



510 SUN LIFE PLAZA III
1001 15th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 1H1
TELEPHONE (403) 261-0743



September 10, 1987

Manitoba Petroleum Branch
Eaton Place
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Attention: Mr. Bob Dubrieul

Dear Sir:

RE: Waskada Unit #12

Attached is a copy of page 21 of the Unit Agreement for the subject unit showing execution by Omega Hydrocarbons Ltd. It appears that we did not previously distribute a copy of same.

Yours truly,

OMEGA HYDROCARBONS LTD.

R. A. Beamish,
Joint Interest Co-ordinator

Att.
RAB/pb



1201 SUN LIFE PLAZA III
110 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0744

April 14, 1986

Manitoba Oil and Natural Gas Conservation Board
Room 309,
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Attention: Mr. Charles S. Kang, Chairman

Dear Sir:

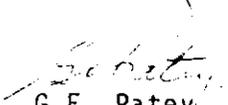
Re: Waskada Unit No. 12

Thank you for your letter of April 1, 1986 confirming the effective date of the captioned unit.

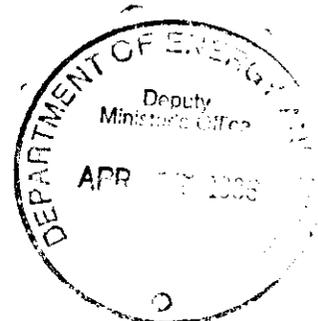
Please be assured that we will do everything reasonable to obtain the royalty owners consent to include the two tracts which did not qualify for inclusion by April 1, 1986. It appears from the circumstances, particularly surface rights arbitration, that the owners consent will not be obtained prior to July 1, 1986, which would result in the necessity to enlarge the unit to include these two tracts.

Yours truly,

OMEGA HYDROCARBONS LTD.


G.E. Patey,
Vice President, Production

GEP:vb
c.c. Waskada (Miss.) Applications
& Waterflood Approvals File
Waskada Unit No. 12



OMEGA

HYDROCARBONS LTD.

1300 SUN LIFE PLAZA III
112 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0743

April 3, 1986

Manitoba Energy and Mines
Petroleum Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Attention: Mr. L.R. Dubreuil
Chief Petroleum Engineer

Manitoba Oil and Natural Gas
Conservation Board
Room 309, Legislative Building
Winnipeg, Manitoba
R3C 0V8

Attention: Mr. C.S. Kang
Chairman

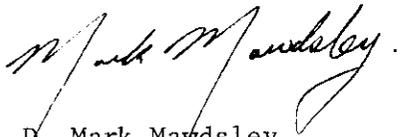
Dear Sirs:

Re: Waskada Unit 12

Enclosed are copies in duplicate of revised Exhibits A and B for the Waskada Unit 12 - Unit Agreement showing the exclusion of L.S.D.'s 1 and 2-25-1-26 WPM (original Tracts 15 and 16). Niwert Holdings Ltd's representative has not signed the Unit Agreement and shows no sign of doing so in the near future.

Yours truly,

OMEGA HYDROCARBONS LTD.

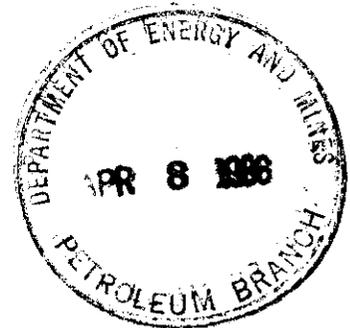


D. Mark Mawdsley
Production Engineer

DMM: jr

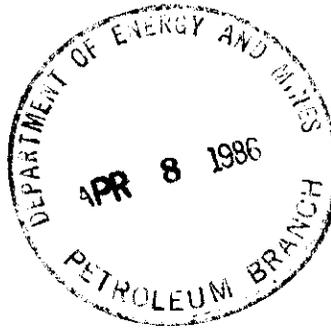
cc: Waskada Unit 12 File

Encl.



OMEGA
HYDROCARBONS LTD

1300 SUN LIFE PLAZA III
112 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0743



April 3, 1986

To: Royalty Interest Owners
Waskada Unit 12
(Addressee List Attached)

Dear Sirs:

Re: Waskada Unit 12 Effective Date

Please be advised that the Effective Date for the captioned Unit is April 1, 1986. Niwert Holdings Ltd. has elected not to participate in this Unit so the original Tracts 15 and 16 (L.S.D.'s 1 and 2-25-1-26 WPM) have been excluded. Revised Exhibits A and B showing this exclusion and the resultant change in tract participations are attached and should be inserted into your copy of the Unit Agreement. We have also received waterflood approval from the Manitoba Board. Water injection will commence in April as soon as the injection wells are properly equipped.

Yours truly,

OMEGA HYDROCARBONS LTD.

A handwritten signature in cursive script that reads "D. Mark Mawdsley".

D. Mark Mawdsley
Production Engineer

DMM:jr

cc: Waskada Unit 12 File

Encl.

WASKADA UNIT 12

ROYALTY INTEREST OWNERS

ADDRESSEE LIST

Bran Van Enterprises Ltd.
240 1st Street
Brandon, Manitoba
R7A 5Z9

John Wilfred Hainsworth
P.O. Box 433
Deloraine, Manitoba
ROM 0M0

64440 Manitoba Ltd.
P.O. Box 433
Deloraine, Manitoba
ROM 0M0

70361 Manitoba Ltd.
P.O. Box 433
Deloraine, Manitoba
ROM 0M0

Donald E. McGregor
Waskada, Manitoba
ROM 2E0

Missilinda of Canada
c/o Doane Raymond Chartered Accountants
100 5 Donald Street
Winnipeg, Manitoba
R3L 2T4

North American Royalties Inc.
200 East 8 Street
Chattanooga, Tennessee
39402 USA

Mable Grace Pounder
The Rudyard Kipling
Suite 1001, 1420 Beach Drive
Victoria, B.C.
V8S 2N8

Manitoba Energy & Mines
Mineral Resources Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3



1000 SUNLIFE PLAZA III
152 4th AVENUE SW
CALGARY ALBERTA CANADA T2P 0M3
TELEPHONE (403) 261-9743

March 24, 1986

Manitoba Oil & Natural Gas Conservation Board
Room 309
Legislative Building
Winnipeg, Manitoba
R3C 0V8

Attention: Mr. C.S. Kang

Dear Sir:

Re: Waskada Unit 12 Effective Date

Omega has tried with no success to get Niwert Holdings Ltd. to approve the Unit 12 Unit Agreement. In view of this, we request an Effective Date of April 1, 1986 for Unit 12 with the disqualification of Tracts 15 and 16. Should Niwert's representative sign the Unit Agreement within the 90 day period allowed in the Unit Agreement (clause 501 (b)) we will include Tracts 15 and 16 in Unit 12. Otherwise, we will issue revised Exhibits A and B excluding Tracts 15 and 16 and showing the resulting tract factors. The Board should already be in possession of nine of the ten execution pages from the Unit 12 Unit Agreement which were included with my letter of March 3, 1986 addressed to yourself. Thank you for your attention to this matter.

Yours truly,

OMEGA HYDROCARBONS LTD.

D. Mark Madsley
Production Engineer

DMM/jfr

cc: Manitoba Department of Energy & Mines
Attention: Mr. Bob Dubreuil (Phone-fax)
Waskada Unit 12 File

Encl.



The Oil and Natural Gas
Conservation Board

Room 309
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

(204) 945-3130

Omega Hydrocarbons Ltd.
1300 Sun Life Plaza III
112 - 4th Avenue S.W.
Calgary, Alberta
T2P 0H3

Attention: D. Mark Mawdsley,
Production Engineer



Dear Sirs:

Re: Waskada Unit No. 12

Receipt of your letter dated March 24, 1986 regarding the subject Unit is acknowledged.

The Waskada Unit No. 12 Unit Agreement is hereby approved with an effective date of April 1, 1986.

Further to your letter and to subclause 502(a) of the Unit Agreement, the Board concurs that tracts No. 15 and 16 do not currently qualify for inclusion in the Unit. If you are successful in obtaining royalty owner consent for these tracts within 90 days of the effective date (i.e. prior to July 1, 1986) they will be included in the Unit with an effective date of April 1, 1986 (per subclause 501(b) of the Unit Agreement). If the royalty consents have not been obtained and submitted to the Board within 90 days, the tracts will be excluded from the Unit and amendment of Exhibits A and B of the Unit Agreement will be required.

With respect to allocation of production for royalty and tax purposes during the 90 day period after the effective date, we ask that you confirm that it will be assumed that Tracts No. 15 and 16 will qualify, and further, if these tracts do not qualify, a retroactive adjustment to royalty payments will be made.

Yours sincerely,

THE OIL AND NATURAL GAS
CONSERVATION BOARD

**ORIGINAL SIGNED BY
CHARLES S. KANG**

Charles S. Kang
Chairman

LRD/1k

b.c. Wm. McDonald
J. F. Redgwell
Petroleum Branch



The Oil and Natural Gas
Conservation Board

Room 309
Legislative Building
Winnipeg, Manitoba, CANADA
R3C 0V8

(204) 945-3130

MAR 7 1986

Omega Hydrocarbons Ltd.
1300 Sun Life Plaza III
112 - 4th Avenue S.W.
Calgary, Alberta
T2P 0H3

Attention: D. Mark Mawdsley,
Production Engineer

Dear Sirs:

Re: Waskada Unit No. 12

Your letter dated March 3, 1986 regarding Board approval of the subject Unit is acknowledged.

With respect to a retroactive approval, it is the opinion of the Board that clause 1401 of the Unit Agreement precludes this. Further, the advertisement period for the pressure maintenance approval did not expire until March 5, 1986. Preparation and translation of the pressure maintenance Order has been initiated but it is anticipated the approval of the Order will not be completed prior to March 20, 1986. In light of this, the Board is not prepared to consider retroactive approval.

With respect to exclusion of those tracts for which royalty consents have not been received, the Board urges you to continue your efforts to obtain and submit these consents prior to April 1, 1986. However, if these consents cannot be obtained prior to this date, the Board will consider approval of the Unit Agreement with the non-qualifying tracts excluded.

Yours sincerely,

**ORIGINAL SIGNED BY
CHARLES S. KANG**

Charles S. Kang,
Chairman

LRD/lk

b.c. Wm. McDonald
J. F. Redgwell
Petroleum Branch



1300 SUN LIFE PLAZA #1
112 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0M5
TELEPHONE (403) 281-0743

March 3, 1986

Manitoba Oil & Gas Conservation Board
309 Legislative Building
450 Broadway Avenue
Winnipeg, Manitoba
R3C 0V8

Attention: Mr. G.S. Kang

Dear Sir:

Re: Waskada Unit 12 - Effective Date

Enclosed with this letter are copies of nine of the ten executed Unit Agreement execution pages from the Royalty Interest Owners of the captioned Unit. Niwert Holdings Ltd. (Tracts 15 and 16) has yet to sign the Unit Agreement but Omega would like to proceed with this Unit with a retroactive Effective Date of March 1, 1986. Clause 501 (b) of the Waskada Unit 12 - Unit Agreement allows a 90 day period from the Effective Date for all Tracts to qualify. We hope to have Niwert's executed Unit Agreement within this 90 day period. If not, we will bring in the two Tracts in an enlargement as soon as possible. Mr. Bob Dubreuil of your Department of Energy and Mines said in a phone conversation on March 3, 1986 that he would review the Manitoba Mines and Minerals Act in order to determine the feasibility of a retroactive Effective Date. We expect a waterflood approval early this month, and an Effective Date of March 1, 1986 could enable us to initiate waterflood immediately upon receipt of the approval. We would appreciate any efforts the Board may make in order to expedite the Effective Date of this Unit. Thank you for your attention to this matter.

Yours truly,

OMEGA HYDROCARBONS LTD.

A handwritten signature in dark ink, appearing to read "D. Mark Mawdsley".

D. Mark Mawdsley
Production Engineer

DMM/jr

cc: Manitoba Department of Energy & Mines
Attention: Mr. Bob Dubreuil (Phone-fax)

Waskada Unit 12 File

Encl.

February 18, 1986

Omega Hydrocarbons Ltd.
1300 Sun Life Plaza III
112 - 4th Avenue S. W.
Calgary, Alberta
T2P 0H3

Attention: T. J. Hall,
President

Dear Jack:

RE: WASKADA UNIT NO. 12 - UNIT AGREEMENT

Enclosed is a copy of the Waskada Unit No. 12 Unit Agreement which has been executed by the Minister of Energy & Mines on behalf of the Crown as a royalty owner.

Yours sincerely,

L. R. Dubreuil
Chief Petroleum Engineer
Petroleum Branch

LED/dp

Enclosure



ON MATTERS OF STATE

To The Honourable the Lieutenant Governor in Council

The undersigned, the Minister of Energy and Mines submits for approval of Council a report setting forth that:

WHEREAS Section 75 of "The Mines Act", being Chapter M160 of the Revised Statutes of Manitoba, provides as follows:

"75(1) Where the Crown is a working interest owner or royalty owner of a tract of land, the Lieutenant Governor in Council may authorize the minister, on behalf of the Crown, to enter into a unitization agreement for the unit operation of the pool or field, or part thereof, within which the tract is situated.

75(2) Notwithstanding any other provision of this Act or of an agreement or other disposition made under this Act, the Lieutenant Governor in Council may authorize the minister, on behalf of the Crown, to enter into an agreement for the calculation of the royalty payable to the Crown on the oil and gas produced from a unit area that includes a tract that is subject to the payment of a royalty to the Crown."

AND WHEREAS Omega Hydrocarbons Ltd. is the holder of Crown Oil and Natural Gas Lease No. L 801-087 covering the SE 1/4 of Section 24-1-26 WPM:

AND WHEREAS Omega Hydrocarbons Ltd. is proposing to develop Waskada Unit No. 12 in part of the Waskada Mississippian Mission Canyon 3a A Pool to include the tracts described as Legal Subdivisions 1 and 8 of Section 24, in Township 1, Range 26 WPM.

AND WHEREAS Omega Hydrocarbons Ltd. has requested agreement for the proposed unitization from the Crown as the royalty owner of the subject tract;

AND WHEREAS in order to accomplish the more efficient and economical development and production of the oil and gas resources of the Waskada Mississippian Mission Canyon 3a A Pool, it is deemed advisable for the Crown to enter into the said unitization agreement.

THEREFORE, he, the Minister, recommends:

THAT the Minister of Energy and Mines be authorized to enter into the Unit Agreement for Waskada Unit No. 12 in the form hereto annexed and marked as Schedule "A", or any form to the like effect.

Initiating Department/Agency	
Department/Agency	Authorized Officer
<i>HM</i>	
Approved By	
C.S.C.	Finance
Approved as to form by:	
Name	<i>Andrew C. Bellare</i>
Initials	<i>J</i>
Civil Litigation Branch or Legislative Counsel:	

Signature *Wilson D. Karanul*

IN THE EXECUTIVE COUNCIL CHAMBER, WINNIPEG

Upon consideration of the foregoing report and recommendation Council advises that it be done as recommended.

12 February 1986
Date

Marcel Smith
President or Presiding Member

AT GOVERNMENT HOUSE IN THE CITY OF WINNIPEG

Approved and Ordered this 12th day of February A.D. 1986

Gene H. Gougeon
Lieutenant Governor

→ Bob
@ Minister's office
Jan. 28/86



Memorandum

Date January 23, 1986

To Charles S. Kang
Deputy Minister of Energy & Mines
309 Legislative Building

Subject Waskada Unit No. 12

From H. Clare Moster
Director, Petroleum Branch

Telephone

Omega Hydrocarbons Ltd. is proposing to develop a portion of the Waskada Mission Canyon 3a A Pool as the Waskada Unit No. 12, which will include twenty-one tracts. This proposed Unit involves two tracts (Lsd's) for which the Crown is the royalty interest owner (i.e. mineral rights owner). Section 74 of The Mines Act states that before a Unitization Agreement may be put into effect, it must be approved by The Oil and Natural Gas Conservation Board. It further states that the Board shall not approve an agreement unless the royalty owners have agreed to the Unit operation. Therefore, Omega has submitted two copies of the proposed revised Unit Agreement for the proposed Waskada Unit No. 12 for approval (execution) by the Minister as an affected royalty owner.

Section 75 of The Mines Act states that the Minister, with the authorization of the Lieutenant Governor in Council, may enter such agreements on behalf of the Crown as a royalty owner.

Recommendation:

It is recommended that the Minister:

1. Request authorization from Cabinet to permit him to enter into the Waskada Unit No. 12 Unitization Agreement on behalf of the Crown (draft OIC attached) with respect to Lsd's 1 and 8 of Section 24-1-26 (WPM).
2. Execute the attached two copies of the Unit Agreement for the Waskada Unit No. 12 as a royalty owner.

Discussion:

The tracts in the proposed Waskada Unit No. 12 which contain Crown owned mineral rights are Lsd's 1 and 8 of Section 24-1-26 (WPM). These tracts are held by Omega Hydrocarbons Ltd. under Crown Oil and Natural Gas Lease No. L 801-087 covering the southeast quarter of Section 24-1-26 (WPM). Omega has drilled two wells on the Lease (Lsd's 1 and 8). Both of these wells are completed in the Waskada Mission Canyon 3a A Pool. The well Omega S. Waskada Prov. 1-24-1-26 is currently producing at an oil rate of about 0.4 m³/day and a water-oil ratio of 0 m³/m³. The well Omega Waskada Prov. 8-24-1-26 is currently producing at an oil rate of about 1.1 m³/day and a water-oil ratio

First Fold

of 0.39 m³/m³. Based on production trends, both wells will probably become uneconomic within two years. As part of a pressure maintenance project, it is likely that Unit production and therefore revenue to the Crown will increase.

The Branch has reviewed the Tract Participation Factors proposed for the Tracts and feels they are reasonable.

Clause 1301 of the proposed Unit Agreement specifically states that the execution of the agreement by the Minister is strictly as a Royalty Interest Owner (similar to any freehold mineral owner). Therefore, by such execution, the Minister is not approving the Unit Agreement. Such approval may only be given by the Board pursuant to Section 74 of The Mines Act.

~~Signature~~ signed by H. C. Moster

H. Clare Moster

MA/HCM/lk

January 13, 1986

Omega Hydrocarbons Ltd.
1300 Sun Life Plaza III
112 - 4th Avenue S. W.
Calgary, Alberta
T2P 0H3

Attention: Mr. T. J. Hall, President

Dear Jack;

Re: Waskada Unit No. 12

Attached per your request of January 6, 1986 are the two copies of the subject Unit agreement previously sent to us.

Yours sincerely,

L. R. Dubreuil
Chief Petroleum Engineer
Petroleum Branch

LRD/dp

Attachment

January 13, 1986

Aikens, MacAuley & Thorvaldson
Barrister and Solicitors
360 Main Street
Winnipeg, Manitoba
R3C 4G1

Attention: Mr. J. S. Lament

Dear Sir:

Waskada Unit No. 12
Missilinda Royalty Interest

Further to your letter of December 16, 1985 you are advised that pursuant to discussions between Omega and myself, Omega has reviewed and revised interpreted reservoir parameters which are used in the tract factor determination. With a minor exception, the writer is now in basic agreement with Omega's tract factor calculation.

I am aware that you have been asked to return the Unit Agreement documents to allow a reanalysis of the tract factors, and I would presume that the subsequent copies of the Unit Agreement which you receive will reflect the reinterpretation noted above.

With respect to Missilinda's interest, which is confined to LSD's 9 and 16 of Section 24-1-26 (WPM), I believe Omega's revised proposal to be fair for two reasons:

1. Neither tract is currently productive in the Mission Canyon 3a Formation, and would not likely be economically viable if the wells were completed in this Formation.

2. The reservoir pore volume as interpreted by Omega is very comparable (though slightly greater) than the pore volume numbers I have calculated.

If you have any further questions or comments, please do not hesitate to call.

Yours sincerely,

L. R. Dubreuil
Chief Petroleum Engineer
Petroleum Branch

LRD/dp

Unit 12

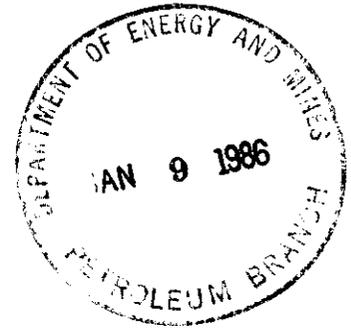
1. Omega's revised ϕh numbers agree with my determinations quite well.
2. Determination of $A\phi h$ factor is acceptable
3. Do not include varying water saturations. Why not
4. Do not deduct cumulative production from volume in place. Due to low ϕh values Brown tracts would have produced 57 and 21 % of OOIP.
5. Due to lack of correlation between initial productivity and ϕh , agree for this unit that a separate productivity component is necessary.
- 6.



HYDROCARBONS LTD

1300 SUN LIFE PLAZA III
12 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0743

January 7, 1986



Manitoba Energy & Mines
Mineral Resources Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Attention: Mr. Bob Dubreuil

Dear Sir:

Re: Waskada Unit 12 Tract Factor Calculations

1. Calculation of A ϕ h

Omega's Geology Department has reviewed the porosity-meterage values for the wells within the proposed Unit 12. The revised numbers correlate well with your Department's numbers and our geologists can back up their calculations with good repeatability. The ϕ h revision required that we re-contour the ϕ h map and recalculate A ϕ h. As before, A ϕ h has been determined by dividing each tract into 16 grid squares (each representing 1 hectare) and using a linear interpolation between the two nearest reference points to find ϕ h for each of the 16 squares. The final A ϕ h is simply the sum of each of the 16 ϕ h values. Copies of the ϕ h map and interim and final tract factor calculations are included for your reference.

2. Interim Tract Factor Calculations

In view of the erratic monthly production of the wells in the proposed Unit, we have decided to use an average of the latest 6 months of production to calculate the oil-rate-based interim tract factors. These average rates appear to represent the actual performance of each well.

3. Final Tract Factor Calculations

On investigating the feasibility of basing the final tract factors solely on reservoir characteristics (i.e. A ϕ h) we have found that the reservoir is not uniform enough for this method to be accurate. Apparently thin pay zones have shown good production rates equaling or exceeding better pay areas (see Tract #9). The 50/50 split on reservoir and production factors should tend to equalize these discrepancies.

4. Unit Naming

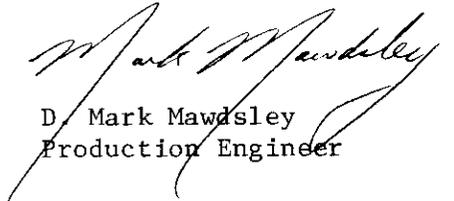
Omega will rename all of the Mission Canyon Units to conform with the numerical standard that we started with the Lower Amaranth Units. Mission Canyon Units A to E will from now on be named "Waskada Unit 9-13".

We would appreciate a prompt reply to our aforementioned intentions so that we may distribute the revised Unit documents for Royalty Interest Owner approval.

Thank you for your attention to this matter.

Yours truly,

OMEGA HYDROCARBONS LTD.



D. Mark Mawdsley
Production Engineer

DMM:vb

Encl.

c.c. T.J. Hall

R.A. Beamish

Waskada Unit 12 File

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36

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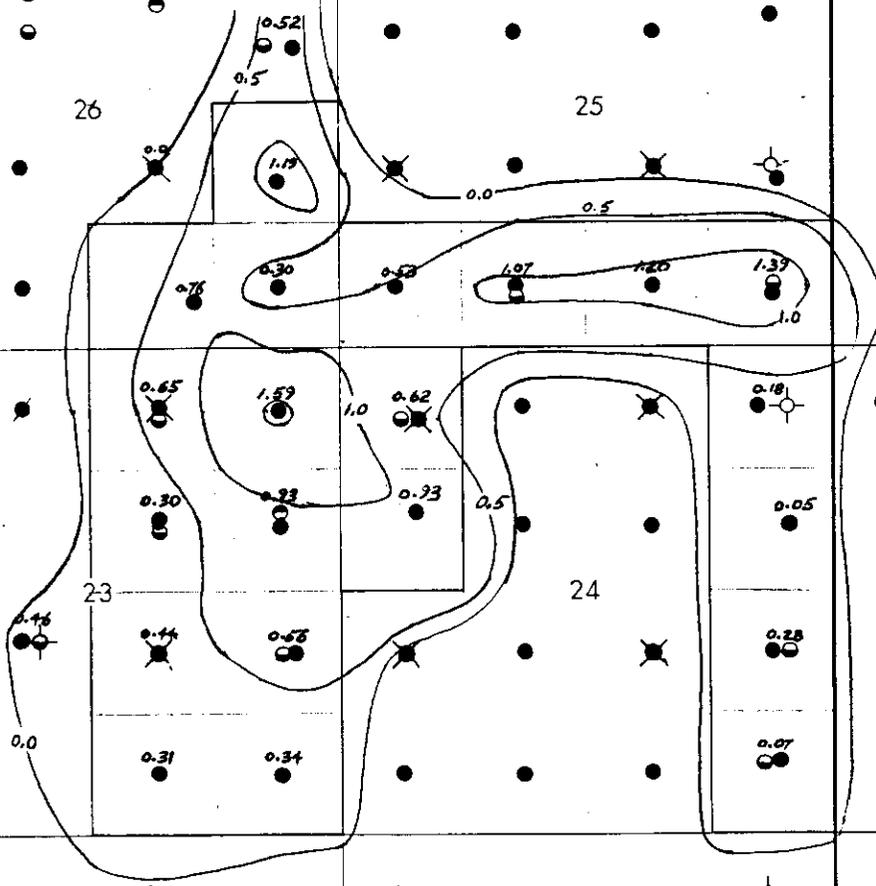
WASKADA UNIT 12
Ph Map (m)

26

25

30

Twp.
1



14

13

18

Range 26 WPM

MASKADA UNIT 12 TRACT FACTOR CALCULATIONS
INTERIM

TRACT:	LAND	85-06 to 85-11 PROD. (m3)	OIL	WATER	OIL RATE	TRACT	TRACT	LAND
:	DESCRIPTION	HRS	:	:	FACTOR 1	FACTOR	FACTOR	DESCRIPTION
:	*****	*****	*****	*****	*****	*****	*****	*****
1	1-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	1-23-1-26 WPM
2	2-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	2-23-1-26 WPM
3	7-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	7-23-1-26 WPM
4	8-23-1-26 WPM	4350	246.3	1186.3	0.9443	15.8318	15.8318	8-23-1-26 WPM
5	9-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	9-23-1-26 WPM
6	10-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	10-23-1-26 WPM
7	15-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	15-23-1-26 WPM
8	16-23-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	16-23-1-26 WPM
9	1-24-1-26 WPM	4113	137.3	6.6	0.5685	9.3336	9.3336	1-24-1-26 WPM
10	8-24-1-26 WPM	3811	170.6	31.3	0.7624	12.5170	12.5170	8-24-1-26 WPM
11	9-24-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	9-24-1-26 WPM
12	12-24-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	12-24-1-26 WPM
13	13-24-1-26 WPM	4260	271.8	1109.3	1.0866	17.8397	17.8397	13-24-1-26 WPM
14	16-24-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	16-24-1-26 WPM
15	1-25-1-26 WPM	3016	249.1	884.5	1.4066	23.0935	23.0935	1-25-1-26 WPM
16	2-25-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	2-25-1-26 WPM
17	3-25-1-26 WPM	4103	313.8	76.3	1.3025	21.3844	21.3844	3-25-1-26 WPM
18	4-25-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	4-25-1-26 WPM
19	1-26-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	1-26-1-26 WPM
20	2-26-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	2-26-1-26 WPM
21	8-26-1-26 WPM	0	0.0	0.0	0.0000	0.0000	0.0000	8-26-1-26 WPM
TOTALS:		23653	1388.9	3294.3	6.0909	100.0000	100.0000	

AVERAGE OIL RATE (m³/op. day) & AVERAGE OIL CUT
AFTER 6 MONTHS OF PRODUCTION

RATE CUT

1.4093 29.6571%

WASKADA MISSION CAMP-4 UNIT TRACT FACTOR CALCULATIONS

FINAL

TRACT	LAND DESCRIPTION	A*PHI*H (h*H)	4 MONTH CUM. PROD. (m ³)	WATER	OIL	HRS	A*PHI*H (h*H)	4 MONTH CUM. PROD. (m ³)	WATER	OIL	FACTOR	A*PHI*H (h*H)	OIL RATE	FACTOR	OIL RATE	TRACT FACTOR	TRACT FACTOR	LAND DESCRIPTION
1	1-23-1-26 WPM	3.82	0	0.0	0.0	0	1.0187	0.0000	0.0000	0.0000	1.0187	0.0000	0.0000	0.0000	1.0187	1	1-23-1-26 WPM	
2	2-23-1-26 WPM	3.71	0	0.0	0.0	0	0.9894	0.0000	0.0000	0.0000	0.9894	0.0000	0.0000	0.0000	0.9894	2	2-23-1-26 WPM	
3	7-23-1-26 WPM	7.16	2429	167.6	167.6	2429	1.9094	0.5835	2.0953	2.0953	4.0047	2.0953	2.0953	4.0047	3	7-23-1-26 WPM		
4	8-23-1-26 WPM	9.30	2546	481.8	481.8	2546	2.2135	1.6002	5.7462	5.7462	7.9597	5.7462	5.7462	7.9597	4	8-23-1-26 WPM		
5	9-23-1-26 WPM	14.29	2839	105.7	105.7	2839	3.8109	0.3148	1.1304	1.1304	4.9413	1.1304	1.1304	4.9413	5	9-23-1-26 WPM		
6	10-23-1-26 WPM	5.45	2458	338.7	338.7	2458	1.4534	1.1652	4.1841	4.1841	5.6375	4.1841	4.1841	5.6375	6	10-23-1-26 WPM		
7	15-23-1-26 WPM	9.44	2700	224.3	224.3	2700	2.5175	0.7025	2.5226	2.5226	5.0401	2.5226	2.5226	5.0401	7	15-23-1-26 WPM		
8	16-23-1-26 WPM	20.23	0	0.0	0.0	0	5.3949	0.0000	0.0000	0.0000	5.3949	0.0000	0.0000	0.0000	5.3949	8	16-23-1-26 WPM	
9	1-24-1-26 WPM	0.68	2904	541.4	541.4	2904	0.1813	1.5765	5.6611	5.6611	5.8424	5.6611	5.6611	5.8424	9	1-24-1-26 WPM		
10	8-24-1-26 WPM	2.12	2088	163.4	163.4	2088	0.5654	0.6617	2.3761	2.3761	2.9415	2.3761	2.3761	2.9415	10	8-24-1-26 WPM		
11	9-24-1-26 WPM	0.62	2448	199.6	199.6	2448	0.1653	0.6895	2.4759	2.4759	2.6412	2.4759	2.4759	2.6412	11	9-24-1-26 WPM		
12	12-24-1-26 WPM	13.20	1896	182.5	182.5	1896	3.5202	0.8139	2.9227	2.9227	6.4429	2.9227	2.9227	6.4429	12	12-24-1-26 WPM		
13	13-24-1-26 WPM	12.23	2880	215.2	215.2	2880	3.2615	0.6318	2.2688	2.2688	5.5303	2.2688	2.2688	5.5303	13	13-24-1-26 WPM		
14	16-24-1-26 WPM	3.84	0	0.0	0.0	0	1.0241	0.0000	0.0000	0.0000	1.0241	0.0000	0.0000	0.0000	1.0241	14	16-24-1-26 WPM	
15	1-25-1-26 WPM	15.74	2496	441.8	441.8	2496	4.1976	1.4967	5.3745	5.3745	9.5721	5.3745	5.3745	9.5721	15	1-25-1-26 WPM		
16	2-25-1-26 WPM	15.15	2280	242.8	242.8	2280	4.0402	0.9005	3.2336	3.2336	7.2738	3.2336	3.2336	7.2738	16	2-25-1-26 WPM		
17	3-25-1-26 WPM	13.18	2568	534.5	534.5	2568	3.5148	1.7600	6.3201	6.3201	9.8349	6.3201	6.3201	9.8349	17	3-25-1-26 WPM		
18	4-25-1-26 WPM	8.42	2472	300.3	300.3	2472	2.2455	1.0272	3.6886	3.6886	5.9341	3.6886	3.6886	5.9341	18	4-25-1-26 WPM		
19	1-26-1-26 WPM	9.59	0	0.0	0.0	0	2.5575	0.0000	0.0000	0.0000	2.5575	0.0000	0.0000	0.0000	2.5575	19	1-26-1-26 WPM	
20	2-26-1-26 WPM	7.35	0	0.0	0.0	0	1.9601	0.0000	0.0000	0.0000	1.9601	0.0000	0.0000	0.0000	1.9601	20	2-26-1-26 WPM	
21	8-26-1-26 WPM	12.97	0	0.0	0.0	0	3.4588	0.0000	0.0000	0.0000	3.4588	0.0000	0.0000	0.0000	3.4588	21	8-26-1-26 WPM	

TOTALS: 187.49 35004 4139.6 NA 50.0000 13.9240 50.0000 100.0000 *****																		

AVERAGE OIL RATE (m³/op. day) & AVERAGE OIL CUT
AFTER 4 MONTHS OF PRODUCTION

RATE CUT

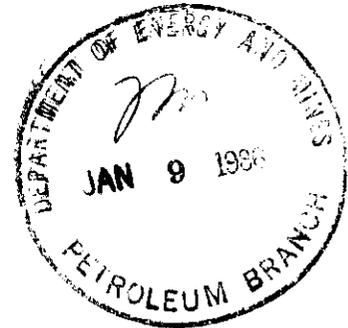
2.8383 NA



OMEGA
HYDROCARBONS LTD.

1300 SUN LIFE PLAZA III
112 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0743

January 6, 1986



To: Royalty Interest Owners
Waskada Unit 12
(Addressee List Attached)

Dear Sir/Madame:

Re: Formation of Waskada Unit 12 (formerly: "Waskada Mission Canyon
Unit D")

Please be advised that Omega Hydrocarbons Ltd. has elected to recall all of the signed and unsigned copies of the Waskada Mission Canyon Unit D Agreement. The recall results from a re-analysis of the participation formula which we believe will be more representative of each tract's contribution to the Unit. In addition, the Unit has been renamed to conform with the government's preference.

The new Agreements will be submitted to you within a few days and will contain factors resulting from the new Unit formula.

Your early return of the Agreements now in your possession will be appreciated.

Yours very truly,

OMEGA HYDROCARBONS LTD.

T.J. Hall
President

TJH/jr

Encl.

WASKADA UNIT 12

ROYALTY INTEREST OWNERS

ADDRESSEE LIST

John Wilfred Hainsworth
P.O. Box 433
Deloraine, Manitoba
ROM OMO

Missilinda of Canada Ltd.
c/o Doane Raymond Chartered Accountants
100 5 Donald Street
Winnipeg, Manitoba
R3L 2T4

64440 Manitoba Ltd.
P.O. Box 433
Deloraine, Manitoba
ROM OMO

North American Royalties Inc.
200 East 8 Street
Chatanooga, Tennessee
39402 USA

70361 Manitoba Ltd.
P.O. Box 433
Deloraine, Manitoba
ROM OMO

Mable Grace Pounder
The Rudyard Kipling
Suite 1001, 1420 Beach Drive
Victoria, B.C.
V8S 2N8

George F. McArthur Estate
240 1st Street
Brandon, Manitoba
R7A 2W5

Niwert Holdings Ltd.
Waskada, Manitoba
ROM 2E0

Donald E. McGregor
Waskada, Manitoba
ROM 2E0

Manitoba Energy & Mines
Mineral Resources Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Aikins, MacAulay & Thorvaldson

BARRISTERS AND SOLICITORS

A LORNE CAMPBELL O.C. O.C. LL.D.
MICHAEL J. MERCURY O.C.
JAMES E. FORAN O.C.
LEON N. MERCURY
CYRIL G. LABMAN
COLIN R. MACARTHUR
JOEL A. WEINSTEIN
S. JANE EVANS
DOROTHY F. McDONALD
G. BRUCE TAYLOR
G. TODD CAMPBELL
BETTY A. JOHNSTONE
JONATHAN B. KRIZ
STEPHEN J. VINCENT

W. STEWARD MARTIN O.C.
A. J. MERCURY O.C.
KNOX R. FOSTER O.C.
MARSHALL F. ROTHSTEIN O.C.
LARRY R. DRANT
ROD E. STEPHENSON
FRANCES M. STATHAM O.C.
JUDITH M. BLAIR
SHAEL H. I. WILDER
RICHARD L. YARFE
J. MILTON CHRISTIANSEN
I. WILLIAM BOWLES
N. BRUCE BOWMAN

JOHN S. LAMONT O.C.
MARTIN H. FREEDMAN O.C.
ELLIOTT B. McDONALD
RAYMOND H. G. FLETT
ROLAND B. DIAS
DAVID G. UMRUH
DAVID G. HILL
DAVID L. VOECHTING
DARYL J. ROSIN
ROBERT G. SIDDALL
LORI T. SPYAK
MARTIN R. GLUTNIK
JAKE F. HARMS

ROGER J. HANSELL O.C.
ANDREW C. TOUGH
ROBERT G. SMELLIE O.C.
J. TIMOTHY SAMSON
CHARLES L. CHAPPELL
GERALD D. PARKINSON
E. BRUCE PARKER
MARC M. MONNIN
MURRAY N. TRACHTENBERG
FRANK LAVITT
LISA M. COLLINS
BARBARA R. HOCHMAN
J. DOUGLAS SIGURDSON

THIRTIETH FLOOR
COMMODITY EXCHANGE TOWER
360 MAIN STREET
WINNIPEG, MANITOBA
CANADA R3C 4G1

TELEPHONE: (204) 957-0050

TELEX: 07-587612
CABLE ADDRESS: "AIKINS"
TELECOPIER (AUTOMATIC): (204) 957-0840

PLEASE REFER TO

John S. Lamont

FILE NO. 84569
D-58

(COUNSEL THE HONOURABLE SAMUEL FREEDMAN O.C. O.C. LL.D.)

SIR JAMES AIKINS, K.B. K.C. LL.D. (1873-1929)
G. H. AIKINS, D.S.O. O.C. LL.D. (1910-1954)

JOHN A. MACAULAY, O.C. O.C. LL.D. (1919-1978)
HON. G. S. THORVALDSON, O.C. (1925-1969)

December 16, 1985

Petroleum Branch
Mineral Resources Division
Department of Energy and Mines
Government of Manitoba
975 Century Street
WINNIPEG, Manitoba
R3H 0W4

Attention: Mr. Bob Dubreuil

Dear Mr. Dubreuil:

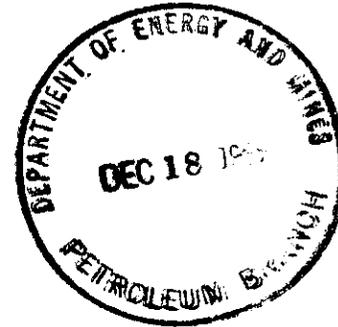
The writer is Secretary of Missilinda of Canada, Ltd., one of the royalty owners which would be affected by the proposed unit agreement relating to the Waskada Mission Canyon Unit D, being proposed by Omega Hydrocarbons Ltd. I understand that you are doing an evaluation of the unit agreement and the various participations proposed and I would appreciate it if you could let me have a copy of your conclusions when these are available.

Yours very truly,



John S. Lamont

JSL/bwl



Unit D

<u>Well</u>	<u>INITIAL</u> <u>ϕ_h BRANCH</u>	<u>REVISED</u> <u>ϕ_h Branch</u>	<u>ϕ_h Omega</u>	<u>Revised</u> <u>Omega</u>	<u>Unresolved</u> <u>Difference.</u>
1-23	0.37	0.43	0.63	0.34	X
2-23	0.37		0.35	0.31	
7-23	0.56	(1)	0.75	0.44	X
8-23	0.55		0.56	0.56	
9-23	0.89	0.76	0.54	0.93	X
10-23	0.32	0.52	0.81	0.30	X
15-23	0.64		0.63	0.65	
16-23	1.67	1.14 (2)	0.68	1.59	X
* 1-24	0.06	0.30	0.53	0.07	X
* 8-24	0.28	0.38	0.62	0.28	X
9-24	0.05		0.18	0.05	
12-24	1.07		1.05	0.43	
13-24	0.74		0.39	0.62	X
16-24	0.04		0.25	0.18	X
1-25	1.44		1.48	1.39	
2-25	1.23		1.32	1.20	
3-25	1.32		0.90	1.07	X
4-25	0.53		0.69	0.53	
1-26	0.31		0.31	0.30	
2-26	0.84	0.57	0.45	0.76	
8-26	1.21		1.31	1.19	

* Crown Tracts

0.38 adjustment by using $\Delta t_{cutoff} = 180 \text{ msec/m}$

0.57 adjustment by eliminating zones with $S_w > 70\%$

(1) could increase ϕ_h by including 939-43 - possible MCLZ

(2) has high water saturations

1-23. decrease $\Delta t_{c.o.}$ to 180 μ sec
 $h = 3.19$ m $\Delta t_{ave} = 207.24$
 $\phi = 13.53$ $\phi h = 0.43$

9-23 eliminate 938.6 - 939.5 ($R_{\tau} < 40$)
 $h = 5.1$ $\Delta t = 213$ $\phi = 14.82$ $\phi h = 0.76$

10-23 decrease $\Delta t_{c.o.}$ to 180
 $h = 4.79$ $\Delta t_{ave} = 194.78$ $\phi = 10.92$ $\phi h = 0.52$

16-23 eliminate 941.7 down - possible o.w.c.
 $h = 6.65$ $\Delta t = 225$ $\phi = 17.25$ $\phi h = 1.15$

1-24 decrease $\Delta t_{c.o.}$ to 180
 $h = 2.97$ $\Delta t = 190.24$ $\phi = 9.97$ $\phi h = 0.30$

8-24 decrease in $\Delta t_{c.o.}$ to 180
 $h = 3.50$ $\Delta t = 193.48$ $\phi = 10.75$ $\phi h = 0.38$

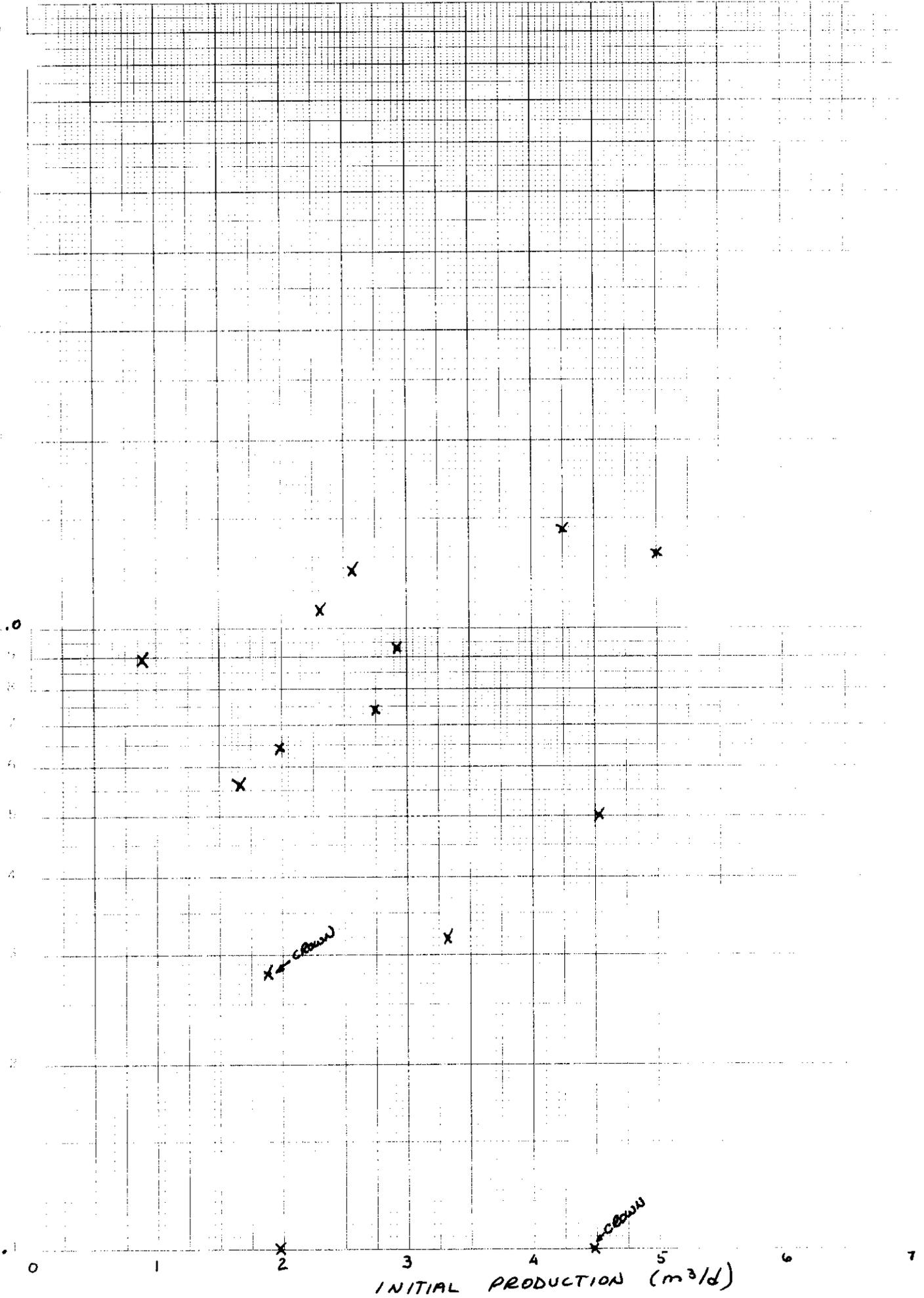
2-26 eliminate 931.3 - 932.7 ($S_w > 70\%$)
 $h = 4.01$ $\Delta t = 210.46$ $\phi = 14.20$ $\phi h = 0.57$

Waskada Unit 12.

<u>Well</u>	<u>ϕh</u>	<u>Cum P</u>	<u>% of OIP</u>	<u>INITIAL RATE (m³/d)</u>
7-23	0.56			1.66
8-23	0.55	1345.5		4.54
9-23	0.89	115.4		0.89
10-23	0.32	744.2		3.31
15-23	0.64	264.2		1.99
1-24	0.06	3766.5		4.47
8-24	0.28	4214.1		1.88
9-24	0.05			1.96
12-24	1.07			2.31
13-24	0.74	1983.1		2.25
1-25	1.44	3299.4		4.25
2-25	1.23			2.56
3-25	1.32	1508.9		5.00
4-25	0.53			2.92

46 5130

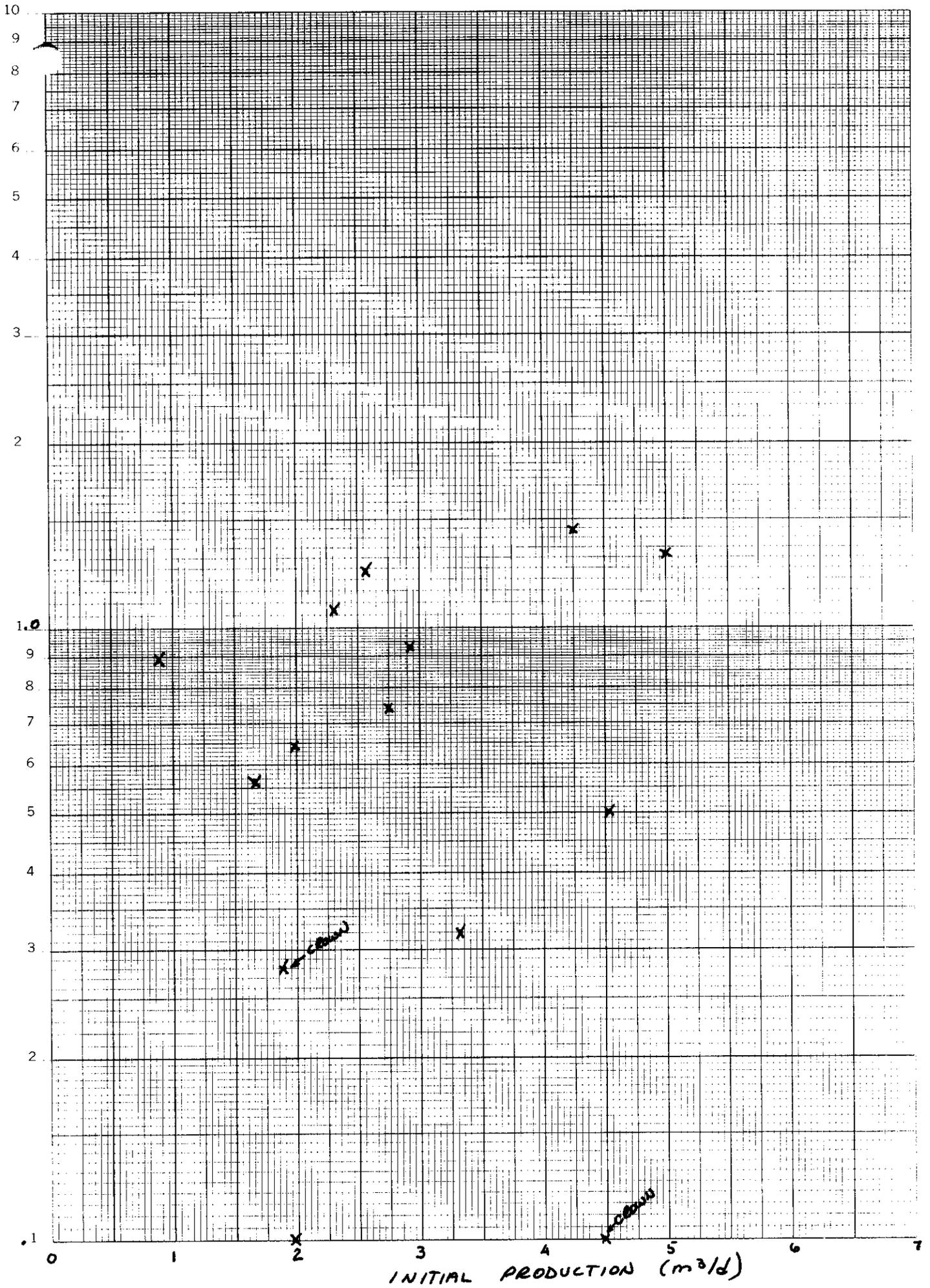
ϕh



46 5130

dh

K+E SEMI-LOGARITHMIC 2 CYCLES x 140 DIVISIONS
KEUFFEL & ESSER CO. MADE IN U.S.A.



WASKADA UNIT 12 - % of OOIP Produced - current producers

<u>Well</u>	<u>ϕh (ft)</u>	<u>$1-S_w$</u>	<u>M(bbl)</u>	<u>Cum P(bbl)</u>	<u>% of N</u>
8-23	1.80	.55	267144	8643	3.17
9-23	2.92	.37	291538	726	0.25
10-23	1.05	.67	189834	4681	2.47
15-23	2.10	.49	277634	1662	0.60
1-24	0.20	.77	41555	23691	57.01
8-24	0.92	.50	123943	26508	21.39
13-24	2.43	.54	353770	12473	3.52
1-25	4.72	.71	905143	20753	2.29
3-25	4.33	.53	619364	9490	1.53

3,069,925

$$N = 7758 \phi h (1-S_w) A / B_{oi}$$

$$B_{oi} = 1.15$$

$$A = 4060$$

$$N = 269843 \phi h (1-S_w)$$

Unit 1)

1-23	$h_{net} = 2.56 \text{ m}$	$\Delta t_{ave} = 211$	
	$\phi = 14.32$	$\phi h = 0.37$	$\Omega \phi h = 0.63$
2-23	$h_{net} = 2.50$	$\Delta t_{ave} = 214.19$	
	$\phi = 14.99\%$	$\phi h = 0.37$	$\Omega \phi h = 0.35$
7-23	$h_{net} = 4.15$	$\Delta t_{ave} = 207.68$	
	$\phi = 13.62$	$\phi h = 0.56$	$\Omega \phi h = 0.75$
8-23	$h_{net} = 4.51$	$\Delta t_{ave} = 200.47$	
	$\phi = 12.11$	$\phi h = 0.55$	$\Omega \phi h = 0.56$
9-23	$h_{net} = 6.00$	$\Delta t_{ave} = 213.49$	
	$\phi = 6.00 14.8$	$\phi h = 0.89$	$\Omega \phi h = 0.54$ *
10-23	$h_{net} = 2.66$	$\Delta t_{ave} = 199.46$	
	$\phi = 11.90$	$\phi h = 0.32$	$\phi h \Omega = 0.81$
15-23	$h_{net} = 4.63$	$\Delta t_{ave} = 208.94$	
	$\phi = 13.89$	$\phi h = 0.64$	$\Omega \phi h = 0.63$
16-23	$h_{net} = 10.22$	$\Delta t_{ave} = 220.75$	
	$\phi = 16.36$	$\phi h = 1.67$	$\Omega \phi h = 0.68$ *
1-24	$h_{net} = 0.53$	$\Delta t_{ave} = 193.97$	
	$\phi = 10.75$	$\phi h = 0.06$	$\Omega \phi h = 0.53$
8-24	$h_{net} = 2.36$	$\Delta t_{ave} = 198.32$	
	$\phi = 11.66$	$\phi h = 0.28$	$\phi h \Omega = 0.62$

* higher than normal Sw

9-24 $h = 0.44$ $\Delta t_{ave} = 198$
 $\phi = 11.60$ $\phi h = 0.05$ $\Omega \phi h = 0.18$

12-24 $h_{net} = 7.87$ $\Delta t_{ave} = 207.59$
 $\phi = 13.60$ $\phi h = 1.07$ $\Omega \phi h = 1.05$

13-24 $h_{net} = 5.25$ $\Delta t_{ave} = 209.75$
 $\phi = 14.06$ $\phi h = 0.74$ $\Omega \phi h = 0.39$

A16-24 $h_{net} = 0.38$ $\Delta t_{ave} = 193.5$
 $\phi = 10.65$ $\phi h = 0.04$ $\Omega \phi h = 0.25$

1-25 $h_{net} = 9.50$ $\Delta t_{ave} = 214.95$
 $\phi = 15.14$ $\phi h = 1.44$ $\Omega \phi h = 1.48$

2-25 $h_{net} = 8.41$ $\Delta t_{ave} = 212.44$
 $\phi = 14.62$ $\phi h = 1.23$ $\Omega \phi h = 1.32$

3-25MC3a $h_{net} = 9.16$ $\Delta t_{ave} = 211.73$
 $\phi = 14.47$ $\phi h = 1.32$ $\Omega \phi h = 0.90$

4-25 $h_{net} = 3.90$ $\Delta t_{ave} = 207.10$
 $\phi = 13.50$ $\phi h = 0.53$ $\Omega \phi h = 0.69$

1-26 $h_{net} = 2.26$ $\Delta t_{ave} = 207.96$
 $\phi = 13.68$ $\phi h = 0.31$ $\Omega \phi h = 0.31$

2-26 $h_{net} = 5.39$ $\Delta t_{ave} = 217.47$ ~~$\Omega \phi h =$~~
 $\phi = 15.67$ $\phi h = 0.84$ $\Omega \phi h = 0.45$

IF ONLY TOP² ZONES(S)
 $h = 2.63$ $\Delta t = 213$ $\phi h = 0.32$
 ~~$h = 1.23$~~ ~~$\Delta t = 213$~~ ~~$\phi h = 0.32$~~

IF ONLY ZONE 3 elim.
 $h = 4.01$ $\Delta t_{ave} = 211$
 $\phi = 14.34$ $\phi h = 0.57$

8-26

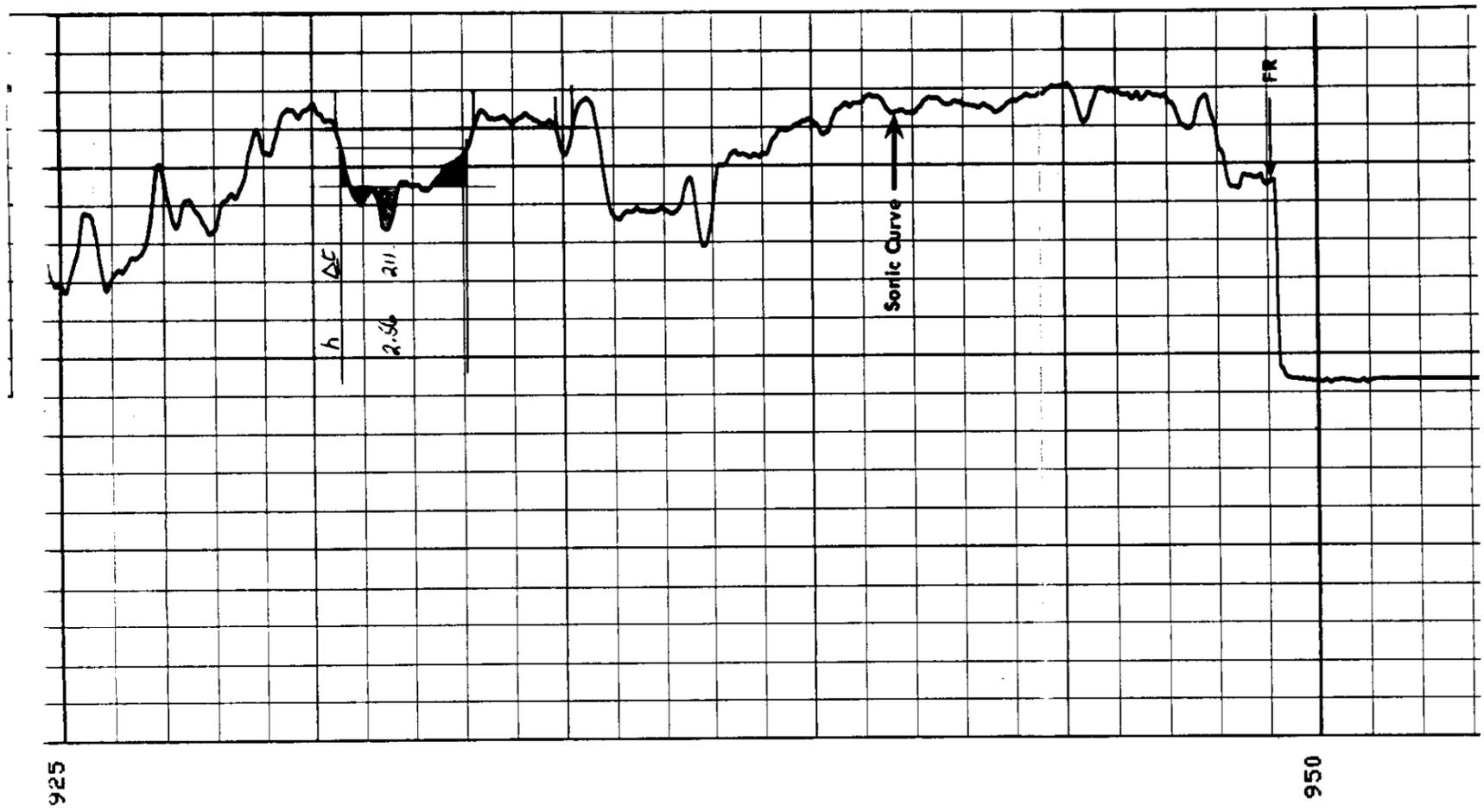
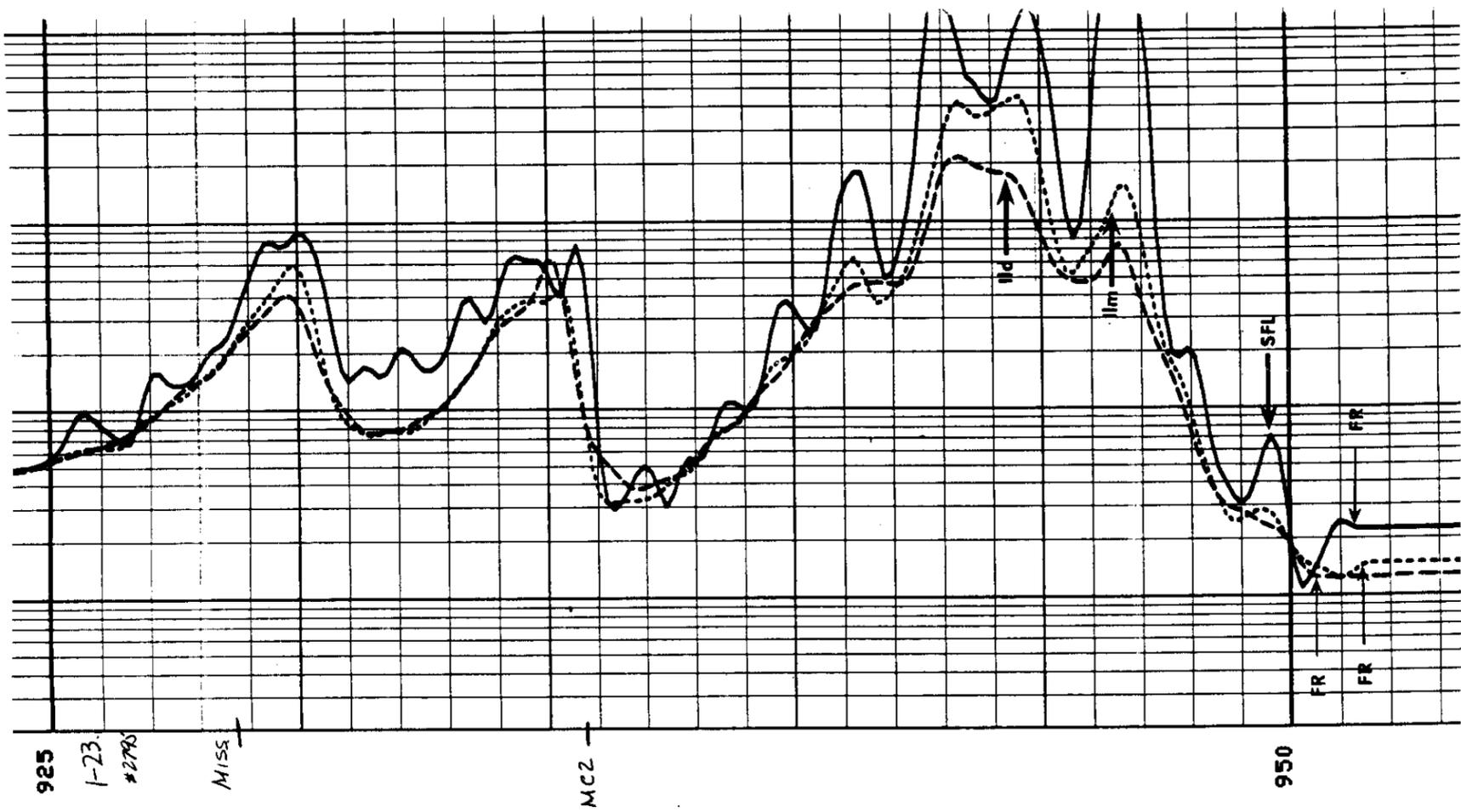
$$h_{net} = 7.68$$

$$\phi = 15.74$$

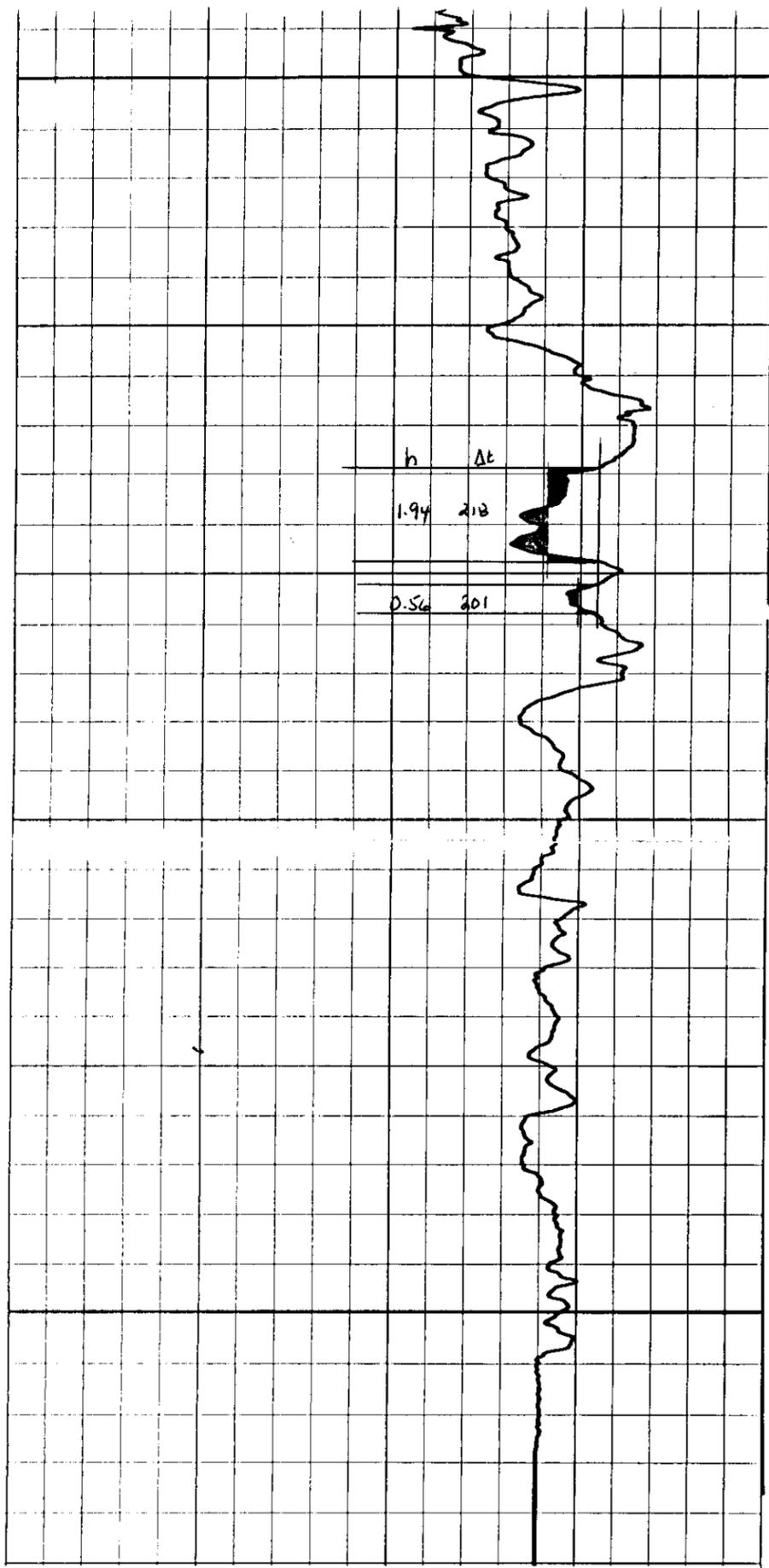
$$\Delta t_{ave} = 217.81$$

$$\phi h = 1.21$$

$$\Omega \phi h = 1.31$$



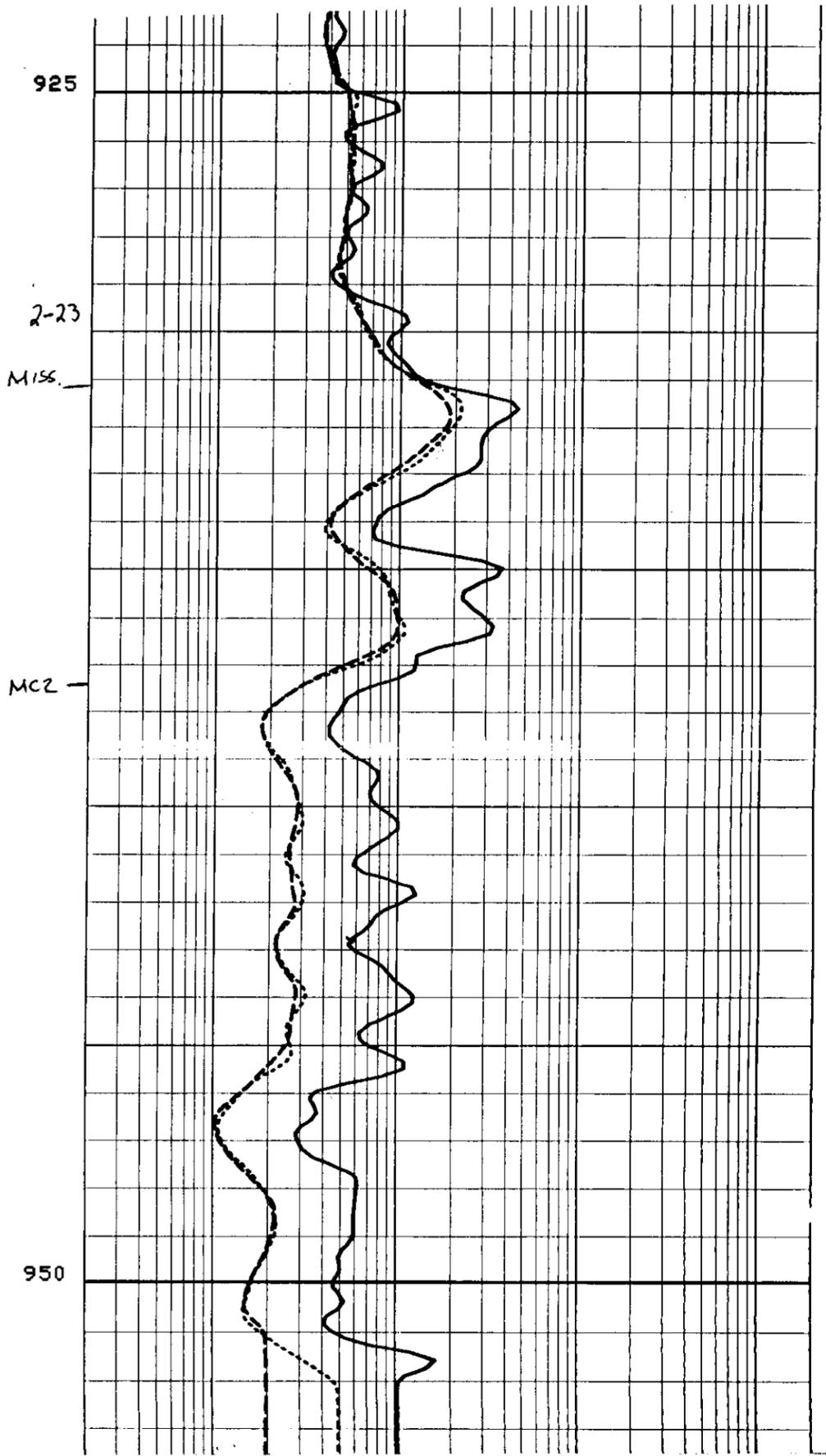
925



950

FILE

925



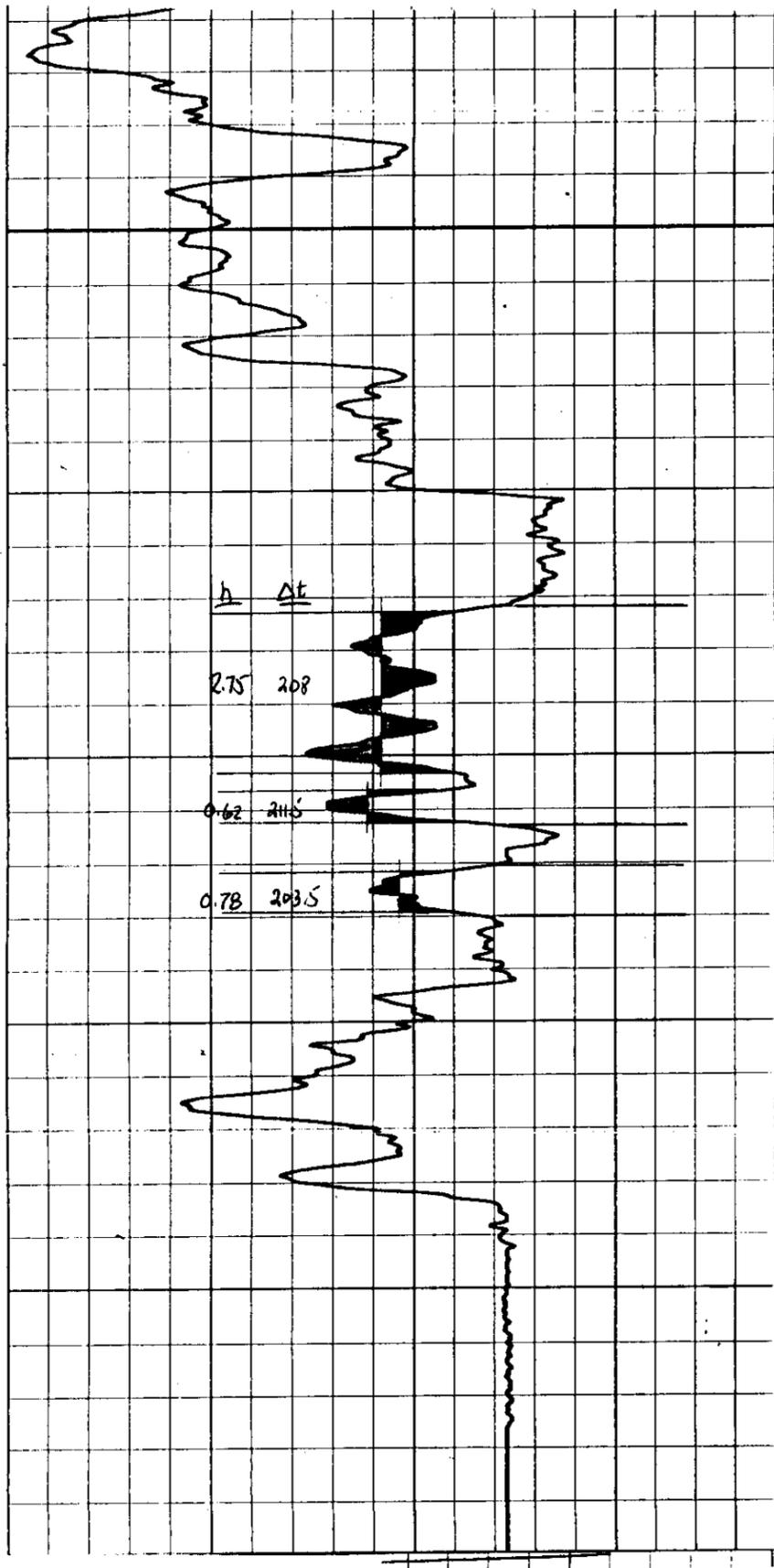
2-23

MISS.

MCZ

950

925



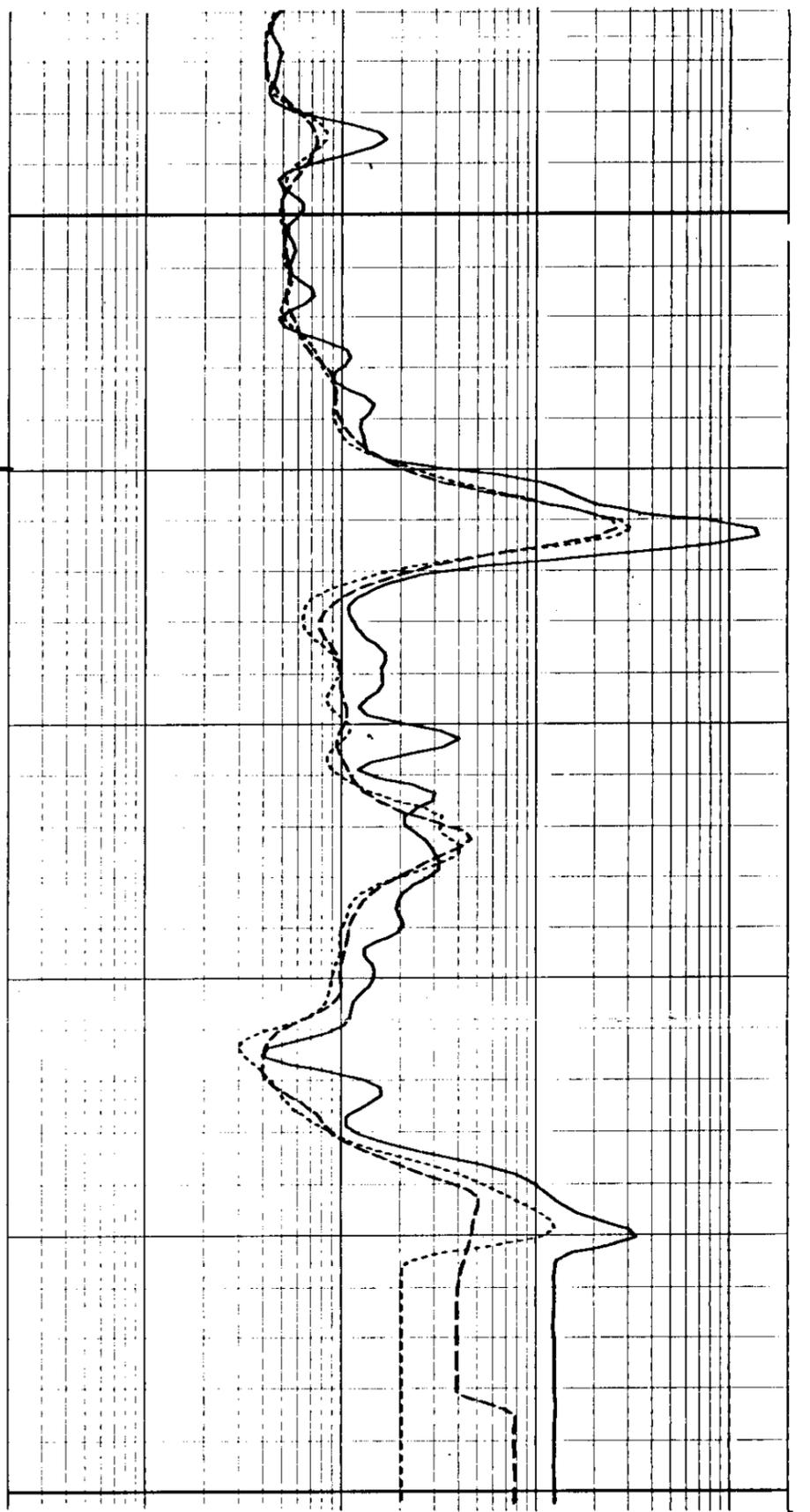
950

7-23

925

MISS.

950



925

λ	ΔE
1.41	2015
1.19	200
1.91	200

950

8-23

925

MISS

42

44

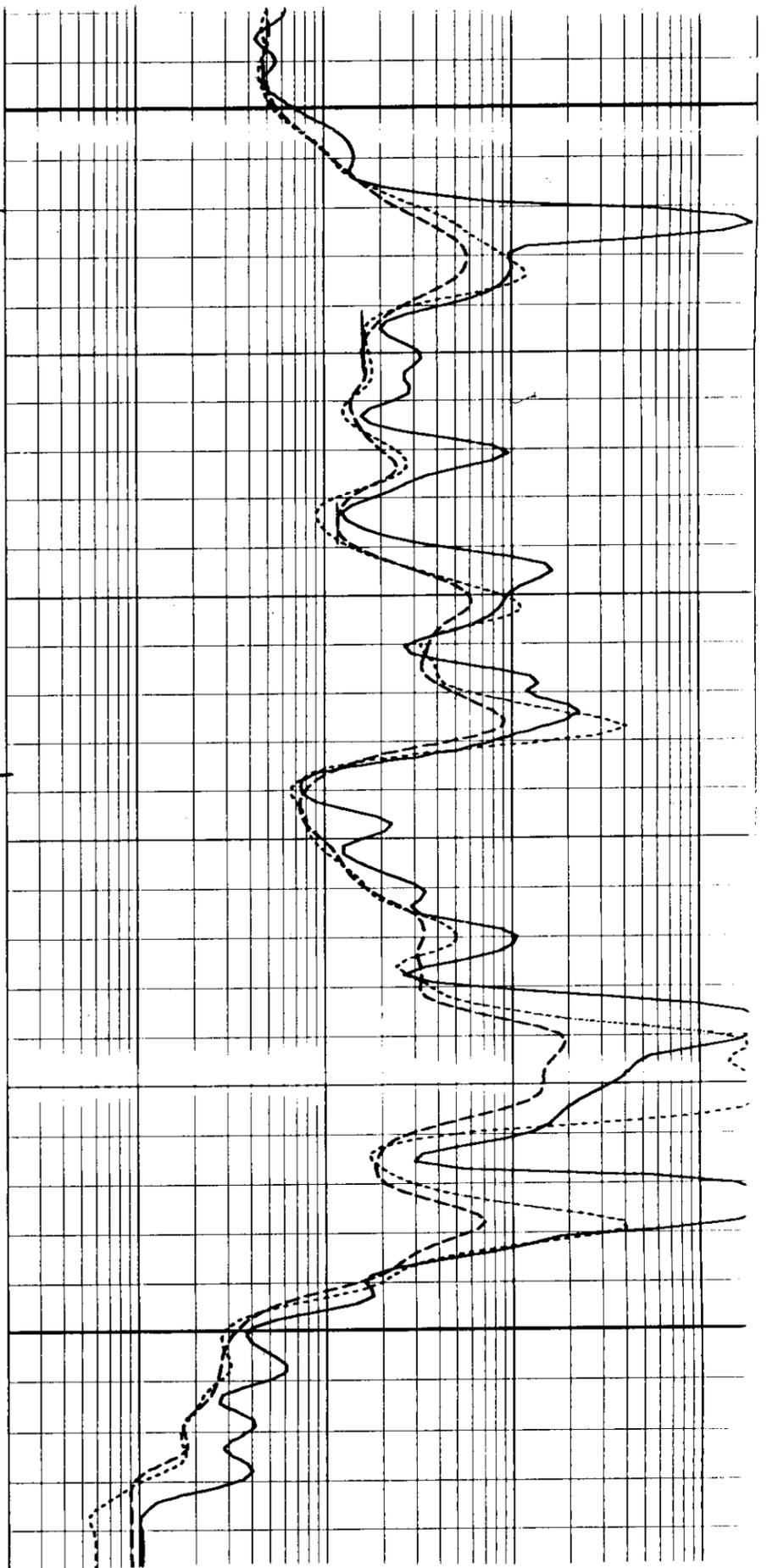
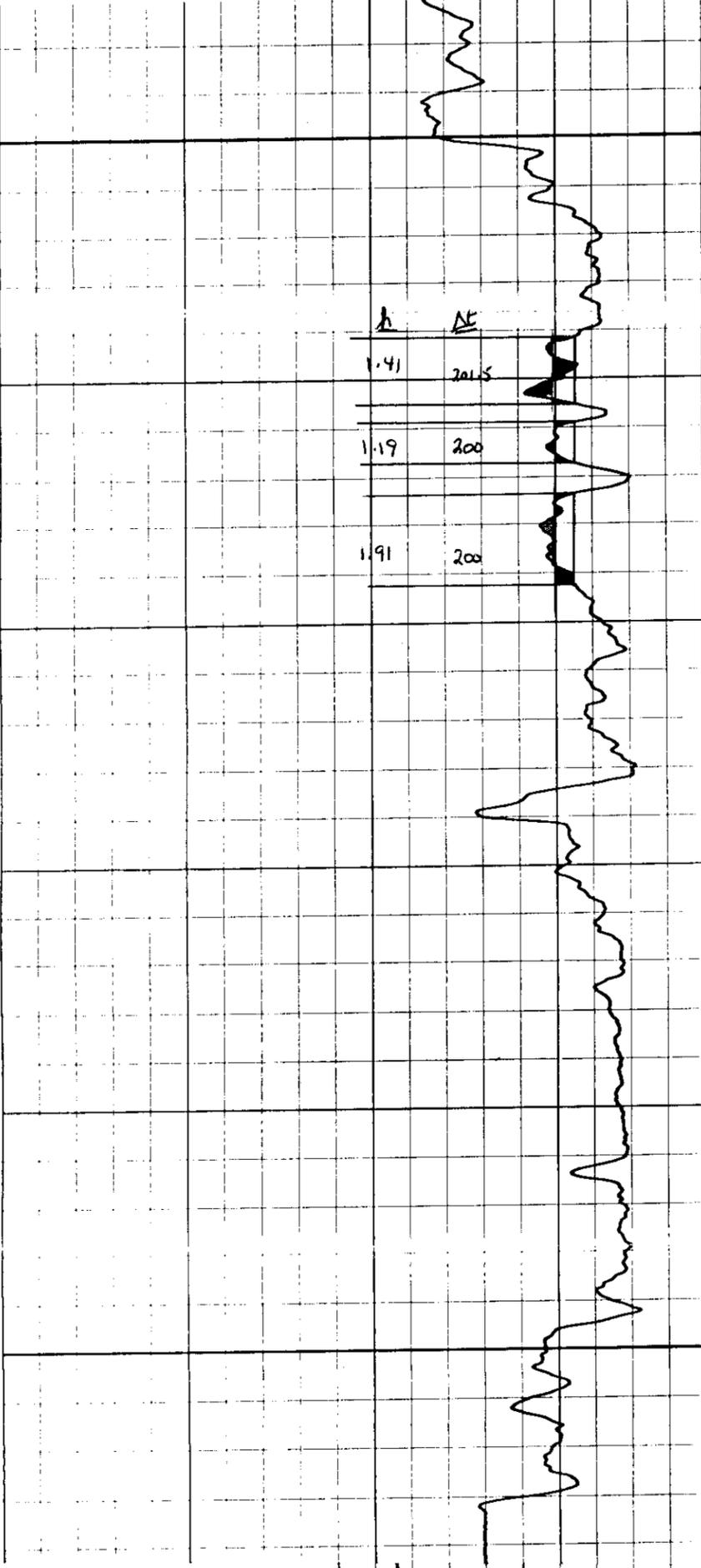
48

one = 45

MCZ

MCZ

950



925

925

9-23MC3

h Δt

5.34 214

0.90

64

Δtme

0.44 208

59

0.72 212

50

ave = 63

950

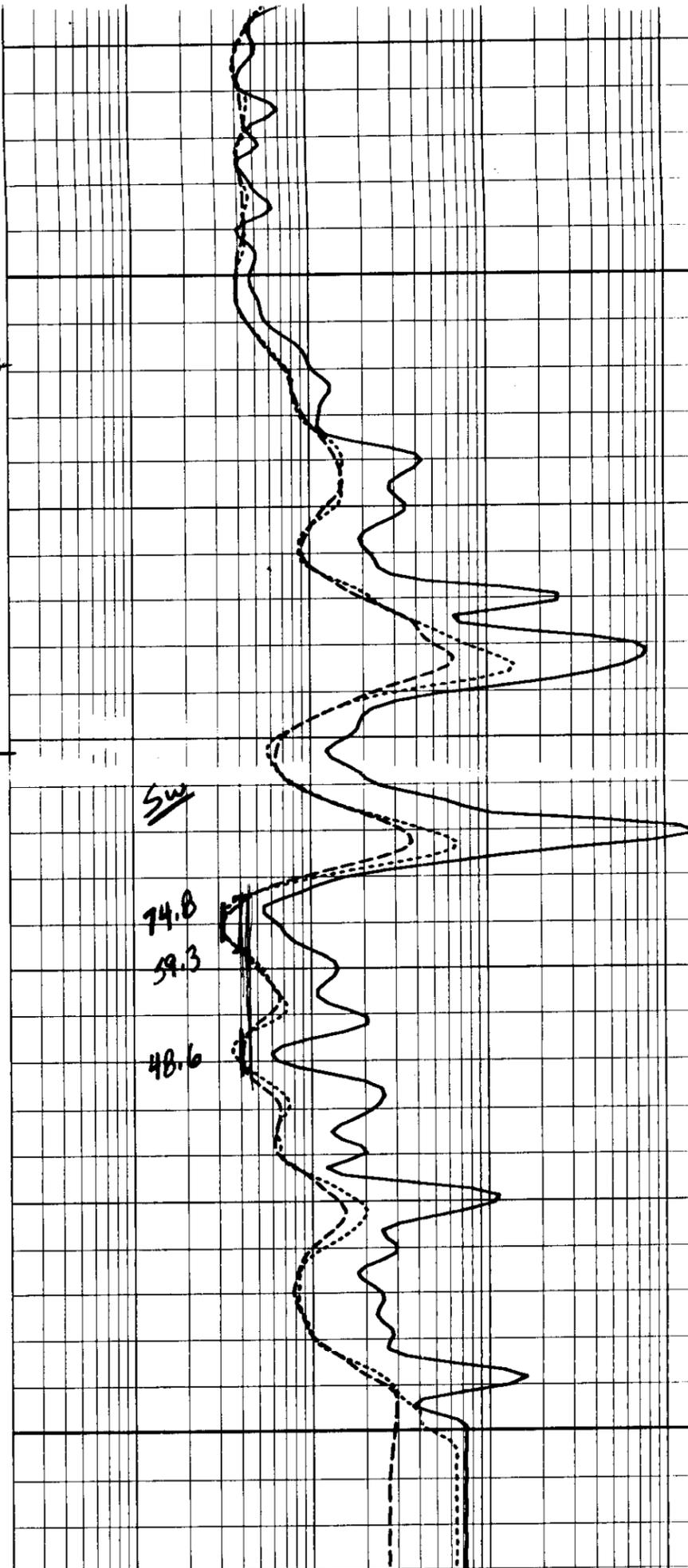
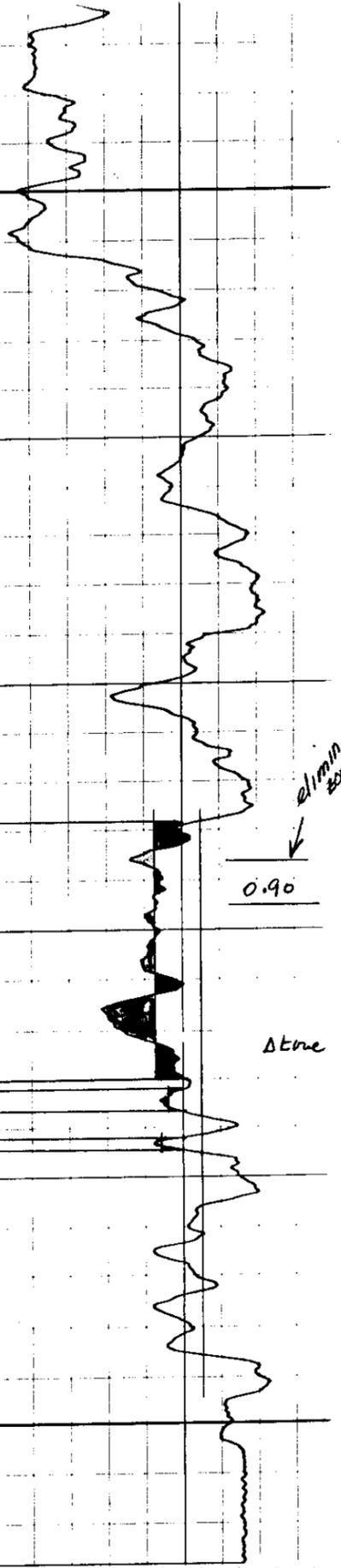
950

Sw

74.8

59.3

48.6



925

h	ΔE
1.44	201
0.22	193
0.81	200
0.19	195

2.22	199
0.22	185
1.50	195
0.40	190
0.41	182
4.79	194

SHALEY

Sonic Curve

FR

950

925

MSS

10-23

38

38

30

31

33

MC2

950

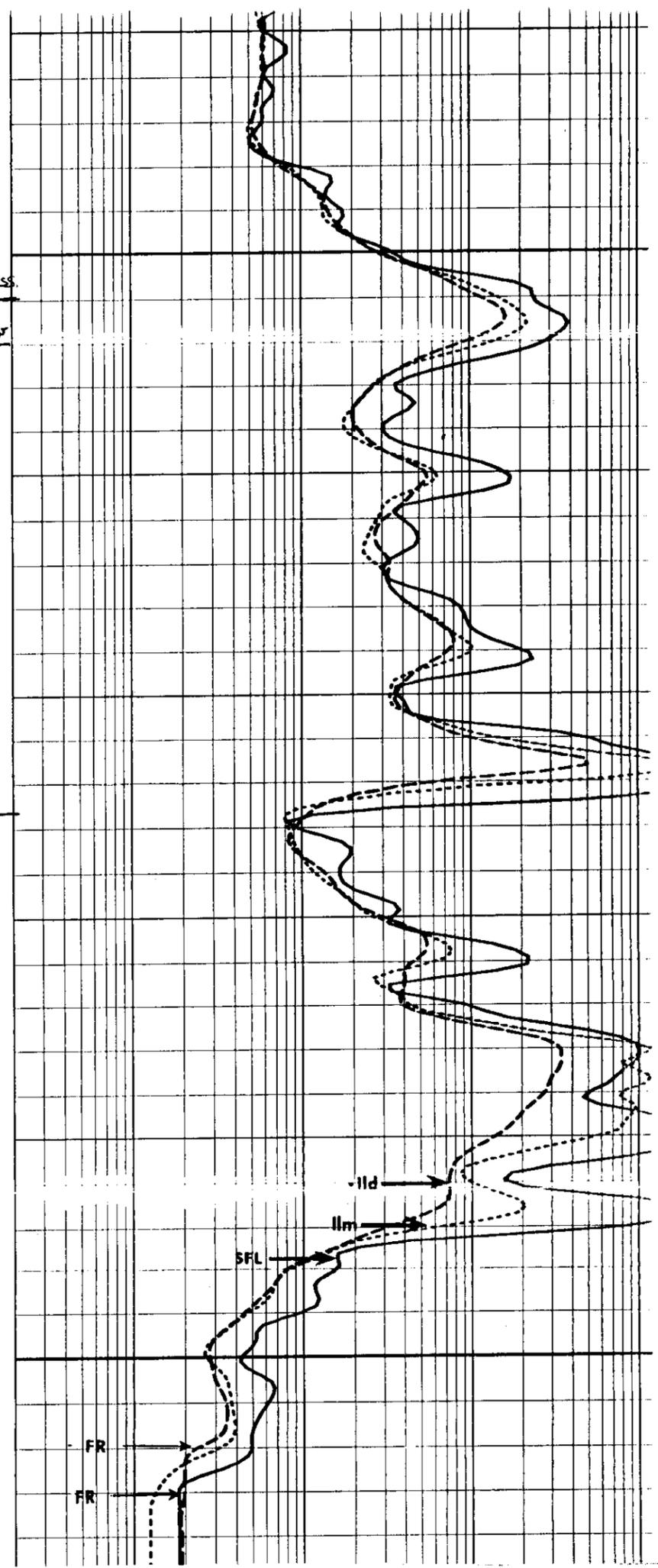
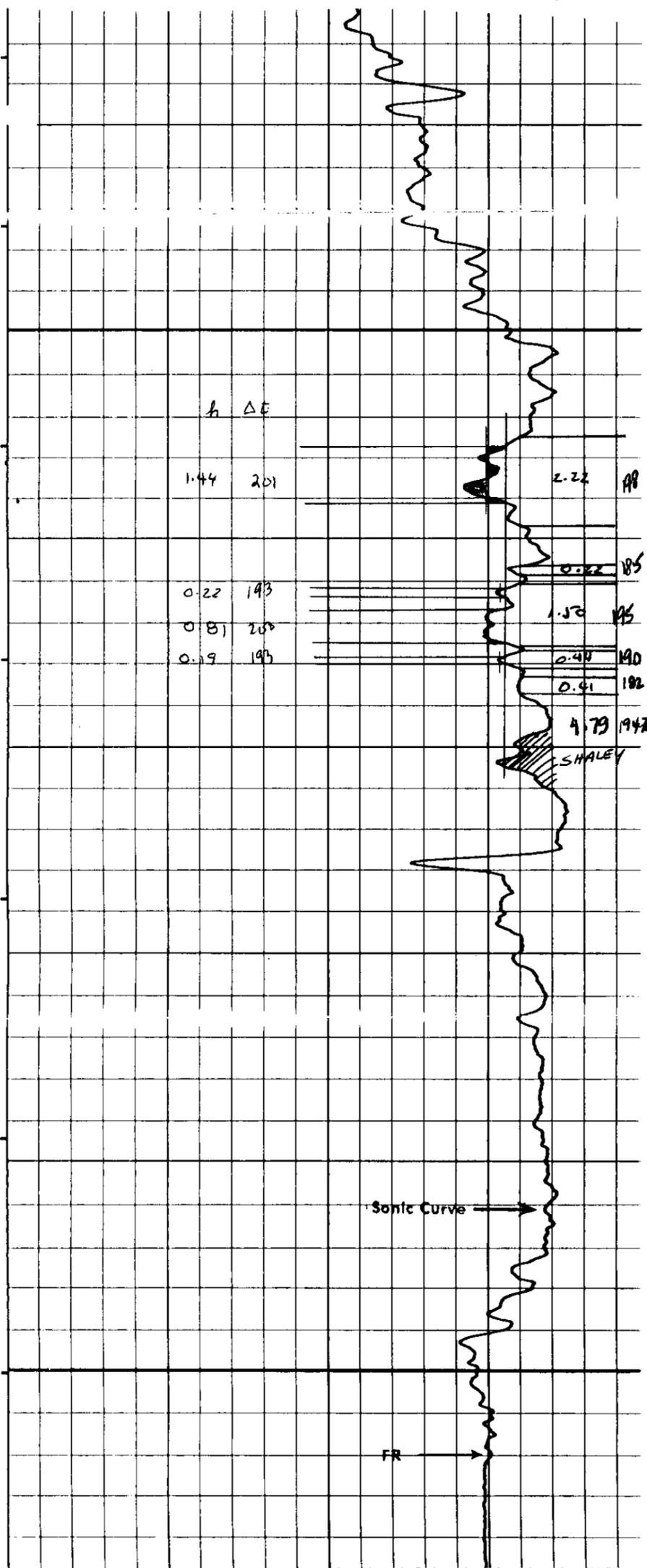
SFL

-lld

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FR

FR

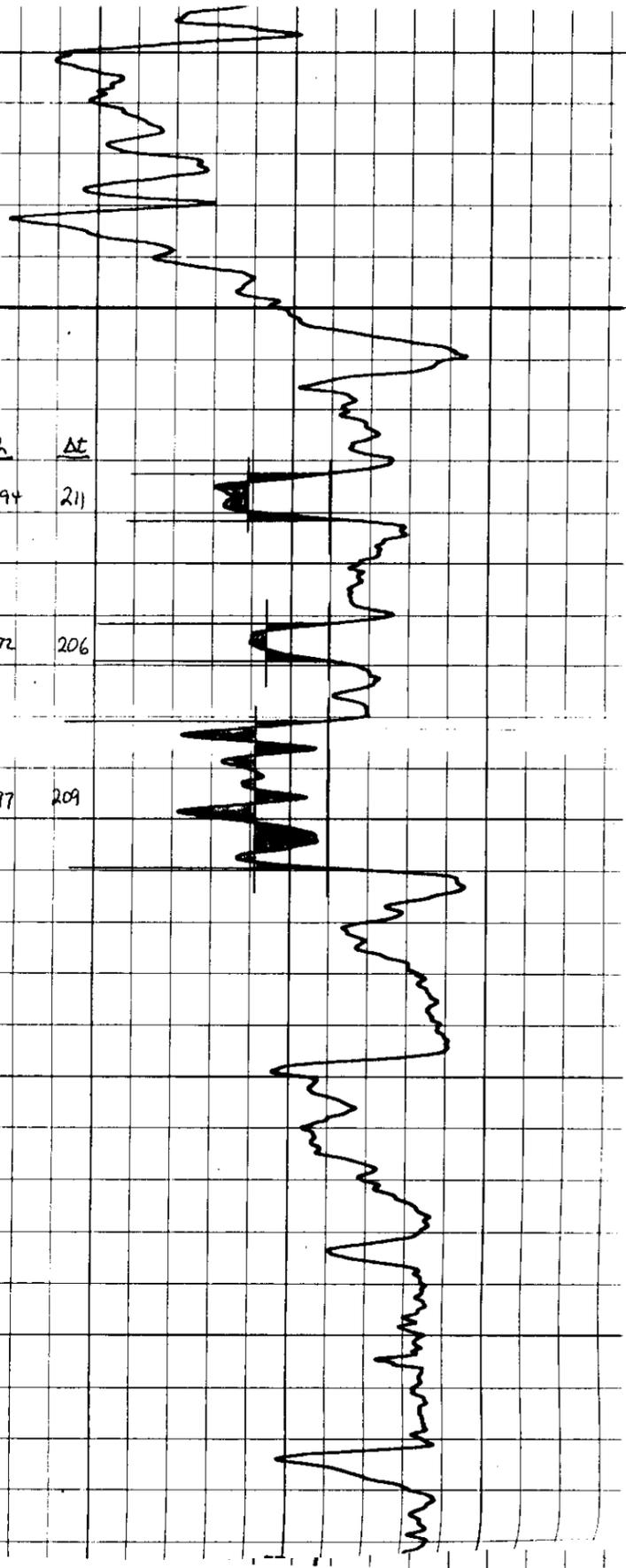


925

λ	Δt
0.94	211

0.72	206
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2.97	209
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925

15-23

39 MC3a

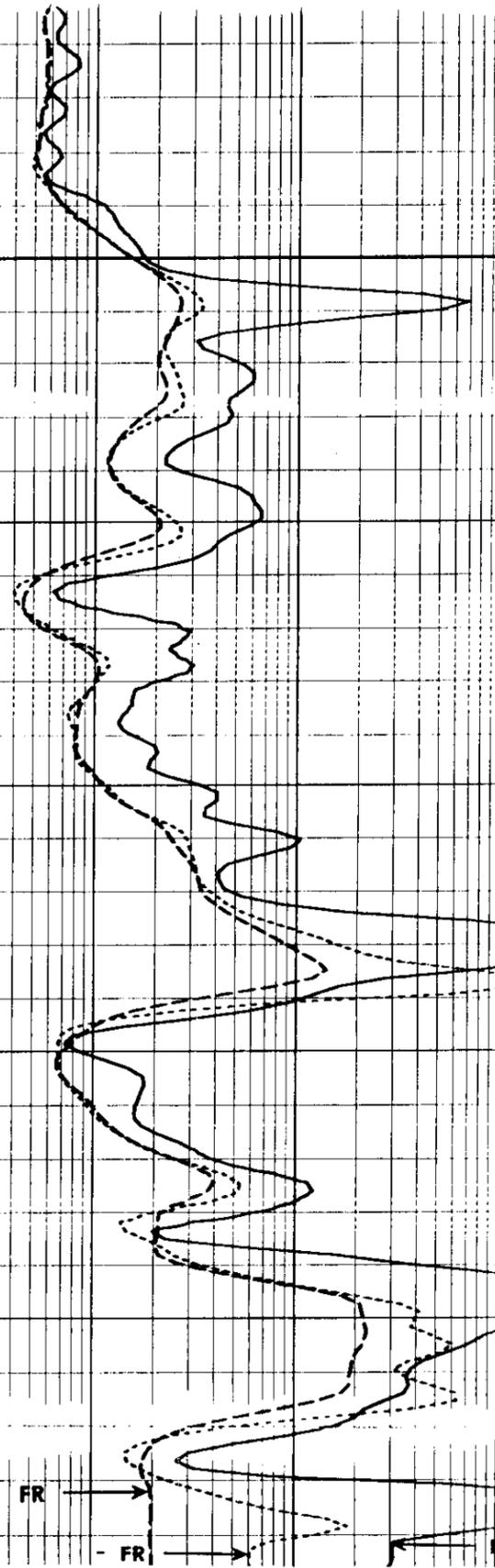
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49

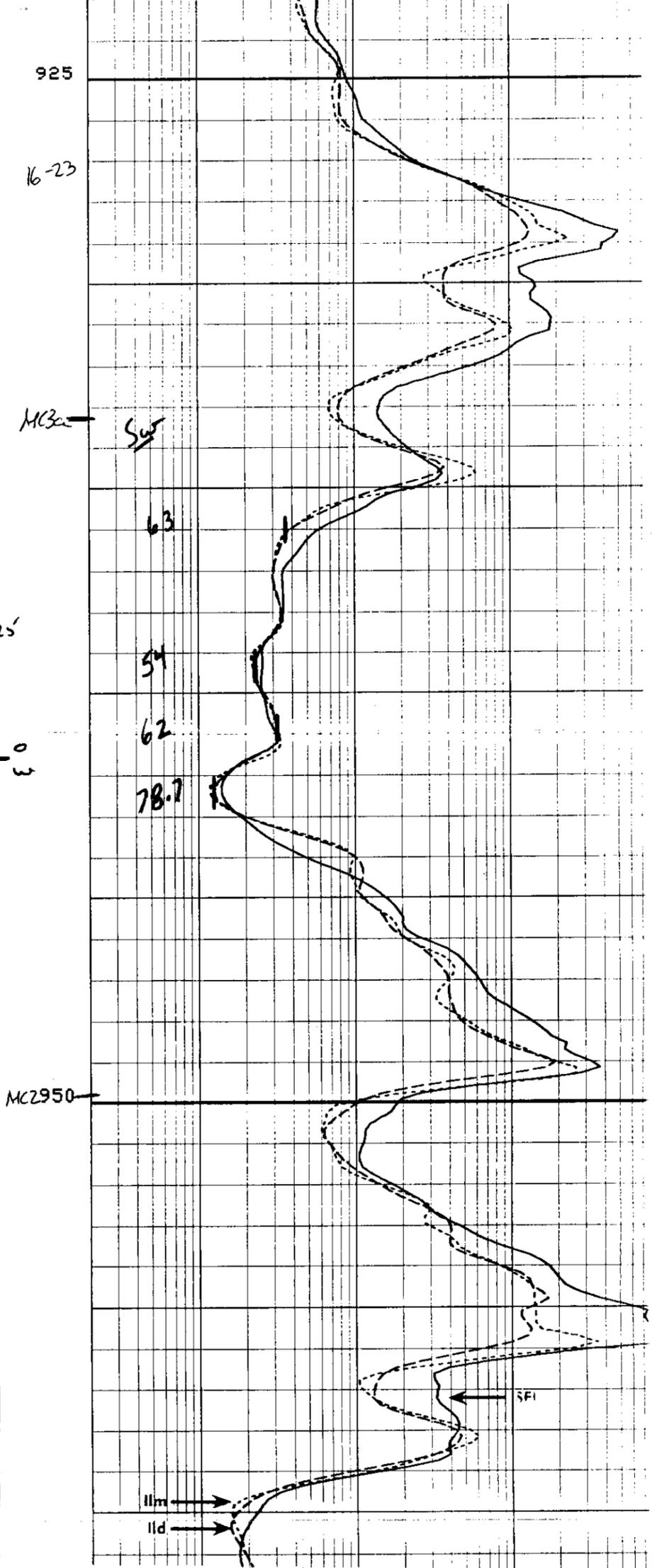
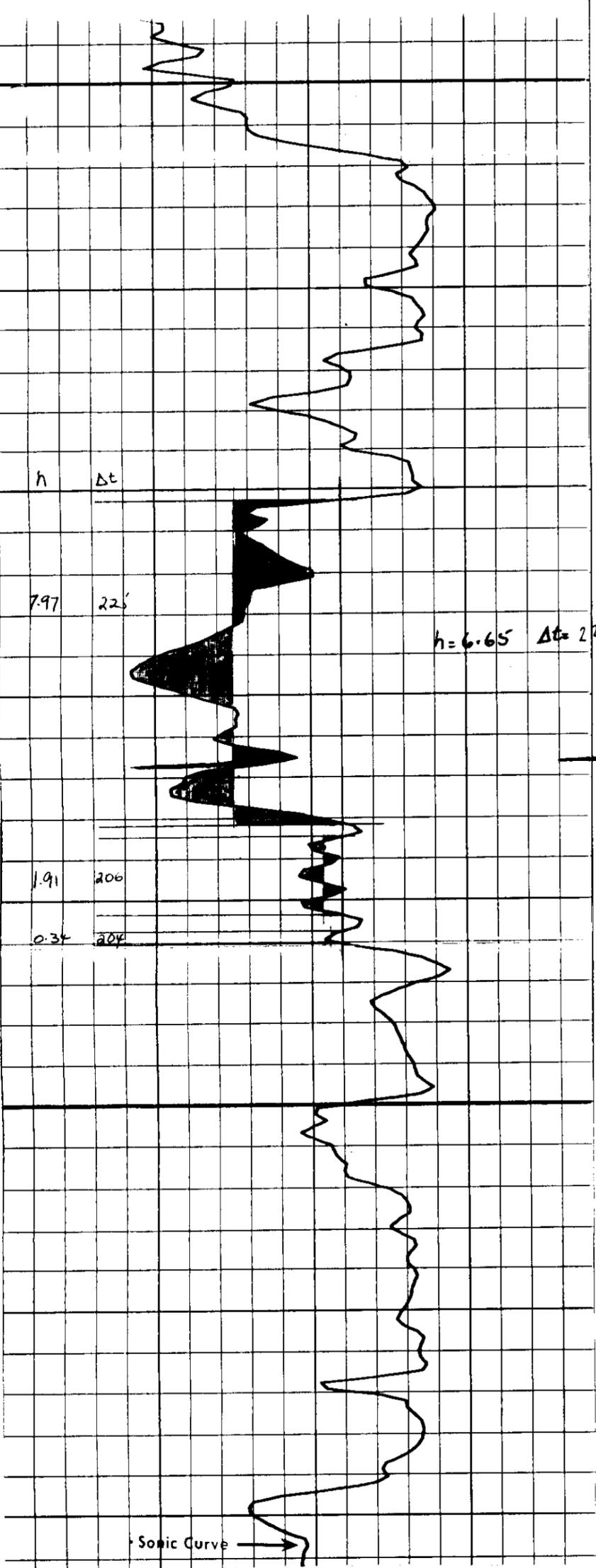
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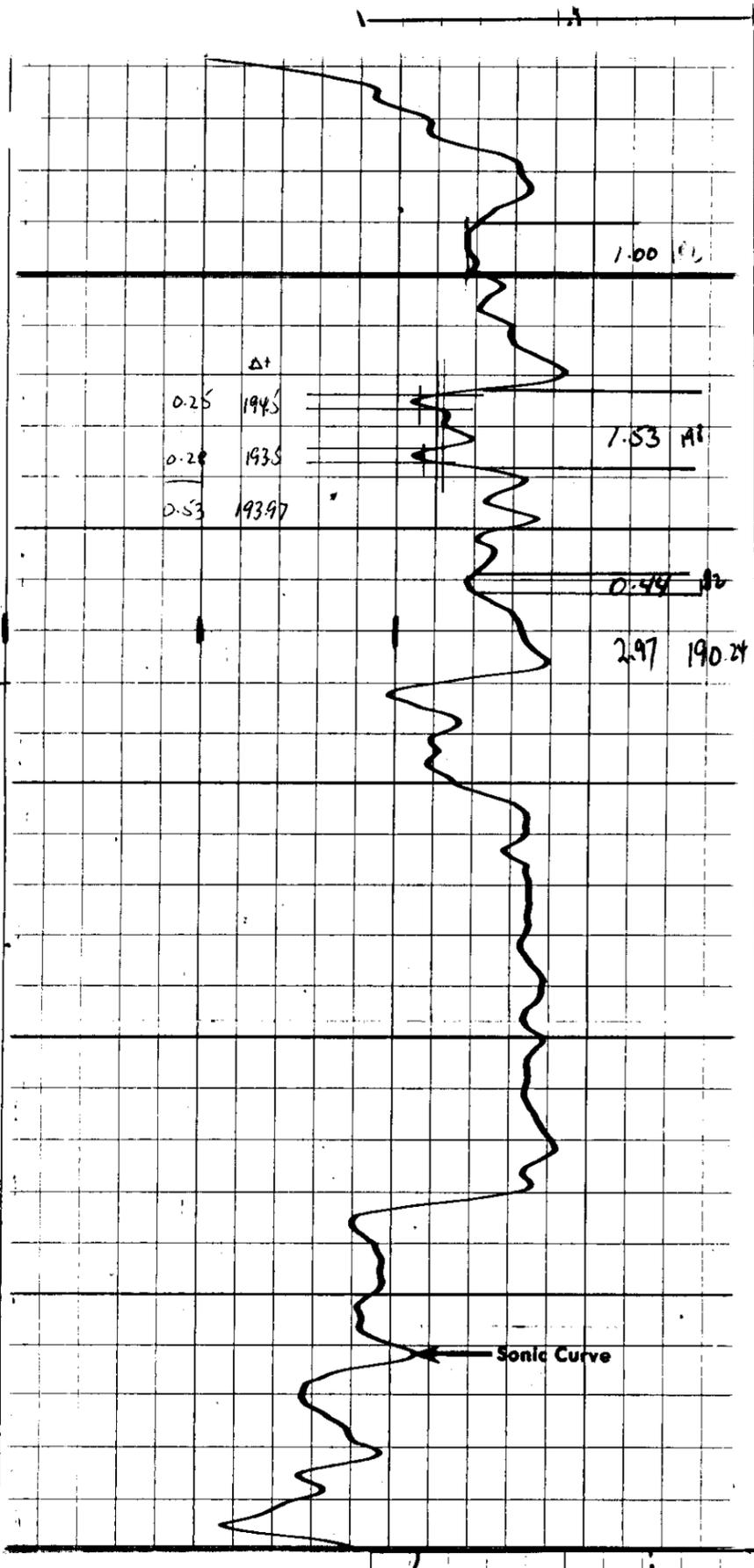
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DEEPEST



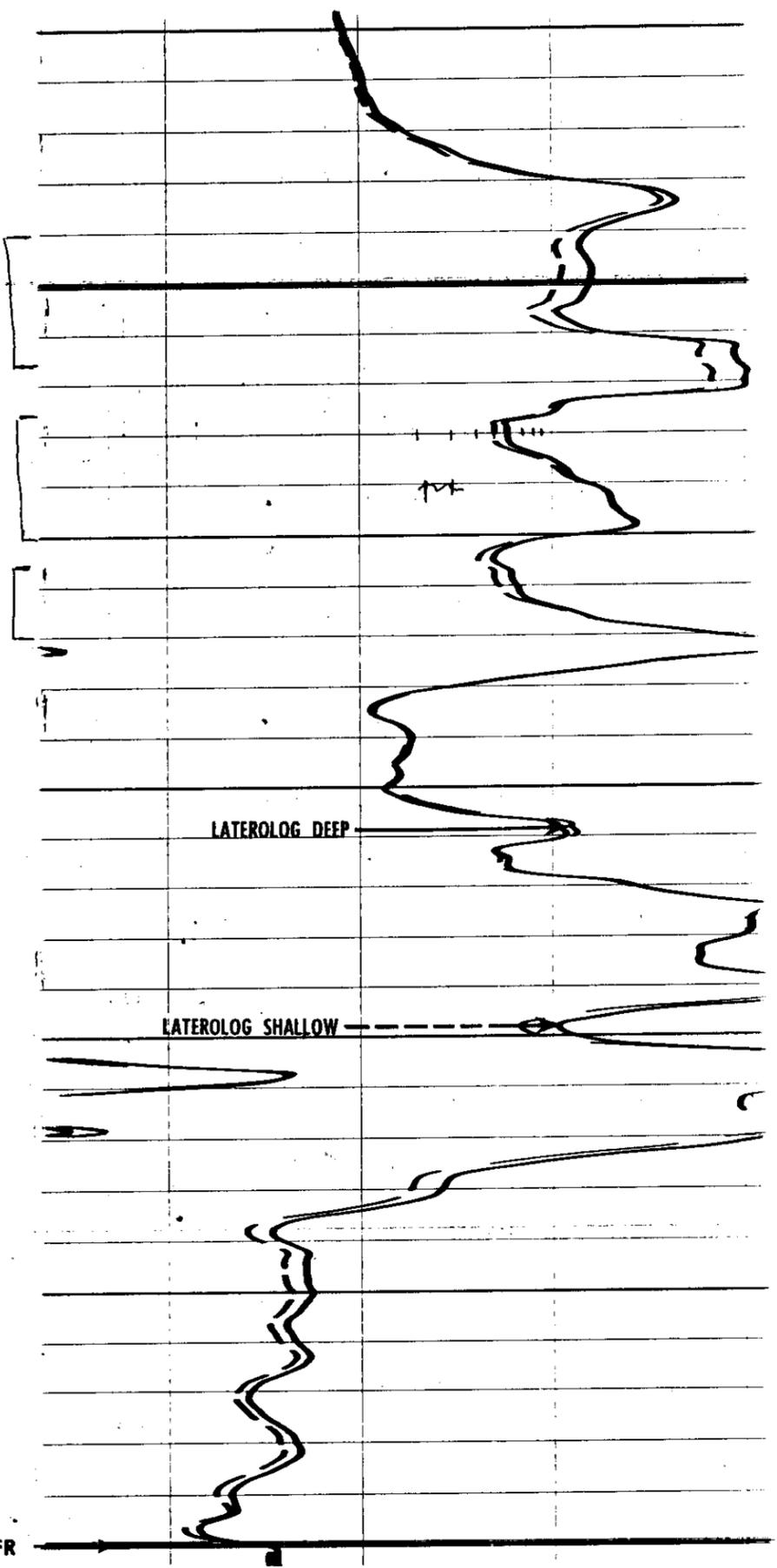
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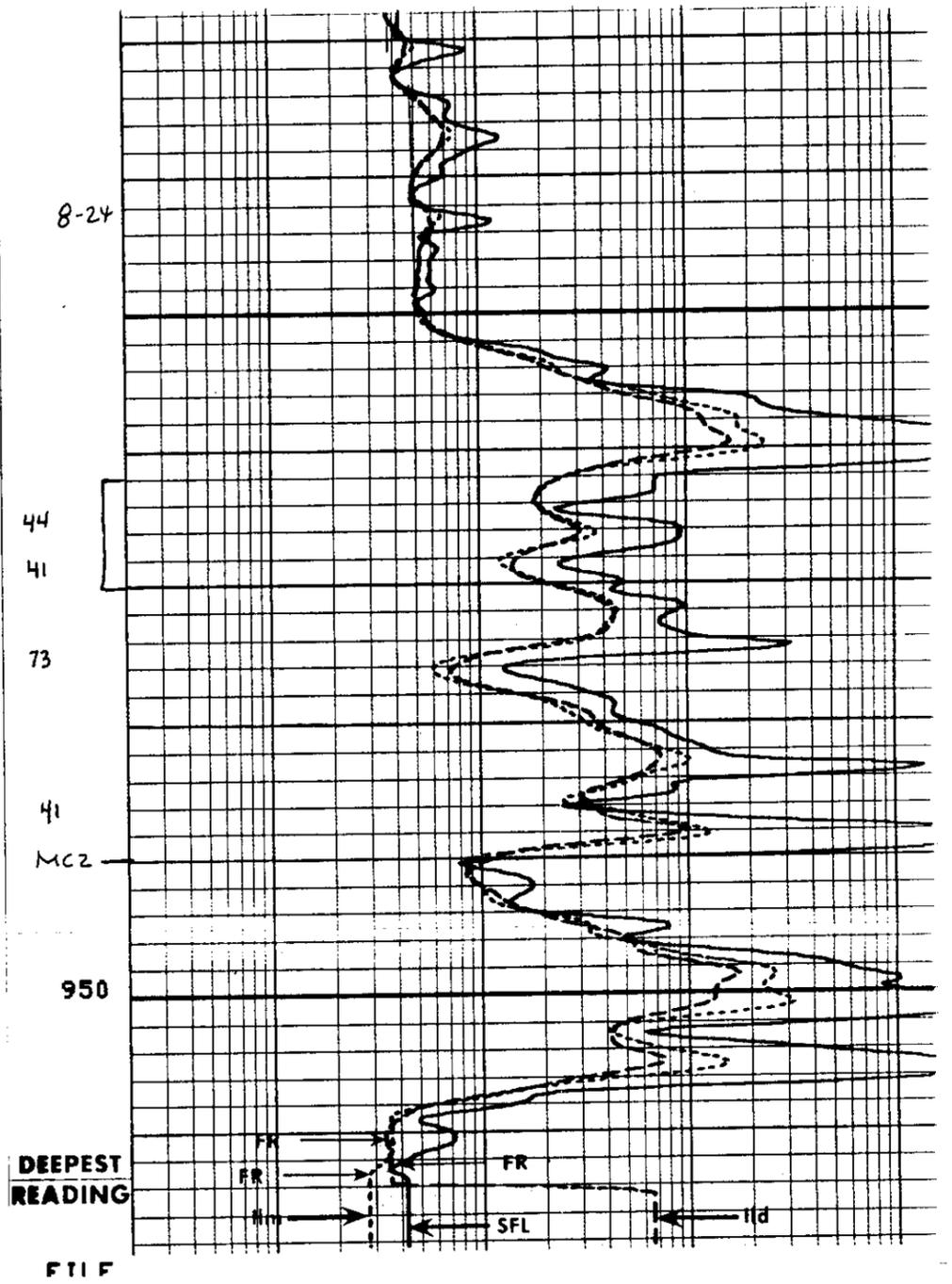
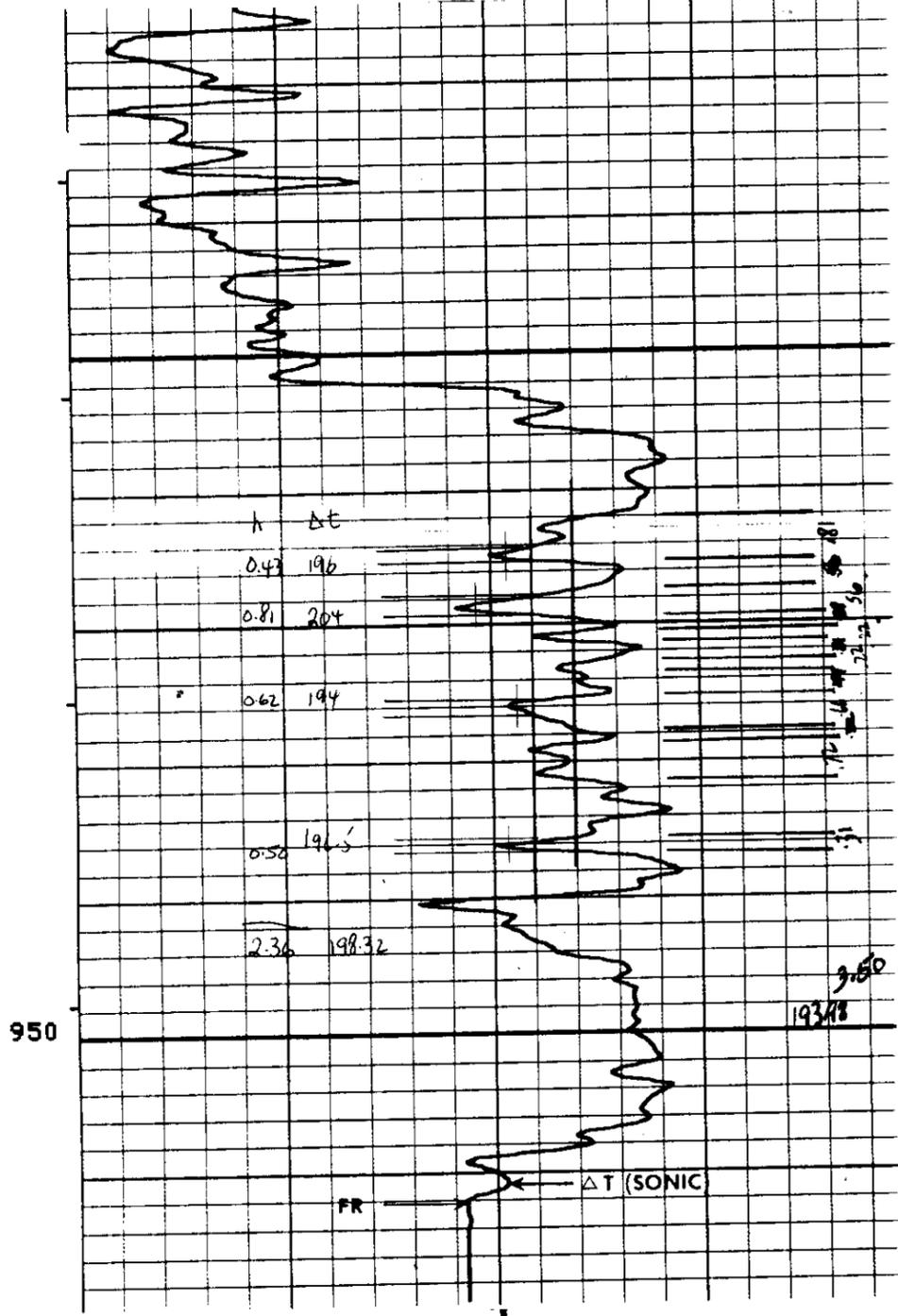


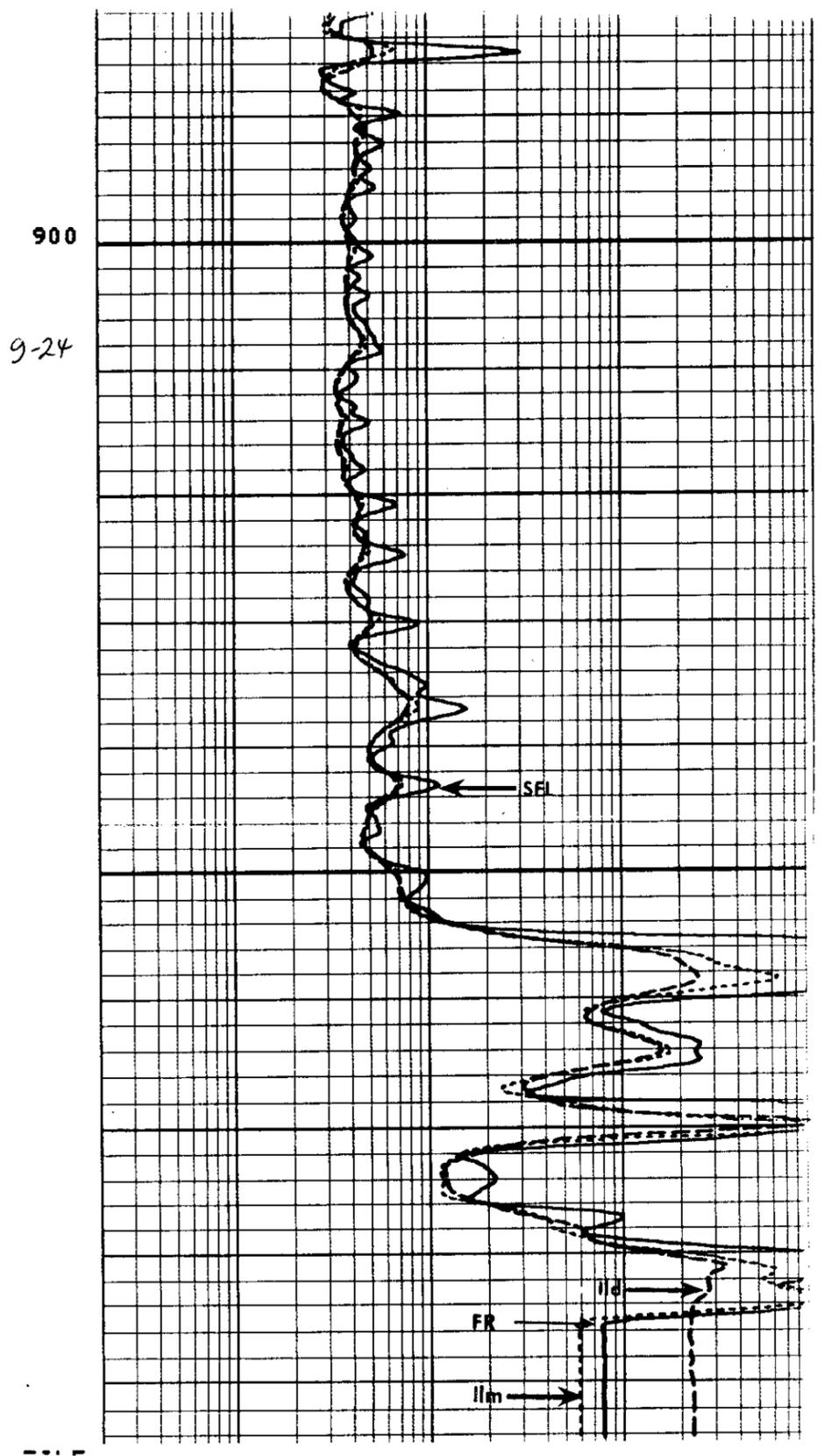
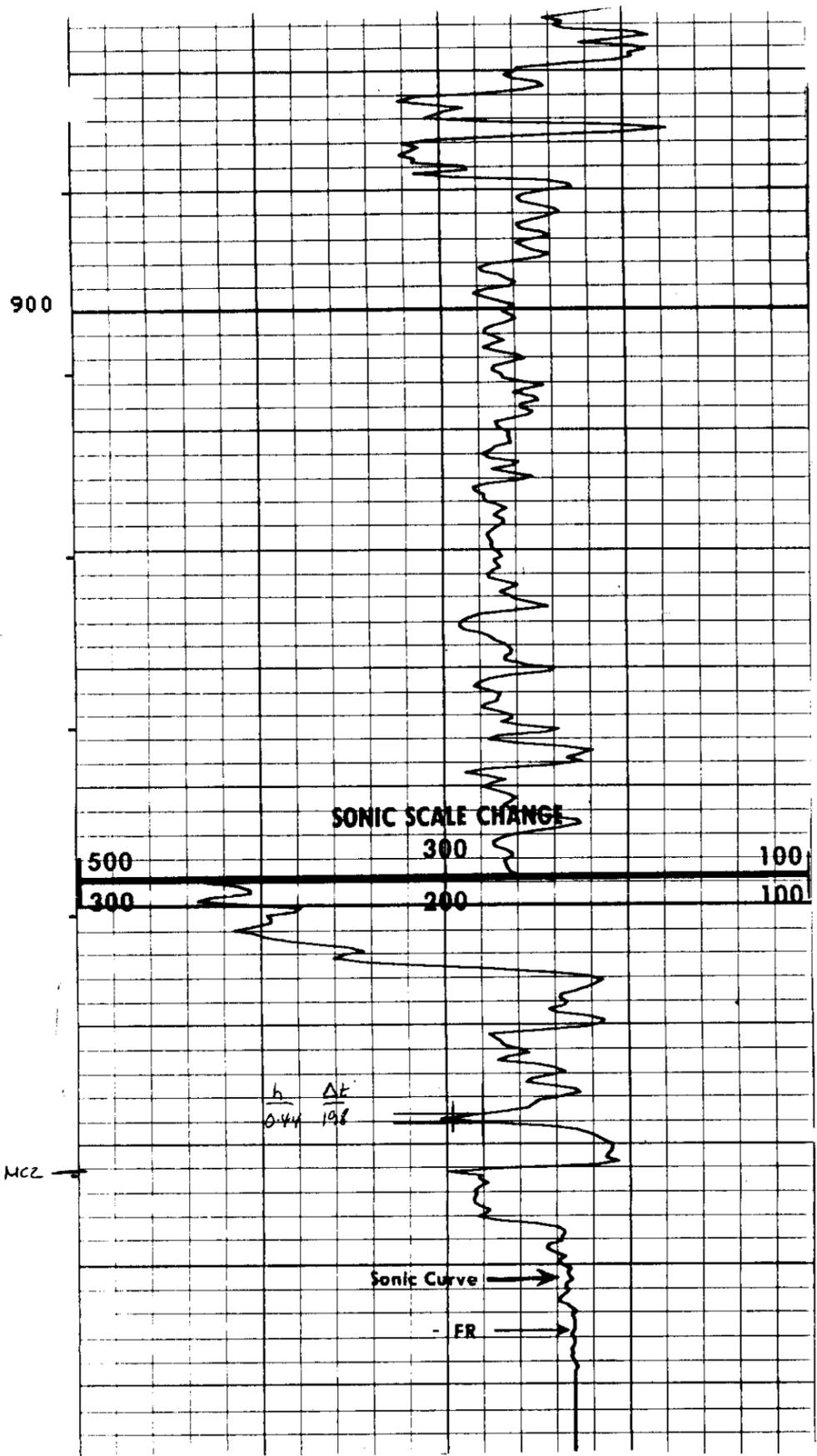
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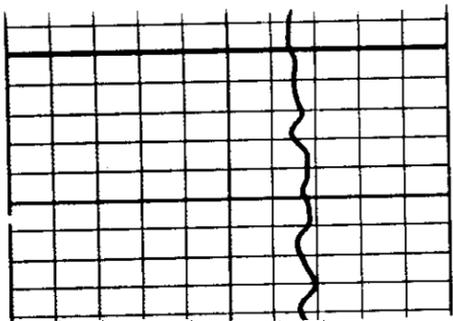
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FR

21-24
20
23

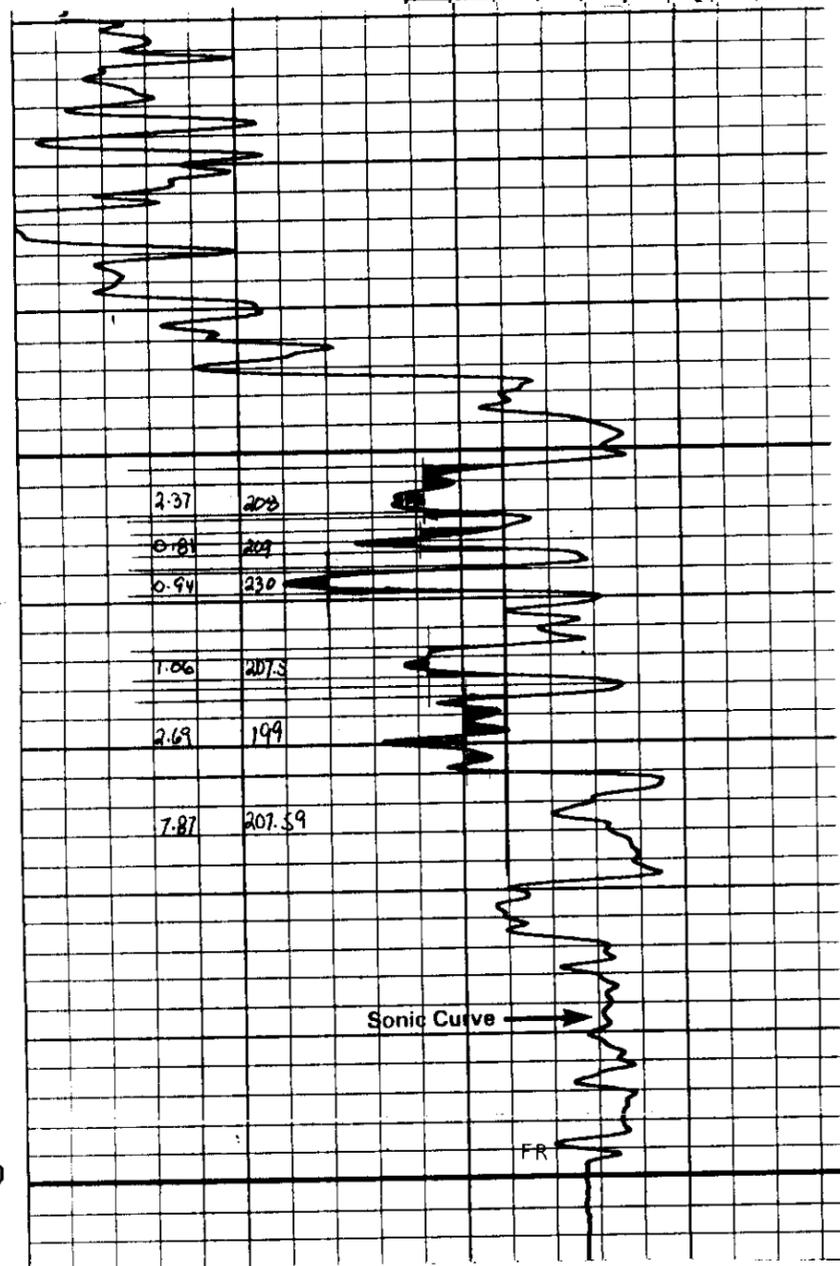
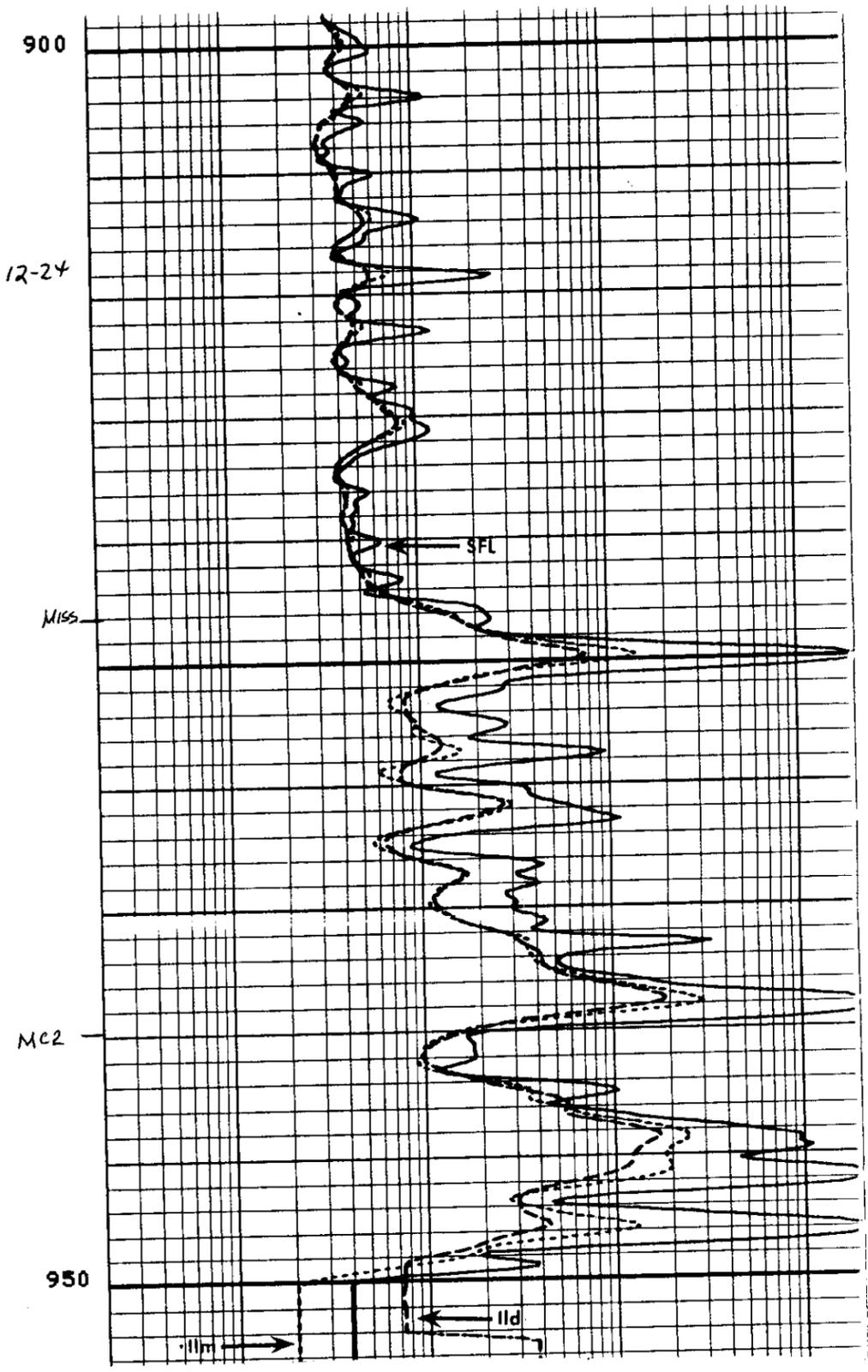








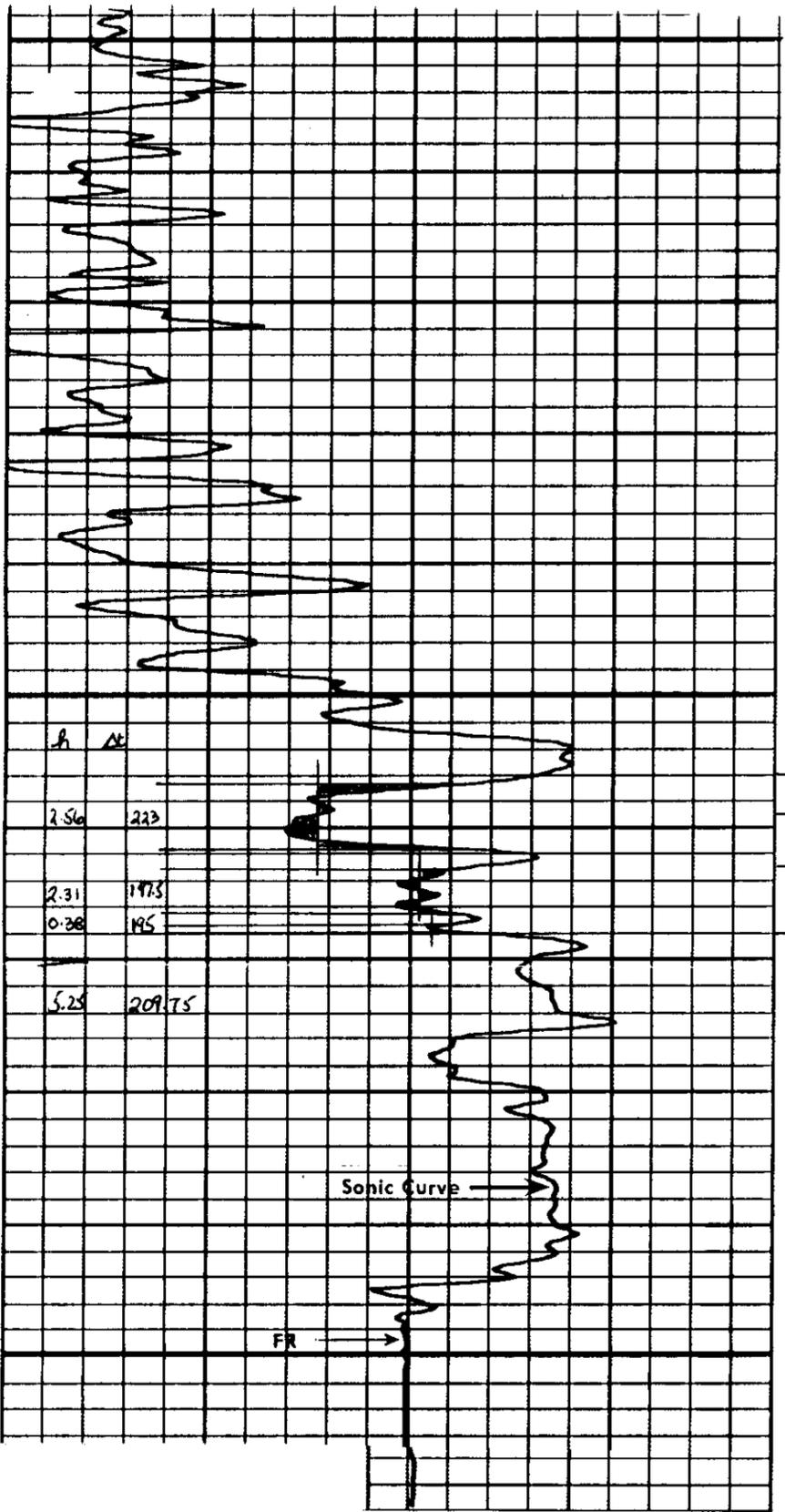
12-24



2.37	208
0.61	209
0.94	230
1.06	207.3
2.69	199
7.87	207.59

950

900

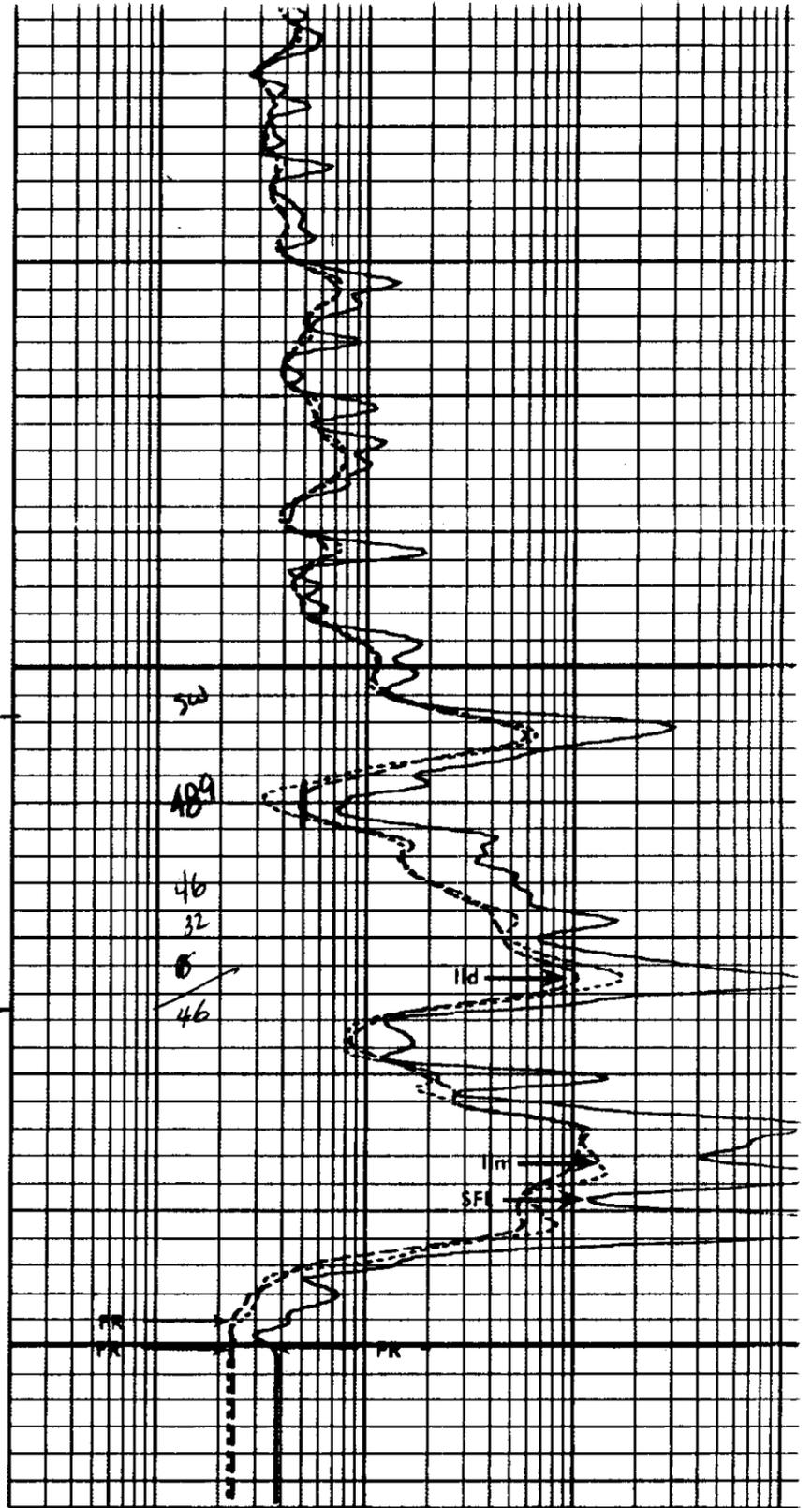


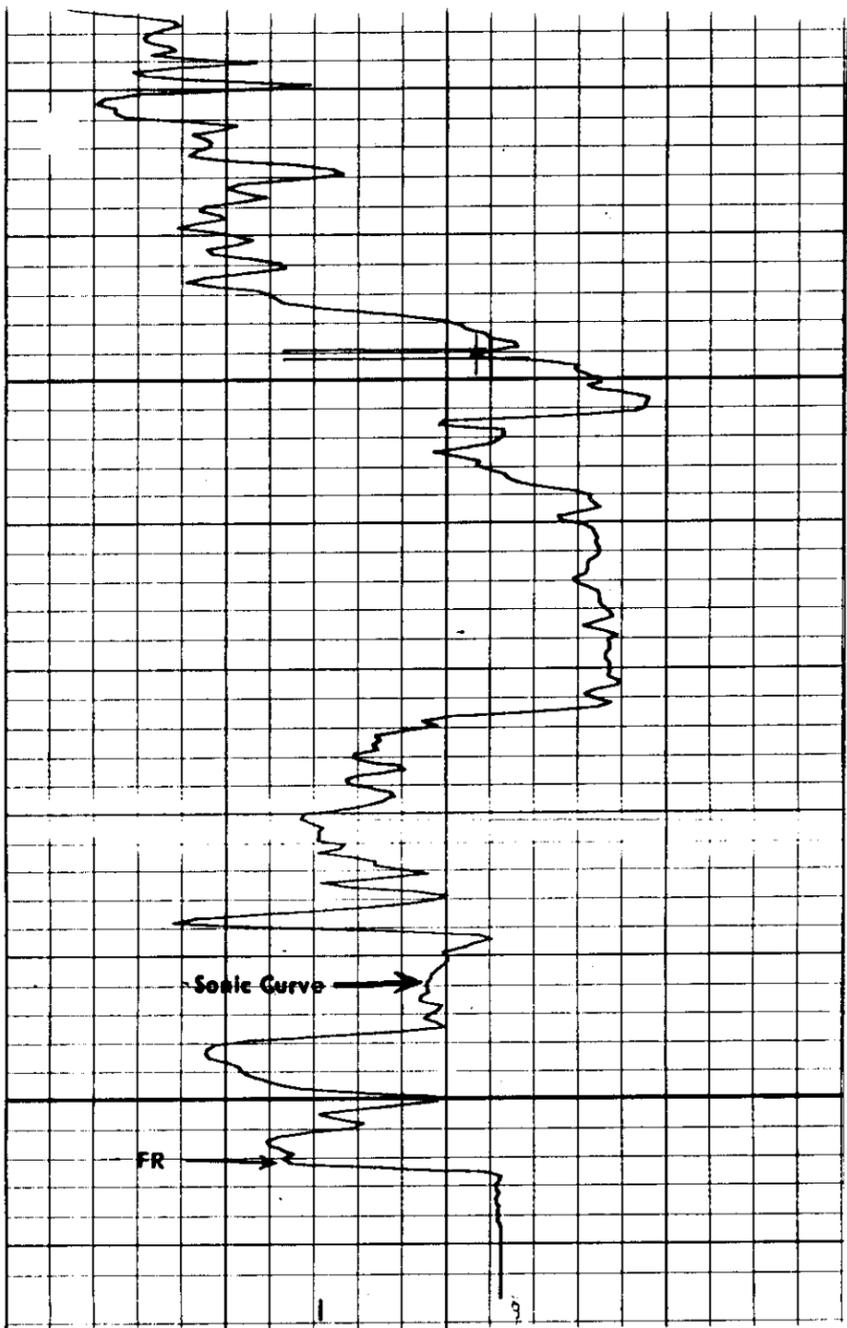
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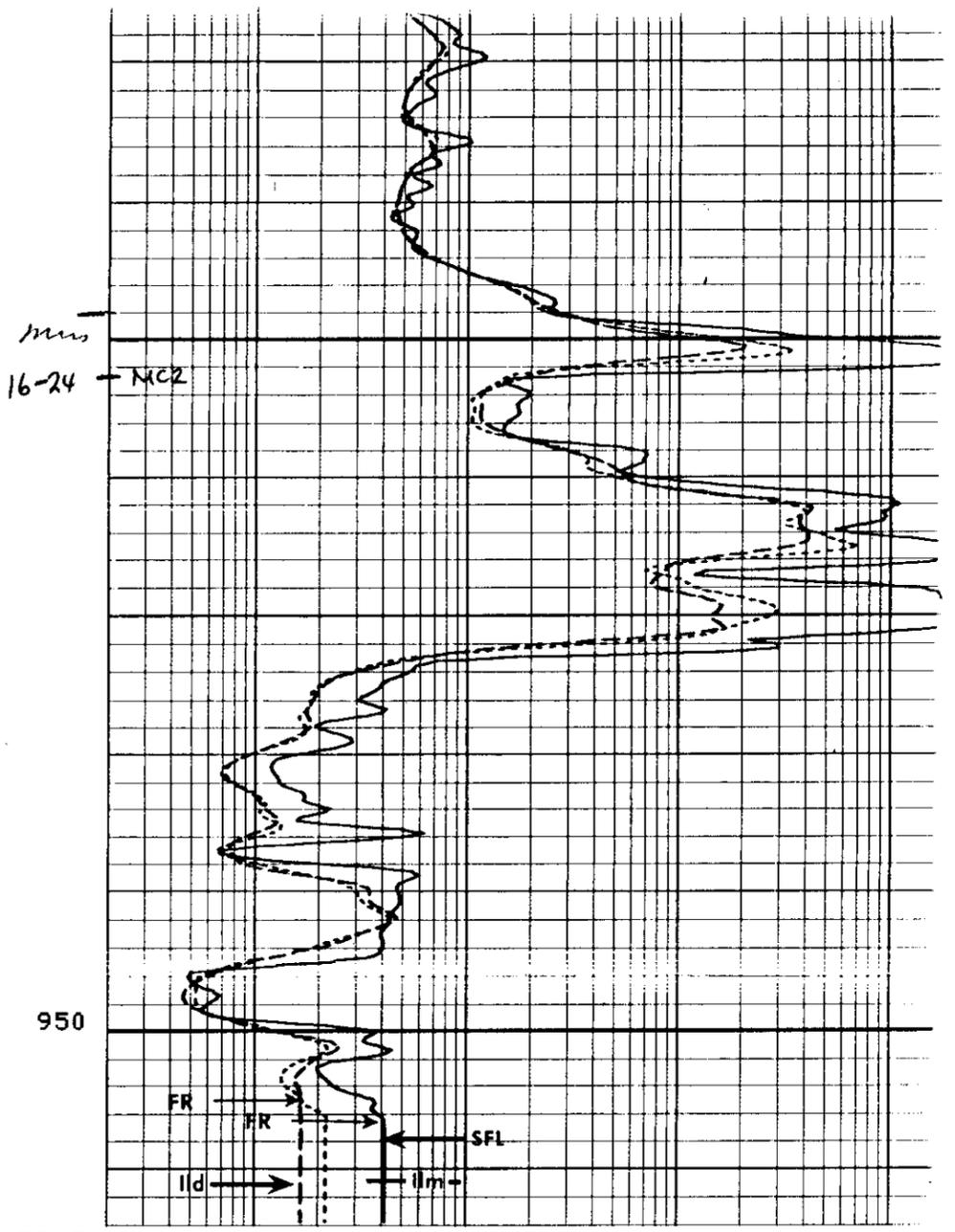
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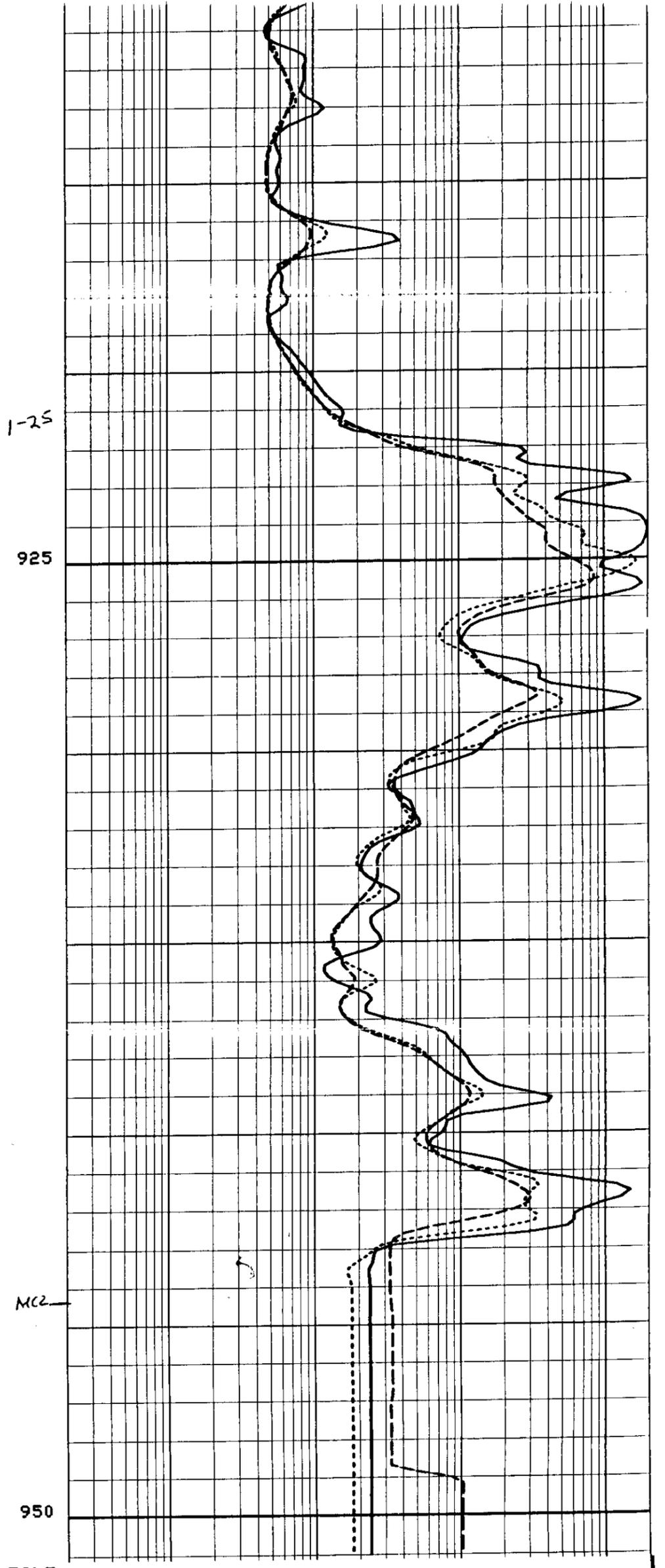
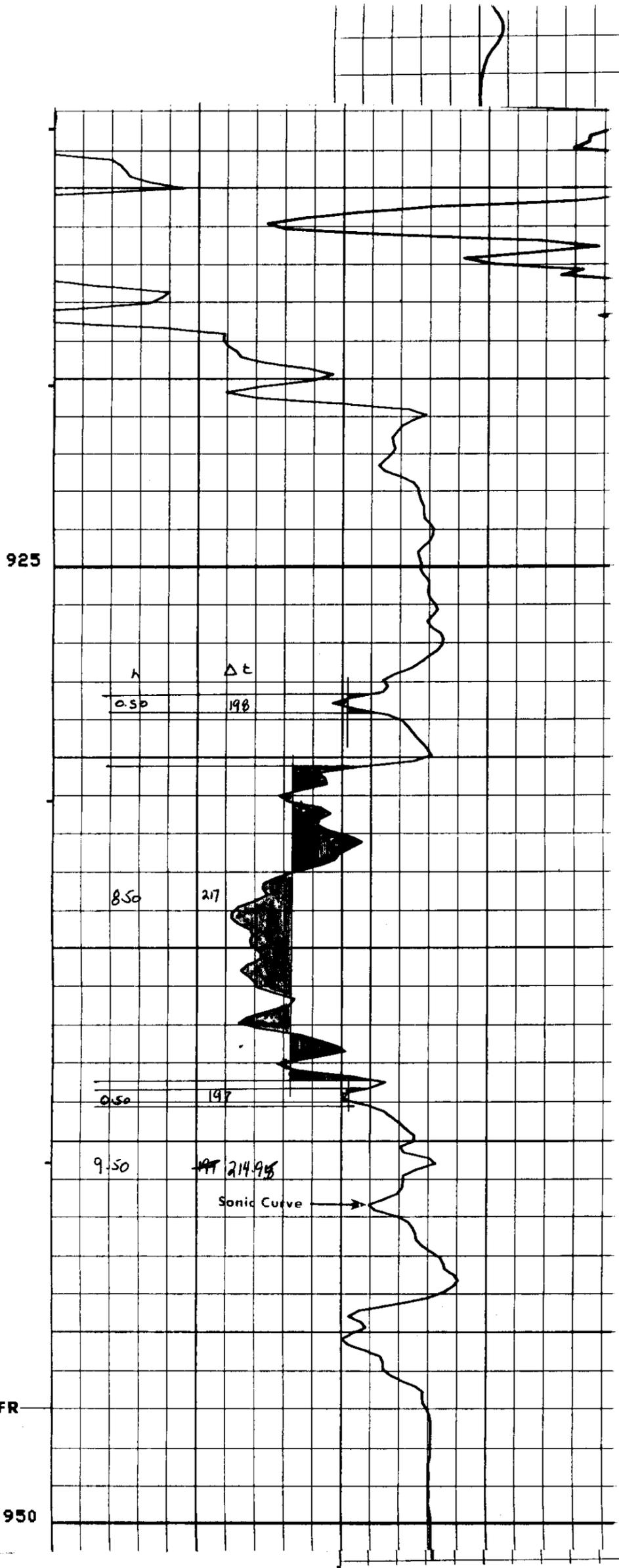




FILE



FILE



FILE
2

925

h Δt

0.22 19.5

8.19 213

950

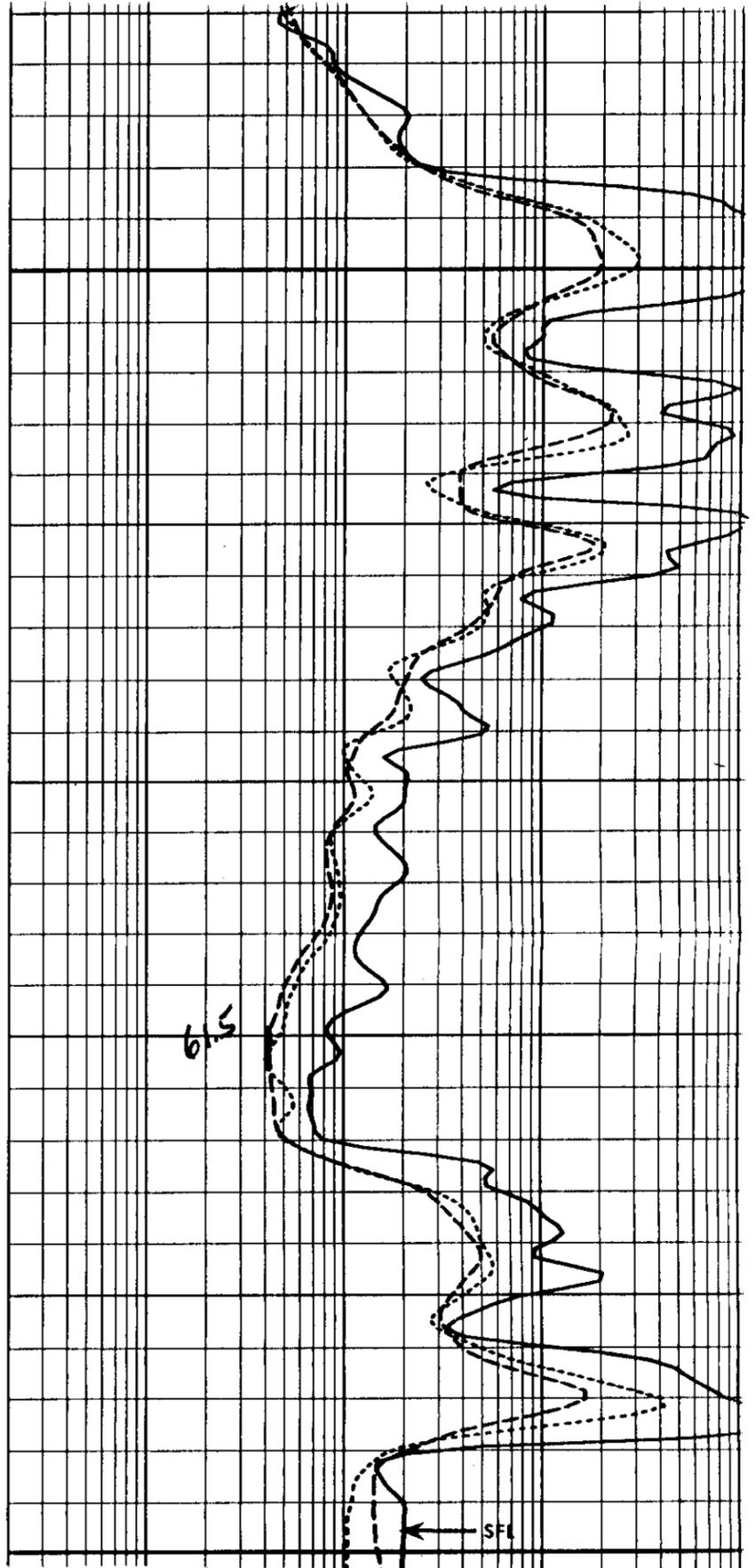
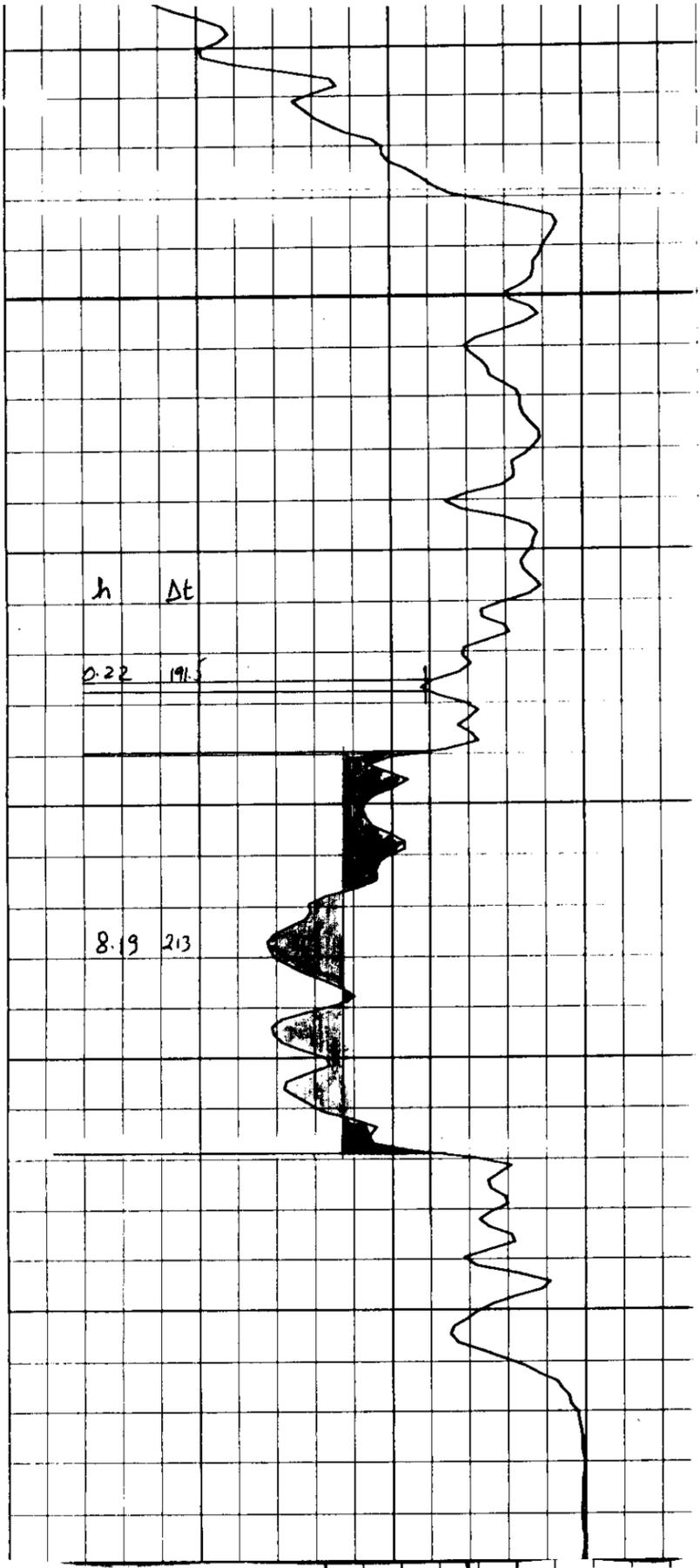
925

2-25

61.5

950

SFL



925

hnet AE

7.94 214

0.47 192

0.44 201

0.31 199

9.16 211-73

950

3-25

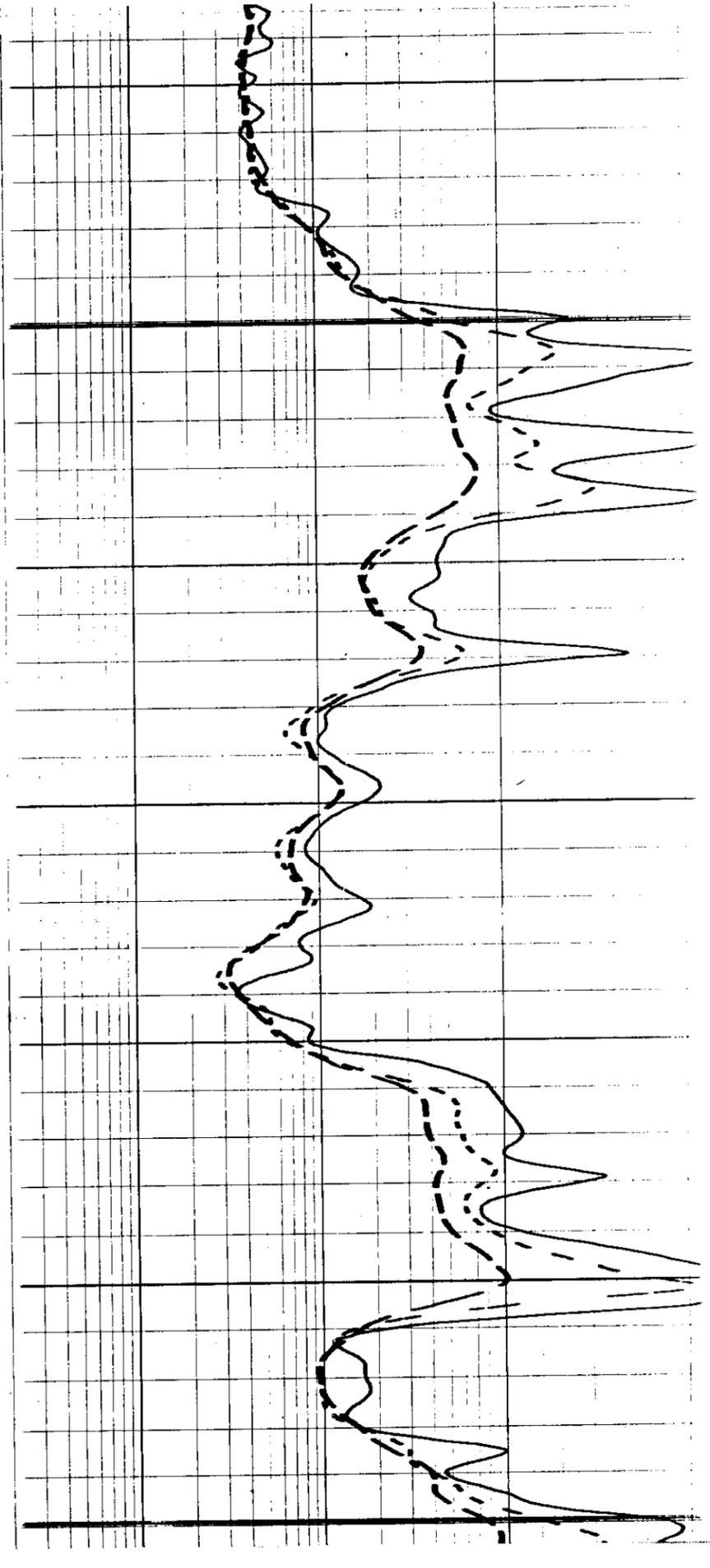
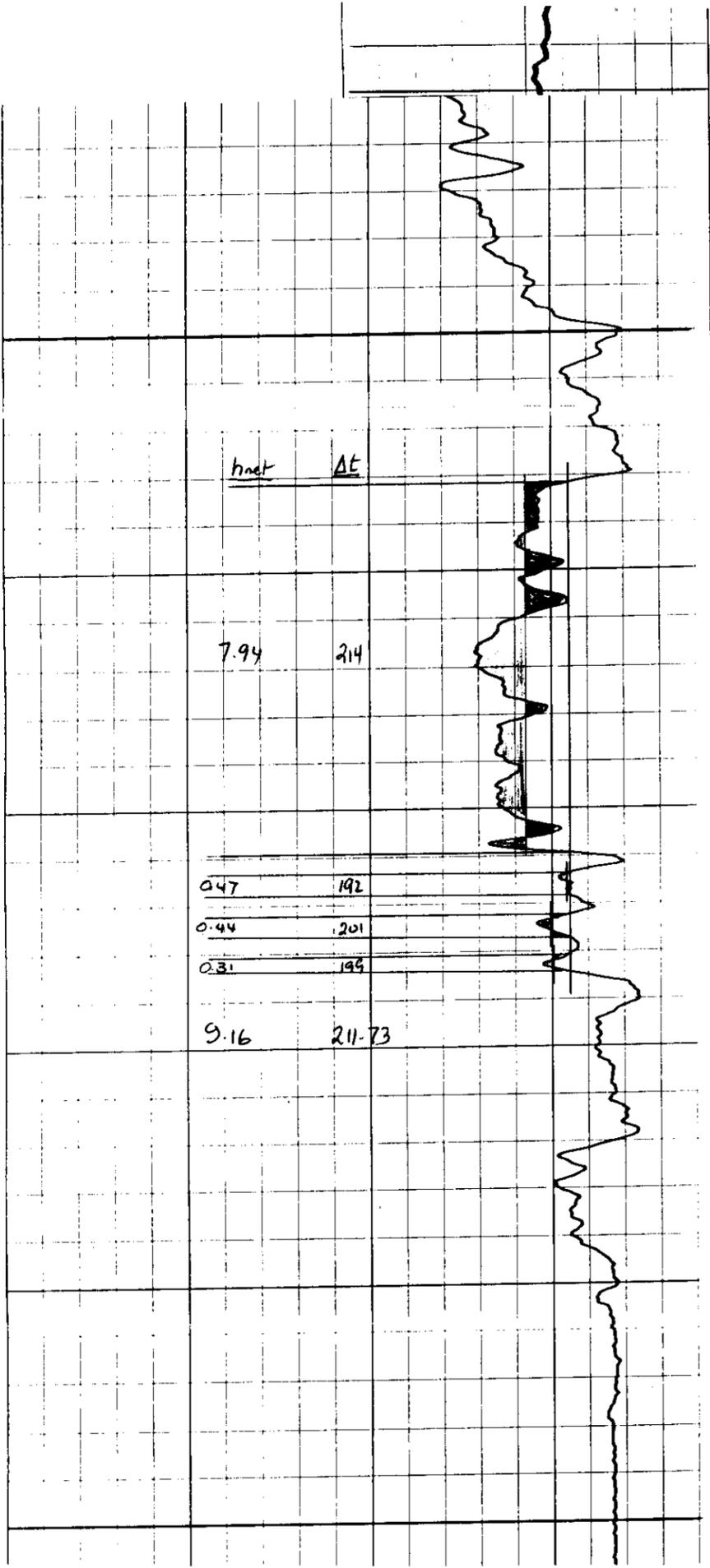
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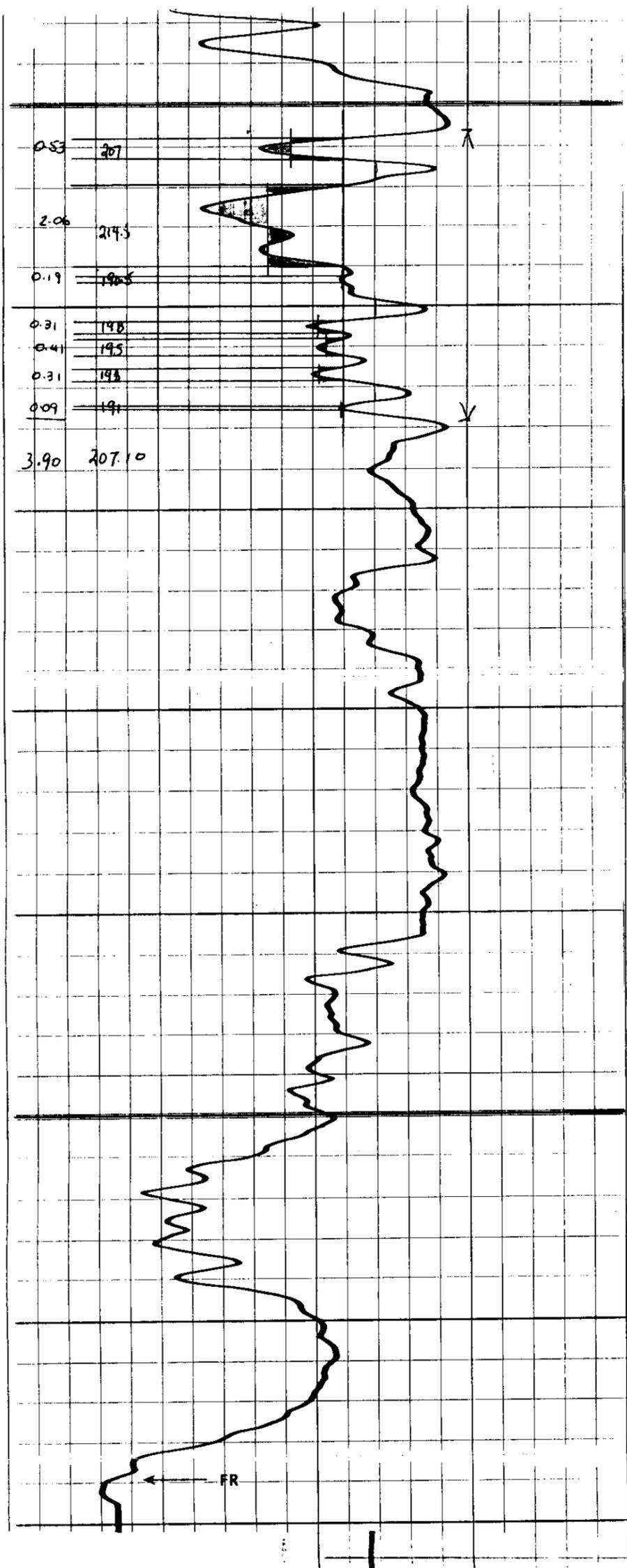
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98

095C



0950

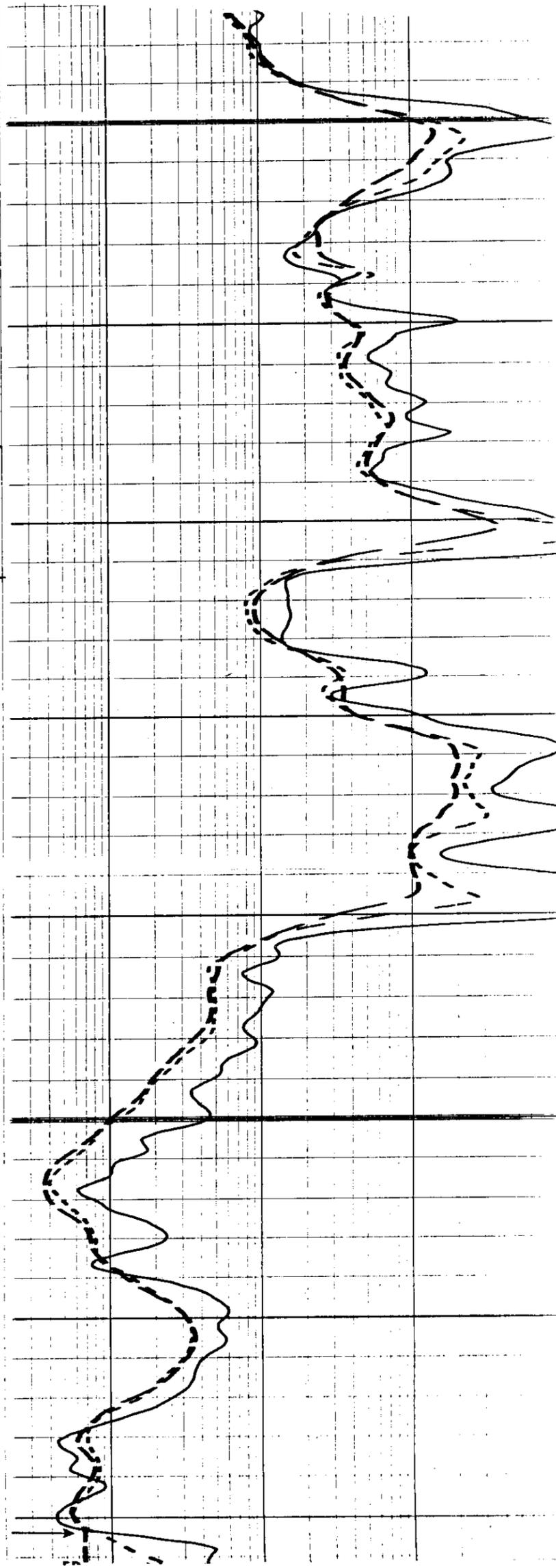


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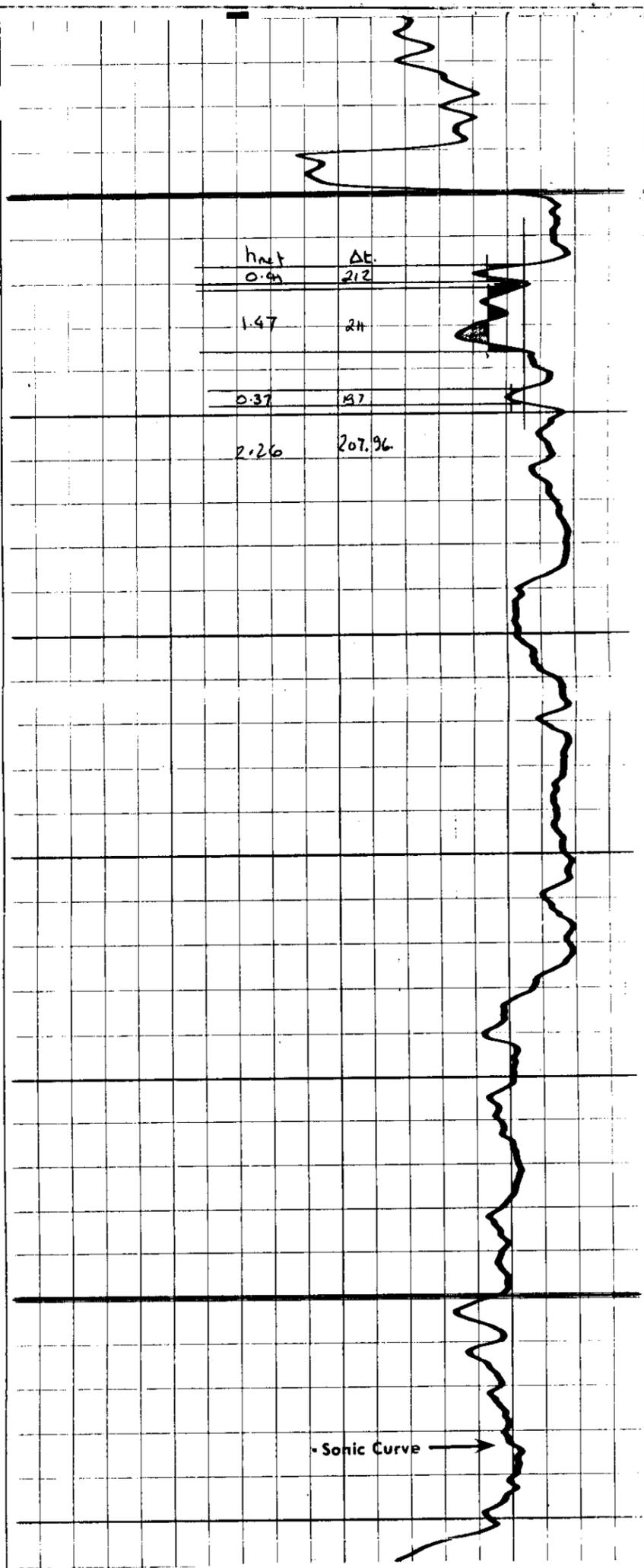
MC2

0950

FR



0950

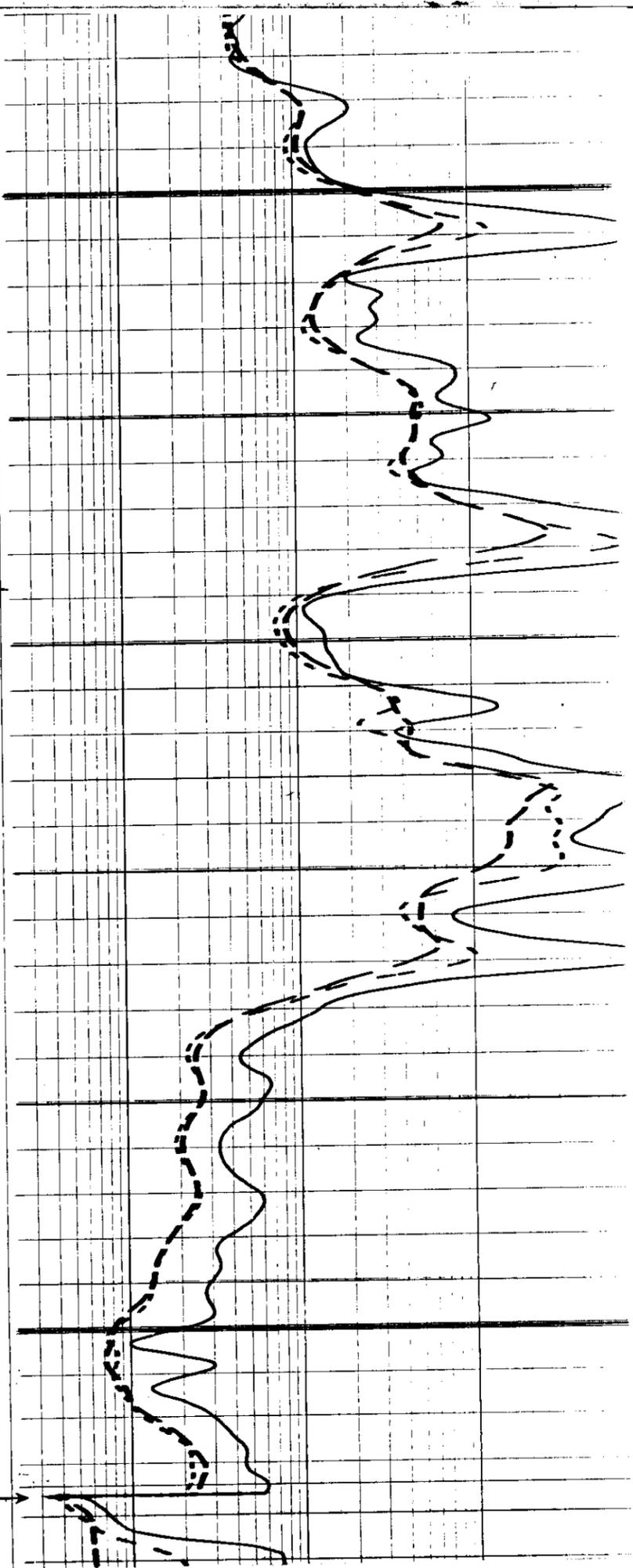


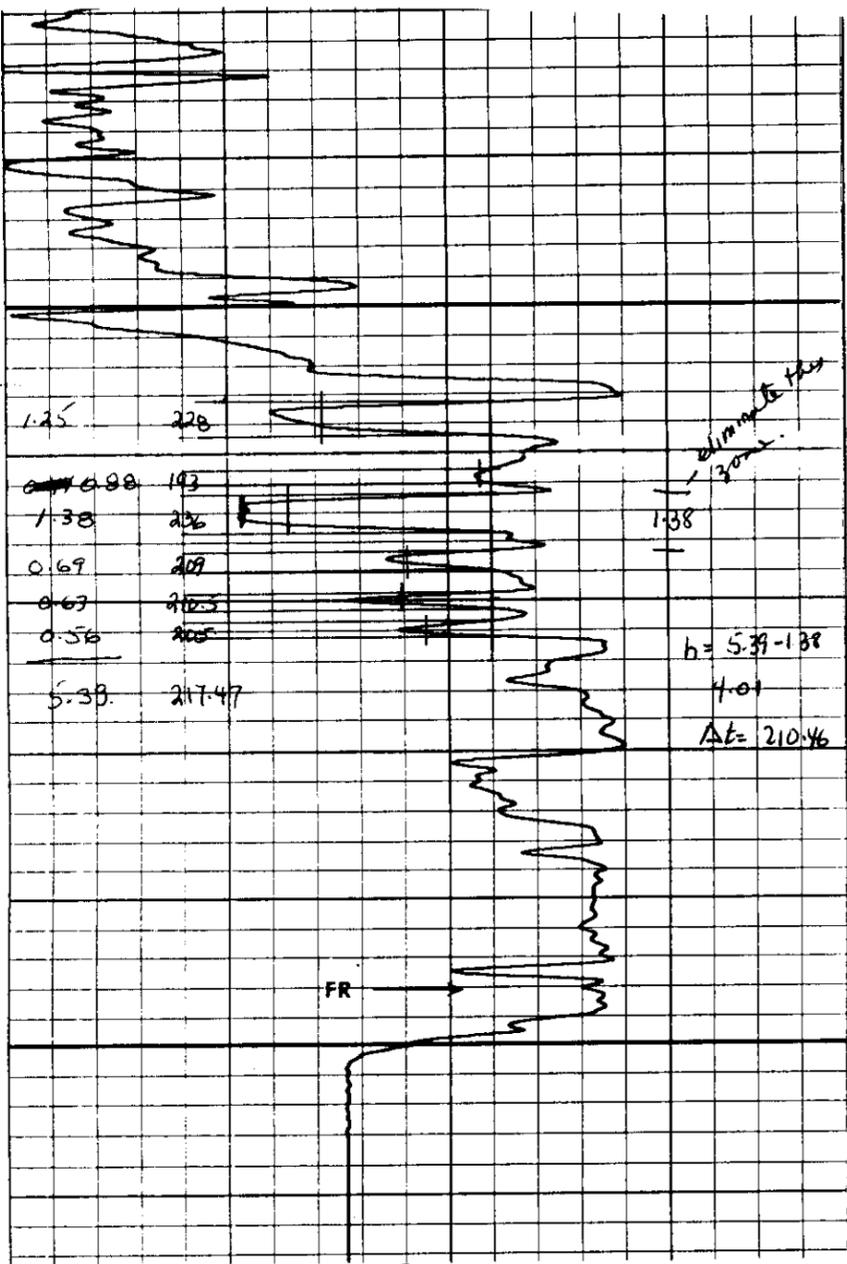
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MCZ

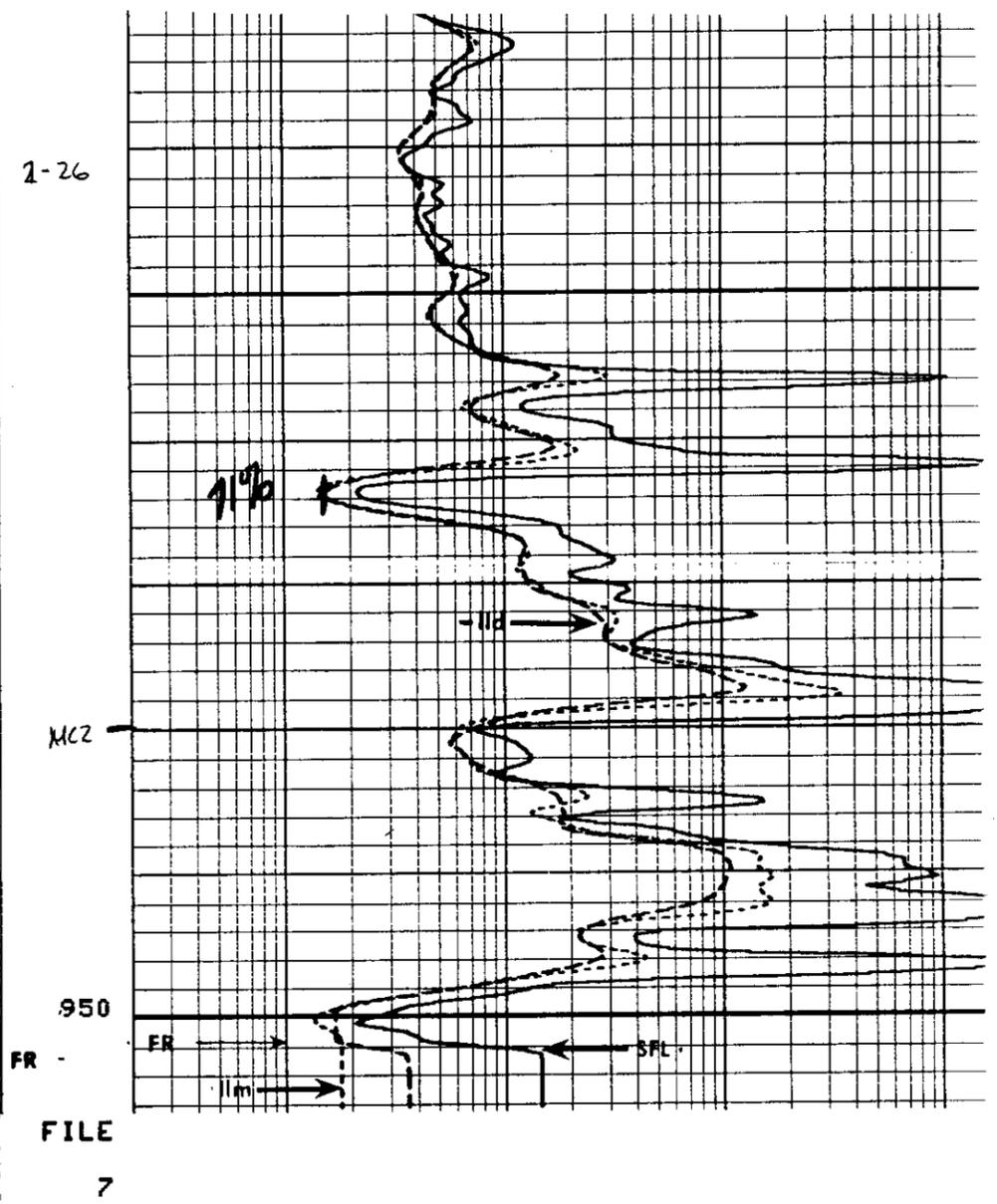
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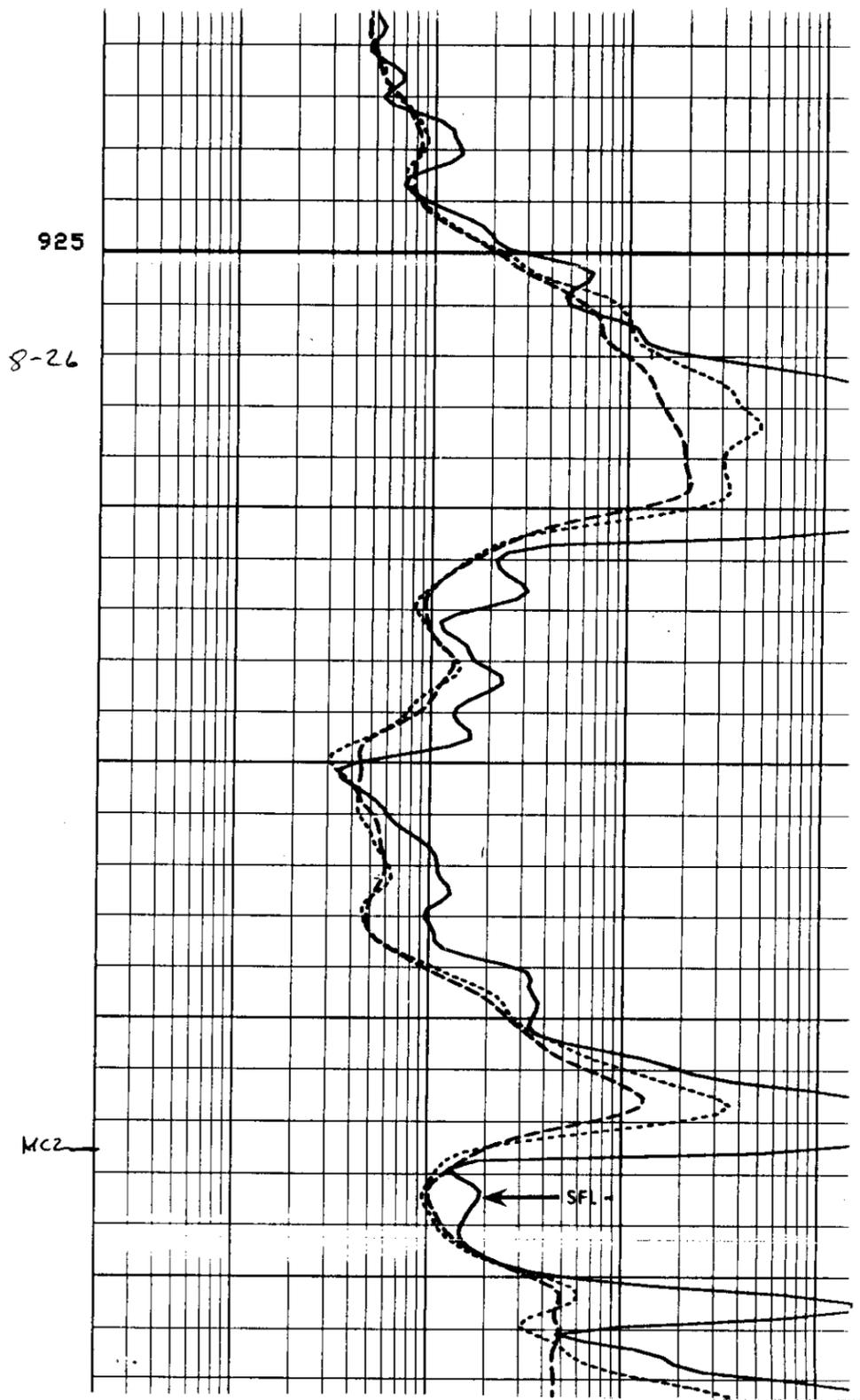
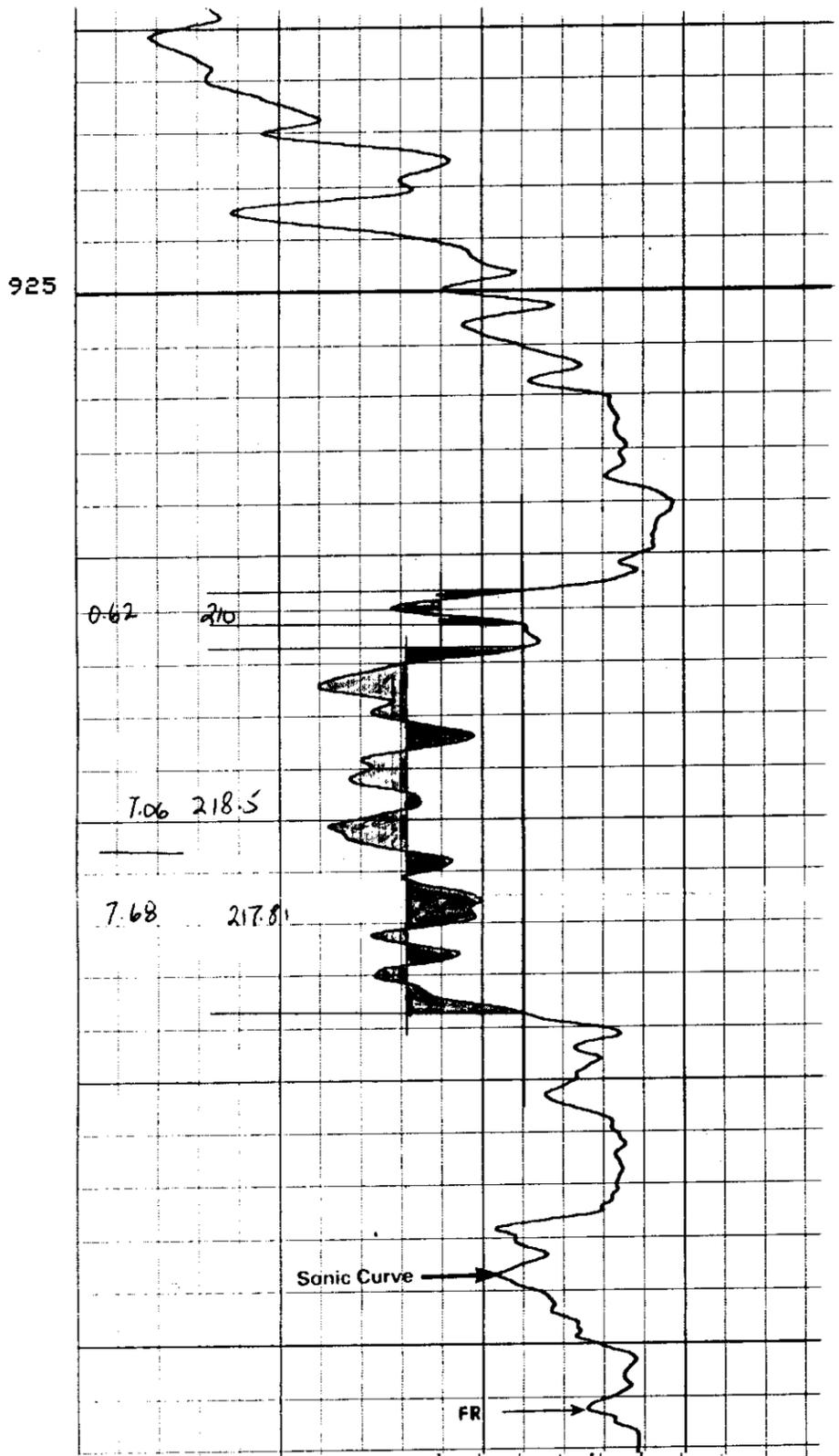
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2-26







1300 SUN LIFE PLAZA III
112 - 4th AVENUE S.W.
CALGARY, ALBERTA, CANADA T2P 0H3
TELEPHONE (403) 261-0743



Manitoba Petroleum Branch
555 - 330 Graham Avenue
Winnipeg, Manitoba
R3C 4E3

Attention: Mr. Bob Dubreuil

Dear Sir:

Re: Proposed Waskada Mission Canyon Units (A,B and D)

It is proposed that various productive portions of the Mission Canyon Formation in the Waskada Field be unitized to facilitate the implementation of pressure maintenance by water injection. A total of five units are proposed, three of which involve Omega as the only Working Interest Owner (the A,B and D units). In two of these (the A and D units) the Manitoba Crown has a Royalty Interest.

Unit documents are being prepared for consideration and approval of the Royalty Owners. These documents follow the same form as that used for the Lower Amaranth units previously approved by all parties.

Vertical enlargement of the Lower Amaranth units is not appropriate due to the complications presented by a Mission Canyon unit overlapping two Lower Amaranth units, or the boundary of a Lower Amaranth unit, or there is no Lower Amaranth unit.

Tract factor calculations for each of the three units along with a Øh map showing the proposed unit outline are enclosed. For further assistance in assessing the total plan, I am enclosing a Øh map for the other two units (C and E) for which we are just commencing unit negotiations with the other Working Interest Owners.

Each of the three units will have a tract participation formula based on an initial and final participation as discussed below.

The principle consideration in determining unit participation is that a tract's value to the unit under waterflood is a combination of recoverable oil by flood and initial productivity. To this end a final participation formula based 50% on reserves and 50% on initial oil production is being used.

.../2

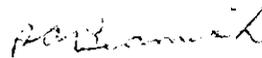
Oil reserves contributed by each tract to the unit has been calculated from a geological map of net hydrocarbon porosity meters. Other reserve parameters such as water saturation and formation volume, etc. are uniform throughout the area in question. The net pay and porosity were calculated by Omega's geological department and checked by independent consultants. Oil productivity is best represented by utilizing the operating daily oil rate for each well's first four months of representative production. To prevent the effects of flush production the first month was not used if the well produced for less than 15 days. Although some tracts do not have wells capable of producing at this time their reserve contribution to the unit will be recognized in the final participation.

The above formula used for equity is appropriate under waterflood, however until response occurs there can be a disruption in current conditions. To minimize this effect on owners an interim participation is being used. This interim factor is based on a well's daily oil rate for July and August, 1985 and will be in effect until March 1, 1987, which is the anticipated time for flood response to begin.

Waterflood applications are being prepared and will be submitted shortly. If you have any questions regarding this matter please call me.

Yours truly,

OMEGA HYDROCARBONS LTD.



R.A. Beamish, P. Eng.
Manager - Engineering

RAB:vb

Encl.

c.c. Waskada Mission Canyon
Unit Files

WASKADA MISSION CANYON D UNIT TRACT FACTOR CALCULATIONS
Final Participation

TRACT:	LAND	APPH:sh	4 MONTH CUM. PROD.	WATER	OIL	FACTOR	APPH:sh	OIL RATE	FACTOR	TRACT	TRACT:	LAND	DESCRIPTION
:	DESCRIPTION	(ac)	HRS	:	:	:	:	IGIL RATE	:	FACTOR	:	TRACT:	DESCRIPTION
1	1-23-1-26 WPM	23.5	0	0.0	NA	2.3103	0.0000	0.0000	2.3103	1	1-23-1-26 WPM		
2	2-23-1-26 WPM	13.1	0	0.0	NA	1.2878	0.0000	0.0000	1.2878	2	2-23-1-26 WPM		
3	7-23-1-26 WPM	24.0	2429	167.6	NA	2.3594	0.5835	2.0953	4.4547	3	7-23-1-26 WPM		
4	8-23-1-26 WPM	24.0	2546	481.8	NA	2.3594	1.6602	5.7462	8.1056	4	8-23-1-26 WPM		
5	9-23-1-26 WPM	27.0	2839	105.7	NA	2.6543	0.3148	1.1304	3.7847	5	9-23-1-26 WPM		
6	10-23-1-26 WPM	29.0	2458	358.7	NA	2.8510	1.1652	4.1841	7.0351	6	10-23-1-26 WPM		
7	15-23-1-26 WPM	24.0	2700	224.3	NA	2.3594	0.7025	2.5226	4.8820	7	15-23-1-26 WPM		
8	16-23-1-26 WPM	24.0	0	0.0	NA	2.3594	0.0000	0.0000	2.3594	8	16-23-1-26 WPM		
9	1-24-1-26 WPM	14.6	2904	541.4	NA	1.4353	1.5765	5.4611	7.0964	9	1-24-1-26 WPM		
10	8-24-1-26 WPM	17.5	2088	163.4	NA	1.7204	0.6617	2.3761	4.0965	10	8-24-1-26 WPM		
11	9-24-1-26 WPM	5.3	2448	199.6	NA	0.5210	0.6895	2.4759	2.9969	11	9-24-1-26 WPM		
12	12-24-1-26 WPM	31.3	1896	182.5	NA	3.0771	0.8139	2.9227	5.9998	12	12-24-1-26 WPM		
13	13-24-1-26 WPM	22.5	2880	215.2	NA	2.2120	0.5318	2.2688	4.4808	13	13-24-1-26 WPM		
14	16-24-1-26 WPM	15.3	0	0.0	NA	1.5041	0.0000	0.0000	1.5041	14	16-24-1-26 WPM		
15	1-25-1-26 WPM	41.0	2496	441.8	NA	4.0307	1.4967	5.3745	9.4052	15	1-25-1-26 WPM		
16	2-25-1-26 WPM	42.0	2280	242.8	NA	4.1290	0.9005	3.2336	7.3626	16	2-25-1-26 WPM		
17	3-25-1-26 WPM	30.5	2568	534.5	NA	2.9984	1.7600	6.3201	9.3185	17	3-25-1-26 WPM		
18	4-25-1-26 WPM	26.0	2472	300.3	NA	2.5561	1.0272	3.6886	6.2447	18	4-25-1-26 WPM		
19	1-26-1-26 WPM	20.0	0	0.0	NA	1.9662	0.0000	0.0000	1.9662	19	1-26-1-26 WPM		
20	2-26-1-26 WPM	13.5	0	0.0	NA	1.3272	0.0000	0.0000	1.3272	20	2-26-1-26 WPM		
21	8-26-1-26 WPM	40.5	0	0.0	NA	3.9815	0.0000	0.0000	3.9815	21	8-26-1-26 WPM		

TOTALS: 506.6 35004 4139.6 NA 50.0000 13.9240 50.0000 100.0000													

AVERAGE OIL RATE (m³/oo. day) & AVERAGE OIL CUT
AFTER 4 MONTHS OF PRODUCTION

RATE CUT

2.6383 NA

MASKADA MISSION CANYON D UNIT TRACT FACTOR CALCULATIONS

Interim Participation

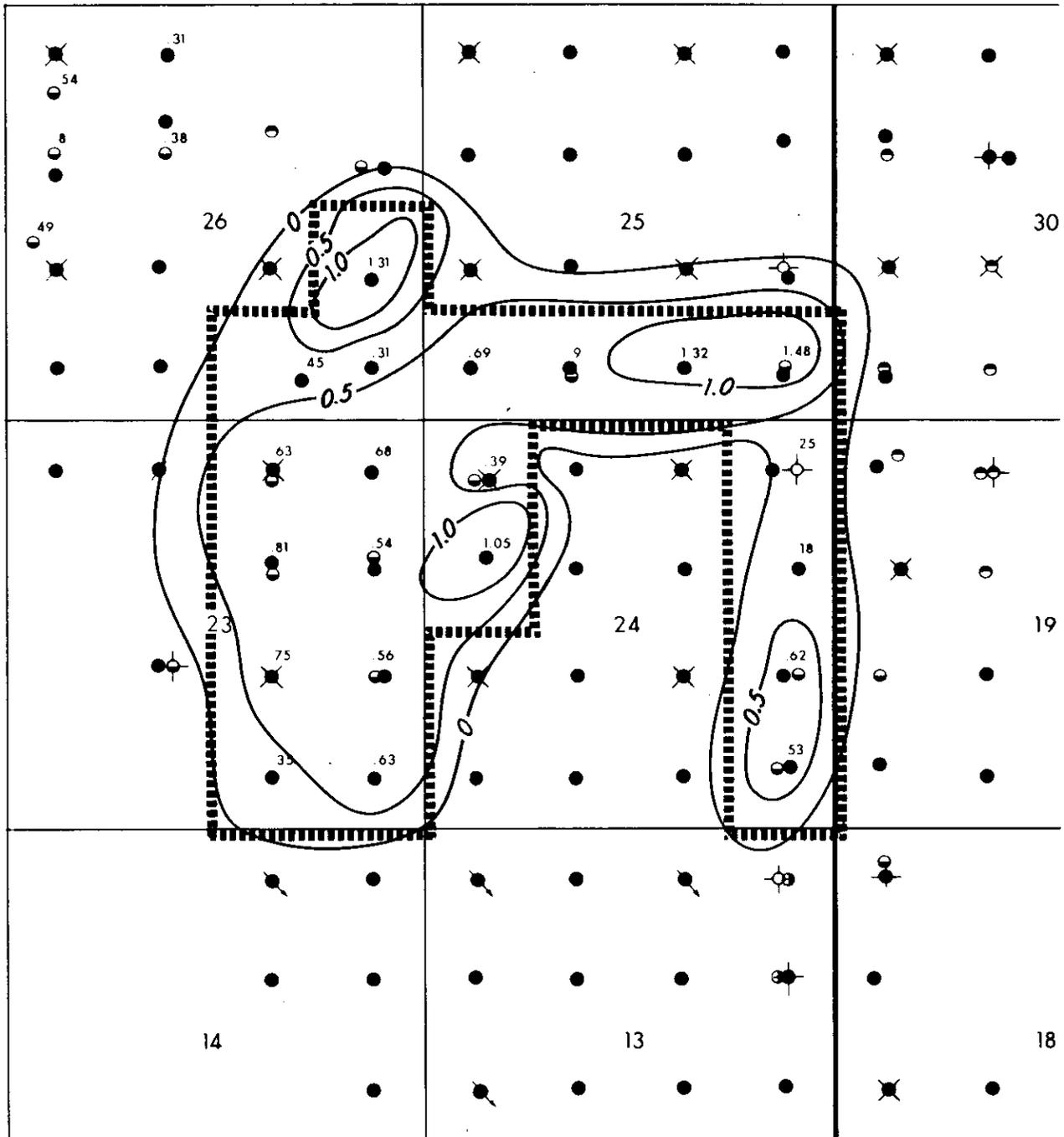
TRACT	LAND DESCRIPTION	HRS	OIL	WATER	FACTOR 1	OIL RATE	FACTOR 1	OIL RATE	TRACT FACTOR
1	1-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
2	2-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
3	7-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
4	8-23-1-26 WPH	1469	36.2	NA	0.5195	8.7034	8.7034	8.7034	8.7034
5	9-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
6	10-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
7	11-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
8	11-23-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
9	1-24-1-26 WPH	1344	64.6	NA	1.0133	16.9763	16.9763	16.9763	16.9763
10	8-24-1-26 WPH	1296	44.5	NA	0.7239	12.1279	12.1279	12.1279	12.1279
11	9-24-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
12	12-24-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
13	13-24-1-26 WPH	1411	86.5	NA	1.2924	21.6522	21.6522	21.6522	21.6522
14	11-24-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
15	1-25-1-26 WPH	1050	43.4	NA	0.8714	14.5990	14.5990	14.5990	14.5990
16	2-25-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
17	3-25-1-26 WPH	1401	102.9	NA	1.5484	25.9412	25.9412	25.9412	25.9412
18	4-25-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
19	1-26-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
20	2-26-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
21	8-26-1-26 WPH	0	0.0	NA	0.0000	0.0000	0.0000	0.0000	0.0000
TOTALS:		7971	378.1	NA	5.9689	100.0000	100.0000	100.0000	100.0000

AVERAGE OIL RATE (m³/op. day) & AVERAGE OIL CUT
AFTER 4 MONTHS OF PRODUCTION

RATE CUT

1.1364 NA

R. 26 W 1



T. 1

- SPEAR FISH OIL WELL
- UPPER ALIDA (MC 3b) WELL
- LOWER ALIDA (MC 3a) WELL
- TILSTON (MC 1) WELL
- ◆ SUSPENDED WELL
- PROPOSED DRILLING LOCATION
- ★ WATER INJECTION WELL
- ◆ GAS INJECTION WELL
- ◇ WATER SOURCE WELL
- ◇ ABANDONED WELL

OMEGA HYDROCARBONS LTD.	
WASKADA MISSISSIPPIAN WATER FLOOD PROPOSED UNIT "D"	
øh MAP	
C.I.=.5 POROSITY METRES	
----- PROPOSED UNIT OUTLINE	
SCALE: 1:25000	DATE: NOV. 1985