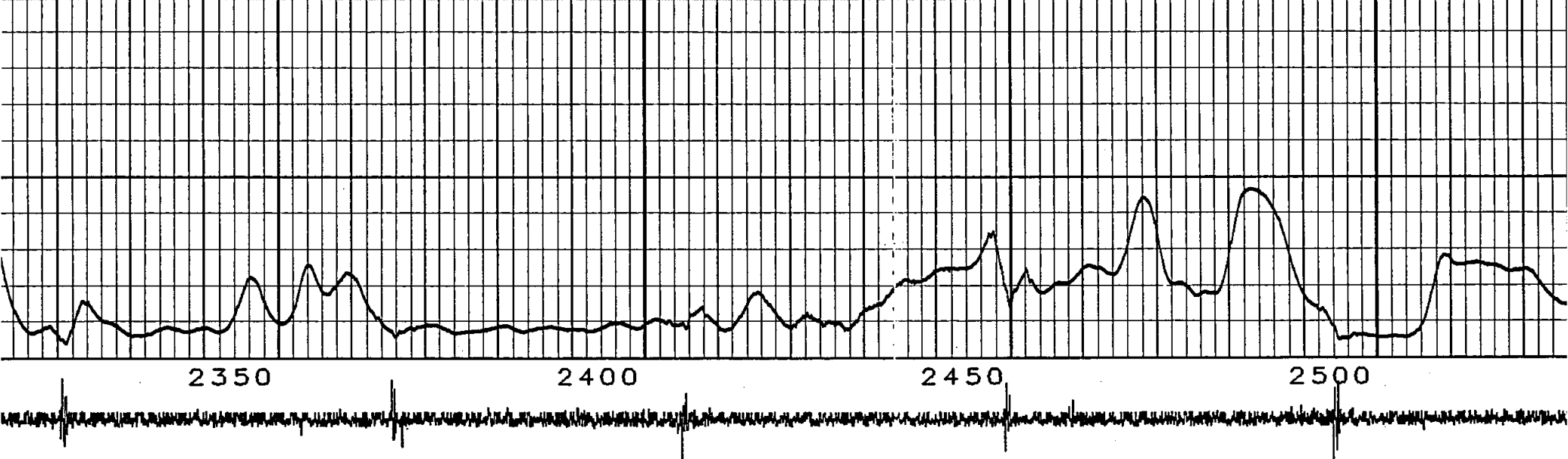
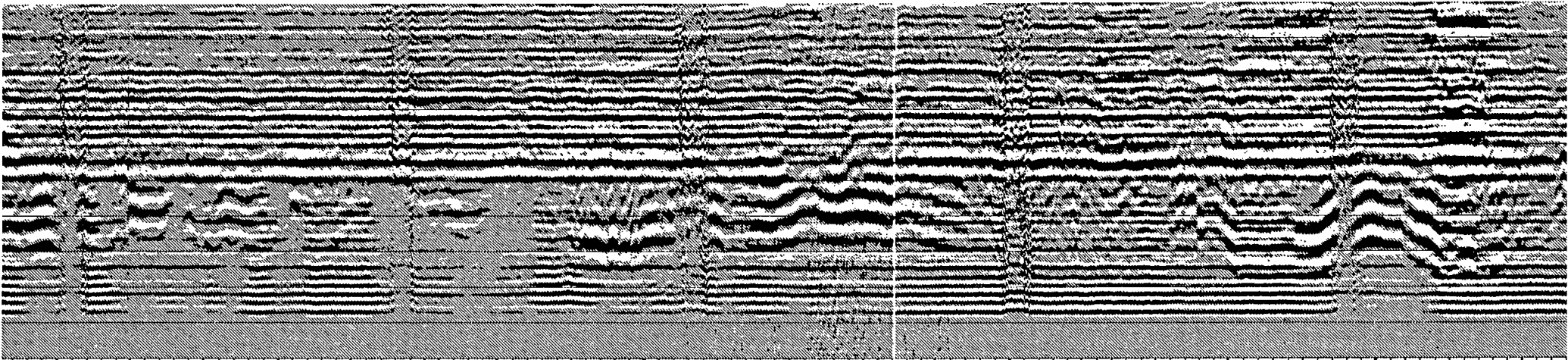


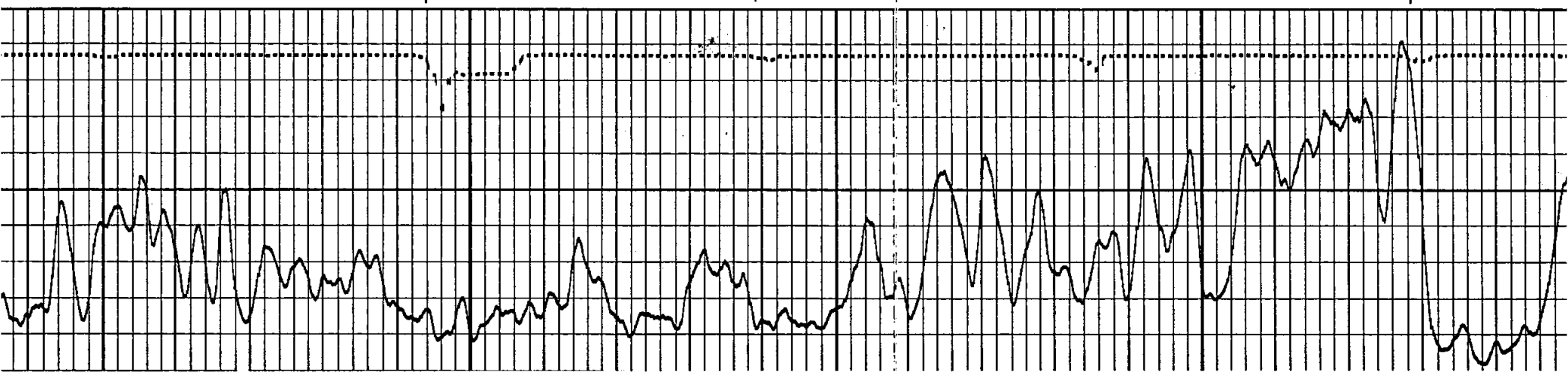
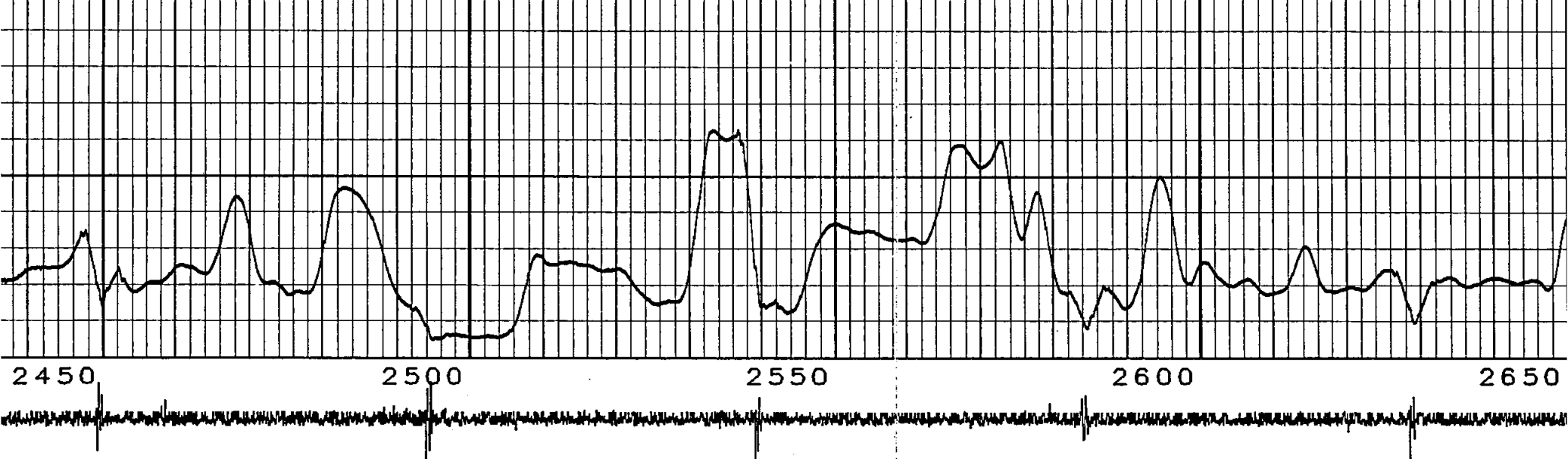
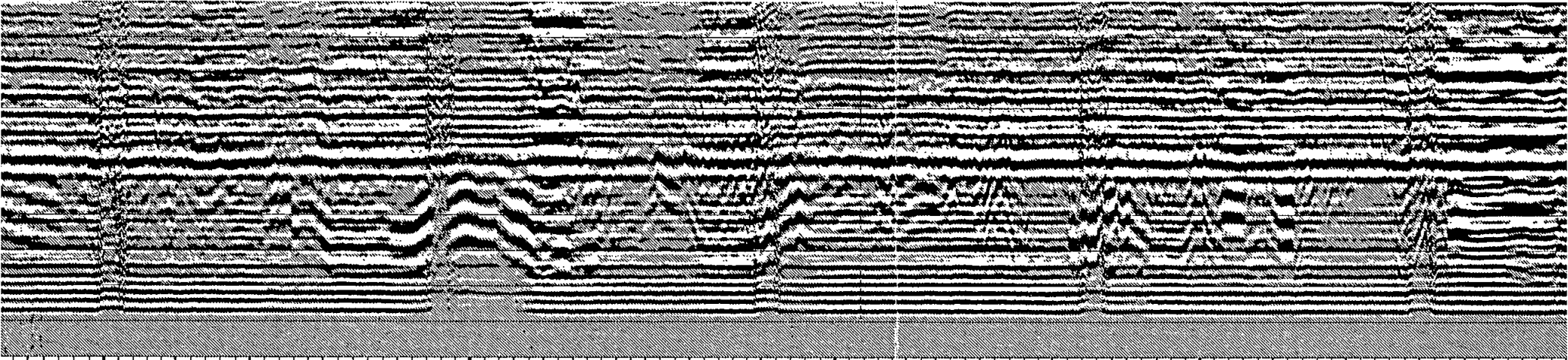












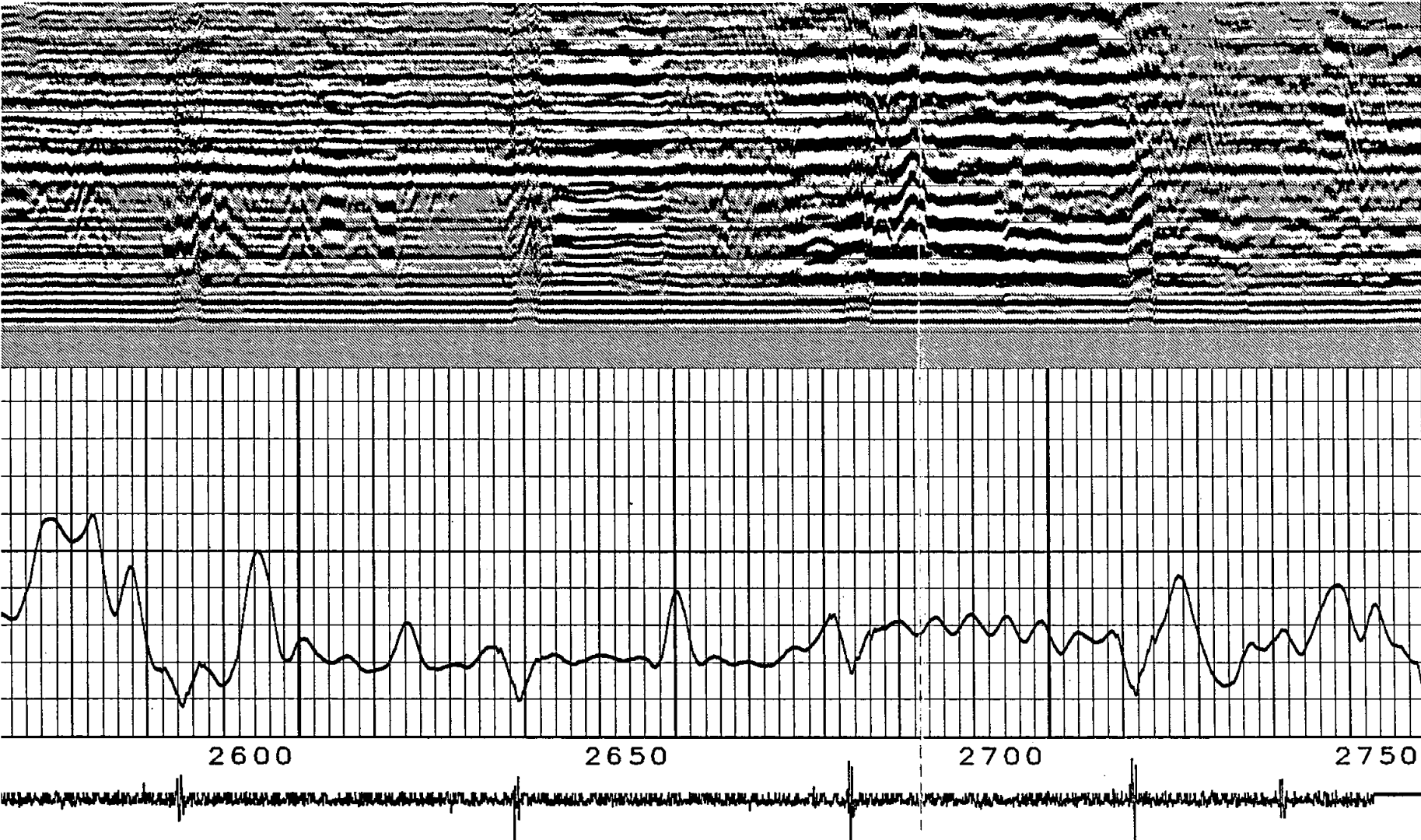


CHART SCALING

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MVS		

150

1150

MICROSECONDS

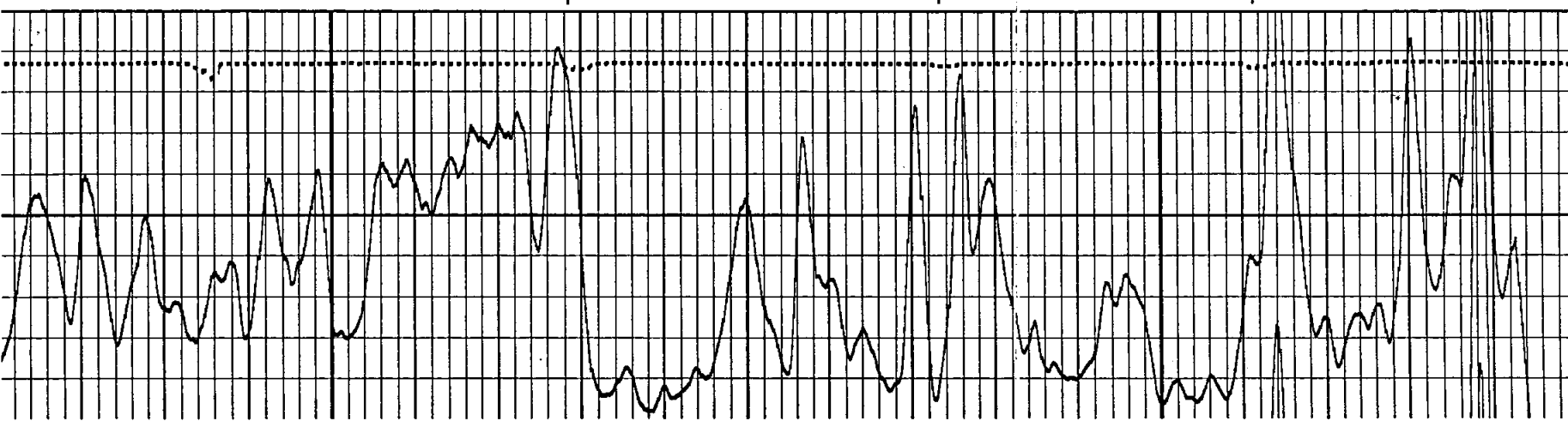


CHART SCALING

0.00	GAMMA	120.00
120.00	API	240.00

1150.00 TIME

USECS

Permit No. 2527-2
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, 3/27/2012 thorough examination of the water use system constructed by Signature Development Co, Inc., 2843 Samco Rd #F, Rapid City, SD 57702, holder of Permit No. 2527-2, bearing the priority date of April 29, 2004. Permit No. 2527-2 is authorized to appropriate a total of 0.67 cfs (300 gpm) from one groundwater well (Madison) for suburban housing purposes, in Pennington County.

Inspection contact and relationship to
permit holder, if applicable:

Jeff Lage, Manager

A. Works used to divert the water:

Berkeley submersible pump 300 gpm.

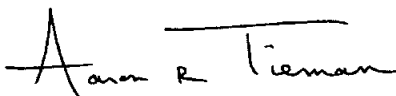
B. Works used to transport water to place of use:

Storage tank and underground distribution lines.

The system is in the following condition good. The points of diversion (wells) are located specifically at Lat/Lon – N43.971589/W-103.175980 which is the approximately 460 feet north and 780 feet east of the SW corner of Section 9, T1S-R8E. The works are capable of diverting 0.67 cfs which is to be used for suburban housing purposes. The license should be issued for 0.67 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: June 23, 2015

FIELD INVESTIGATION REPORT FOR PERMIT NO. 2527-2

DATE OF INVESTIGATION:	March 27, 2012
NAME & ADDRESS OF PERMIT HOLDER	Signature Development Co., LLC 2843 Samco Rd #F Rapid City, SD 57702
INVESTIGATION CONTACT/ RELATIONSHIP TO PERMIT HOLDER, IF APPLICABLE	Jeff Lage (Manager)
DIVERSION POINT LEGAL LOCATION	SW¼ SW¼ Section 9, T1S-R8E
WATER SUPPLY SOURCE	Ground water, Madison

Other permit(s) associated with the project: **Water Right 2214-2**

WELL INFORMATION:

- 1) Well Drilling Firm: **Water System Drilling Inc.**
- 2) No. of Wells **One**
- 3) Depth(s) **3307** feet
- 4) Well log is available **Yes**
- 5) Comment:

Casing:

- 1) Diameter: **7** inches **10¾** inches **16** inches
- 2) Length: **2000** feet **990** feet **40** feet
- 3) Type: **Steel** **Steel** **Steel**

Screen:

- 1) Type: **Open Hole**
- 2) Length: feet
- 3) Static water level: **400** feet

Pump:

- 1) Make: **Berkeley**
- 2) Model:
- 3) Capacity: **300** GPM

Motor:

- 1) Make: **Franklin**
- 2) Model No.: **99J18-023013**
- 3) Horsepower rating: **60** hp

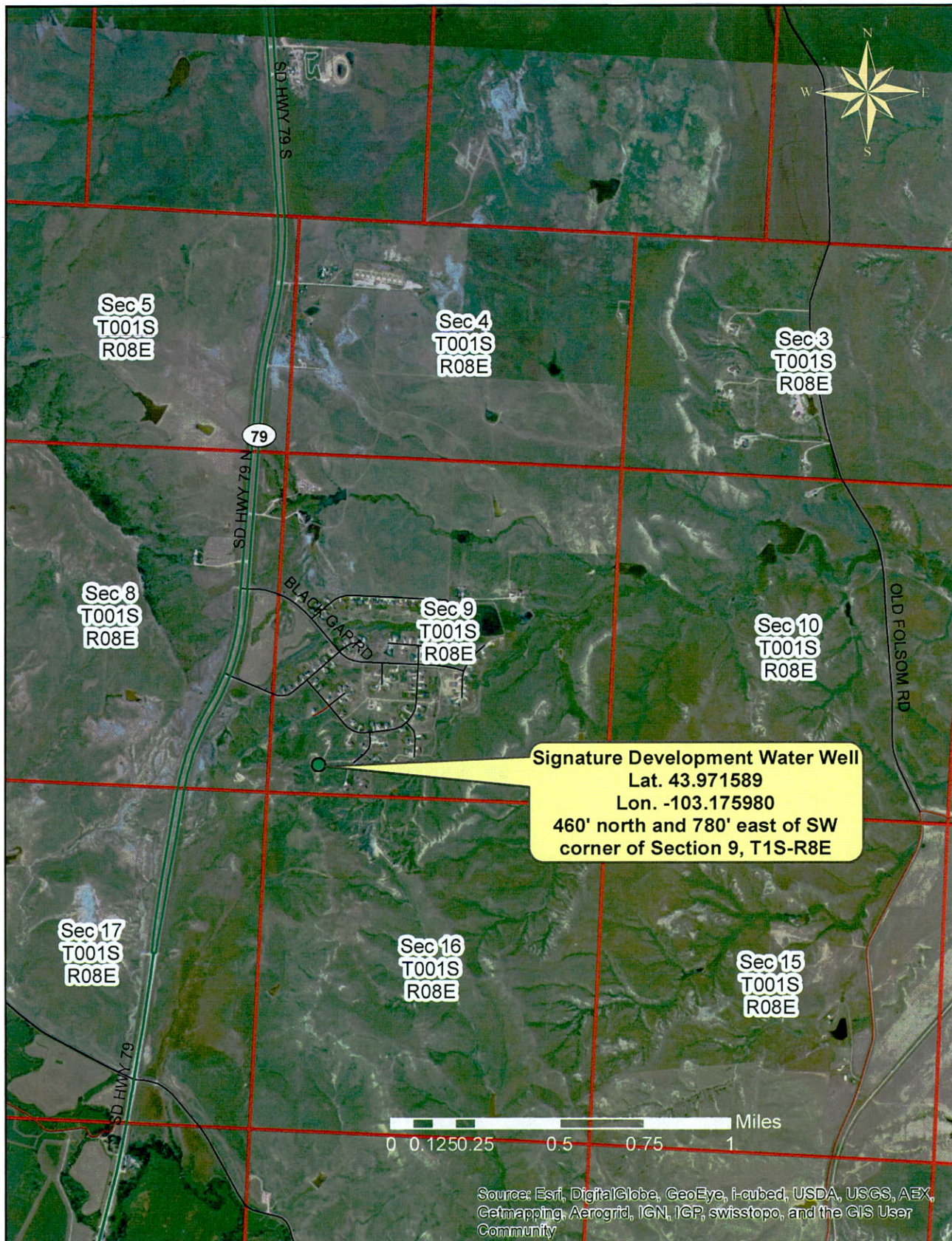
DISTRIBUTION LINES OR CANALS:

- 1) Type: **Underground distribution lines.**

PERMIT QUALIFICATIONS:

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

Water Right 2527-2
Signature Development Co, LLC
March 27, 2012



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

denr.sd.gov

July 20, 2015

2527-2

Jeff Lage, Mgr
Signature Development Co LLC
3006 W St Louis St
Rapid City SD 57702-8168

Dear Mr. Lage:

Enclosed is Water License No. 2527-2. 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.

When preparing the water license we noted the qualification that requests ***"Signature Development shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation."*** A review of the file indicates we have not followed up on this qualification. In order to comply with this qualification, please be aware each January a letter will be sent to you requesting your annual water use from the Madison Formation for the previous year. If you have this information available from the past years, we would appreciate your submitting it to our office at this time. Water use data and/or questions concerning this requirement can be forwarded to Karen Schlaak at (605) 773-3352 or via email at karen.schlaak@state.sd.us.

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. 2527-2, constructs a replacement well and does not plan to use the old well, the old well is considered abandoned and must be plugged. Also, any well that is being used or is not considered abandoned must be valved and controlled, if flowing, or sealed and capped so that no leaking occurs either underground or at the surface.

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

Sincerely,

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

enclosures

**STATE OF SOUTH DAKOTA
WATER LICENSE NO. 2527-2**

(1) Signature Development Company LLC, 3006 W St Louis St, Rapid City SD 57702 made Application No. 2527-2, April 29, 2004 for a water permit to divert 0.67 cubic feet of water per second from ground water (Madison Formation), Pennington County, South Dakota for suburban housing development purposes. Permit No. 2527-2, with a priority date of April 29, 2004 was approved July 26, 2004 and issued to the applicant for diversion of water with construction of the described water supply system to be completed on or before July 26, 2009 and for the application to beneficial use of said water on or before July 26, 2013.

(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 0.67 cubic feet of water per second for beneficial use. The location of the diversion point is:

- approximately 460 feet north and 780 feet east of the SW corner of Section 9, T1S-R8E (SW $\frac{1}{4}$ SW $\frac{1}{4}$).

The housing development is also supplied water from a well completed into the Inyan Kara Formation authorized under Water Right No. 2414-2.

(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 Signature Development Company LLC, 3006 W St Louis St, Rapid City SD 57702 the holder and/or owner of Water Right No. 2527-2 is issued a license to appropriate water, the right to use 0.67 cubic feet of water per second from ground water (one well, Madison Formation) with a priority date of April 2, 2004 from the location specified in (2) of this license for suburban housing development purposes.

This license is subject to South Dakota Water Law, any limitations or conditions listed in Water Right No. 2527-2 and subject to the following qualifications:

- In accordance with SDCL 46-1-14 and 46-2A-20, Permit No. 2527-2 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. 2527-2 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 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.
- Permit No. 2527-2 authorizes a total annual diversion of 300 acre-feet of water annually for suburban housing development use.
- Signature Development shall report to the Chief Engineer annually the amount of water withdrawn each year from the Madison Formation.



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

JUN 30 2015

date



25272
Schlaak, Karen

From: signaturewater@rap.midco.net
Sent: Monday, February 08, 2016 7:38 AM
To: Schlaak, Karen; Harris, Linda (DENR)
Subject: Signature Water Usage

I was requested by Ron Duvall to provide water usage from Madison Aquifer for 2015. I recently had a system inspection and was requested to provide this information also. I have looked back through my manual pumping logs and have data back 8 years. Below are the water usages:

2015 - 13,611,200 gallons
2014 - 12,643,500 gallons
2013 - 16,731,400 gallons
2012 - 21,367,800 gallons
2011 - 14,649,000 gallons
2010 - 14,873,700 gallons
2009 - 15,386,000 gallons
2008 - 14,775,100 gallons

If you have any questions or need further information please contact me at (605) 381-2003

Sincerely,

Jeff Lage
Water Systems Manager
Signature Water LLC