

WATER PERMIT NO. 6537-3

Name of Applicant: City of Eureka

Address: PO Box 655, Eureka SD 57437

Phone: 605 284-2441

Amount of Water Claimed: 0.32 (additional)

Total Acres: NA

Source of Water Supply: groundwater

Water to be used for: municipal

County: McPherson

Type of Waste Disposal System:

Location:

PRIORITY Date Received: 7-20-04

Application/License Fee: \$275

Corrected Application Received: 8-30-04

Period of Annual Use: January 1 – December 31

27

Remarks: Increases the diversion rate authorized by Water Right No. 723A-3

Diversion Point: SW ¼ SW ¼ Sec 35-T127N-
R73W

Land to be Irrigated: NA

Depth of Well: 2700 feet deep

Well Driller:

Remarks:

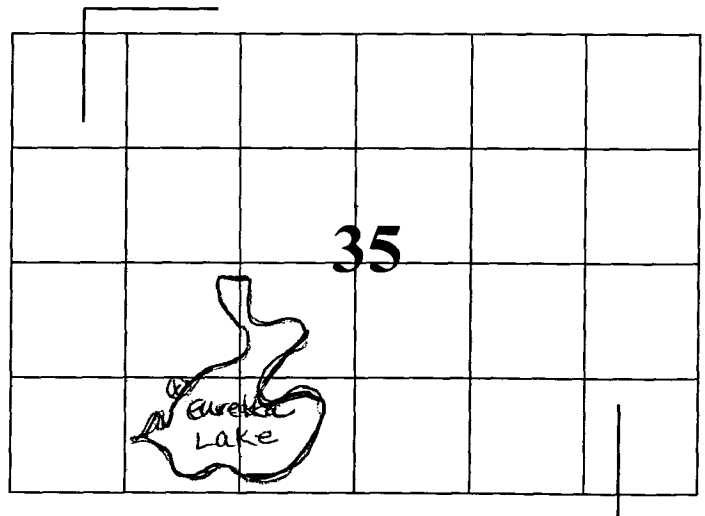
Type of Map: plat

Prepared by: Terry D Helms PE

Reviewed and the Number Assigned on: 8-30-04

By: Karen Schlaak

Notice of Hearing - date to intervene: _____



Mail to:
Water Rights Program
Joe Foss Building
523 E. Capitol
Pierre, SD 57501-3181
(605) 773-3352

No. 6537-3 (office use only)
Hydrologic Unit 10130106
Basin Missouri River
Newspaper Northwest Blade Eureka

RECEIVED
JUL 20 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: (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.)

Increases div rate authorized by Water Right No. 723A-3

- Name of Applicant CITY OF EUREKA Phone (605) 284-2441
(check one) ☐ Owner ☐ Tenant/lessee
Mailing Address P.O. BOX 655 Eureka State SD 57437-0655
(Street, RR, or Box and City) (Zip Code)
- Amount of water claimed 0.320 *CFS or ***AF **GPM
(*Cubic Feet per Second) (**Gallons per Minute) (**Acre Feet - storage capacity of dam/dugout or annual use if applicable)
- Source of water supply INYAN CARA
- Location of point of diversion (example - 3 wells in SW1/4 NE1/4 section 12-T104N-R53W) County McPherson
SEE ATTACHED MAP. SW1/4 SW1/4 Sec 35-T127N-R73W
- County or counties where water will be used MCPHERSON
- Annual period during which water is to be used 365 DAYS PER YEAR 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 McPherson)

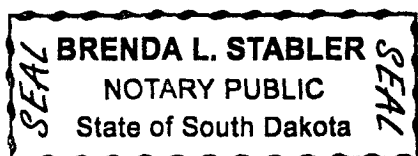
SS

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, City of Eureka Mark W. Opp, 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 Mark W. Opp Mayor

Subscribed and sworn to before me this 19th day of July 20 04



Brenda L. Stabler
Notary Public signature

Commission Expires: 04/19/2010

CY

1/16 LINE

LOT L

LOT 9A—
.16 ACRES
R.D.W. —

- EXISTING 18" RCP CULVERT
NE. INV. 1826.28
S. INV. 1825.19

LAGOONS

SECTION LINE

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
6489
JOHN G.
LARSON
SOUTH DAKOTA

2-10-98

EU
SOU

6537-3

SOUTH DAKOTA
WATER PERMIT NO. 6537-3

Date of first receipt of application July 20, 2004.

Date of return to applicant for corrections, amendments or changes July 29, 2004.

Date of receipt of corrected application August 27, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6537-3 to the City of Eureka, PO Box 655, Eureka SD 57437-0655 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. 6537-3 authorizes a change in the location of the well and appropriates an additional 0.32 cubic feet of water per second (cfs) from the one well authorized by Water Right No. 723A-3. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara (approximately 2100 feet deep) located in the SW ¼ SE ¼ Section 35-T127N-R73W. This permit increases the diversion rate from the well from 0.44 cfs to 0.76 cfs. A replacement well is proposed to be constructed in the SW ¼ SW ¼ Section 35-T127N-R73W. Discharge from the well is used to maintain the water level of East and West Eureka Lake.
2. The water appropriated shall be used for the purpose of municipal, recreational and fire protection 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. 6537-3 is December 6, 2004.
5. The date from which applicant may claim right is July 20, 2004.
6. One-fifth of the construction is to be completed on or before June 6, 2007.
7. All construction is to be completed on or before December 6, 2009.
8. Water is to be put to beneficial use on or before December 6, 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. 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.
2. The well authorized by Permit No. 6537-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.

(continued)

Water Permit No. 6537-3

City of Eureka

Page 2

3. The well approved under this Permit shall be valved and the flow reduced to the amount needed or to a minimum when not being used. The well shall be controlled in a manner that no water is discharged to the lake if West Eureka Lake is full and spilling.
4. If this well is abandoned or the Permit cancelled, the well must be plugged in accordance with Water Management Board Rules, Chapter 74:02:04.

WATER MANAGEMENT BOARD

By: Garland Erbele

Garland Erbele, Chief Engineer

Water Rights Program

Department of Environment and Natural Resources

JAN 18 2005

date



(type or print in ink)

1. Well Information - Proposed Construction

- a) Drill Hole Diameter 12" / 8" Depth 580'/2100'
- b) Casing Type STEEL Diameter 8" / 5" Thickness .3222,.258"
- c) Screen Type PERFORATED Diameter _____ Thickness _____
- d) Gravel Pack _____ Length of Gravel Pack _____
- e) Depth to Top of Water Bearing Material _____ 2000' +/-
- f) Depth to Water (ground surface to water level) _____ 2000' +/-
- g) Distance to nearest existing domestic well:
- On applicants property _____ On property owned by others _____

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

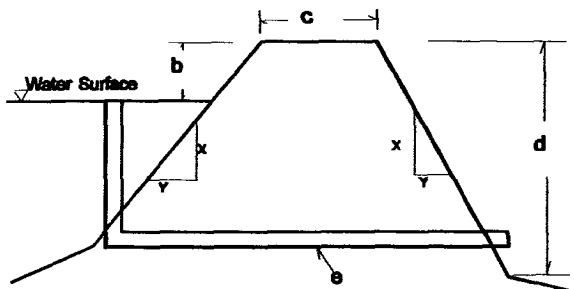
3. Dugout Information

- 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 JULY 20, 20 04

RECEIVED OF CITY OF EUREKA, PO BOX 655, EUREKA SD 57437

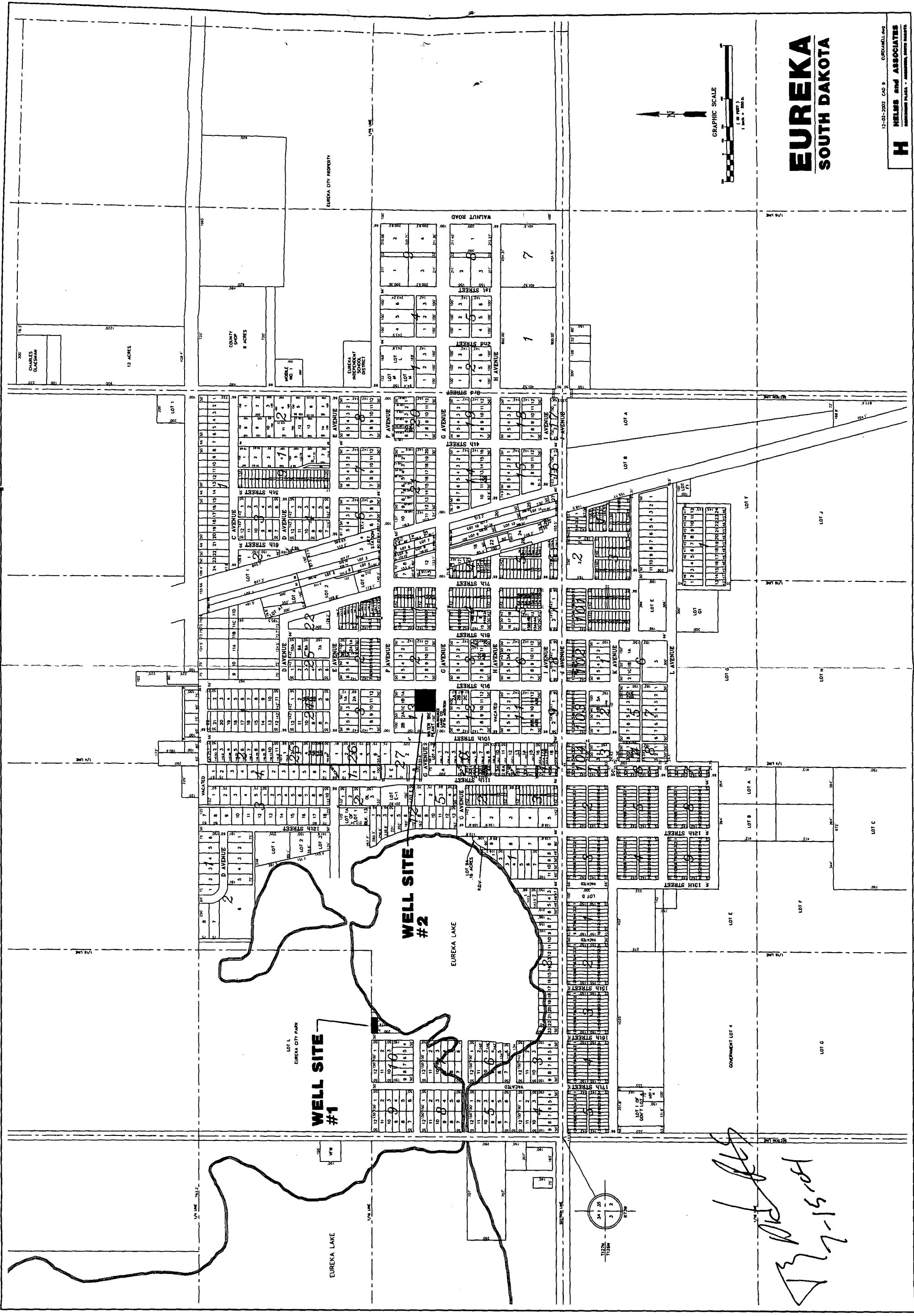
The following amount in fees for services rendered as provided for by law:

Fee for Application for Permit No. _____ to Appropriate Water, to construct and to put water to beneficial use	225	00
Fee for Application for Permit No. _____ to Appropriate Water for Future use		
Fee to retain Future Use Permit No. _____ after period of seven years.		
Fee for Inspecting Constructed Works, confirming beneficial use and issuing Water License No. _____	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	275.00

No. 000000

By

David Ebel
Chief Engineer
gm

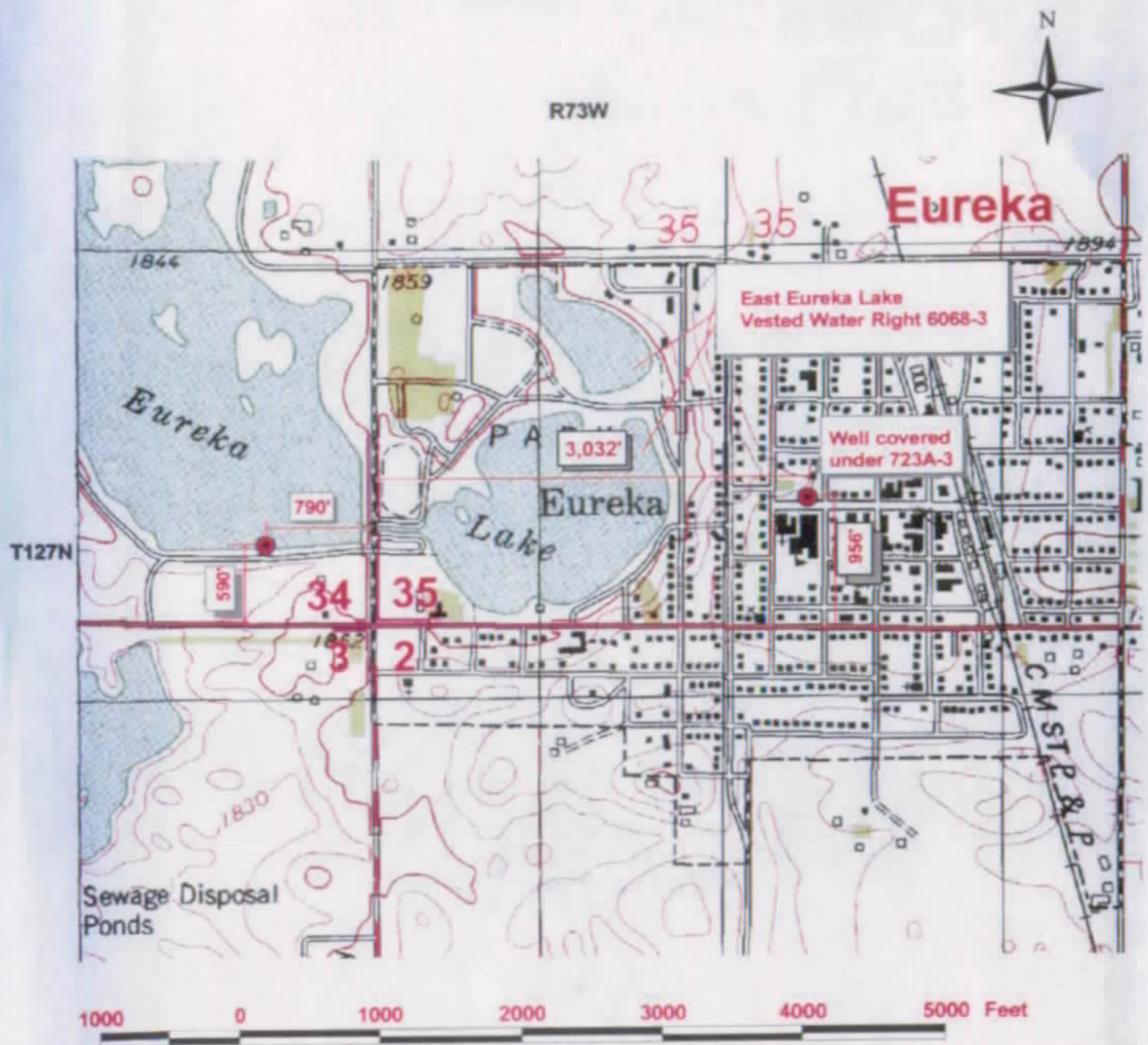


EUREKA
SOUTH DAKOTA

12-01-2002 CAD 9
COURTNEY LAY
H HELMS and ASSOCIATES
REGISTERED PLATERS - ABERDEEN, SOUTH DAKOTA

Handwritten signature and date:
7-15-04

Water Right No. 6068-3



Lynn Beck

Lynn Beck
Natural Resources Engineer III
DENR, Water Rights Program
December 15, 1998

CITY OF EUREKA

P.O. Box 655
EUREKA, SOUTH DAKOTA 57437
605-284-2441

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JUL 20 2004

WATER RIGHTS
PROGRAM

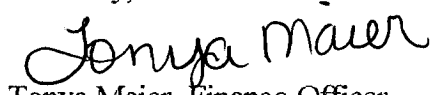
July 19, 2004

SD Dept of Env and Nat Res
Water Rights Program
523 East Capitol
Pierre, SD 57501

Dear Sirs/Madames,

Enclosed is water rights applications for digging a new artesian well in Eureka. Please contact me if you have any questions regarding this application.

Sincerely,



Tonya Maier, Finance Officer



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

July 29, 2004

Terry Helms
Helms & Associates
PO Box 11
Aberdeen SD 57402

RE: Application for City of Eureka

Dear Mr. Helms:

Thank you for submitting the *Application for a Permit to Appropriate Water* on behalf of the City of Eureka. On July 22nd you spoke with Eric Gronlund regarding the well site. At that time, you indicated you were not sure if the city planned to use the location of well site #1 or #2. Has that determination been made?

I believe Eric also mentioned that we have a pending application submitted in August, 2001 for irrigation of the golf course. Enclosed is a copy of the application, map and our letter stating what is required to complete the application.

If you have any questions, please contact Eric or me.

Sincerely,

Karen Schlaak
Water Rights Program
605 773-3352

enclosures

Helms & Associates

Civil Engineers & Land Surveyors

221 Brown Co. Hwy 19
P.O. Box 111
Aberdeen, S.D. 57402
Telephone (605)225-1212

August 27, 2004

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

Re: Water Right Application
Eureka, SD
A-3670

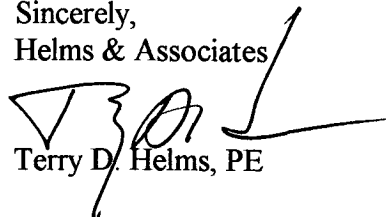
Dear Ms. Schlaak;

In response to your letter dated July 29, 2004 regarding the city of Eureka's application for a permit to Appropriate Water for a replacement well, I am submitting the following information:

1. Site #1 is the location of the new well.
2. Site #2 is the location of the existing to be capped.

If you require any additional information please contact this office.

Sincerely,
Helms & Associates



Terry D. Helms, PE

Cc: City Of Eureka

REPORT ON WATER PERMIT APPLICATION NOS. 6537-3 AND 6538-3
For the City of Eureka
October 29, 2004

Application No. 6537-3 proposes to change the location of a well and appropriate an additional 0.32 cfs from the new well. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara Group (approximately 2,100 feet deep) located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of section 35, T127N R73W in McPherson County. This application proposes to increase the diversion rate from the new well located in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ of section 35, T127N R73W from 0.44 cfs to 0.76 cfs. The water is for municipal, fire protection, irrigation and recreational use.

Application No. 6538-3 proposes to appropriate 0.56 cfs from Eureka Lake with the diversion point located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ of section 35 to irrigate 62 acres of the golf course located in the S $\frac{1}{2}$ NW $\frac{1}{4}$ of section 36; all in T127N R73W in McPherson County.

AQUIFER – INYAN KARA GROUP (INKR)

The Inyan Kara aquifer consists of sand, sandstone and shale which is under artesian conditions in this area. The aquifer underlies 1,157 square miles and contains an estimated 6.1 million acre-feet of recoverable water in storage in McPherson County (Hedges, 1982). The aquifer also extends into the surrounding counties and into North Dakota. The aquifer (also called the Fall River Formation by Hamilton) reportedly is recharged by inflow from the west and upward leakage from deeper formations (Hamilton, 1982). Hamilton also reported water levels for the aquifer are probably declining in this area.

The City of Eureka over the years has had three wells completed into the Inyan Kara aquifer (Fall River Formation), drilled in 1923, 1960, and 1983. All three of these wells have been plugged with the last (1983) well being plugged in October of this year (2004). The best information available is from the 1960 well. This well was completed to a depth of 2,085 feet and was capable of free flowing 342 gpm when drilled (Steffen, 1975). The shut in pressure has been estimated at about 125 psi.

Water level information is not available for this area. The nearest observation well completed into the Inyan Kara aquifer is located about 47 miles southeast of Eureka (Water Rights, 2004). This water level record at that site indicates that the Inyan Kara does not change much but then at this distance the water levels are probably not representative of the area around Eureka.

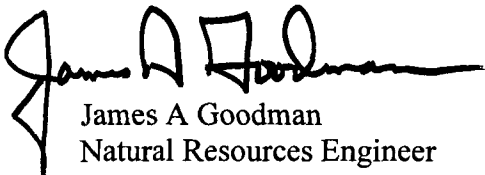
REVIEW OF EXISTING WATER PERMITS/RIGHTS

The town of Eureka presently holds water right No. 723A-3. This water right authorizes a diversion rate of 0.44 cfs (198 gpm) from the well to discharge into Eureka Lake. There are no other water rights in this area obtaining water from the Inyan Kara. The

nearest water right/permit is located about 22 miles west of this application. Interference is not expected to be a concern. In addition, there may be a few domestic wells which obtain water from the Inyan Kara in this region.

CONCLUSIONS

1. Water is available from the Inyan Kara aquifer.
2. The aquifer is confined and under artesian conditions at this site. In fact, a production well will free flow in this area. Until the well is completed this rate will not be known. The new well must be controlled in order to prevent the waste of water. The new well will be a replacement for the well recently plugged and authorized by Water Right No. 723A-3. The city is already authorized to discharge 0.44 cfs into the lake by that water right. This application would allow an additional 0.32 cfs of discharge for a total diversion rate of 0.76 cfs. In theory this rate could yield a volume of 550 acre-feet annually.
3. This well must be constructed in accordance with SD Well Construction Standards. This means grouting from the top of the aquifer to the land surface.
4. Allowing this well to flow into a lake simply to maintain the lake level is not a wise use of ground water. Eureka already has storage water right Nos. 6049-3 (885 acre-feet) and 6068-3 (224 acre-feet) for the west and east Eureka lakes, respectively. The conditions on those permits require that no water can discharge from the well into the lake if west Eureka lake is spilling (both lakes are connected by a channel). That condition would have to be maintained for this application.
5. Application No. 6538-3 proposes to use 0.56 cfs from Eureka Lake to irrigate 62 acres (golf course). This permit also requests a volume of 60 acre-feet annually. This water is already appropriated by the City of Eureka and they can manage the lake, well and golf course. This application can be approved with conditions existing on the other water permits/rights. The City needs to be aware that the water quality from the well is of poor quality and the city should consult with a soil scientist to determine the best use of the lake, well water mix for use on the golf course.



James A Goodman
Natural Resources Engineer

BIBLIOGRAPHY

Hamilton, L.J., 1982, Geology and Water Resources of McPherson, Edmunds, and Faulk Counties, South Dakota, Bulletin 26, Part II Water Resources, SD DENR, SDGS, Vermillion, SD, 57069.

Hedges, L.S., and others, 1982, Evaluation of Ground-Water Resources Eastern South Dakota and Upper Big Sioux River South Dakota and Iowa, for US Army Corps of Engineers, SD DENR, SDGS, Vermillion, SD, 57069.

Steffen, L.J., A. Barrari, 1975, Ground-Water Investigation of the City of Eureka, SD DENR, SDGS, Vermillion, SD, 57069.

Water Rights, 2004, Unpublished Observation Well Records for the Inyan Kara Aquifer, SD DENR, DES, Water Rights Program, Pierre, SD, 57501.



**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

**RECOMMENDATION OF CHIEF ENGINEER FOR WATER PERMIT
APPLICATION NO. 6537-3, City of Eureka**

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. 6537-3, City of Eureka, Mayor Mark Opp, PO Box 655, Eureka SD 57437-0655.

The Chief Engineer is recommending APPROVAL of Application No. 6537-3 because 1) there is reasonable probability that there is unappropriated water available for the applicant's proposed use, 2) the proposed diversion can be developed without unlawful impairment of existing rights, 3) the proposed use is a beneficial use and 4) it is in the public interest with the following qualifications:

1. 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.
2. The well authorized by Permit No. 6537-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. The well approved under this Permit shall be valved and the flow reduced to the amount needed or to a minimum when not being used. The well shall be controlled in a manner that no water is discharged to the lake if West Eureka Lake is full and spilling.
4. If this well is abandoned or the Permit cancelled, the well must be plugged in accordance with Water Management Board Rules, Chapter 74:02:04.

See report on application for additional information.

Garland Erbele, Chief Engineer
November 8, 2004

Form 8

PROOF OF PUBLICATION

STATE OF SOUTH DAKOTA)
) SS
County of McPherson)

I, Arlo C. Mehlhaff

certify that the attached printed Notice was
taken

from the The Northwest Blade

printed and published in Eureka, SD

County of McPherson and

state of South Dakota. The notice was published

in the newspaper on the following two dates:

Nov. 17, 2004

Nov. 24, 2004

Cost of Printing 55.13

Arlo C. Mehlhaff
(Signature)

Rebel
(Title)

11 - 29 - 04
(Date Signed)

NOTICE OF APPLICATION NOS. 6537-3 AND 6538-3 TO APPROPRIATE WATER

Notice is given that the City of Eureka, P. O. Box 655, Eureka, S. D. 57437-0655 has filed the following application for a water permit.

Application No. 6537-3 proposes to change the location of the well and appropriate an additional 0.32 cubic feet of water per second (cfs) from the one well authorized by Water Right No. 723-A-3. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara (approximately 2,100 feet deep) located in the SW 1/4 Section 35-T127N-R73W. This application proposes to increase the diversion rate from the well from 0.44 cfs to 0.76 cfs. A replacement well is proposed to be constructed in the SW 1/4 SW 1/4 Section 35-T127N-R73W. The water is for municipal and recreational use. Discharge from the well is used to maintain the water level of East and West Eureka Lake. The well is also used for fire protection.

Application No. 6538-3 proposes to appropriate 0.56 cfs from Eureka Lake located in the NW 1/4 SW 1/4 Section 35 to irrigate 62 acres of the golf course located in the S 1/2 NW 1/4 Section 36; all T127N-R73W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 6537-3 and 6538-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendations. If a petition opposing the applications or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications 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, S. D. 57501 (605-773-3352)" and the applicant's mailing

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DEC - 1 2004

WATER RIGHTS
PROGRAM

address is given above. A petition filed by either an interested person or the applicant must be filed by December 6, 2004.

The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, 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 these applications.

STEVEN M. PIRNER, Secretary
Department of Environment
and Natural Resources
11 -- 17-24 -- 2004

Water Rights Program - File Documentation

NAME: City of Eureka

ADDRESS: Eureka SD

DATE: 12-1-04 **COUNTY:** McPherson **TELEPHONE:**

RE: Publication Notice

COMMENTS:

The publication notice had an error in the legal description of the existing well authorized by Water Right No. 723-A3. Staff believes that this error would not invalid the notice because the location of the replacement well is correct.

Karen Schlaak

Karen Schlaak
Environmental Scientist

Instruction to Newspaper - Publish first Notice on November 17, 2004 with the second publication 7 days later. The applicant is responsible for payment.

NOTICE OF APPLICATION NOS. 6537-3 and 6538-3 to Appropriate Water

Notice is given that the City of Eureka, PO Box 655, Eureka SD 57437-0655 has filed the following applications for a water permit.

Application No. 6537-3 proposes to change the location of the well and appropriate an additional 0.32 cubic feet of water per second (cfs) from the one well authorized by Water Right No. 723A-3. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara (approximately 2100 feet deep) located in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 35-T127N-R73W. This application proposes to increase the diversion rate from the well from 0.44 cfs to 0.76 cfs. A replacement well is proposed to be constructed in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 35-T127N-R73W. The water is for municipal and recreational use. Discharge from the well is used to maintain the water level of East and West Eureka Lake. The well is also used for fire protection.

Application No. 6538-3 proposes to appropriate 0.56 cfs from Eureka Lake located in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ Section 35 to irrigate 62 acres of the golf course located in the S $\frac{1}{2}$ NW $\frac{1}{4}$ Section 36; all T127N-R73W.

Pursuant to SDCL 46-2A-2, the Chief Engineer recommends APPROVAL of Application Nos. 6537-3 and 6538-3 because 1) unappropriated water is available, 2) existing rights will not be unlawfully impaired, 3) it is a beneficial use of water, and 4) it is in the public interest. In accordance with SDCL 46-2A-23, the Chief Engineer will act on the applications, as recommended, unless a petition is filed opposing the applications or the applicant files a petition contesting the Chief Engineer's recommendation. If a petition opposing the applications or contesting the recommendation is filed, then a hearing will be scheduled and the Water Management Board will consider the applications. Notice of the hearing will be given to the applicant and any person filing a petition.

Any person interested in opposing or supporting these applications 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 December 6, 2004.

The petition may be informal, but must include a statement describing the petitioner's interest in the applications, the petitioner's reasons for opposing or supporting the applications, 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 these applications. 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

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

November 9, 2004

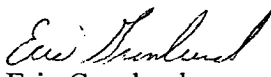
City of Eureka
% Mark W Opp, Mayor
PO Box 655
Eureka SD 57437-0655

Dear Mayor Opp:

Water Permit Application Nos. 6537-3 & 6538-3 for municipal use have been examined and found to comply with the South Dakota Water Laws and applicable rules. A notice has been sent to the Publisher of the Northwest Blade printed at Eureka, SD (Ph # 605-284-2631). You will need to contact the newspaper and authorize publication of this notice. For your information, a copy of the notice, the recommendations of the Chief Engineer and a report on the applications are enclosed. Please review the notice prior to publication and notify this office, if you have any corrections or questions.

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

Sincerely,


Eric Gronlund
Natural Resources Engineer
(605) 773-3352

c: Terry Helms, Helms & Associates

enclosures

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



DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES

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

November 9, 2004

Nothwest Blade
PO Box 797
Eureka SD 57437-0797

ATTENTION: Legal Public Notice

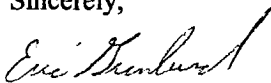
Enclosed is a Notice on Application Nos. 6537-3 & 6538-3 to Appropriate Water to be published twice. Please publish the first notice on November 17, 2004 with the second publication 7 days later. The text of the notice can be e-mailed to your paper by contacting Karen Schlaak at (605) 773-3352.

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 City of Eureka. % Mark Opp, Mayor, PO Box 655, Eureka SD (Ph # 605-284-2441).

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. 6537-3

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

Date _____

We are in receipt of your letter of November 9, 2004 enclosing Notice to Appropriate Water by Application No. 6537-3 & 6538-3 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

JAN 18 2005

City of Eureka
%Mark Opp, Mayor
PO Box 655
Eureka SD 57437

Dear Mayor Opp:

Enclosed are Water Permit Nos. 6537-3 & 6538-2 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 systems and have put the water to beneficial use. An investigation can then be scheduled so the water licenses 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

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

Date 8-22-06

TO: Water Rights Program, DENR
523 E. Capitol
Pierre, SD 57501-3181

FROM: City of Eureka
(name)
PO Box 655
(address)
Eureka SD 57437 605-284-2441
(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.

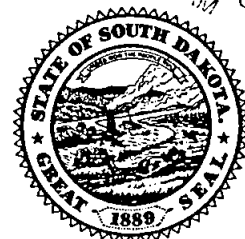
Water Permit No. 6537-3 states that the water use system is to be constructed by
6-6-07, and water is to be put to beneficial use by 12-6-13.
(date) (date)

The water use system was completed on June 2006.
(date)

Applying the water to beneficial use was completed on June 2006.
(date)

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

Jenya maier, Finance
(signature) Officer





**DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES**

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

NOV 03 2008

6537-3
6735-3

City of Eureka
Mark Opp, Mayor
PO Box 655
Eureka SD 57437-0655

Dear Mayor Opp:

Enclosed is Water Permit No. 6735-3 authorizing an increase in the diversion rate from the city's existing well, not exceeding the limits as specified in the Water Permit. Also, enclosed is Reissued Water Permit No. 6537-3 which corrects the location of the existing well.

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 included. 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

**REISSUED
SOUTH DAKOTA
WATER PERMIT NO. 6537-3**

The original water permit was issued with an error in the legal description of the well location. On September 5, 2006, the Chief Engineer, on behalf of the Water Management Board, approved Water Permit No. 6735-3 which increased the diversion rate from the well authorized by Water Permit No. 6537-3. The public notice indicated the correct location of the existing well as the NW ¼ SW ¼ Section 35-T127N-R73W.

Date of first receipt of application July 20, 2004.

Date of return to applicant for corrections, amendments or changes July 29, 2004.

Date of receipt of corrected application August 27, 2004.

The Chief Engineer, on behalf of the Water Management Board, issues Water Permit No. 6537-3 to the City of Eureka, PO Box 655, Eureka SD 57437-0655 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. 6537-3 authorizes a change in the location of the well and appropriates an additional 0.32 cubic feet of water per second (cfs) from the one well authorized by Water Right No. 723A-3. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara (approximately 2100 feet deep) located in the SW ¼ SE ¼ Section 35-T127N-R73W. This permit increases the diversion rate from the well from 0.44 cfs to 0.76 cfs. A replacement well is proposed to be constructed in the NW ¼ SW ¼ Section 35-T127N-R73W. Discharge from the well is used to maintain the water level of East and West Eureka Lake.
2. The water appropriated shall be used for the purpose of municipal, recreational and fire protection 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. 6537-3 is December 6, 2004.
5. The date from which applicant may claim right is July 20, 2004.
6. One-fifth of the construction is to be completed on or before June 6, 2007.
7. All construction is to be completed on or before December 6, 2009.
8. Water is to be put to beneficial use on or before December 6, 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. The well approved under this Permit will be located near domestic wells and other wells which may obtain water from the same aquifer. The well owner under this Permit shall control his withdrawals so there is not a reduction of needed water supplies in adequate domestic wells or in adequate wells having prior water rights.

(continued)

Water Permit No. 6537-3

City of Eureka

Page 2

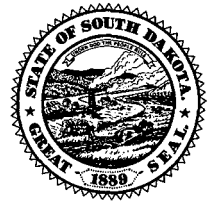
2. The well authorized by Permit No. 6537-3 shall be constructed by a licensed well driller and construction of the well and installation of the pump shall comply with Water Management Board Well Construction Rules, Chapter 74:02:04 with the well casing pressure grouted (bottom to top) pursuant to Section 74:02:04:28.
3. The well approved under this Permit shall be valved and the flow reduced to the amount needed or to a minimum when not being used. The well shall be controlled in a manner that no water is discharged to the lake if West Eureka Lake is full and spilling.
4. If this well is abandoned or the Permit cancelled, the well must be plugged in accordance with Water Management Board Rules, Chapter 74:02:04.

WATER MANAGEMENT BOARD

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

NOV 03 2008

date



Permit No. 6537-3 and 6735-3
Missouri 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 this day, **September 17, 2007**, made a thorough examination of the water use system constructed by the **City of Eureka** of **PO Box 655, Eureka, SD 57437** holder of Permit No. **6537-3**, bearing the priority of **July 20, 2004** and Permit No. **6735-3**, bearing the priority date of **June 14, 2006** authorizing the diversion of **0.32** cu. ft. per second (cfs) and **0.724** cfs of the waters of the **Inyan Kara Aquifer** for **Municipal** purposes, in **McPherson** County.

Inspection contact & relationship **Ron Emmingson**
to permit holder, if applicable:

A. Works used to divert the water:

Well Information:

- 1) Well Drilling Firm: **Water System Drilling, Inc**
- 2) No. of Wells **1**
- 3) Depth(s) **2132** feet
- 4) Well log is available **Y**
- 5) Comment:

Casing:

- 1) Diameter **8 & 5** inches
- 2) Length **2128** feet
- 3) Type **Steel**

Screen:

- 1) Type **Perforated Pipe, 23 gm. Shot, 2 per foot, 120 slots**
- 2) Length **60** feet
- 3) Static water level **Free Flowing**

B. Compliance with Permit Requirements:

- 1) Permit qualifications being abided by **Y**
- 2) Irrigation Questionnaires checked to determine if permit owner started irrigation by the end of construction period **NA**
- 3) Exceptions to compliance are: **None**

Report of Examination of Works

Permit No. 6537-3 and 6735-3

The system is in **Good** condition with the point(s) of diversion located as follows:

Approximately 1570 feet north and 1115 feet east of the SW corner of Section 35-T127N-R73W

(N 45.77155, W -99.63070) (NW ¼ SW ¼)

The works are capable of diverting and conveying to the place of use **1.48** cu. ft. per second of water which is to be used for **Municipal and Recreational Use**. Water has been put to beneficial use to the maximum extent as follows:

Water from the well is used to maintain the lake level of both East and West Eureka Lake.

The license should be issued for **1.48** cfs.

All structures, wells and lands on map **Y**

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

Water Permit No. 6537-3 authorizes a change in the location of the well to the NW ¼ SW ¼ Section 35-T127N-R73W and appropriates an additional 0.32 cfs of water from one well authorized by Water Right No. 723A-3. Water Right No. 723A-3 authorizes 0.44 cfs from a well completed into the Inyan Kara aquifer located in the SW ¼ SE ¼ Section 35-T127N-R73W. This permit increases the diversion rate from 0.44 cfs to 0.76 cfs. The well located in the SW ¼ SE ¼ Section 35 has been plugged and only the well located in the NW ¼ SW ¼ Section 35 is used to maintain the water level of East and West Eureka Lake.

Water Permit No. 6735-3 appropriates an additional 0.724 cfs of water from one well authorized by Water Permit No. 6537-3. The combined total appropriation for Water Permit No. 6537-3 and Water Permit No. 6735-3 from the well is 1.48 cfs.

Water Right No. 723A-3, Water Permit Nos. 6537-3 and 6735-3 should be incorporated to reflect the system as developed while each maintaining their priority dates of July 12, 1960, July 20, 2004 and June 14, 2006.



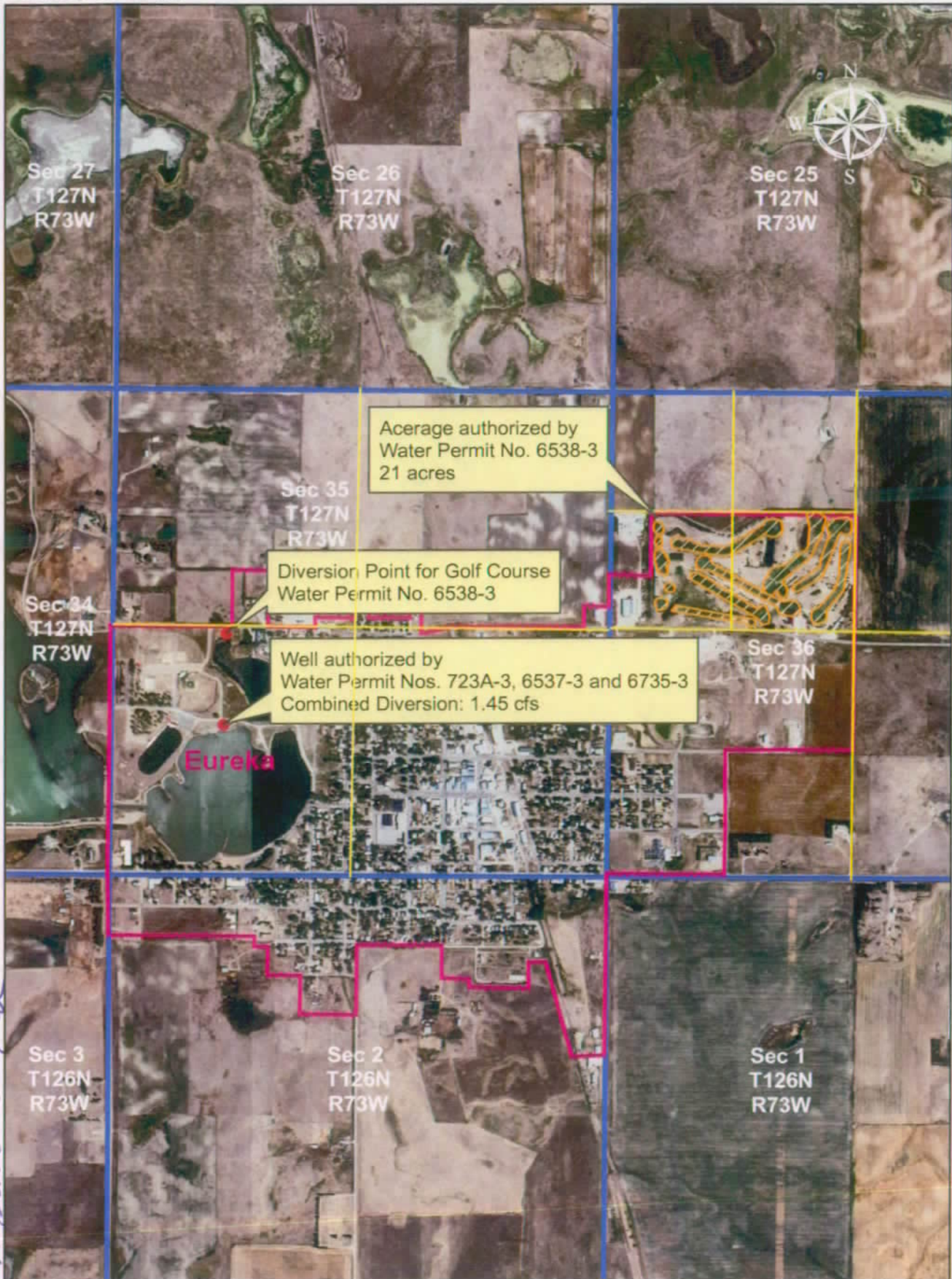
Mike DeFea

Natural Resources Project Engineer
DENR, Water Rights Program

Date report completed: **January 2, 2008**

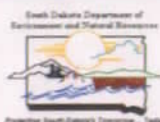
City of Eureka
PO Box 655
Eureka, SD 57437

Water Permit Nos. 6537-3, 6538-3 and 6753-3



Mike DeFea

Mike DeFea
Natural Resources Engineer
DENR, Water Rights Program
January 2, 2008



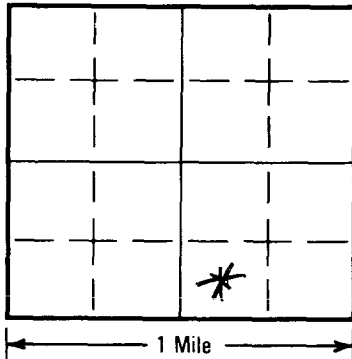
0 500 1,000 2,000 3,000 4,000 Feet

SOUTH DAKOTA WATER WELL COMPLETION REPORT

07-92

Location SW 1/4 ~~NE~~ SE 35 Twp 127 Rg 73 WCounty McPherson

North



Please mark well location with an "X"

LOCATION AS PER
HELMS & ASSOC.

Well Completion Date

May 2006

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 ROTARYCASING DATA: ☒ Steel ☐ Plastic ☐ Other

If other describe _____

PIPEWEIGHT	DIAMETER	FROM	TO	HOLE DIAMETER
<u>32</u> LB/FT	<u>8 5/8</u> IN	<u>0</u> FT	<u>580</u> FT	<u>12 1/4</u> IN
<u>15.50</u> LB/FT	<u>5 1/2</u> IN	<u>+1</u> FT	<u>2128</u> FT	<u>7 3/8</u> IN
_____ LB/FT	_____ IN	_____ FT	_____ FT	_____ IN

GROUTING DATA

Grout Type	No. of Sacks	Grout Weight	From	To
<u>Premium Type 6</u>	<u>300</u>	<u>17</u> lb./gal	<u>0</u> ft.	<u>580</u> ft.
<u>Premium LTR</u>	<u>305</u>	<u>12.5</u> lb./gal	<u>0</u> ft.	<u>2128</u> ft.
<u>Type 6</u>		<u>15.8</u> lb./gal	<u>0</u> ft.	<u>2128</u> ft.

Describe grouting procedure Positive Displacement
with a 300' Premium TAILSCREEN: ☒ Perforated pipe ☐ Manufactured None

Diameter _____ IN Length _____ FEET

Material 23 GRAM SHOTS 2 per foot, 120 shots
Shot Size 3/16" Set From 2022 Feet to 2082 Feet

Other information _____

WAS A PACKER OR SEAL USED? ☐ YES ☒ NO

If so, what material? _____

Describe packer(s) and location? _____

DISINFECTION: Was well disinfected upon completion?

_____ YES, How: _____

Laboratory sent to for water quality analysis

X NO, Why Not? ARTESIAN FLOW
Directly into LAKEWell Owner: CITY of EUREKABusiness Name: CITY of EUREKAAddress: P.O. Box 1665EUREKA SD 57437-0655

WELL LOG:

DEPTH

FORMATION	FROM	TO
<u>Lox Hills</u>	<u>0</u>	<u>314</u>
<u>PIERRE SHALE</u>	<u>314</u>	<u>960</u>
<u>NIOBRARA</u>	<u>960</u>	<u>1340</u>
<u>GREENHORN</u>	<u>1340</u>	<u>1353</u>
<u>Mowry</u>	<u>1353</u>	<u>1696</u>
<u>LAKOTA Top</u>	<u>1696</u>	<u>1960</u>
<u>LAKOTA Top</u>	<u>1960</u>	<u>2132</u>

STATIC WATER LEVEL Flowing FeetIf flowing: closed in pressure 83 PSIGPM flow 650 through 6" Pipe inch pipeControlled by ☒ Valve ☐ Reducers ☐ Other _____

Reduced Flowrate _____ GPM

Can well be completely shut in? YESWELL TEST DATA: N/A☐ Pumped Describe: _____☐ 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 Adelman

Signature of Well Owner or Equitable Property Holder:

Mayor Malin JUN 26 2006Date: 6-15-06

RECEIVED

WATER RIGHTS
PROGRAM



Scott Heimer

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

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

City of Eureka
Eureka Municipal Well
June 2006

Cuttings Log

0	-	2	Black top soil
2	-	77	Blue Clay w/ sand layers
77	-	95	Sandy Clay
95	-	125	Blue Clay w/gravel layer
125	-	205	Blue Clay
205	-	264	Clay w/shale layers
264	-	314	Shale w/clay & sand layer Pierre Formation
314	-	425	Shale firm
425	-	452	Shale
452	-	675	Gray Shale
675	-	795	Shale
795	-	868	Black shale
868	-	943	Shale w/lime
943	-	960	Lime
960	-	1342	Shale w/Lime layers
1342	-	1353	Greenhorn Formation
1353	-	1620	Shale
1620	-	1630	Sand
1630	-	1696	Shale
1696	-	1730	Sand Stone w/shale Dakota Top
1730	-	1840	Shale w/sand
1840	-	1968	Shale
1968	-	2020	Sandy shale Lakota Formation
2020	-	2085	Sand
2085	-	2132	Black Shale w/sand layers

RADIOACTIVITY

LOG

COMPANY WATER SYSTEM DRILLING
WELL EUREKA WSW
FIELD EUREKA
COUNTY MCPHERSON STATE SO. DAK.

LOCATION: SW SE

OTHER SERVICES

SEC 35 TWP 127N RGE 73W

PERMANENT DATUM GL	ELEVATION
--------------------	-----------

LOG MEAS. FROM GL	FT. ABOVE PERM DATUM
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10.1	10.1
10.2	10.2
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10.4	10.4
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10.9	10.9
11.0	11.0
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11.3	11.3
11.4	11.4
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24.9	24.9

DRILLING MEASURED FROM	GL	G. L.
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DATE	5-17-2006
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RUN NO.	DIV	ONE
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TYPE LOG	GNC
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DEPTH-DRILLER	21320
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DEPTH-LOGGER	2085'
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BTM LOGGED INTERVAL 2084'

TOP LOGGED INTERVAL 14'

TYPE FLUID IN HOLE	WATER
1	1
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3	3
4	4
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7	7
8	8
9	9
10	10
11	11
12	12
13	13
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99	99
100	100

SALINITYDENSITY

LEVEL	FULL
-------	------

MAX. REC. TEMP. DEG F.

OPERATING RIG TIME	1 HOUR
--------------------	--------

RECORDED BY T. BICKETT

WITNESSED BY M. HEIMER KEN B.

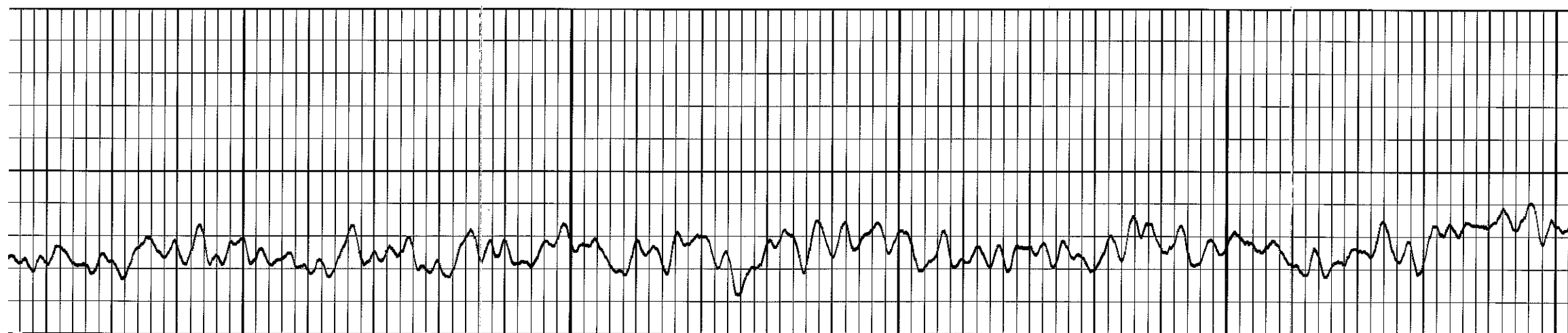
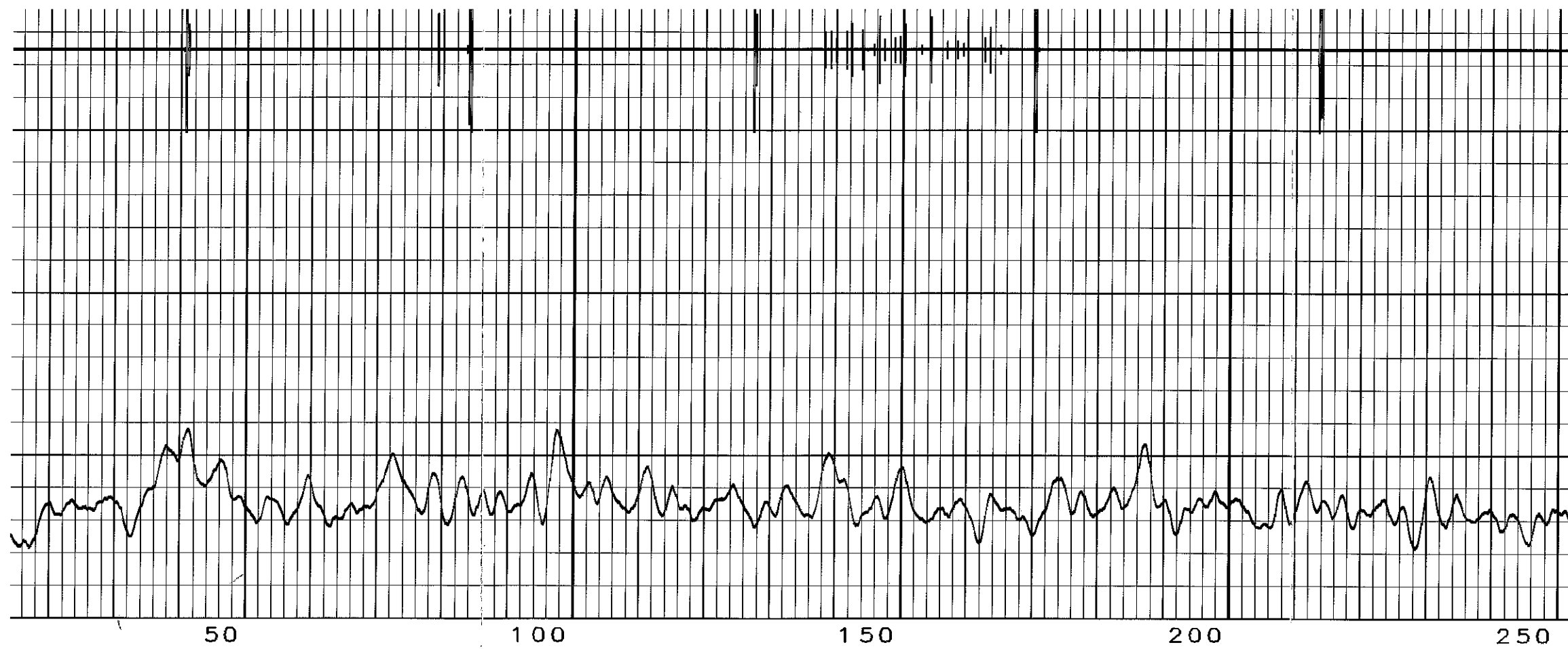
RUN NO.	BOREHOLE RECORD			CASING RECORD			
	BIT	FROM	TO	SIZE	WGT.	FROM	TO
1	12.25	0'	580'	8 5/8	32#	0'	580'
2	7 7/8	580'	2132'	5 1/2	15.5	0'	2132'

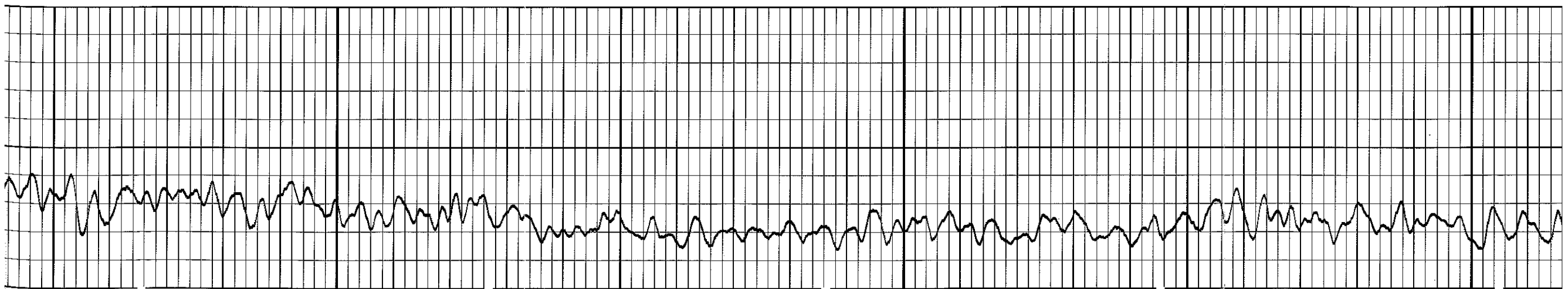
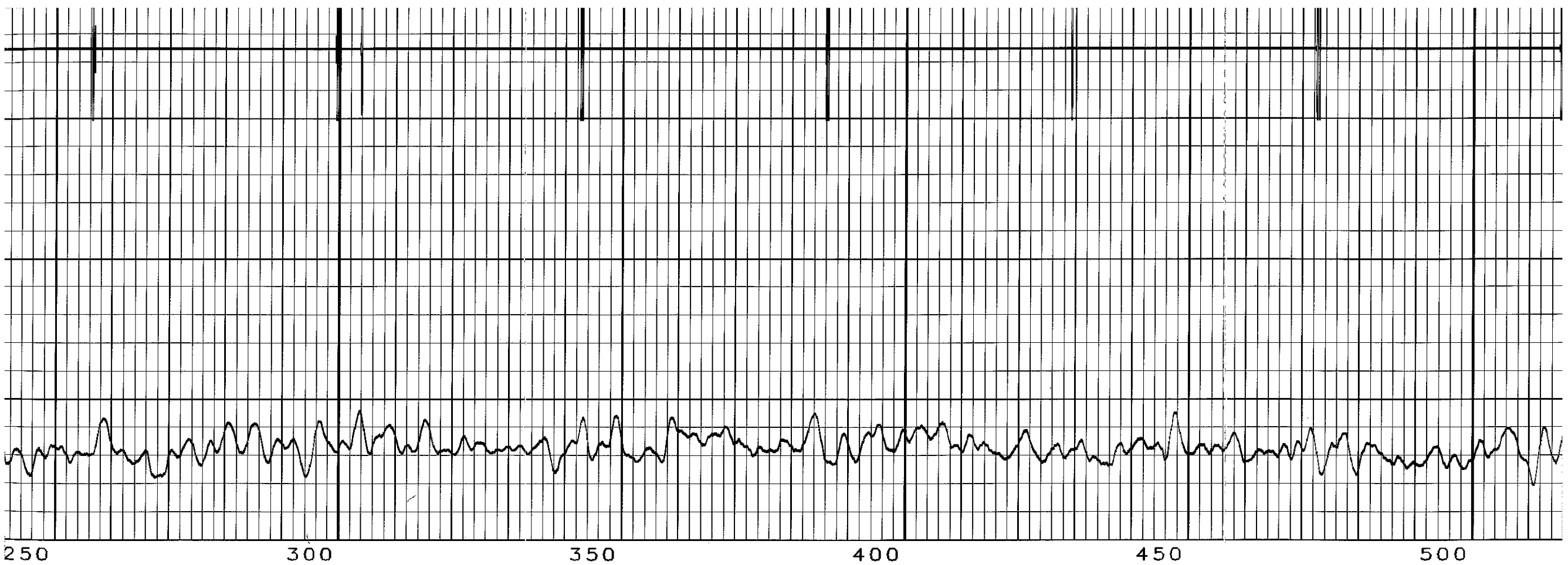
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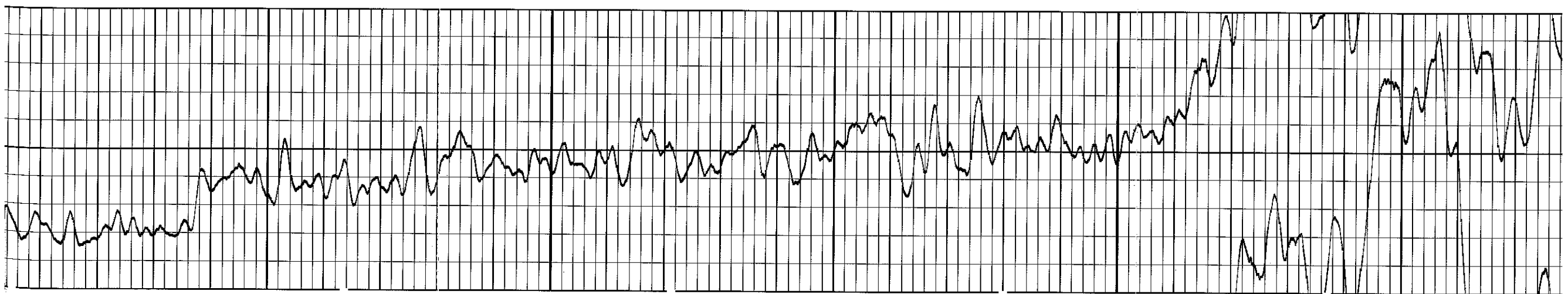
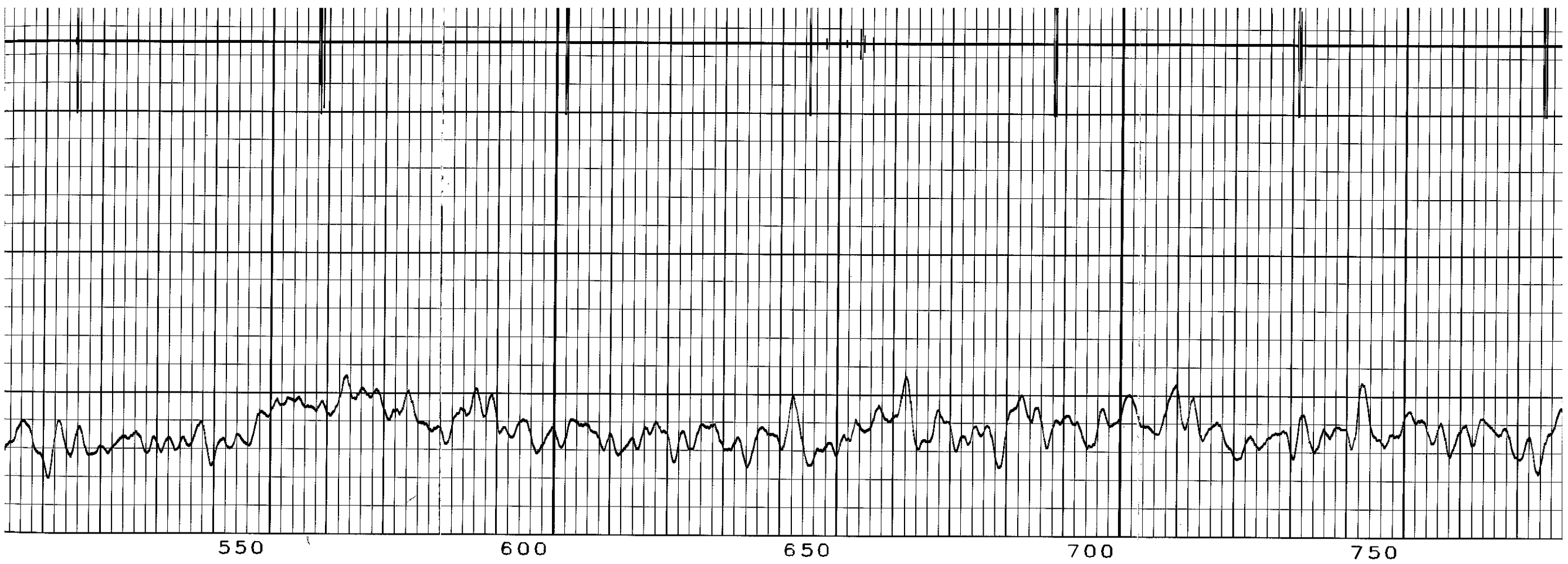
REMARKS

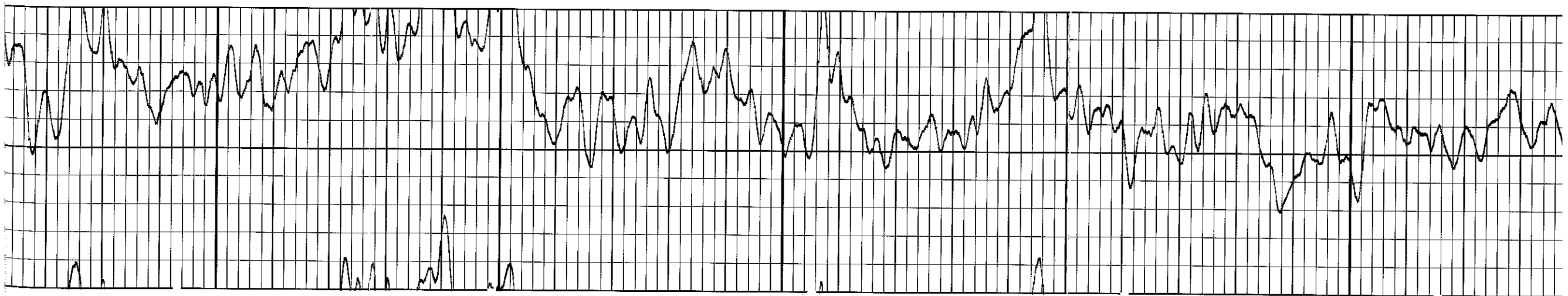
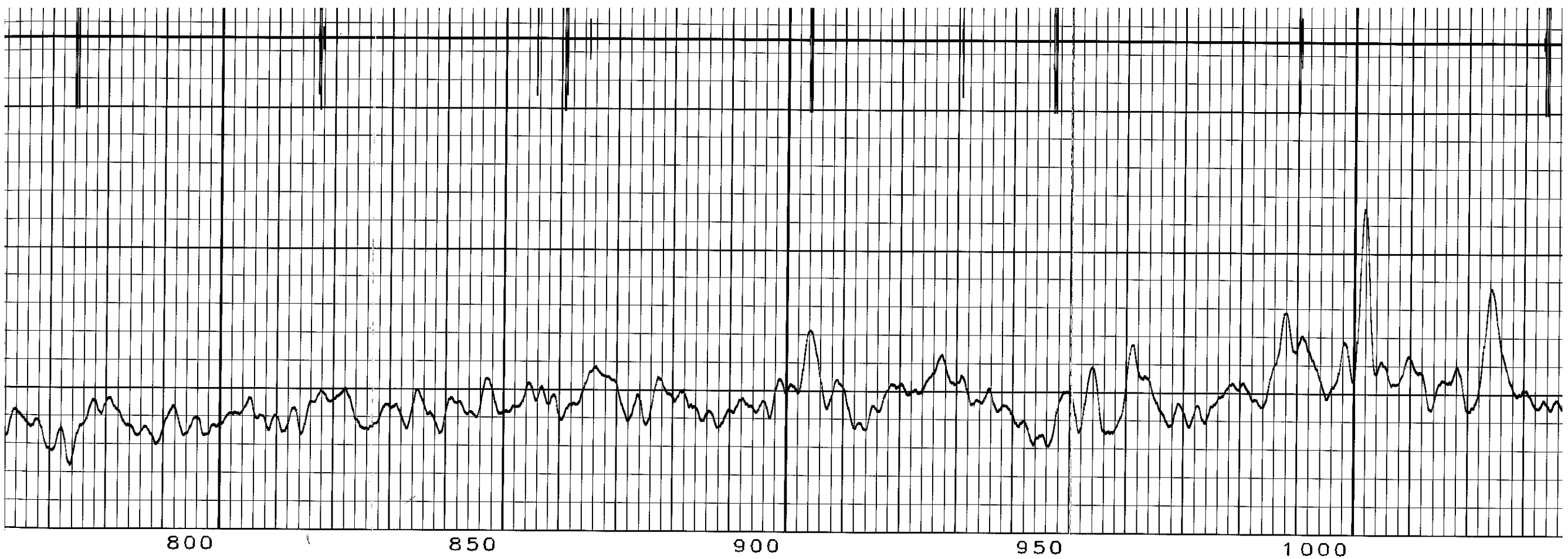
REMARKS
PERFORATED WITH 23 GRAM JETS

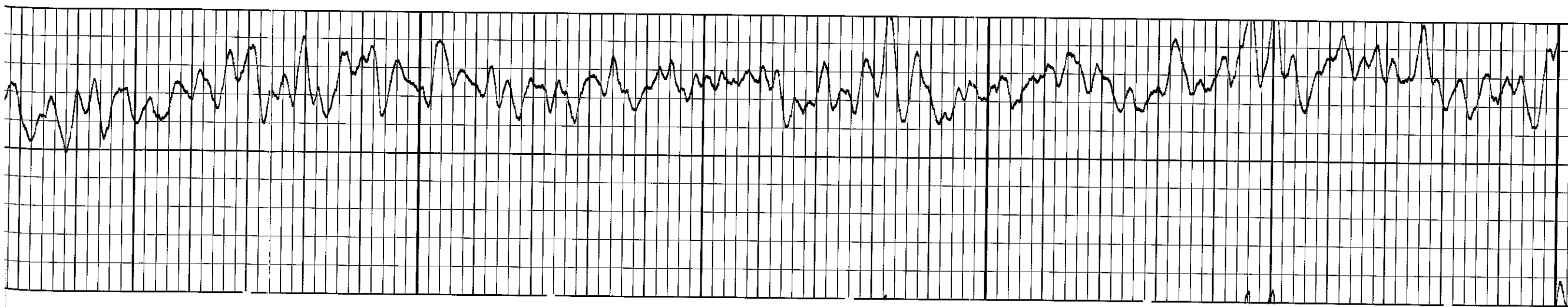
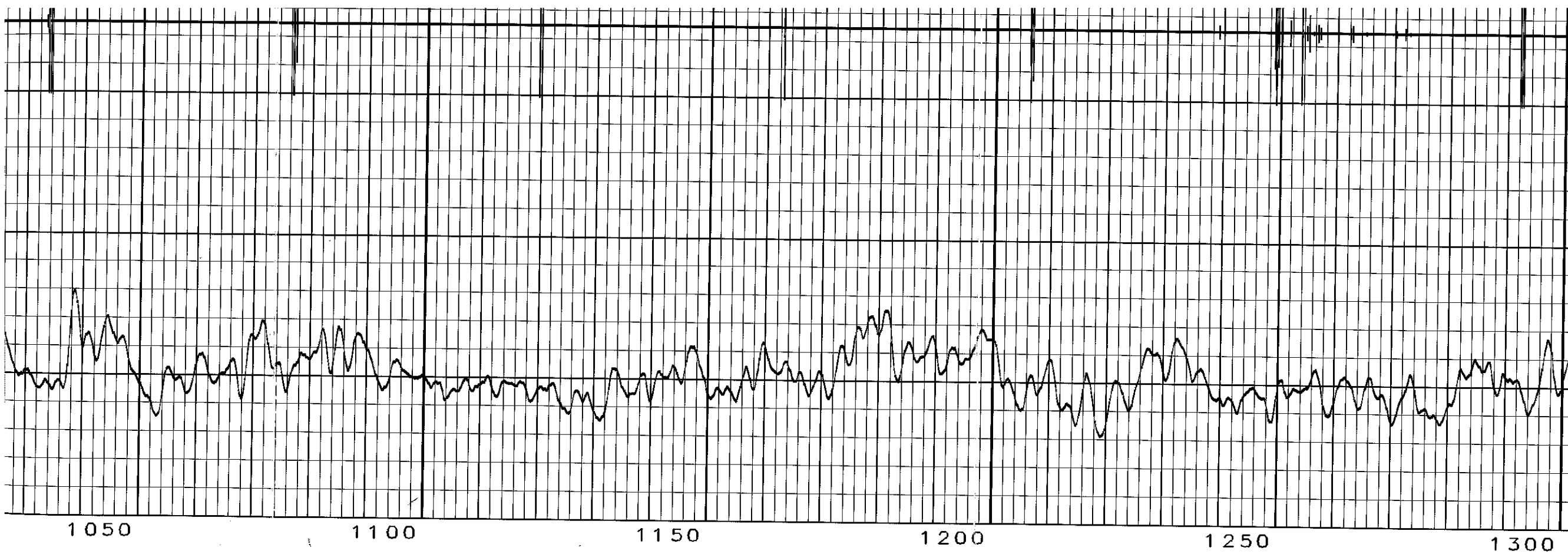
PERFORATED WITH 23 GUN
2022' -2082' 120 SHOTS

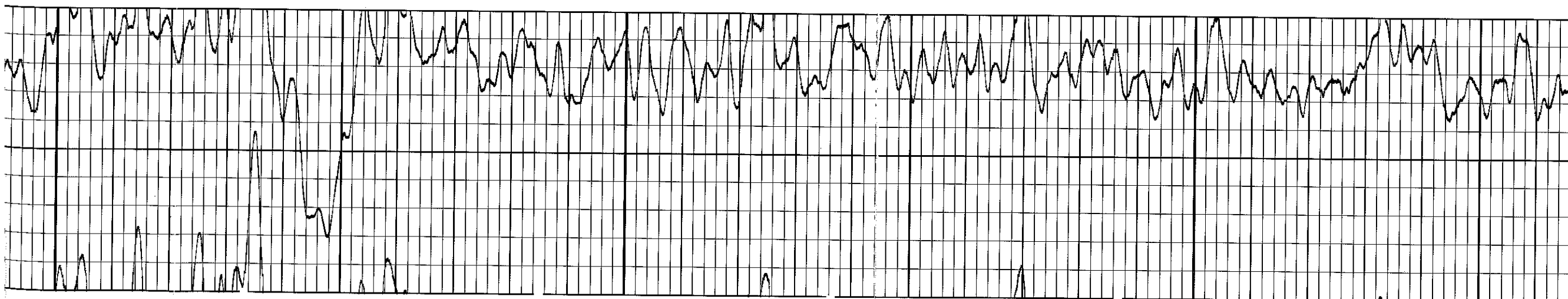
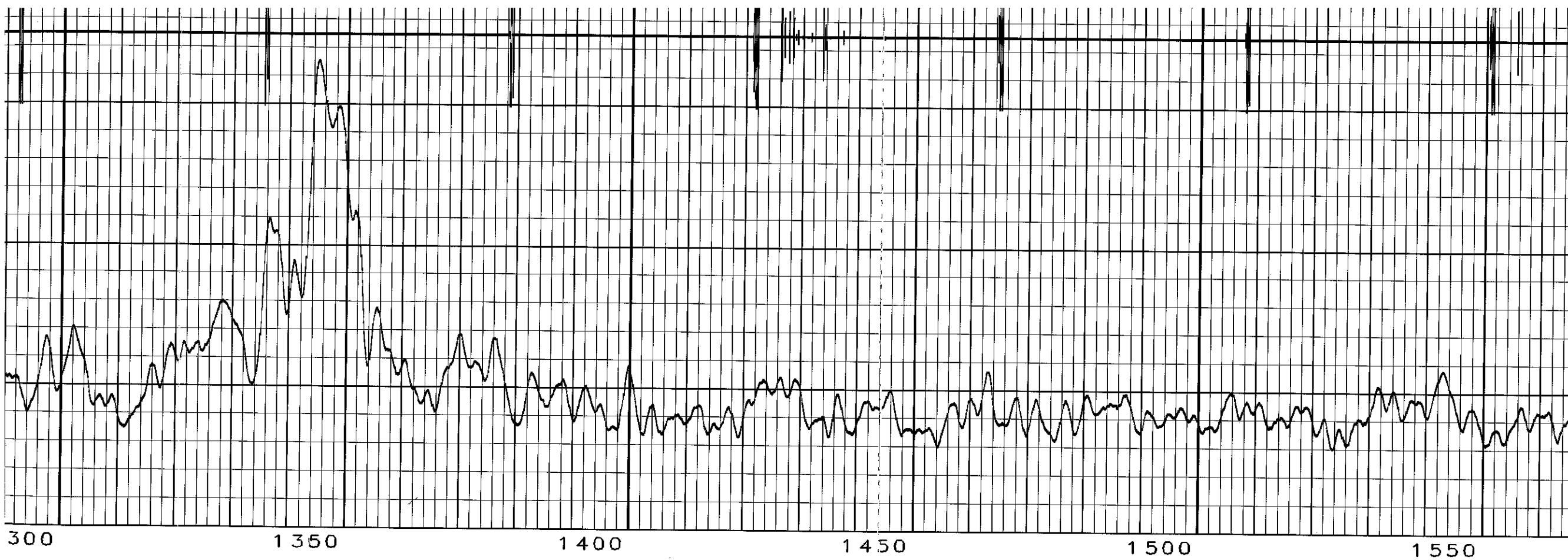


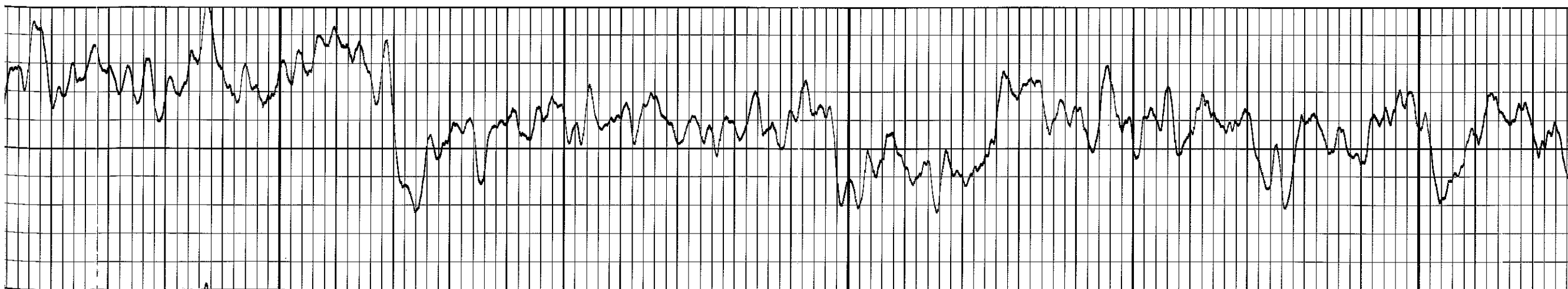
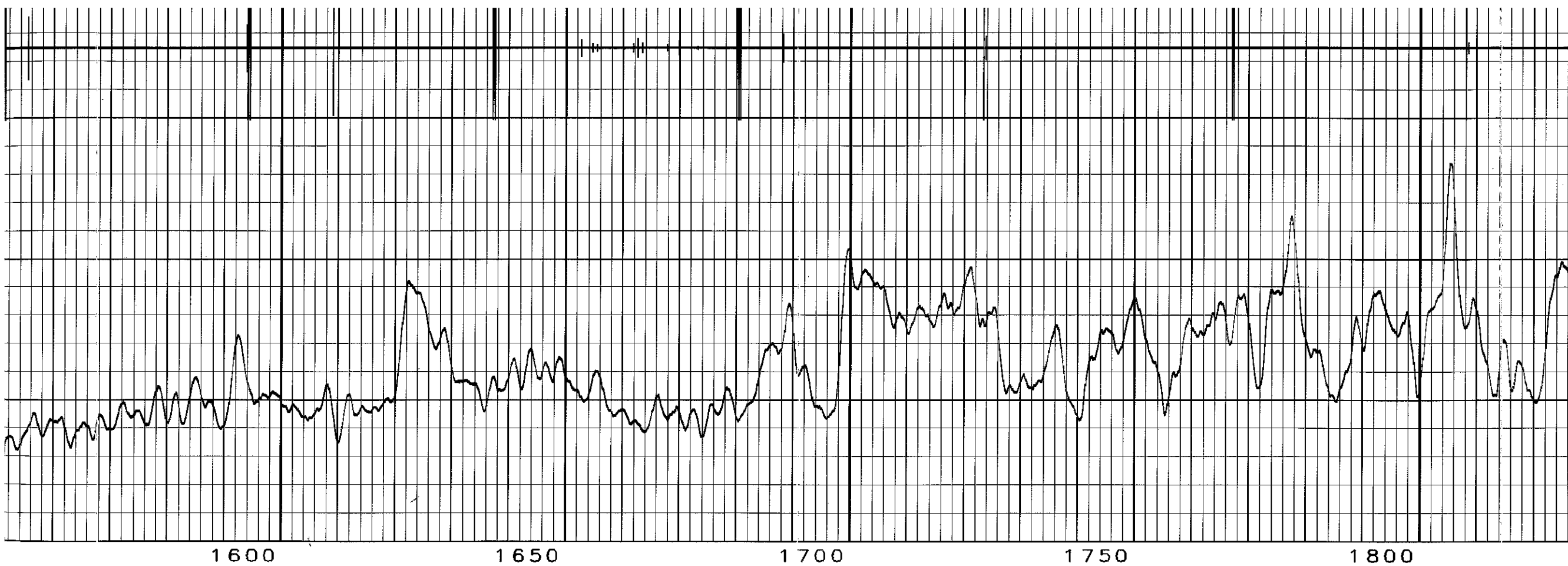


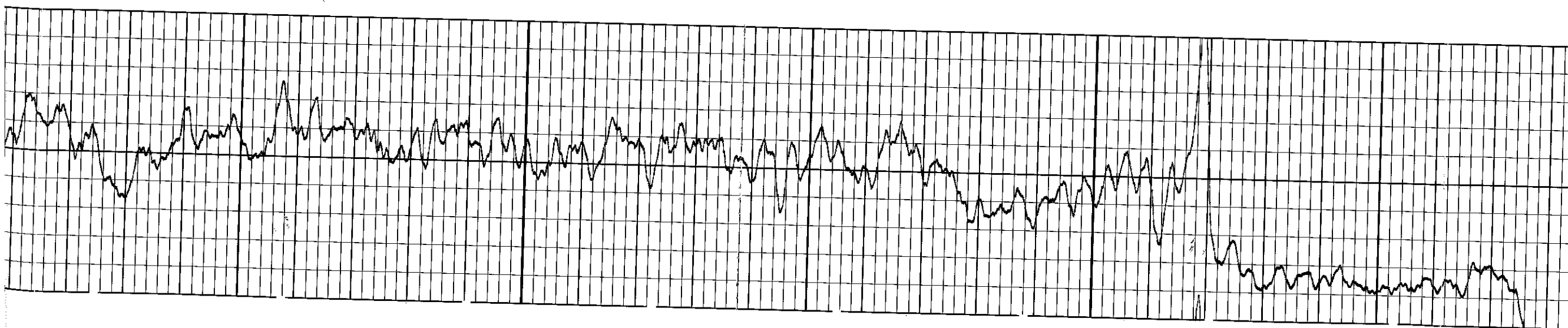
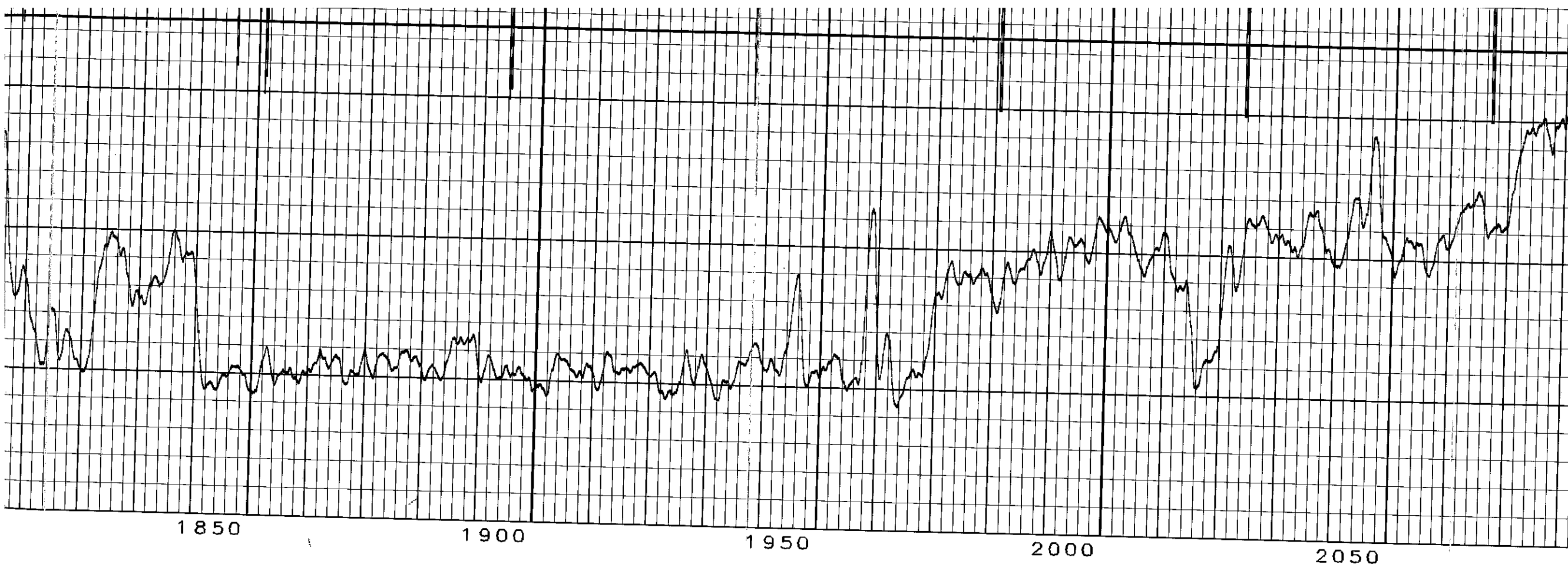












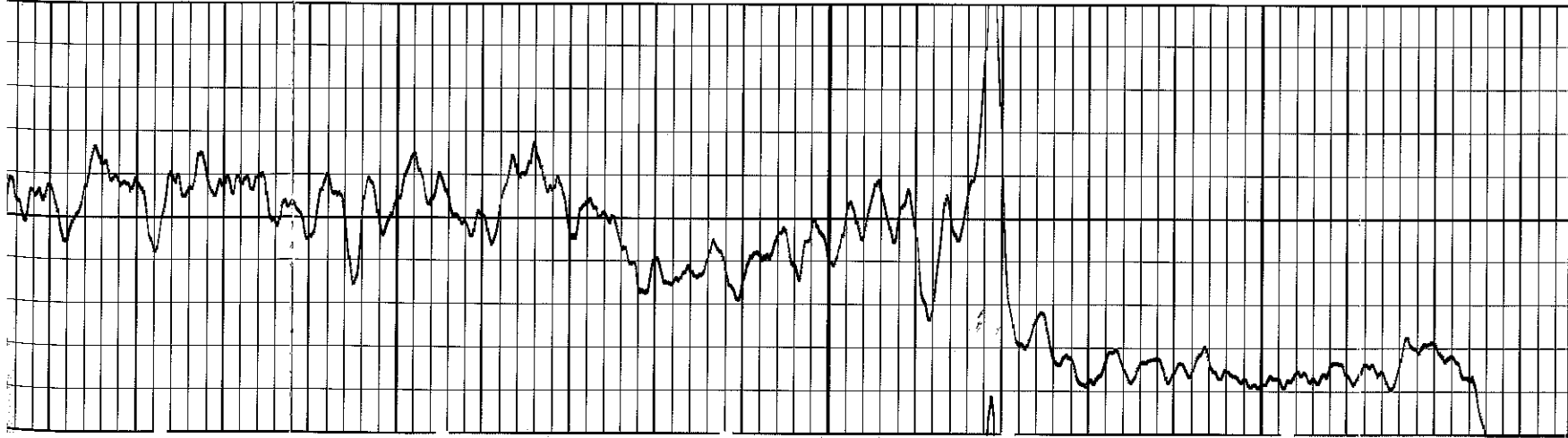


CHART SCALING
0.00 GAMMA RAY 120.00
120.00 GAPI 240.00

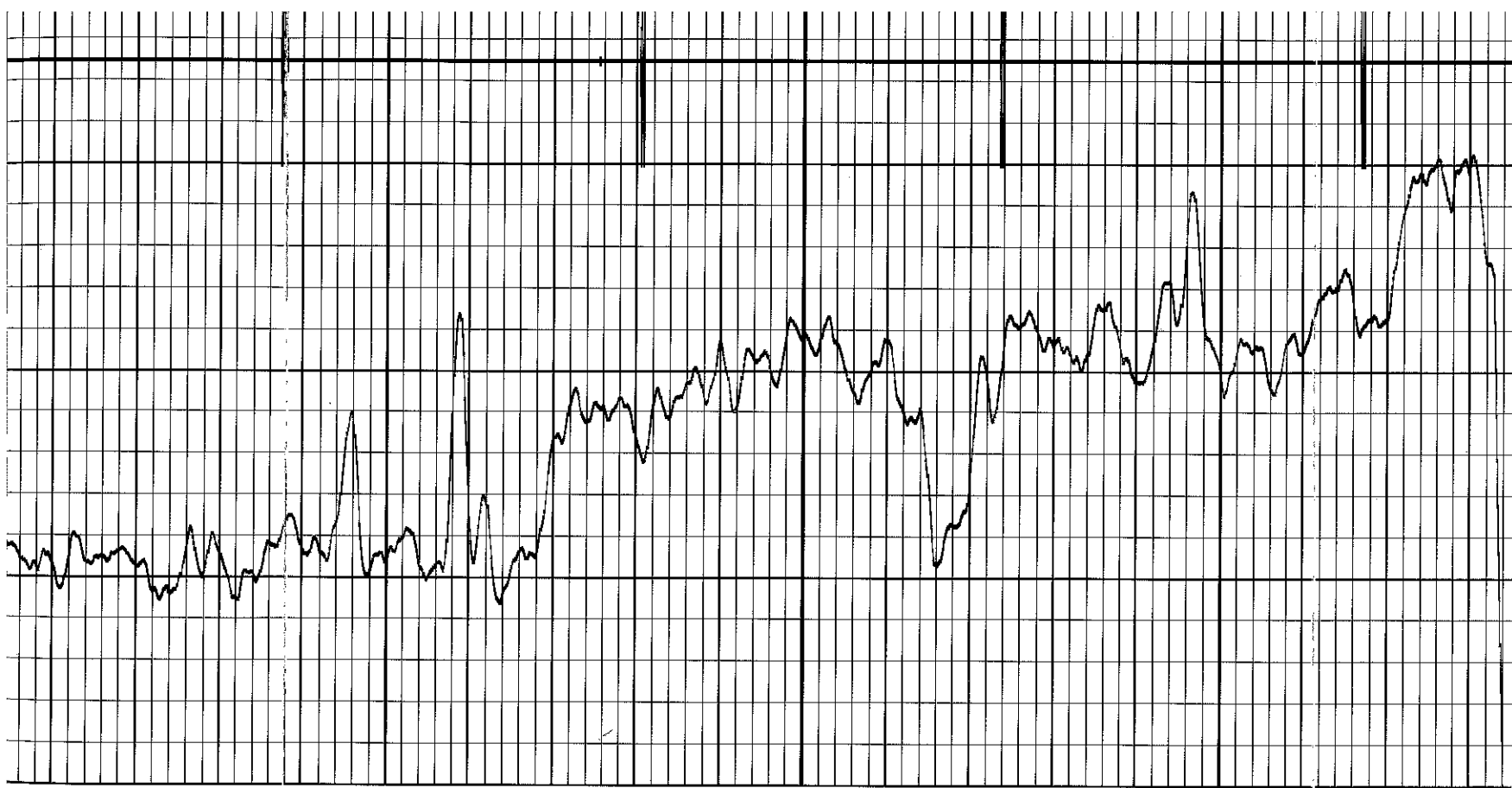


CHART SCALING
30.00 NEUTRON
170.00 CPS
2500.00 CCL
1500.00 CCL
MV
MY