

J.K. EDWARDS ASSOCIATES, INC.

OIL & GAS PROPERTIES

1401 17TH STREET / SUITE 1400

DENVER, COLORADO 80202

303/298-1400 FAX 303/298-0757

583

3-27-95

NEW MEXICO OIL CONSERVATION DIVISION
RECEIVED

1995 MAR 13 PM 8 52

February 28, 1995

Mr. Michael Stogner
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

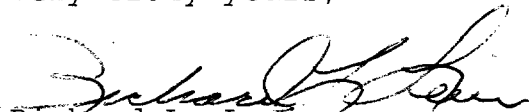
RE: Injection Permit Applications
Bengal A-1 Well
Nelson 1 Well
Frontier 1-A Well
San Juan County, New Mexico

Dear Mr. Stogner:

J.K. Edwards Associates, Inc. desires to deepen the referenced Gallup wells to the Basin Dakota formation and complete them as water disposal wells. The proposed injection wells will be used for produced water from the Fruitland coal gas wells and Gallegos Gallup producers in the Gallegos field area.

Attached are the completed C-108's. If additional information is required, please contact me at (303) 298-1400.

Very truly yours,



Richard L. Lewis
Contract Landman

RLL:vmc

Enclosures

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance ☒ Disposal Storage
Application qualifies for administrative approval? Yes No
- II. OPERATOR: J. K. EDWARDS ASSOCIATES, INC.
ADDRESS: 1401 17th Street, Suite 1400, Denver, CO 80202
CONTACT PARTY: Keith Edwards PHONE: (303) 298-1400
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed 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 sources 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: J. Keith Edwards TITLE: President
SIGNATURE: *J. Keith Edwards* DATE: 2-27-95
- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal. _____

APPLICATION FOR AUTHORIZATION TO INJECT
Form C-108 Supplemental Data
Frontier 1-A Well

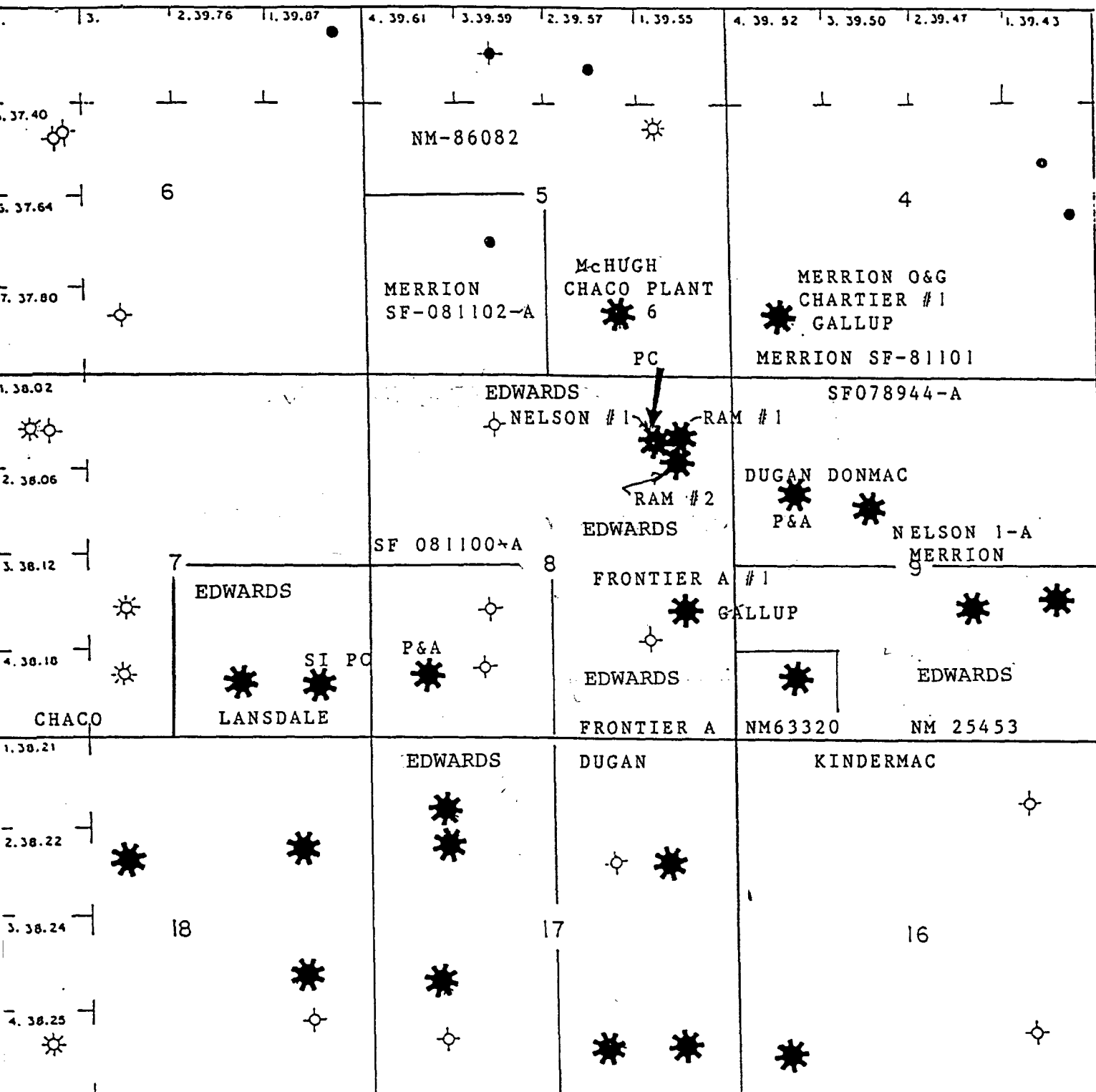
- I. Water Disposal
- II. J. K. Edwards Associates, Inc.
1401 17th Street, Suite 1400
Denver, CO 80202
Contact: Keith Edwards (303) 298-1400
- III. Well data is attached.
- IV. This is not an expansion of an existing project.
- V. Map with area of review is attached.
- VI. There are no wells within the area of review that penetrate the proposed Basin Dakota injection zone.
- VII. Data on proposed injection operations:
 - 1. Average injection rate - 500 bwpd
Maximum injection rate - 1000 bwpd
 - 2. Closed system. Water would be trucked or piped into tanks on location.
 - 3. Average injection pressure - 750 psi
Maximum injection pressure - 1100 psi
 - 4. Produced Fruitland Coal water with TDS of 2000 to 10000 ppm will be injected into the Basin Dakota zone in the Frontier #1-A well. Analyses of coal water in the area are attached.
 - 5. Chemical analysis of water in the Basin Dakota zone will be submitted after deepening the well from its current TD of 5100' in the Gallegos Gallup zone.
- VIII. Geologic and Lithologic data on injection zone.
 - 1. Injection zone - Basin Dakota at approximately 5760' - 6060' (logs will be submitted after deepening of the well).
 - 2. Lithology - Dakota sands.
 - 3. Overlying aquifer - Point Lookout
 - 4. Underlying aquifer - Morrison

APPLICATION FOR AUTHORIZATION TO INJECT C-108 FRONTIER 1-A
page 2

- IX. Perforate and acidize prior to injection operations.
- X. Logs traversing the Gallegos Gallup zone have been submitted previously; logs for the Basin Dakota zone will be submitted after deepening the well into said zone.
- XI. No known sources of potable water exist in the immediate area of the well.
- XII. Geologic studies of the area do not indicate fault communication between the proposed injection zone and any underground potential sources of drinking water.
- XIII. Proof of notice is attached.
- XIV. Certification is signed.

NELSON WELL NO. 1

R12W



APPLICATION FOR AUTHORIZATION TO INJECT
FORM C-108 AREA OF REVIEW PROXIMITY MAP

INJECTION WELL DATA SHEET

OPERATOR J.K. EDWARDS ASSOCIATES, INC.

LEASE NM SF080008

WELL NO. FRONTIER A#1 1750' FSL, 790' FEL:

8 26N 12W

FOOTAGE LOCATION

SECTION

TOWNSHIP

RANGE

Schematic

Well Construction Data

SEE ATTACHED

Surface Casing

Size 10-3/4" " Cemented with 150 SX 3% Calc sx.

TOC surface feet determined by circulate to surf.

Hole Size 12-1/4"

Intermediate Casing

* 100 SX reg
100 SX poz
50 SX NEAT

Size 7-5/8" " Cemented with see* sx.

TOC 2225' feet determined by Temp Survey

Hole Size 9-7/8"

Long String

Size 5-1/2" " Cemented with 150 SX Reg & 150 SX POS sx.

TOC 3870' feet determined by top of liner

Hole Size 6-3/4"

Total Depth 5100'

Injection Interval

apx 5760' feet to apx 6060' feet
(perforated or open-hole; Indicate which)

INJECTION WELL DATA SHEET

Tubing Size 2-3/8" lined with _____ set in a _____
 (type of internal coating)
 packer at _____ feet

Other type of tubing / casing seal if applicable _____

Other Data

1. Is this a new well drilled for injection? Yes ☒ No ☐

If no, for what purpose was the well originally drilled? _____

Oil & Gas Producer--Gallup

2. Name of the injection formation Basin Dakota

3. Name of Field or Pool (if applicable) Gallegos Gallup Field

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e., sacks of cement or plug(s) used. 4892' -4933' 2JSPF

4995' -5025' 2JSPF

5. Give the names and depths of any over or underlying oil or gas zones (pools) in this area.

Fruitland, Pictured Cliffs, MesaVerde, Gallup

WELL NAME: FRONTIER A NO. 1

LOCATION: 1750' FSL, 790' FEL, Sec. 8, T26N, R12W
COUNTY: San Juan STATE: New Mexico
LEASE: SF-080008 TYPE: Federal SURFACE:
OPERATOR: J.K. EDWARDS ASSOCIATES, INC.

SURFACE CASING:

HOLE SIZE: 12-1/4"
CASING: 10-3/4"
CSA: 173'
CEMENT: 150 SX 3% CACL
CIRC TO SURFACE

GLE - 5989'
KBE - 5999'
KBM - 10'

FORMATION TOPS:

FRUITLAND: 917'
PICT CLIFFS: 1137'
LEWIS: 1453'
CLIFFHOUSE 2025'
MENEFE: 3708
POINT LOOKOUT: 3922'
MANCOS: 4760
UPPER GALLUP:

WELL DATA:

SPUD DATE: 8/08/57
ORIGINAL OWNER: EPNG/BED
IP: 1044 MCFD
ZONE: LOWER GALLUP
COMPL: SWF 40,000# SAND
WI: 100% NRI:
TUBING: 2-3/8"
ROD STRING: 3/4"
PUMP SIZE: 2 X 1-1/2"
PUMP JACK:
SPM: SL:

TOP CEMENT: 2225'
TEMP SURVEY

PERFORATIONS:

4897'-4933' 2JSPF
4995'-5025' 2JSPF

INTERMEDIATE CSG:

HOLE SIZE: 9-7/8"
SIZE: 7-5/8"
WT & GR: 25.4# J-55
CSA: 3930'
DEPTH: 3940'
CEMENT: 100 SX REG
100 SX POZ
50 SX NEAT

3940'

LINER:

HOLE SIZE: 6-3/4"
SIZE: 5-1/2"
WT & GR: 15.5#
LSA: (1233') 3870'-5106'
TD: 5100'

CEMENT: 150 SX REG, 150 SX POZ

WILL DEEPEN THROUGH DAKOTA WITH 4 3/4 " HOLE AND RUN EITHER
4" or 3 1/2" CASING AND CEMENT BACK TO EXISTING CASING
STRINGS.

CMT TO 100'
INSIDE SURFACE PIPE

J.K. EDWARDS ASSOCIATES, INC.

OIL & GAS PROPERTIES

1401 17TH STREET / SUITE 1400

DENVER, COLORADO 80202

303/298-1400 FAX 303/298-0757

CERTIFIED MAIL-RETURN RECEIPT

February 10, 1995

DUGAN PRODUCTION COMPANY

Attn: Land Department

P.O. Box 420

Farmington, NM 87499

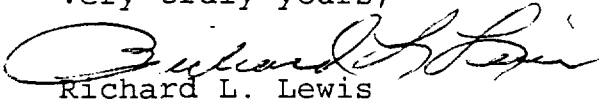
Re: Application to Inject
Frontier A#1 well
SE/4 Section 8-T26N-R12W
San Juan County, NM

Gentlemen and Ladies:

Pursuant to the regulations of the NMOCD, you are advised of JKEAI's intention to deepen the referenced well to the Basin Dakota formation and use it as a salt water disposal well. I am enclosing a copy of the application for your reference.

Any request for information or any objections should be filed with the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, NM 87501 within 15 days of publication in the Farmington Daily Times.

Very truly yours,



Richard L. Lewis
Contract Landman

RLL:ll
encls.

P 879 671 510

Certified Mail Receipt

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)



Sent to	
Dugan Production Co	
Street & No. Land Dept	
PO Box 420	
P.O., State & ZIP Code	
Farmington NM 87499	
Postage	\$ 1.24
Certified Fee	1.10
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	1.10
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	\$ 3.44
Postmark or Date	2/9/95 1c

PS Form 3800 June 1990

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

DUGAN PRODUCTION COMPANY
ATTN: LAND DEPT.
PO BOX 420
FARMINGTON NM 87499

4a. Article Number

P 879 671 510

4b. Service Type

- | | |
|--|---|
| ☐ Registered | ☐ Insured |
| ☒ Certified | ☐ COD |
| ☒ Express Mail | ☐ Return Receipt for Merchandise |

7. Date of Delivery

2/13

8. Addressee's Address (Only if requested and fee is paid)

5. Signature (Addressee)

[Signature]

6. Signature (Agent)

[Signature]

PS Form 3811, December 1991

★U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

Thank you for using Return Receipt Service.

J.K. EDWARDS ASSOCIATES, INC.

OIL & GAS PROPERTIES

1401 17TH STREET / SUITE 1400

DENVER, COLORADO 80202

303/298-1400 FAX 303/298-0757

CERTIFIED MAIL-RETURN RECEIPT

February 10, 1995

BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA
1235 LaPlata Highway
Farmington, NM 87401

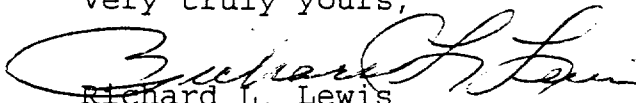
Re: Application to Inject
Frontier A#1 well
SE/4 Section 8-T26N-R12W
San Juan County, NM

Gentlemen and Ladies:

Pursuant to the regulations of the NMOCD, you are advised of JKEAI's intention to deepen the referenced well to the Basin Dakota formation and use it as a salt water disposal well. I am enclosing a copy of the application for your reference.

Any request for information or any objections should be filed with the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, NM 87501 within 15 days of publication in the Farmington Daily Times.

Very truly yours,


Richard L. Lewis
Contract Landman

RLL:11
encls.

P. 879 671 590



PS Form 3800, June 1990

Sent to	
Bureau Land Management	
Street & No. Resource Area	
1235 Laplata Hwy	
P.O. State & ZIP Code	
Farmington NM 87401	
Postage	\$1.24
Certified Fee	1.10
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom, Date, & Address of Delivery	1.10
TOTAL Postage & Fees	\$3.44
Postmark or Date	5-10-95 VR

Is your RETURN ADDRESS completed on the reverse side?

SENDER:

- Complete items 1 and/or 2 for additional services.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

3. Article Addressed to:

BUREAU OF LAND MANAGEMENT
FARMINGTON RESOURCE AREA
1235 LAPLATA HIGHWAY
FARMINGTON, NM 87401

Signature (Addressee)

Signature (Agent)

PS Form 3811, December 1991 #U.S. GPO: 1993-352-714

DOMESTIC RETURN RECEIPT

4a. Article Number
P 879 671 590

4b. Service Type
☒ Certified
☐ Registered
☐ Insured

7. Date of Delivery
2/18/95

8. Addressee's Address (Only if requested and fee is paid)

1. ☐ Addressee's Address

2. ☐ Restricted Delivery

Consult postmaster for fee.

I also wish to receive the following services (for an extra fee):

Thank you for using Return Receipt Service.

J.K. EDWARDS ASSOCIATES, INC.

OIL & GAS PROPERTIES

1401 17TH STREET / SUITE 1400

DENVER, COLORADO 80202

303/298-1400 FAX 303/298-0757

CERTIFIED MAIL-RETURN RECEIPT

February 10, 1995

JEROME P. MCHUGH & ASSOCIATES
NASSAU RESOURCES, INC.
KINDERMAC PARTNERS
Attn: Land Department
650 South Cherry St., Suite 1225
Denver, CO 80222

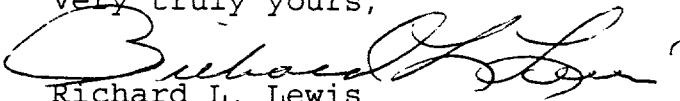
Re: Application to Inject
Frontier A#1 well
SE/4 Section 8-T26N-R12W
San Juan County, NM

Gentlemen and Ladies:

Pursuant to the regulations of the NMOCD, you are advised of JKEAI's intention to deepen the referenced well to the Basin Dakota formation and use it as a salt water disposal well. I am enclosing a copy of the application for your reference.

Any request for information or any objections should be filed with the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, NM 87501 within 15 days of publication in the Farmington Daily Times.

Very truly yours,


Richard L. Lewis
Contract Landman

RLL:11
encls.

J.K. EDWARDS ASSOCIATES, INC.

OIL & GAS PROPERTIES

1401 17TH STREET / SUITE 1400

DENVER, COLORADO 80202

303/298-1400 FAX 303/298-0757

CERTIFIED MAIL-RETURN RECEIPT

February 10, 1995

MERRION OIL AND GAS CORPORATION
Attn: Land Department
610 Reilly Avenue
P.O. Box 840
Farmington, NM 87499

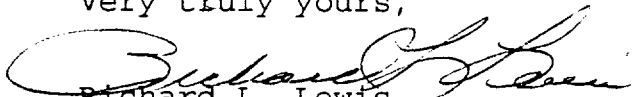
Re: Application to Inject
Frontier A#1 well
SE/4 Section 8-T26N-R12W
San Juan County, NM

Gentlemen and Ladies:

Pursuant to the regulations of the NMOCD, you are advised of JKEAI's intention to deepen the referenced well to the Basin Dakota formation and use it as a salt water disposal well. I am enclosing a copy of the application for your reference.

Any request for information or any objections should be filed with the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, NM 87501 within 15 days of publication in the Farmington Daily Times.

Very truly yours,


Richard L. Lewis
Contract Landman

RLL:11
encls.

AFFIDAVIT OF PUBLICATION

COPY OF PUBLICATION

No. 34361

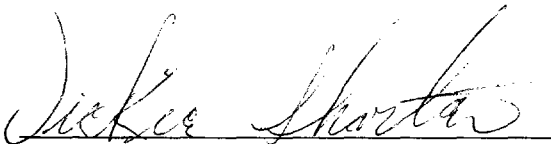
STATE OF NEW MEXICO

County of San Juan:

VICKI SHORTER being duly sworn says:
That he is the Classified Manager of THE DAILY TIMES, a daily newspaper of general circulation published in English at Farmington, said county and state, and that the hereto attached Legal Notice was published in a regular and entire issue of the said DAILY TIMES, a daily newspaper duly qualified for the purpose within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico for publication on the following day(s):

TUESDAY, FEBRUARY 14, 1995

and the cost of publication was: \$18.37



On 2/15/95 VICKI SHORTER
appeared before me, whom I know
personally to be the person who signed the
above document.



My Commission Expires March 21, 1998.

Legals



NOTICE

J.K. Edwards Associates, Inc.,
1401 17th Street, Suite 1400,
Denver, CO 80202 (303) 298-
1400 whose agent is Keith Ed-
wards, hereby notifies all inter-
ested parties that the following
well is to be deepened and
converted to a water disposal
well. Injection will be into the
Basin Dakota interval at ap-
proximately 5760' - 6060'.
Maximum well rate will be 1000
Bwpd at less than 1100 psi.
Any requests for information or
any objections should be filed
with the Oil Conservation Divi-
sion, State Land Office Build-
ing, P.O. Box 2088, Santa
Fe, NM 87501 within 15 days
of this notice.

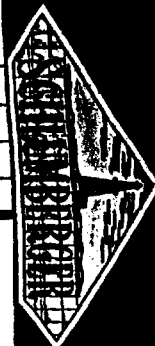
Gallegos Gallup Field, Frontier
1-A, NE/4, SE/4 Section 8,
T26N-R12W, San Juan Coun-
ty, New Mexico.

Legal No. 34361 published in
The Daily Times, Farmington,
New Mexico, Tuesday, Febru-
ary 14, 1995.

SCHEIDT & BERGER WELL SURVEYING CORPORATION

HOUSTON, TEXAS

ELECTRICAL LOG
GAMMA RAY & INDUCTION LOG



COUNTY SAN JUAN, N.M.
FIELD or LOCATION WILDCAT
WELL FRONTIER #1

COMPANY EL PASO NATURAL GAS COMPANY

COMPANY EL PASO NATURAL GAS COMPANY
WELL FRONTIER #1
FIELD WILDCAT
LOCATION SEC. 5-26N-12W
COUNTY SAN JUAN
STATE NEW MEXICO

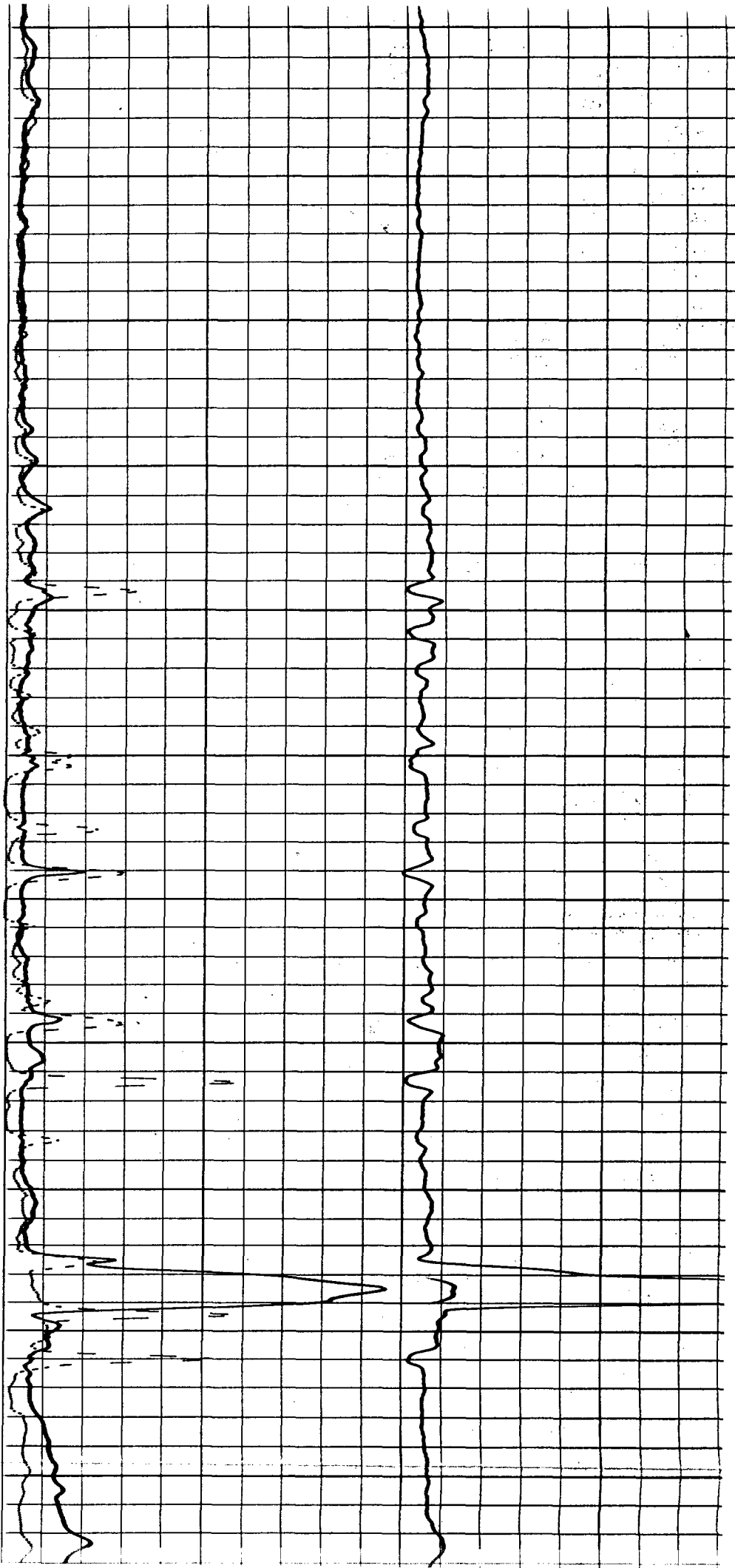
Location of Well
1850' FR S/L
1850' FR W/L
SEC. 5-26N-12W
ES GRL IND
(ML TEMP)
Elevation: D.F.: 5904'
K.B.: 5895'
or G.L.: 5895'
FILING No. _____

RUN No.	ONE ES	ONE IND	ONE GRL
Date	5-18-57	5-22-57	5-22-57
First Reading	3973	5044	5045
Last Reading	175	3968	1050
Feet Measured	3798	1076	1995
Csg. Schlum.	175	3968	3968
Csg. Driller	176	3970	3970
Depth Reached	3974	5048	5048
Bottom Driller	3970	5050	5050
Depth Datum	KB	KB	KB
Mud Nat.	GEL	DRY GAS	DRILLED DRY GAS DRILLED
" Density	10.2		
" Viscosity	50		
" Resist.	2.0 @ 60°F	@	@
" Res. BHT	1.1 @ 10°F	@	@
" pH	@	@	@
" Wtr. Loss	CC 30 min.	CC 30 min.	
Max. Temp. °F	110	121	121
Bit Size	9 5/8"	6 3/4"	6 3/4"
SNGS. AM	16"	27"	SENS. 400
AM	64"		T.C. 4
AO	18 1/8"		
Oper. Rig Time	HR	1 1/2 HR	2 HRS

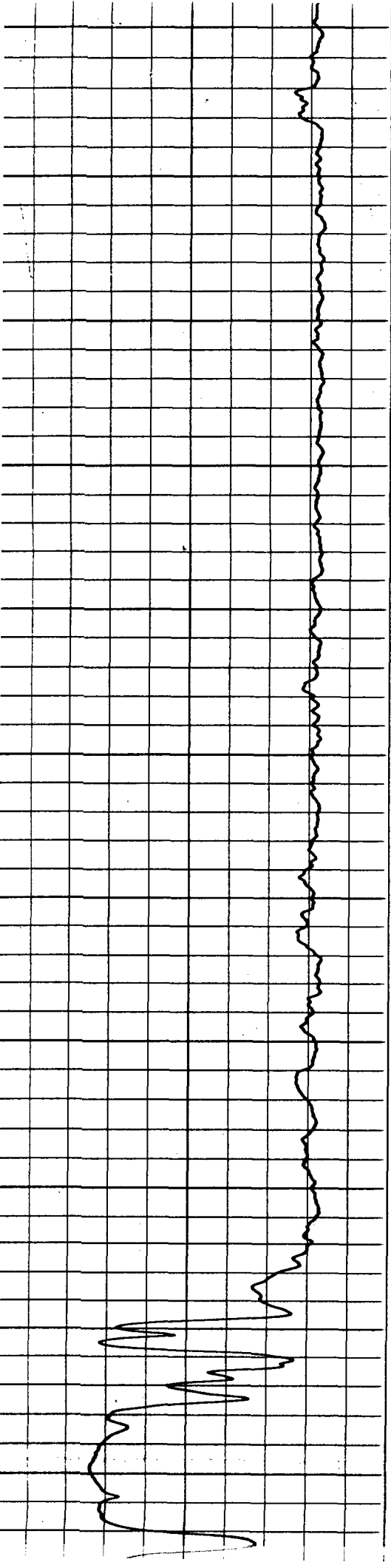
FOLD HERE

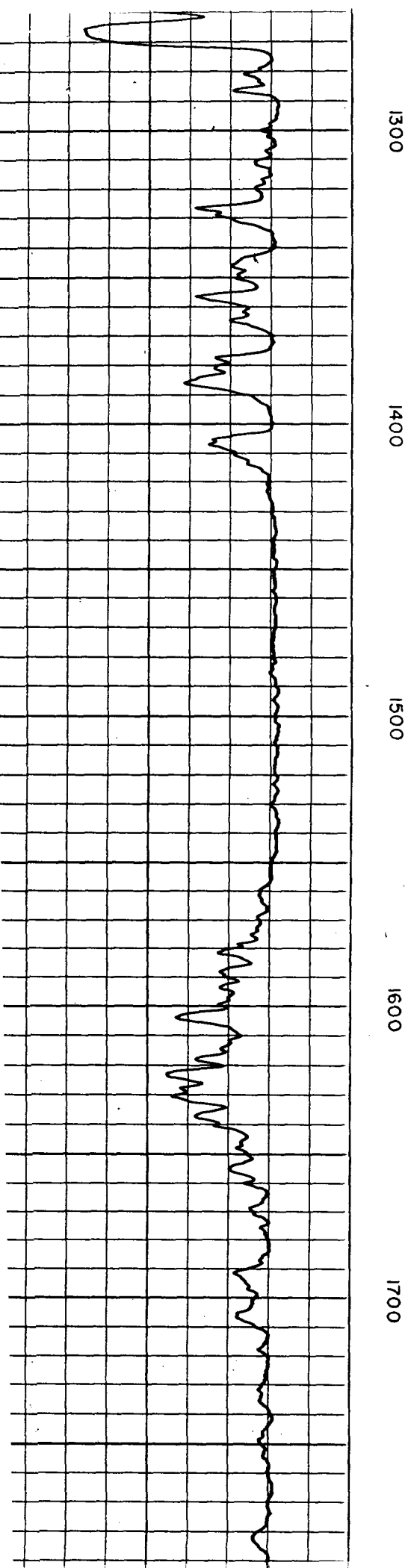
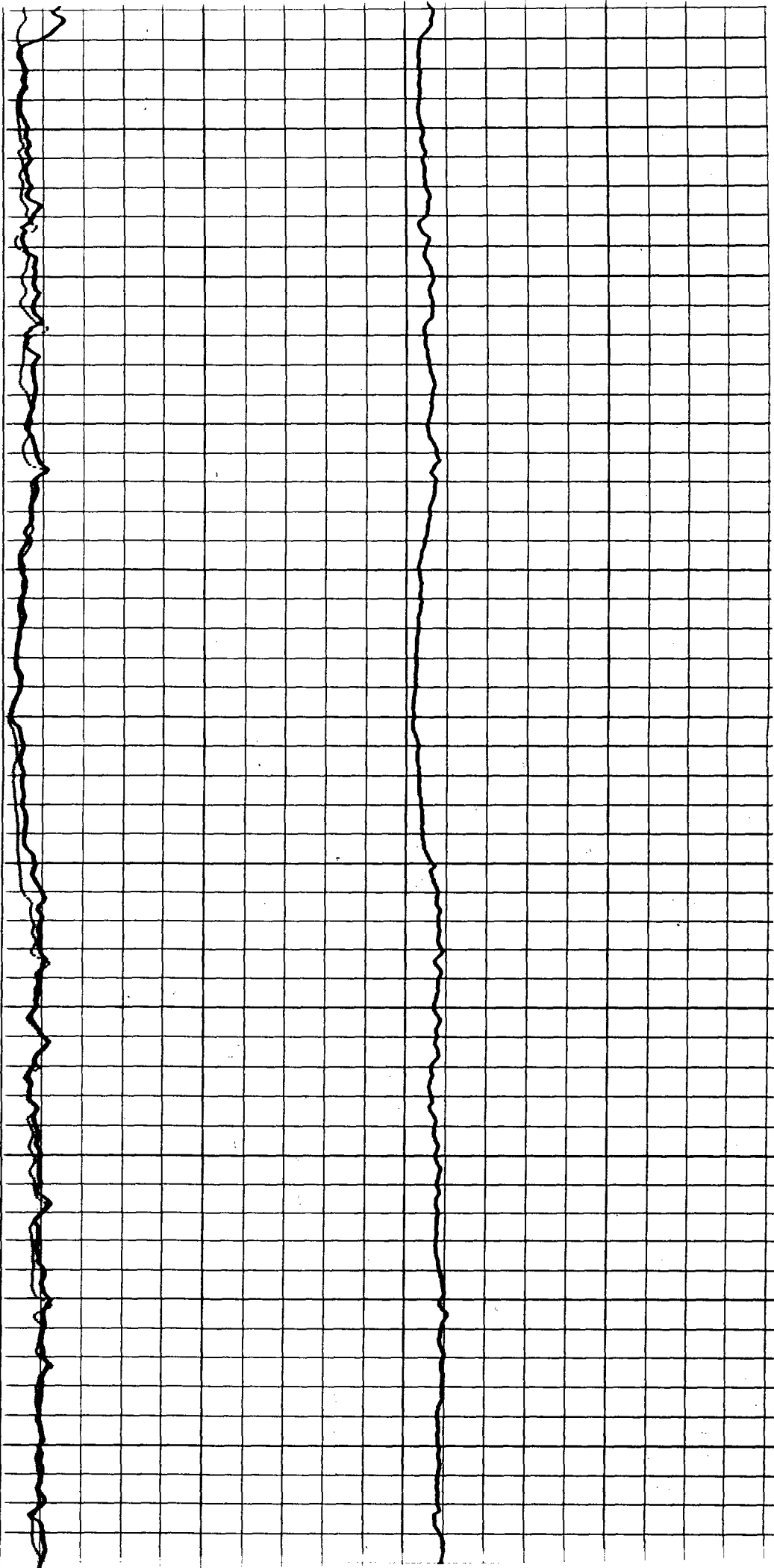
MARKS MUD FROM PIT
MA RAY: RECORDING SPEED IS 3600' / HR
ZERO EMISSION IS 2 DIVISIONS LEFT
CALIBRATION: B104-480-100(400)
INDUCTION: ILH G 88 ILS G 70 ILP G 35

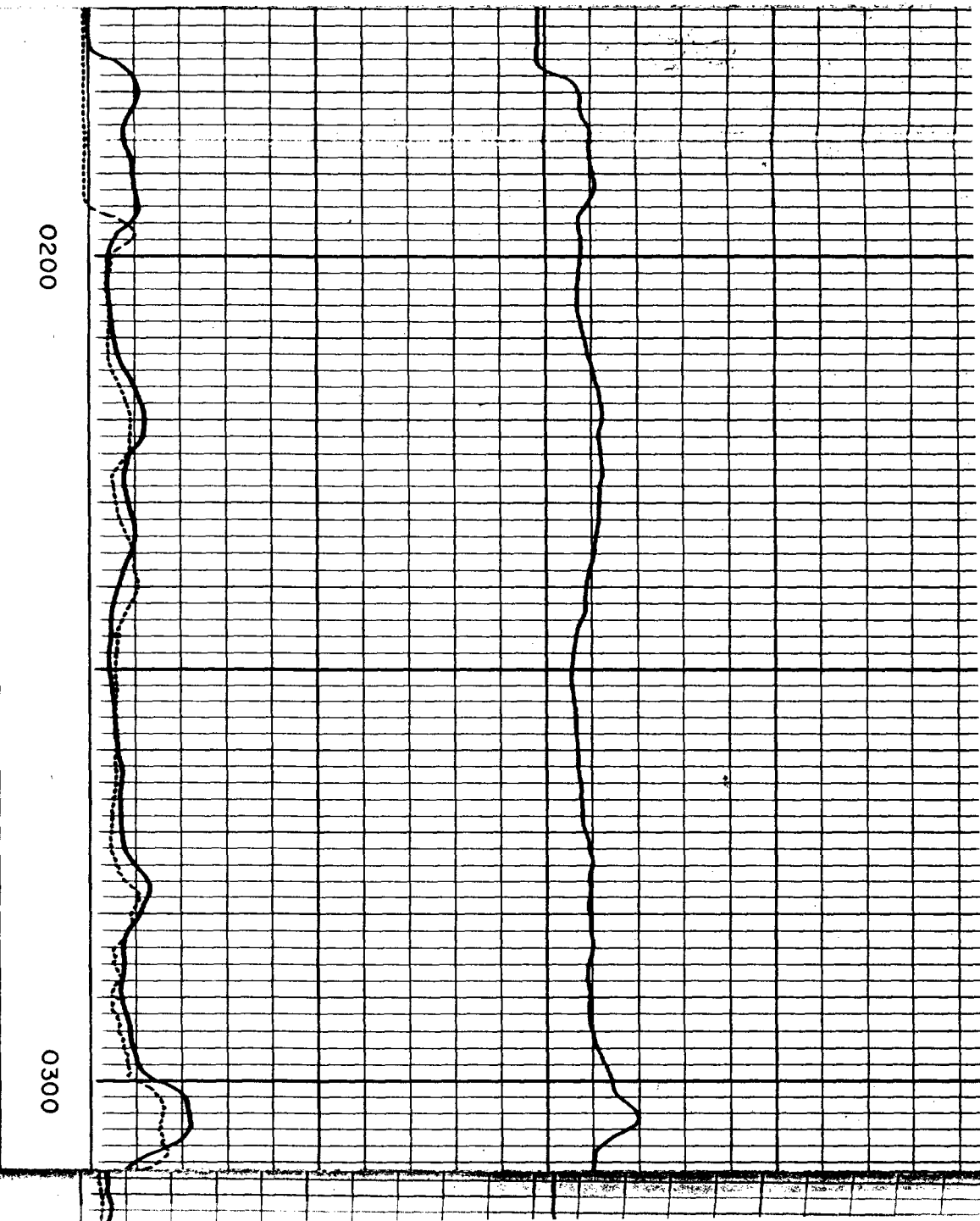
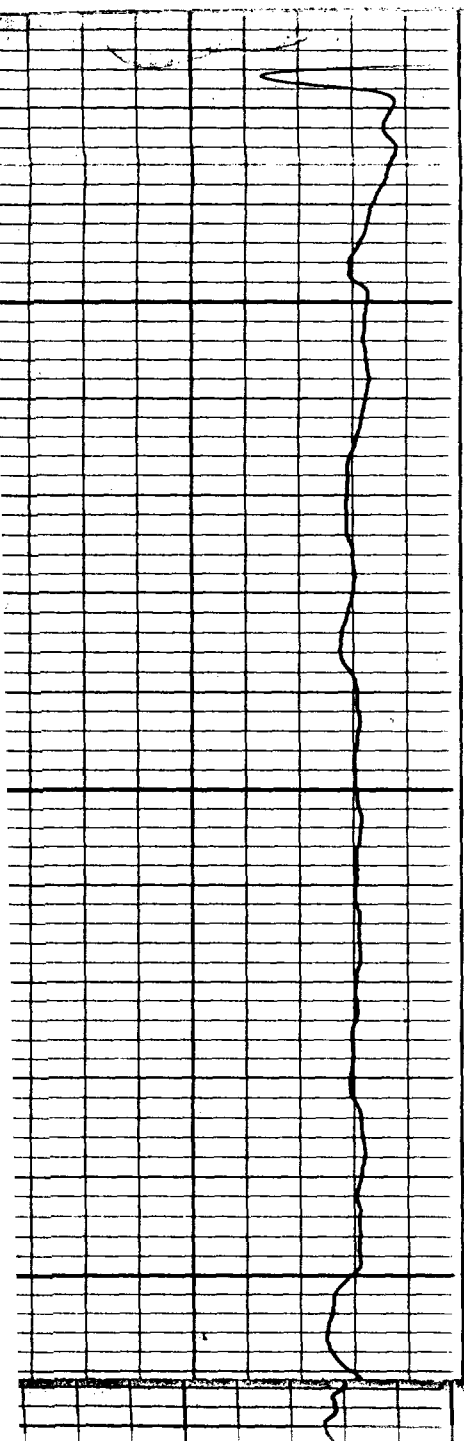
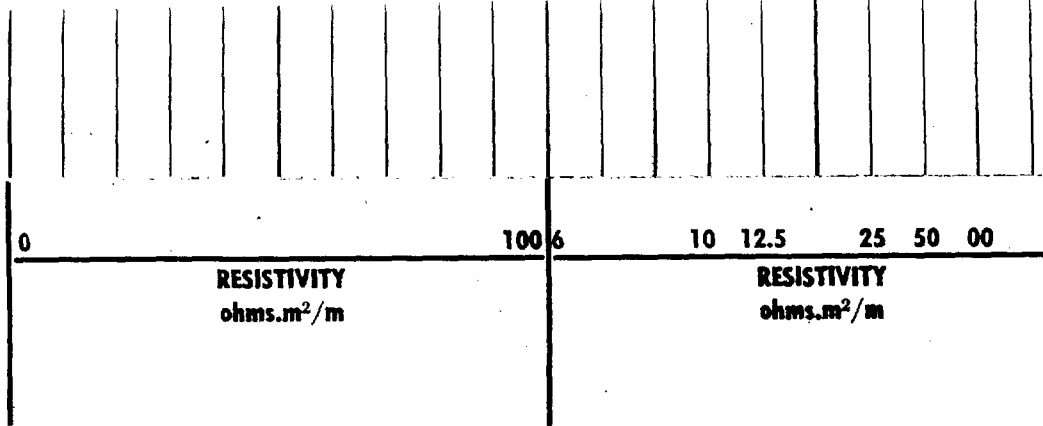
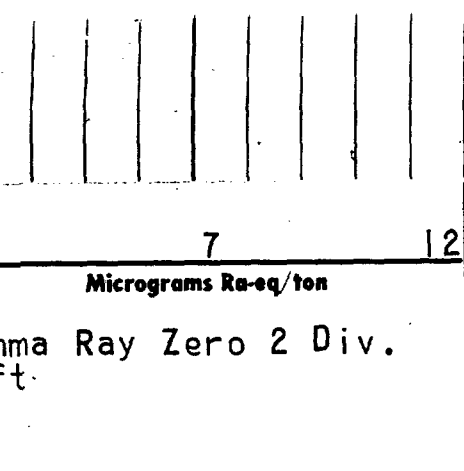
INSTANTANEOUS POTENTIAL millivolts	DEPTH	RESISTIVITY -ohms.m ² /m	RESISTIVITY -ohms.m ² /m
10+	2" = 100'	0 NORMAL 100 0	LONG NORMAL 100
		0 1000 0	1000
		0 LATERAL 100	
	CSG. 175'	0 1000	

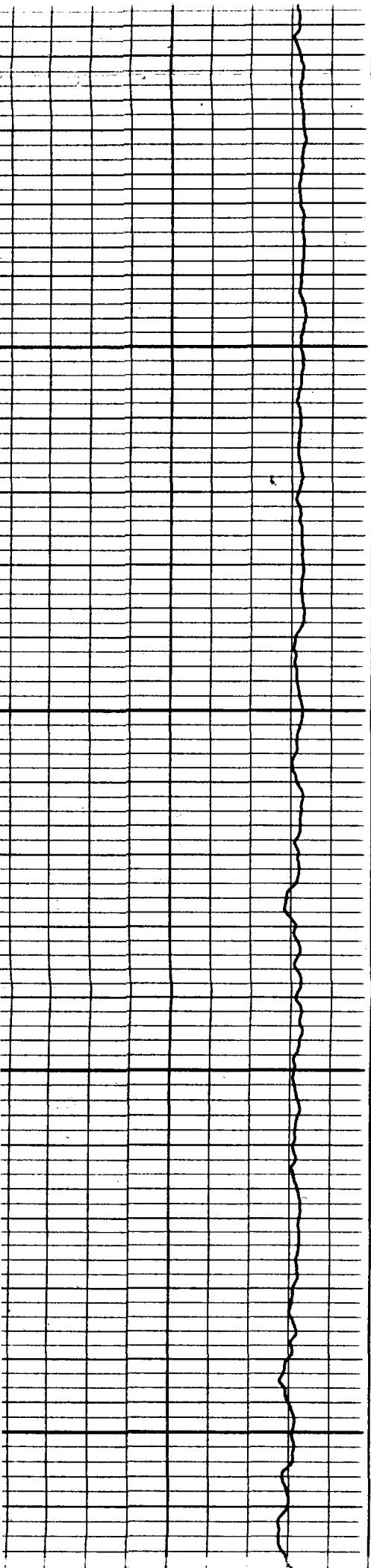


0700 0800 0900 1000 1100 1200



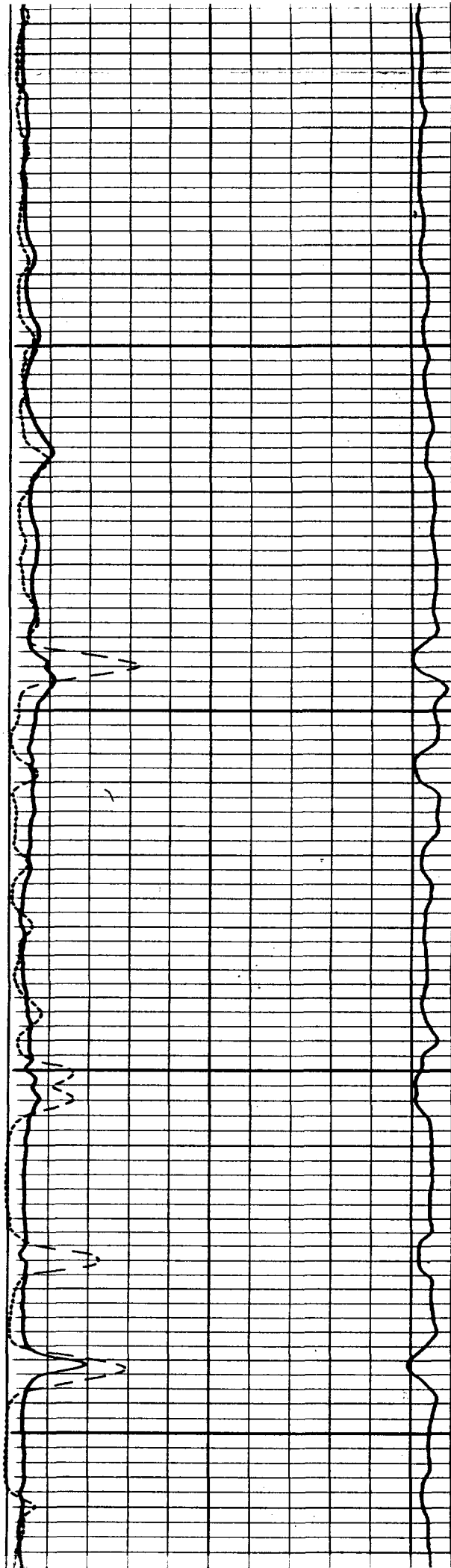


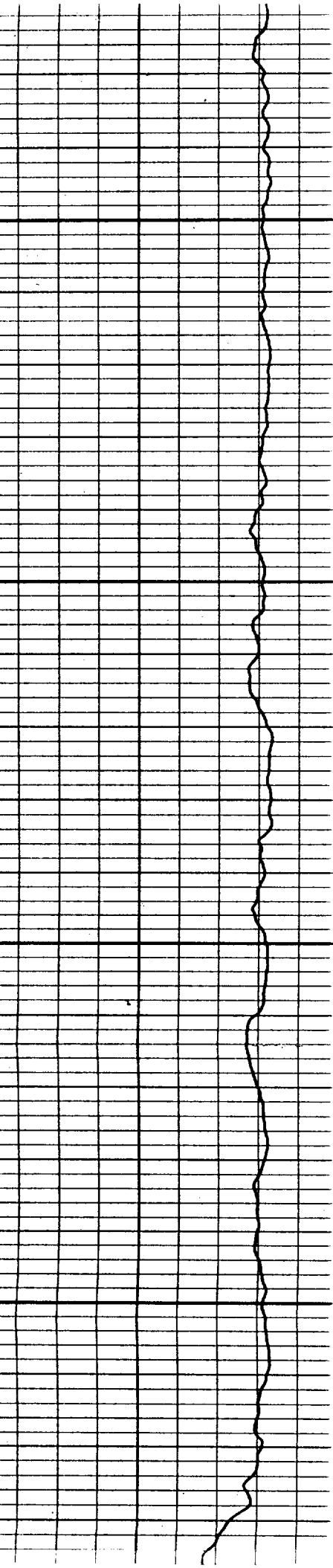




000

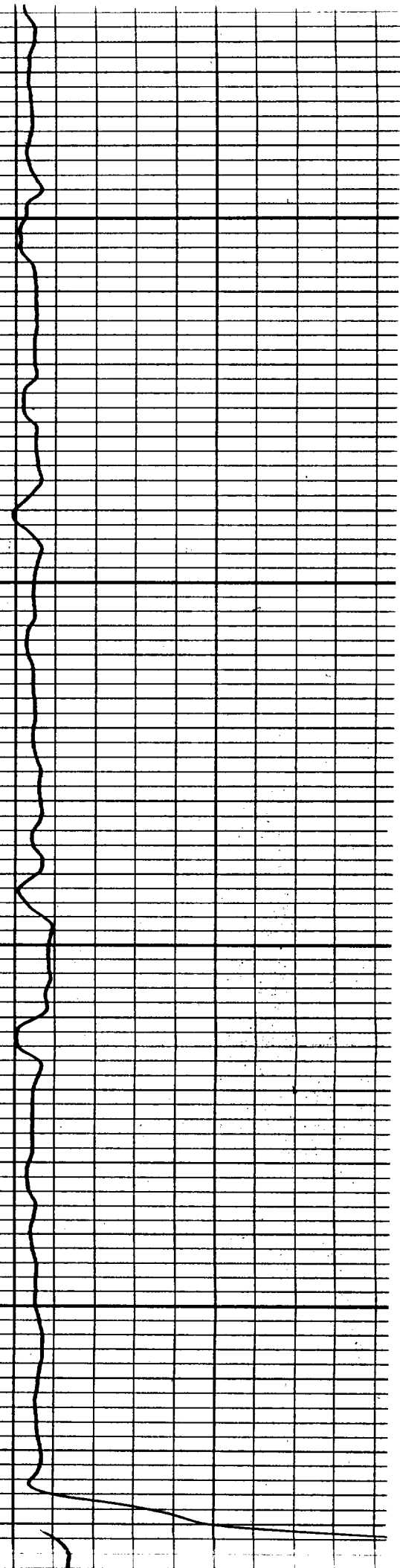
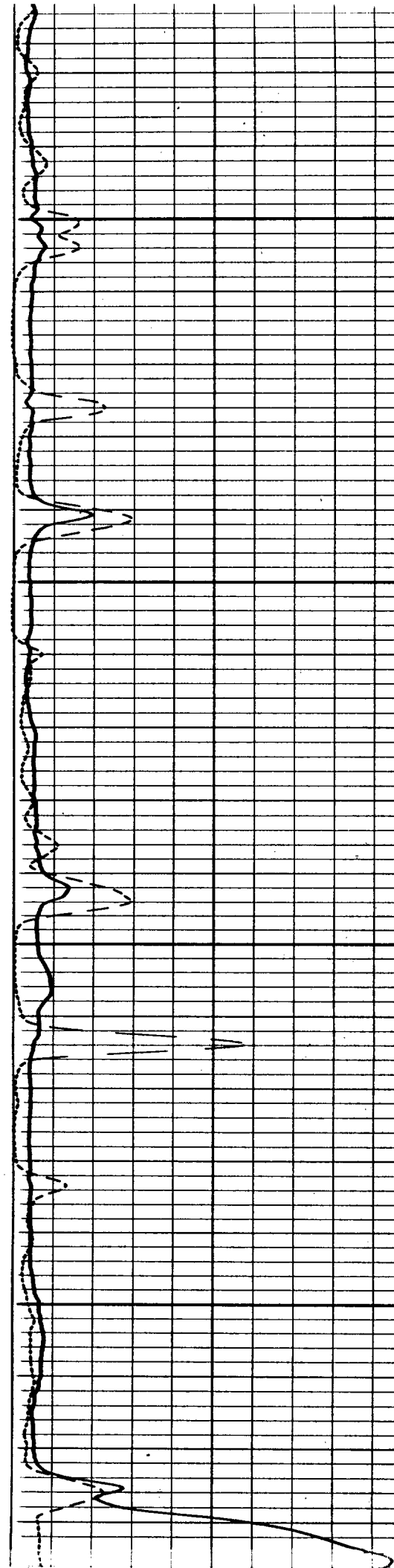
0060

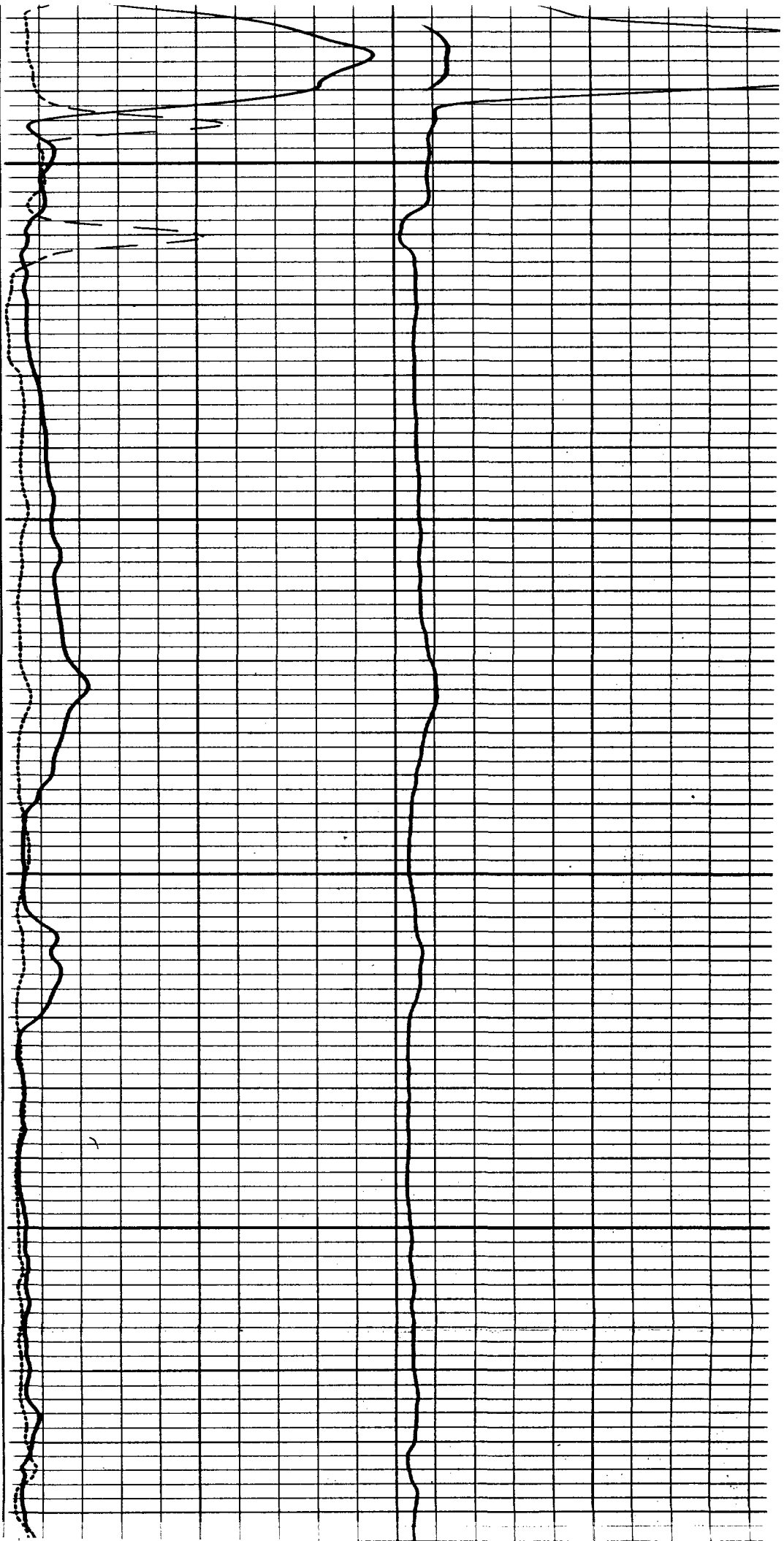




1000

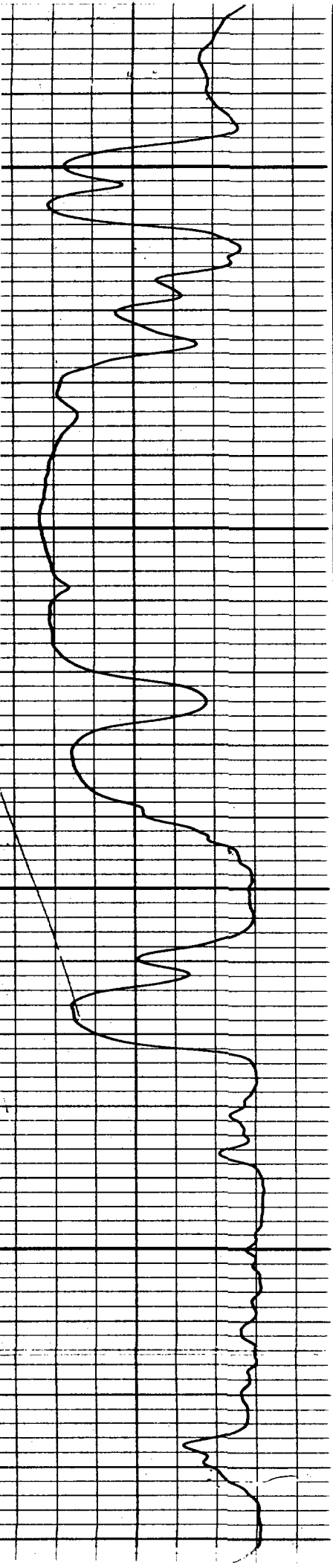
1100

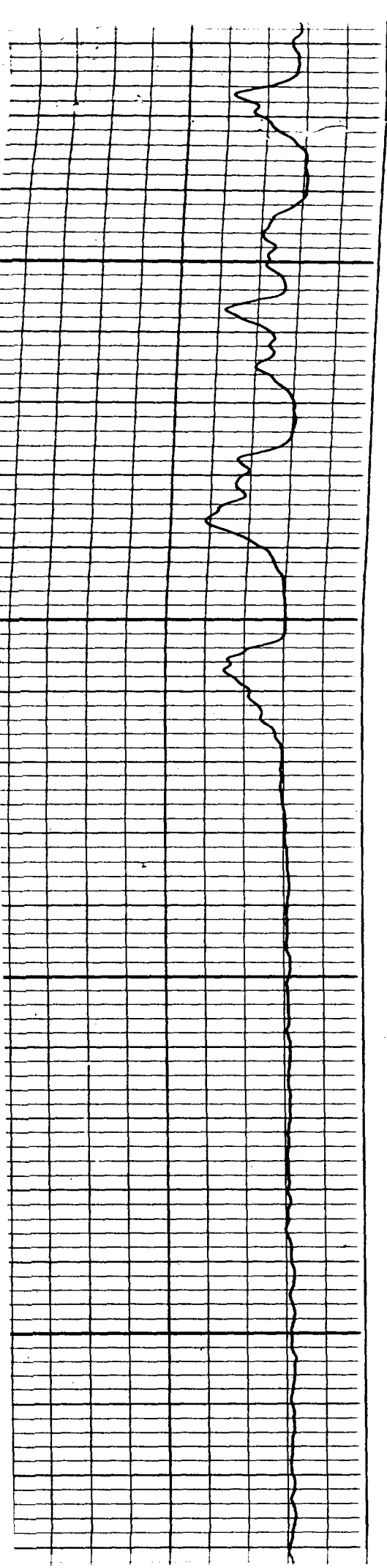




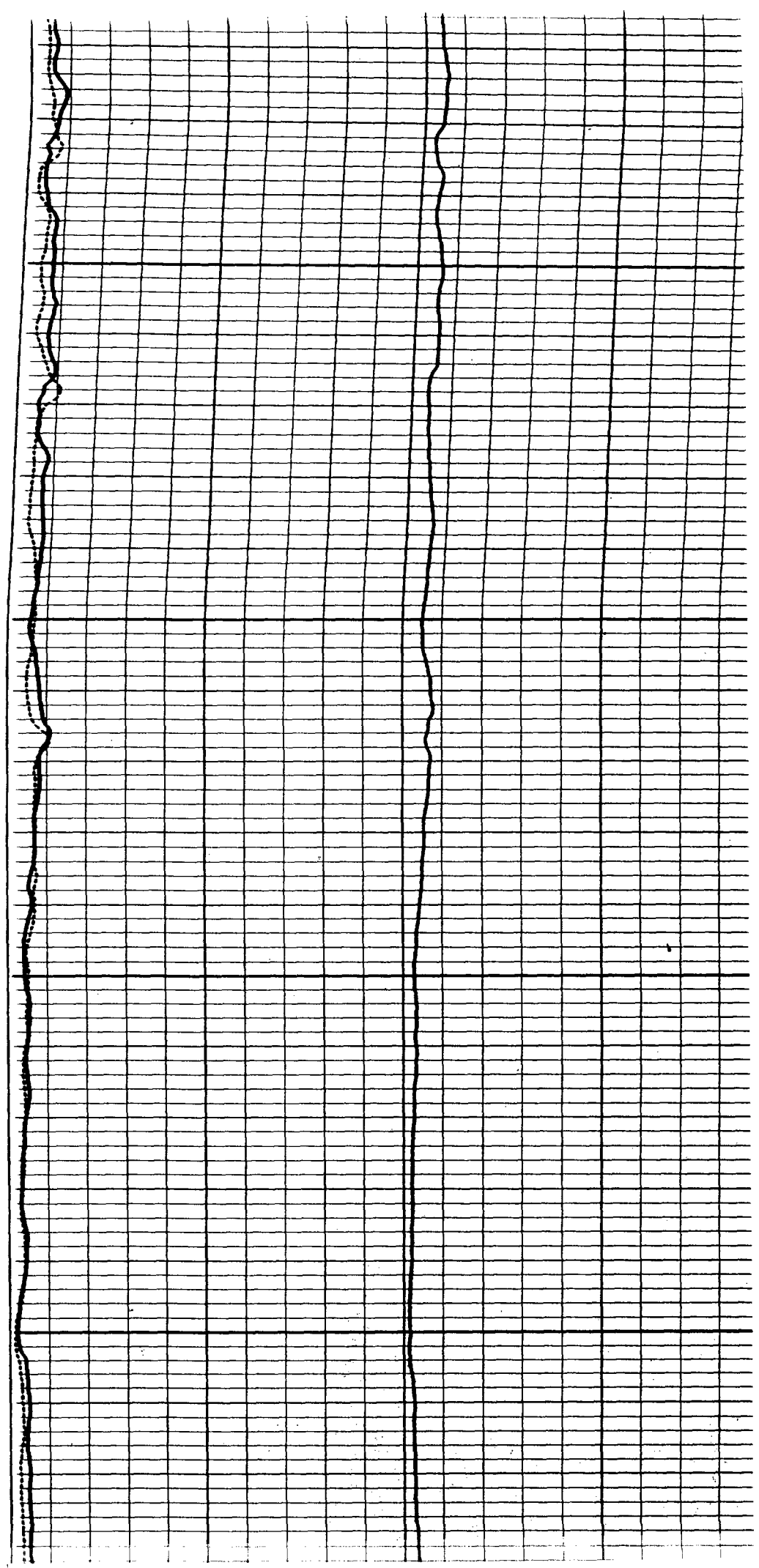
1200

1300

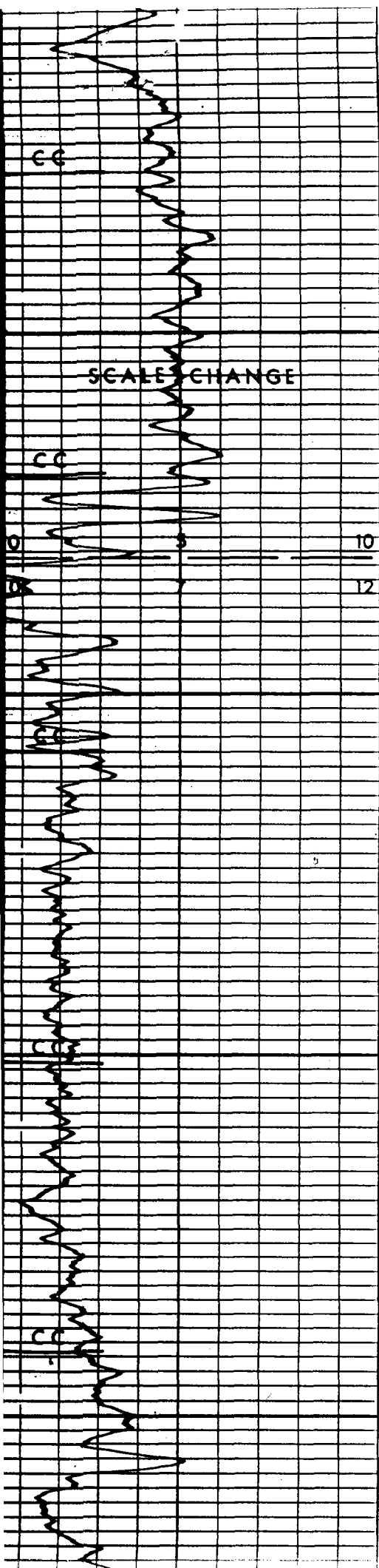




1400



1500



1100

1200

