

2.2520

REPORT No. D78



42A06NE0051 2.2520 WHITNEY

010

DIGHEM SURVEY
OF
SOUTH PORCUPINE AREA, ONTARIO
FOR
COMINCO LIMITED
BY
DIGHEM LIMITED

RECEIVED
OCT 28 1977
PROJECTS UNIT

TORONTO, ONTARIO
SEPTEMBER 26, 1977

D. C. FRASER
PRESIDENT

S U M M A R Y

A DIGHEM^{II} airborne electromagnetic/resistivity/magnetic survey of 254 line-miles was flown for Cominco Limited in August 1977, in the South Porcupine area of Ontario. A considerable number of conductors were detected, some of which were recognizable only on those channels which have geological noise stripped off. Several discrete targets were identified.

LOCATION MAP

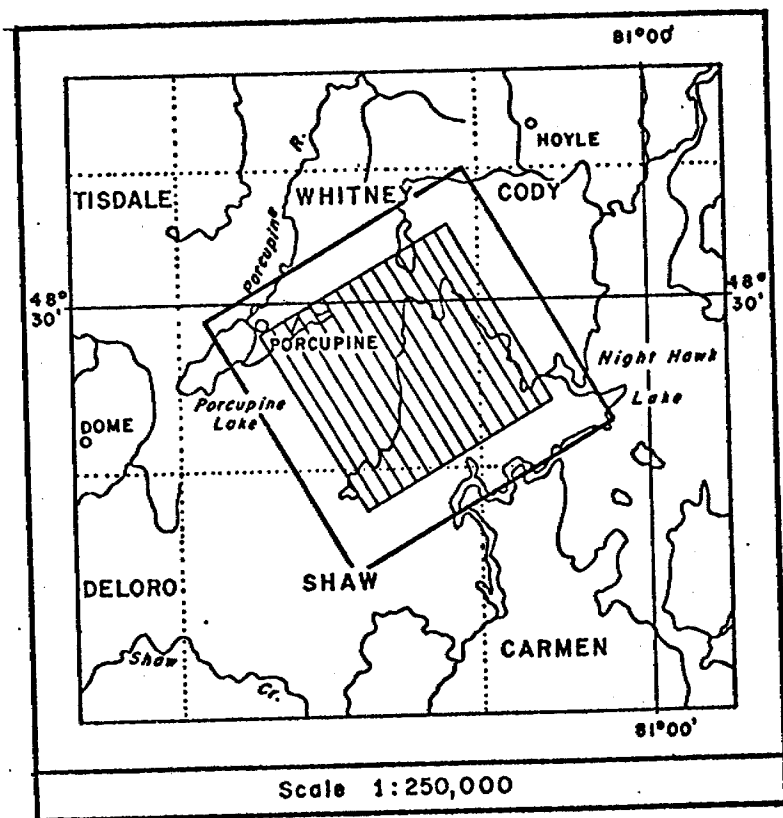


Figure 1. The survey area.

DIGHEM MAGNETIC SURVEY.

A DIGHEM survey of 254 line-miles was flown with a 400-foot line-spacing for Cominco Limited on August 9th, 1977, in the South Porcupine area of Ontario (Figure 1). The Alouette II jet helicopter C-GNQX flew with an average airspeed of 60 mph and EM bird height of 110 feet. Ancillary equipment consisted of a Geometrics 803 magnetometer with its bird at an average height of 160 feet, a Sperry radio altimeter, Geocam sequence camera, 60 hz monitor, Barringer 8-channel hot pen analog recorder, and a Geometrics G-704 digital data acquisition system with a Cipher 70 7-track 200-bpi magnetic tape recorder. The analog equipment recorded six channels of EM data at approximately 900 hz and one of magnetics and radio altitude. The digital equipment recorded the EM data with a sensitivity of 0.2 ppm/bit and the magnetic field to an accuracy of one gamma.

The magnetometer data are digitally recorded in the aircraft to an accuracy of one gamma. The digital tape is processed by computer to yield a standard total field magnetic map contoured at 25 gamma intervals.

47.45 line miles were flown over 61 claims in Whitney Township as outlined on the attached Dighem Magnetics Map.

Two maps accompany this report:

Map #1: Cominco Ltd. - Whitney Twp. Claim Map, 1:25,000

Map #2: Dighem Survey - Magnetics, 1"=1320'

Respectfully submitted,



D.C. Fraser
President



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Recorded Holder	Rosario Resources (Canada) Limited
Township or Area	Whitney Township

Type of survey and number of Assessment days credit per claim	Mining Claims
Geophysical Electromagnetic _____ days Magnetometer <u>31</u> days Radiometric _____ days Induced polarization _____ days Section 86 (18) _____ days Geological _____ days Geochemical _____ days Man days <input type="checkbox"/> Airborne <input checked="" type="checkbox"/> Special provision <input type="checkbox"/> Ground <input type="checkbox"/>	P. 435182 to 91 inclusive 451716 to 18 " 479905 to 08 " 482870 to 80 " 489423 493358 to 65 inclusive 493375 to 82 " 493564 to 71 " 493682 - 83 494153 to 58 inclusive
Notice of Intent to be issued: <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant. <input type="checkbox"/> No credits have been allowed for the following mining claims as they were not sufficiently covered by the survey: _____ _____ _____ _____ _____	

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical — 80; Geological — 40; Geochemical — 40;

HOYLE TWP. M-287

THE TOWNSHIP
OF
2.2520
WHITNEY

DISTRICT OF
COCHRANE

PORCUPINE
MINING DIVISION

SCALE: 1-INCH 40 CHAINS

LEGEND

- PATENTED LAND (P)
- CROWN LAND SALE (C.S.)
- LEASES (L)
- LOCATED LAND (Loc.)
- LICENSE OF OCCUPATION (L.O.)
- MINING RIGHTS ONLY (M.R.O.)
- SURFACE RIGHTS ONLY (S.R.O.)
- ROADS (—)
- IMPROVED ROADS (—)
- KING'S HIGHWAYS (—)
- RAILWAYS (—)
- POWER LINES (—)
- MARSH OR MUSKIEG (—)
- MINES (X)
- CANCELLED (C)
- S.R.O. PATENTED (●)

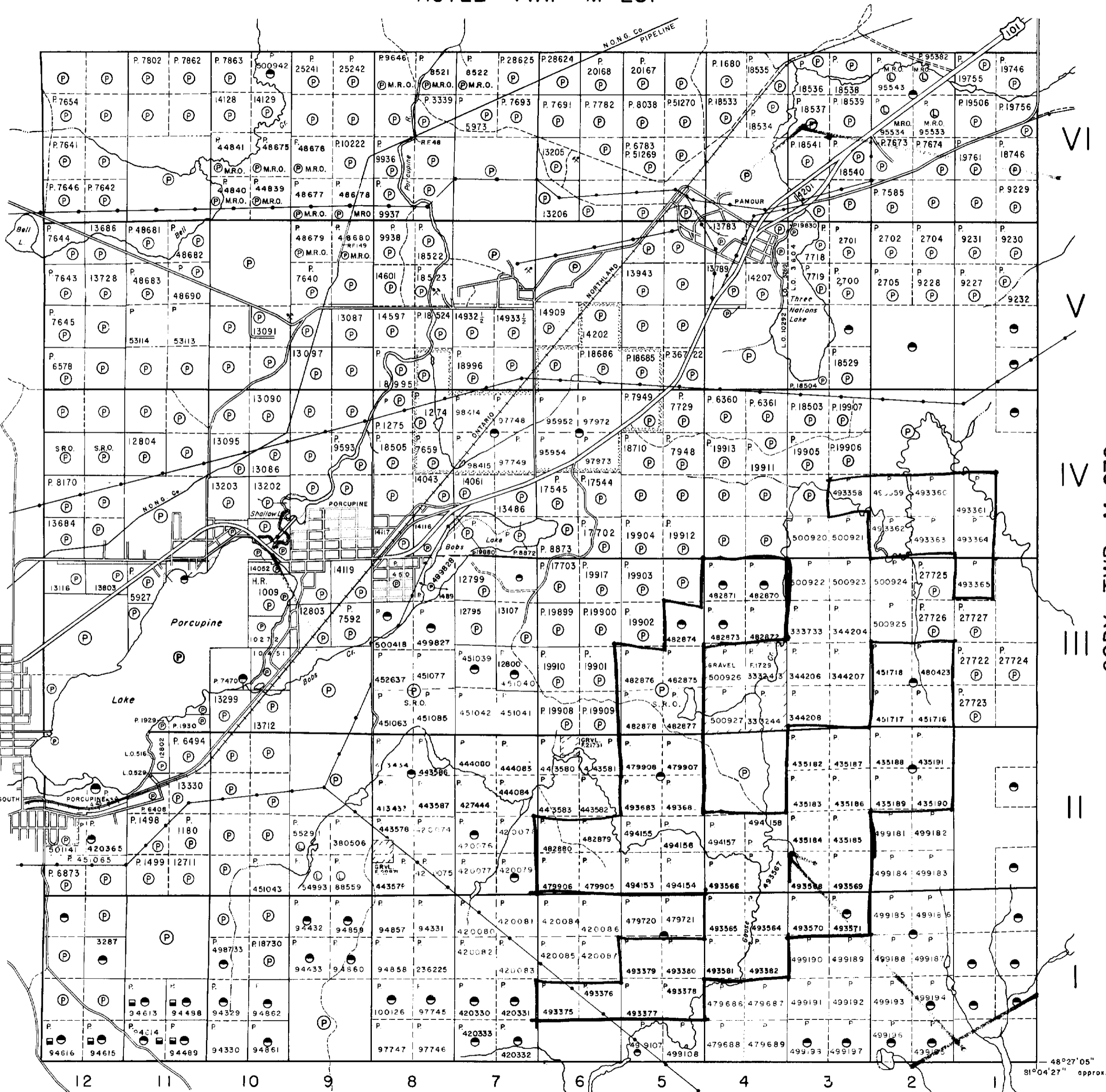
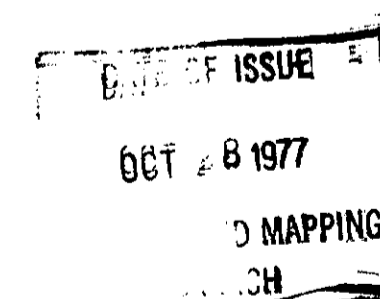
NOTES

400' Surface rights reservation along the shores of all lakes and rivers.

This township lies within the Municipality of CITY of TIMMINS.

No disposition of sand and gravel on lands north of O.N.Ry. from May 8, 1964 until further notice. Form D.O.M. file 550.13

Any restakings within stippled area in Lots 5, 6, 7, 8 Con 4 and 5 subject to rights and privileges granted to Pomour Porcupine Mines Ltd for tailings disposal.



TISDALE TWP. M-315

CODY TWP. M-270

SHAW TWP. M-311



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200

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

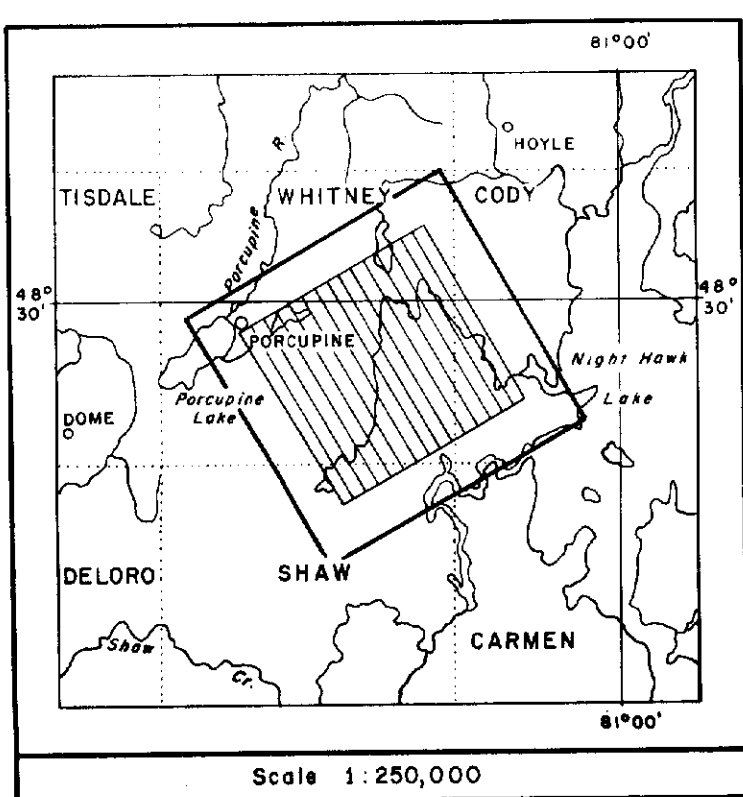
Date 10th. JULY 1974(Rev)

Whitney Block
Queen's Park, Toronto

M-319



LOCATION MAP



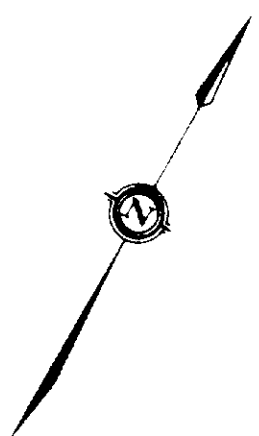
DIGHEM SURVEY

SOUTH PORCUPINE, ONTARIO

MAGNETICS

FOR

COMINCO LIMITED



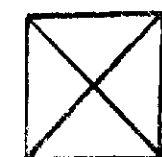
Flight line

Fiducials and numbers

ISOMAGNETIC LINES

(total field)

- 1000 1000 gammas
- 200 200 gammas
- 50 50 gammas
- 25 25 gammas
- magnetic depression



Not filed for assessment credit.



289 26/77

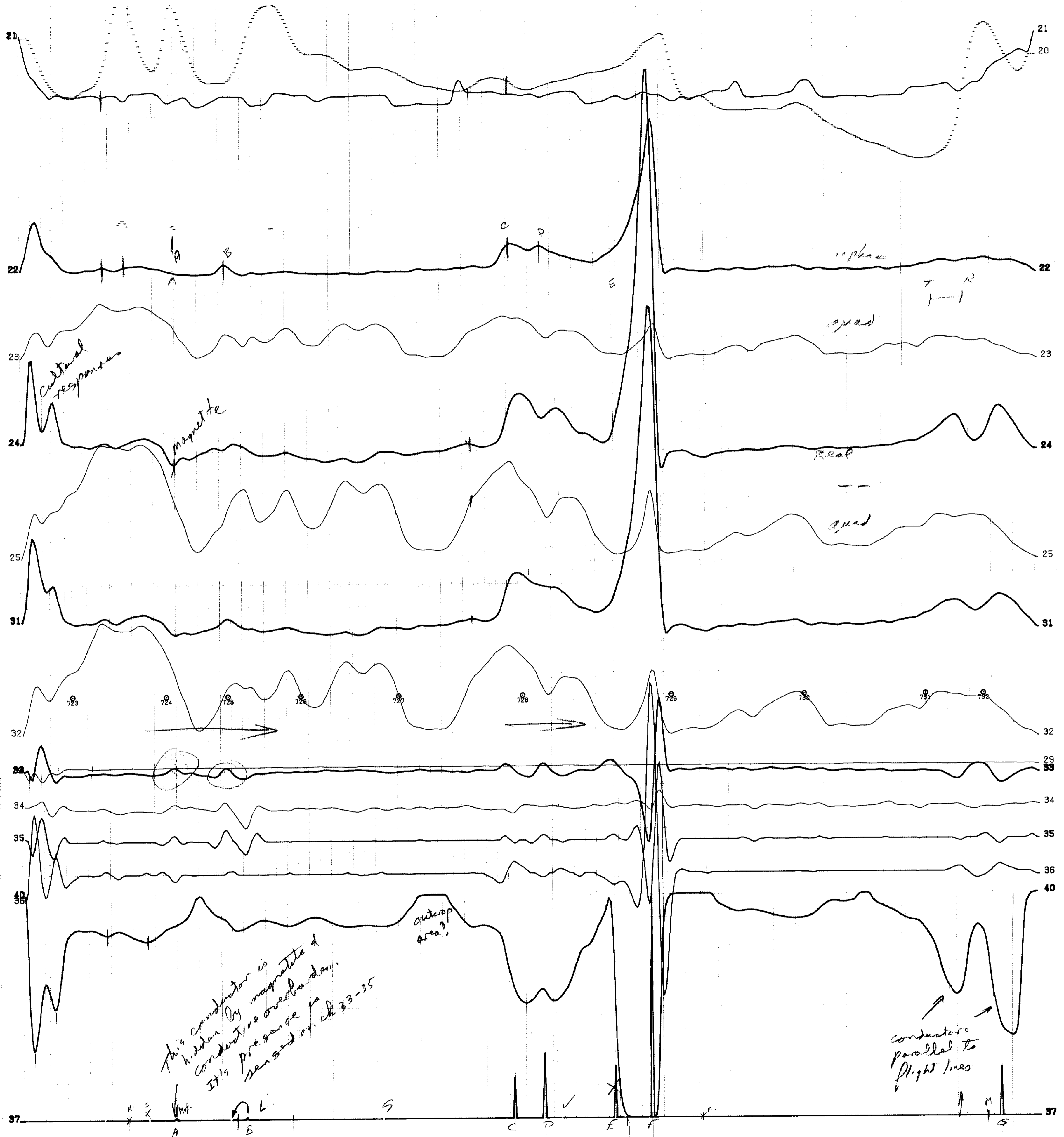
2-2520

Map #2: Digheim Survey - Magnetics, 1"=1320'

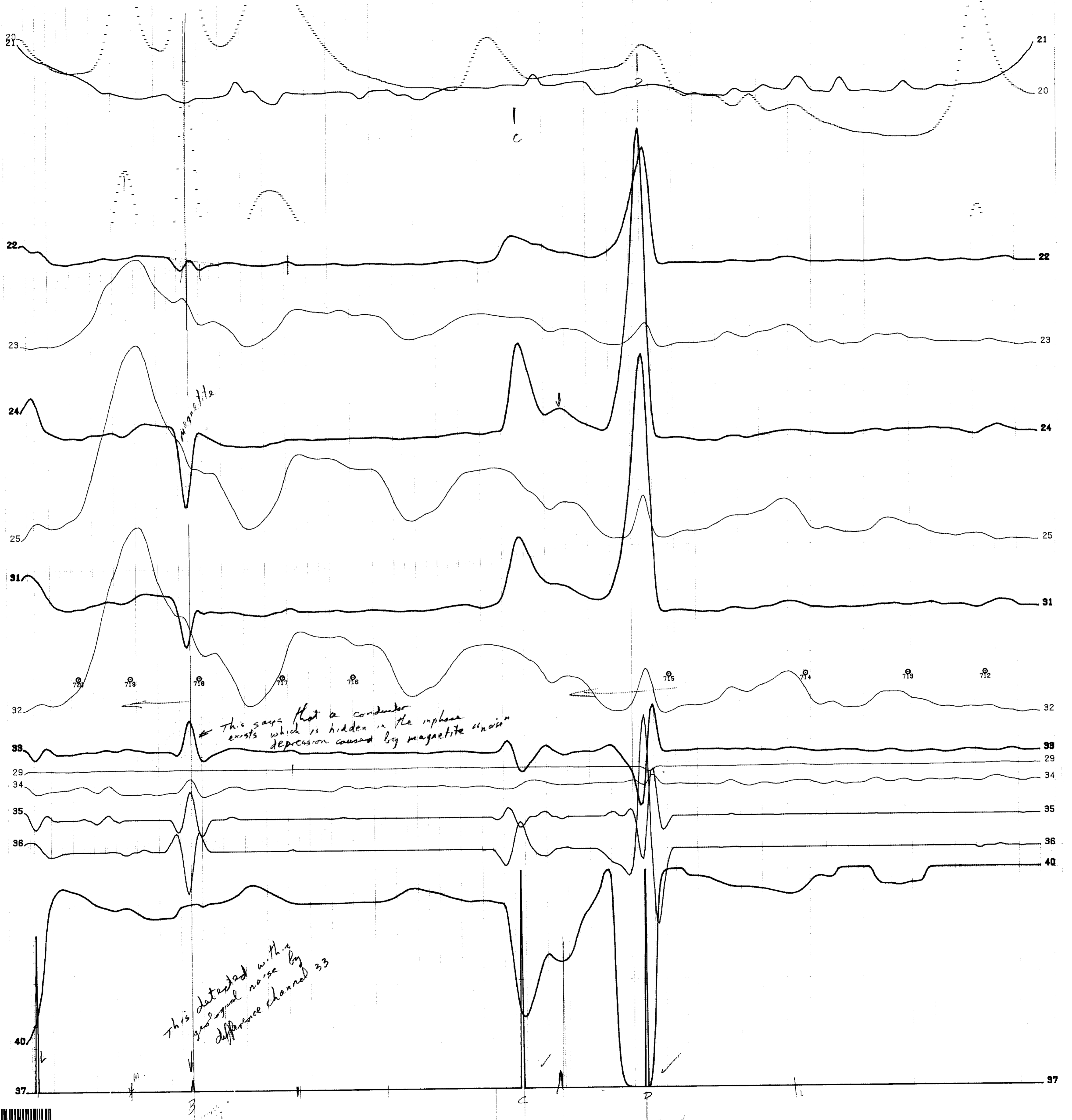


LINE -1





LINE -3



← This says that a conductor exists which is hidden in the inphase depression caused by magnetite "noise"

This detected with geological noise by difference channel 33



LINE 4

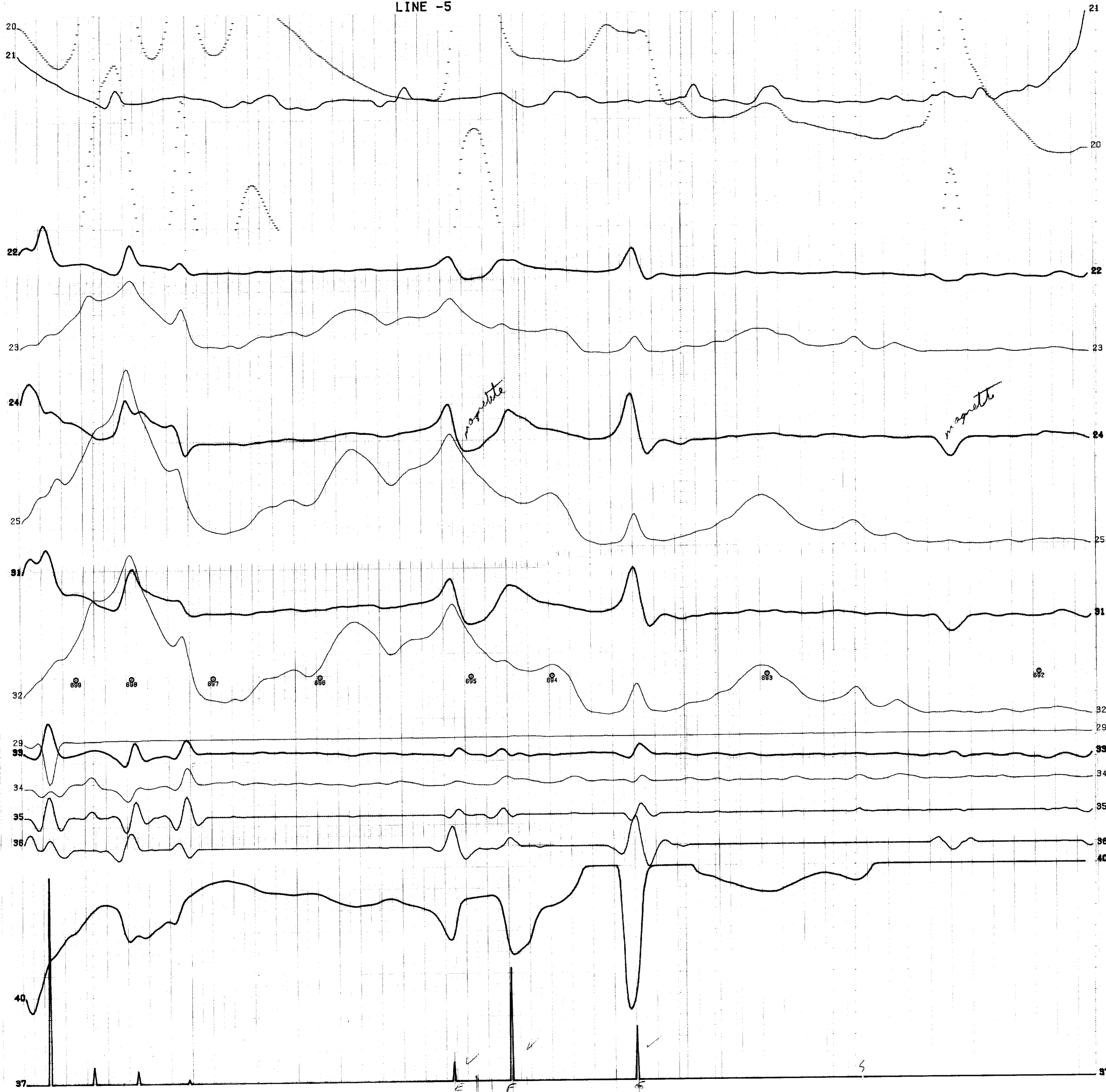


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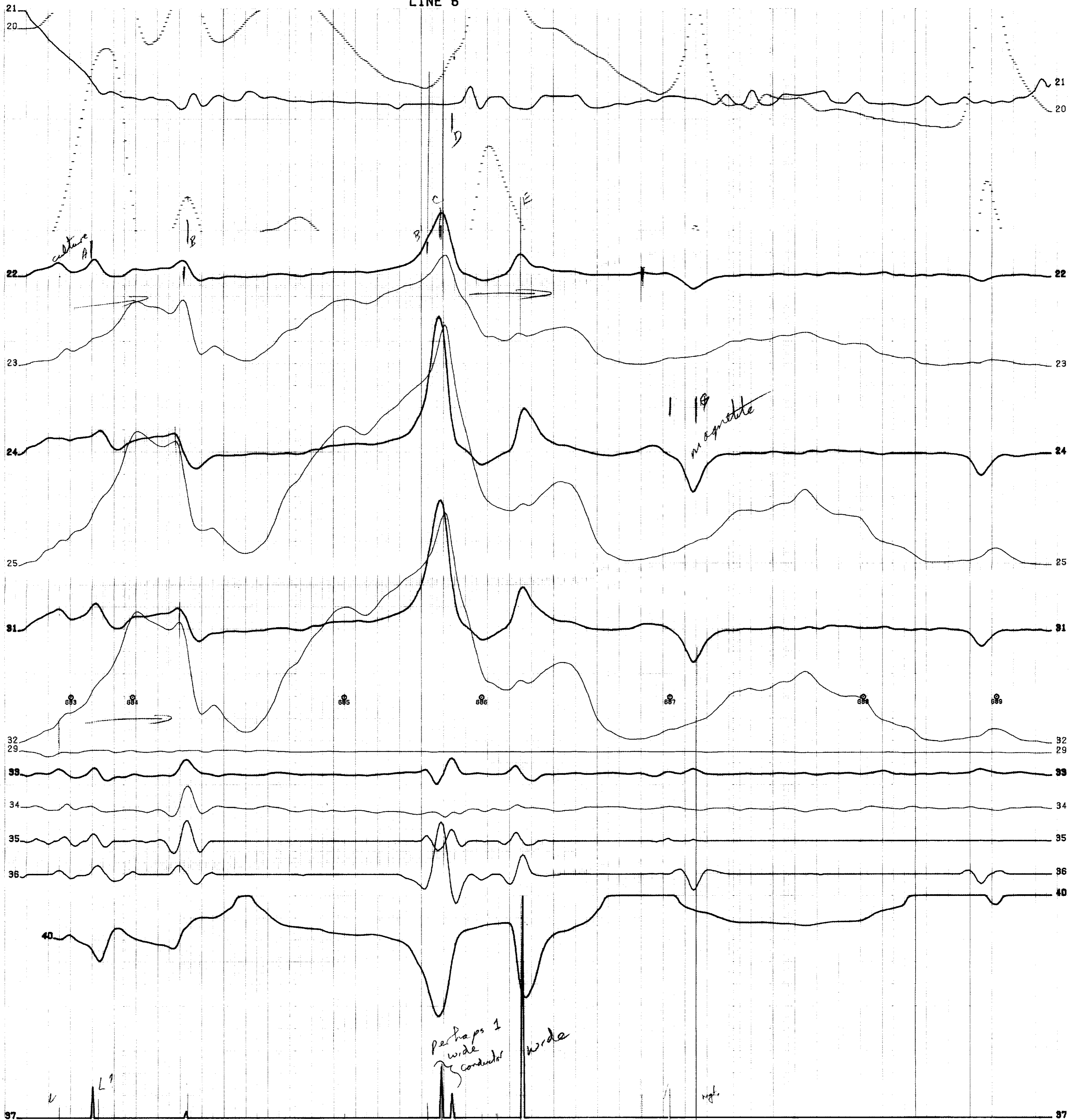
250

4567%

LINE -5



LINE 6



Line 7 not flown

LINE -8

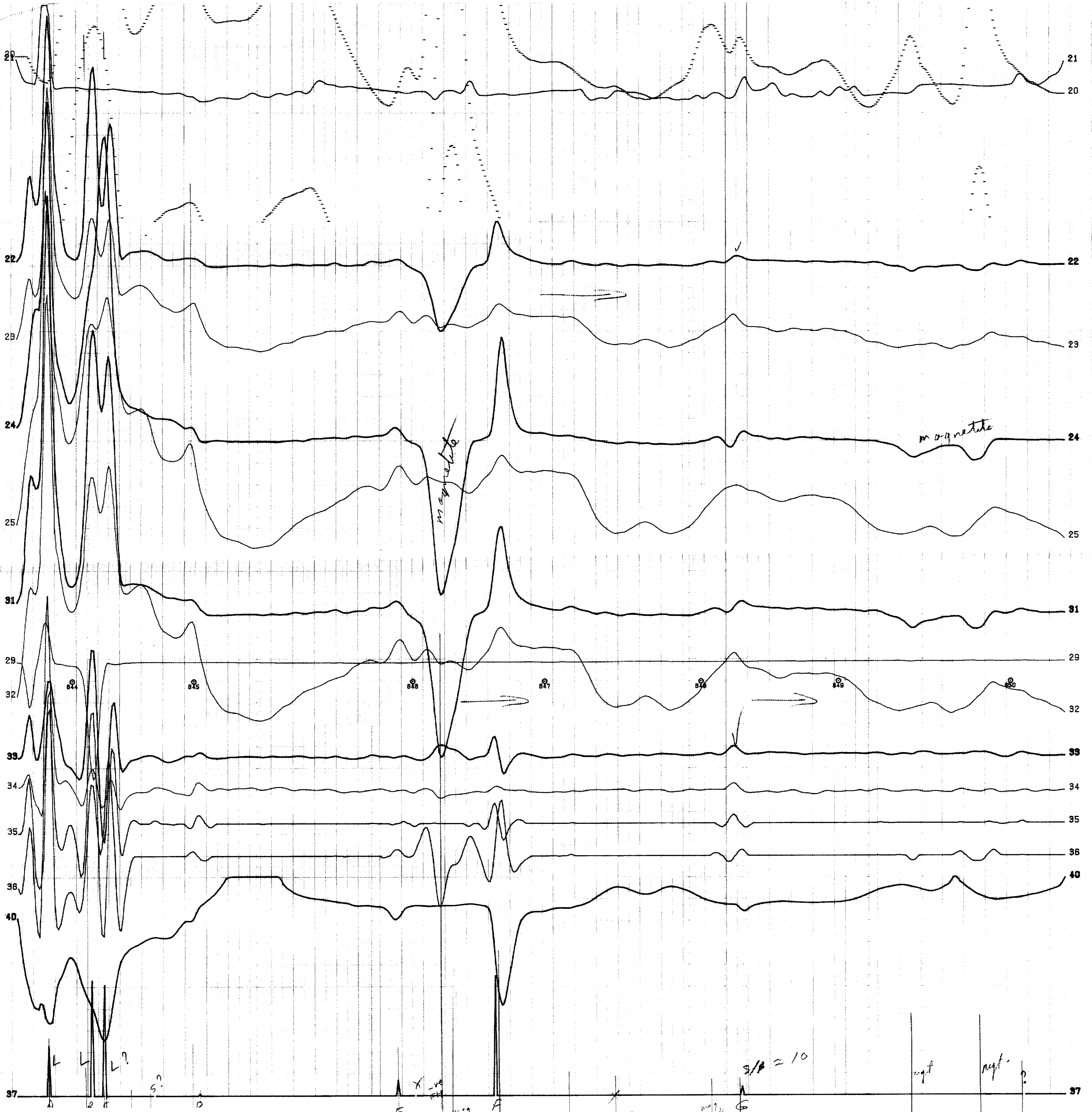


LINE 9



LINE -10



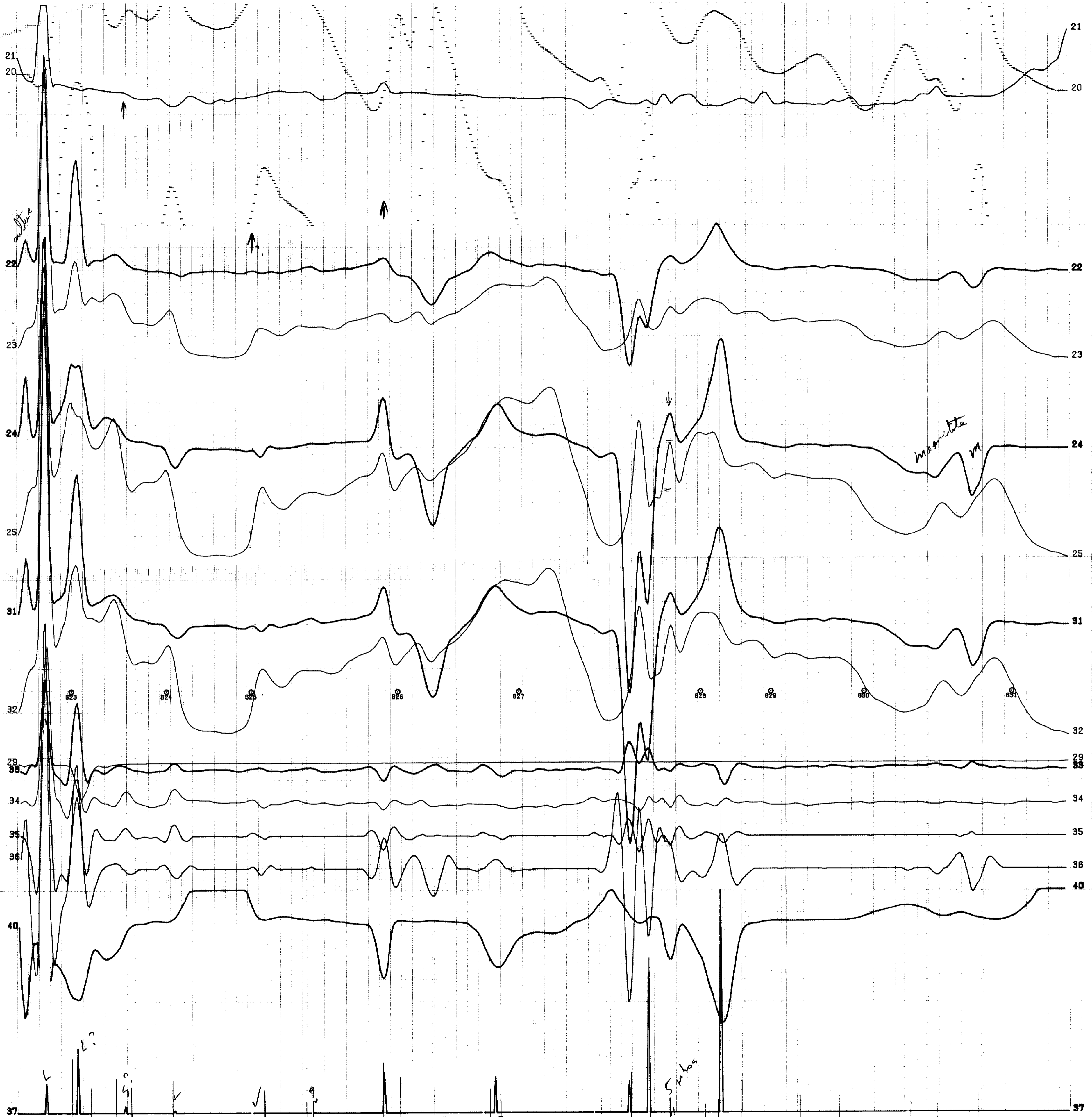


LINE -12

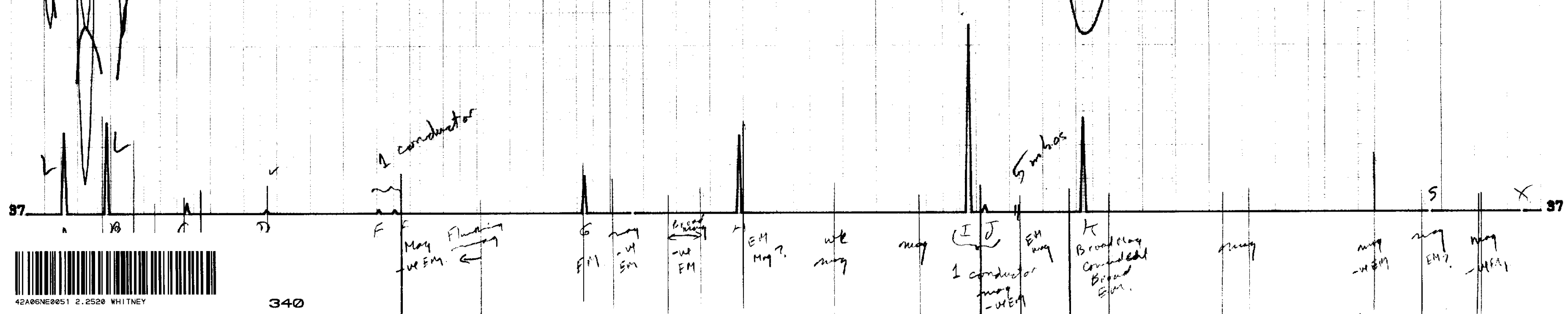


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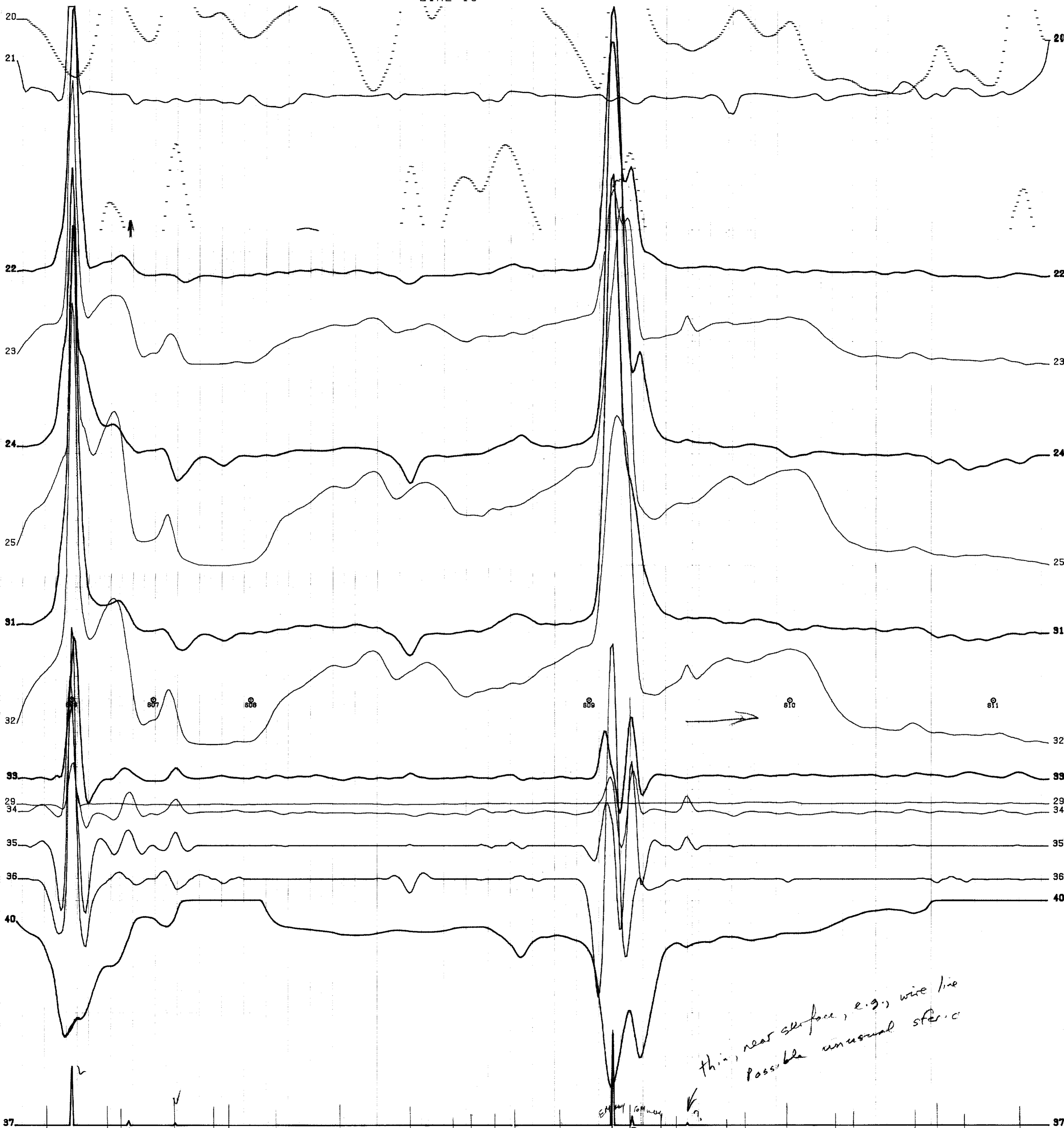
320



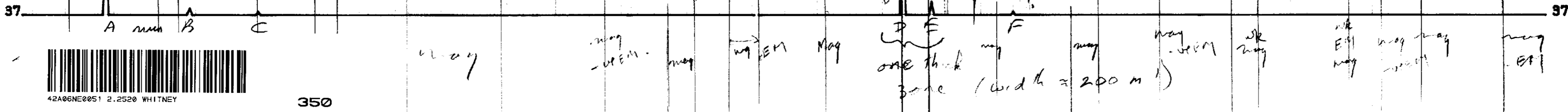
LINE -14



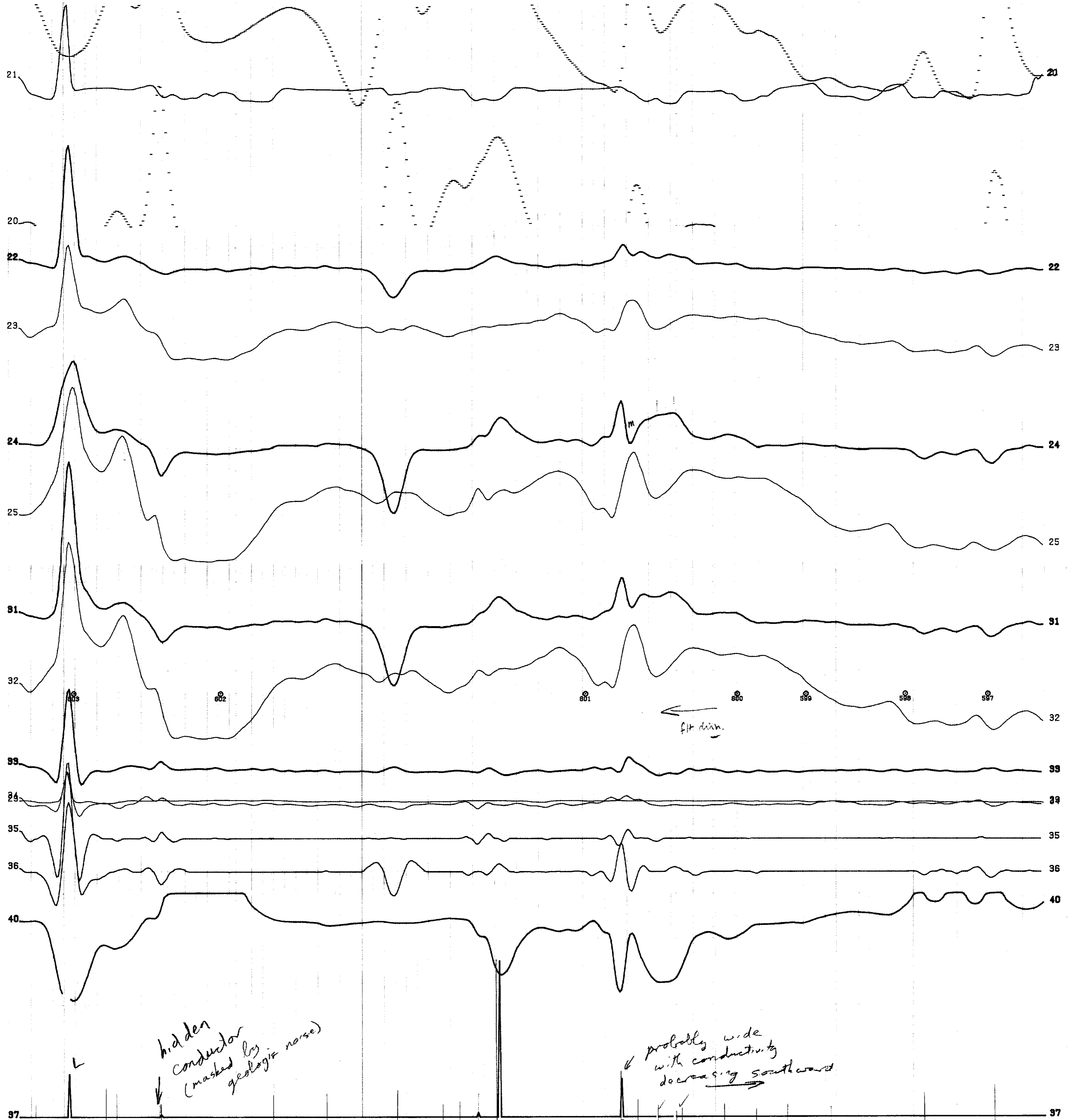
LINE 15



*thin, near surface, e.g., wire line
possible unusual str. c*



LINE -16



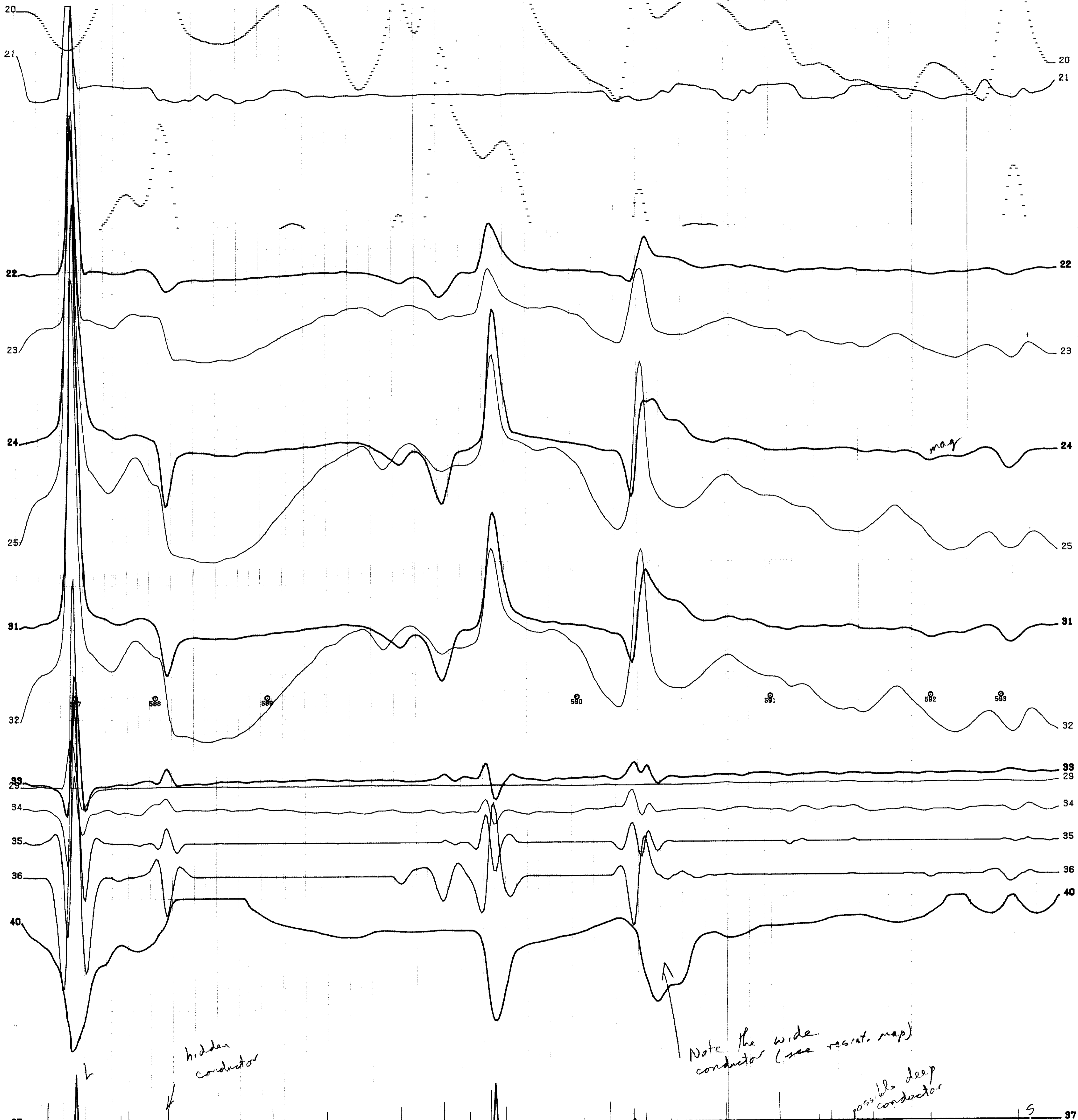
← fit dir. →

hidden conductor (masked by geologic noise)

probably wide with conductivity decreasing southward

EM? EM? EM? EM? EM? EM? EM? EM? EM?





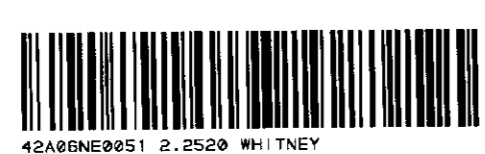
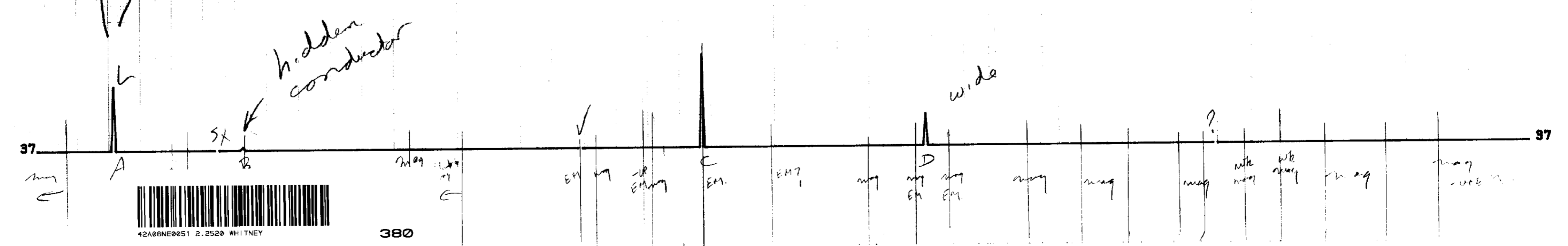
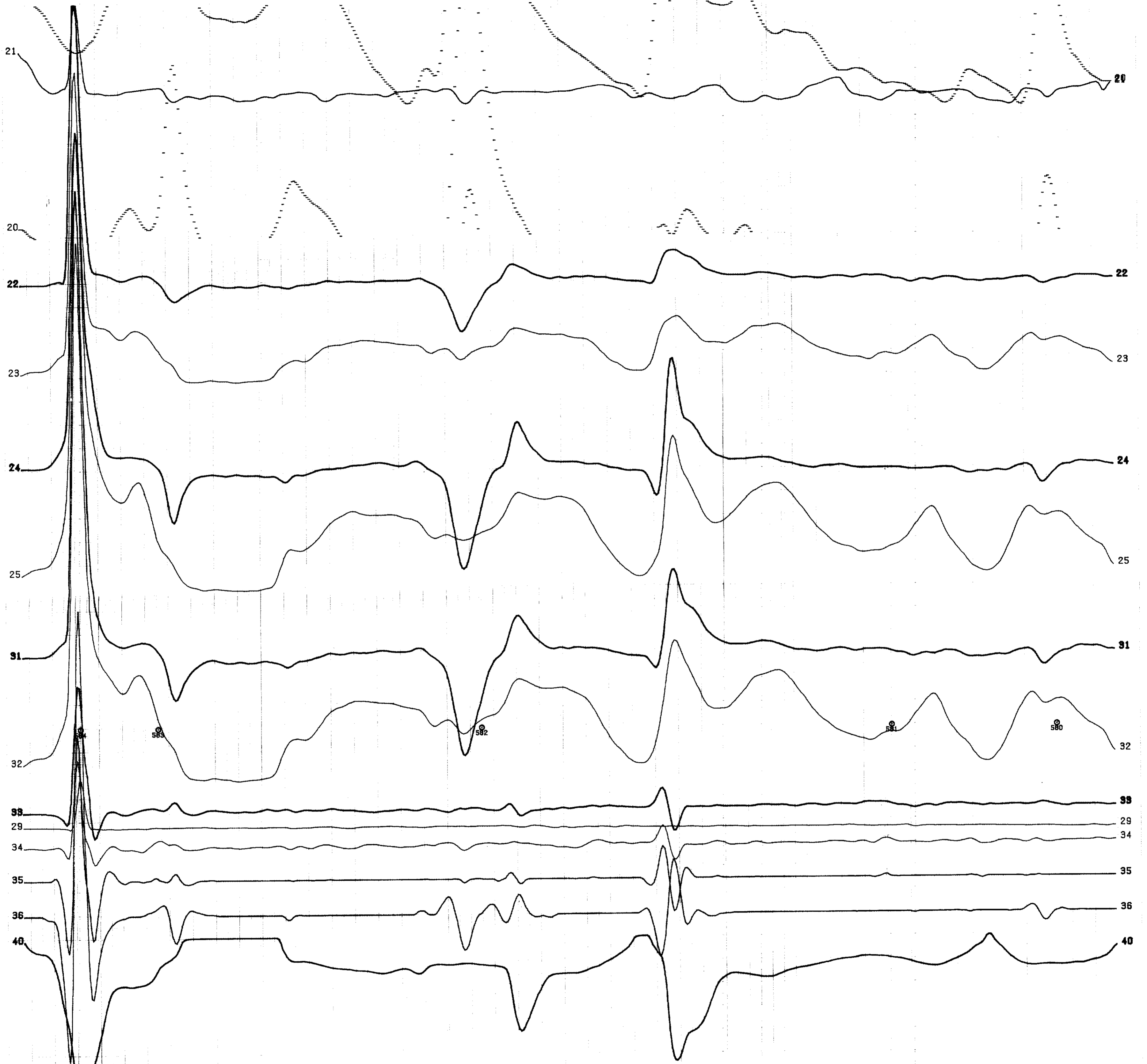
hidden conductor

Note the wide conductor (see resist. map)

possible deep conductor



LINE -18

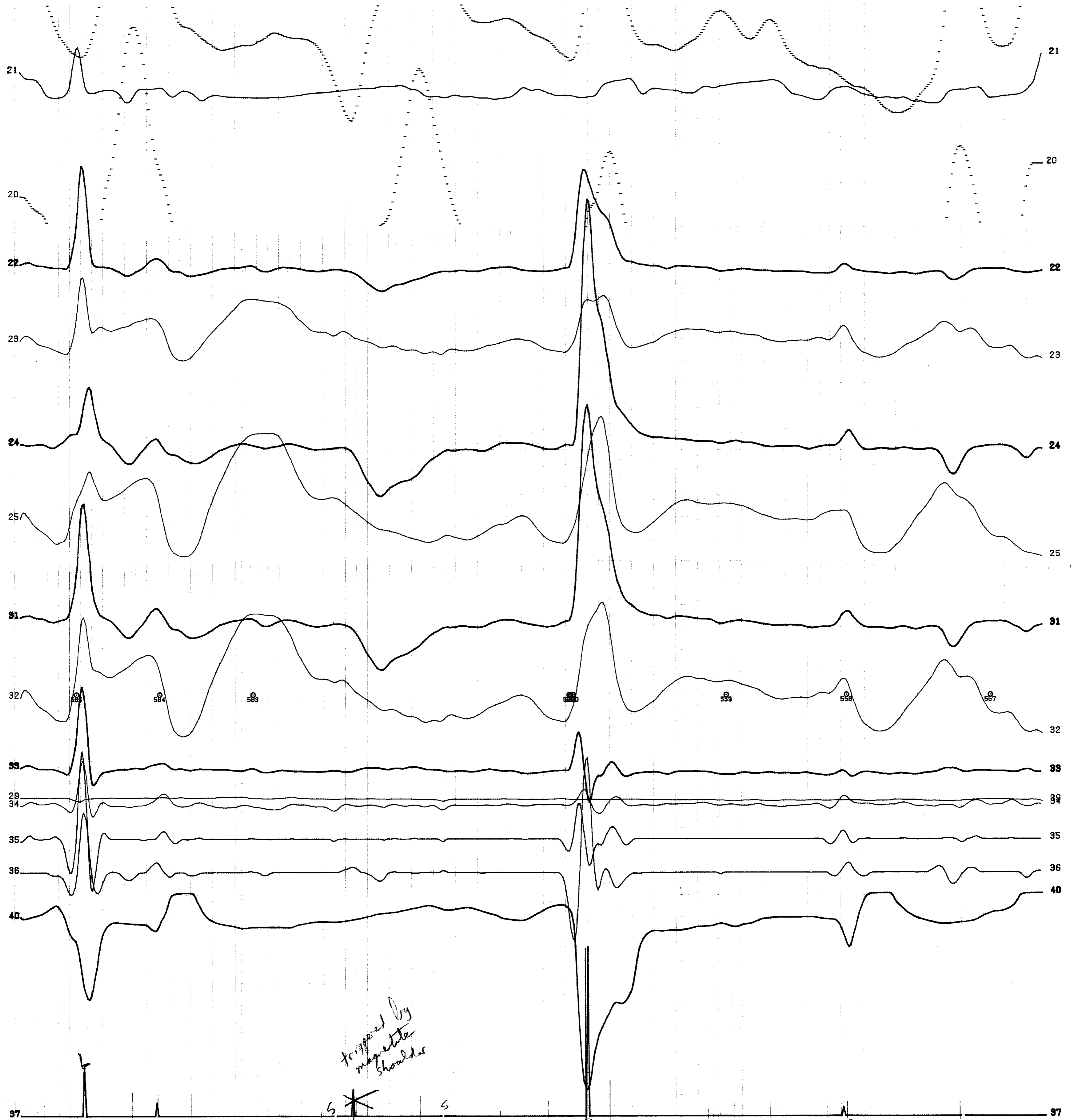


380

LINE 19



LINE -20



tripped by magnetite shoulder



400

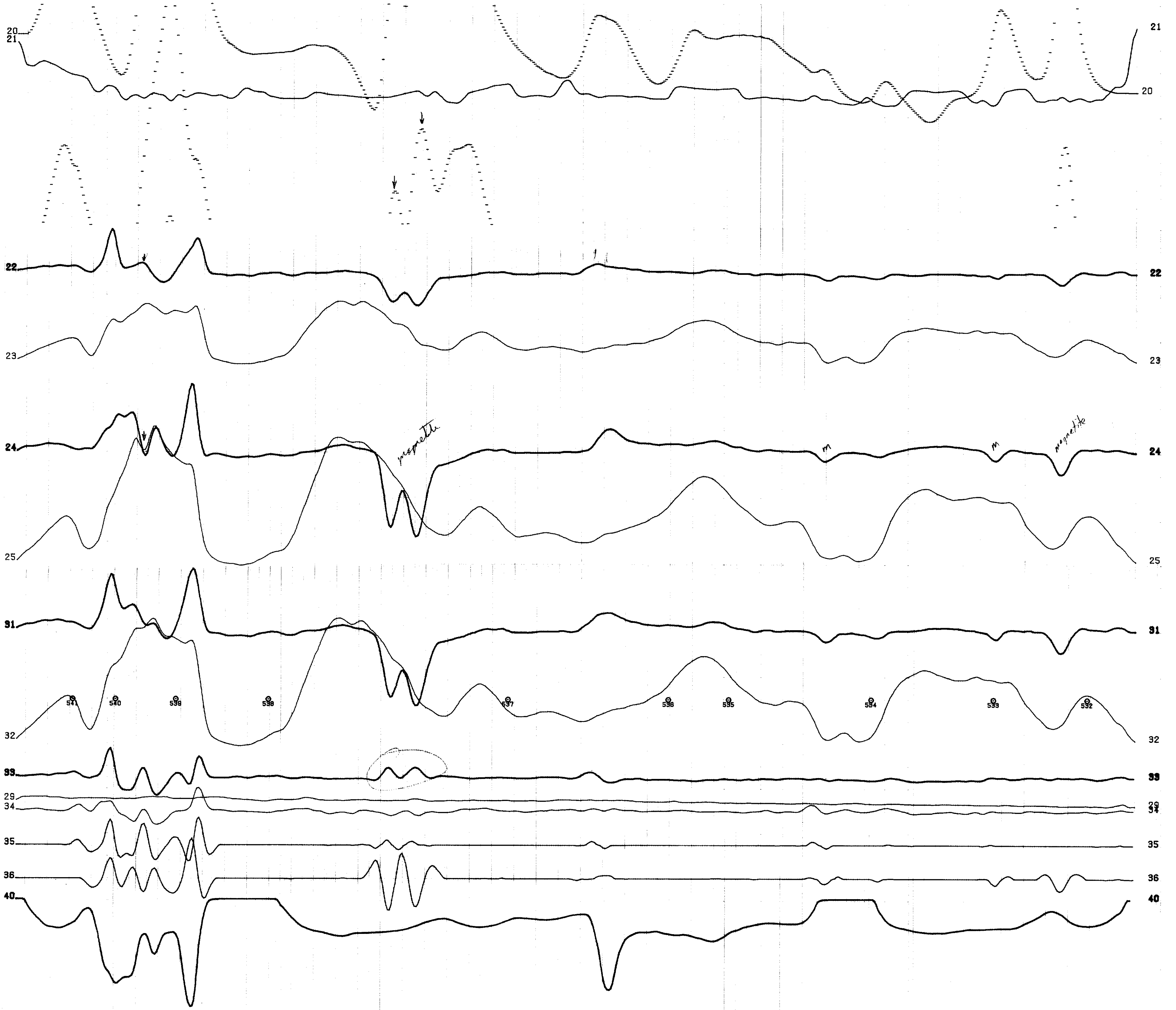
S

P
EM
my

EM
my

EM
my

LINE -22



possible hidden conductors

↓ ↓
 192K mag
 -UFA
 305X mag
 -UFA

V V

R

S

mag -UFA

mag -UFA

mag -UFA



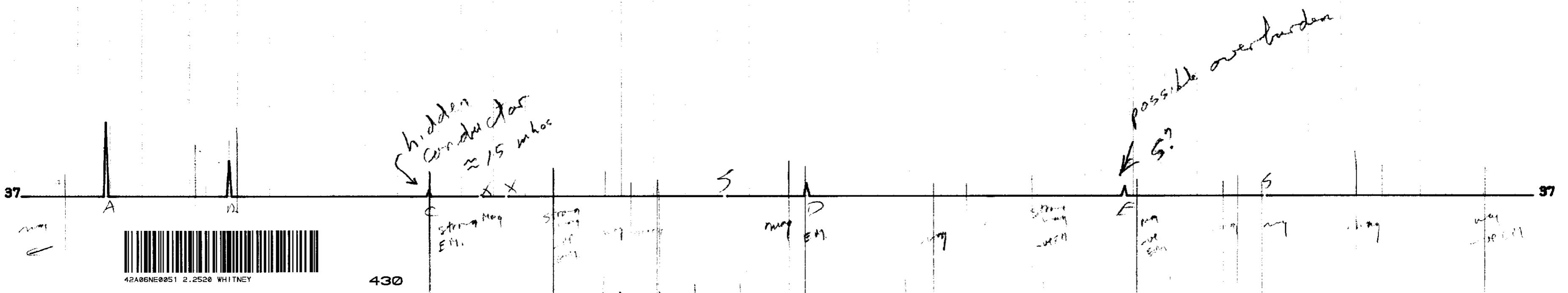
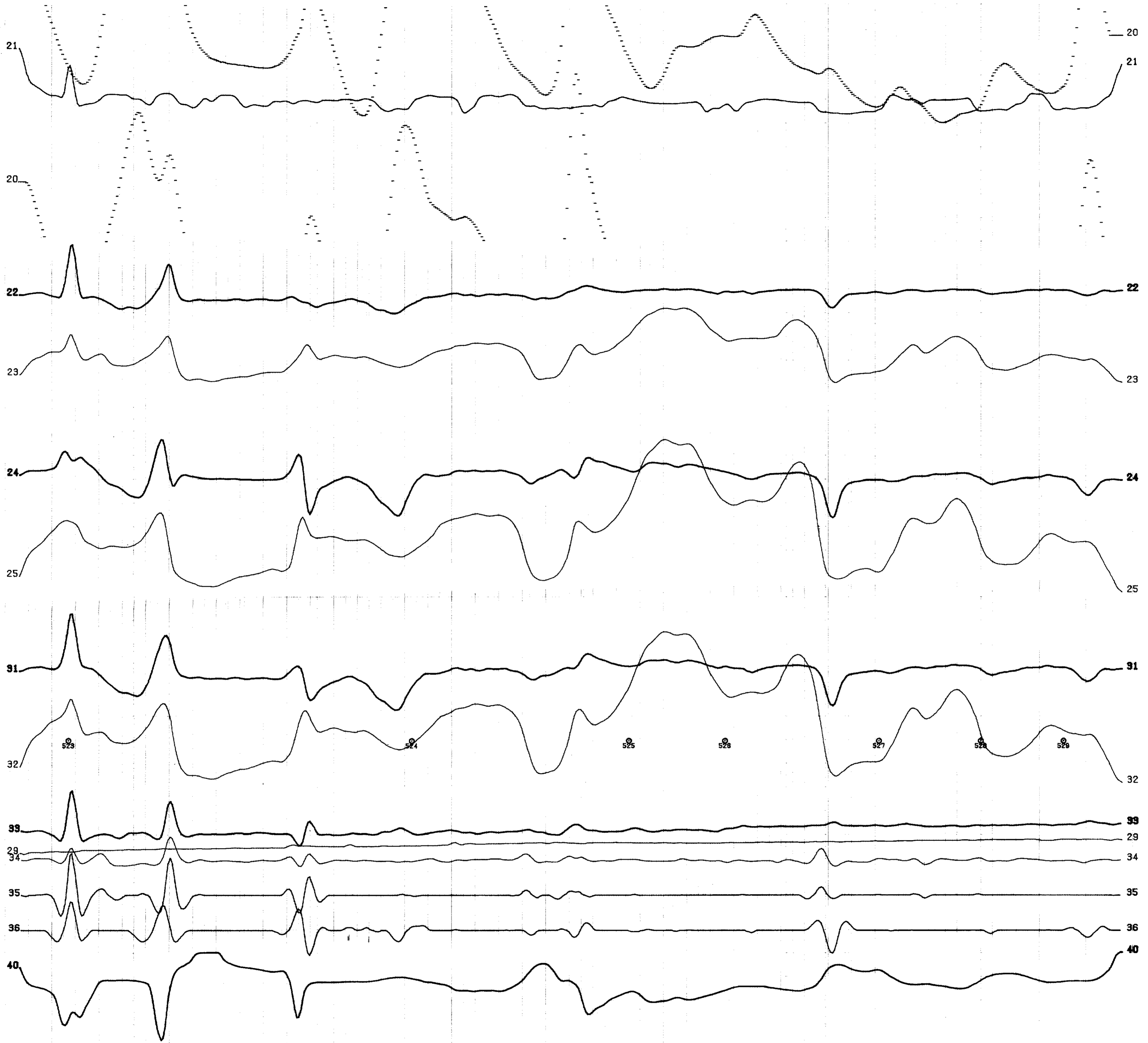
42A06NE6651 2.2528 WHITNEY

420

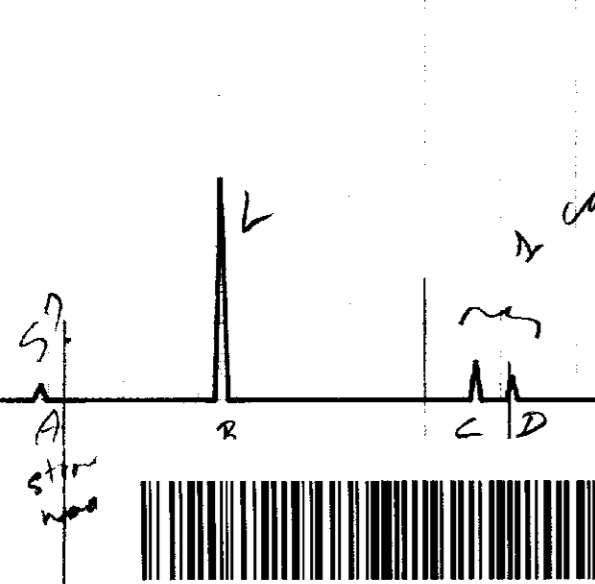
37

37

LINE 23



LINE -24



440

possible
Ph. ph. ph.
conductors

deeply
buried (blind)

2 conductor?

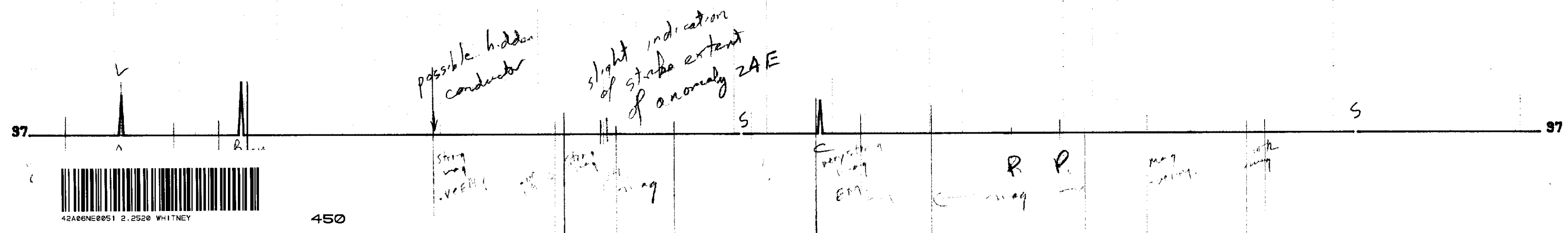
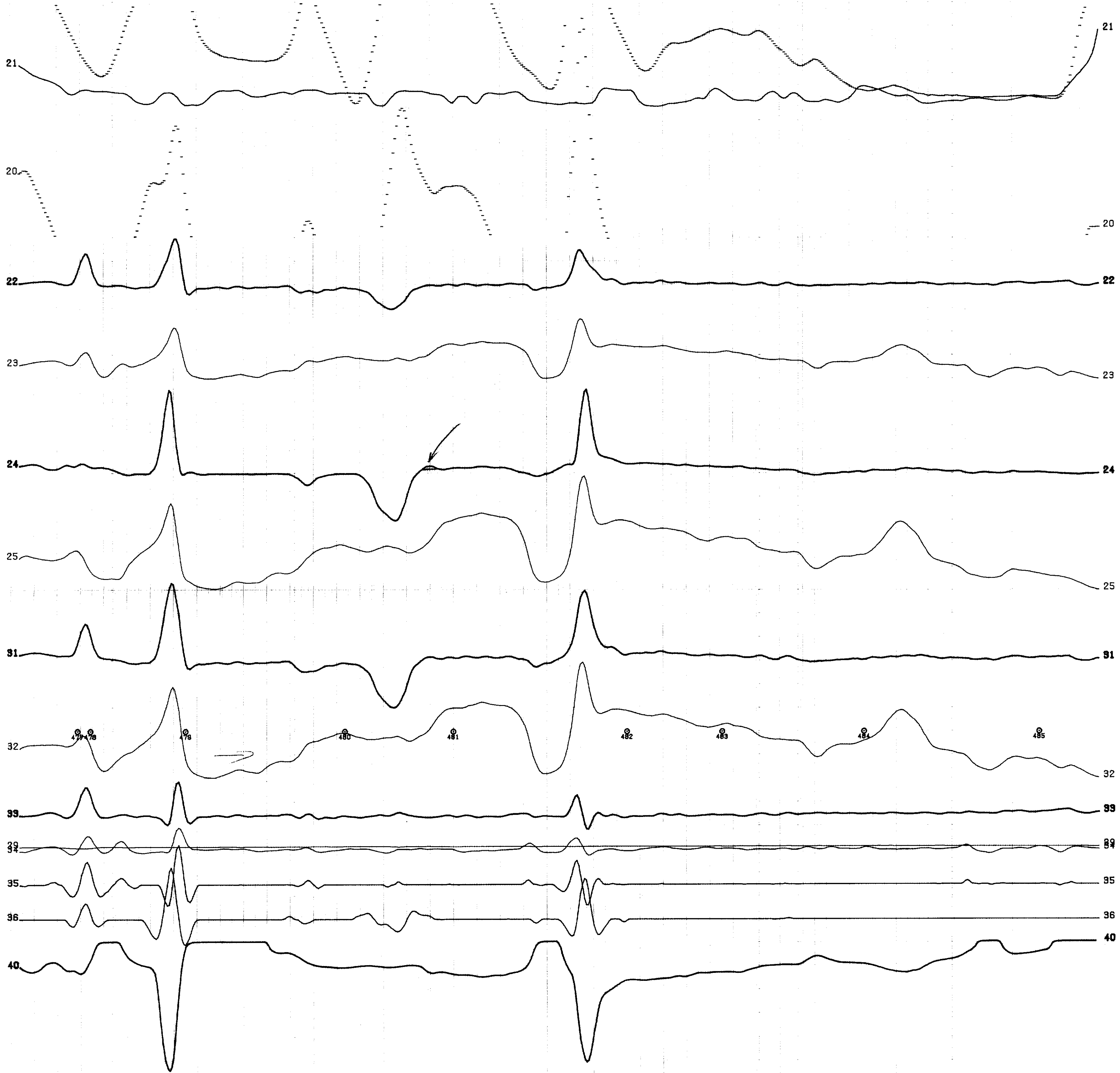
21 mag
-0.111
1000
mag
-0.044

22 mag
-0.111
1000
mag
-0.044

Blind

21

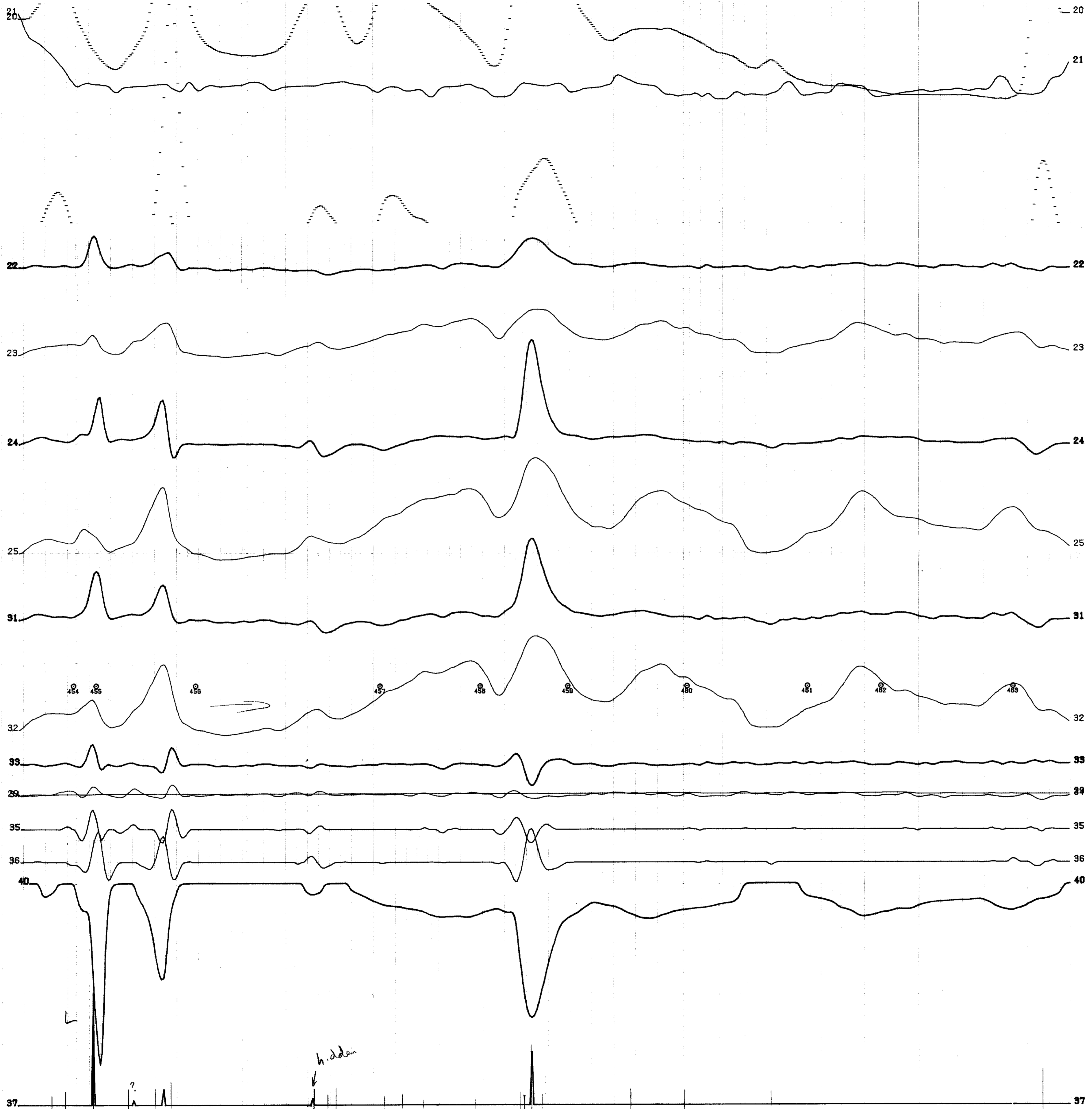
LINE 25



LINE -26

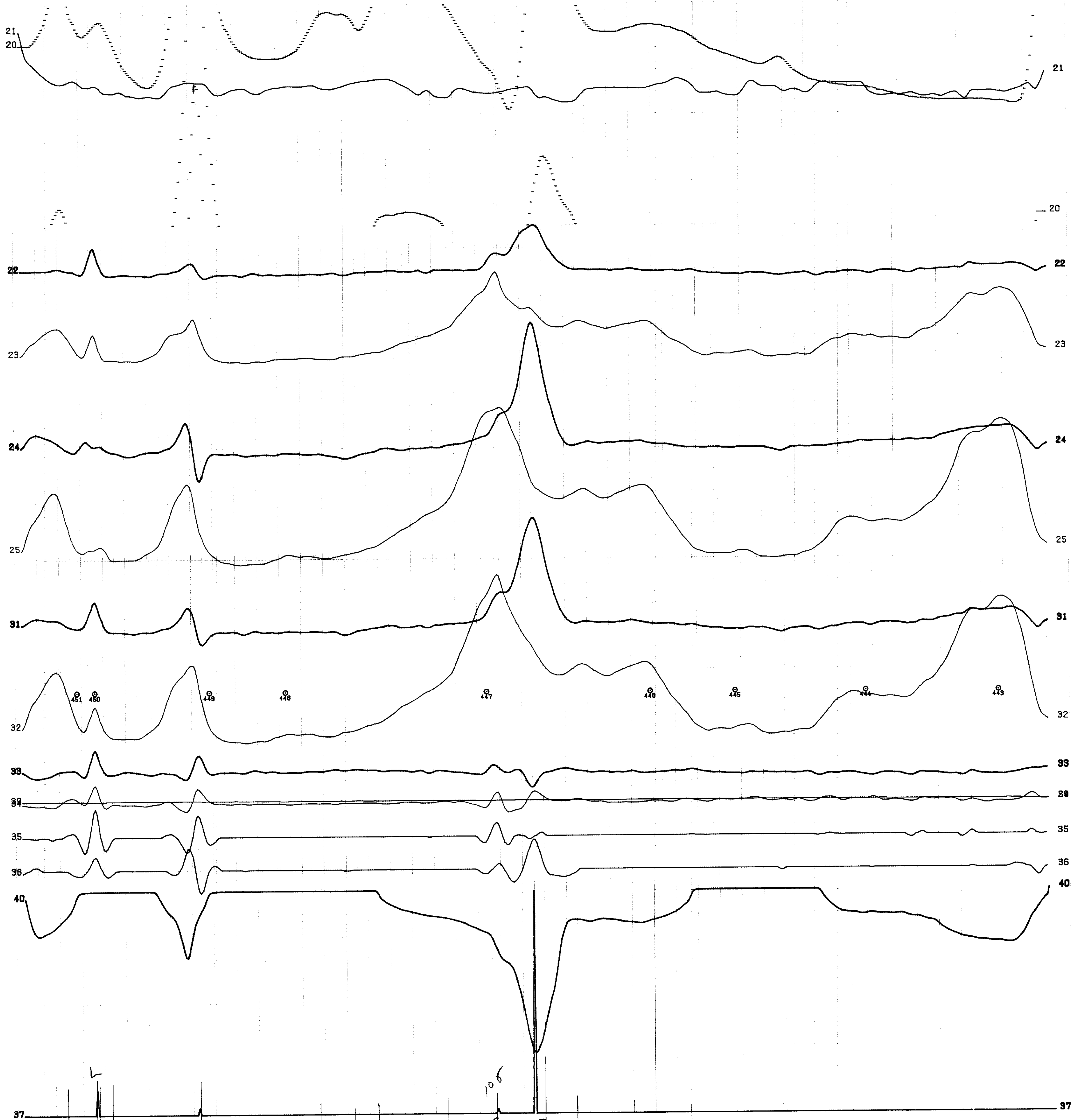


LINE 27



hidden
 454 455 456 457 458 459 460 461 462 469
 L
 37 37

LINE -28



42A88NE0851 2.2520 WHITNEY

480

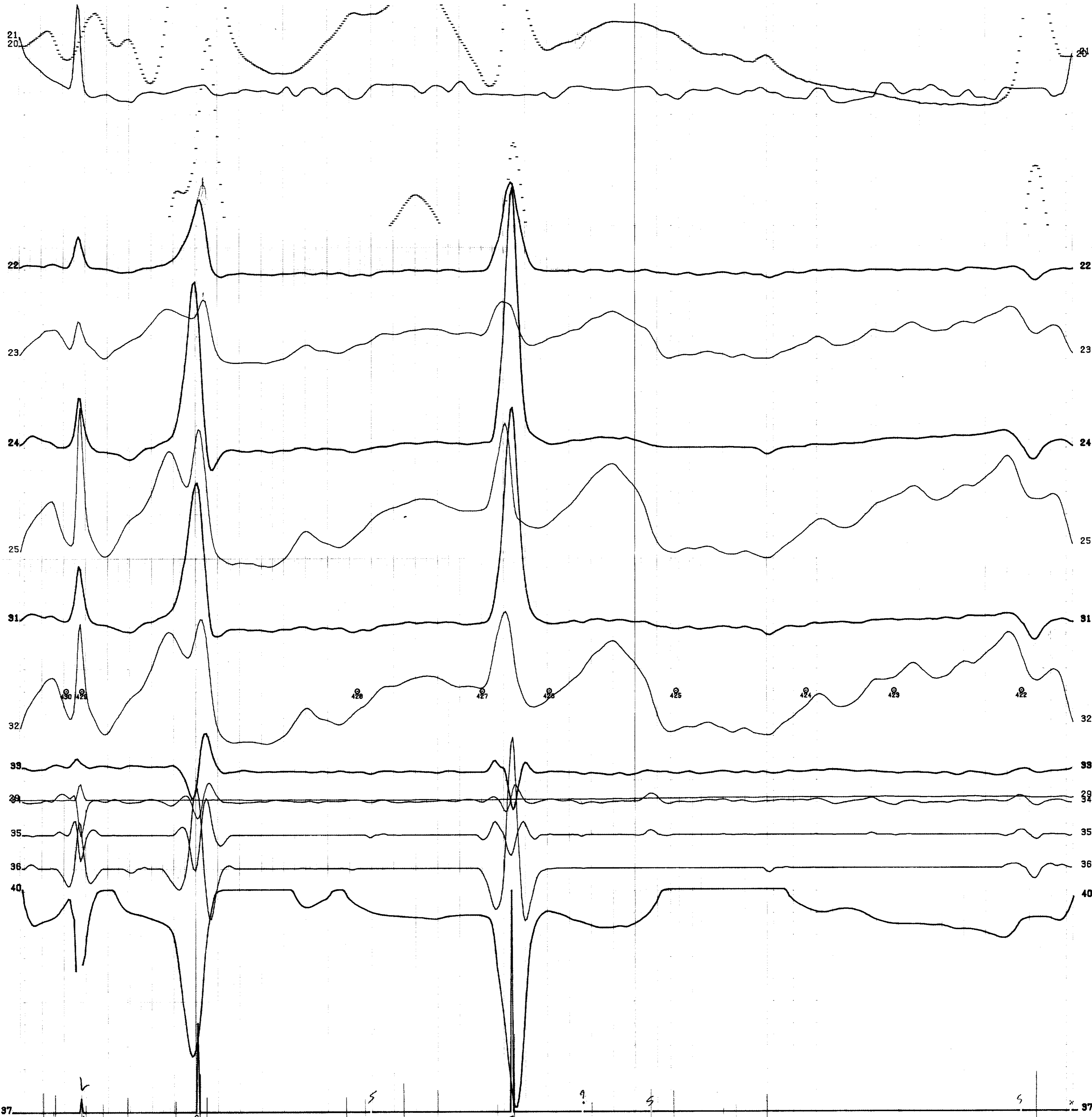
Small
ring
Broad
ring
106
EM
ring
EM
ring
Flanking
ring
ring

LINE 29



42A86NE8851 2.2520 WHITNEY

LINE -30



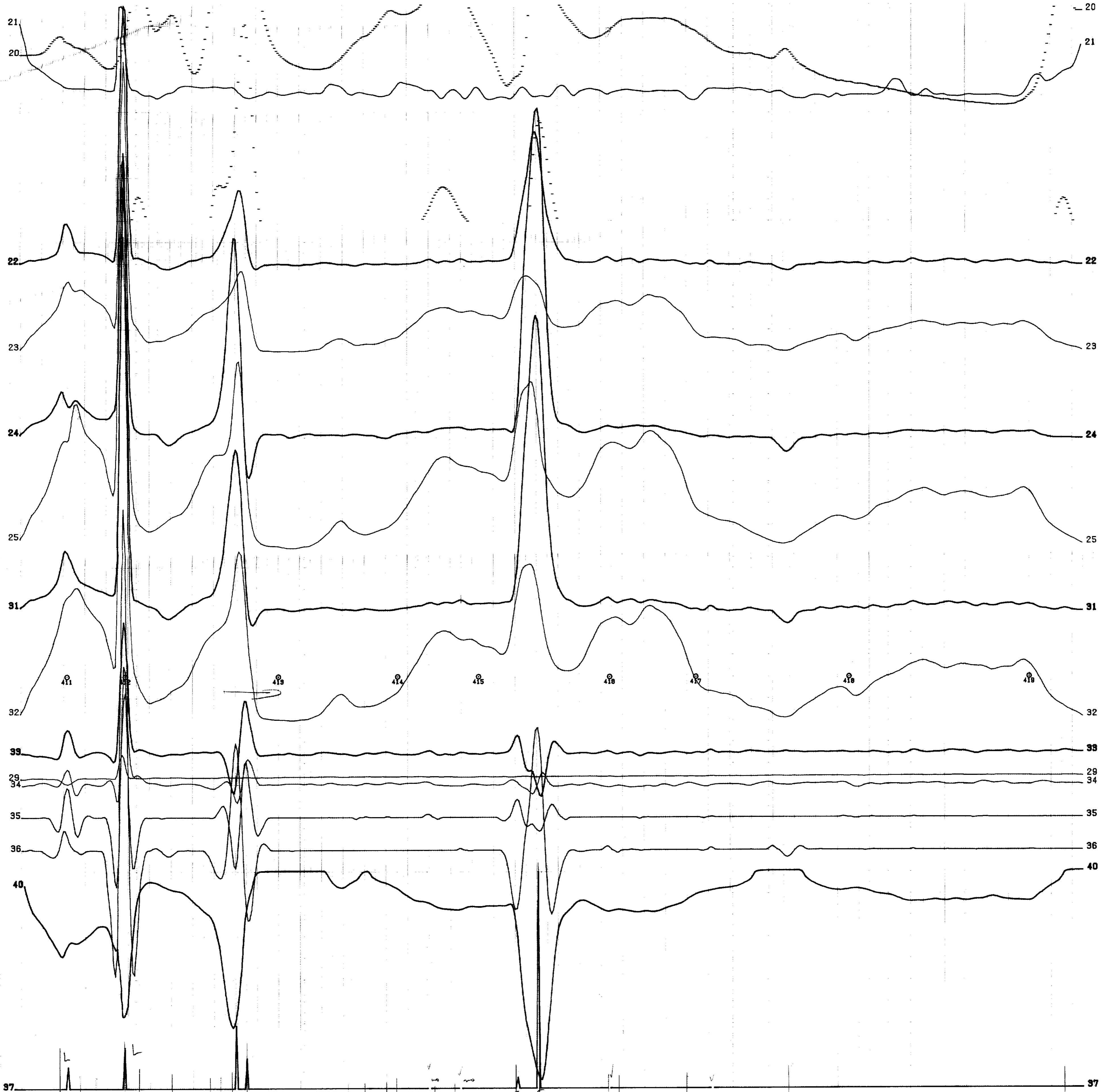
42486NE0051 2.2529 WHITNEY

500

Handwritten annotations on the x-axis including 'S', 'EM', 'EM', 'S', 'S', 'S', and 'S'.

ALPHACO
007.

LINE 31

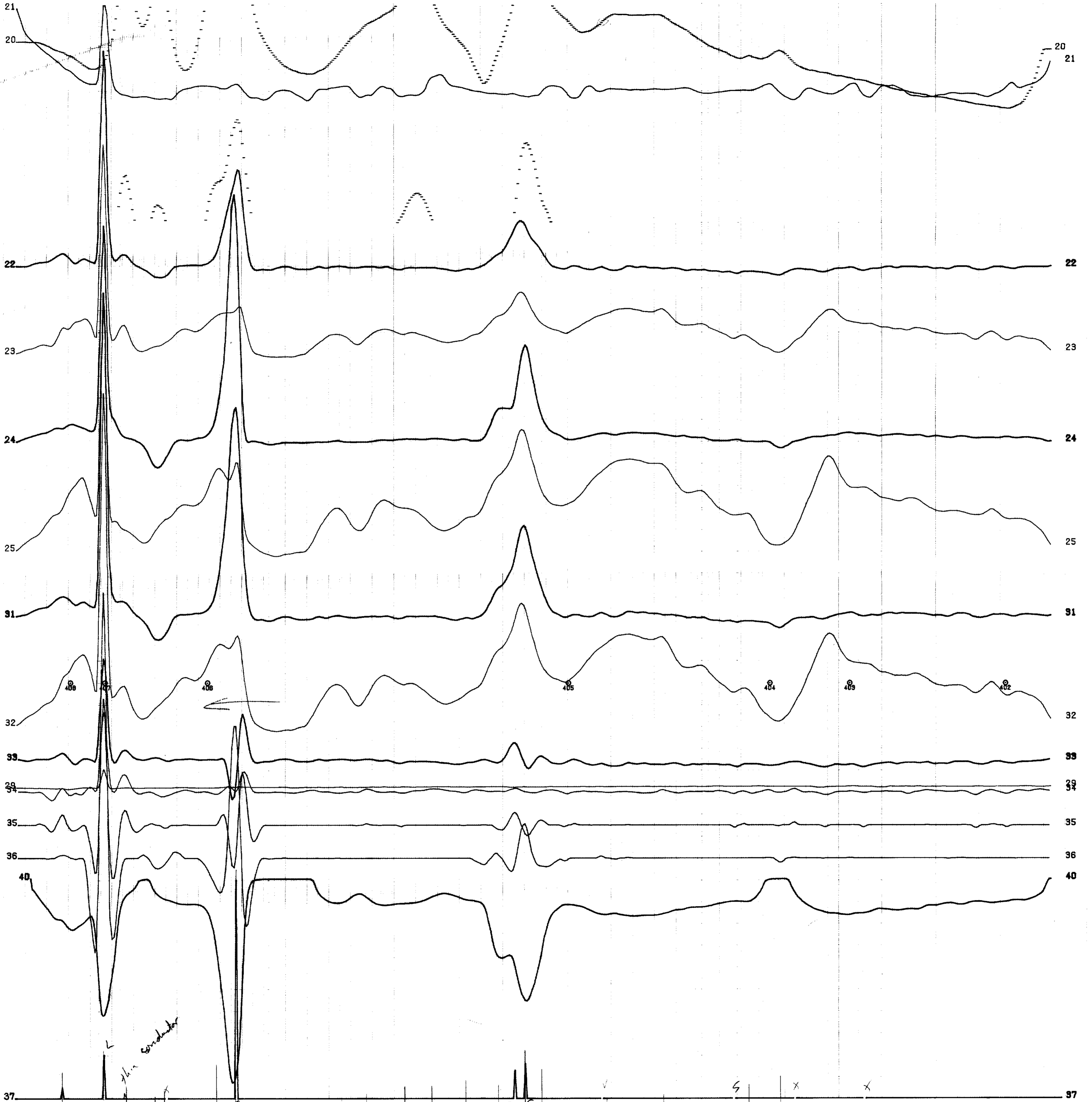


L
A 0.001 B
C P

Handwritten notes and markings at the bottom of the tracing, including lead identifiers and technical specifications.



LINE -32



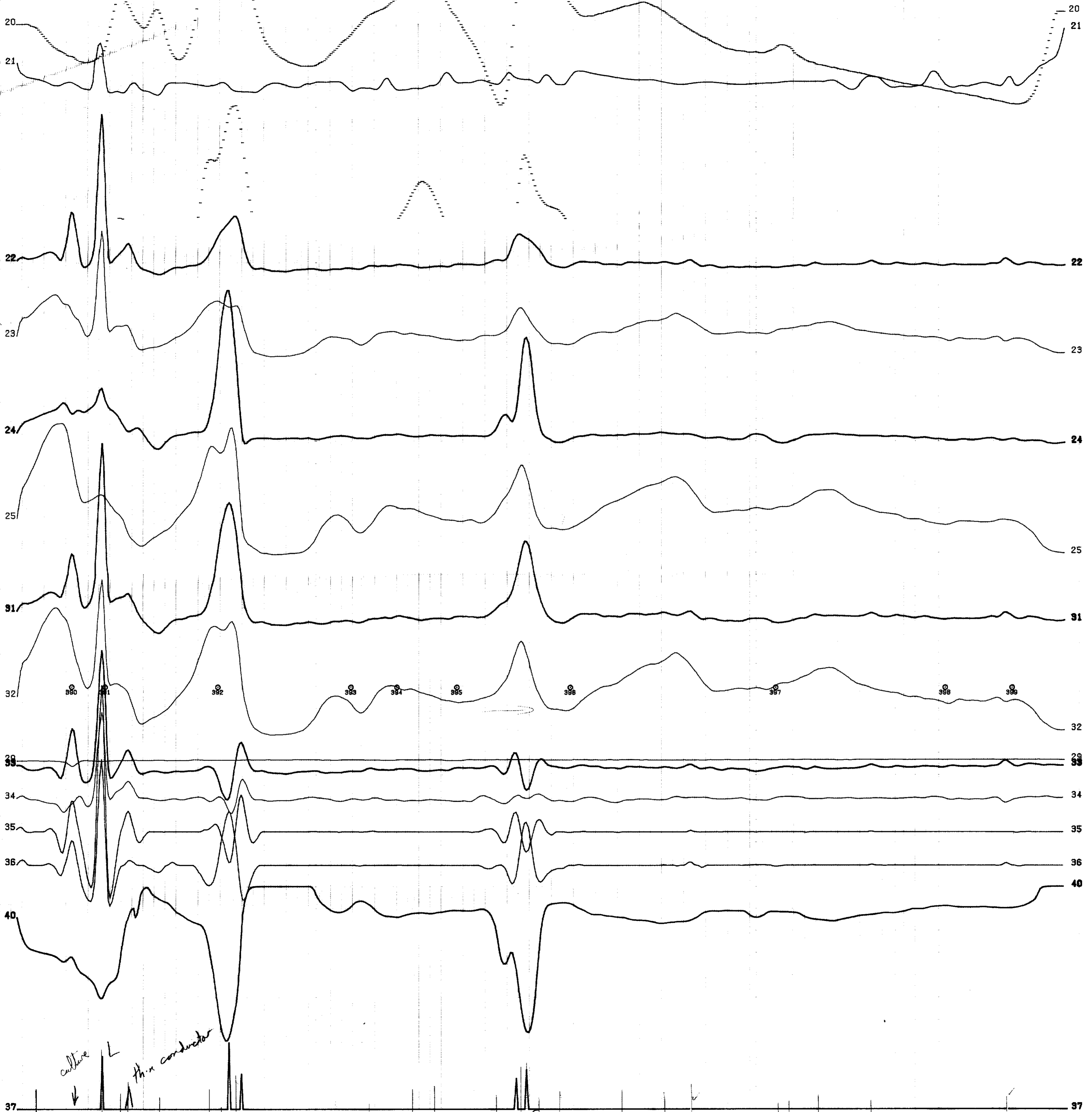
L
thin conductor



42A86NE0051 2.2520 WHITNEY 520

mg mg thin X7 EP R1 R2 R3 R4 R5 R6 R7 R8 R9 R10 R11 R12 R13 R14 R15 R16 R17 R18 R19 R20 R21 R22 R23 R24 R25 R26 R27 R28 R29 R30 R31 R32 R33 R34 R35 R36 R37 R38 R39 R40 R41 R42 R43 R44 R45 R46 R47 R48 R49 R50 R51 R52 R53 R54 R55 R56 R57 R58 R59 R60 R61 R62 R63 R64 R65 R66 R67 R68 R69 R70 R71 R72 R73 R74 R75 R76 R77 R78 R79 R80 R81 R82 R83 R84 R85 R86 R87 R88 R89 R90 R91 R92 R93 R94 R95 R96 R97 R98 R99 R100

LINE 33



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530

LINE -34



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RE MILLIMETER
 NEUFEL & ESSER CO.
 BALTIMORE, M.D.

LINE 35



L
thin conductor

one no. to conductor

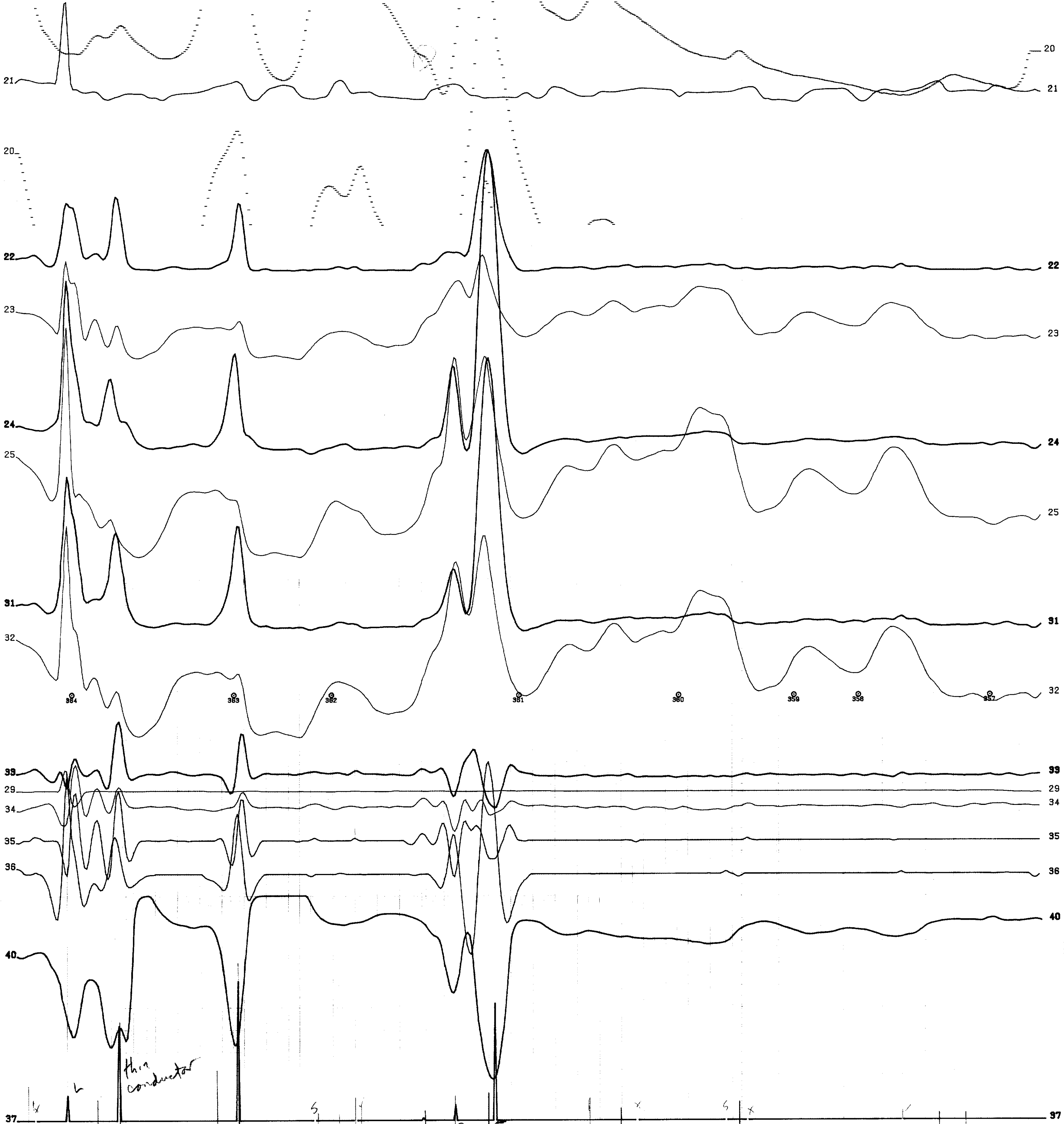


42A86NE0051 2.2520 WHITNEY

550

37 A m B C D E F G H I J K L M N O P Q R S T U V W X Y 97

LINE -36



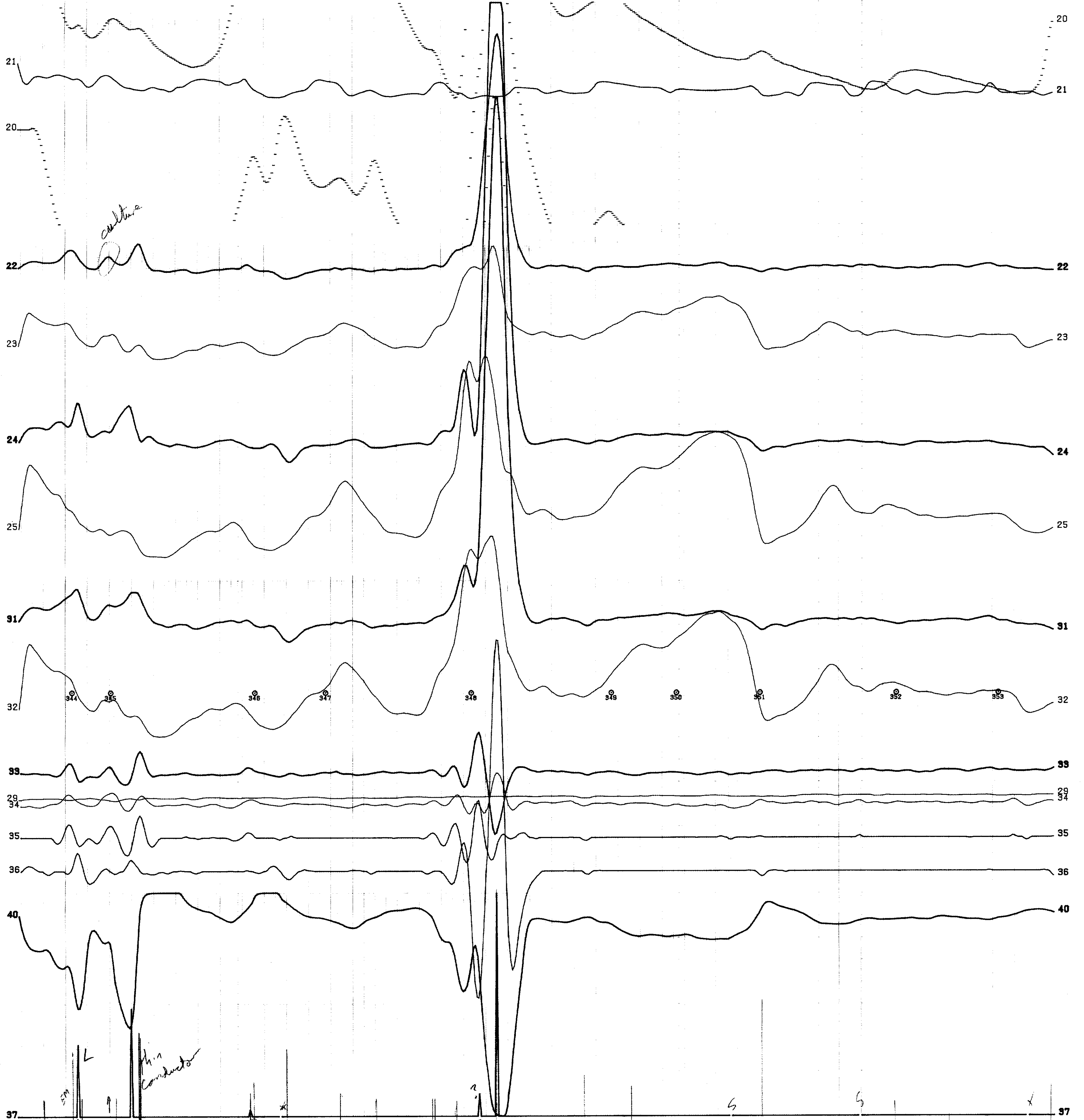
384 389 382 381 380 359 358 352

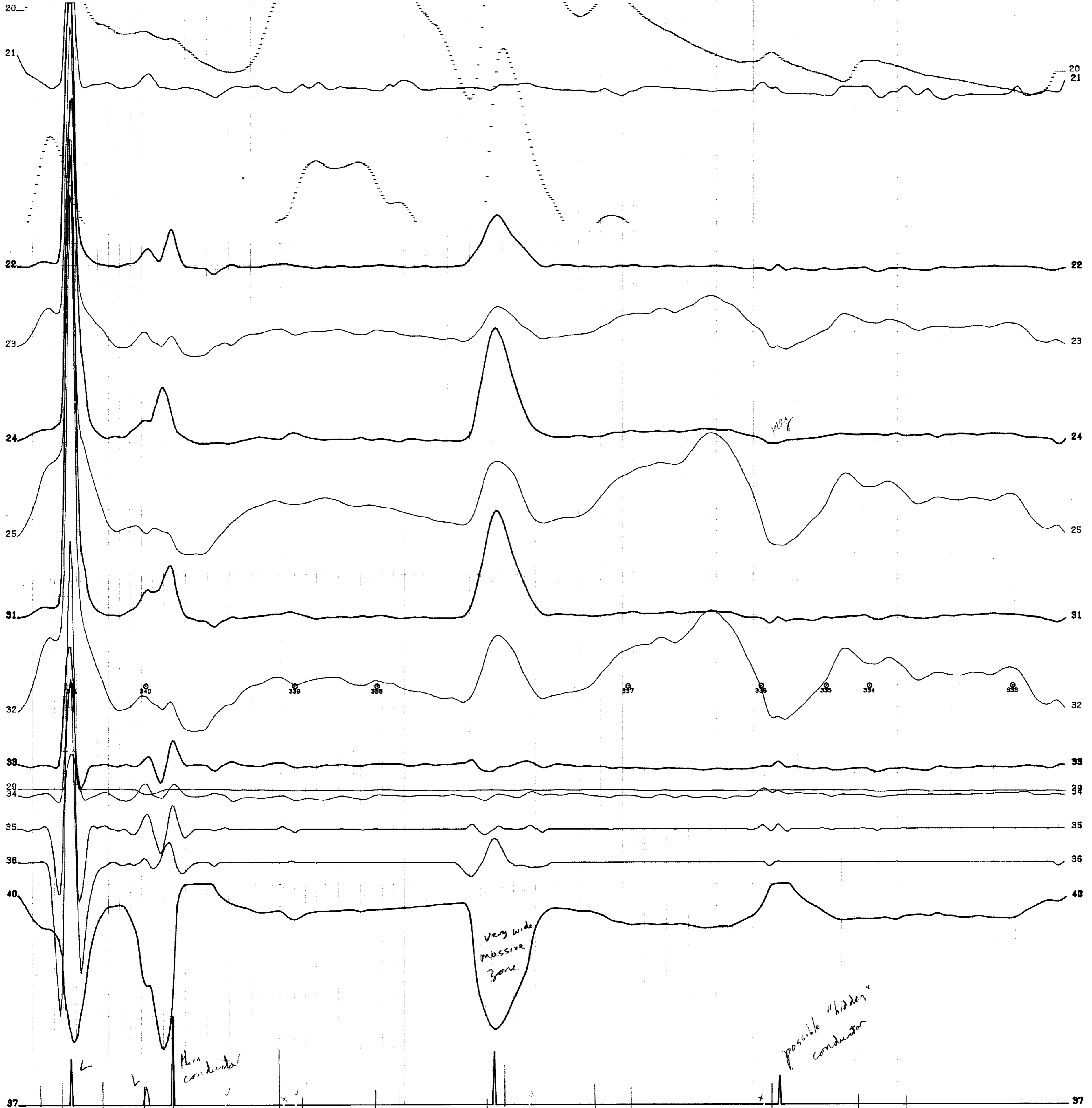
thin conductor



560

LINE 37





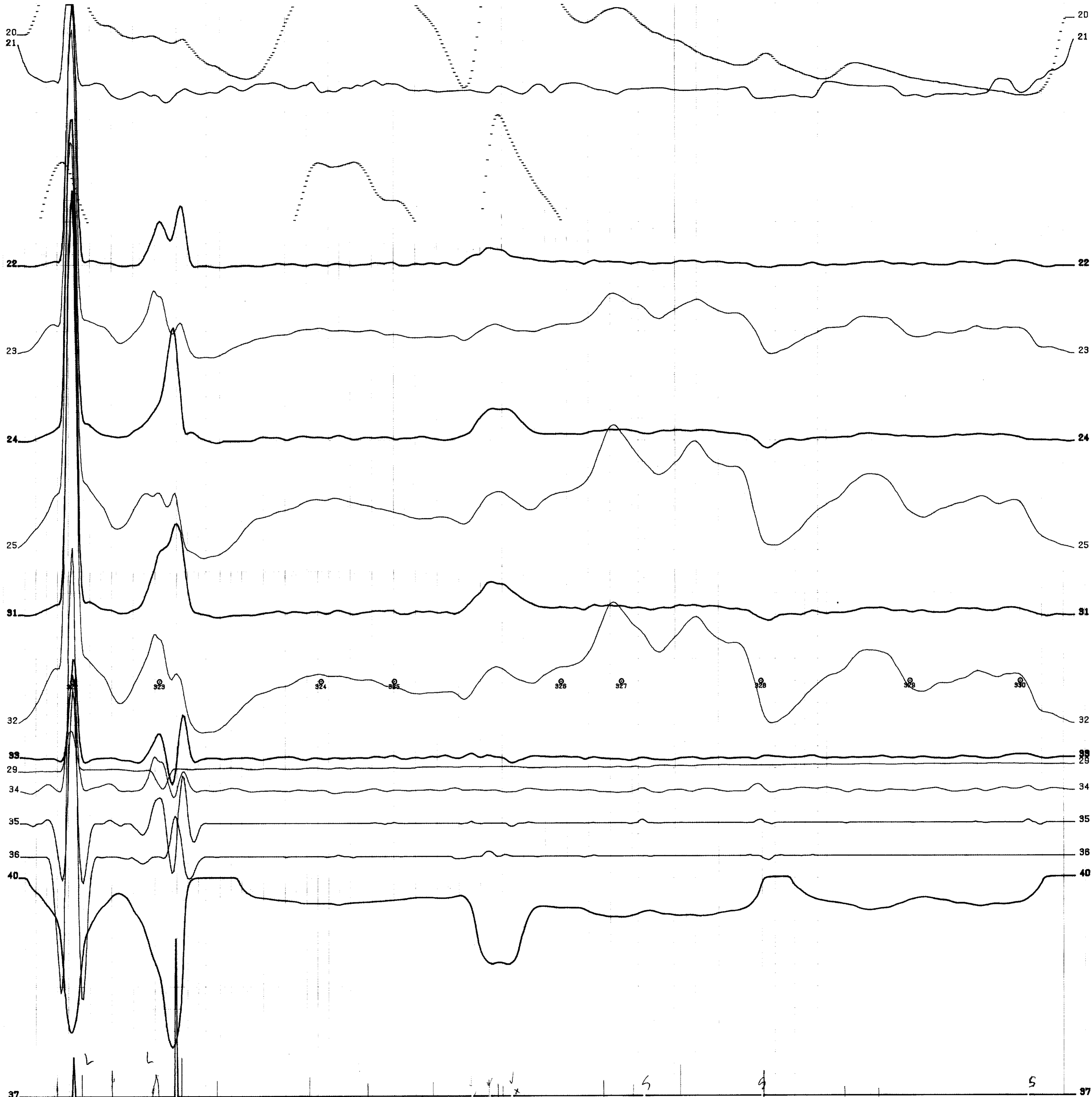
thin conductor

Very wide massive zone

possible "hidden" conductor

EM

EM



37 37

mag



mag

←

mag? X
50 mag
E11

mag

mag

mag
-H.EM

mag

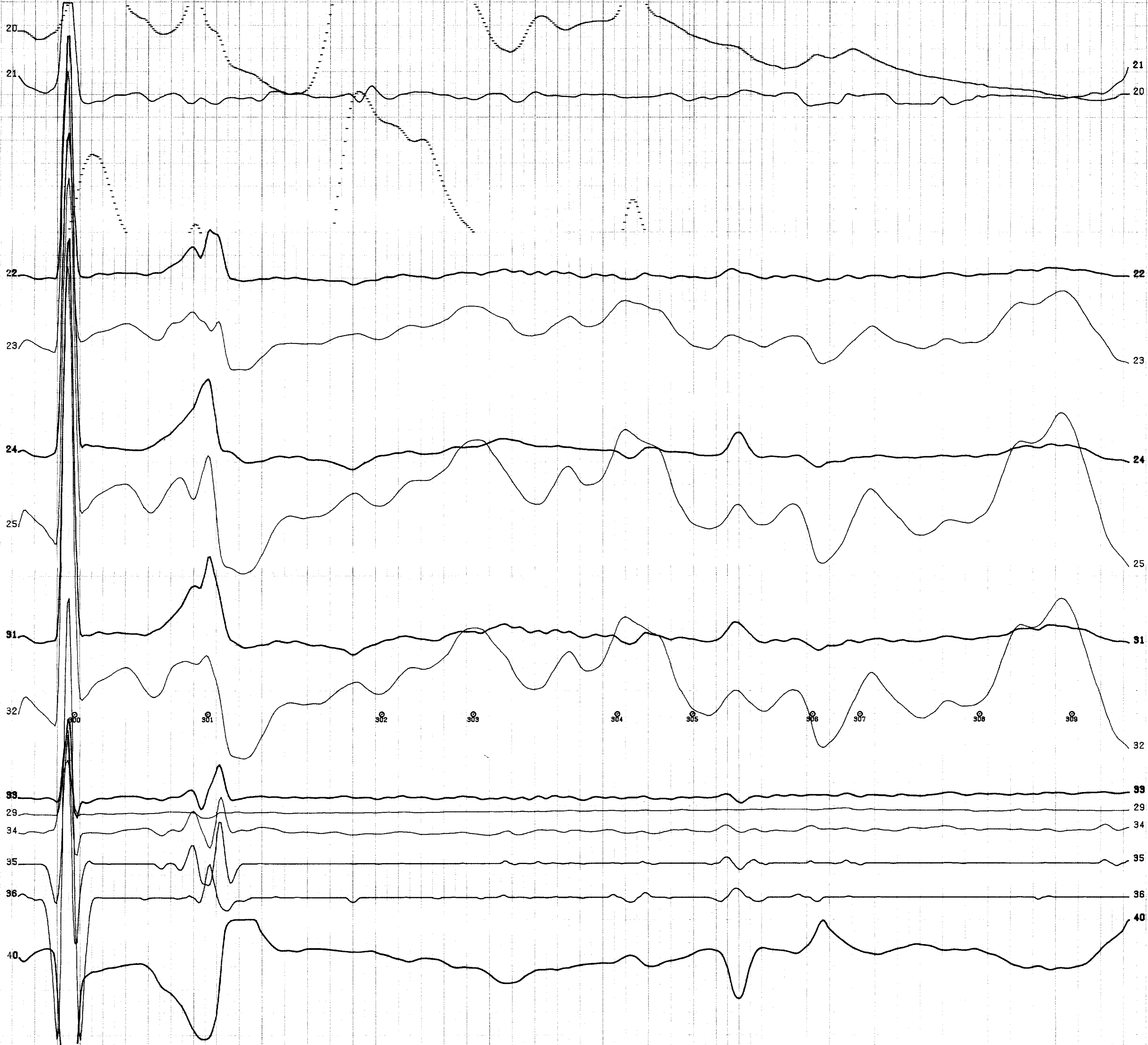
LINE -40



600

MILLIMETER
 HOFFMANN & LORSTING
 208

LINE 41



37

calibration

300 301 302 303 304 305 306 307 308 309

39

29

34

35

36

40

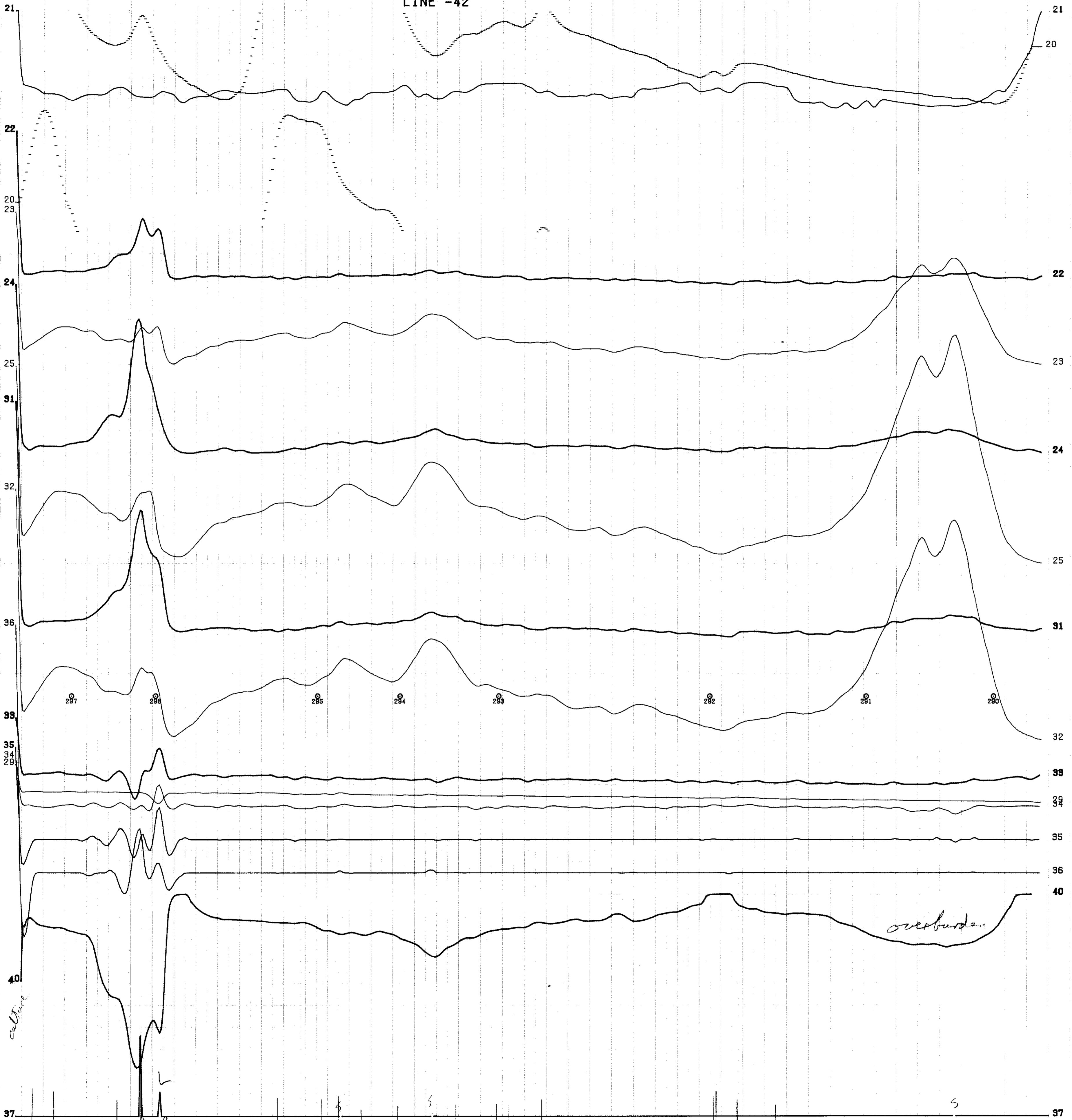
37



42486NE0851 2.2526 WHITNEY

610

LINE -42



21 20 22 23 24 25 31 32 36 39 38 35 34 33 40 37

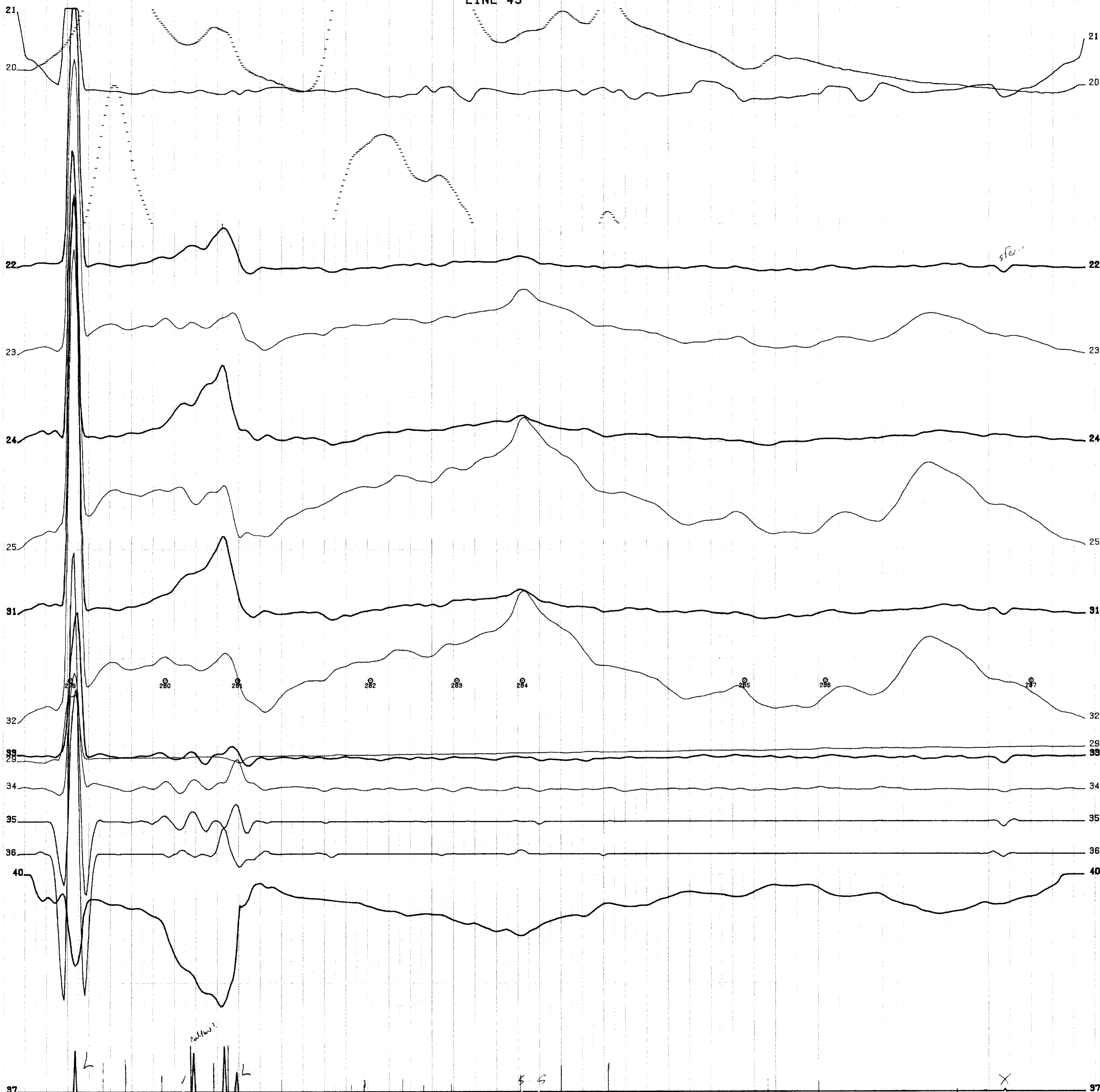
overburden



620

SCALE 1 INCH = 100 FEET
NEEDED IN LOGGING

LINE 43



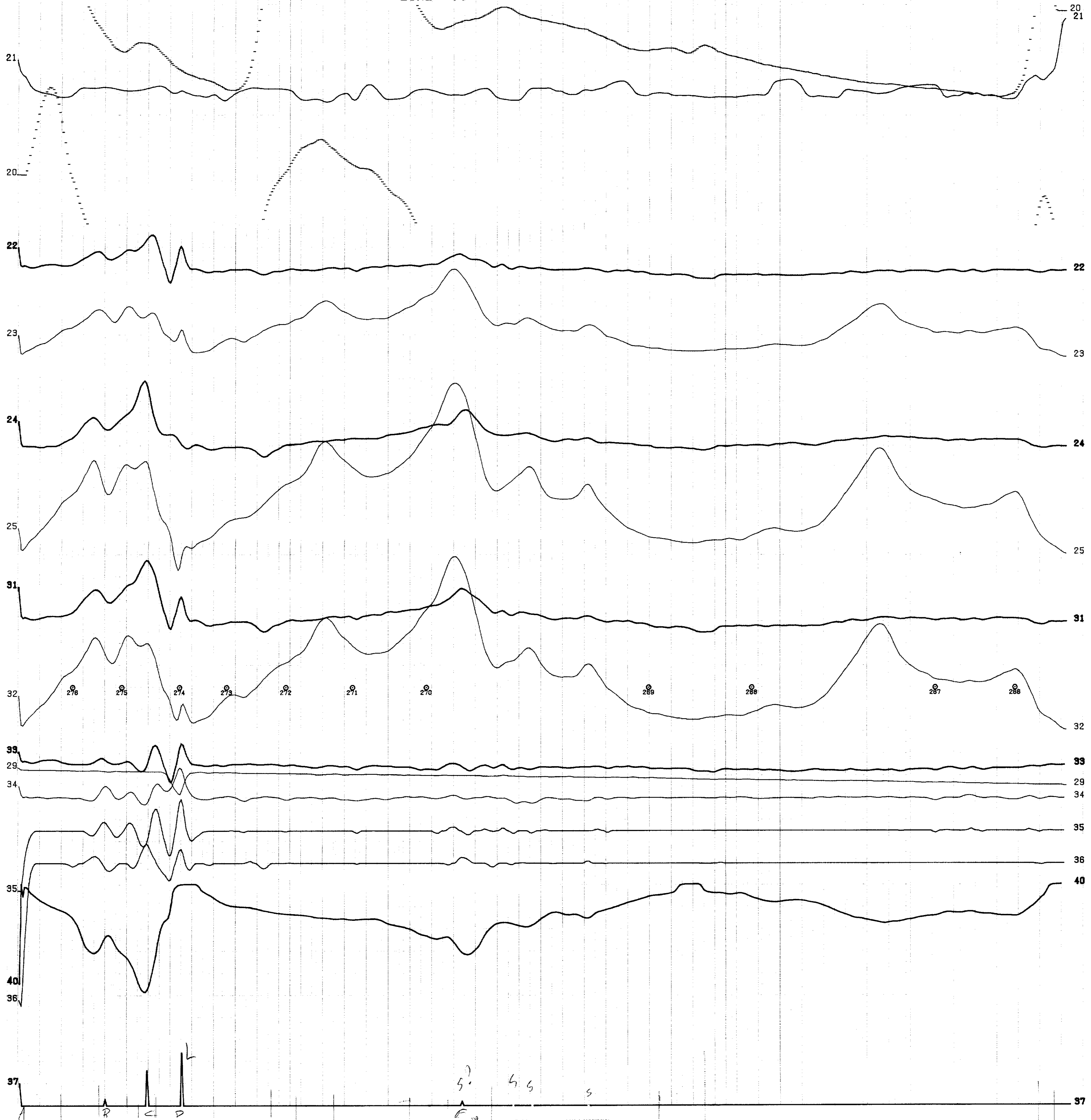
42486NE0051 2.2520 WHITNEY

630

100 MILLIMETER
2000 INCHES PER SECOND
1968

X
E

LINE -44



42486NE051 2.2520 WHITNEY

640

MILLIMETER
SCALE
1.5 CM
5000 Hz

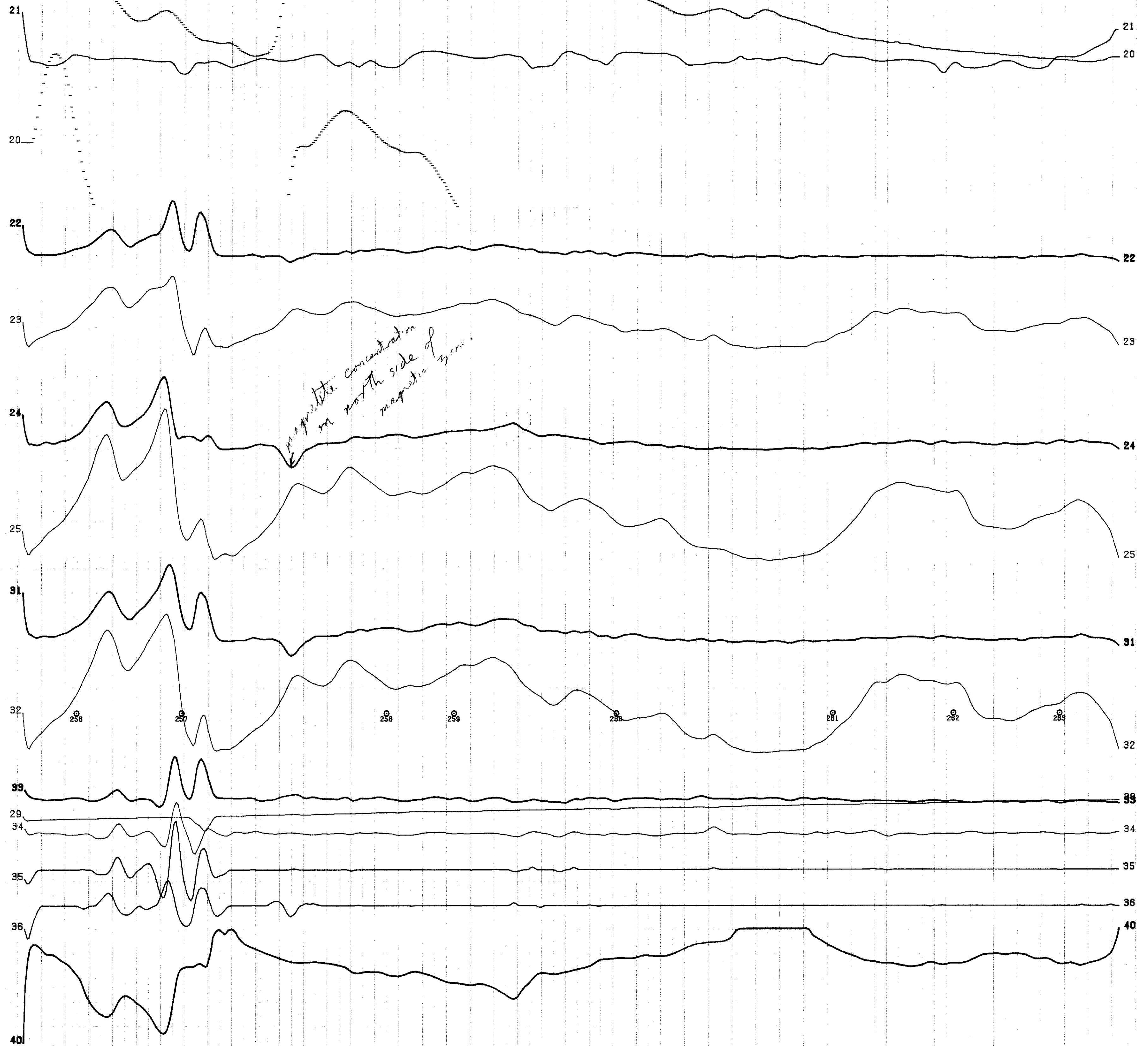
5. 4.5 5
2P

1000

1000

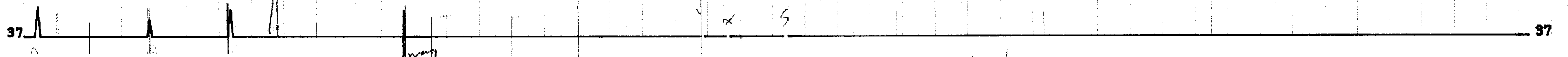
1000

LINE 45

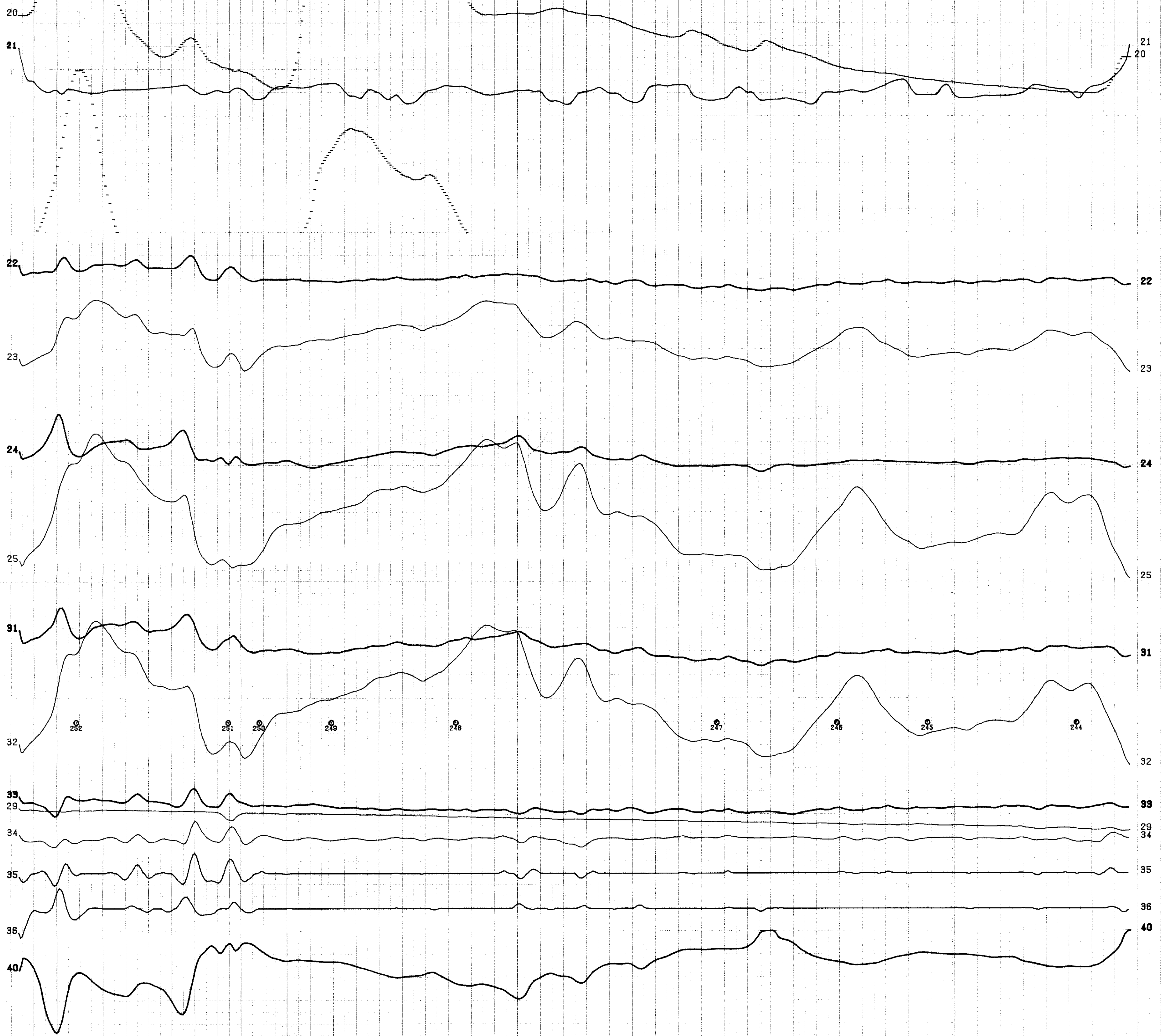


*magnetite concentration
on north side of
magnetic zone.*

*cellular
Not plotted*



LINE -46



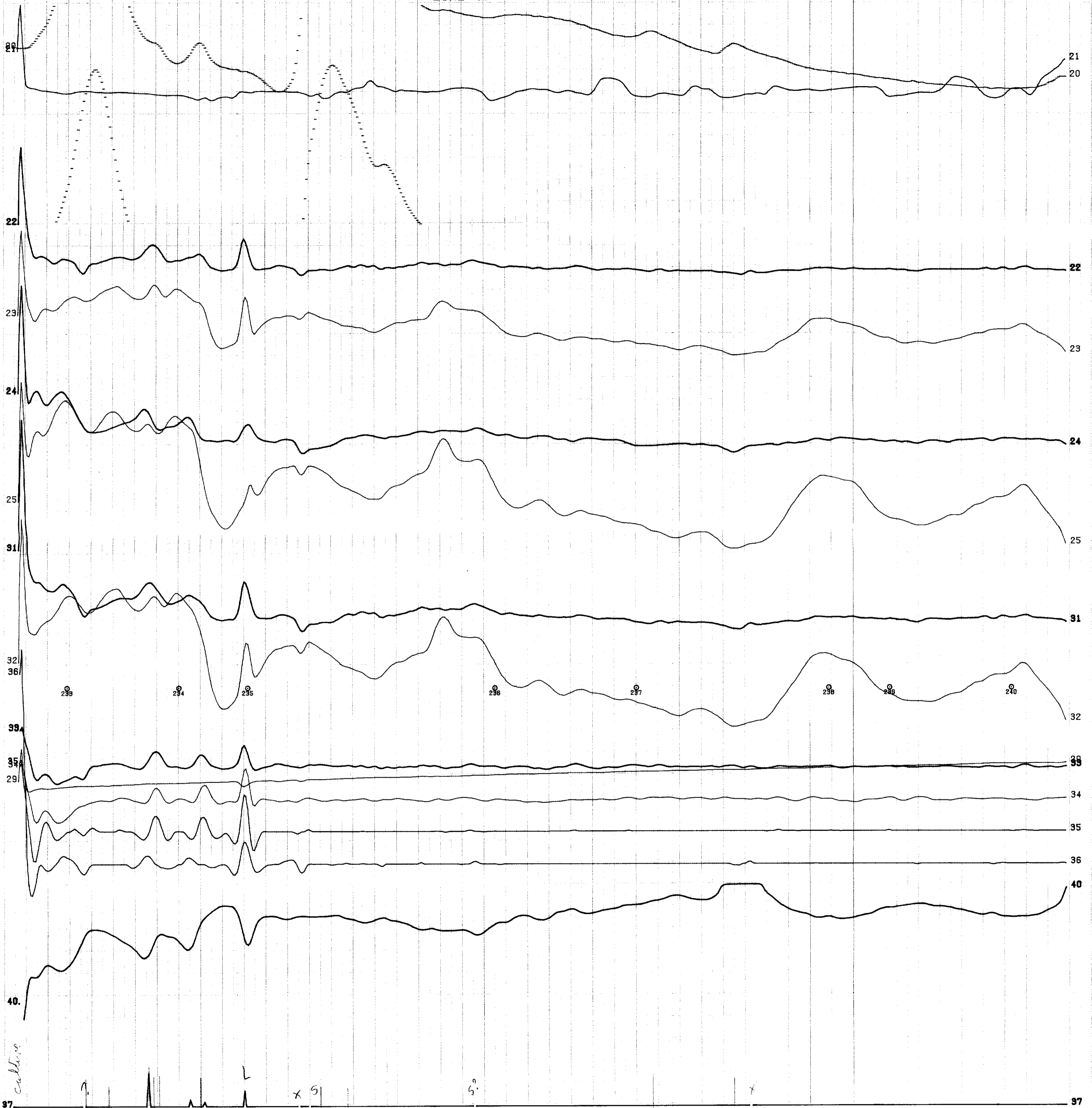
37
A B C D E



660

37

LINE 47



97

culture
A B C D

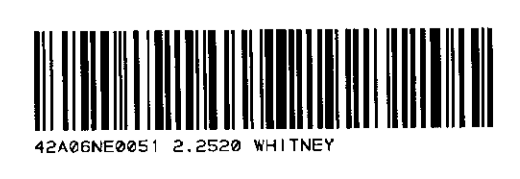
x 5

L

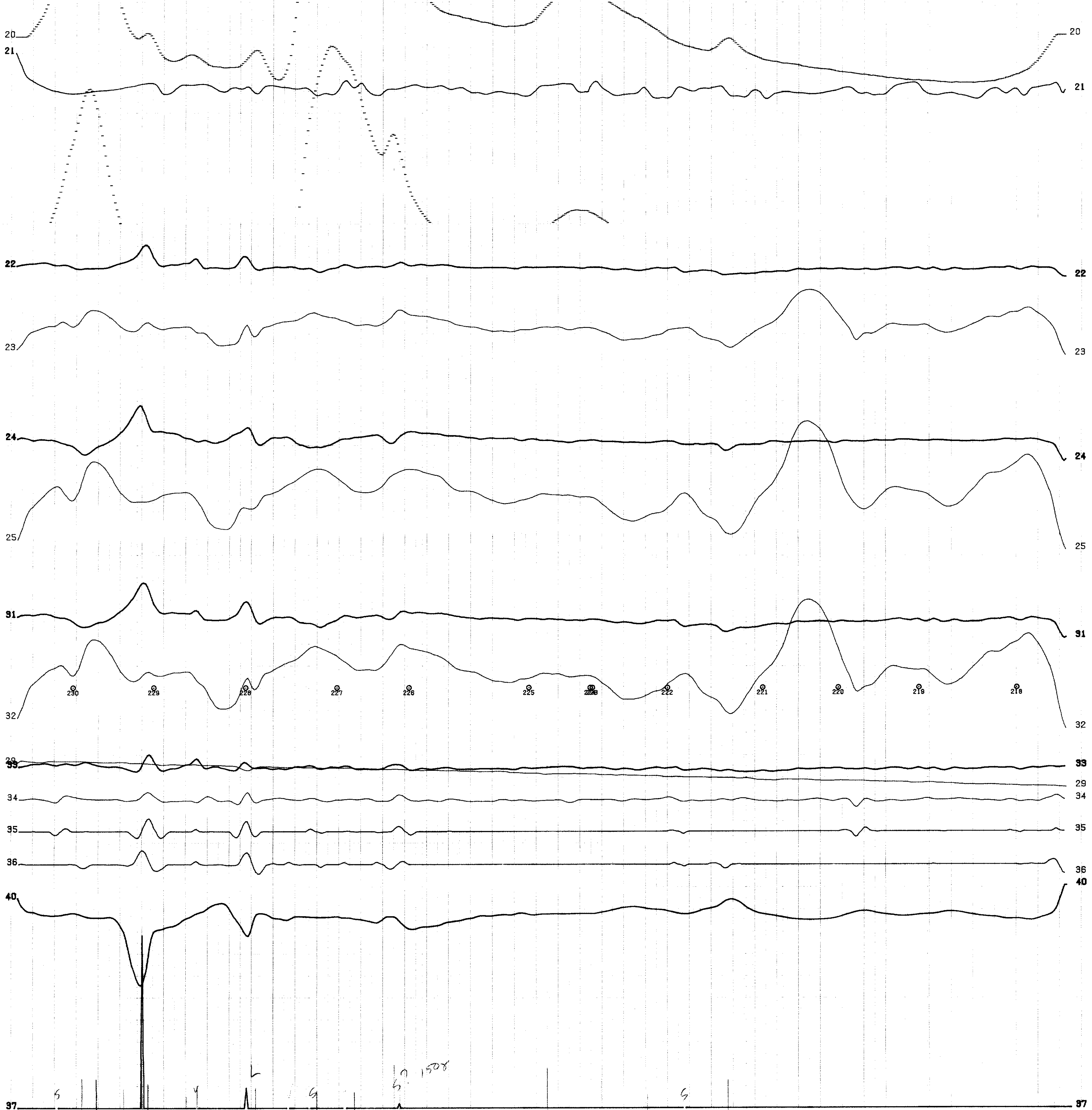
x

y

97



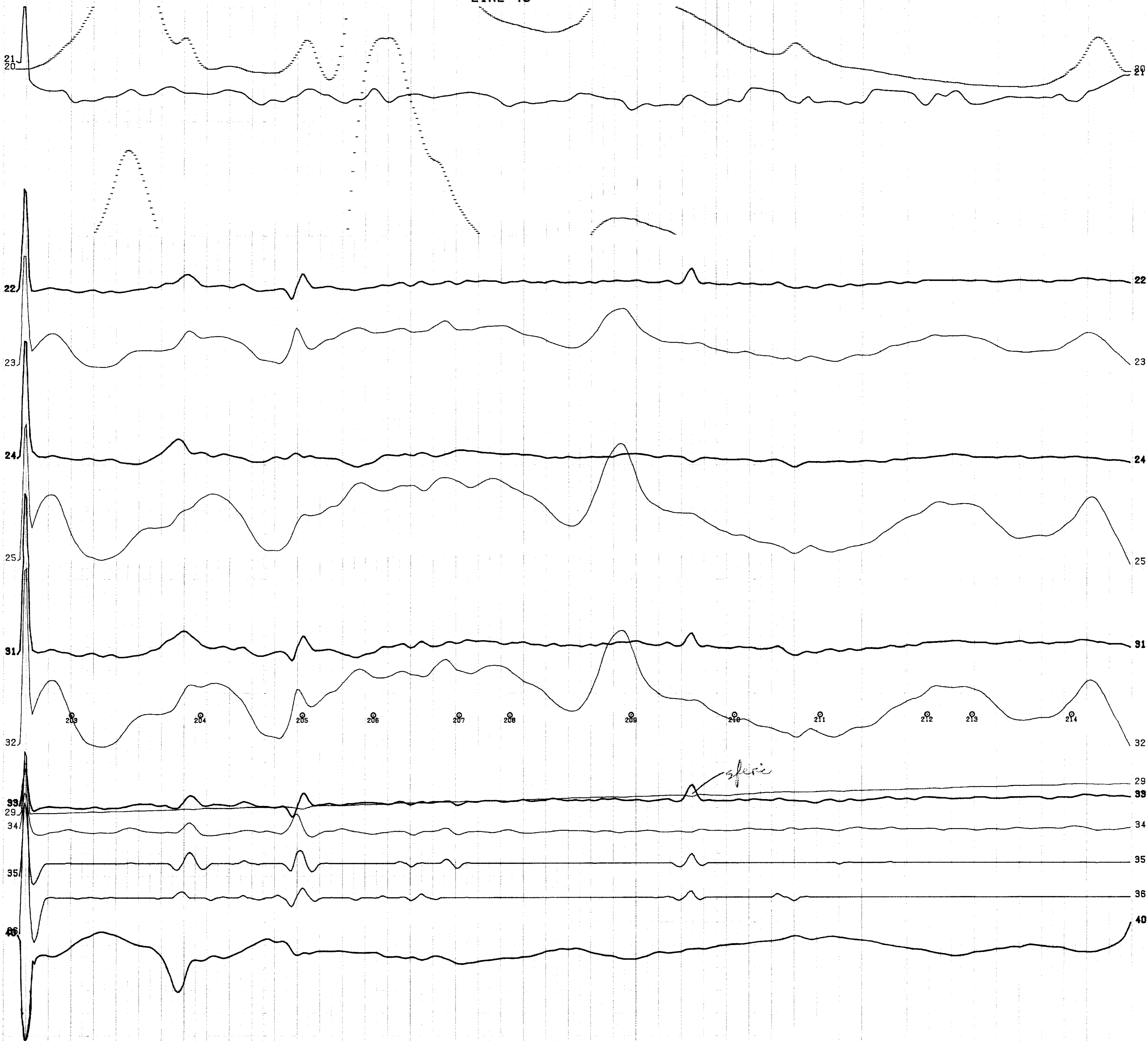
LINE -48



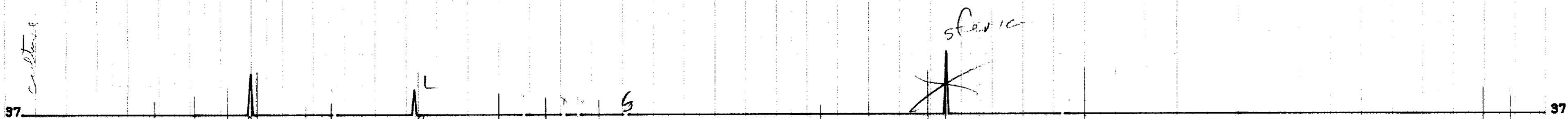
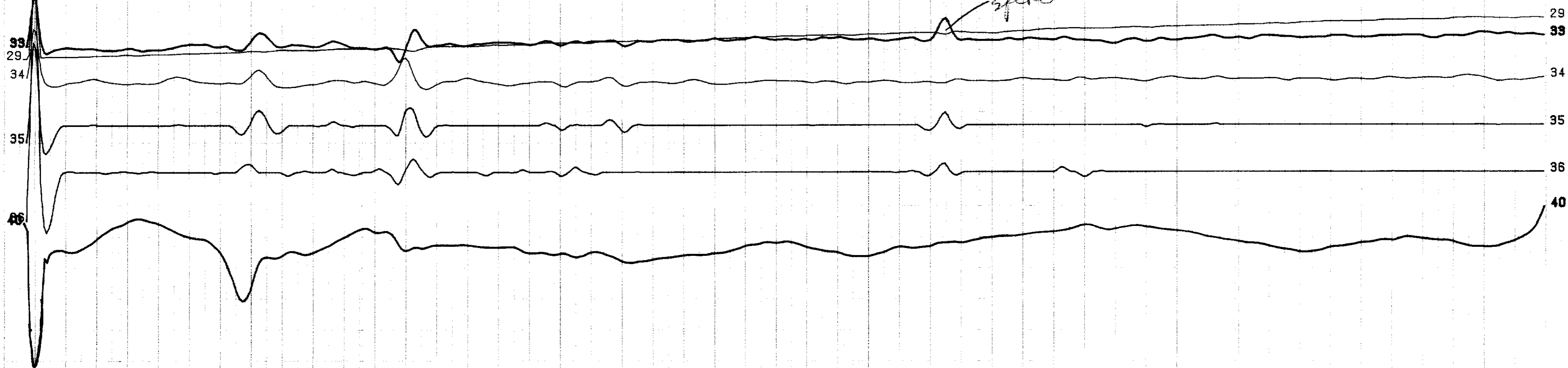
680

MILLIME PER
WHITNEY MEDICAL CO
MADE IN U.S.A.

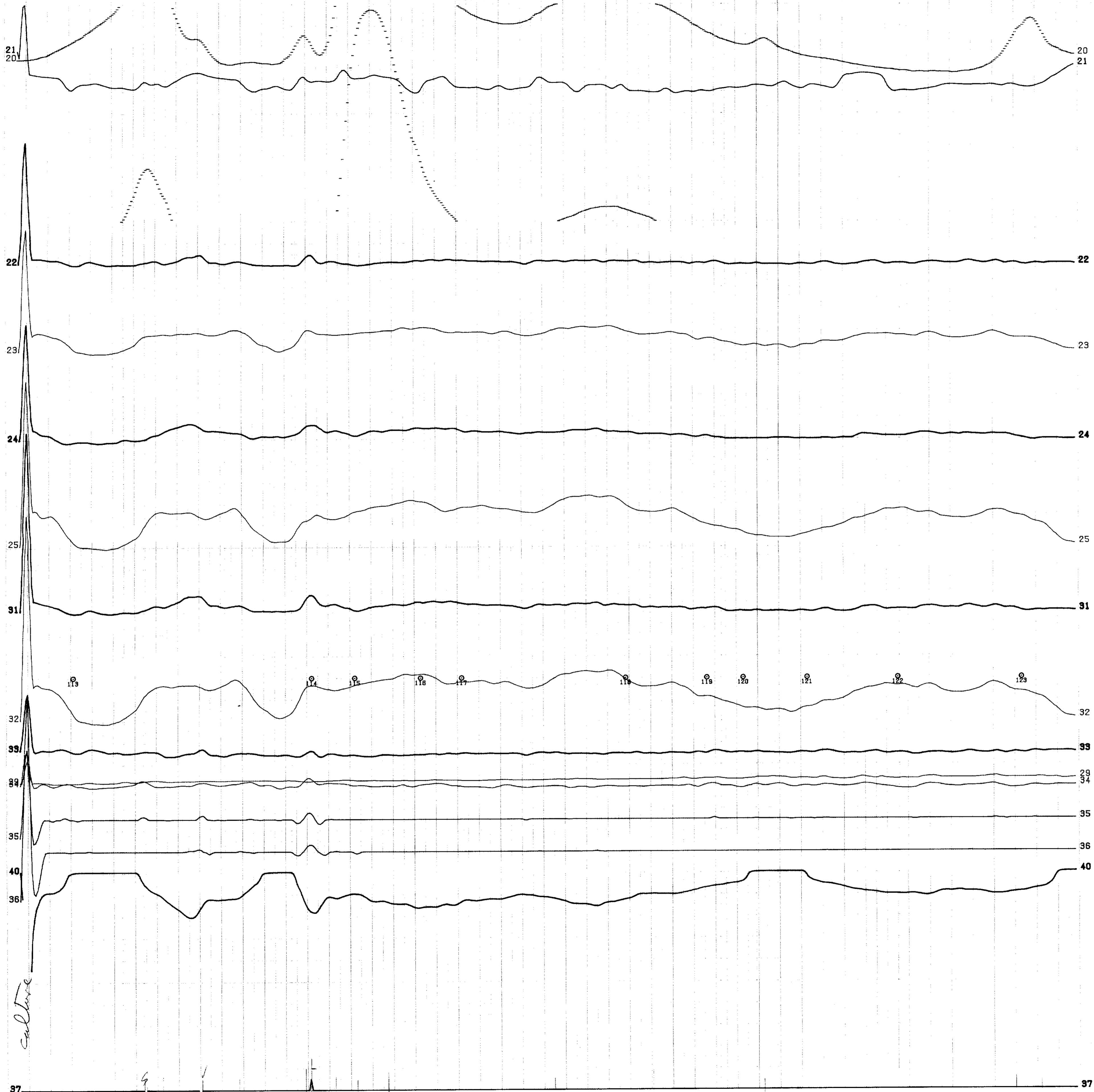
LINE 49



203 204 205 206 207 208 209 210 211 212 213 214



LINE 50



37 37

MILLIMETER
SCALE
1 CM = 100 MM

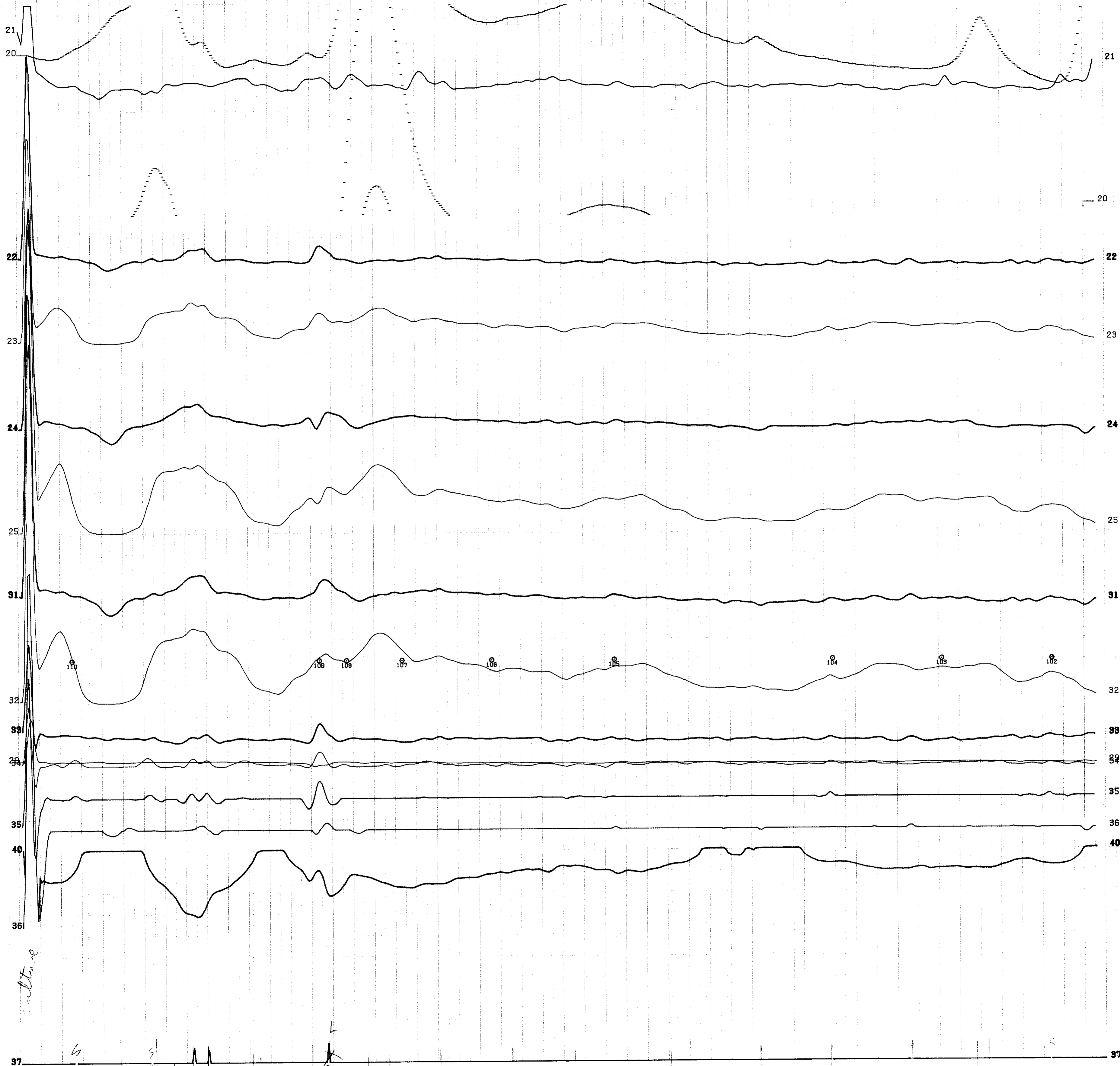


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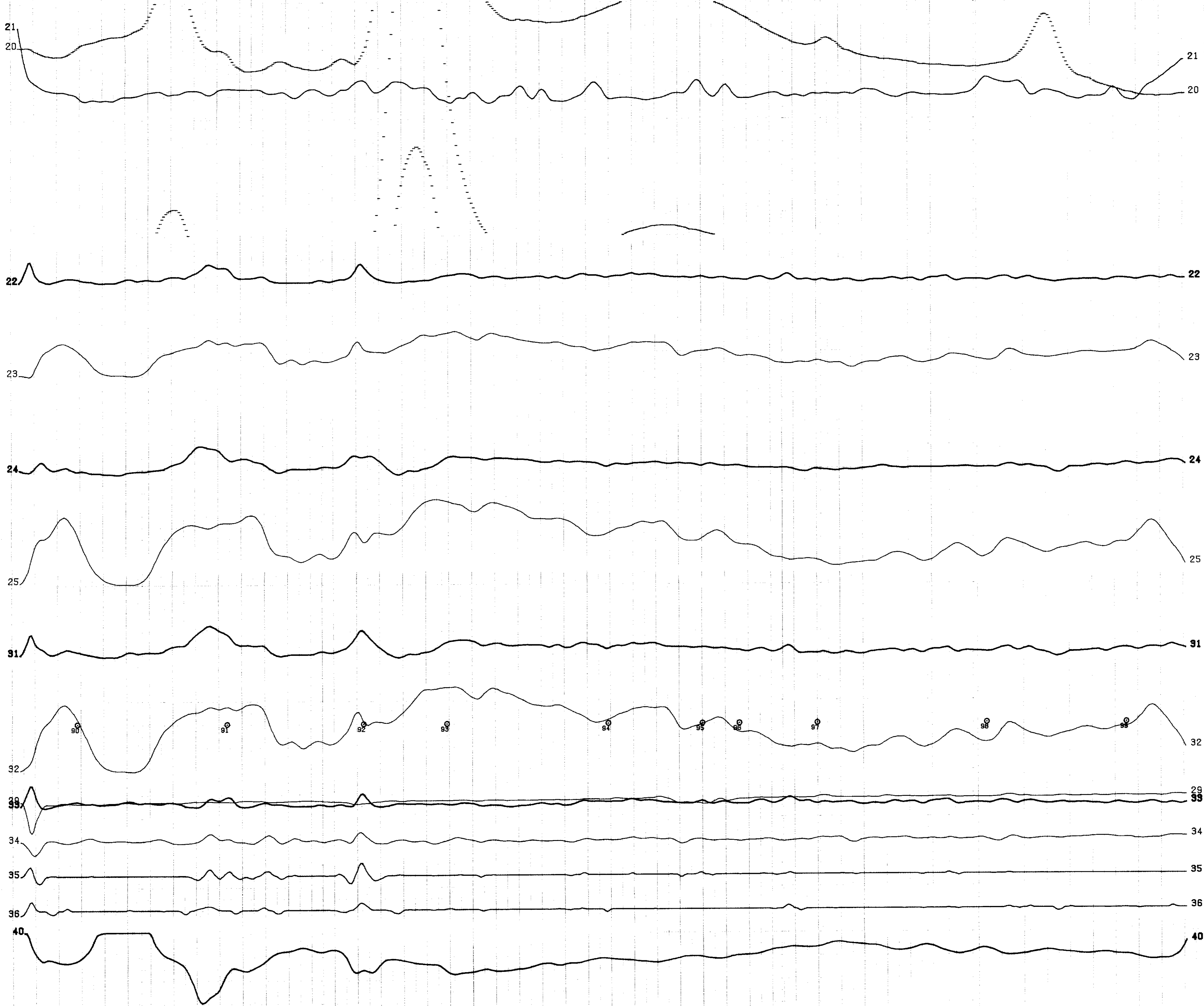
700

MILLIMETER
SCALE
1 CM = 100 MM

LINE -51



LINE 52



37 37

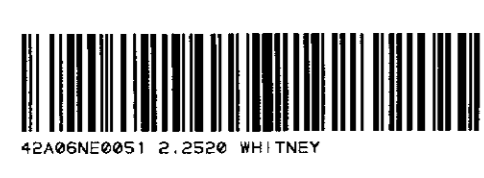
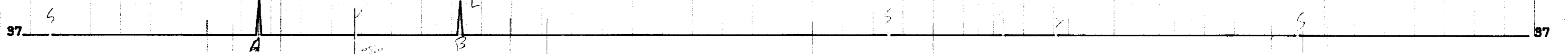
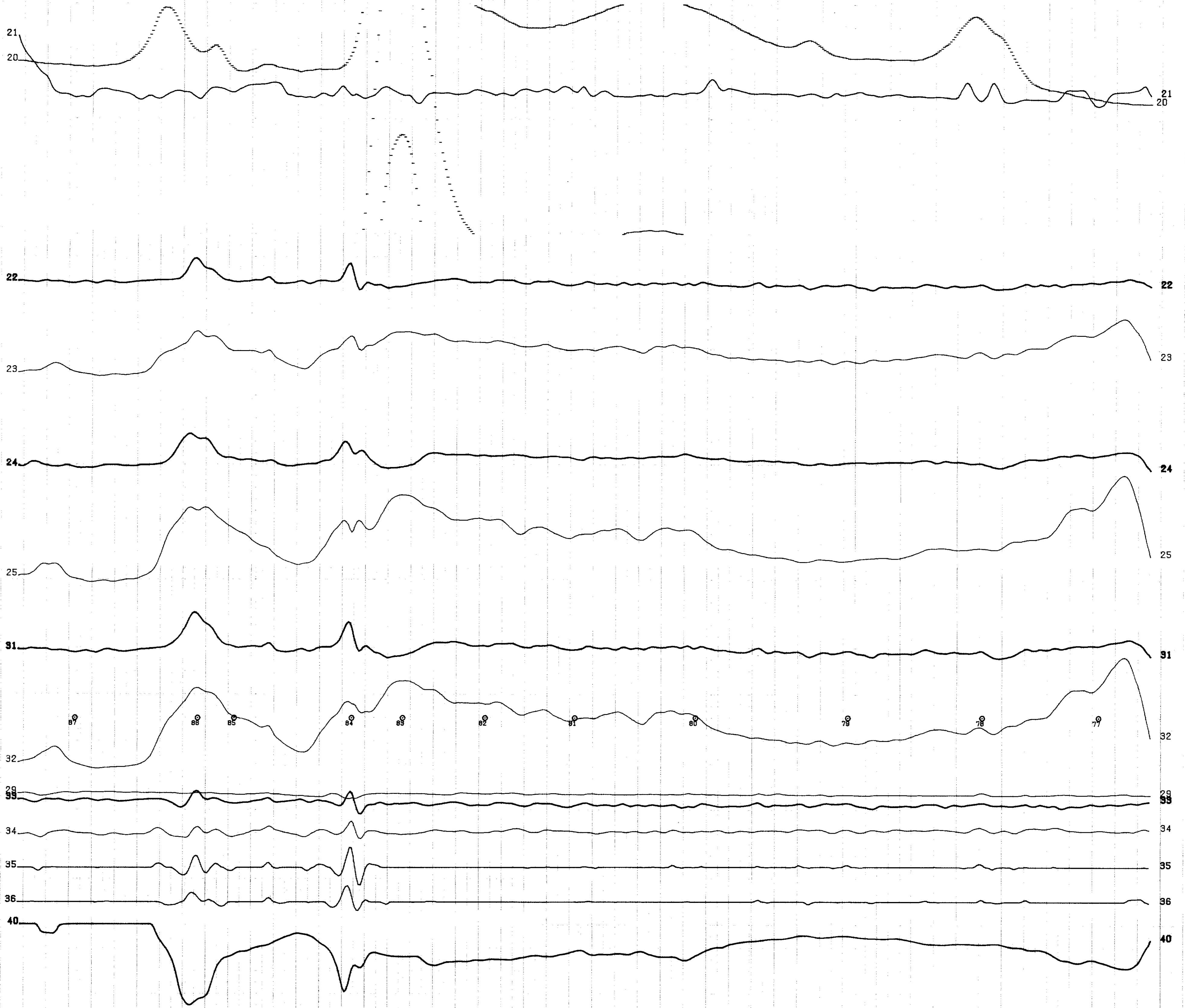


42A06NE051 2.2500 WHITNEY

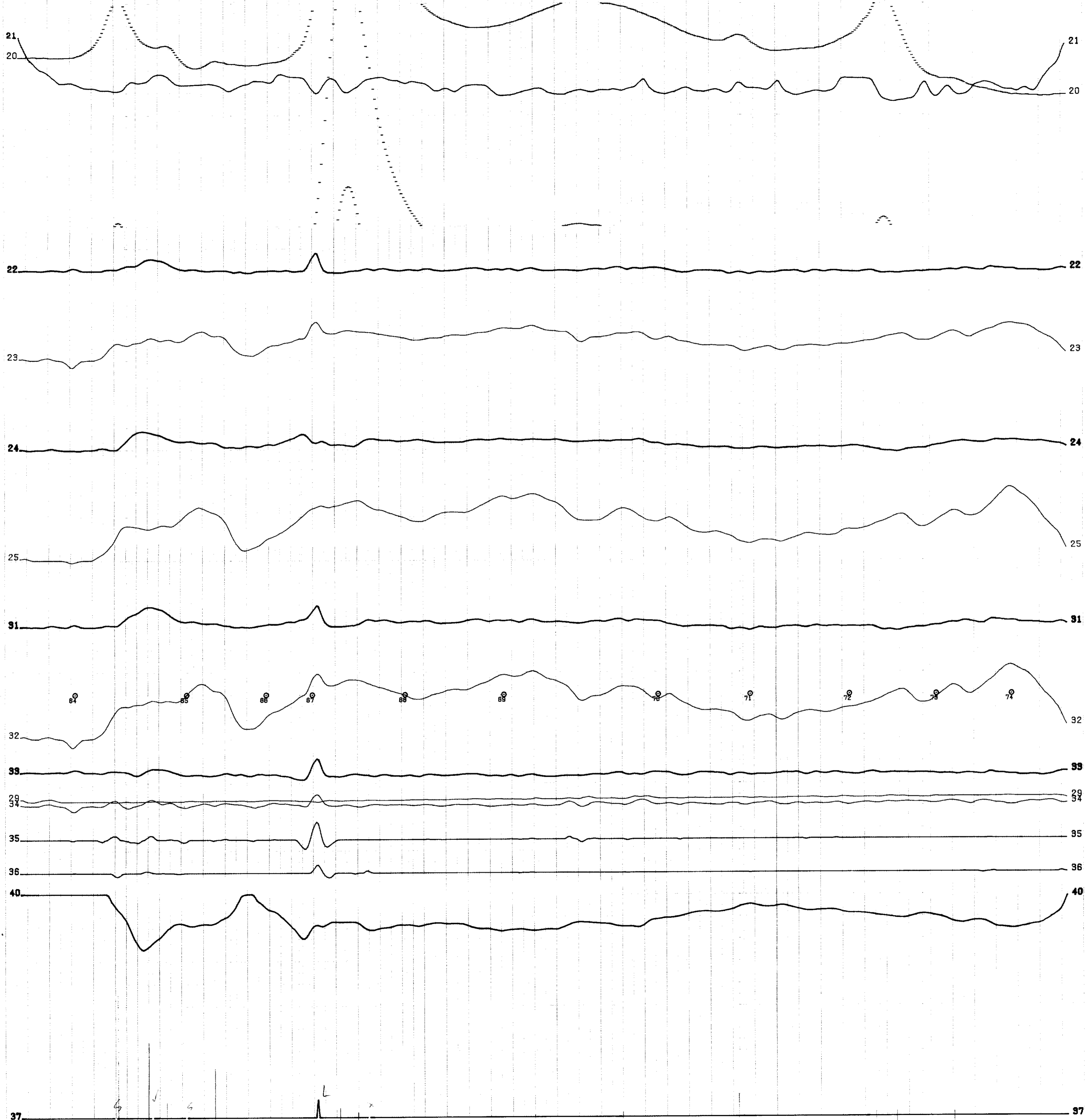
720

MILWAUKEE

LINE -53



LINE 54



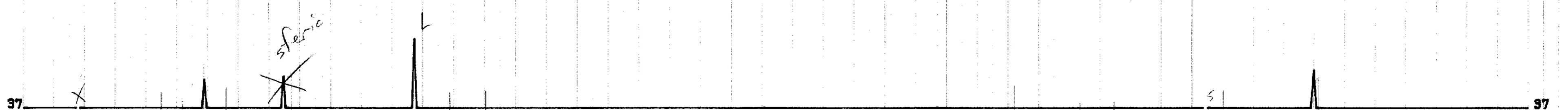
424869851 2.2528 WHITNEY

740

L
AX

MILLIMETER
SCALE
100

LINE -55

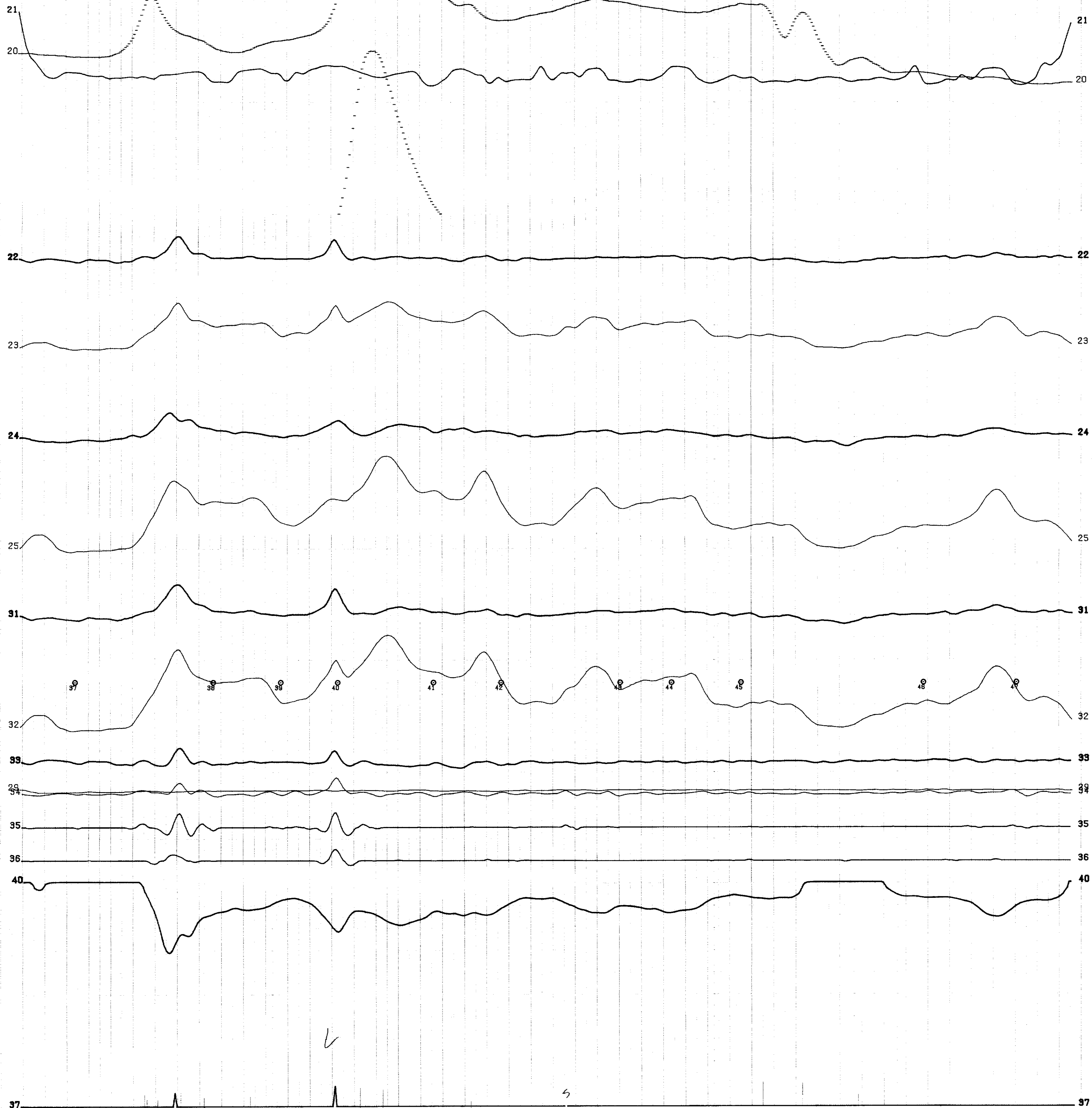


42A00NC0051 2.2520 #111NEY

750

MILLIMEYER
NEEDLE & ASSURED
TRADE MARK

LINE 56

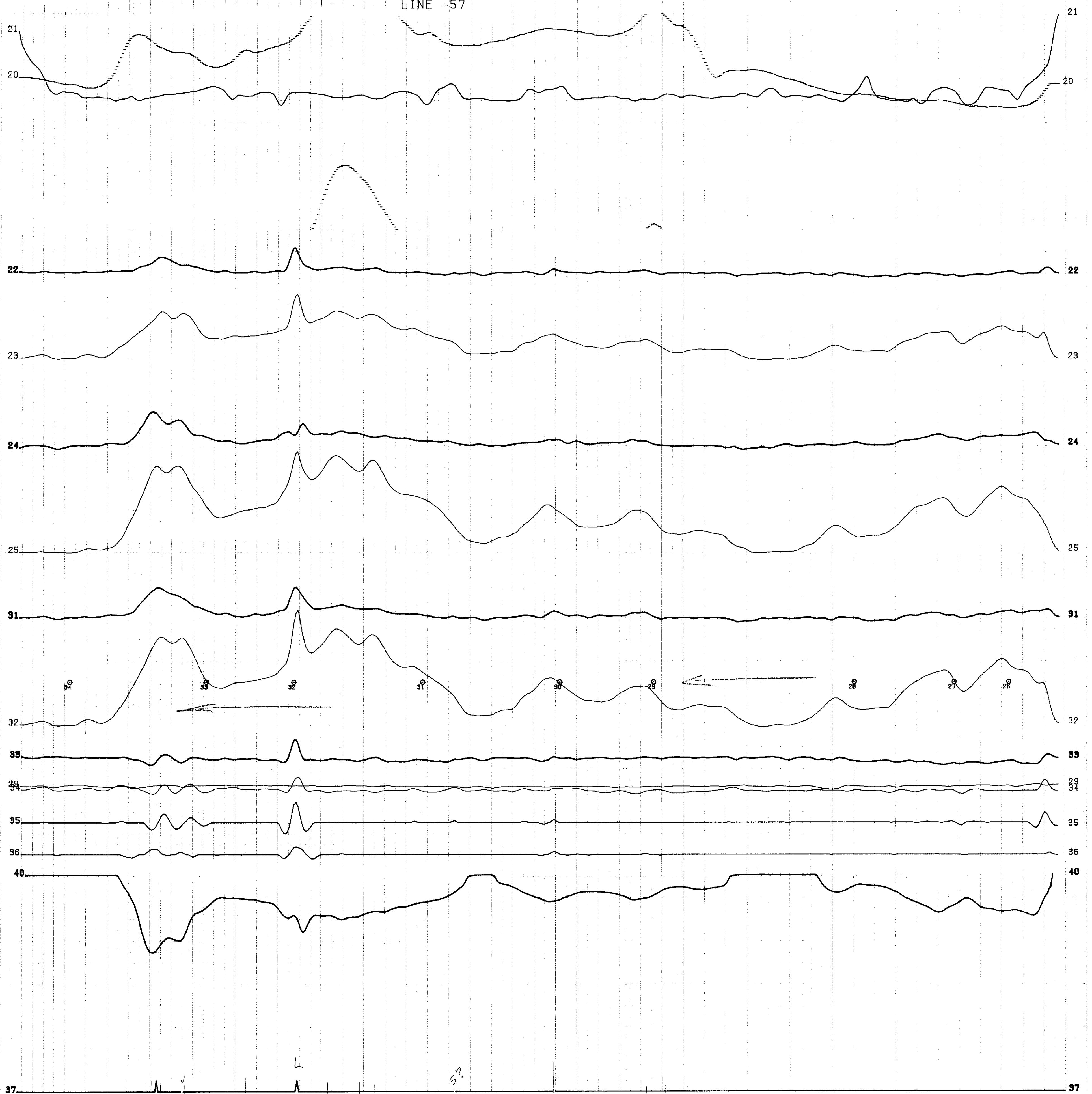


42106NE0051 2.2520 WHITNEY

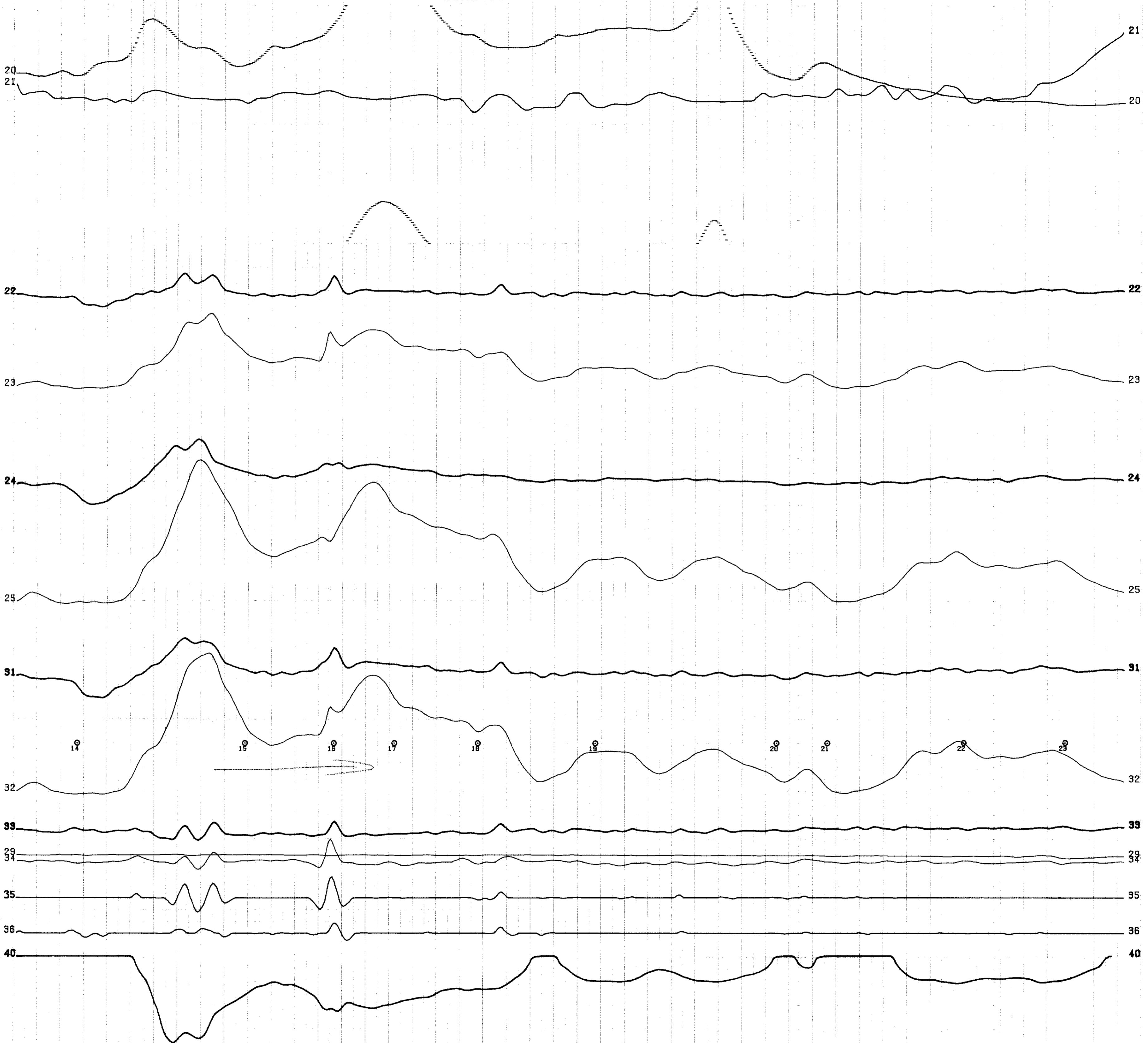
760

Handwritten notes at the bottom right of the page.

LINE -57



LINE 58



42485E0051 2-2520 WHITNEY

780

True
who value might be
larger, as it appears
that conductive
overturns
degraded the response.

MILLIMETER
 SCALE OF THE ENGLISH CCG