STATE OF NEW MEXICO

ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87504
(505) 827-5800

ADMINISTRATIVE ORDER NO. SWD-449

APPLICATION OF GEODYNE OPERATING COMPANY

ADMINISTRATIVE ORDER
OF THE OIL CONSERVATION DIVISION

Under the provisions of Rule 701(B), Geodyne Operating Company made application to the New Mexico Oil Conservation Division on October 16, 1991, for permission to complete for salt water disposal its PFI Amoco "19" Federal Well No. 2 located in Unit K of Section 19, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico.

THE DIVISION DIRECTOR FINDS THAT:

(1) The application has been duly filed under the provisions of Rule 701(B) of the Division Rules and Regulations.

(2) Satisfactory information has been provided that all offset operators and surface owners have been duly notified; and

(3) The applicant has presented satisfactory evidence that all requirements prescribed in Rule 701 will be met.

(4) No objections have been received within the waiting period prescribed by said rule.

IT IS THEREFORE ORDERED THAT:

(1) The applicant herein, Geodyne Operating Company is hereby authorized to complete its PFI Amoco "19" Federal Well No. 2 located in Unit K of Section 19, Township 22 South, Range 26 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the injection of salt water for disposal purposes into the Delaware formation at approximately 2332 feet to approximately 4538 feet through 2 7/8 inch plastic lined tubing set in a packer located at approximately 2300 feet.

IT IS FURTHER ORDERED THAT:

The operator shall take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

Prior to commencing injection operations, the applicant shall cement the Mitchell Energy Corporation McKittrick "30" Federal Well No. 1, located in Unit C of Section 30, Township 22 South, Range 26 East, NMPM, above, below and across the proposed injection interval in a manner satisfactory to the supervisor of the Division's Artesia district office.

Prior to commencing injection operations into the well, the casing shall be pressure tested from the surface to the packer setting depth to assure the integrity of said casing.

The casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface or left open to the atmosphere to facilitate detection of leakage in the casing, tubing or packer.

The injection well or system shall be equipped with a pressure limiting device which will limit the wellhead pressure on the injection well to no more than 466 psi.

The Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Delaware formation. Such proper showing shall consist of a valid step-rate test run in accordance with and acceptable to this office.

The operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment, of the mechanical integrity test, and of the conductance of remedial cementing operations so that the same may be inspected and witnessed.

The operator shall immediately notify the supervisor of the Artesia district office of the Division of the failure of the tubing, casing or packer in said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

PROVIDED FURTHER THAT, jurisdiction of this cause is hereby retained by the Division for such further order or orders as may be deemed necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of the operator to conduct operations in a manner which will ensure the protection of fresh water or in a manner inconsistent with the requirements set forth in this order, the Division may, after notice and hearing, terminate the injection authority granted herein.

The operator shall submit monthly reports of the disposal operations in accordance with Rule 706 and 1120 of the Division Rules and Regulations.

Approved at Santa Fe, New Mexico, on this 18th day of November, 1991.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

WILLIAM J. LEMAY
Director

S E A L

cc: Oil Conservation Division - Artesia
US Bureau of Land Management - Carlsbad

jc\

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 16, 1991

David Catanach
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504

Dear Mr. Catanach:

Enclosed please find a copy and one original of the application of Geodyne Operating Company for a salt water disposal well in Eddy County, New Mexico.

Copies of the application have been furnished to the Artesia office of the Oil Conservation Division as well as those operators/owners and others as shown on the Proof of Notice attached. In addition, I am supplying you with a copy of the letter from the landman giving the information on the offset owners in the E/2 of Sec. 24-T22S-R25E.

If we may supply any additional data on this proposal, please do not hesitate to call me.

Sincerely,

R. L. Stamets

cc Artesia OCD

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ yes ☐ no

II. Operator: Geodyne Operating Co.

Address: 320 S. Boston Ave. / Tulsa, OK 74103

Contact party: Regulatory Supvr. (Judy Knight) Phone: (918) 583 5525

III. Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? ☐ yes ☒ no
If yes, give the Division order number authorizing the project _____.

V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.

* VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.

VII. Attach data on the proposed operation, including:

1. Proposed average and maximum daily rate and volume of fluids to be injected;
2. Whether the system is open or closed;
3. Proposed average and maximum injection pressure;
4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).

*VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.

IX. Describe the proposed stimulation program, if any.

* X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)

* XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.

XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.

XIV. Certification

I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

Name: O. L. Stamets Title Consultant

Signature: O. L. Stamets Date: 10/16/91

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and resubmitted. Please show the date and circumstance of the earlier submittal. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

OIL CONSERVATION DIVISION
RECEIVED
'91 OCT 21 PM 2 27

APPLICATION FOR SALT WATER DISPOSAL

GEODYNE OPERATING CO.
PFI AMOCO "19" FEDERAL
WELL NO. 2-K
SEC. 19-T22S-R26E
EDDY COUNTY, NM

III Data on original well completion and conversion attached.

V Map attached

VI Area of Review Wells

Geodyne Operating Co. Filaree Dome Delaware Oil Pool
PFI Amoco "19" Federal No. 4-F 1550 FNL 1980 FWL
19-22-26 Completed 9-1-88

Hole	Casing	Depth	Cement	Top
17 1/2	13 3/8	40	Ready mix	surface
12 1/4	8 5/8	627	625 sx	circ 20 sx
7 7/8	5 1/2	2180	2180	circ by 1"

TD 2383 Completed OH 2180-2381

Geodyne Operating Co. Happy Valley Morrow Gas Pool
PFI Amoco "19" Federal 1-K 1719 FSL 1999 FWL
19-22-26 Completed 12-23-87

Hole	Casing	Depth	Cement	Top
17 1/2	13 3/8	612	519 sx	circ by 1"
11	9 5/8	2699	1150 [redacted] sx	circ 300 sx
7 7/8	5 1/2	11385	1948 sx	Calculated sufficient

to circulate (880 sx of Class C through DV tool at 4791).
TD 11390 Completed Perforations 10,869-10,876

Primary Fuels Inc. Happy Valley Morrow Gas
PFI Amoco :19" Federal No. 3-G 1780 FNL 2573 FEL
19-22-26 P&A 3-19-88 Lost hole at 2190 feet
See attached schematic

Geodyne Operating Co. Filaree Dome Delaware Oil Pool
PFI Amoco "19" Federal 3Y-G 1831 FNL 2577 FEL
19-22-26 Completed 6-28-88

Hole	Casing	Depth	Cement	Top
17 1/2	13 3/8	694	700 sx	circ 240 sx
12 1/4	8 5/8	2200	675 sx	circ 40 sx

TD 11,350 Completed OH 2200-2362

Well plugged back 4-28-88
35 sx 10,881-10,781 35 sx 10,059-9,959 35 sx 9,882-9,782
35 sx 8,344-8,244 35 sx 8,344-8,2244 70 sx 2,500-2362

Mitchell Energy Corp. Happy Valley Morrow Gas
McKittrick 30 Federal No. 1-C 660 FNL 2285 FWL
30-22-25 Completed 11-5-83

Hole	Casing	Depth	Cement	Top
17 1/2	13 3/8	605	750 sx	circ
12 1/4	9 5/8	2845	1050 sx	circ by 1"
8 1/2	4 1/2	11665	1050 sx	Calculated top between 6,887 and 5,749 depending on mix of casing sizes.
	5 1/2 combo string			

TD 11,660 Completed Perforations 11,334-11,554

No. record found on Enfield well shown on map indicated P&A at 618 feet 9-20-74 above the disposal zone. Confirmed depth with the district office.

VII 1. Injection rates are expected to be from 50 to 110 BWPD.
2. The system will be closed.
3. Expect the well to take water on a vacuum. Pressure will not exceed 464 psi at the surface.
4. The water to be disposed of will come from Geodyne's two producing wells in the Filaree Dome Delaware Pool (No. 3Y and No. 4 listed above).
5. Not applicable.

VIII Injection will be into the Delaware Mountain Group found at depths of from 2300 to 4700 feet in the area.

The Artesia office of the OCD advises that the only USDW in the area is the Capitan Reef. The base of the reef is reported to be at approximately 1,700 feet.

IX No stimulation of the proposed injection zone is anticipated.

X Logs have previously been filed with the Division.

XI Fresh water well analyses attached.

XII I (R. L. Stamets) have examined available geologic and engineering data and find no evidence of open faults or hydrologic connection between the proposed disposal zone and any USDW.

XIII Proof of notice is attached.

ADDITIONAL INFORMATION

Attached are calculations of the projected radius of invasion of the injected fluid into the formation. These calculations were prepared by Mr. James Sellers, PE, Geodyne Operating Co., P. O. Box 1691 Midland, TX 79702 Phone (915) 682-9459.

GEODYNE
RESOURCES

Well History Summary Sheet

Operator Geodyne Operating C Well Name & # Amoco 19, Federal No. 2 Lease # _____

District Midland Made By J. B. Sellers Date July 10, 1990

Location 1687'FSL&2041'FWL, Sec 19, T22S, R26E, Eddy Co., New Mexico

Spud Date 12-7-87 Compl. Date 12-23-87 TD 4600' PBTD 4480'

Type Well: Oil XX Gas ____ Other _____ Field Filaree Dome

I P Flowing 38 BO, 387 BW, and 89 MCFPD Zone Delaware

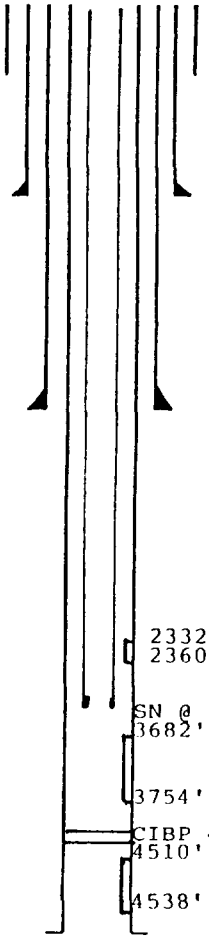
Perfs.: 2332-2360, 3682-3754' Total Holes _____

Stimulation Acid w/6000 gal NEFE Hcl, Fractured w/25000 gal + 65000 bbls. sd.

Cumul. Oil _____ MCF _____ Water _____

Recent Test _____ Lift Equipment _____

Misc. GL elevation=3377.6'



Drive or Conductor
_____" @ _____'

Surface: 13 3/8" "
44 # Gr. _____
@ 623' Cmt. w/
855 Sx.TOC surface
Hole Size 17 1/2" "
Max Mud Wt. _____ #/G

Intermediate:
8 5/8" 24# #
Gr _____ @ 2190'
Cmt w/ 950 Sx.
TOC @ surface, Hole
Size 12 1/4", Max Mud
Wt. _____ #/G

Liner: _____"
From _____' To
_____', _____#
_____Gr., Cmt. w/
_____ Sx. TOC @
_____' Hole Size
_____", Max Mud
Wt. _____ #/G

Liner: _____"
From _____' To
_____', _____#
_____Gr., Cmt. w/
_____ Sx. TOC @
_____' Hole Size
_____", Max Mud
Wt. _____ #/G

tubing is 2 7/8", 6.5#/ft, J-55, EUE

Production: 5 1/2 ",
15.5&20 #. _____ Gr.
@ 4600 _____ Cmt. w/
650 _____ Sx. TOC @
*above2200', Hole Size
7 7/8" Mx Mud Wt.
_____ #/G

TD 4600' '

*Ran csg. bond log from 4559'
to 2200. Cement top not seen.

WELL HISTORY

2-13-88 Perforated 4510-4538' with 2 JSPF Acidized w/3000 gal 7 1/2% NEFE Hcl, swabbed down 95% water, set CIBP at 4480', spoted 2 sacks class "A" cement on CIBP w/bailer. Perforated 3682-96', 3742-45', and 3749-54' w/2 JSPF, acidized with 3000 gal 7 1/2% NEFE Hcl, fractured down casing with 25000 gal 70% quality CO2 foam and 65000 lbs. 16-30 sand; set RBP at 3265 ft. Perf'd. 2332-2360', acidized with 3000 gal. 7 1/2% NEFE Hcl, swabbed down, 20% oil cut, removed RBP, ran tubing and packer and set at 3617', IPF 38 BO, 387 BW, 89 MCF/D

5-7-88 Pulled tubing and packer, reran tubing and tubing pump, ran rods and 2 1/4" plunger and began pumping. Tested 33 BO, 208 BW

Tubing _____", _____#, _____ Gr. @ _____
Tubing _____", _____#, _____ Gr. @ _____
Packer @ _____

GEODYNE

WELL DATA SHEET

Operator Geodyne Operating Co Well Name & # Amoco 19 Federal No. 2 Lease # _____

District Midland Made By James B. Sellers Date July 16, 1990

Location 1687' FSL & 2041 FWL, Sec 19, T-22-S, R-26-E, Eddy Co., New Mexico

Spud Date 12-7-87 Compl. Date 12-23-87 TD 4600' PBTD 4480'

Type Well: Oil XX Gas ____ Other _____ Field Filaree Dome

I P Flowing 34 BO, 387 BW and 89 MCFPD Zone Delaware

Perfs.: 2332-2360, 3682-3754 Total Holes _____

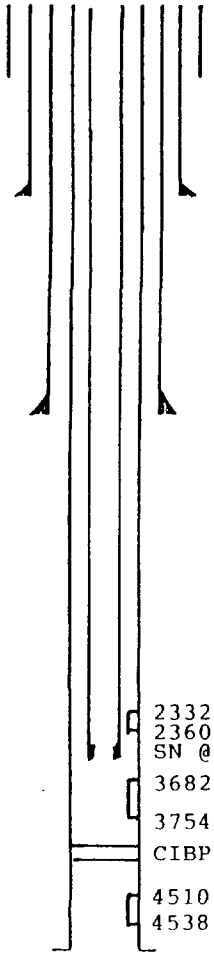
Stimulation Acid w/6000 gan NEFE Hcl, Fractured w/25000 gal+ 65000 lb. sd.

Cumul. Oil _____ MCF _____ Water _____

Recent Test _____ Lift Equipment _____

Misc. GL, elev.=3377.6'

CURRENT



Drive or Conductor
_____" @ _____'

Surface: 13 3/8"
44 # Gr. _____
@ 623' Cmt. w/
855 Sx. TOC surface
Hole Size 17 1/2"
Max Mud Wt. _____ #/G

Intermediate:
8 5/8", 24# #
Gr _____ @ 2190'
Cmt w/ 950 Sx.
TOC @ surface, Hole
Size 12 1/4", Max Mud
Wt. _____ #/G

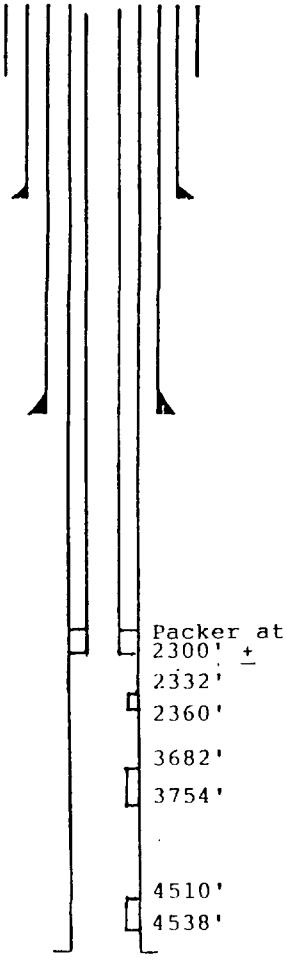
Liner: _____"
From _____' To
_____', _____#
_____ Gr., Cmt. w/
_____ Sx. TOC @
_____' Hole Size
_____", Max Mud
Wt. _____ #/G

Production: 5 1/2",
15.5&20 #, _____ Gr.
@ 4600, Cmt. w/
650 Sx. TOC @
*above2200', Hole Size
7 7/8" Mx Mud Wt.
_____ #/G

TD 4600'

*Ran cement bond log 4559 to 2200.
Cement top not found.

PROPOSED



TUBING

SIZE 2 7/8", 6.5#, J-55, EUE

DEPTH 3507

COATING none

PACKER none

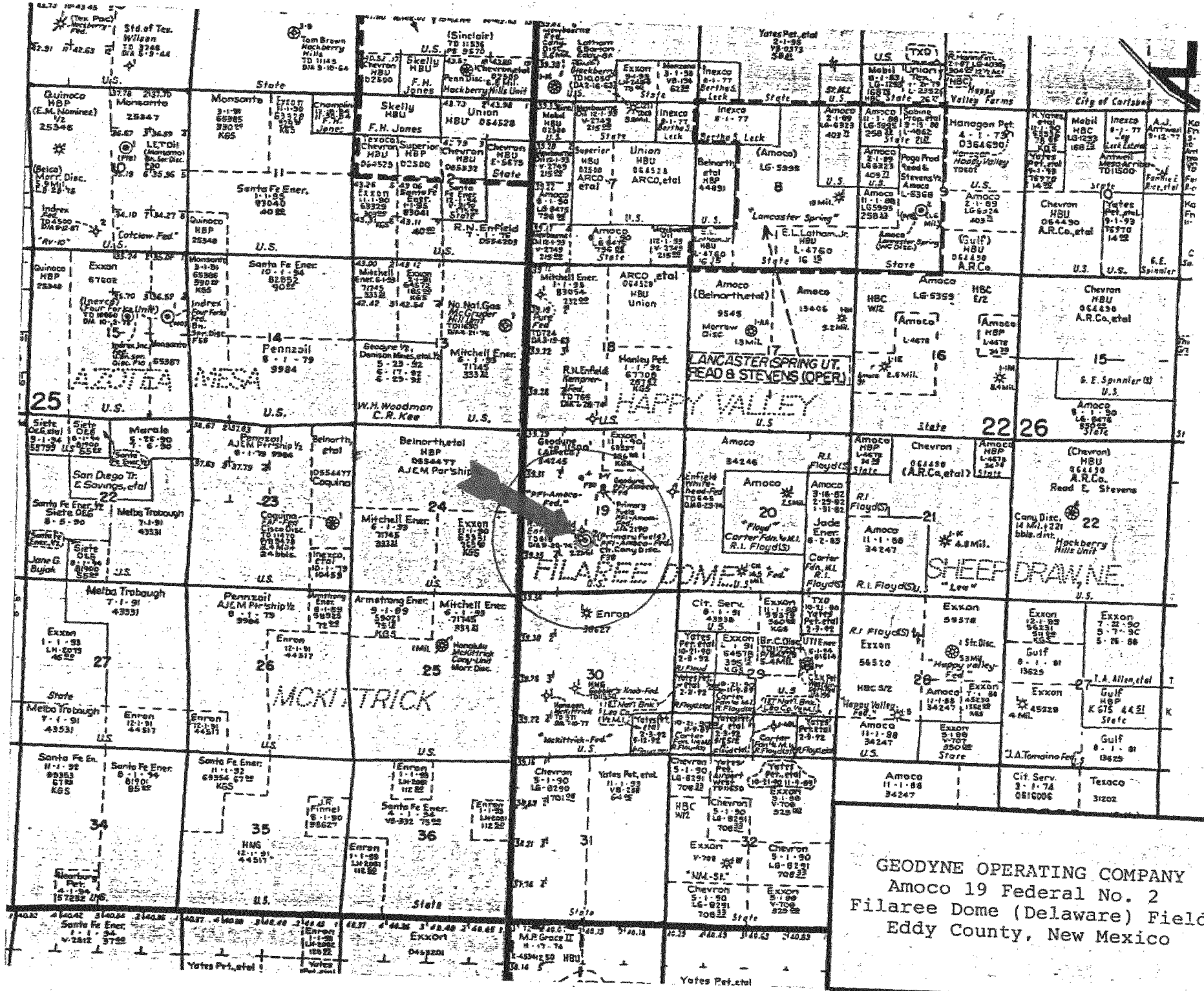
TUBING

SIZE 2 7/8", 6.5#, J-55, EUE

DEPTH 2300' +

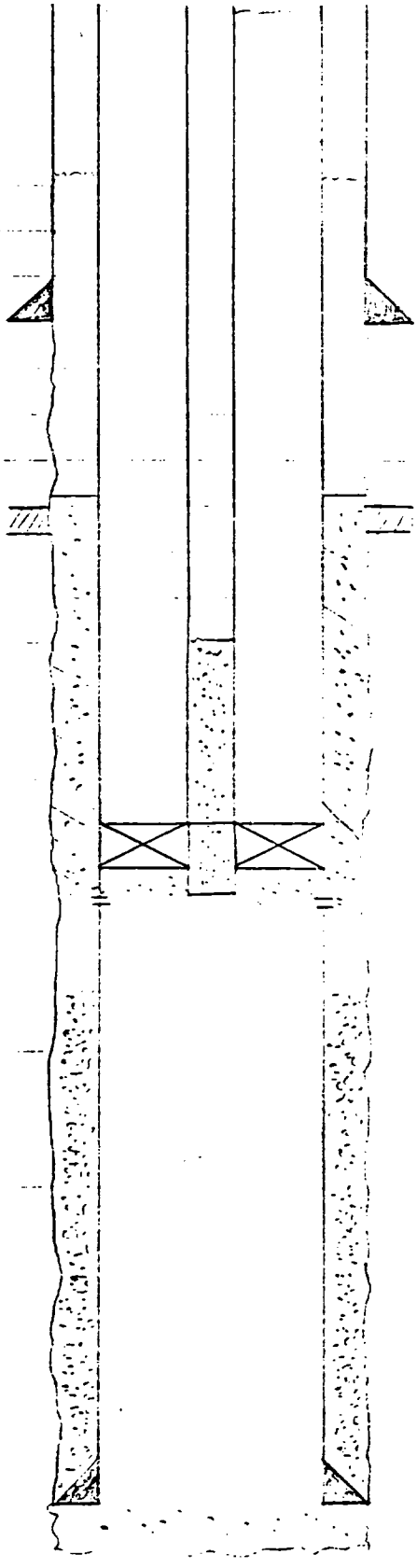
COATING TK-70 plastic internal

PACKER Watson Model "T" Packer


GEODYNE OPERATING COMPANY
Amoco 19 Federal No. 2
Filaree Dome (Delaware) Field
Eddy County, New Mexico

PFI - AMOCO 19 FEDERAL #3 1780 FNL 2573 FEL
EDDY COUNTY, NEW MEXICO Sec 19-T22S-R26E

Sc
02/16/18



8 5/8" x 4 1/2" FULL - 8.3 PPG FW

FLUID LEVEL - 465' - 8.3 PPG FW

13 3/8" AT 596' circ 180 SX

8 5/8" - 100% FREE AT 629'

8 5/8" 440 FREE AT 694'
LOST RETURNS AT 650'
4' VOID DRILLING

4 1/2" DRILL PIPE FREE AT 1124'
TO TOC

EZSV CEMENT RETAINER AT 1340'
PERFORATIONS 1364' - 1366' 4SPF

TOC 1430' - CBL-CCL GR

8 5/8" 24# J-55 ST&C
COLLAPSE = 1370 PSI
BURST = 2950 PSI
TENILE = 244000 LBS.

8 5/8" AT 2165'
TD - 2190'

LAB. NO.

TO: JIM SELLERS — DATE REC 10-15-91

P.O. BOX 1691, MIDLAND, TX 79702 — RR

COMPANY GEODYNE — AMOCO 19 FEDERAL

FIELD HAPPY VALLEY

SEC BLK SURVEY CO. EDDY, NM

NO. 1 RAW WATER - TAKEN FROM KINCAID WATER WELL. 10-9-91

NO. 2 RAW WATER - TAKEN FROM RAYROUX WATER WELL. 10-9-91

NO. 3. PRODUCED WATER - TAKEN FROM AMOCO 19 FEDERAL #3 & #4

NO. 4 (WATER TANK). 10-9-91

REMARKS:

SPECIFIC GRAVITY	1.0018	1.0012	1.1107
PH WHEN TAKEN			
PH WHEN REC	7.23	7.43	7.63
BICARBONATE AS HCO3	298	312	1257
SUPERSAT AS CACO3			
UNDERSAT AS CACO3			
TOTAL HARD. AS CACO3	262	310	18250
CALCIUM AS CA	58	71	4640
MAGNESIUM AS MG	28	32	1616
SODIUM &/or POTASSIUM	83	11	58047
SULFATE AS SO4	141	57	3093
CHLORIDE AS CL	37	14	99427
IRON AS FE	0.16	0.16	70.8
BARIUM AS BA			
TURBIDITY			
COLOR			
TOTAL SOLIDS, CALC.	646	498	168080
TEMPERATURE			
CARBON DIOXIDE			
OXYGEN			
HYDROGEN SULFIDE	0.0	0.0	477
RESISTIVITY @ 77oF.	12.92	18.00	0.065
SUSPENDED OIL			
FILTRABLE SOLIDS			
VOLUME FILTERED			

RESULTS REPORTED AS MILLIGRAMS PER LITER

MARTIN WATER LABS., INC.

PROOF OF NOTICE

Copies of the application for SWD for the Geodyne Operating Co. PFI Amoco "19" Federal Well No. 2-K 19-T22S-R26E Eddy County, New Mexico were sent certified mail, return receipt requested, on October 16, 1991, to the following parties:

US Bureau of Land Management
Carlsbad Resource Area
P. O. Box 1778
Carlsbad, NM 88220 Surface Owner and Mineral Owner

Mitchell Energy Corp.
P. O. Box 4000
The Woodlands, TX 77387-4000

Enron Oil and Gas Co.
P. O. Box 2267
Midland, TX 79702

American National Petroleum Co.
P.O. Box 27725
Houston, TX 77227

Additionally, the application has been noticed in the Artesia Daily Press newspaper in Artesia. A copy of the Affidavit of Notice is enclosed.

Further, a copy of the application has been sent by regular mail to the OCD district office at Artesia.

Affidavit of Publication

No. 13711

STATE OF NEW MEXICO,

County of Eddy:

Gary D. Scott being duly sworn, says: That he is the Publisher of The Artesia Daily Press, a daily newspaper of general circulation, published in English at Artesia, said county and state, and that the hereto attached Legal Notice

was published in a regular and entire issue of the said Artesia Daily Press, a daily newspaper duly qualified for that purpose within the meaning of Chapter 167 of the 1937 Session Laws of the state of New Mexico for 1 consecutive days weeks on the same day as follows:

First Publication October 9, 1991

Second Publication

Third Publication

Fourth Publication

Gary D. Scott

Subscribed and sworn to before me this 10th day of October 1991

Barbara Lynn Beard
Notary Public, Eddy County, New Mexico

My Commission expires September 23, 1995

Copy of Publication

LEGAL NOTICE

NOTICE

Geodyne Operating Co. proposes to dispose of produced water in the Delaware Formation into its PFI Allison "19" Federal Well No. 2 located 1,987 Feet and 2,041 FWL of Section 19, T22S, R28E, Pilarco Delaware Pool, Eddy County, New Mexico. Water will be injected into intervals from 2,332 feet to 4,538 feet and [illegible] pressure not to exceed [illegible] psi.

Questions about this application should be addressed to [illegible] New Mexico Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days. Published in the Artesia Daily Press, Artesia, N.M. October 9, 1991.

Legal 13711

GEODYNE OPERATING COMPANY - AMOCO 19 FEDERAL NO. 2
RESERVOIR VOLUME CALCULATION

DEPTH	FEET (H)	POROSITY	POR X H
4510-12'	2	0.15	0.3
4512-14'	2	0.12	0.24
4514-16'	2	0.13	0.26
4516-18'	2	0.13	0.26
4518-20'	2	0.13	0.26
4520-22'	2	0.095	0.19
4522-24'	2	0.15	0.3
4524-26'	2	0.13	0.26
4526-28'	2	0.12	0.24
4528-30'	2	0.12	0.24
4530-32'	2	0.11	0.22
4532-34'	2	0.12	0.24
4534-36'	2	0.13	0.26
4536-38'	2	0.125	0.25
TOTAL POROSITY X H	=		19.89

Estimated Economic Life of Lease = 3.5 Years

Total Amount of Water To Be Injected

110 BWPD x 365 days/yr. x 3.5 yr. = 140500 bbls.

Radius of Invasion

$R^2\pi$ x Porosity x H = 140500 bbl. x 5.6146 Ft^3/bbl.

$R = \sqrt{140500 \times 5.6146 / \pi \times \text{Porosity} \times H}$

R = 112 ft.

James B. Sellers

James B. Sellers, P.E.

GEODYNE OPERATING COMPANY - AMOCO 19 FEDERAL NO. 2
RESERVOIR VOLUME CALCULATION

DEPTH	FEET (H).	POROSITY	POR X H
2332-34'	2	0.24	0.48
2334-36'	2	0.25	0.5
2336-38'	2	0.255	0.51
2338-40'	2	0.26	0.52
2340-42'	2	0.26	0.52
2342-44'	2	0.24	0.48
2344-46'	2	0.245	0.49
2346-48'	2	0.265	0.53
2348-50'	2	0.265	0.53
2350-52'	2	0.245	0.49
2352-54'	2	0.235	0.47
2354-56'	2	0.25	0.5
2356-58'	2	0.25	0.5
2358-60'	2	0.24	0.48
3682-84'	2	0.14	0.28
3684-86'	2	0.14	0.28
3686-88'	2	0.13	0.26
3688-90'	2	0.12	0.24
3690-92'	2	0.14	0.28
3692-94'	2	0.12	0.24
3694-96'	2	0.155	0.31
3696-98'	2	0.11	0.22
3698-700'	2	0.135	0.27
3700-02'	2	0.15	0.3
3702-04'	2	0.13	0.26
3704-06'	2	0.13	0.26
3706-08'	2	0.11	0.22
3708-10'	2	0.11	0.22
3710-12'	2	0.11	0.22
3712-14'	2	0.11	0.22
3714-16'	2	0.12	0.24
3716-18'	2	0.1	0.2
3718-20'	2	0.105	0.21
3720-22'	2	0.115	0.23
3722-24'	2	0.12	0.24
3724-26'	2	0.12	0.24
3726-28'	2	0.115	0.23
3728-30'	2	0.13	0.26
3730-32'	2	0.125	0.25
3732-34'	2	0.11	0.22
3734-36'	2	0.11	0.22
3736-38'	2	0.11	0.22
3738-40'	2	0.13	0.26
3740-42'	2	0.11	0.22
3742-44'	2	0.185	0.37
3744-46'	2	0.16	0.32
3746-48'	2	0.11	0.22
3748-50'	2	0.17	0.34
3750-52'	2	0.22	0.44
3752-54'	2	0.18	0.36

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 4, 1991

SWD-449

David Catanach
Oil Conservation Division
P. O. Box 2088
Santa Fe, NM 87504

Re: SWD Application Geodyne Operating Co.
PFI Amoco "19" Federal Well No. 2-K
Sec. 19-T22S-R26E, Eddy Co., NM

Dear Mr. Catanach:

Enclosed is a copy of a letter sending the legal notice for the proposed disposal well to the Artesia Daily Press.

This is the application we discussed last week. The work to determine the radius of impact of the fluid to be injected has not been completed and we are not yet ready to file the application. The advertisement is being sent at this time to speed the permitting process when the completed application is ready.

Sincerely,

R. L. Stamets

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 4, 1991

Advertising Manager
Artesia Daily Press
P. O. Drawer 179
Artesia, NM 88210

Dear Sir or Madam:

Please publish the enclosed "legal advertisement" at the earliest date possible.

Please send an affidavit of publication for the advertisement and the bill to the address above.

Sincerely,

R. L. Stamets

NOTICE

Geodyne Operating Co. proposes to dispose of produced water in the Delaware Formation in its PFI Amoco "19" Federal Well No. 2 located 1,687 FSL and 2,041 FWL of Section 19, T22S, R26E, Filaree Delaware Pool, Eddy County, New Mexico. Water will be injected into intervals from 2,332 feet to 4,538 feet. Initial maximum rates are to be 80 BWPD at pressures not to exceed 464 psi.

Questions about this application should be addressed to Judy Knight, Geodyne Operating Co., 320 S. Boston Ave., Tulsa, Oklahoma 74103 or phone (918) 583-5525. Objections or requests for a hearing by interested parties must be filed with the New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87504 within 15 days.

Lee Grigson, CPL

Oil & Gas Properties

P. O. Box 3172
Midland, Texas 79702

Office: (915) 683-7705
Home: (915) 699-0410

October 1, 1991

Geodyne Operating Company
7th Floor Oil and Gas Building
Midland, TX 79701

Attn: Mr. Jim Sellers

Re: Offset Operators
East 1/2 Section 24
Township 22 South, Range 25 East, NMPM
Eddy County, New Mexico
SWD- Amoco 19 Federal No.2

Gentlemen,

I have examined Eddy County Records to determine leasehold ownership covering the East 1/2 Section 24, captioned above.

SE 1/4 Section 24:

United States of America OPEN, UNLEASED
Bureau of Land Management
(make note and attach to application, per Bobbie at Carlsbad District Office, (505) 887-6544, to Lee Grigson, 10/1/91, 3:30 P.M.)

NE 1/4 Section 24:

Enron Oil and Gas Company 50% WI
P.O. Box 2267
Midland, TX 79702
telephone (915) 686-3600
Enron has 50% working interest from surface to top of the solid Missippian Lime, and 100% working interest below that depth.

The following own leasehold only from the surface to the top of the Missippian Lime.

American National Petroleum Company 50.00% WI
P.O. Box 27725 (actually 48.25% WI)
Houston, TX 77227
Michael Y. McGovern, Pres.
(713) 961-1770

American National Petroleum Company (ANPC) is operator for the persons listed on the attached sheet. These people own a collective 1.75% working interest in the North 1/2 Section 24. For notification purposes I would list ANPC as a 50% WI owner and forget about the minor partners.

If I may provide further information, please advise.

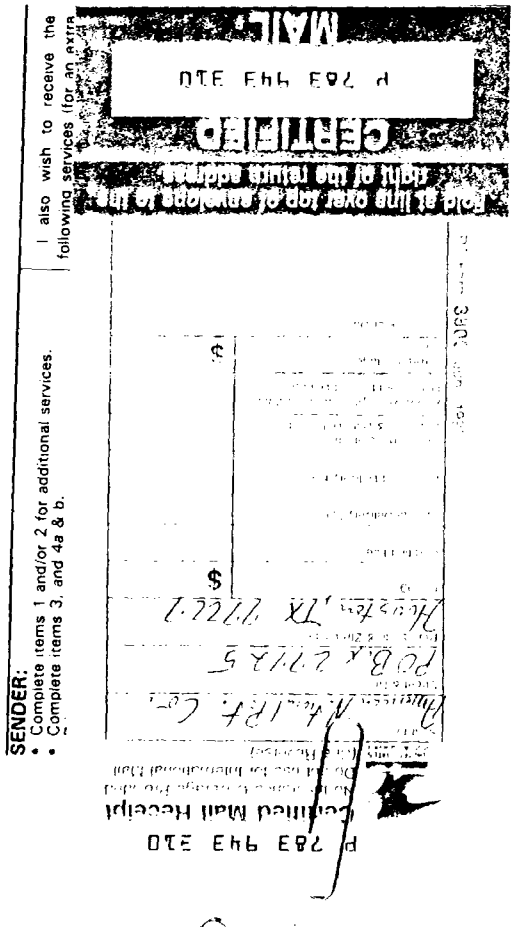
Yours very truly,

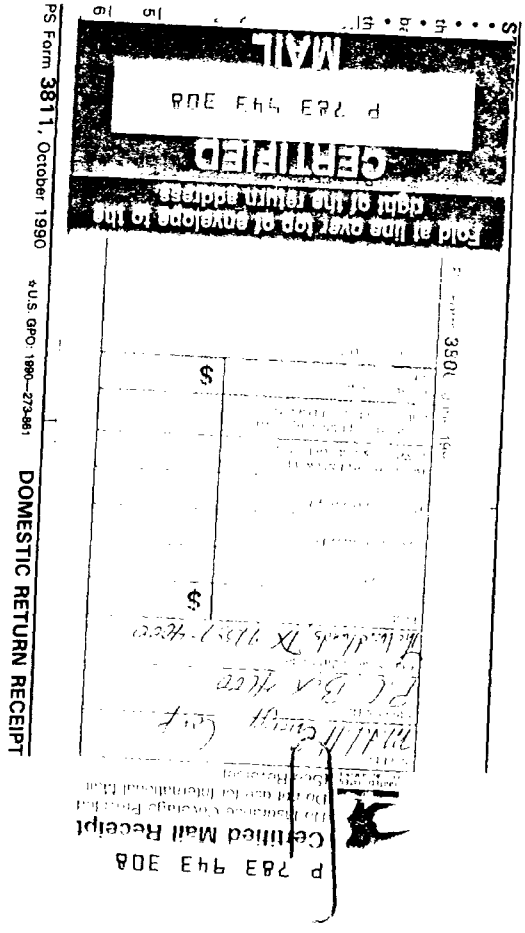
Lee Grigson

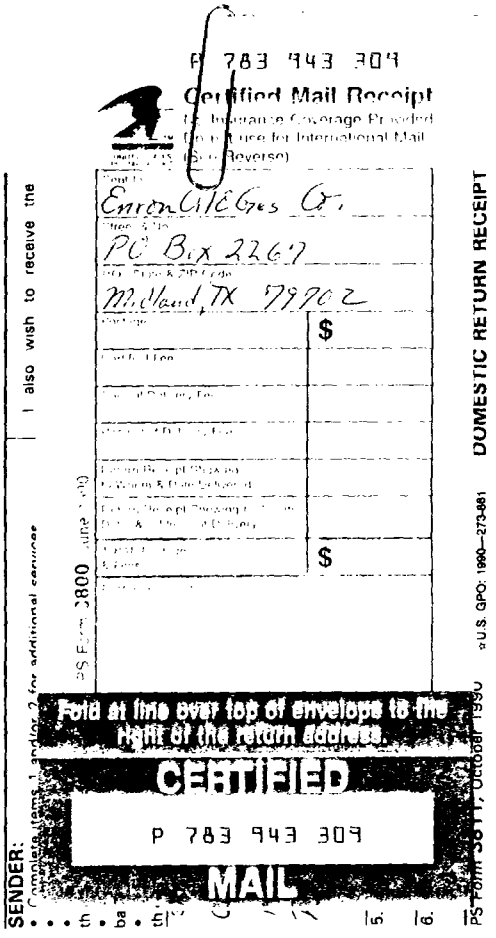
cc: Mr. Dick Stemets

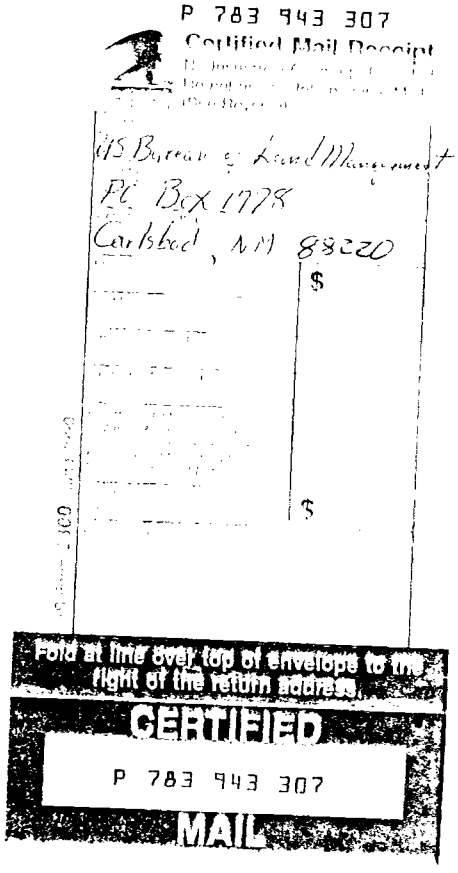
Thank you for using
Return Receipt Service.

Is your RETURN ADDRESS
completed on the reverse side?









R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 16, 1991

Bureau of Land Management
Carlsbad Resource Area
P. O. Box 1778
Carlsbad, NM 88220

Gentlemen:

Enclosed please find a copy of an application for salt water disposal into the Geodyne Operating Company's PFI Amoco "19" Federal Well No. 2.

The well is located 1,687 FSL and 2,041 FWL of Section 19, T22S, R26E, Eddy County, New Mexico. It is proposed to inject water produced from applicant's two remaining Delaware wells in the Filaree Dome Delaware Oil Pool into perforated intervals from 2,332 to 4,538 feet. Initial disposal volumes and pressures are not expected to exceed 80 BWPD and 464 psi, respectively.

You are being supplied a copy of this application both as the owner of the surface where the proposed disposal well is located an as the owner of apparently an unleased mineral interest in the SE/4 of Section 24-T22S-R25E. Questions concerning this application should be directed to Mr. Judy Knight, Geodyne Operating Co., 320 S. Boston Ave., Tulsa, OK 74103 or phone (918) 583-5525.

Objections to the application or a request that this application be set for hearing must be filed with the Oil Conservation Division, P. O. Box 2088, Santa Fe, NM 87504 within 15 days of the mailing of this notice.

Sincerely,

R. L. Stamets

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 16, 1991

American National Petroleum Company
P. O. Box 27725
Houston, TX 77227

Gentlemen:

Enclosed please find a copy of an application for salt water disposal into the Geodyne Operating Company's PFI Amoco "19" Federal Well No. 2.

The well is located 1,687 FSL and 2,041 FWL of Section 19, T22S, R26E, Eddy County, New Mexico. It is proposed to inject water produced from applicant's two remaining Delaware wells in the Filaree Dome Delaware Oil Pool into perforated intervals from 2,332 to 4,538 feet. Initial disposal volumes and pressures are not expected to exceed 80 BWPD and 464 psi, respectively.

You are being supplied a copy of this application as an offset operator or owner within one-half mile of the proposed well. Questions concerning this application should be directed to Judy Knight, Geodyne Operating Co., 320 S. Boston Ave., Tulsa, Ok ot phone (918) 583-5525.

Objections to the application or a request that this application be set for hearing must be filed with the Oil Conservation Division, P. O. Box 2088, Santa Fe, NM 87504 within 15 days of the mailing of this notice.

Sincerely,

R. L. Stamets

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 16, 1991

Enron Oil and Gas Company
P. O. Box 2267
Midland, TX 79702

Gentlemen:

Enclosed please find a copy of an application for salt water disposal into the Geodyne Operating Company's PFI Amoco "19" Federal Well No. 2.

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You are being supplied a copy of this application as an offset operator or owner within one-half mile of the proposed well. Questions concerning this application should be directed to Judy Knight, Geodyne Operating Co., 320 S. Boston Ave., Tulsa, Ok ot phone (918) 583-5525.

Objections to the application or a request that this application be set for hearing must be filed with the Oil Conservation Division, P. O. Box 2088, Santa Fe, NM 87504 within 15 days of the mailing of this notice.

Sincerely,

R. L. Stamets

R. L. (DICK) STAMETS CONSULTANT
201 West San Mateo Road, Santa Fe, N. M. 87501 (505) 982-1680

October 16, 1991

Mitchell Energy Corp.
P. O. Box 4000
The Woodlands, TX 77387-4000

Gentlemen:

Enclosed please find a copy of an application for salt water disposal into the Geodyne Operating Company's PFI Amoco "19" Federal Well No. 2.

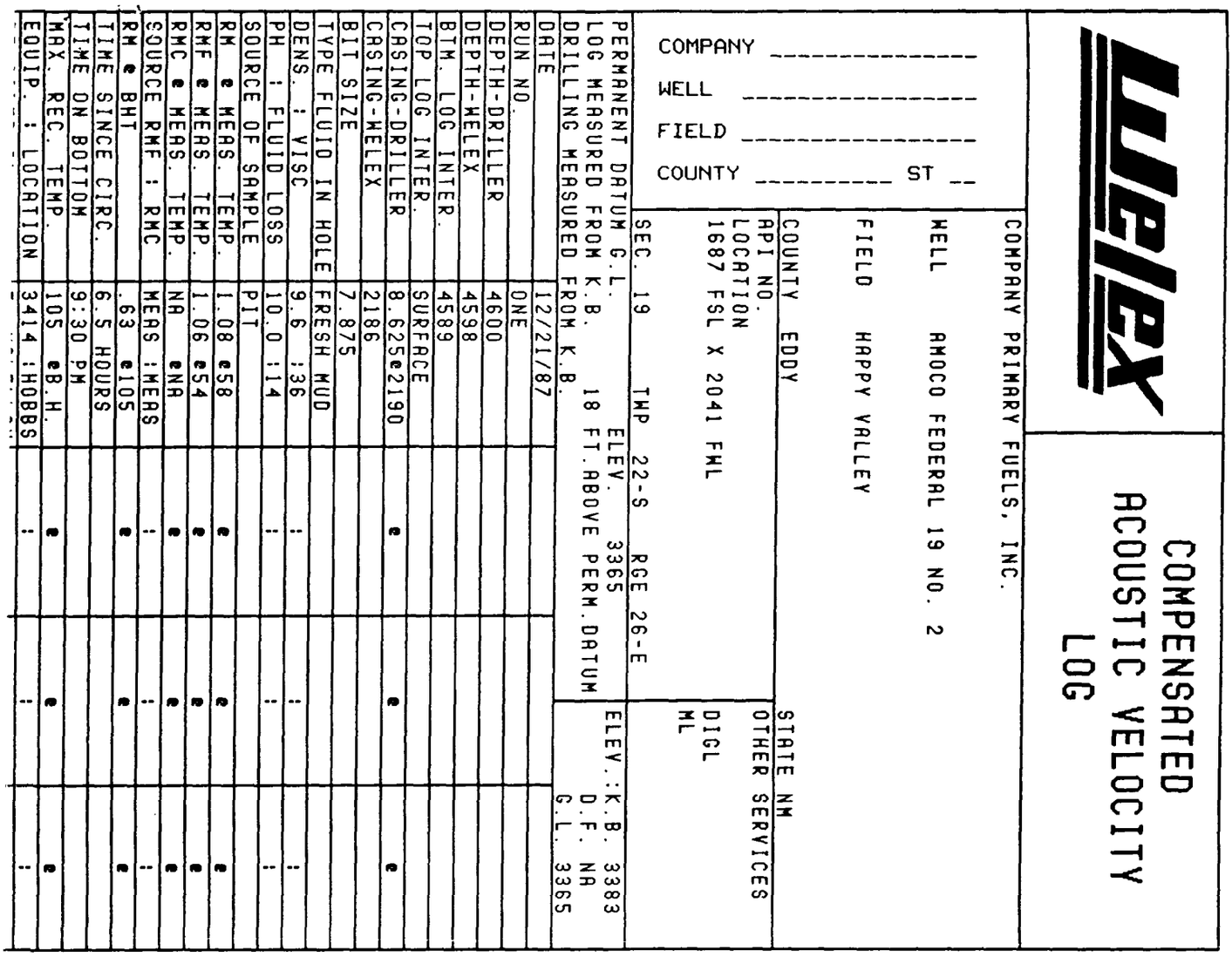
The well is located 1,687 FSL and 2,041 FWL of Section 19, T22S, R26E, Eddy County, New Mexico. It is proposed to inject water produced from applicant's two remaining Delaware wells in the Filaree Dome Delaware Oil Pool into perforated intervals from 2,332 to 4,538 feet. Initial disposal volumes and pressures are not expected to exceed 80 BWPD and 464 psi, respectively.

You are being supplied a copy of this application as an offset operator or owner within one-half mile of the proposed well. Questions concerning this application should be directed to Judy Knight, Geodyne Operating Co., 320 S. Boston Ave., Tulsa, Ok ot phone (918) 583-5525.

Objections to the application or a request that this application be set for hearing must be filed with the Oil Conservation Division, P. O. Box 2088, Santa Fe, NM 87504 within 15 days of the mailing of this notice.

Sincerely,

R. L. Stamets



ld Here

rvice Ticket No.: 361702 API Serial No.: PGM Version: 1.10

ange in Mud Type or Additional Samples			RESISTIVITY SCALE CHANGES			
te/Sample No.	/ / :	/ / :	Type Log	Depth	Scale Up Hole	Scale Down Hole
pth-Driller						
pe Fluid						
in Hole						
ns. : Visc.	:	:				
. : Fluid Loss	:	:				
urce of Sample			RESISTIVITY EQUIPMENT DATA			
@ Meas.Temp.	@	@	Run No	Tool Type & No	Pad Type	Tool Pos.	Other
f @ Meas.Temp.	@	@					
c @ Meas.Temp.	@	@					
urce: Rmf:Rmc	:	:					
@ BHT	@	@					
f @ BHT	@	@					
c @ BHT	@	@					

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
n No.	ONE	Run No.	ONE	Run No.		Run No.	
rial No.	108614	Serial No.	112459	Serial No.		Serial No.	
del No.	432	Model No.	305	Model No.		Model No.	
iameter	3.625IN	No.of Cent.	3	Diameter		Diameter	
tector Model No.	102	Spacing	2 FT	Log Type		Log Type	
pe	SCINT			Source Type		Source Type	
ngth	4 IN	LSA	N	Serial No.		Serial No.	
stance To Source	NA	FWDA	N	Strength		Strength	

LOGGING DATA

GENERAL				GAMMA	ACOUSTIC			DENSITY			NEUTRON		
un	Depth		Speed	Scale	Scale			Scale			Scale		
o.	From	To	Ft/Min	L R	L	R	Matrix	L	R	Matrix	L	R	Matrix
E	4598	SURF.	REC	0 100	30.0	-.10	52.6						
					100	40	DT						

marks:

marks:

Welex does not guarantee the accuracy of any interpretation of log data, conversion of log data to physical rock parameters or recommendations which may be given by Welex personnel or which may appear on the log or in any other form. Any user of such data, interpretations, conversions, or recommendations agrees that Welex is not responsible except where due to gross negligence or wilful misconduct, for any loss, damages, or expenses resulting from the use thereof.

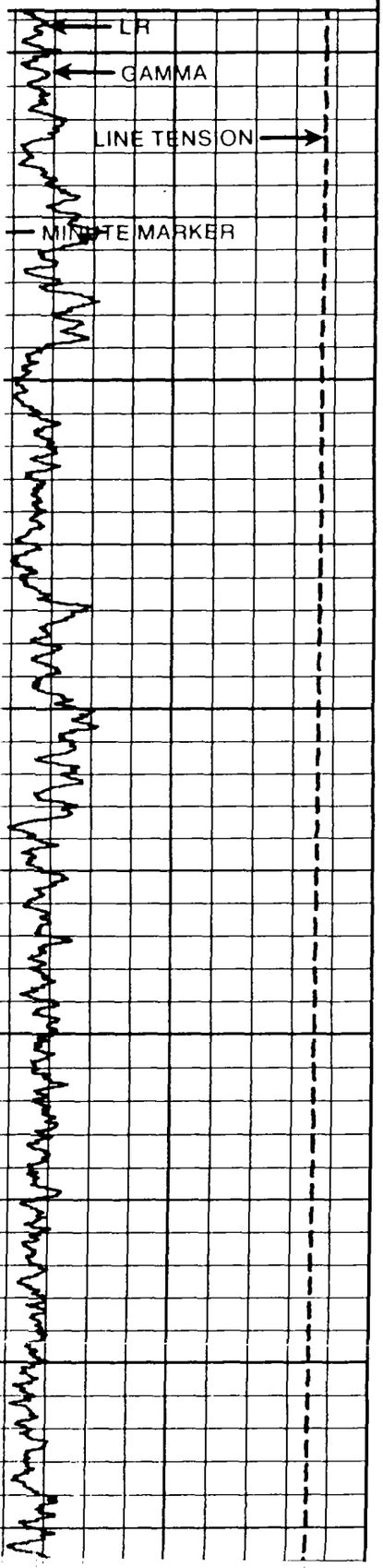
2" = 100'

TENSION

)00 POUNDS 1000

GAMMA

API 100



DELTA-T

100 USEC 40

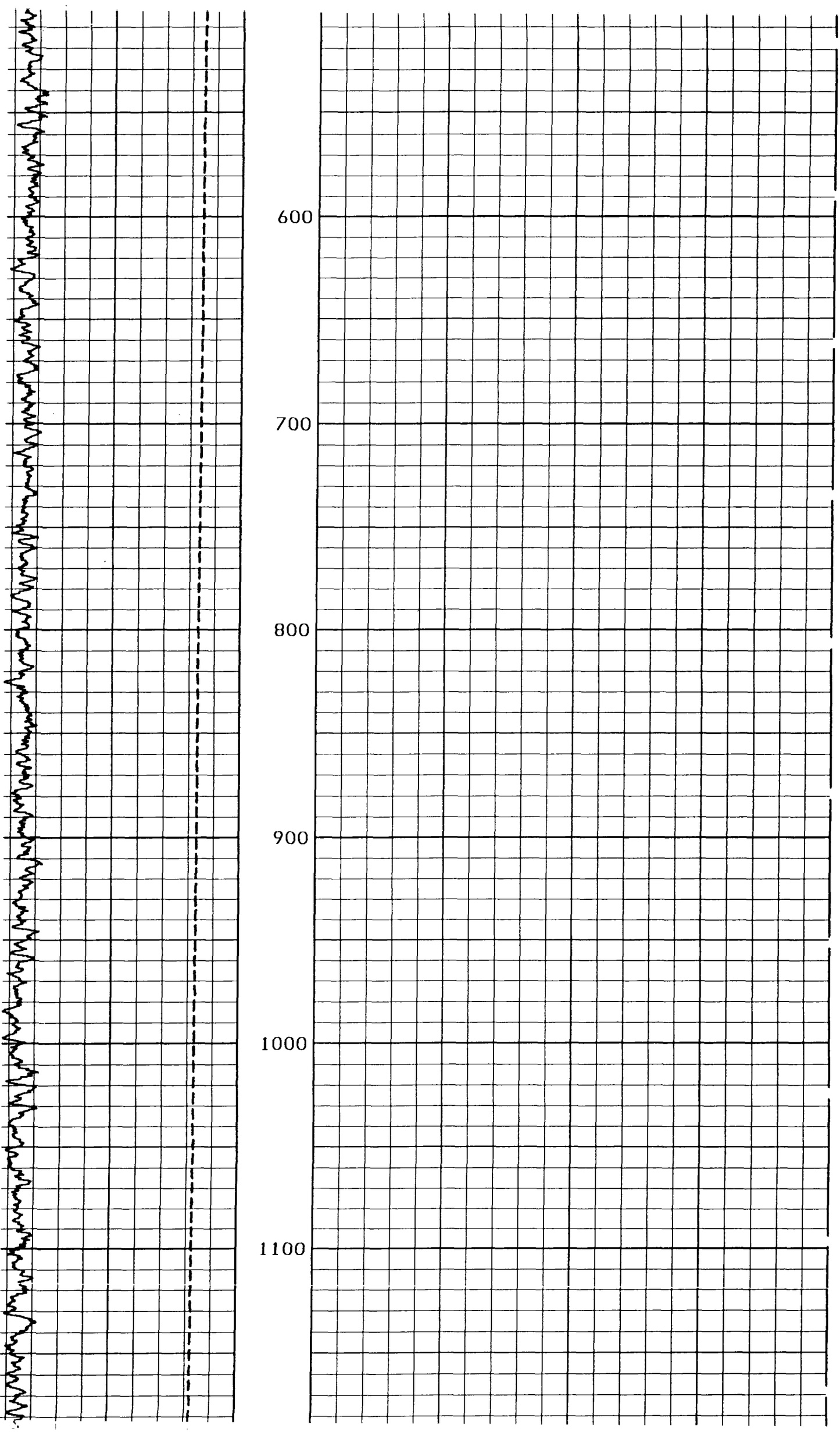
100

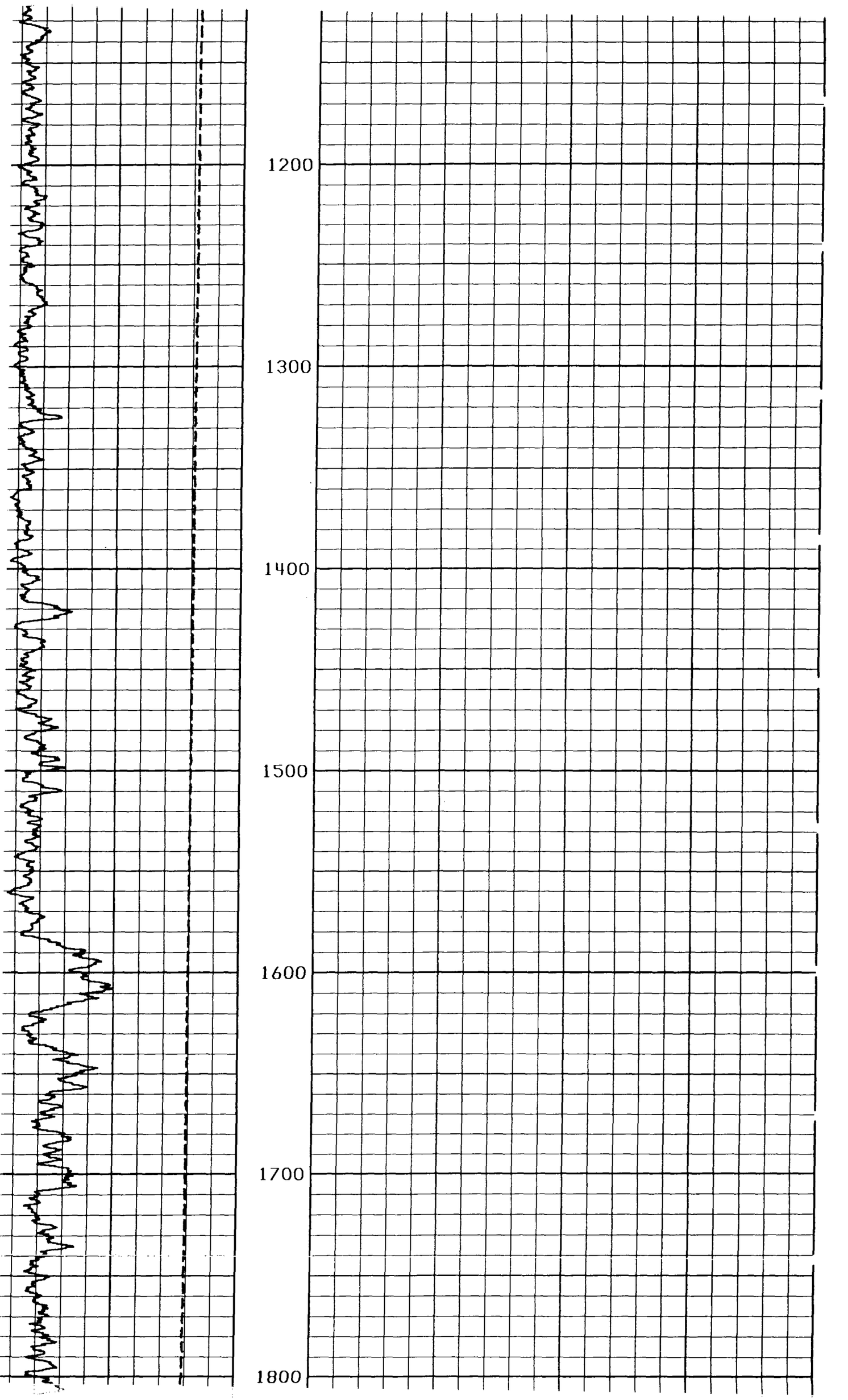
200

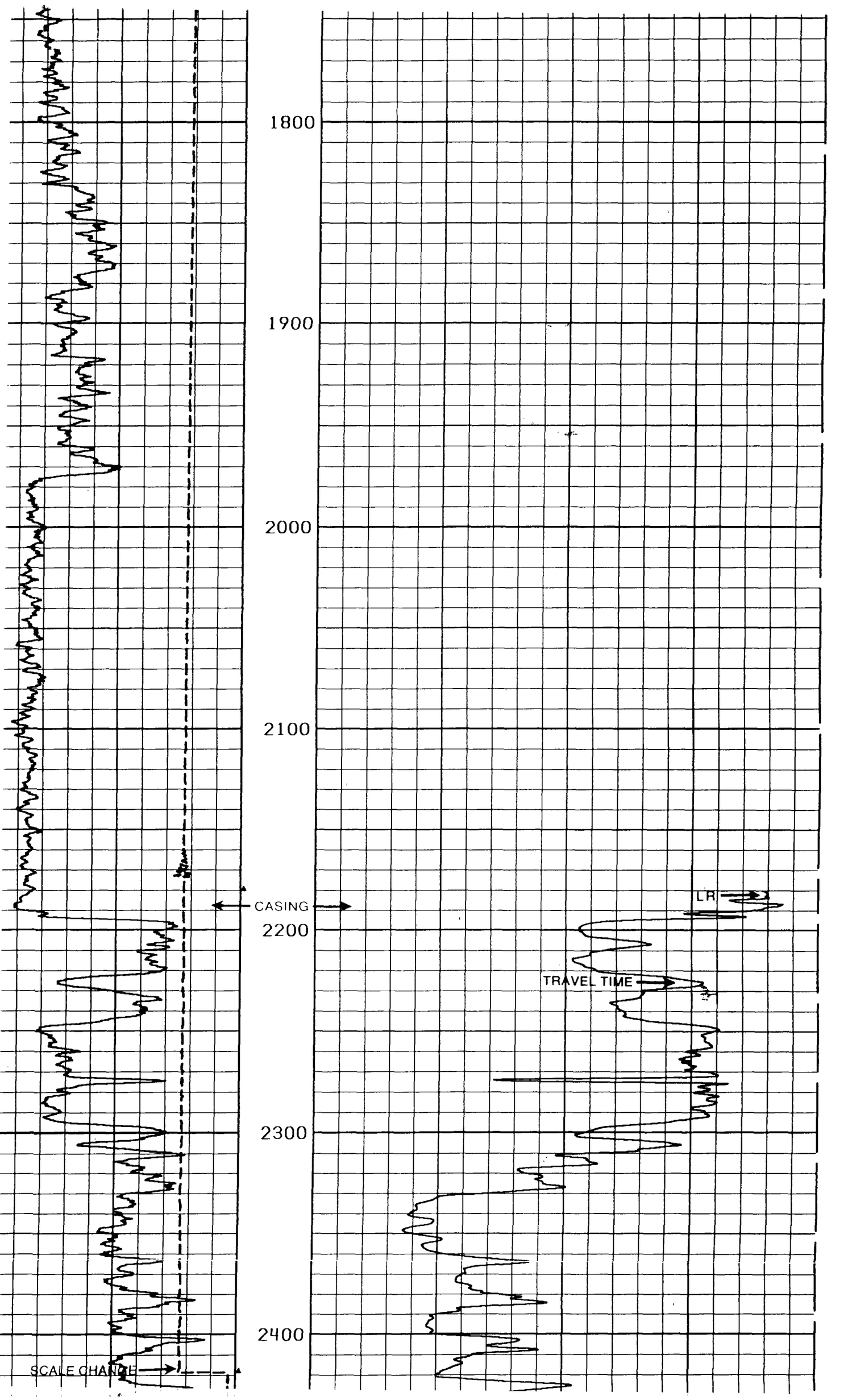
300

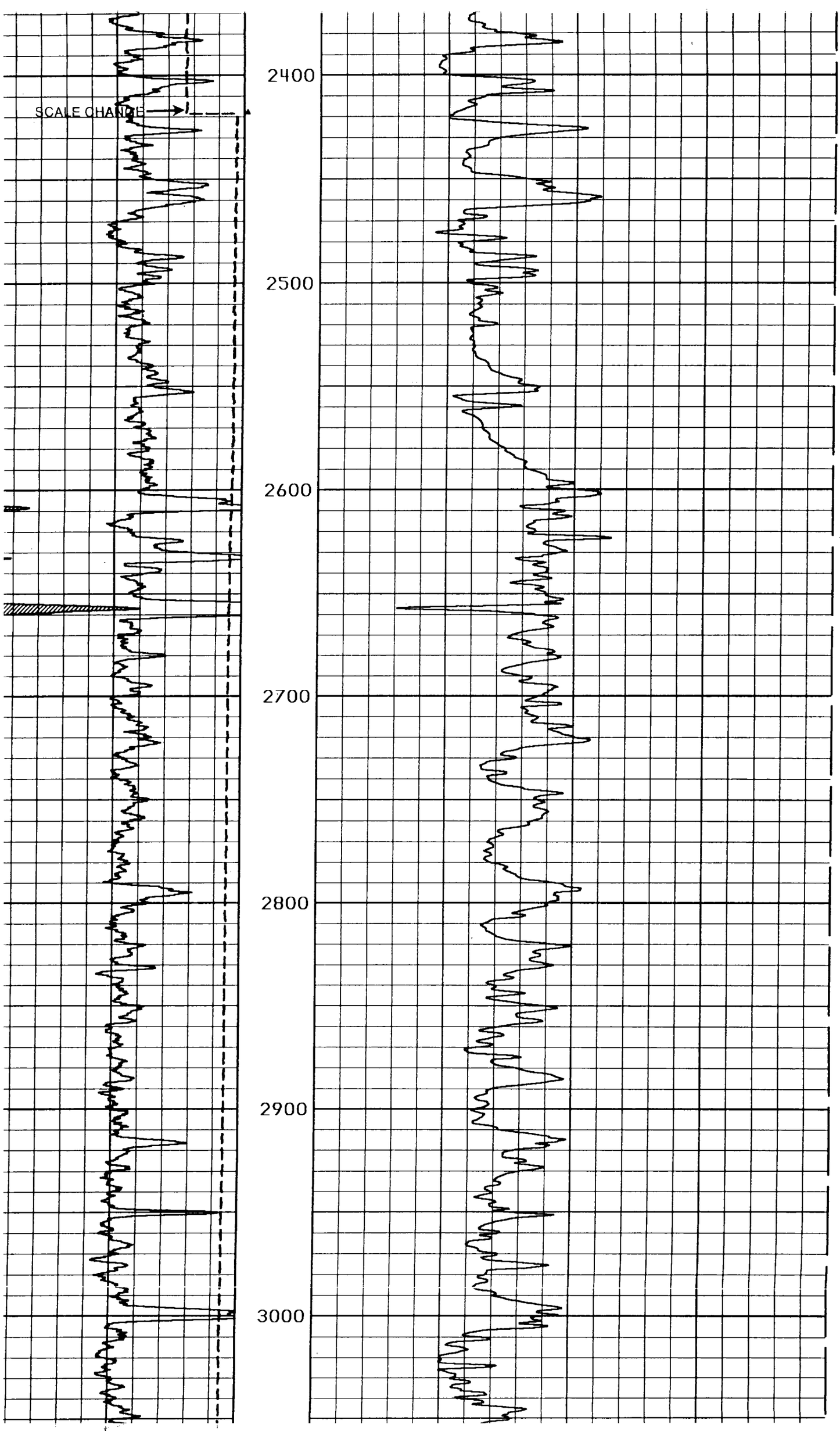
400

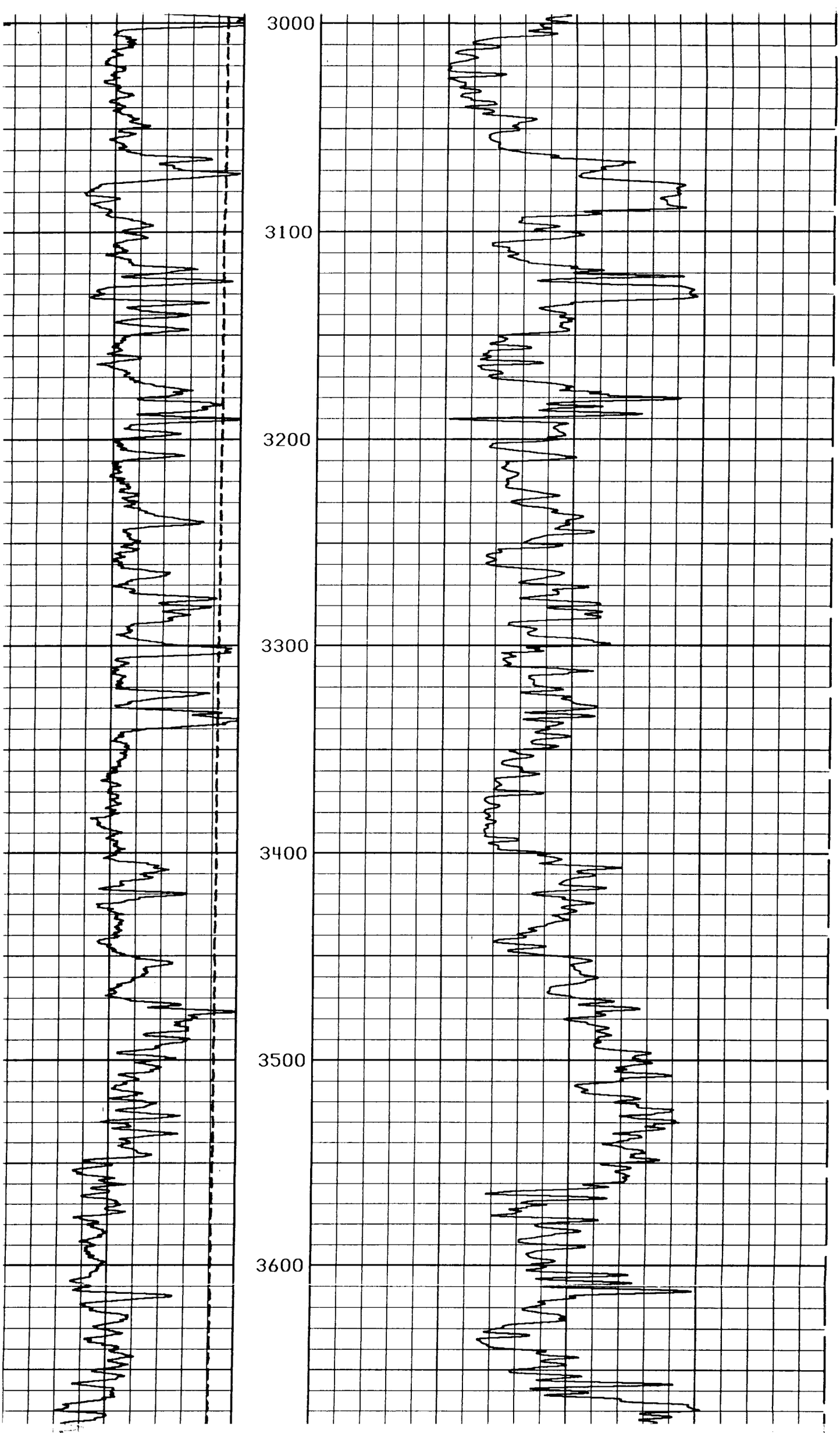
500

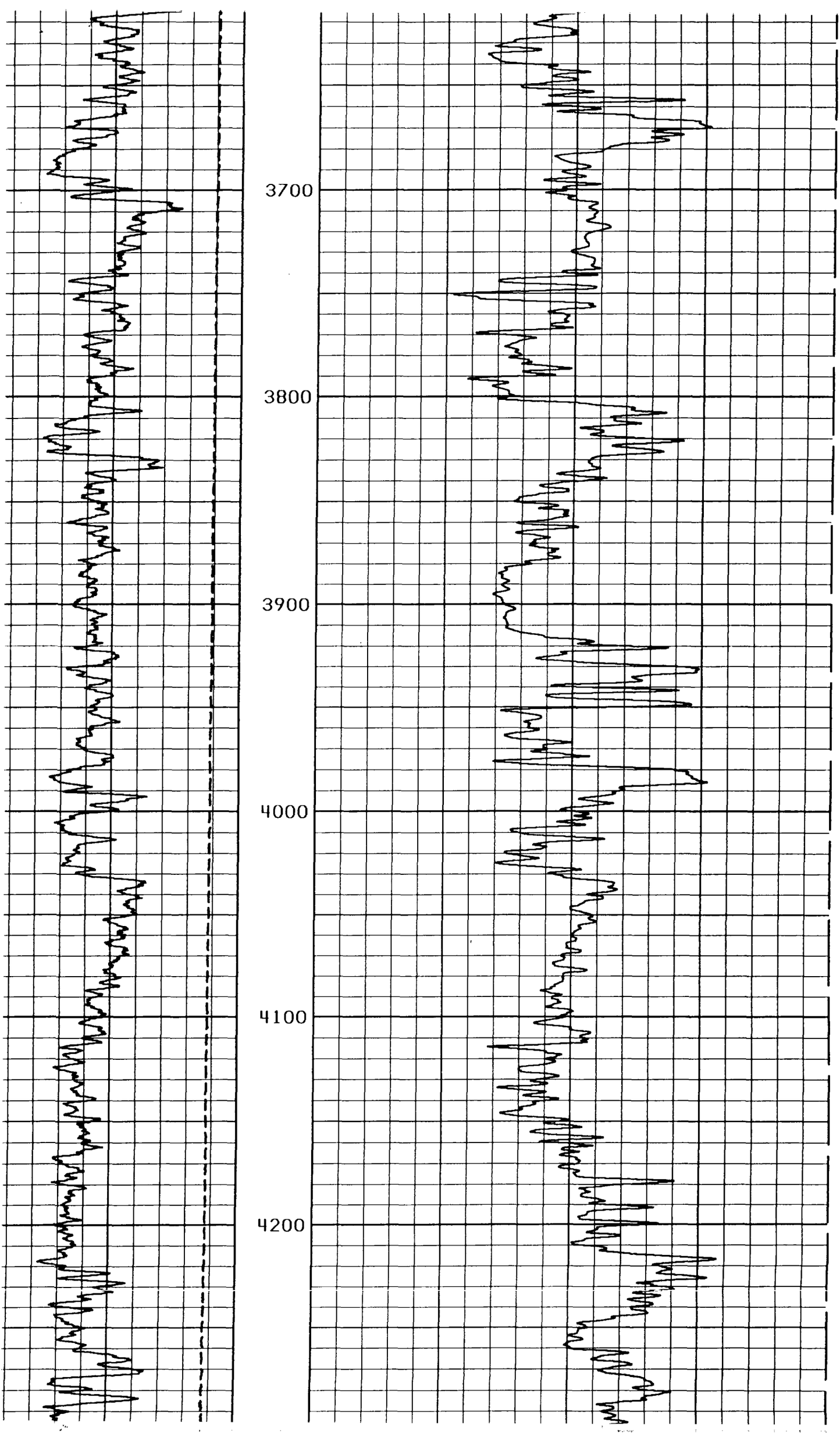

600
700
800
900
1000
1100

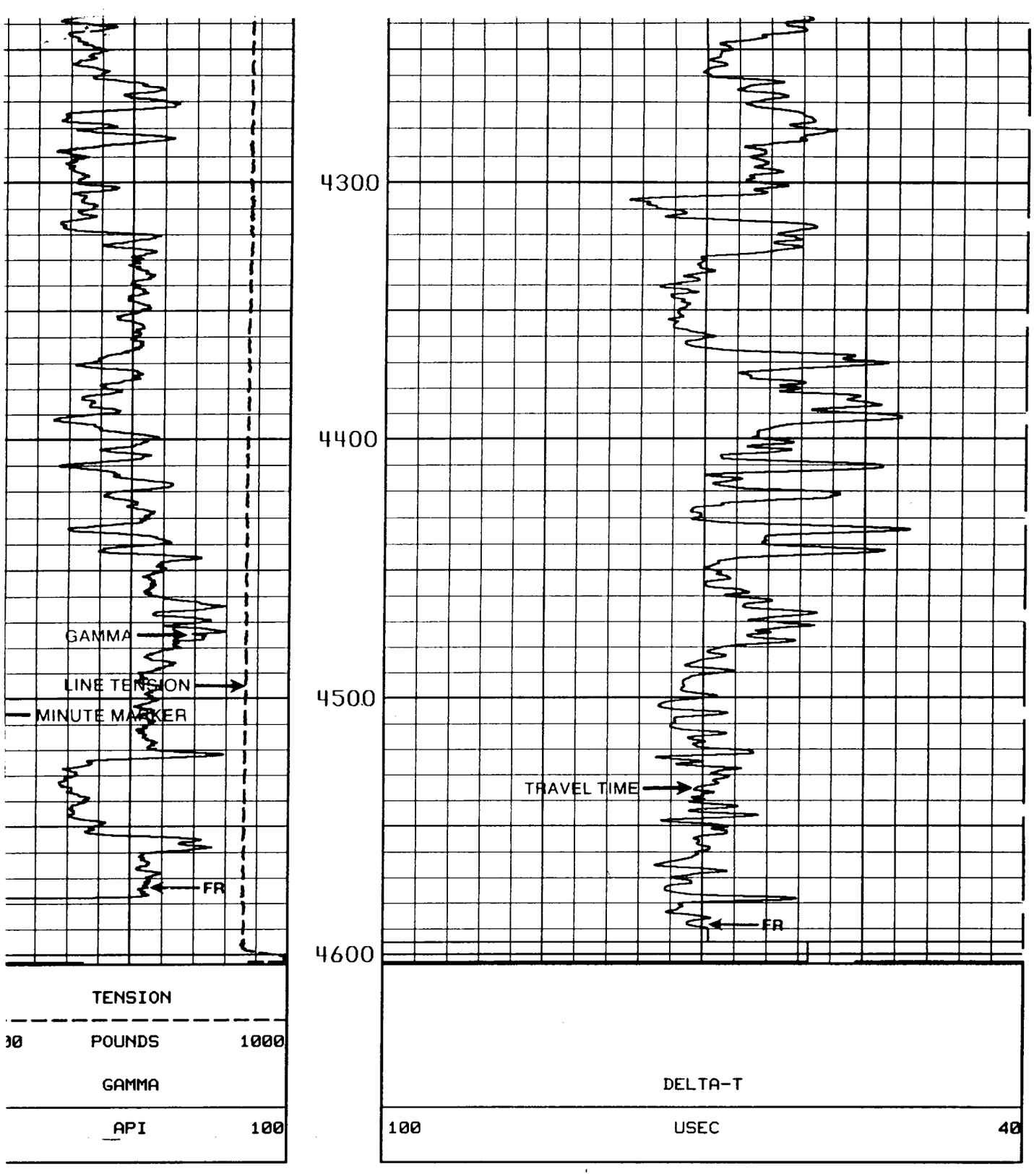

1200
1300
1400
1500
1600
1700
1800


1800
1900
2000
2100
CASING
2200
LR
TRAVEL TIME
2300
2400
SCALE CHANGE

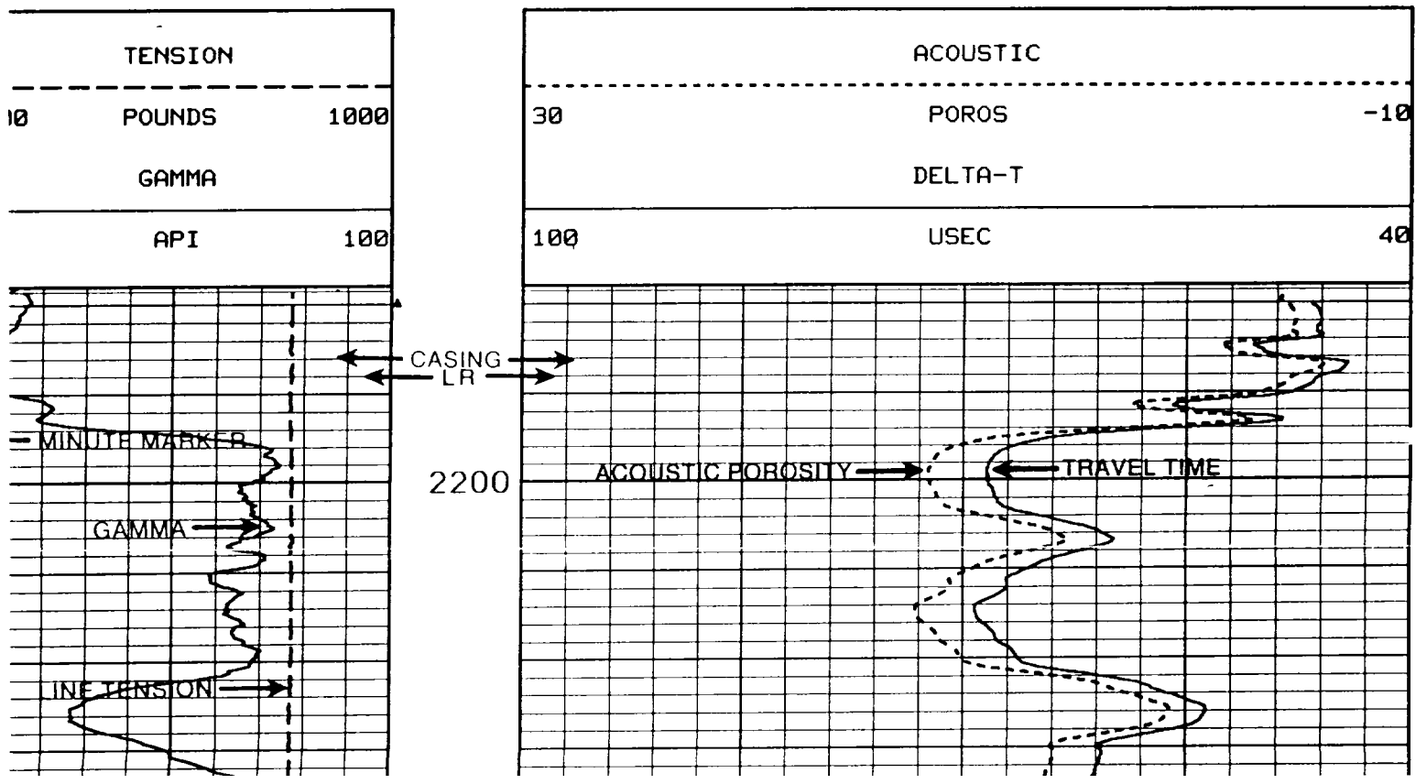

SCALE CHANGE
2400
2500
2600
2700
2800
2900
3000

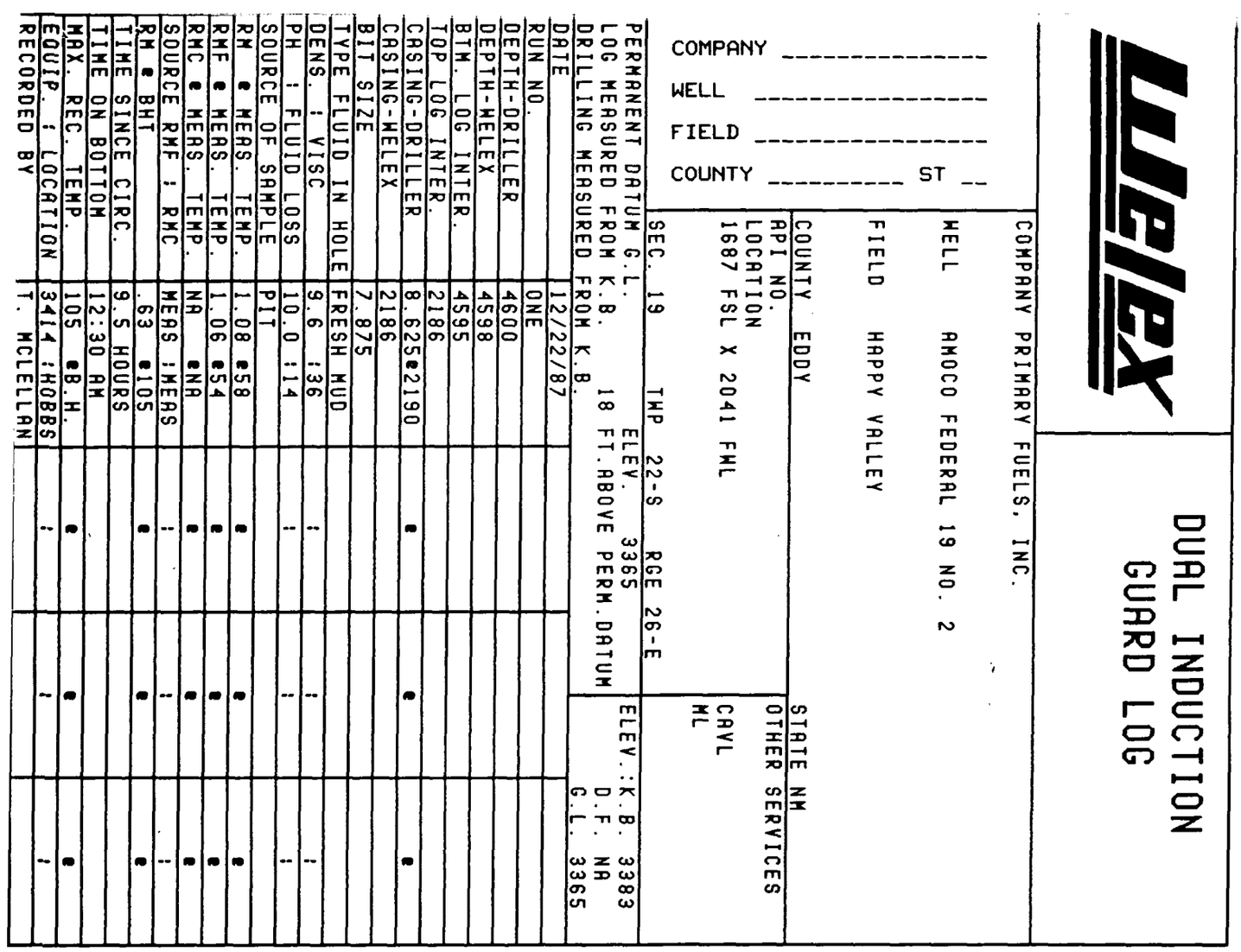

3000
3100
3200
3300
3400
3500
3600


3700
3800
3900
4000
4100
4200


4300
4400
4500
4600
GAMMA
LINE TENSION
MINUTE MARKER
FR
TRAVEL TIME
FR
TENSION
POUNDS
1000
GAMMA
API
100
DELTA-T
100
USEC
40

5" = 100'


TENSION
POUNDS
1000
GAMMA
API
100
ACOUSTIC
30
POROS
-10
DELTA-T
100
USEC
40
CASING
LR
MINUTE MARKER
GAMMA
LINE TENSION
2200
ACOUSTIC POROSITY
TRAVEL TIME



COMPANY _____

WELL _____

FIELD _____

COUNTY _____ ST __

DUAL INDUCTION
GUARD LOG

COMPANY PRIMARY FUELS, INC.
WELL AMOCO FEDERAL 19 NO. 2
FIELD HAPPY VALLEY
COUNTY EDDY STATE NM
API NO.
LOCATION
1687 FSL X 2041 FWL
SEC. 19 TWP 22-S RGE 26-E
ELEV. 3365
OTHER SERVICES
CAVL
ML
ELEV.: K.B. 3383
D.F. NA
G.L. 3365

PERMANENT DATUM G.L.
LOG MEASURED FROM K.B. 18 FT.ABOVE PERM.DATUM
DRILLING MEASURED FROM K.B.

DATE	12/22/87		
RUN NO.	ONE		
DEPTH-DRILLER	4600		
DEPTH-WELEX	4598		
BTM. LOG INTER.	4595		
TOP LOG INTER.	2186		
CASING-DRILLER	8.625@2190	@	
CASING-WELEX	2186		
BIT SIZE	7.875		
TYPE FLUID IN HOLE	FRESH MUD		
DENS. : VISC	9.6 : 36	:	:
PH : FLUID LOSS	10.0 : 14	:	:
SOURCE OF SAMPLE	PIT		
RM @ MEAS. TEMP.	1.08 @58	@	@
RMF @ MEAS. TEMP.	1.06 @54	@	@
RMC @ MEAS. TEMP.	NA @NA	@	@
SOURCE RMF : RMC	MEAS : MEAS	--	--
RM @ BHT	.63 @105	@	@
TIME SINCE CIRC.	9.5 HOURS		
TIME ON BOTTOM	12:30 AM		
MAX. REC. TEMP.	105 @B.H.	@	@
EQUIP. : LOCATION	3414 : HOBBS	:	:
RECORDED BY	T. MCLELLAN		

Fold Here

Service Ticket No.: 361702 API Serial No.: PGM Version: 1.10

Change in Mud Type or Additional Samples		
Date/Sample No.	/ / :	/ / :
Depth-Driller		
Type Fluid in Hole		
Dens. : Visc.	:	:
PH. : Fluid Loss	:	:
Source of Sample		
Rm @ Meas.Temp.	@	@
Rmf @ Meas.Temp.	@	@
Rmc @ Meas.Temp.	@	@
Source: Rmf:Rmc	:	:
Rm @ BHT	@	@
Rmf @ BHT	@	@
Rmc @ BHT	@	@

RESISTIVITY SCALE CHANGES

Type Log	Depth	Scale Up Hole	Scale Down Hole

RESISTIVITY EQUIPMENT DATA

Run No	Tool Type & No	Pad Type	Tool Pos.	Other
ONE	DIL 109430		CENT	
	SG 108928		CENT	

EQUIPMENT DATA

GAMMA		ACOUSTIC		DENSITY		NEUTRON	
Run No.	ONE	Run No.		Run No.		Run No.	
Serial No.	108614	Serial No.		Serial No.		Serial No.	
Model No.	432	Model No.		Model No.		Model No.	
Diameter	3.625IN	No.of Cent.		Diameter		Diameter	
Detector Model No.	102	Spacing		Log Type		Log Type	
Type	SCINT			Source Type		Source Type	
Length	4 IN	LSA		Serial No.		Serial No.	
Distance To Source	NA	FWDA		Strength		Strength	

LOGGING DATA

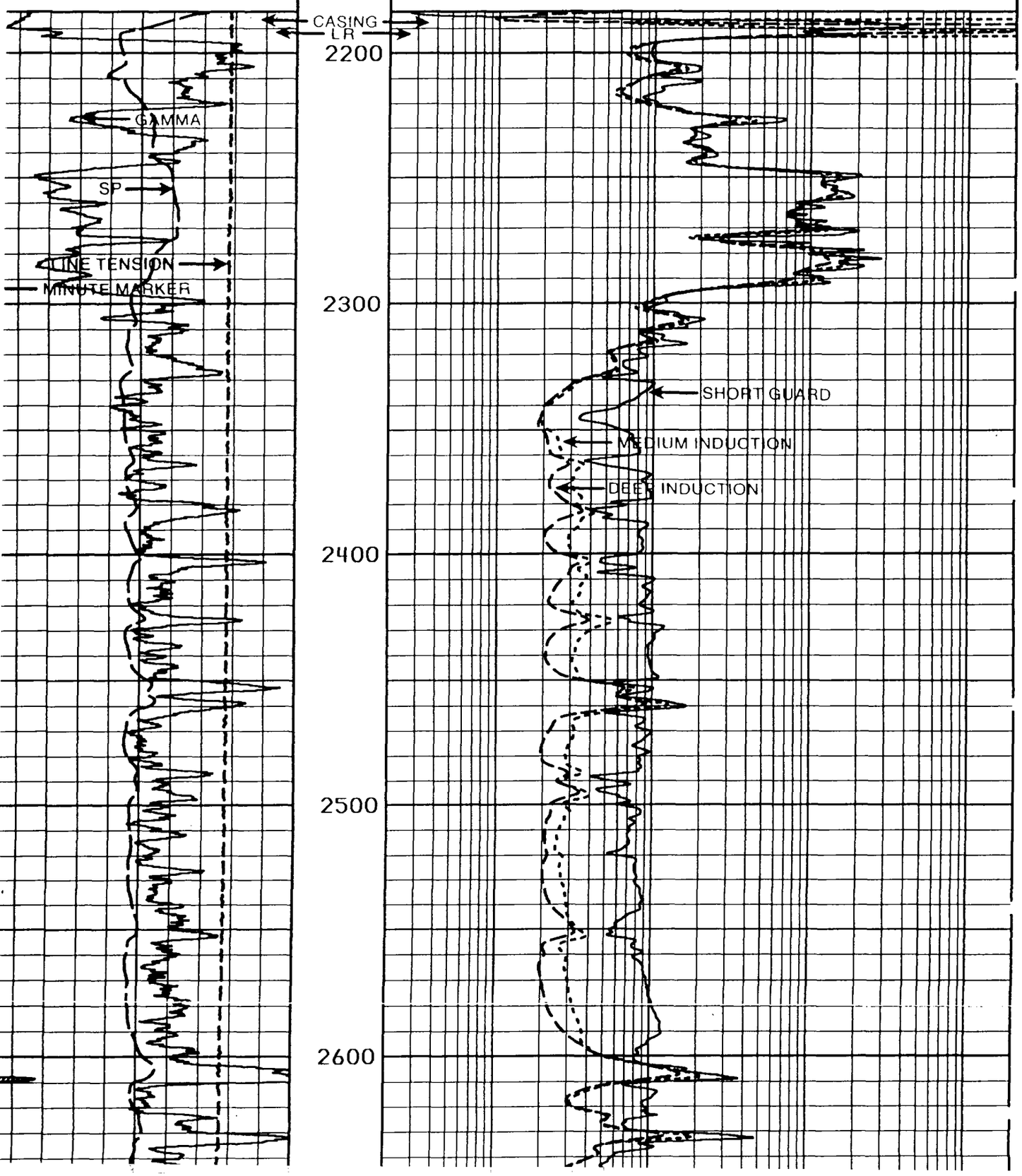
GENERAL				GAMMA		ACOUSTIC			DENSITY			NEUTRON		
Run	Depth		Speed	Scale		Scale			Scale			Scale		
No.	From	To	Ft/Min	L	R	L	R	Matrix	L	R	Matrix	L	R	Matrix
ONE	4598	2186	REC	0	100									

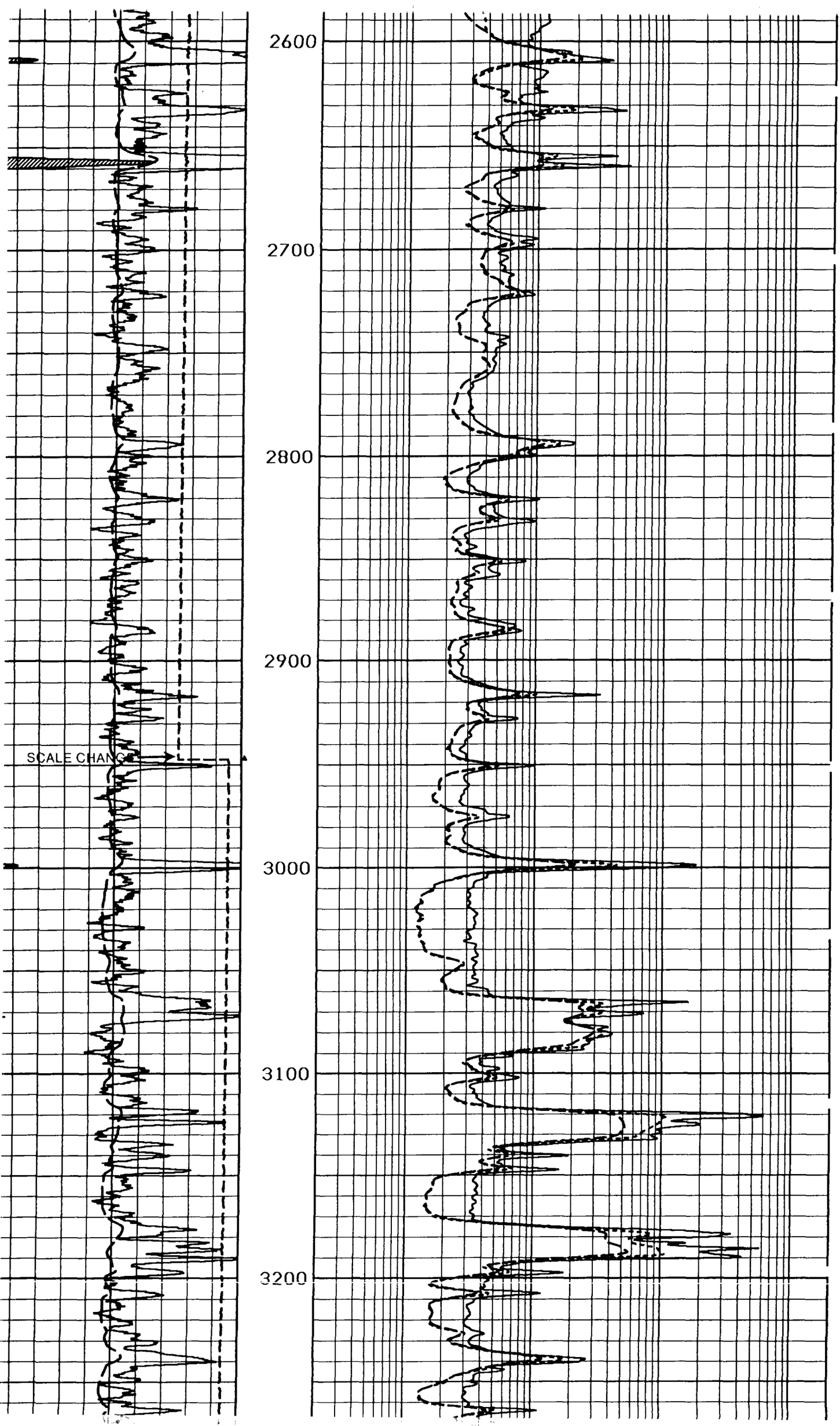
Remarks:

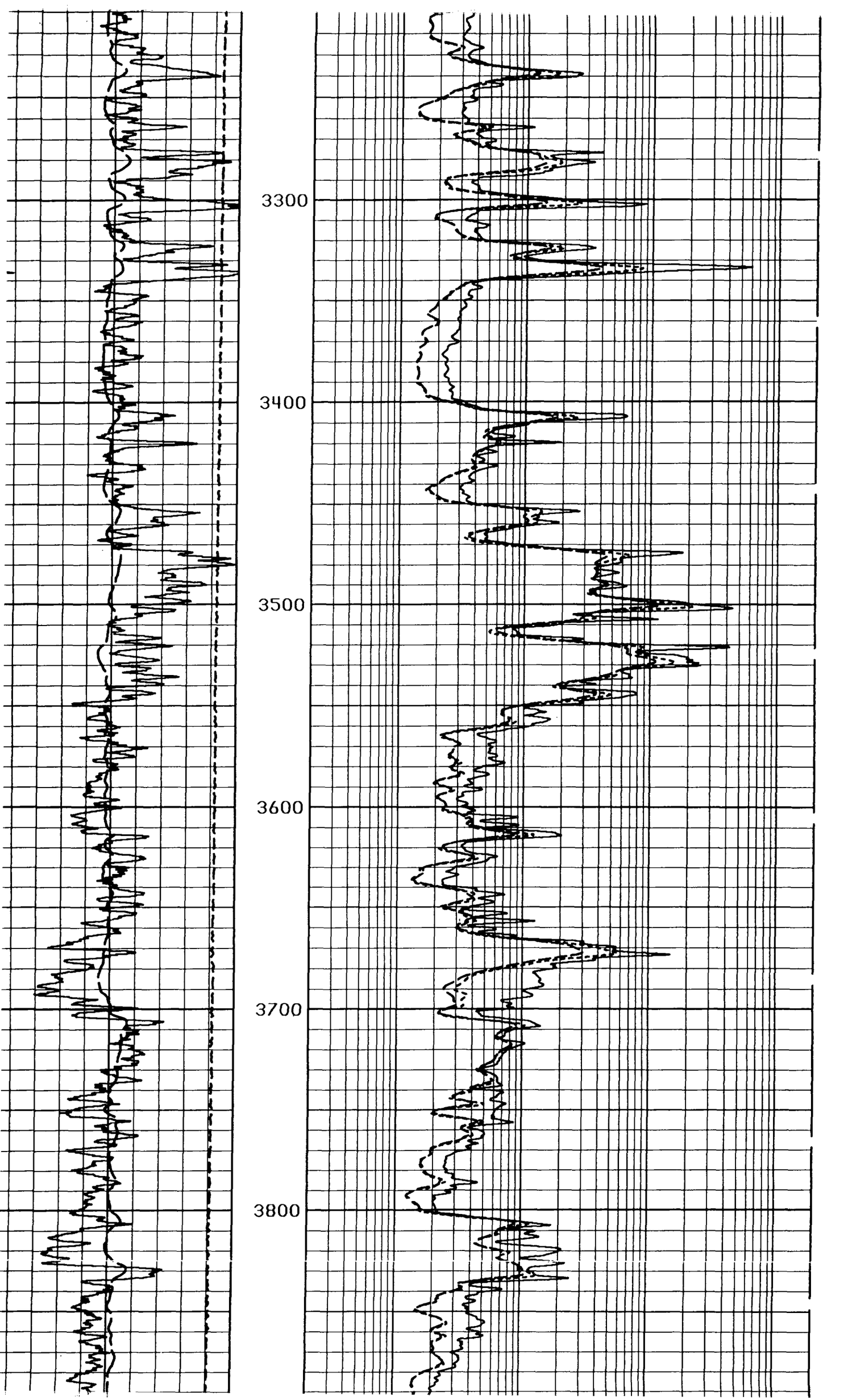
emarks:

2" = 100'

TENSION		DEEP		
000 POUNDS 1000		.2 OHM-M 2000		
GAMMA		MEDIUM		
API 100		.2 OHM-M 2000		
SP		GUARD		
-]20[+		.2 OHM-M 2000		




2600
2700
2800
2900
3000
3100
3200
SCALE CHANGE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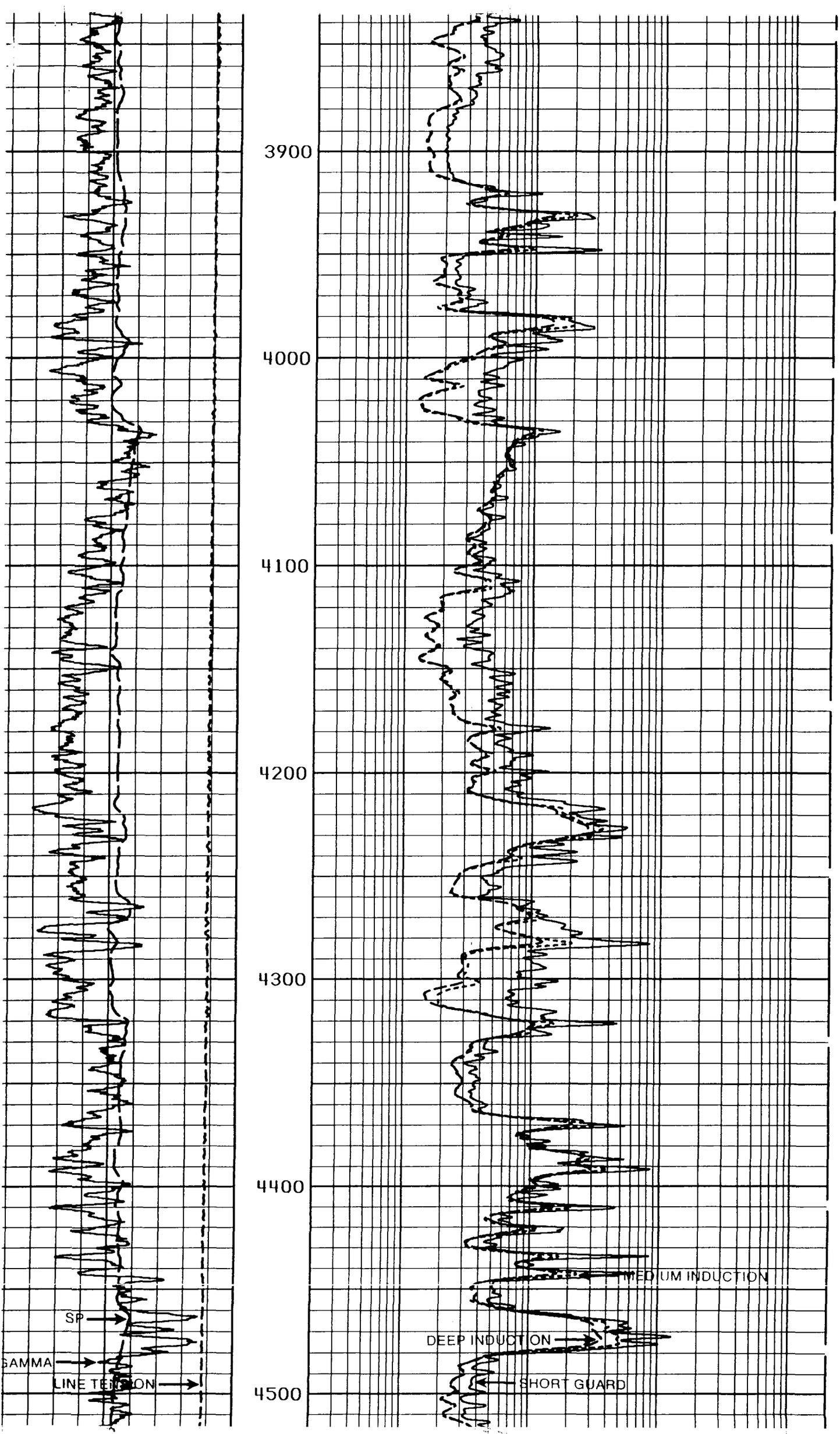
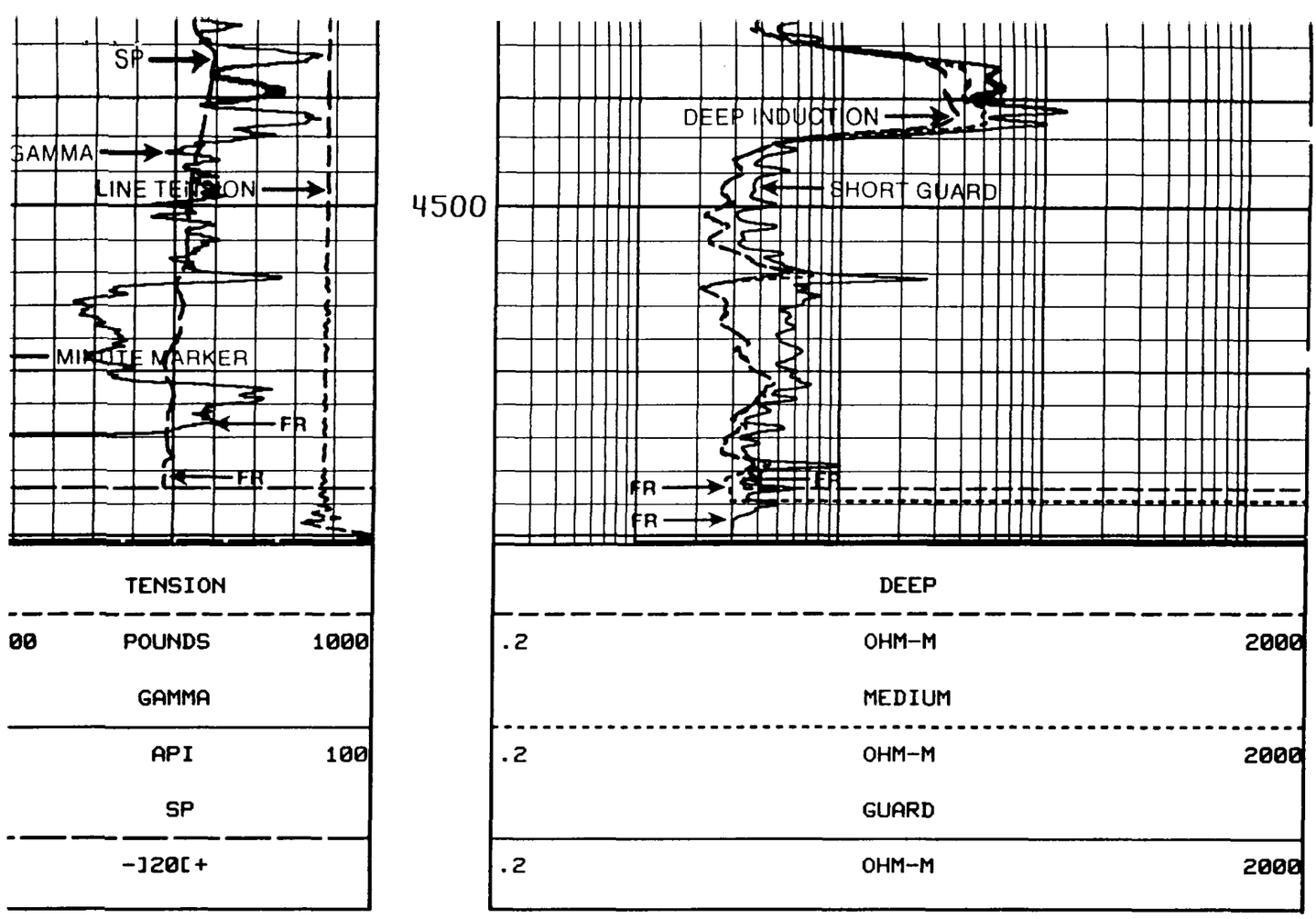
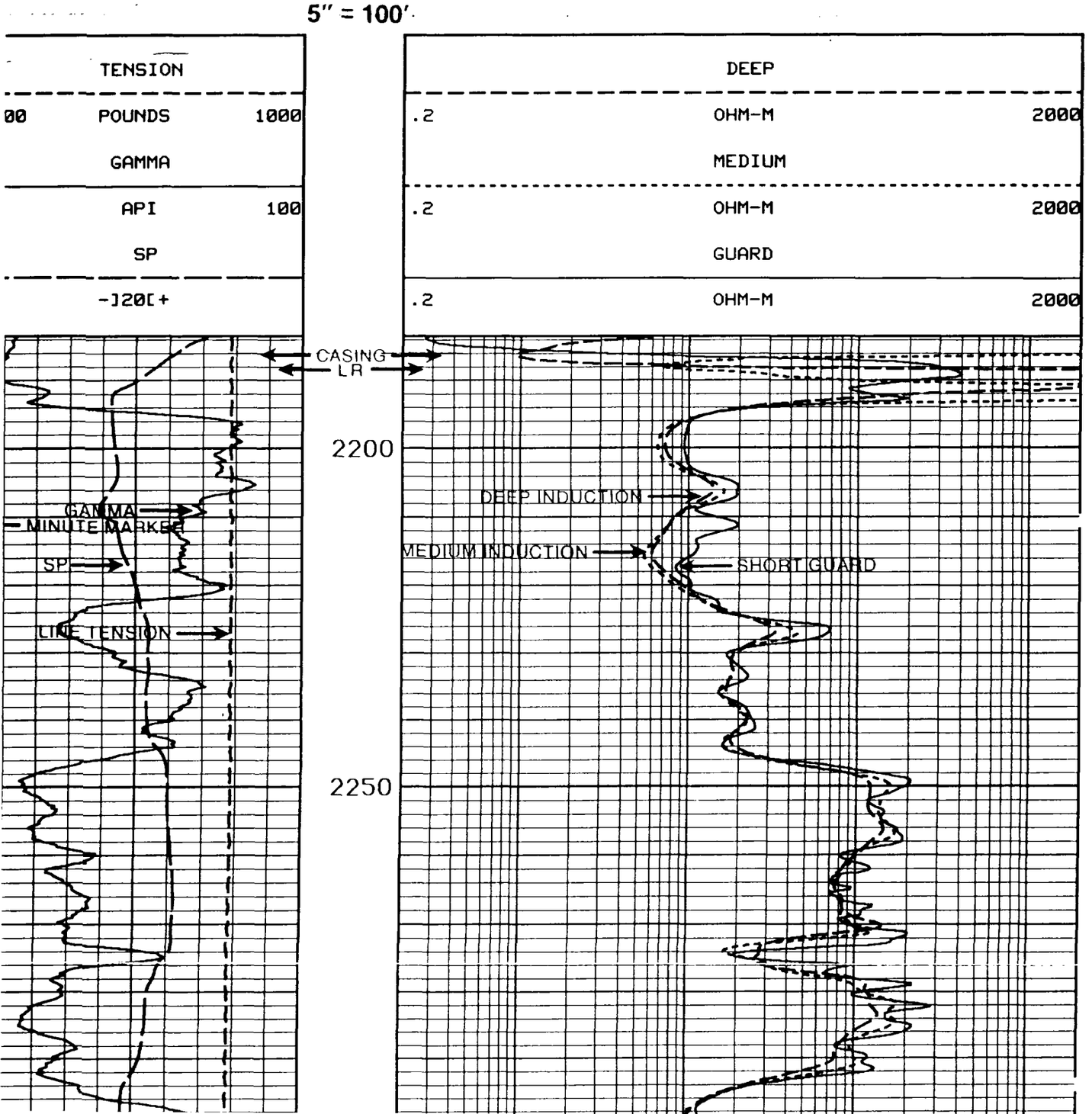
3400
3500
3600
3700
3800


3900
4000
4100
4200
4300
4400
4500
SP
GAMMA
LINE TENSION
MEDIUM INDUCTION
DEEP INDUCTION
SHORT GUARD


SP
GAMMA
LINE TENSION
MINUTE MARKER
FR
FR
4500
DEEP INDUCTION
SHORT GUARD
FR
FR
TENSION
00 POUNDS 1000
GAMMA
API 100
SP
-]20[+
DEEP
.2 OHM-M 2000
MEDIUM
.2 OHM-M 2000
GUARD
.2 OHM-M 2000

5" = 100'


TENSION
00 POUNDS 1000
GAMMA
API 100
SP
-]20[+
DEEP
.2 OHM-M 2000
MEDIUM
.2 OHM-M 2000
GUARD
.2 OHM-M 2000
CASING
LR
2200
GAMMA
MINUTE MARKER
SP
LINE TENSION
DEEP INDUCTION
MEDIUM INDUCTION
SHORT GUARD
2250