

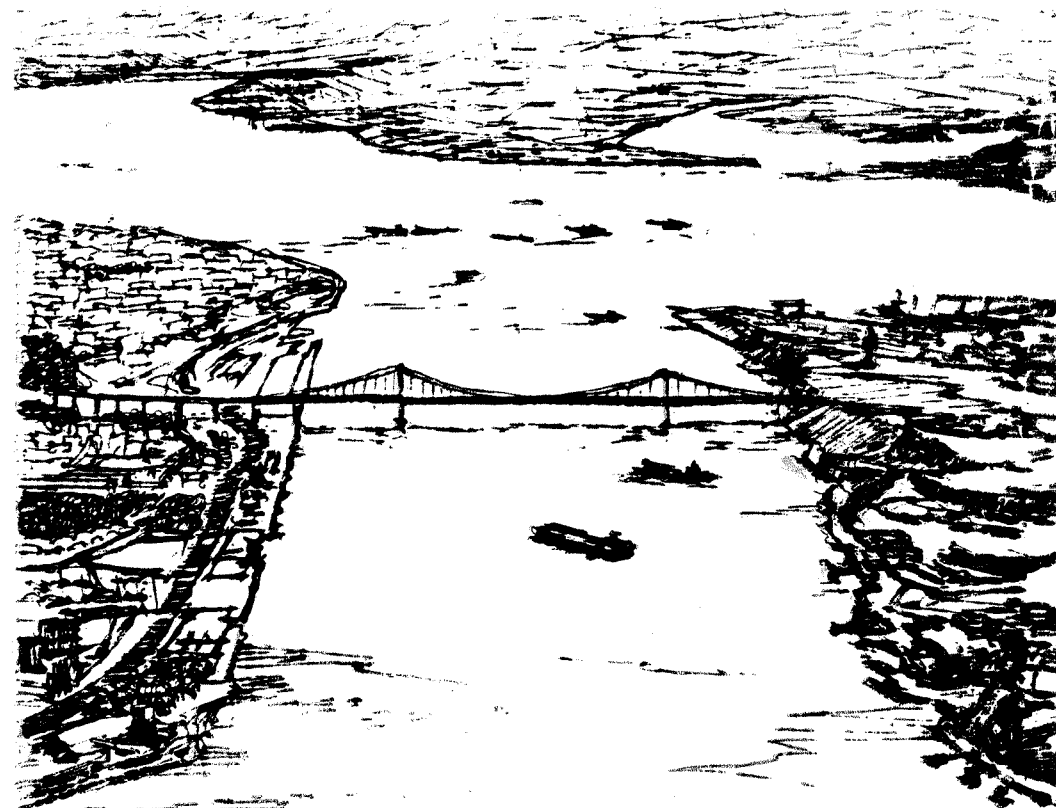
ADMINISTRAÇÃO - GERAL DO PORTO DE LISBOA

Hydro-morphological study Tagus Estuary

Part 1
Wave penetration model

Annex B
Diagrams

June 1982 / P473



PORT AND WATERWAY ENGINEERS

ADMINISTRAÇÃO - GERAL DO PORTO DE LISBOA

Hydro-morphological study Tagus Estuary

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June 1982 / P473

PORT AND WATERWAY ENGINEERS



hydronamic^{bv}
sliedrecht holland

This appendix contains the graphical output from the various computerruns.

From each run is presented

- a wave-ray diagram
- a wave-direction diagram
- a wave-height diagram

The drawings were made by the computer on a scale 1:45.000. Because of reproduction the size is reduced with a factor $\sqrt{2}$, consequently the reproductions have a scale of

1:63.640

The following runs are presented:

| wave-height (m) | wave-period (sec) | wave-direction | | | |
|--------------------|----------------------|----------------|------|------|------|
| | | 240° | 245° | 250° | 235° |
| 0.5 | 3.8 | TG01 | TG17 | TG33 | TG49 |
| 1.0 | 4.0 | TG02 | TG18 | TG34 | TG50 |
| 0.8 | 5.0 | TG03 | TG19 | TG35 | TG51 |
| 1.6 | 5.0 | TG04 | TG20 | TG36 | TG52 |
| 0.8 | 6.0 | TG05 | TG21 | TG37 | TG53 |
| 1.7 | 6.0 | TG06 | TG22 | TG38 | TG54 |
| 0.8 | 7.0 | TG07 | TG23 | TG39 | TG55 |
| 1.7 | 7.0 | TG08 | TG24 | TG40 | TG56 |
| 0.8 | 8.0 | TG09 | TG25 | TG41 | TG57 |
| 1.6 | 8.0 | TG10 | TG26 | TG42 | TG58 |
| 0.8 | 9.0 | TG11 | TG27 | TG43 | TG59 |
| 1.6 | 9.0 | TG12 | TG28 | TG44 | TG60 |
| 2.8 | 7.7 | TG13 | TG29 | TG45 | TG61 |
| 0.6 | 10.5 | TG14 | TG30 | TG46 | TG62 |
| 3.5 | 10.2 | TG15 | TG31 | TG47 | TG63 |
| 0.7 | 14.3 | TG16 | TG32 | TG48 | TG64 |

| wave-height (m) | wave-period (sec) | wave-direction | |
|--------------------|----------------------|----------------|------|
| | | 210° | 270° |
| 0.72 | 3.8 | TG65 | TG73 |
| 0.79 | 3.5 | TG66 | TG74 |
| 1.71 | 5.6 | TG67 | TG75 |
| 1.15 | 7.8 | TG68 | TG76 |
| 2.80 | 7.7 | TG69 | TG77 |
| 0.60 | 10.5 | TG70 | TG78 |
| 3.50 | 10.2 | TG71 | TG79 |
| 0.78 | 14.3 | TG72 | TG80 |

Handwritten text consisting of approximately 25 lines of cursive script, mostly illegible due to blurring and fading. The text appears to be a list or a series of entries, possibly names or dates, arranged in a vertical column.

TG01
SCALE 1:

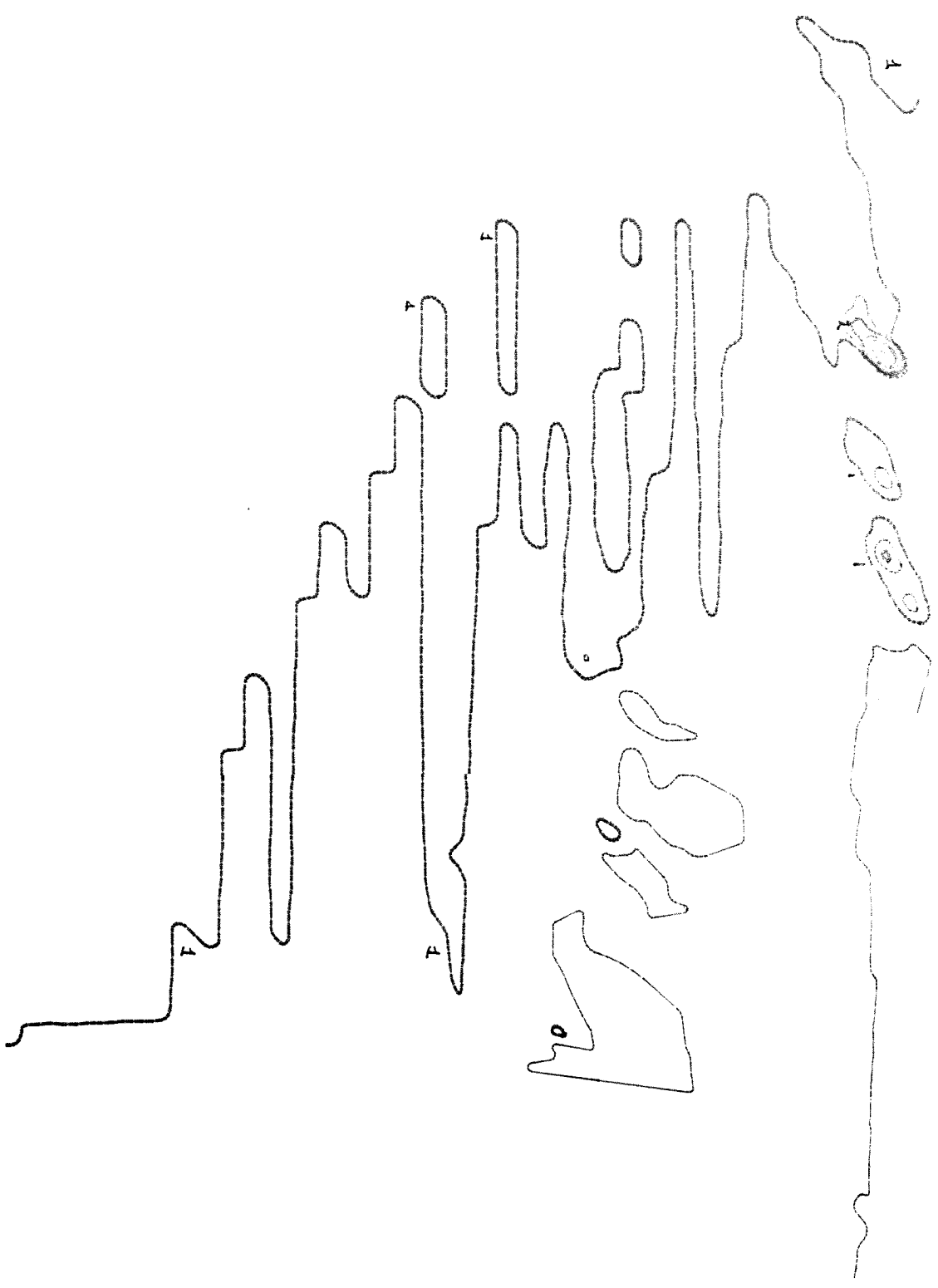
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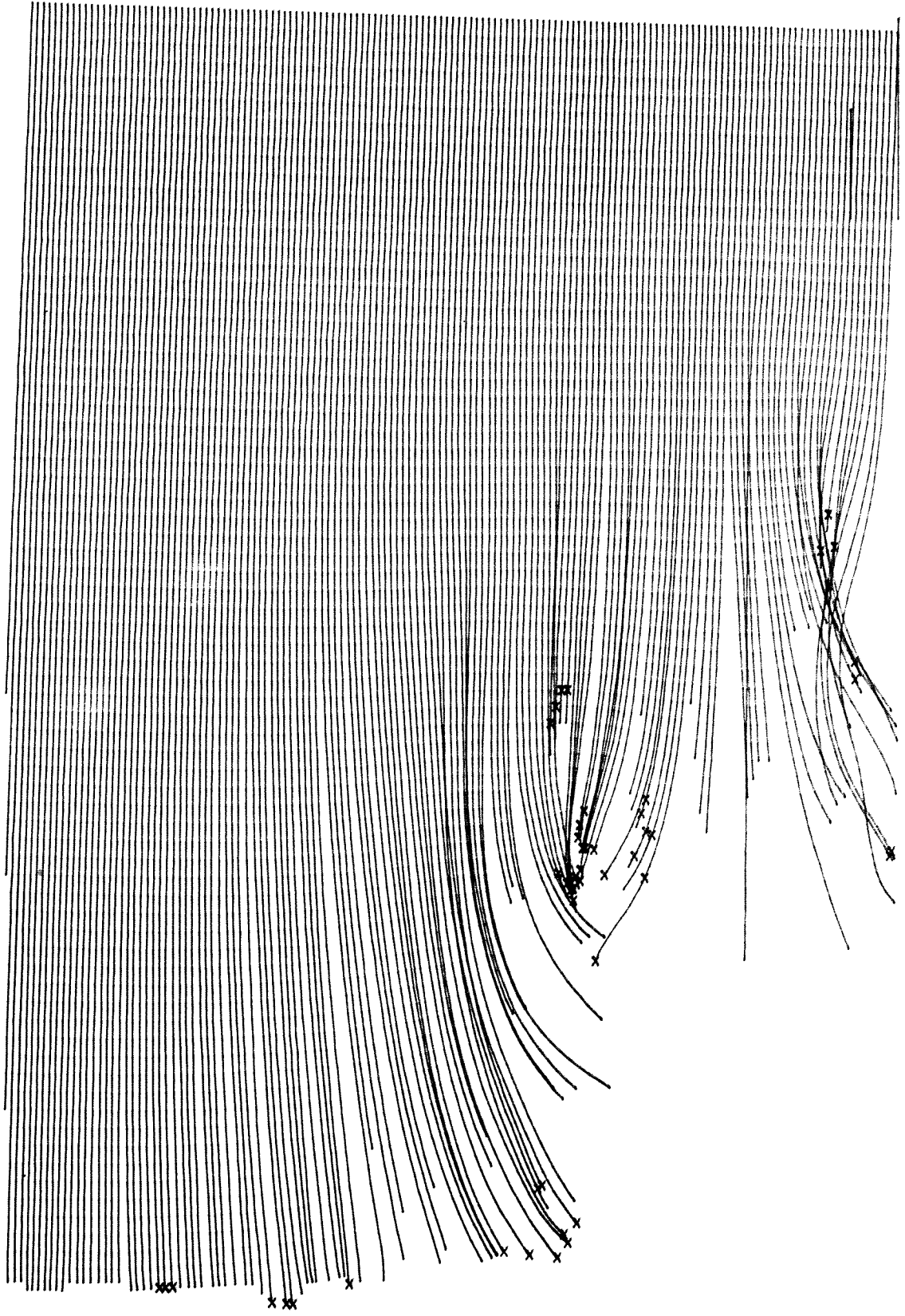


[The page contains approximately 25 lines of text that are extremely faint and illegible. The text appears to be a list or a series of entries, possibly names or dates, but the characters are too light to be read accurately.]

TG02
SCALE 1:

450MM



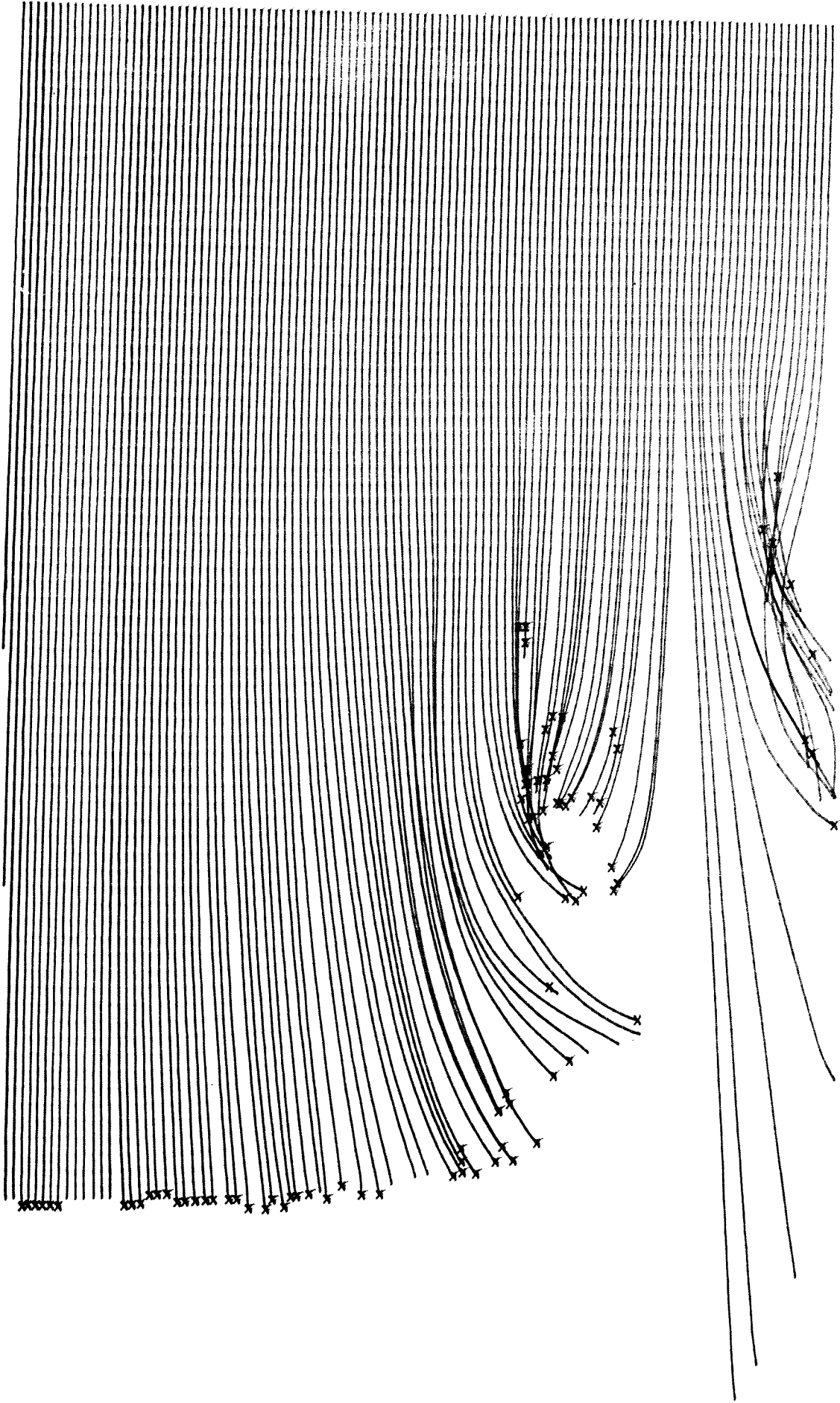


[The page contains approximately 25 lines of text that is extremely faint and illegible. The text appears to be organized into several paragraphs, with some lines being indented. The overall quality of the scan is very poor, making the content unreadable.]

TG03
SCALE 1:

450000



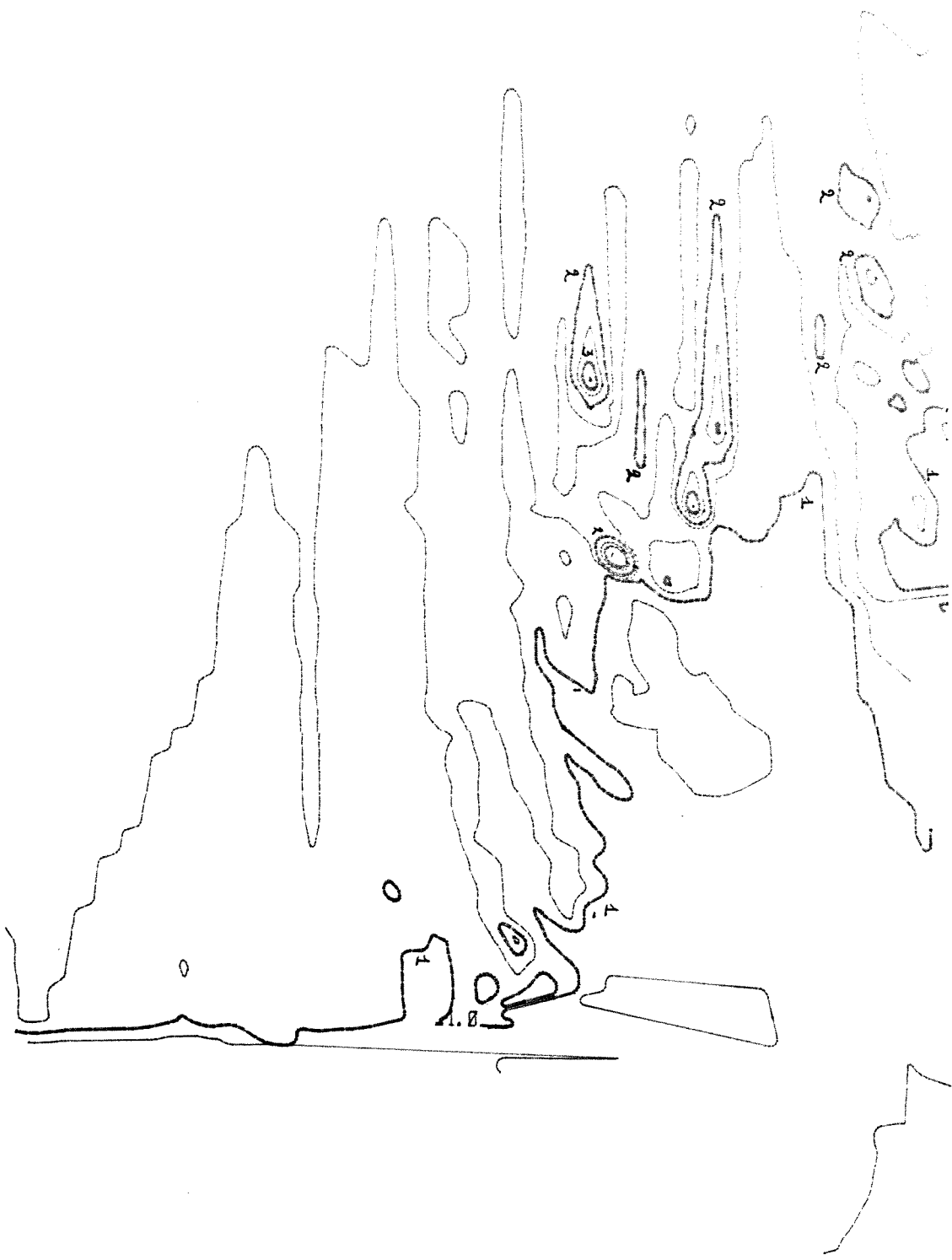


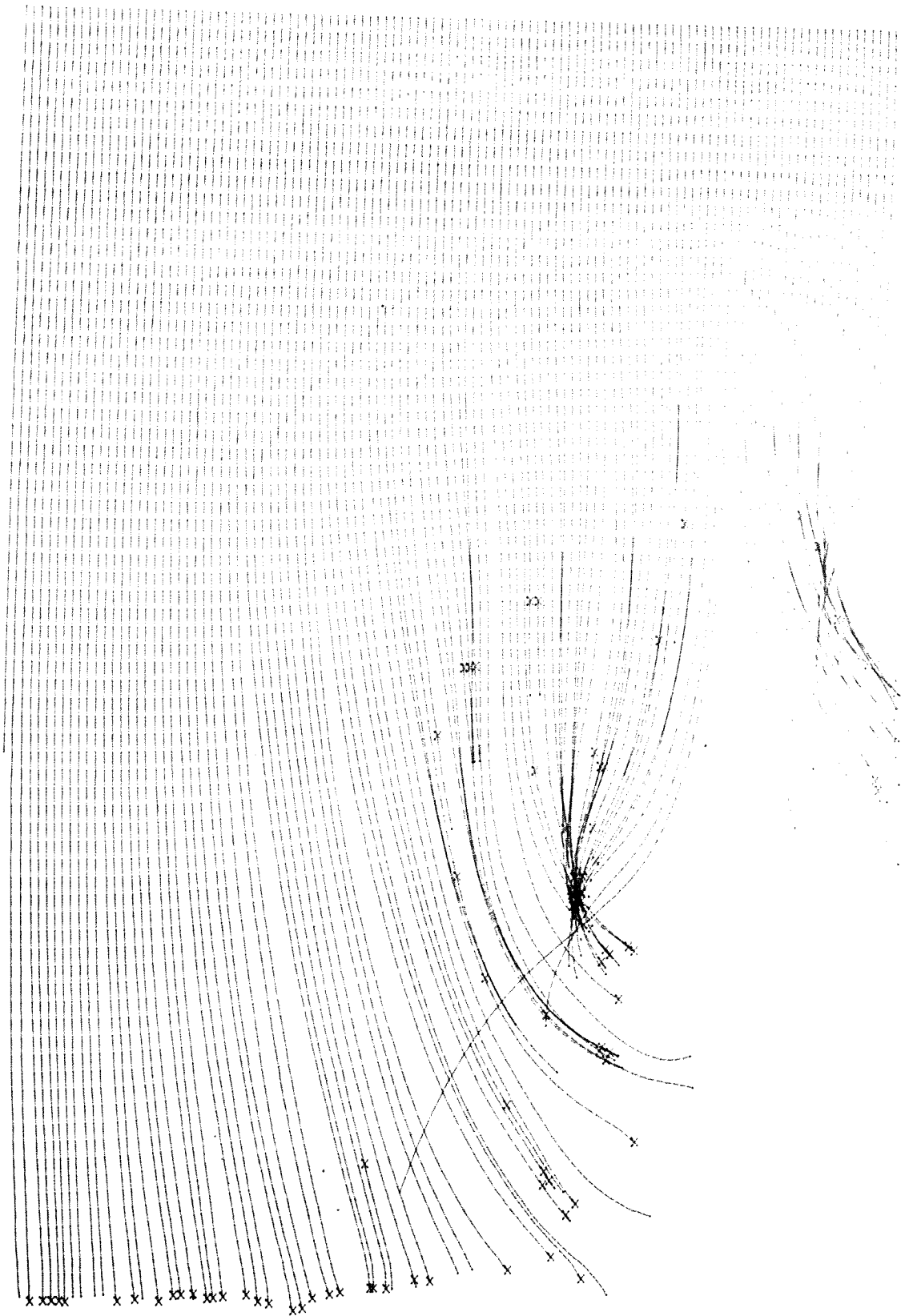
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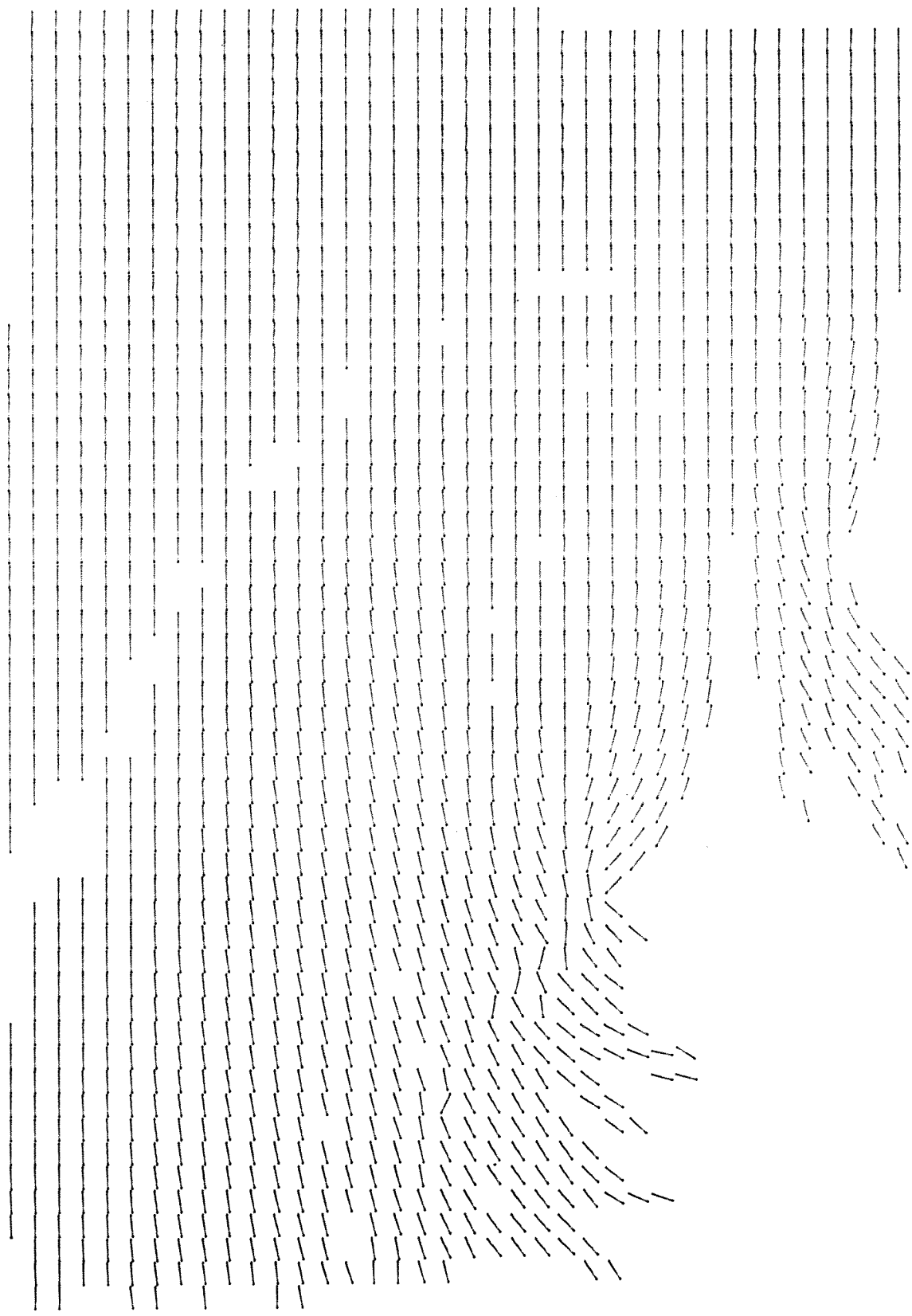
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T004
SCALE 1:

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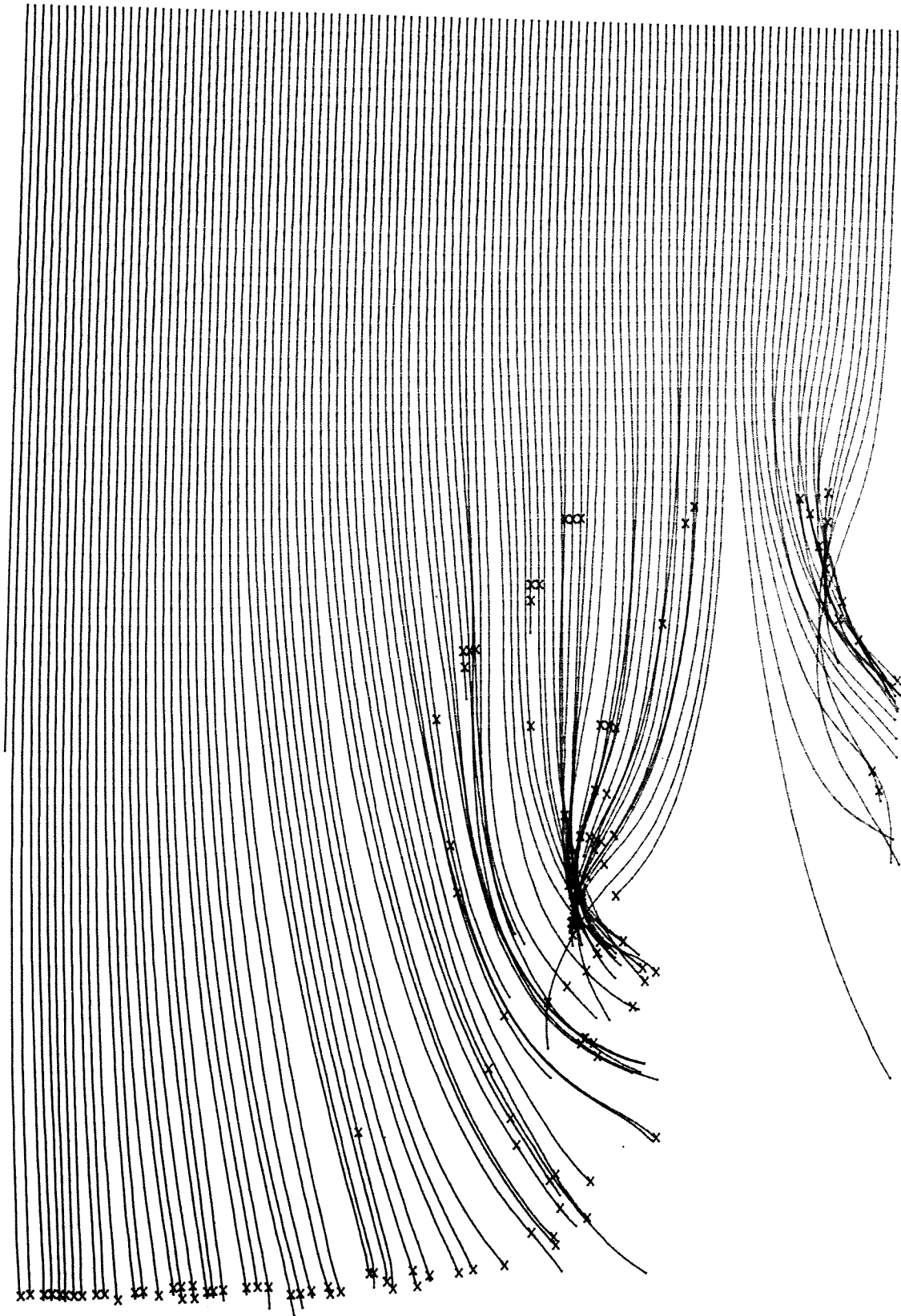




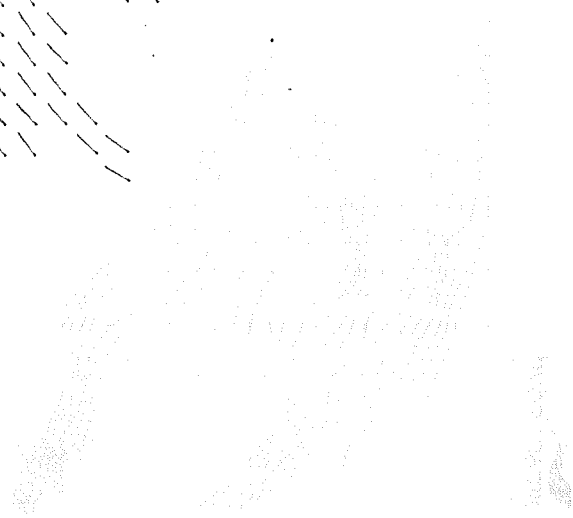
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SCALE 1:

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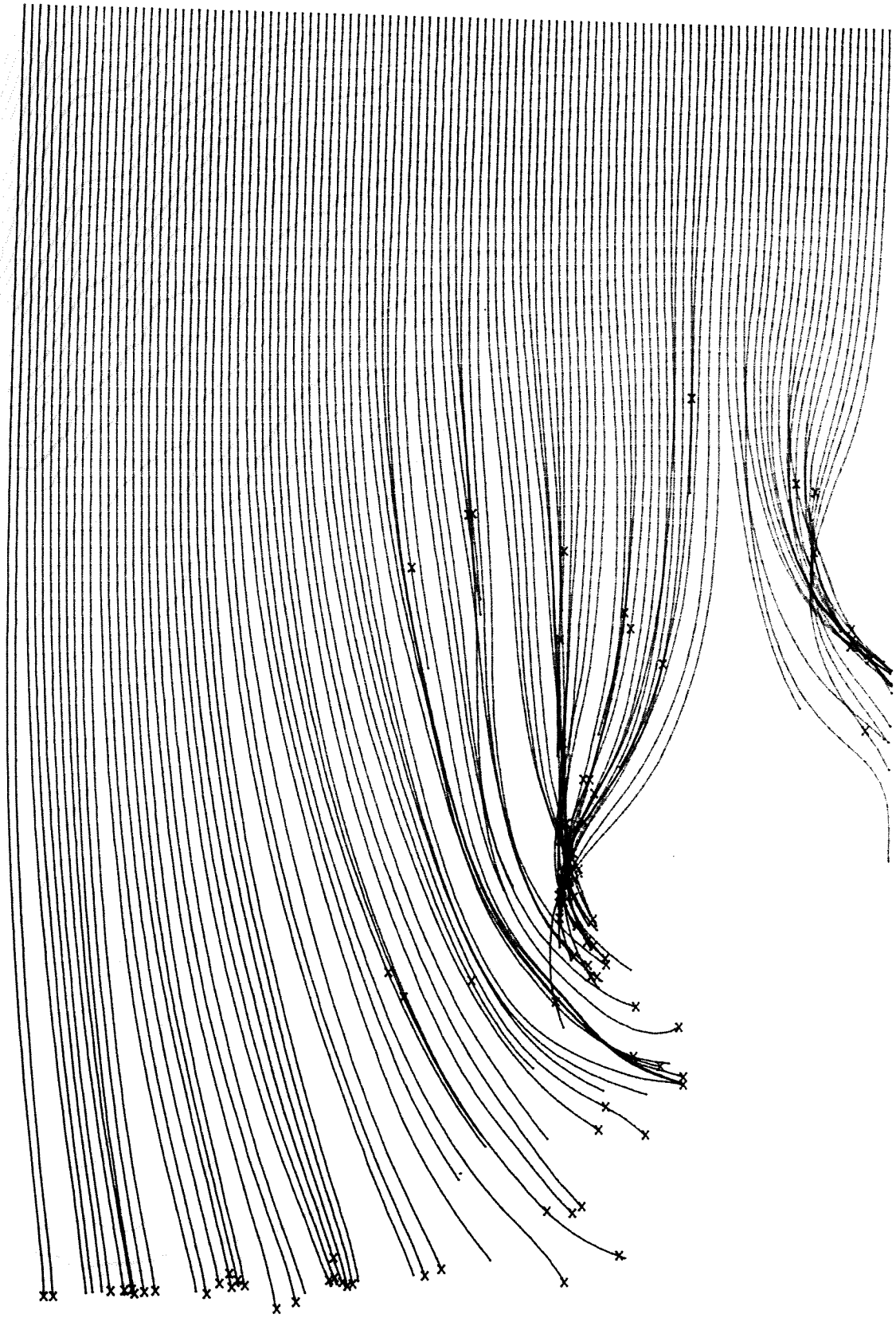


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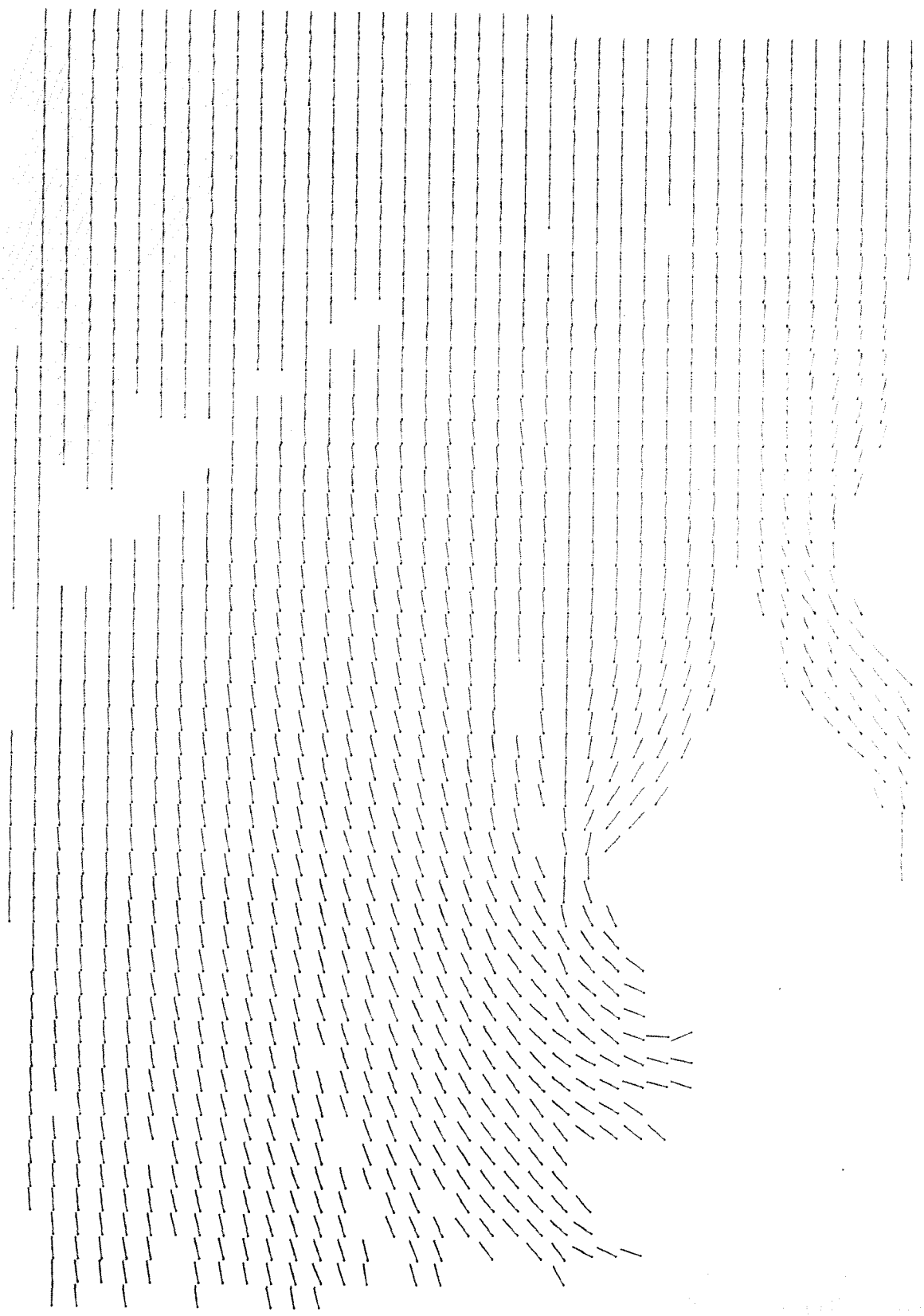




10. 1. 1950
10. 1. 1950
10. 1. 1950

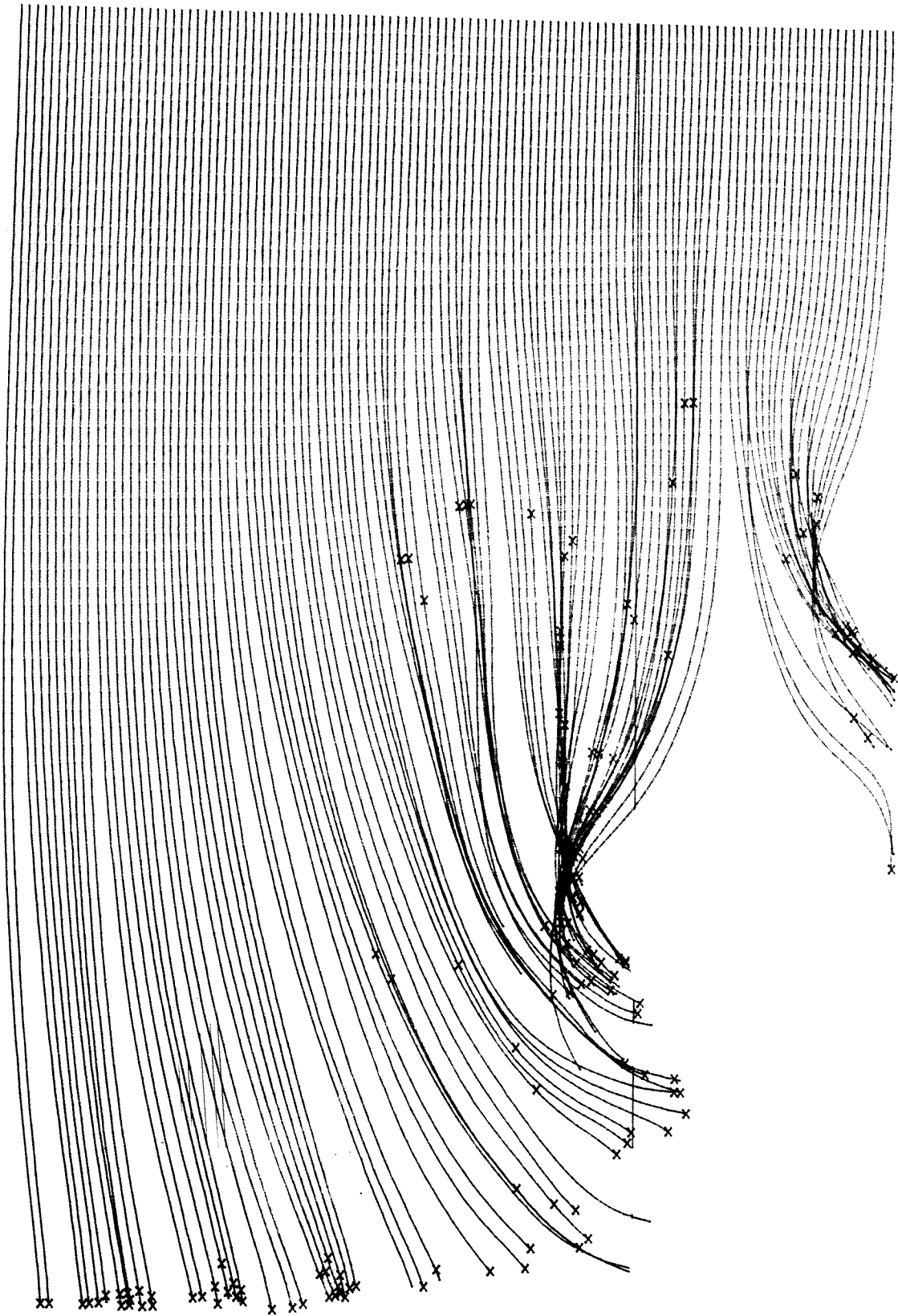


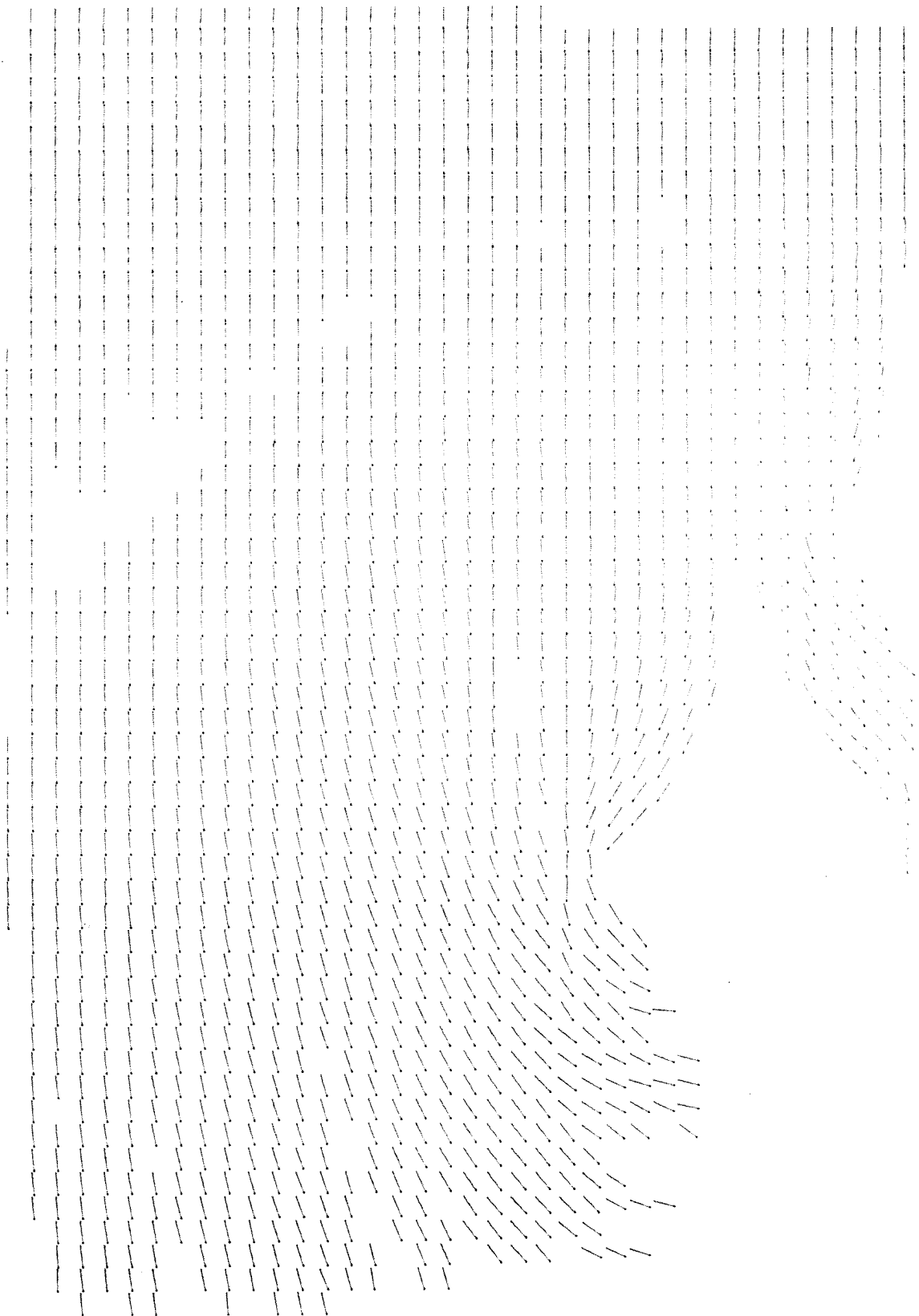
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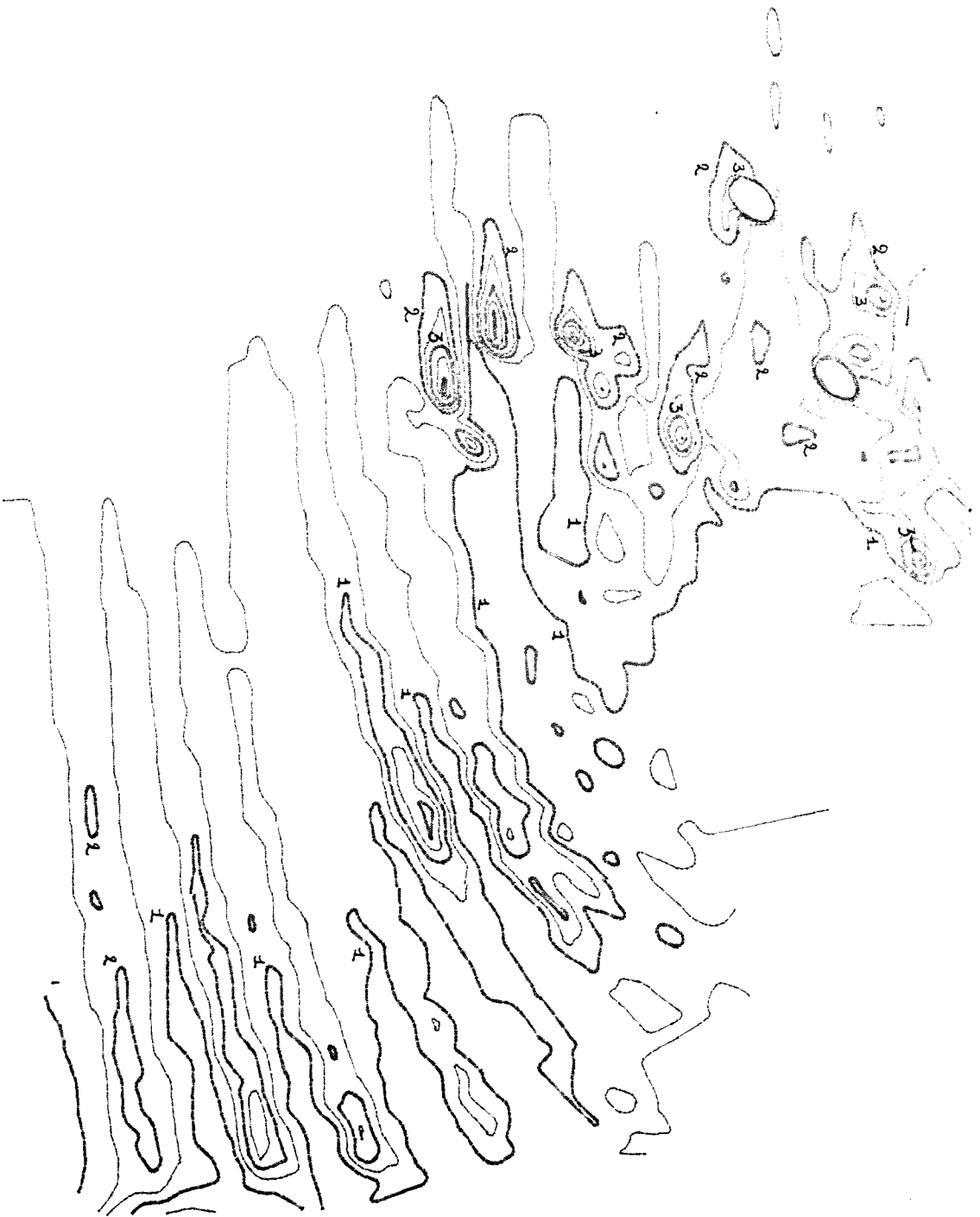




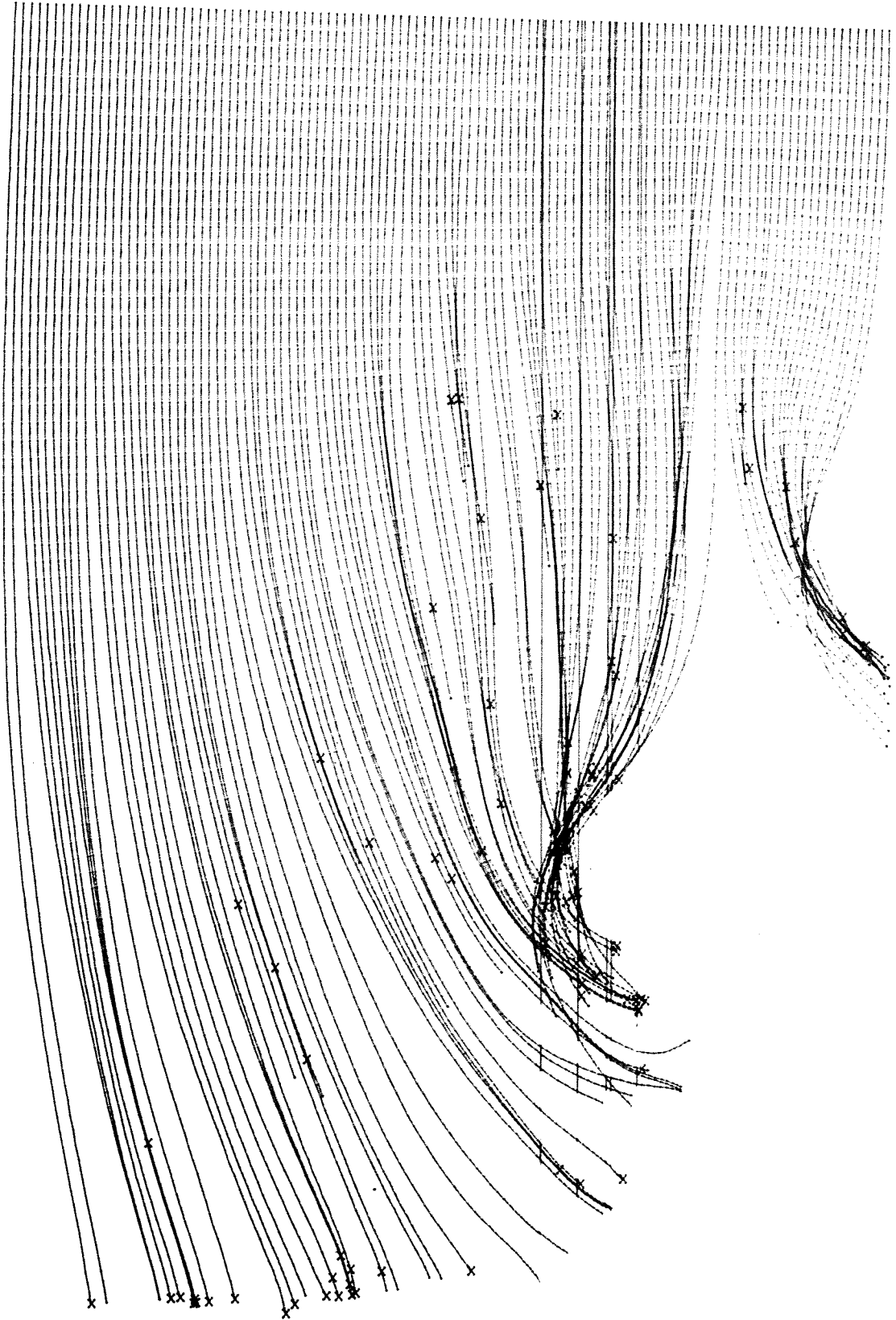
THE JOURNAL OF THE
AMERICAN SOCIETY OF
MOUNTAIN ENGINEERS







IN A HOUSE OF COMMONS
MAY 12 1854

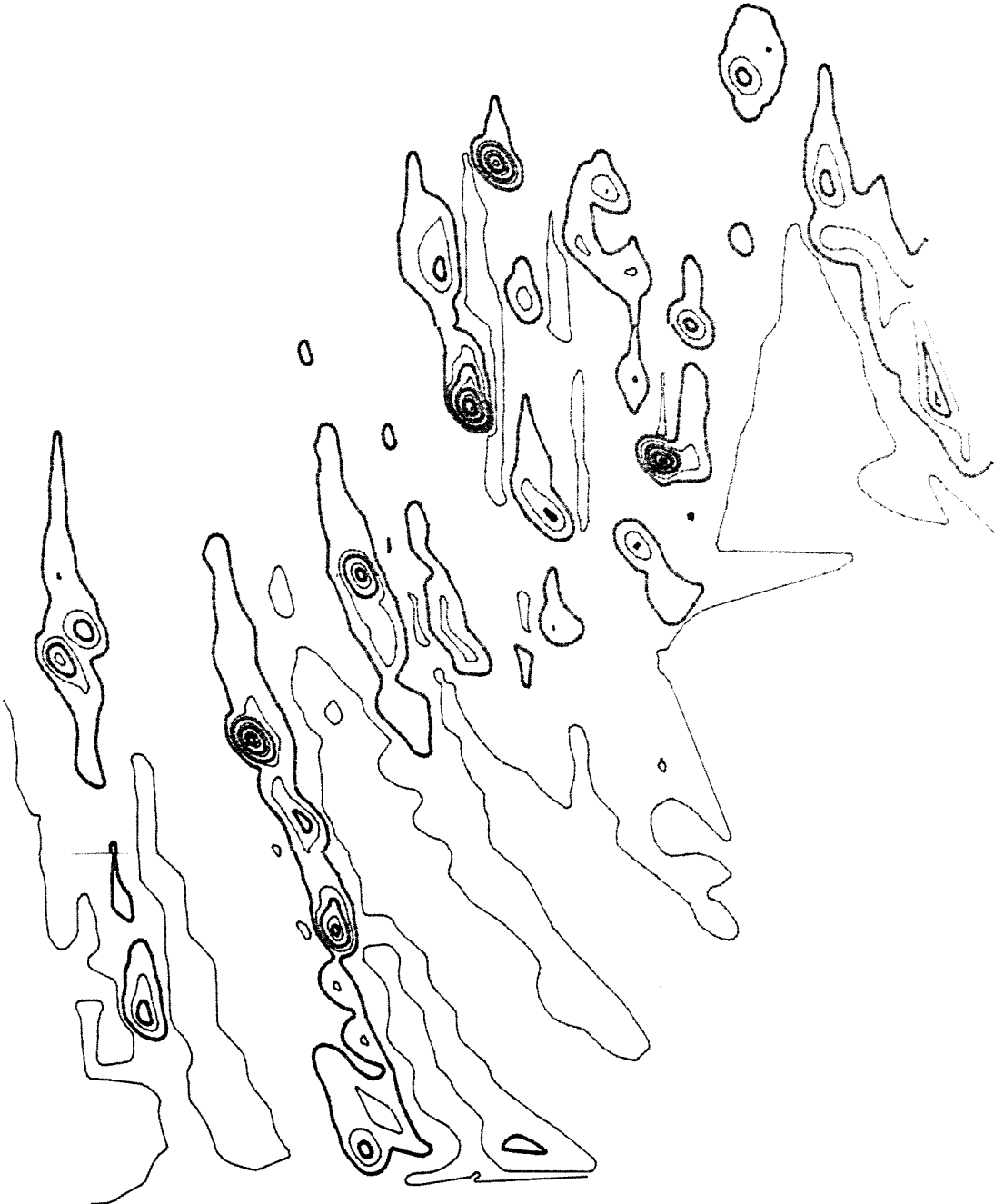


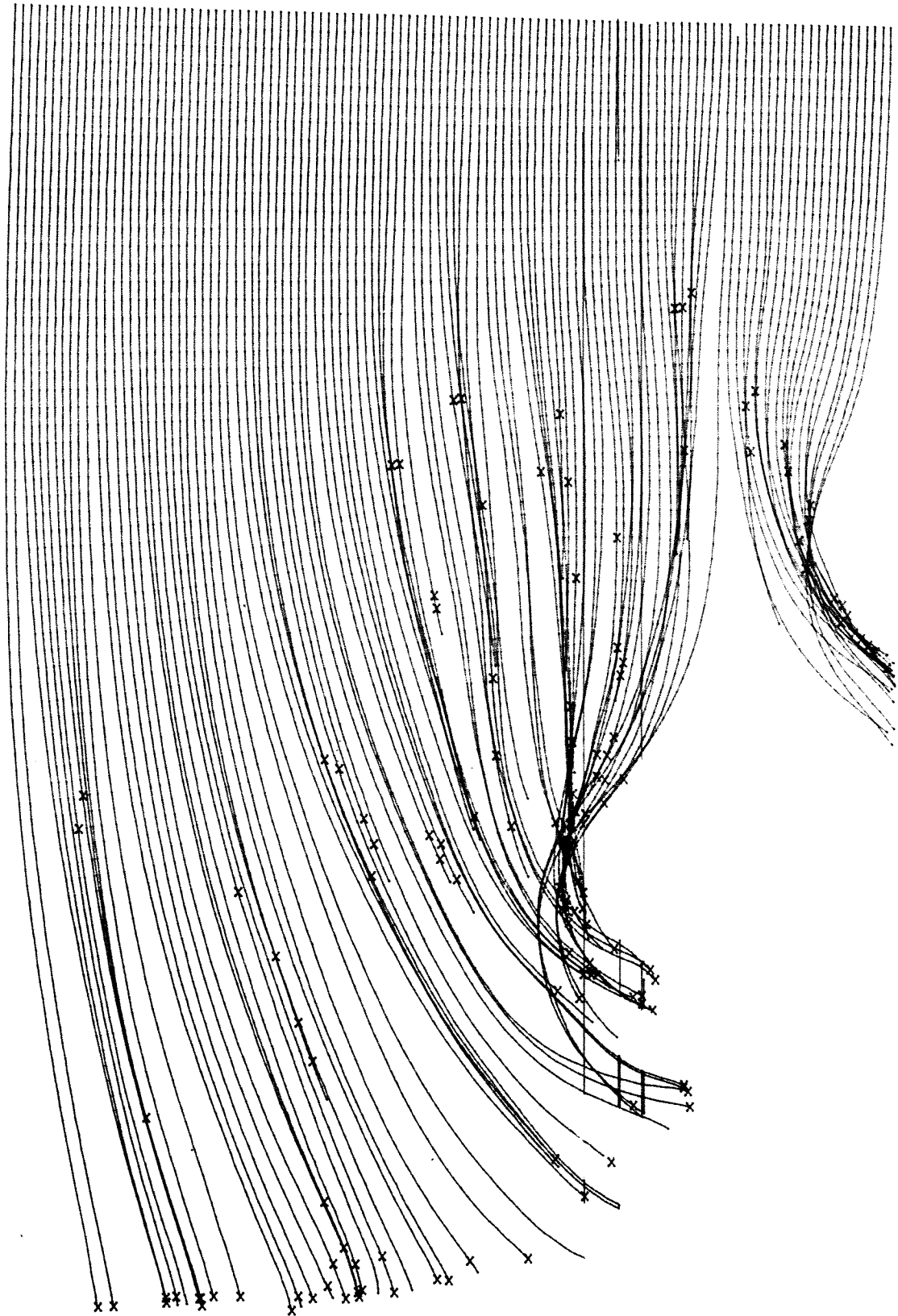
1854



TG09
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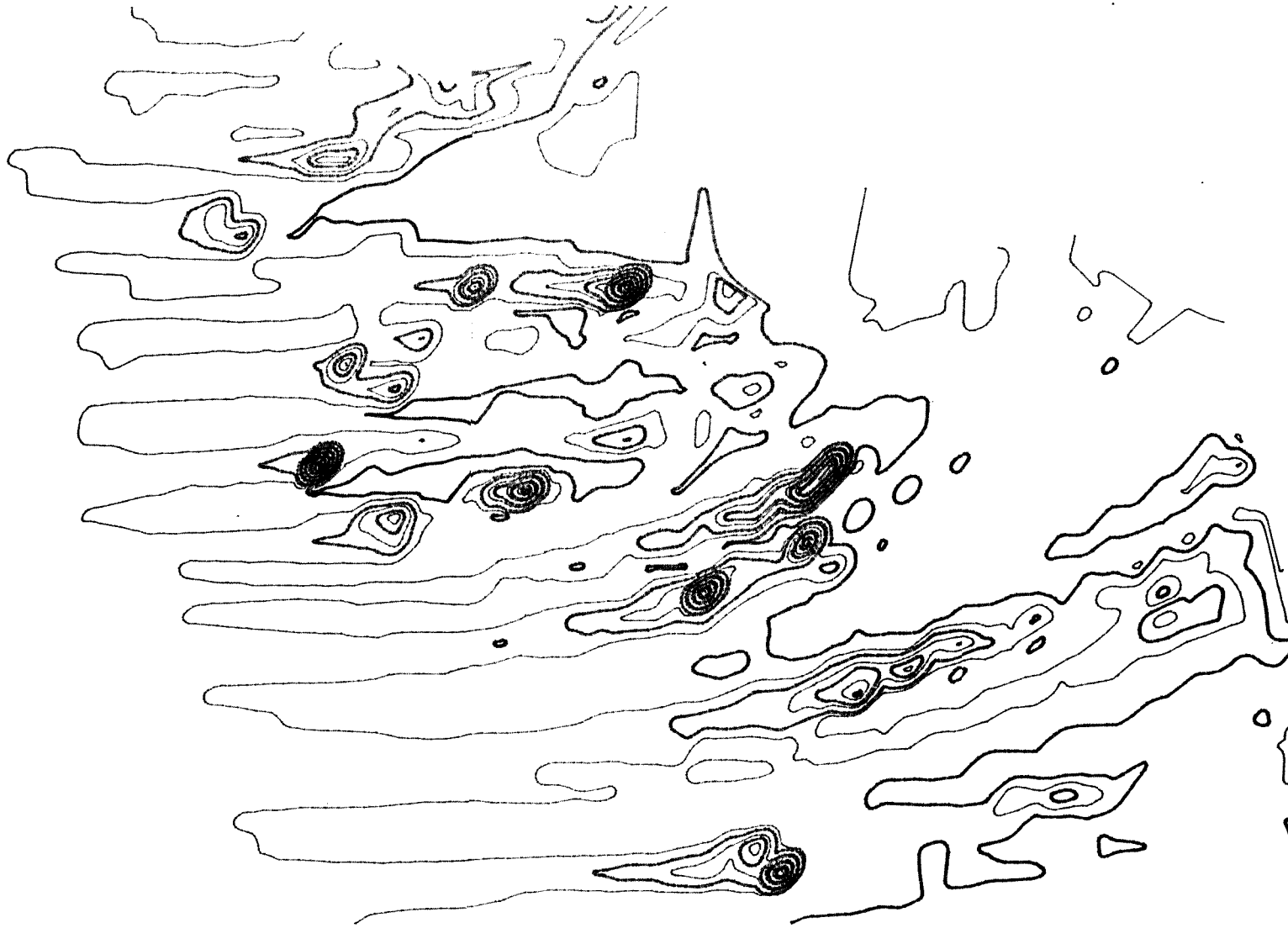




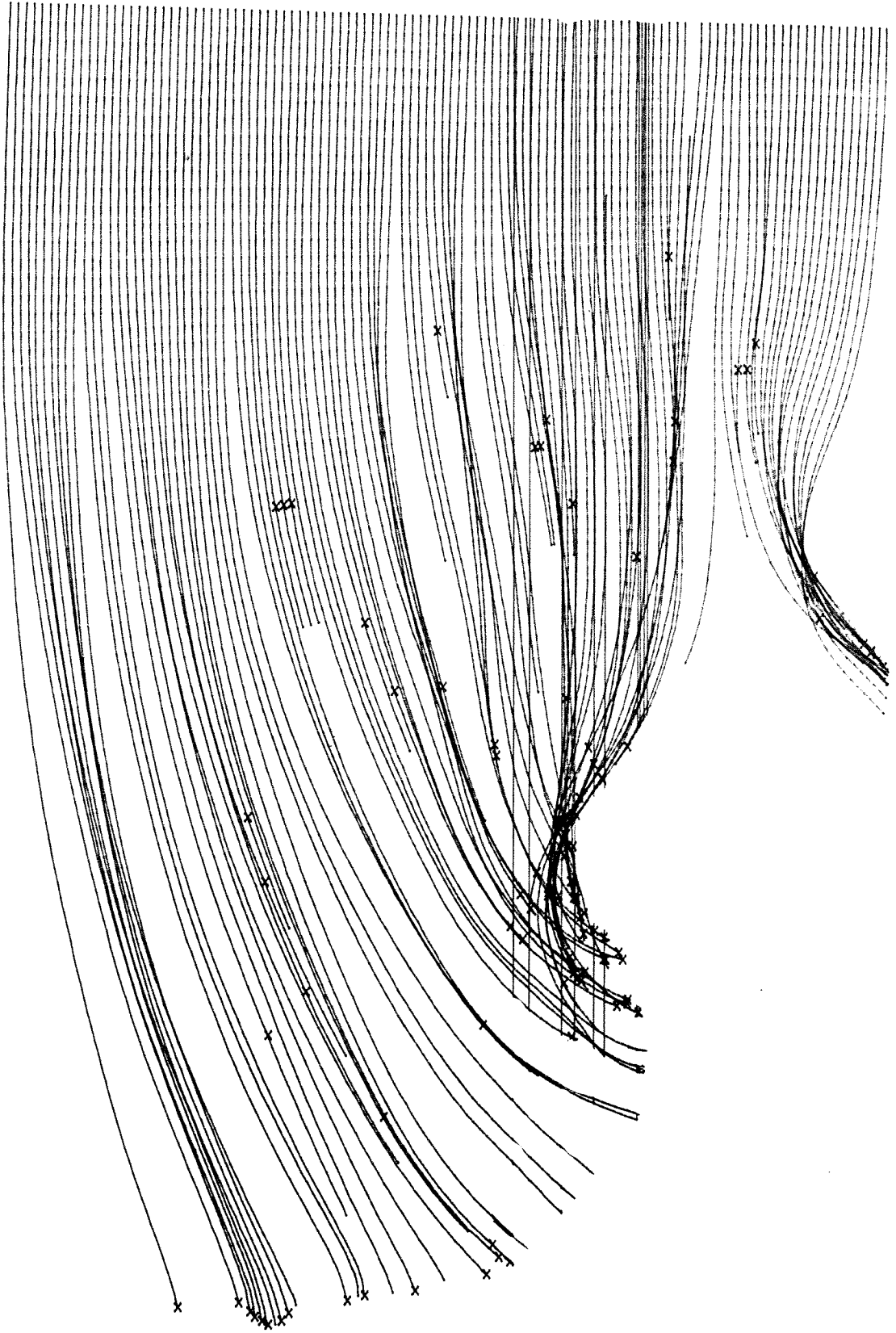


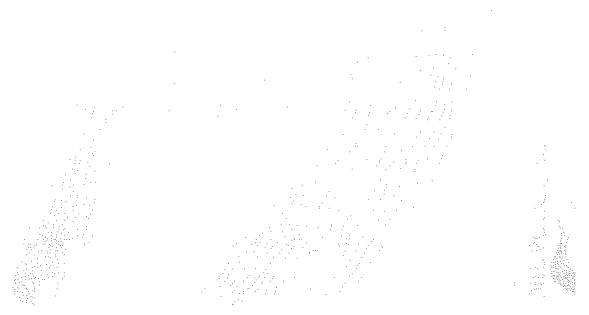
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SCALE 1:

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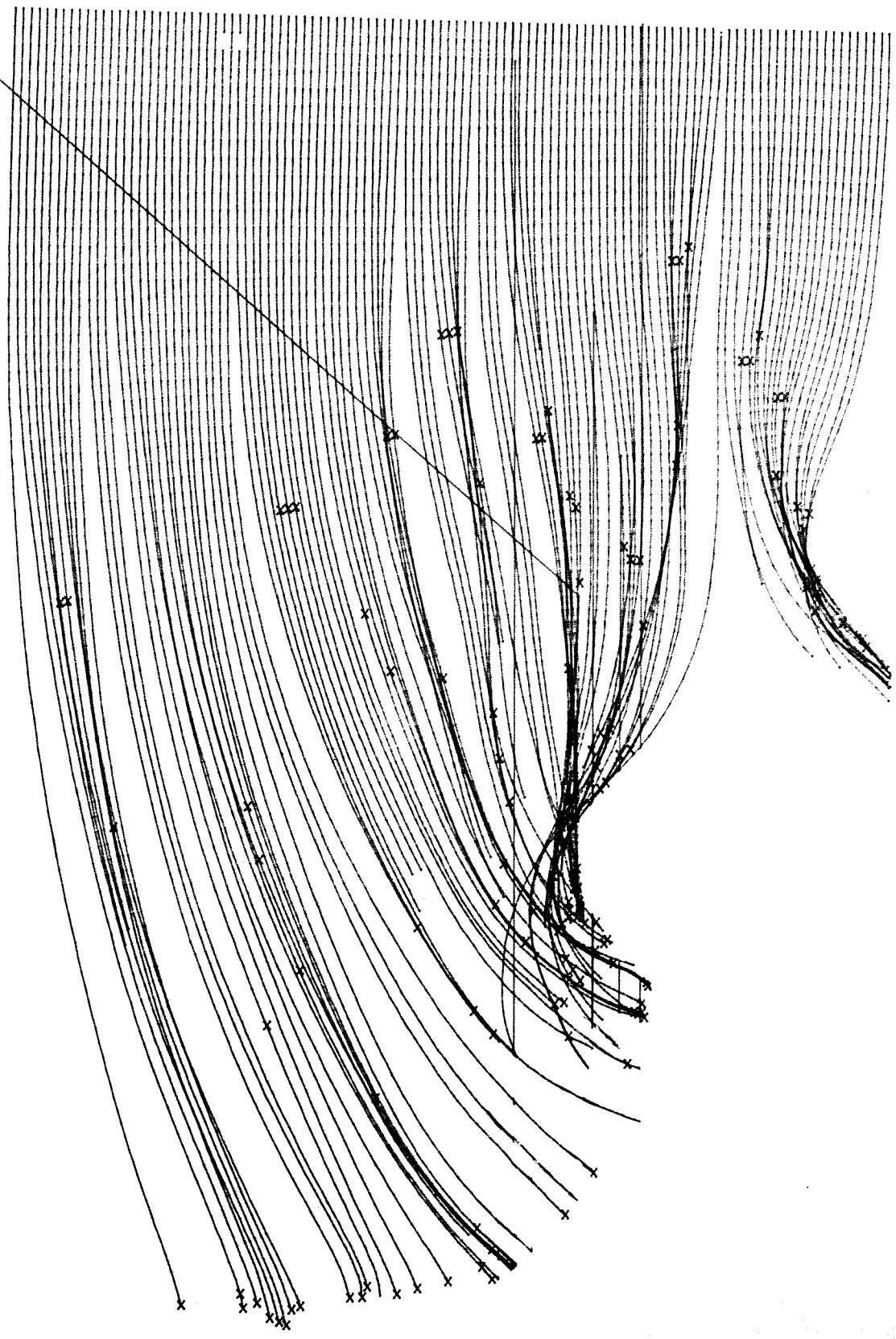


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SCALE 1:

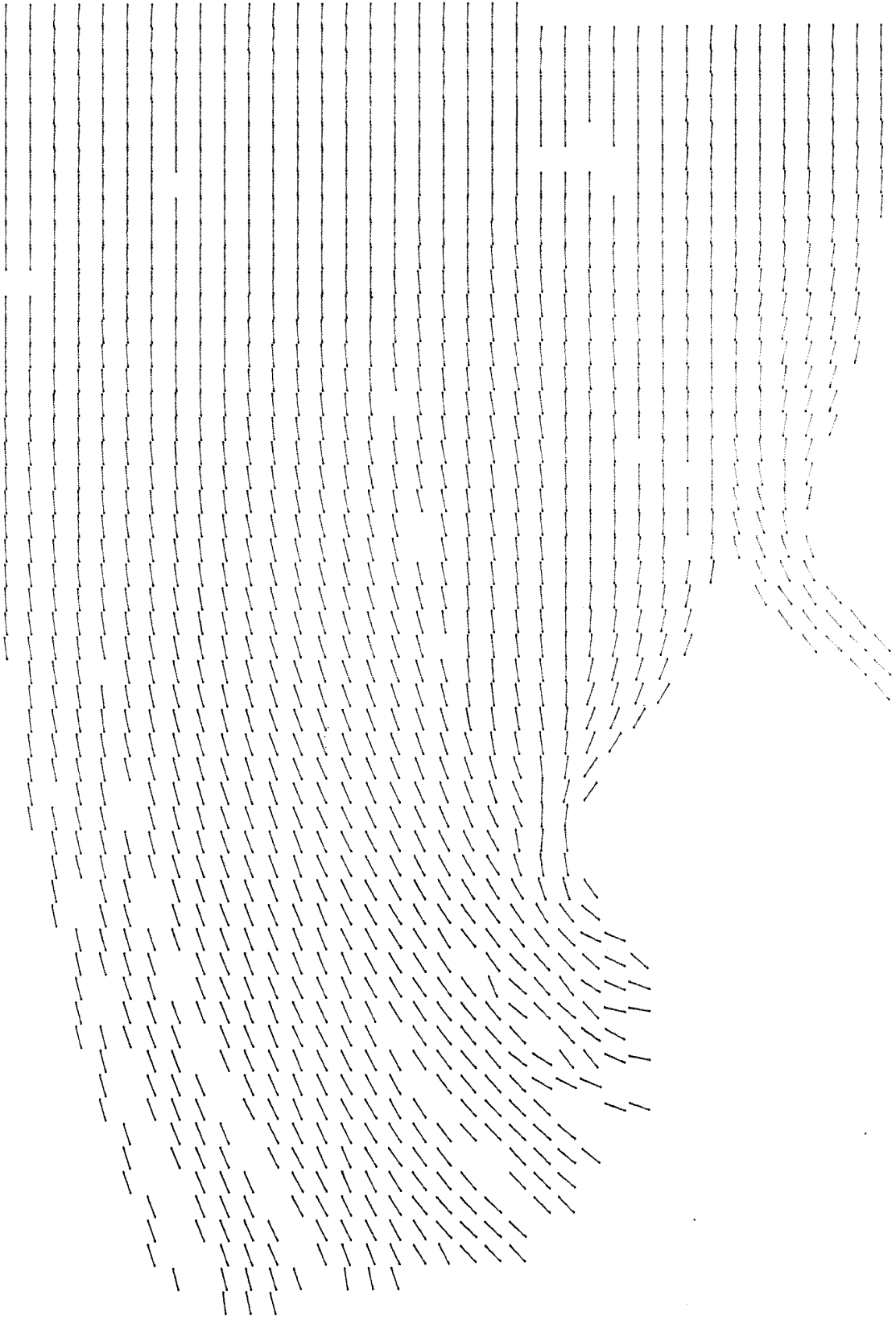
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HYPERONATIC

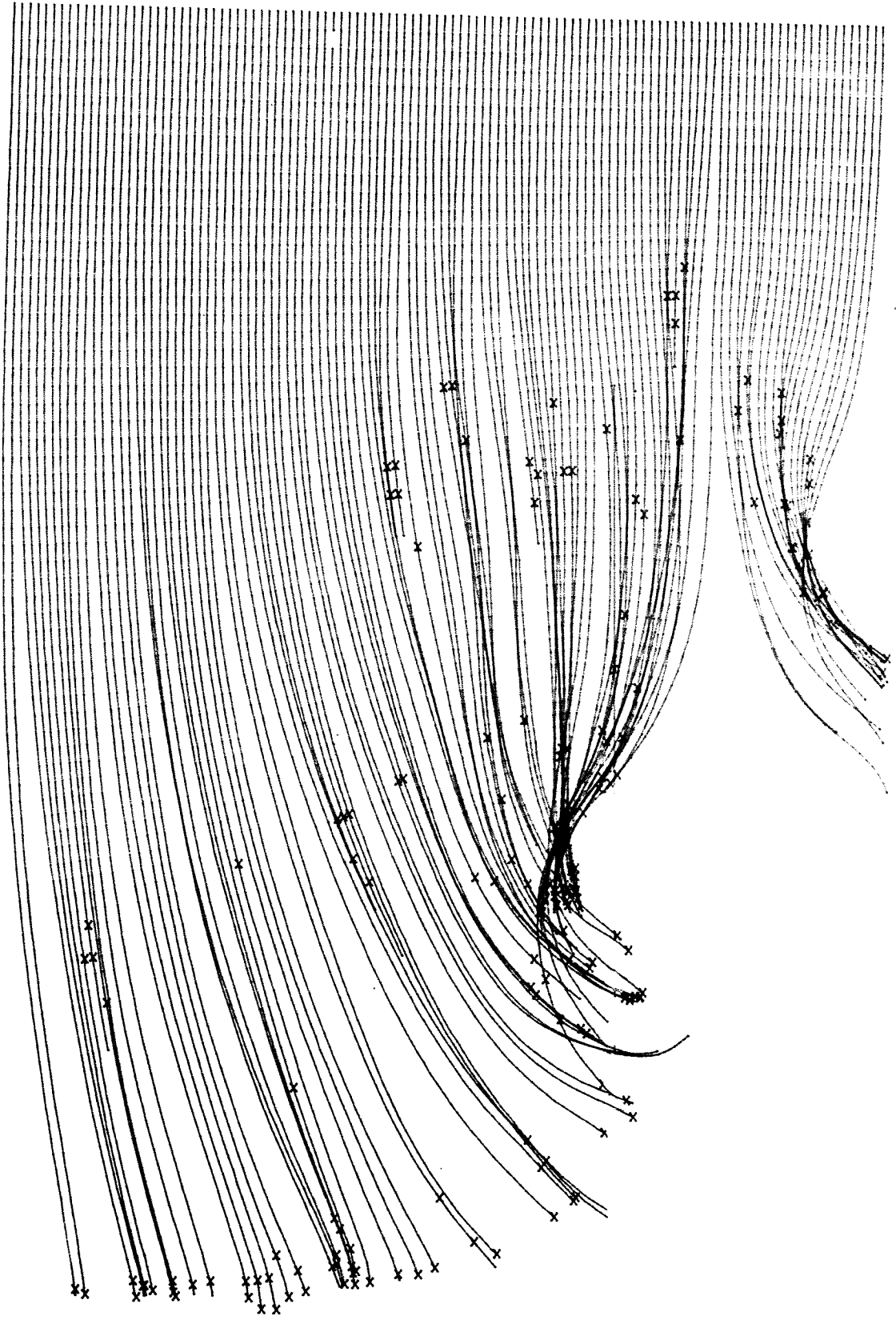


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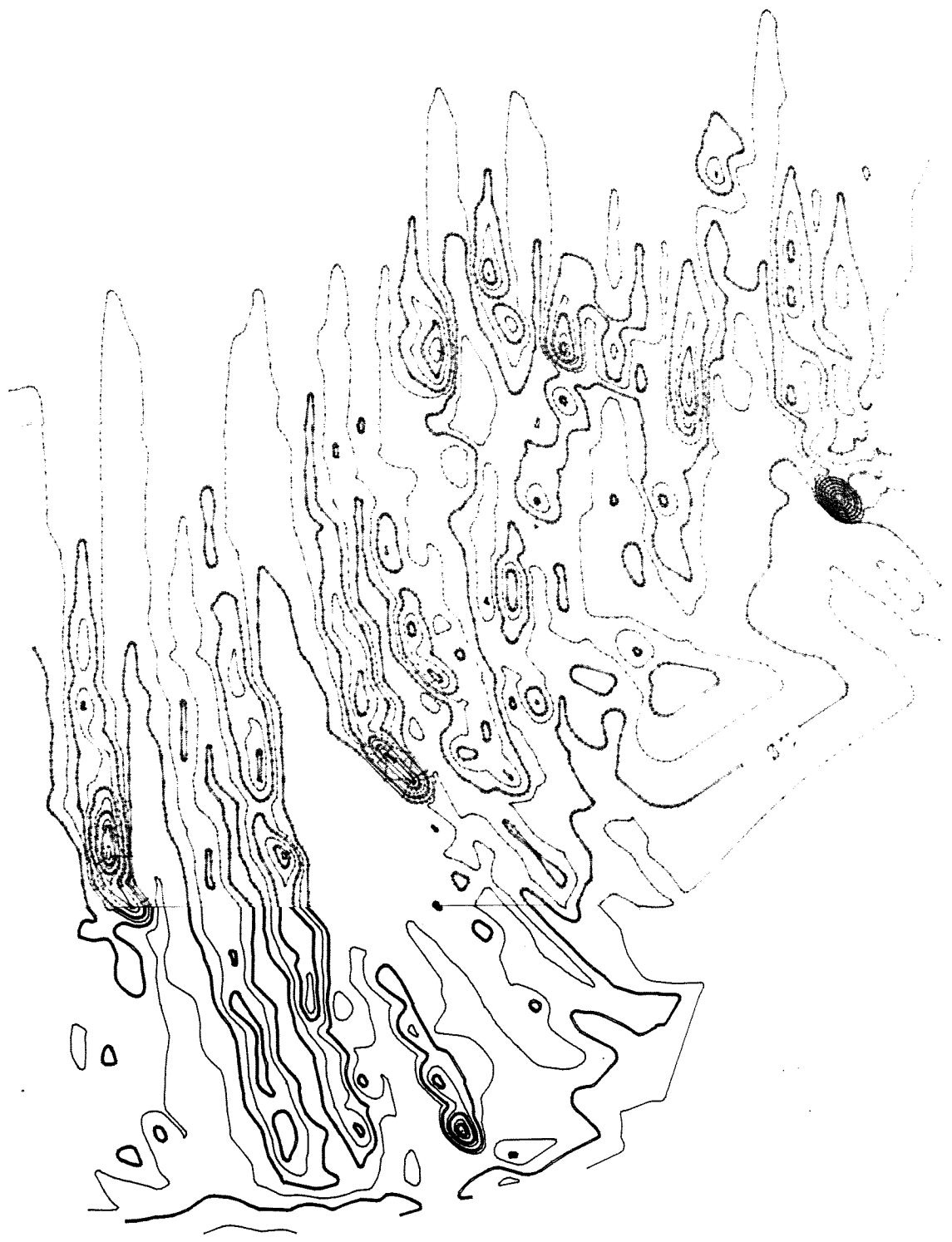
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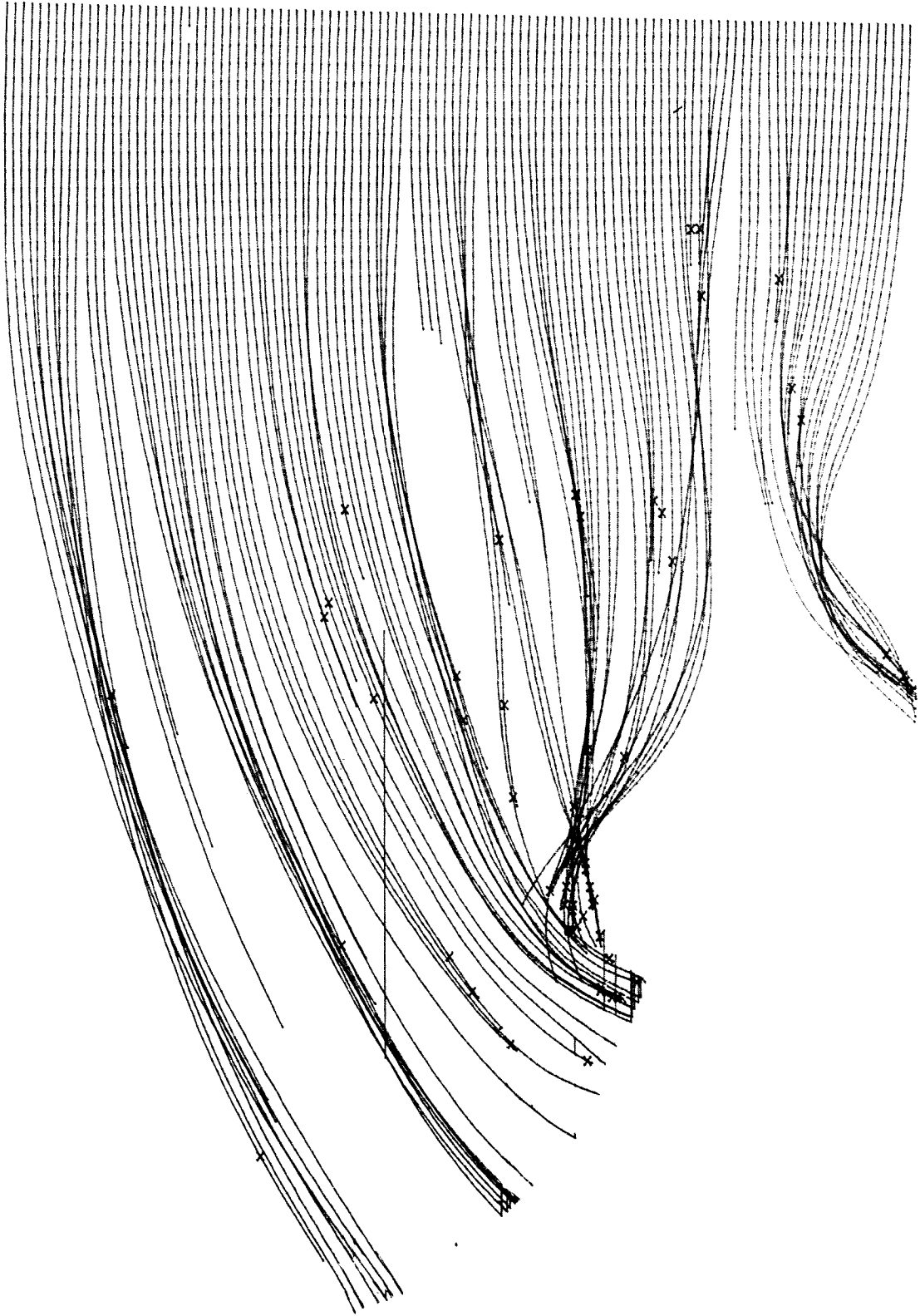
PLATE 1. THE GREAT WALL OF CHINA. THE GREAT WALL OF CHINA. THE GREAT WALL OF CHINA.





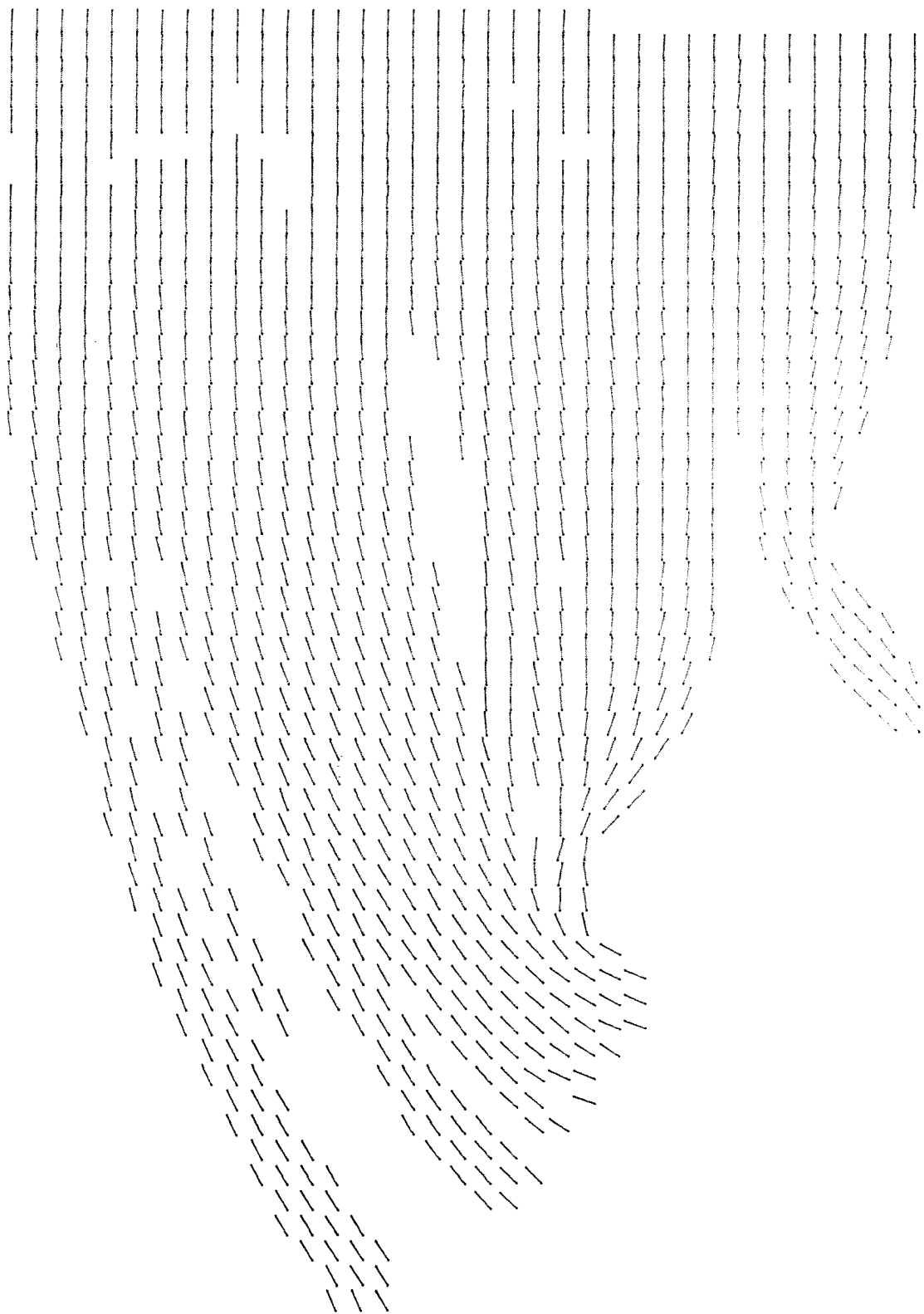


To: SA [redacted] (S) - [redacted]
FROM: SAC [redacted] (S) - [redacted]



X

X



TG14
SCALE 1:

45000

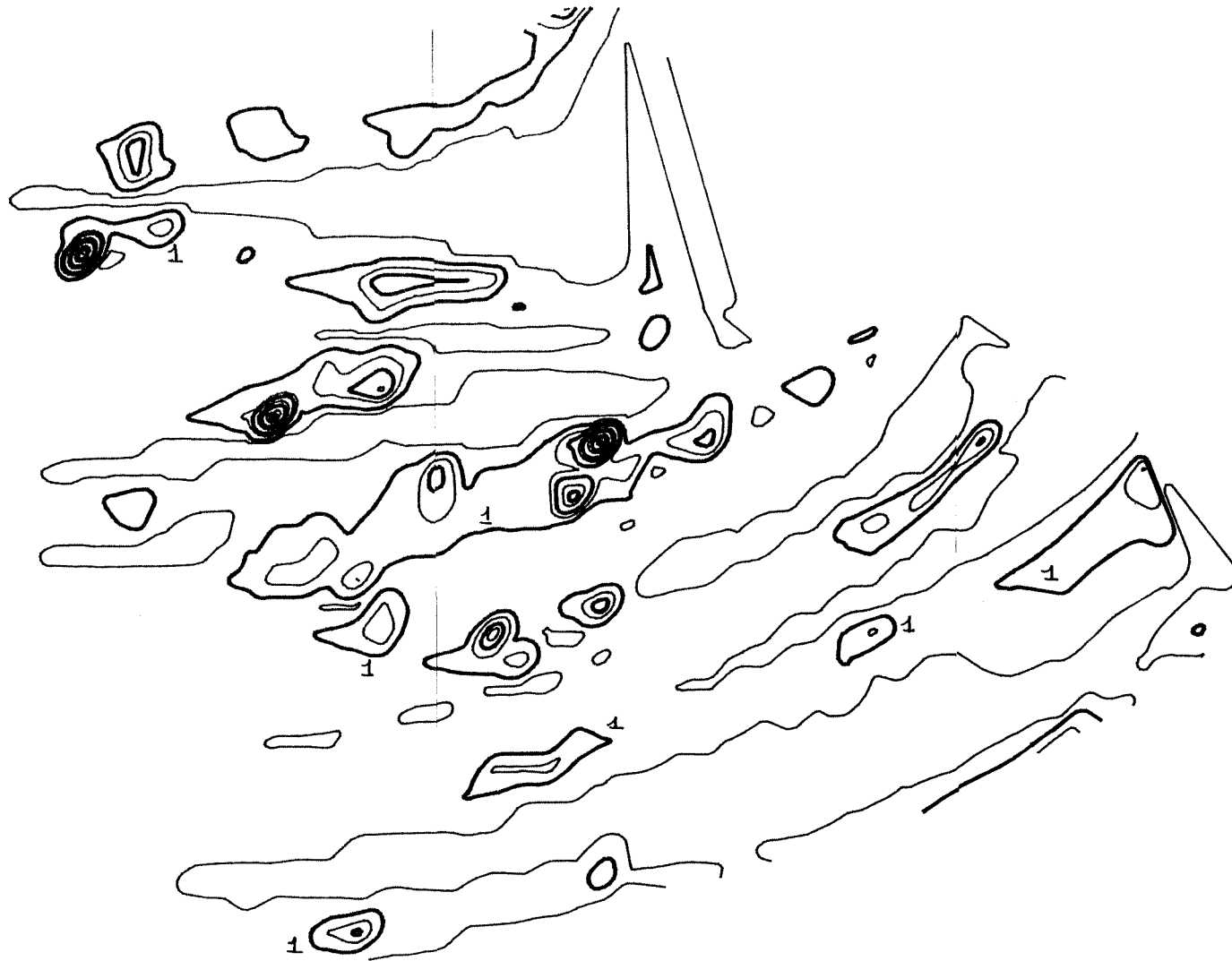
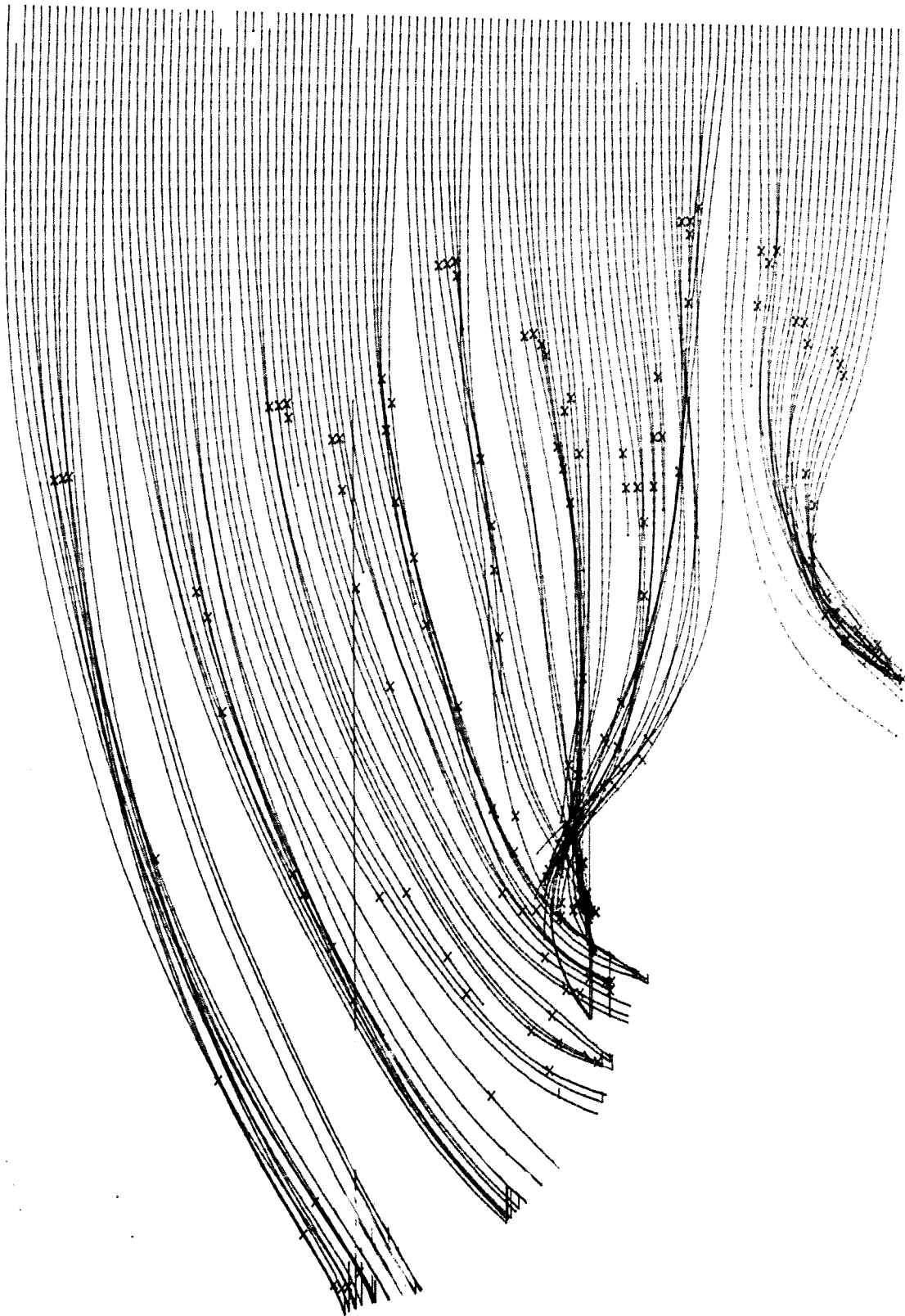
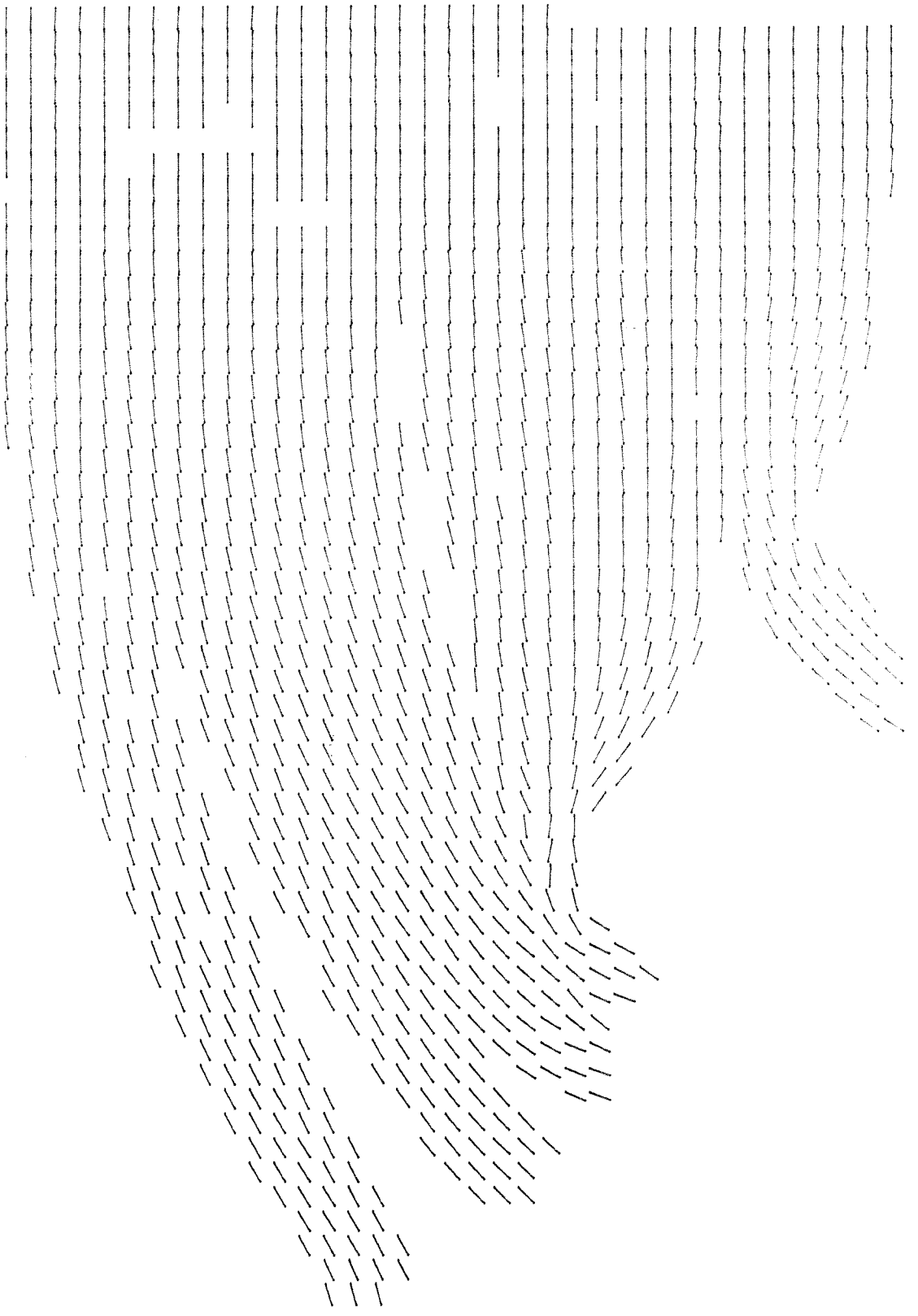


PLATE 18. THE GREAT ATLAS MOUNTAINS. (Continued)





10/10/10
10/10/10
10/10/10



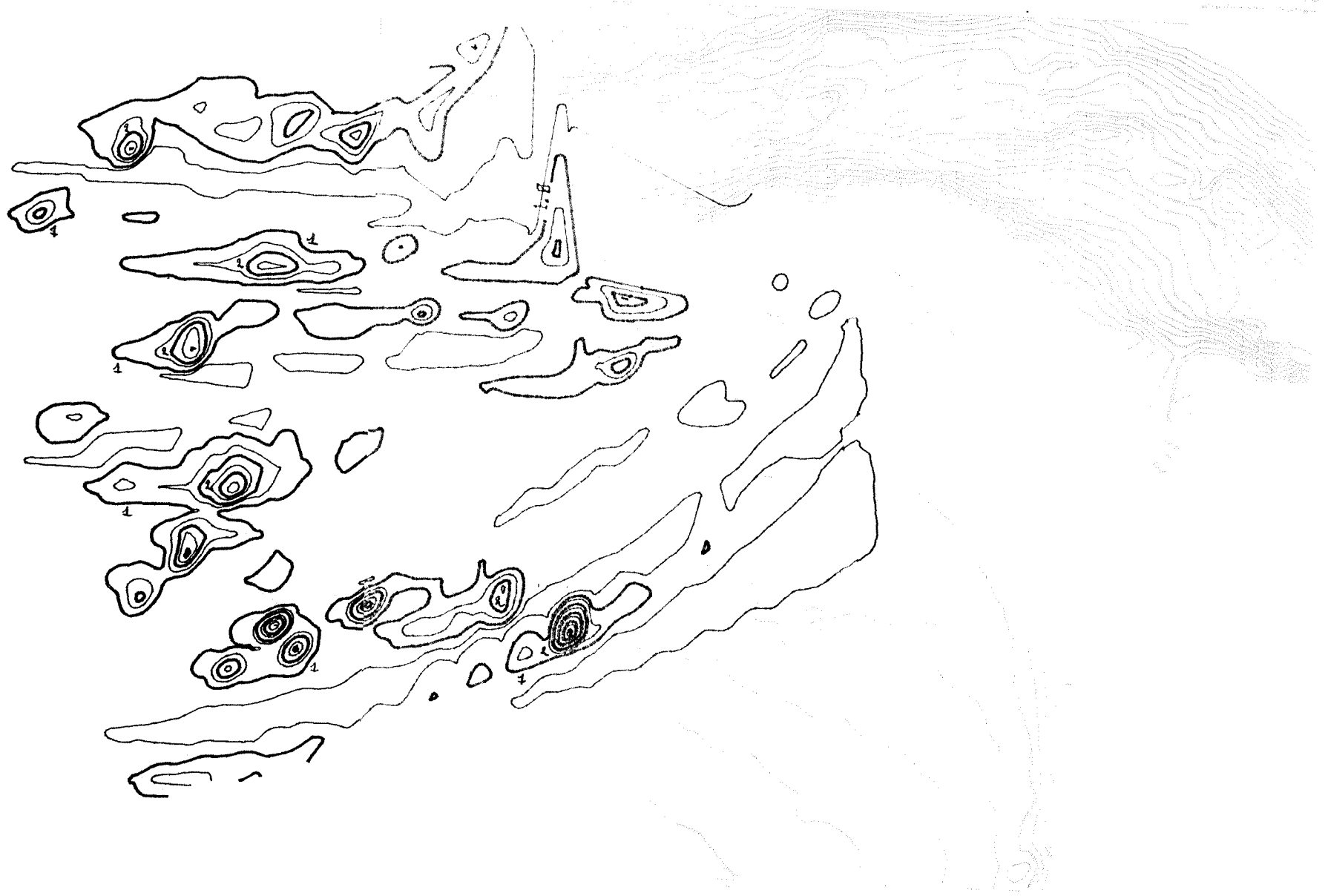
THE UNIVERSITY OF CHICAGO
LIBRARY OF THE DIVISION OF THE PHYSICAL SCIENCES
5720 S. UNIVERSITY AVENUE, CHICAGO, ILL. 60637



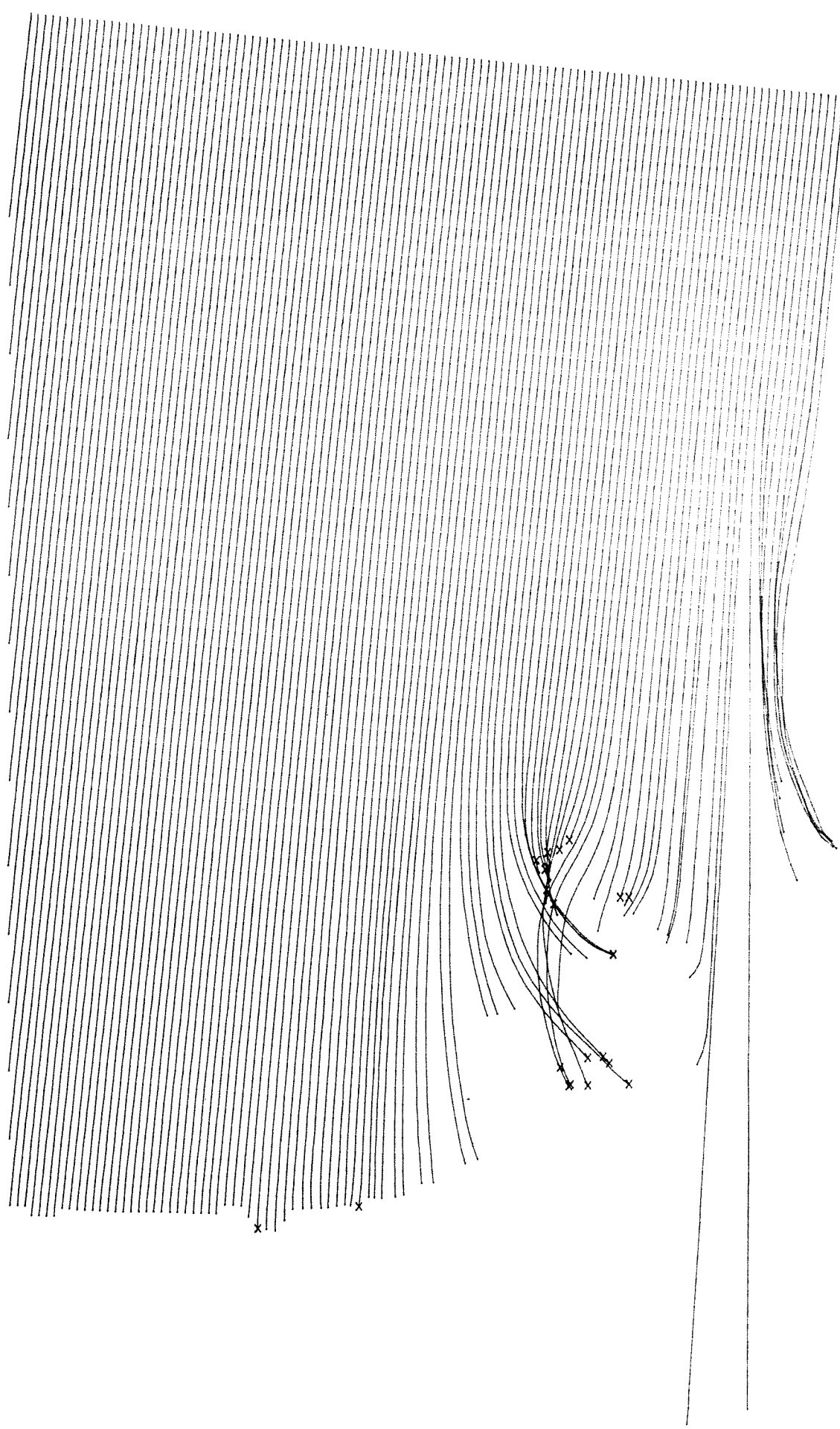
TG16
SCALE 1:

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HYDROTATIC
HYDROGRAPHIC SURVEYS



1. A series of 100 lines, numbered 1 to 100, are drawn on a sheet of paper. The lines are drawn at regular intervals and are parallel to each other. The lines are drawn on a sheet of paper that is slightly tilted to the right. The lines are drawn on a sheet of paper that is slightly tilted to the right.



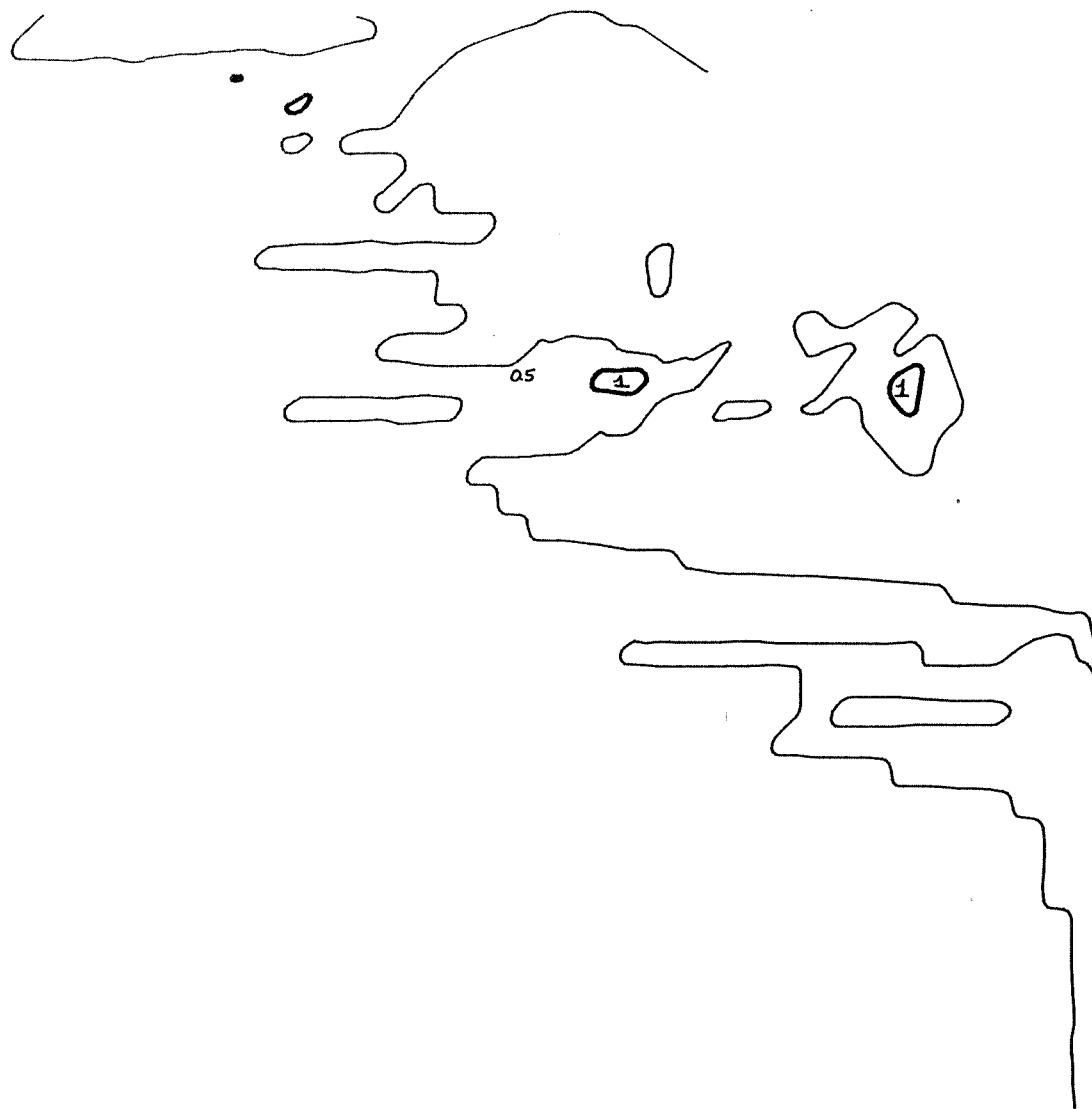
100

Vertical lines and patterns, possibly representing a document page with text that is mostly illegible due to the image quality. The text is arranged in several columns, with some lines appearing to be part of a list or a structured document. The lines are mostly vertical, with some horizontal lines interspersed, suggesting a table or a list of items. The overall appearance is that of a scanned document page with significant vertical orientation and some horizontal lines.

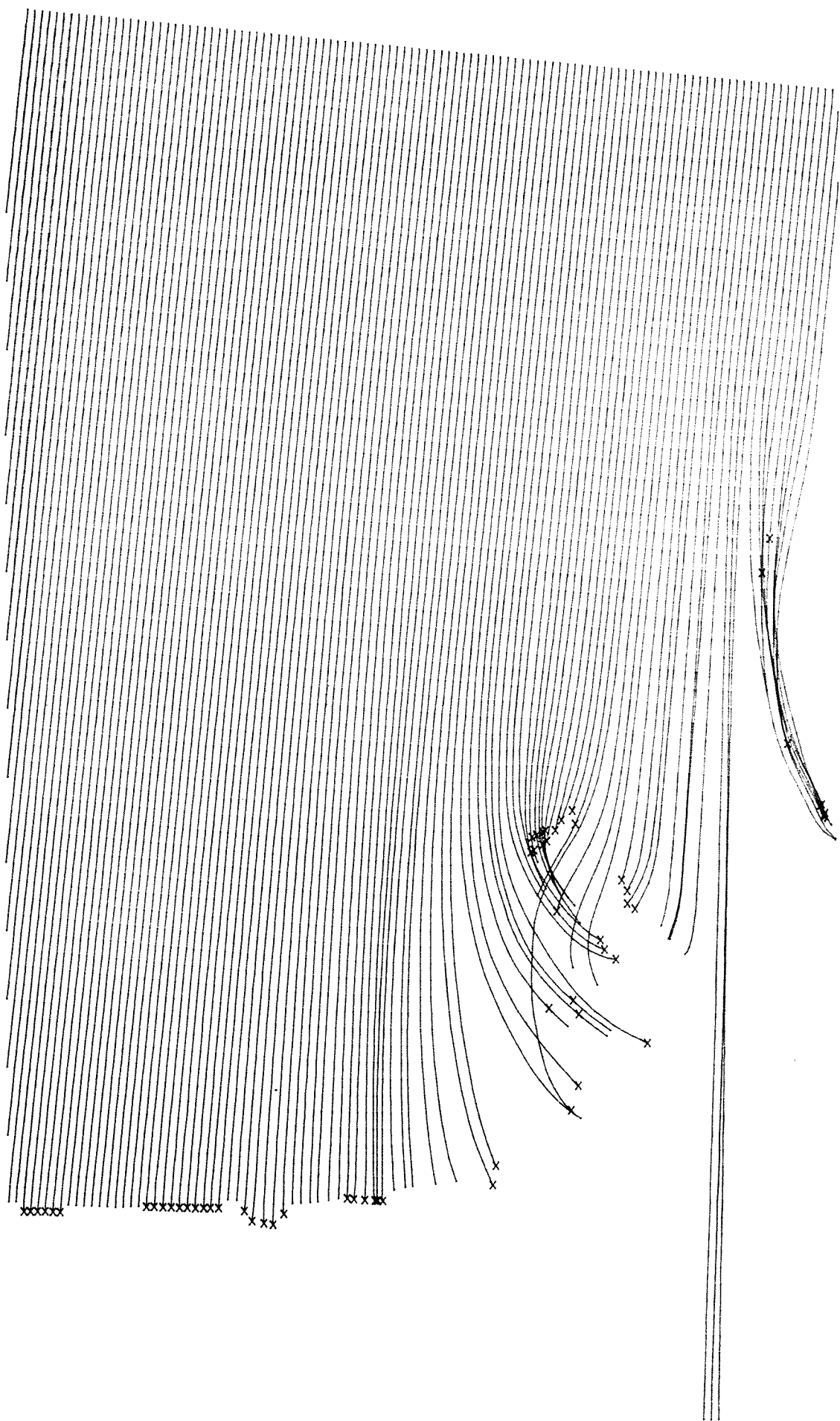
17

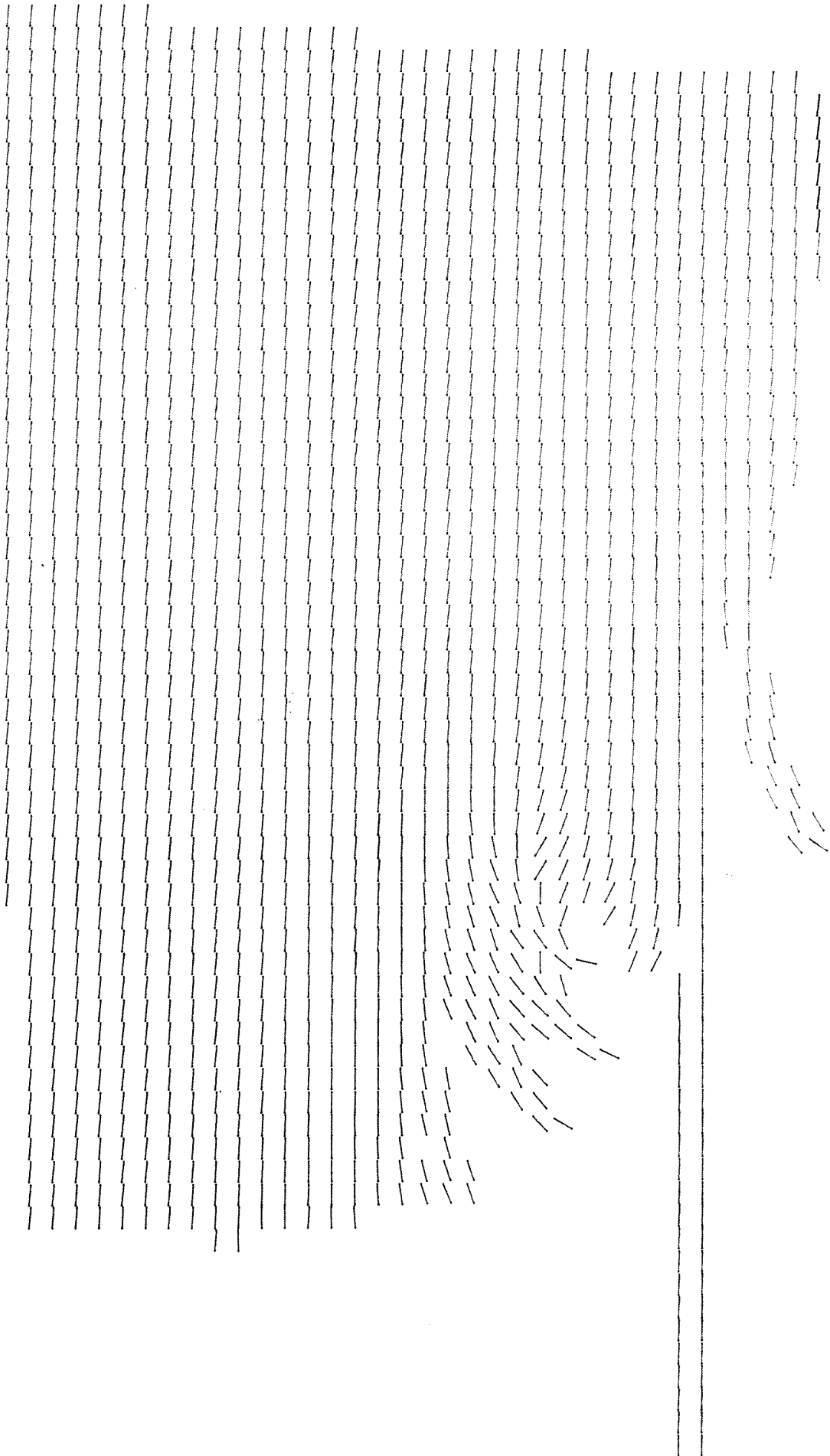
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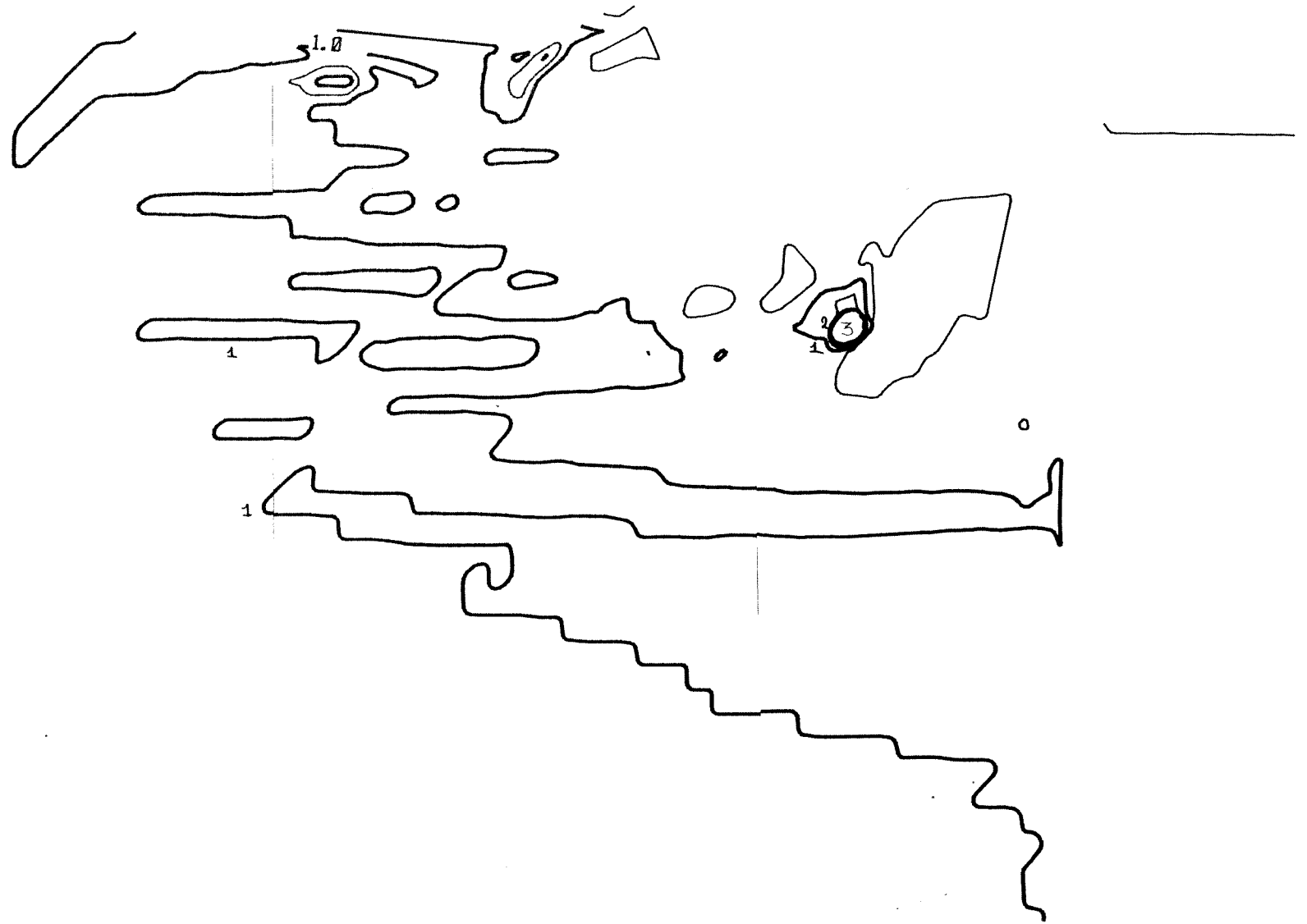
THE UNIVERSITY OF CHICAGO
DIVISION OF PHYSICAL SCIENCES
PHYSICS DEPARTMENT





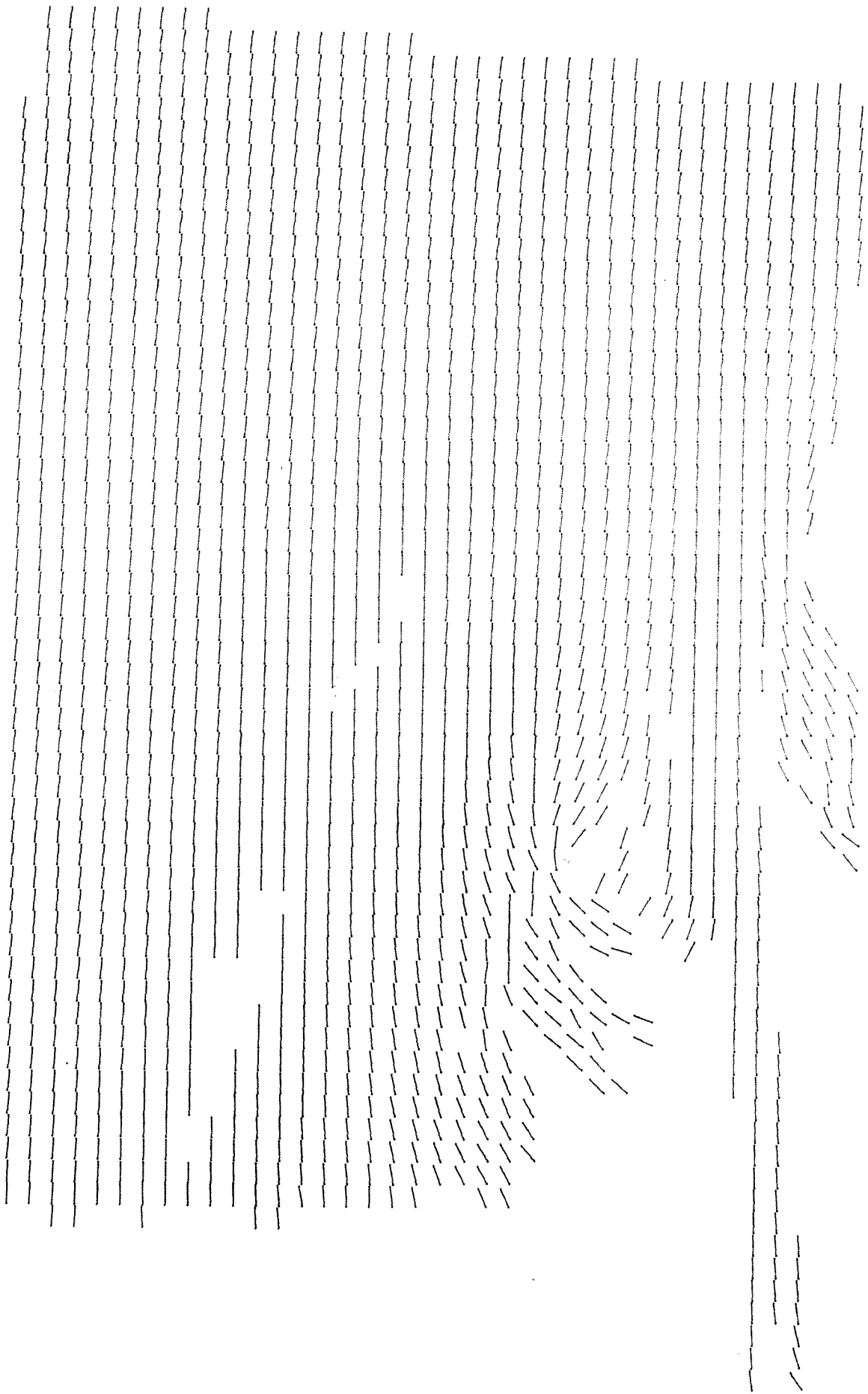
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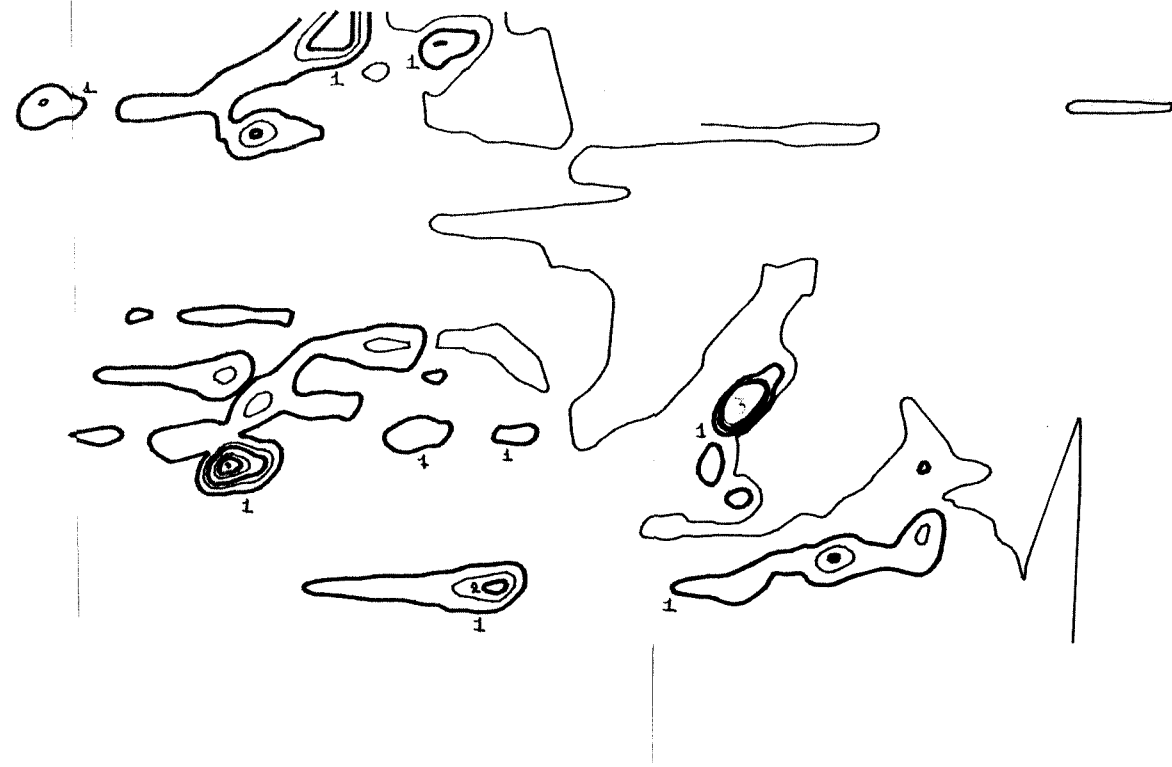
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LIBRARY



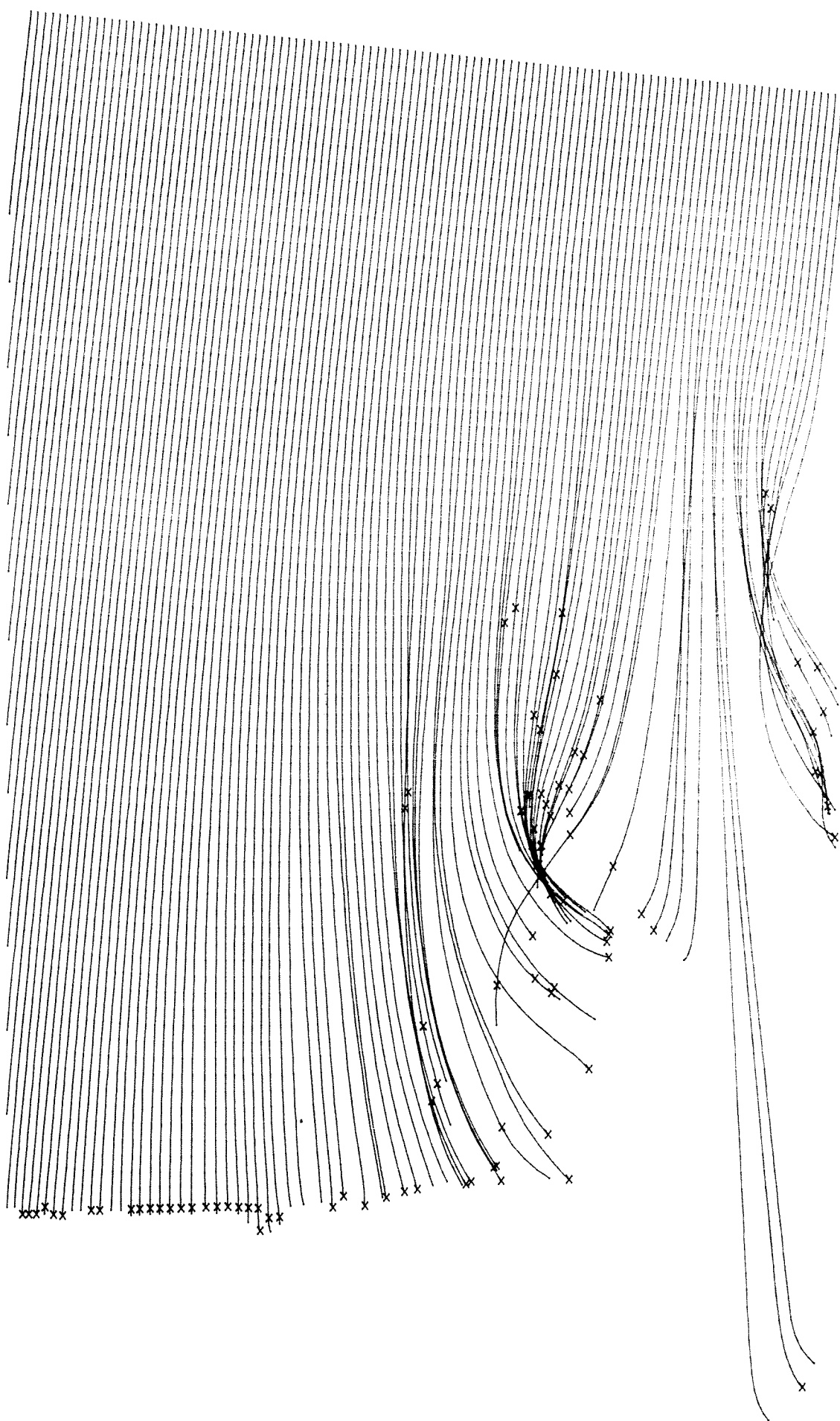


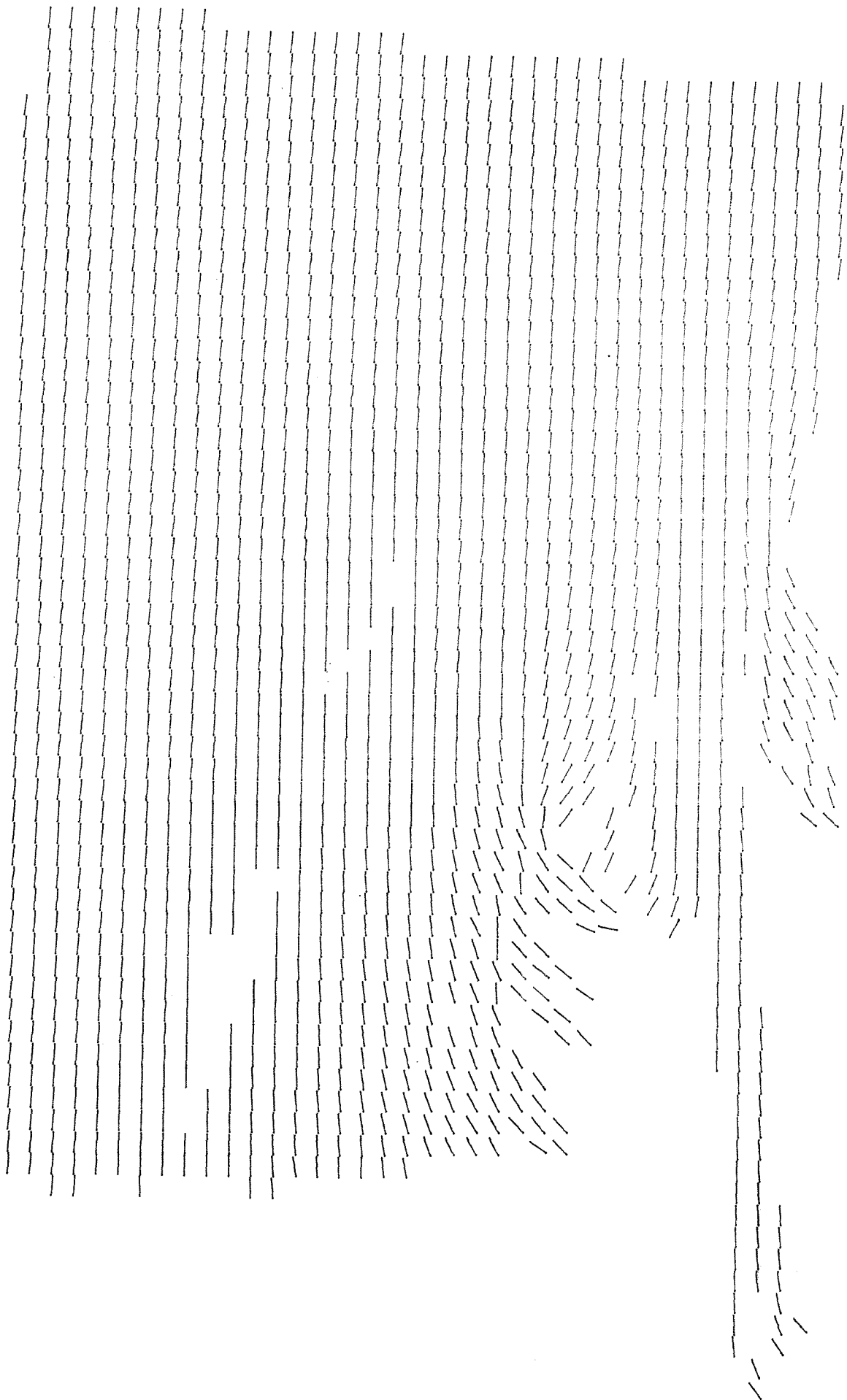
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45000



To: S. L. ...
...
...
...



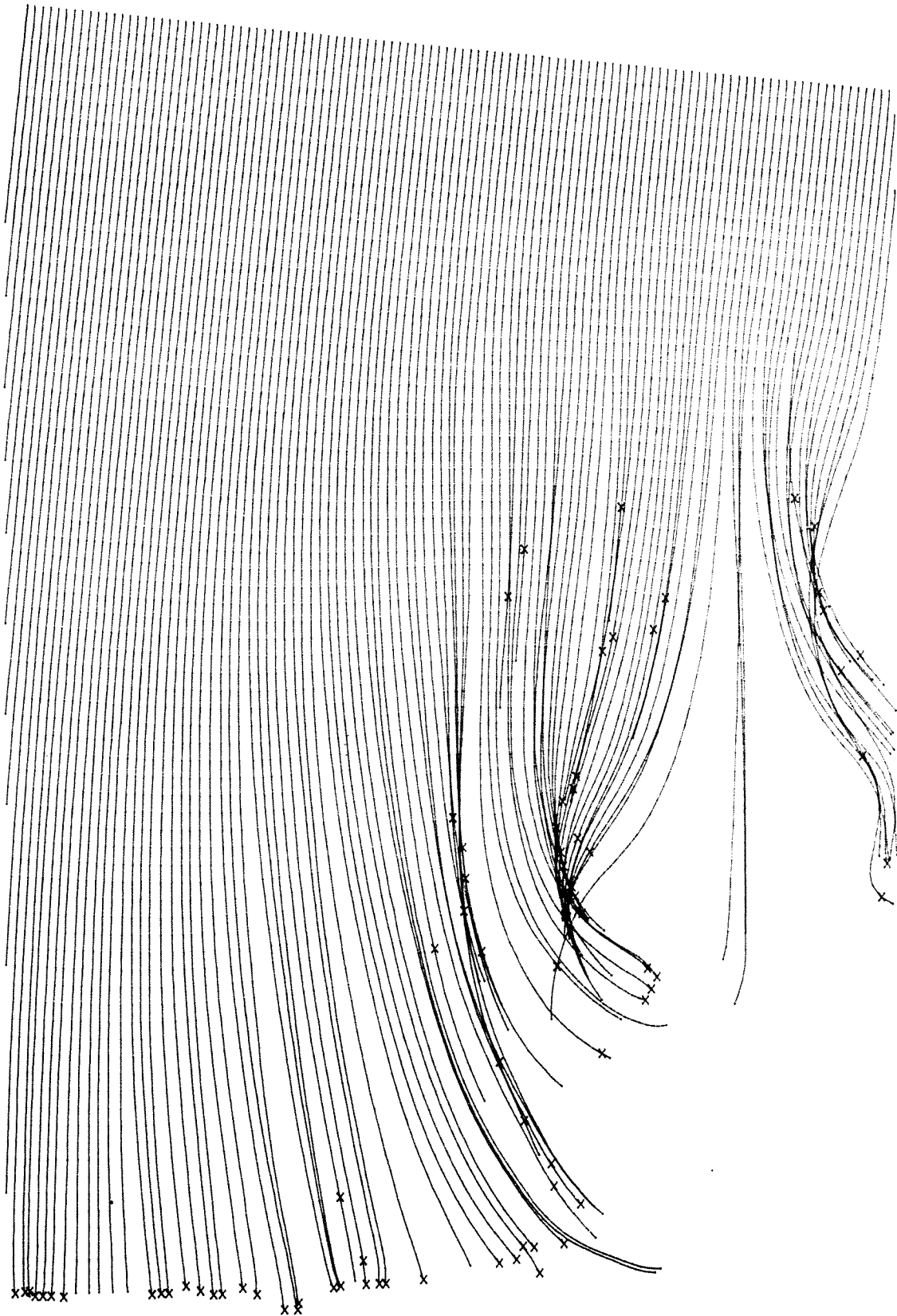


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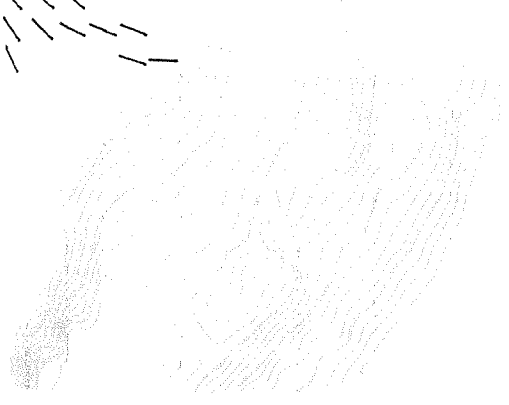
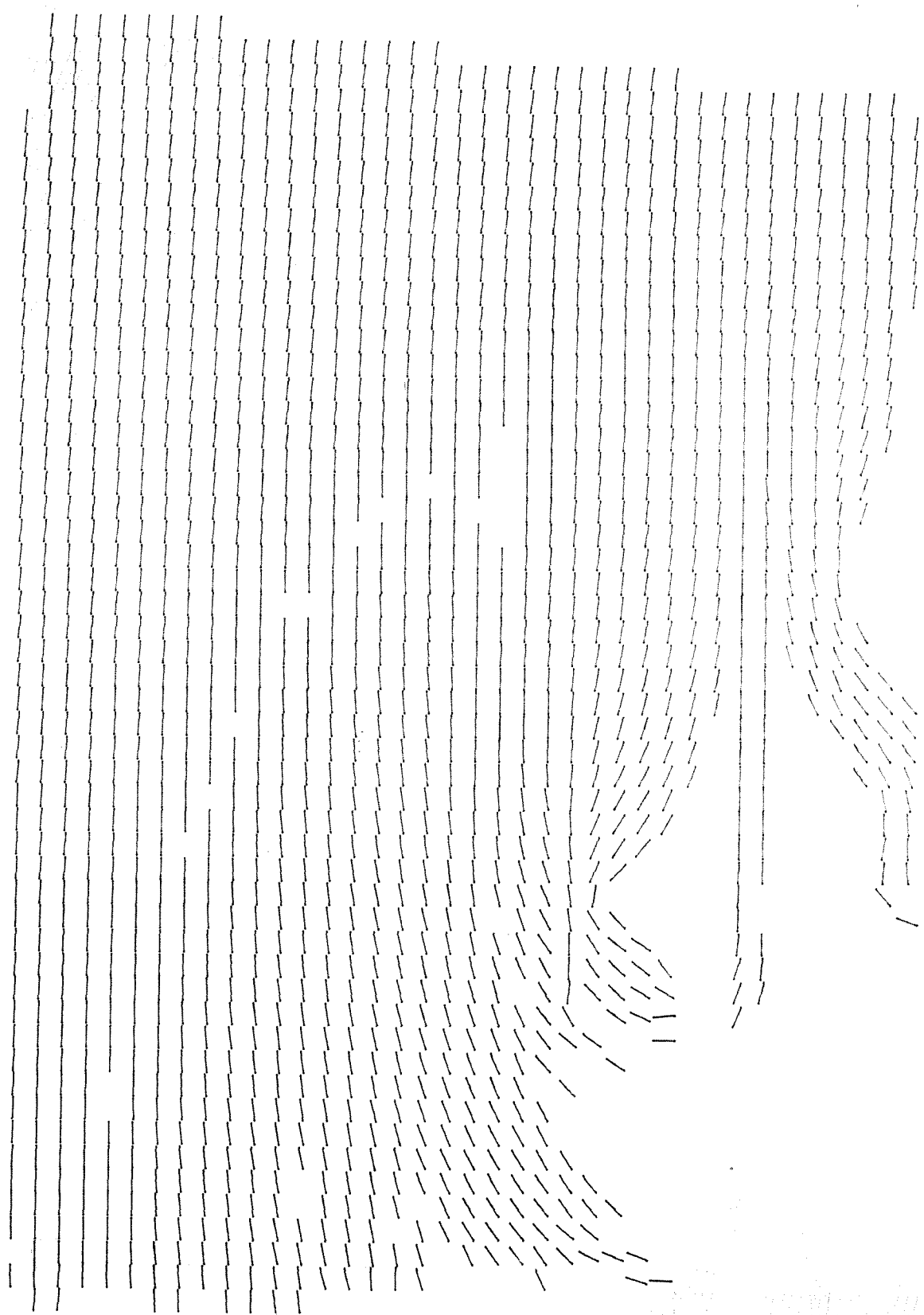
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ILLUSTRATION

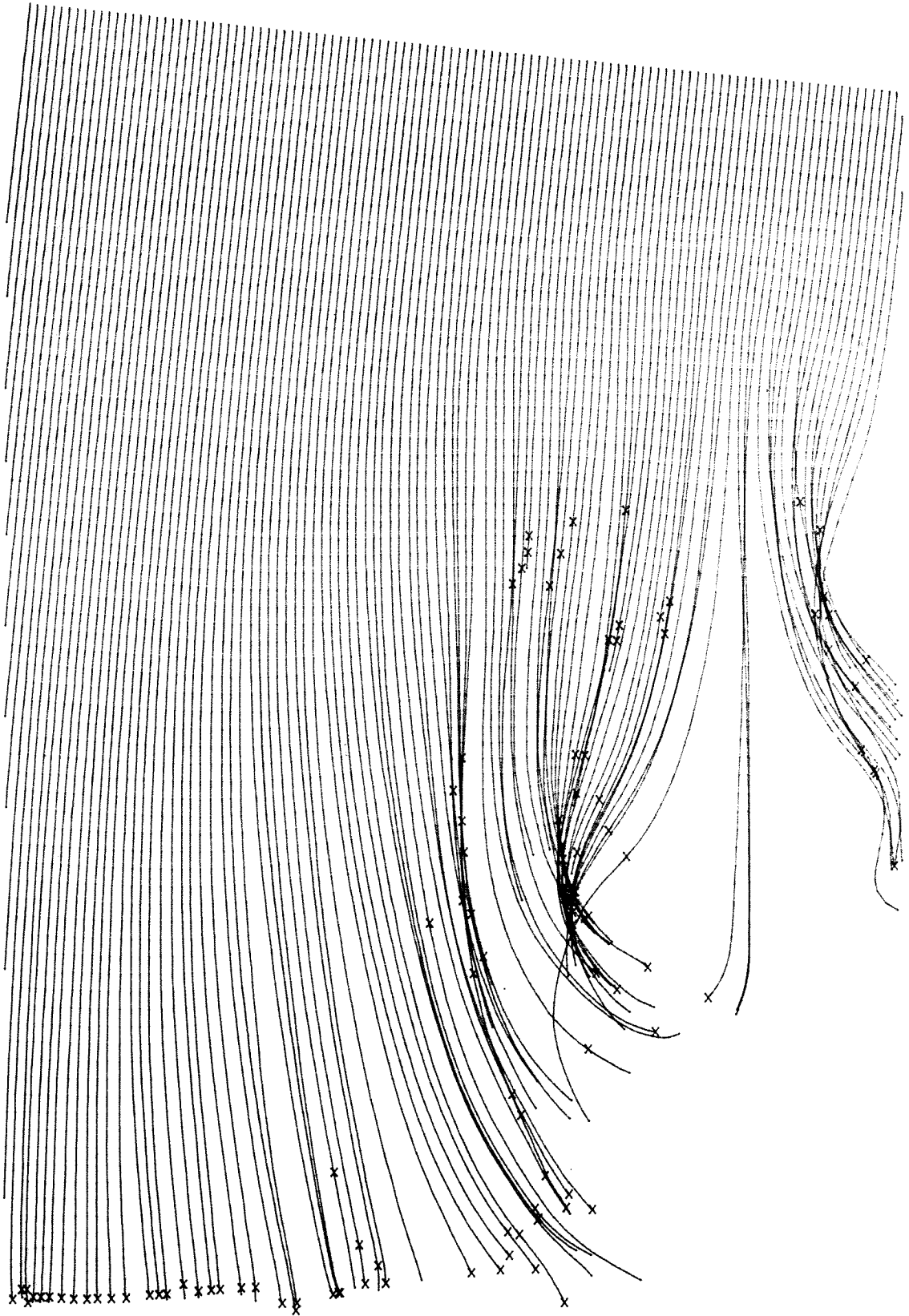


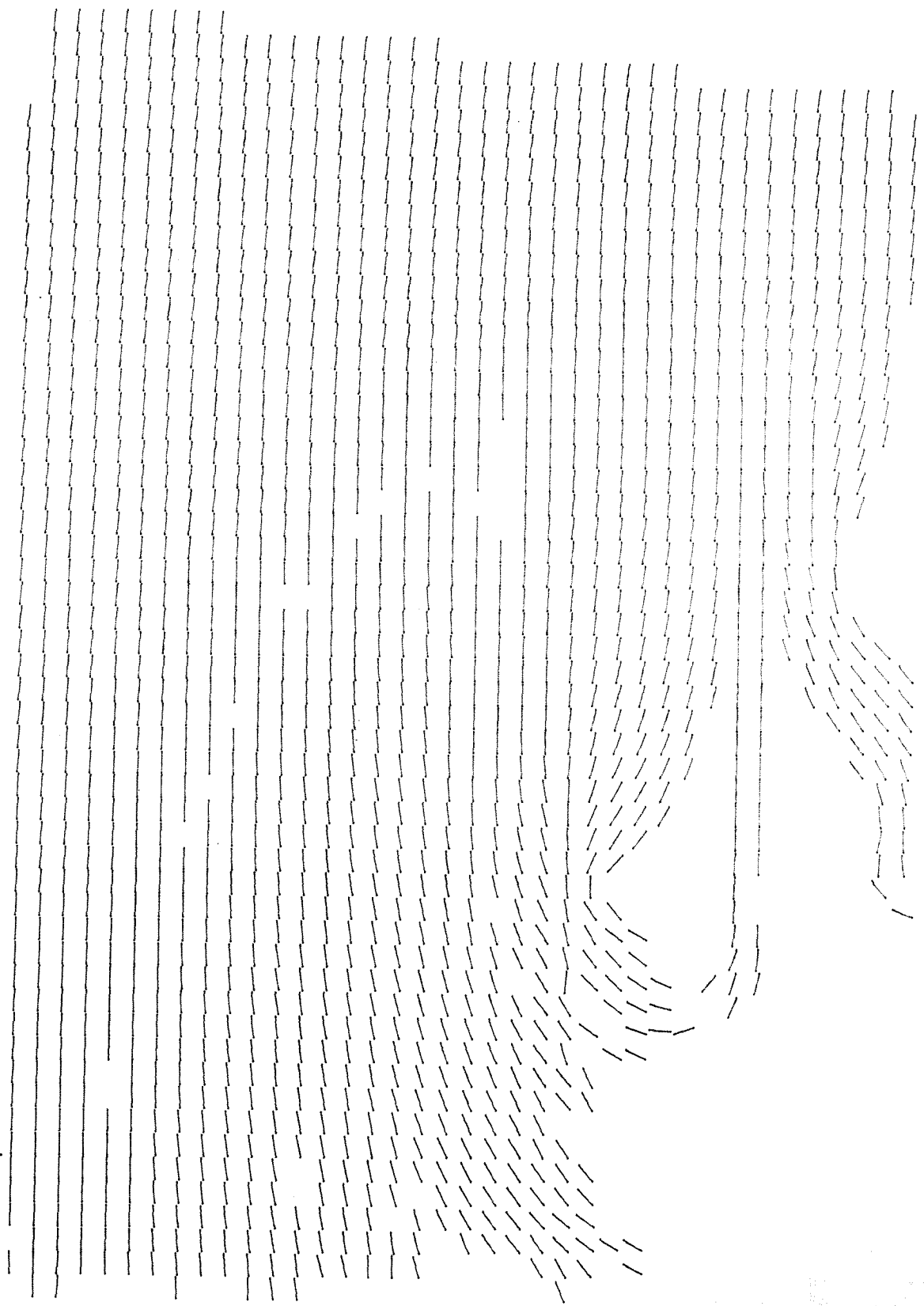
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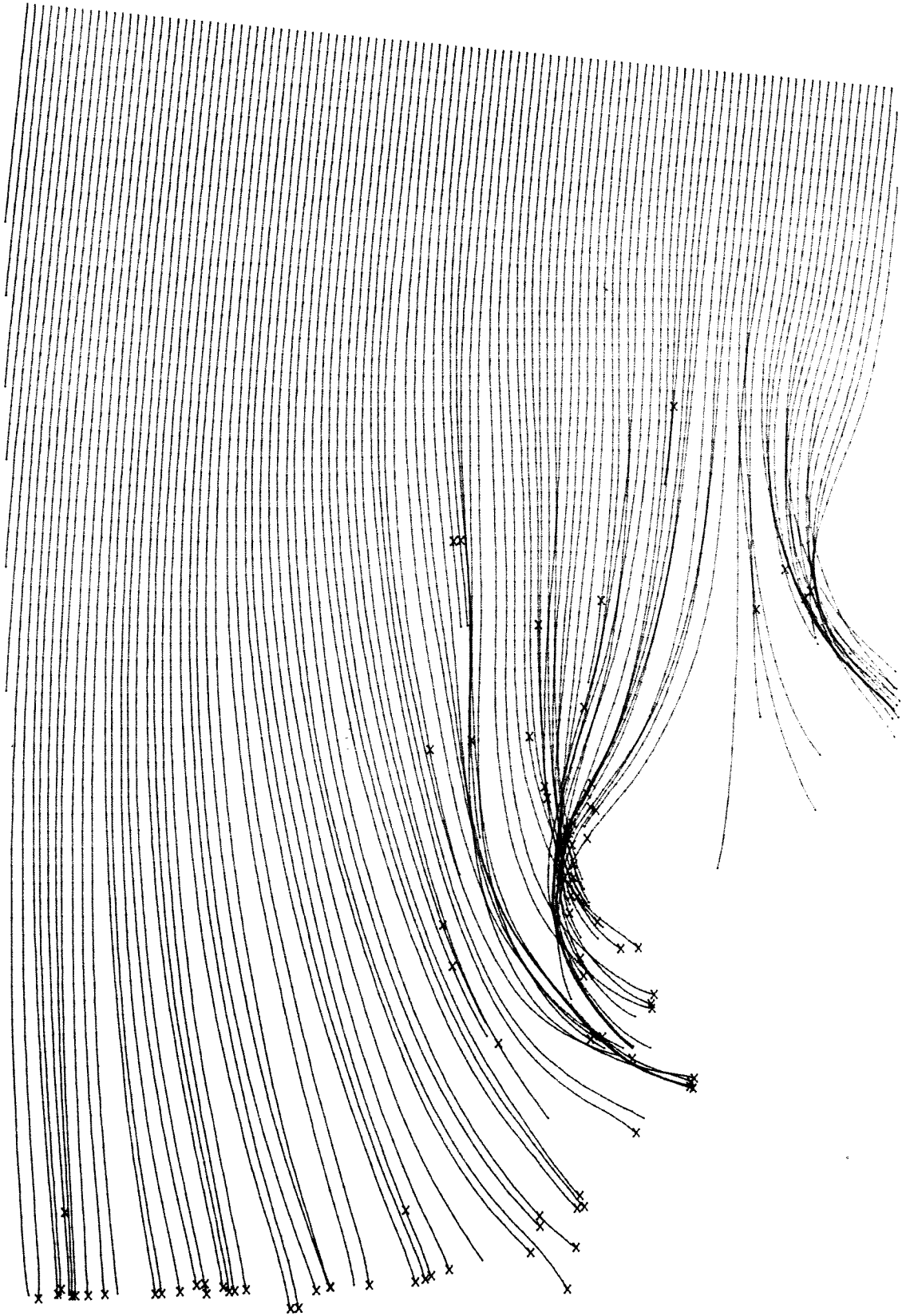


G22
SCALE 1:

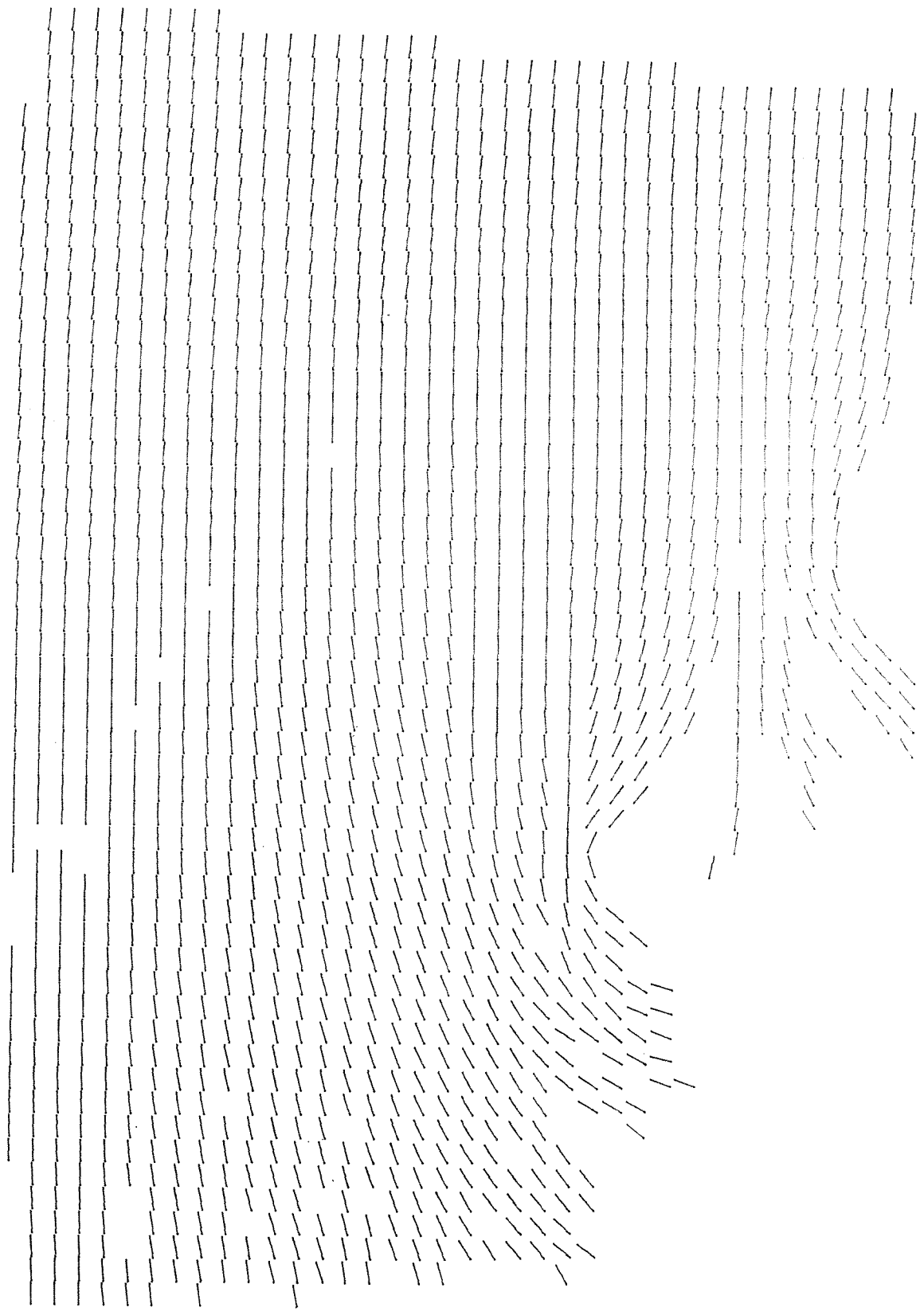
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1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

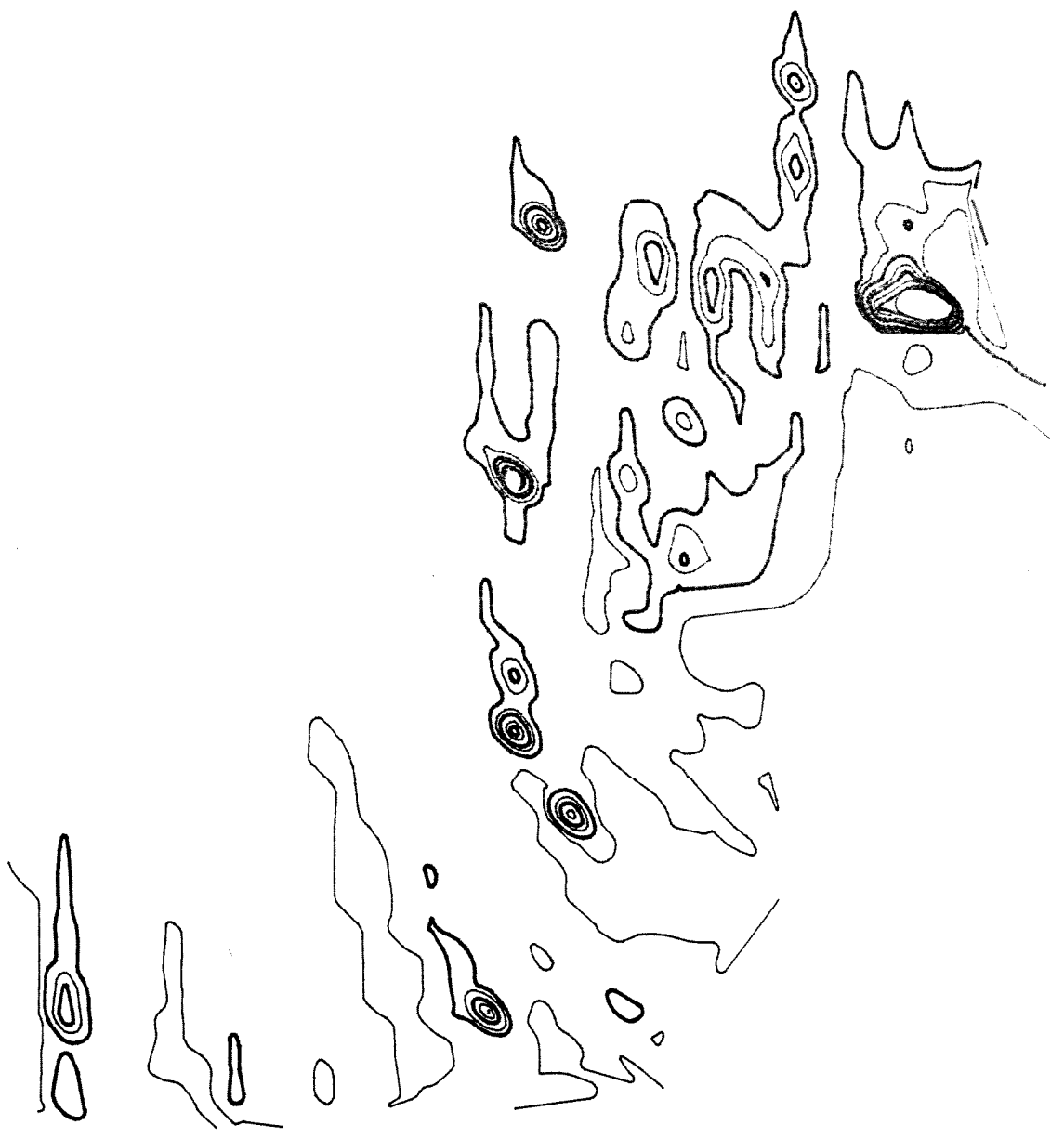


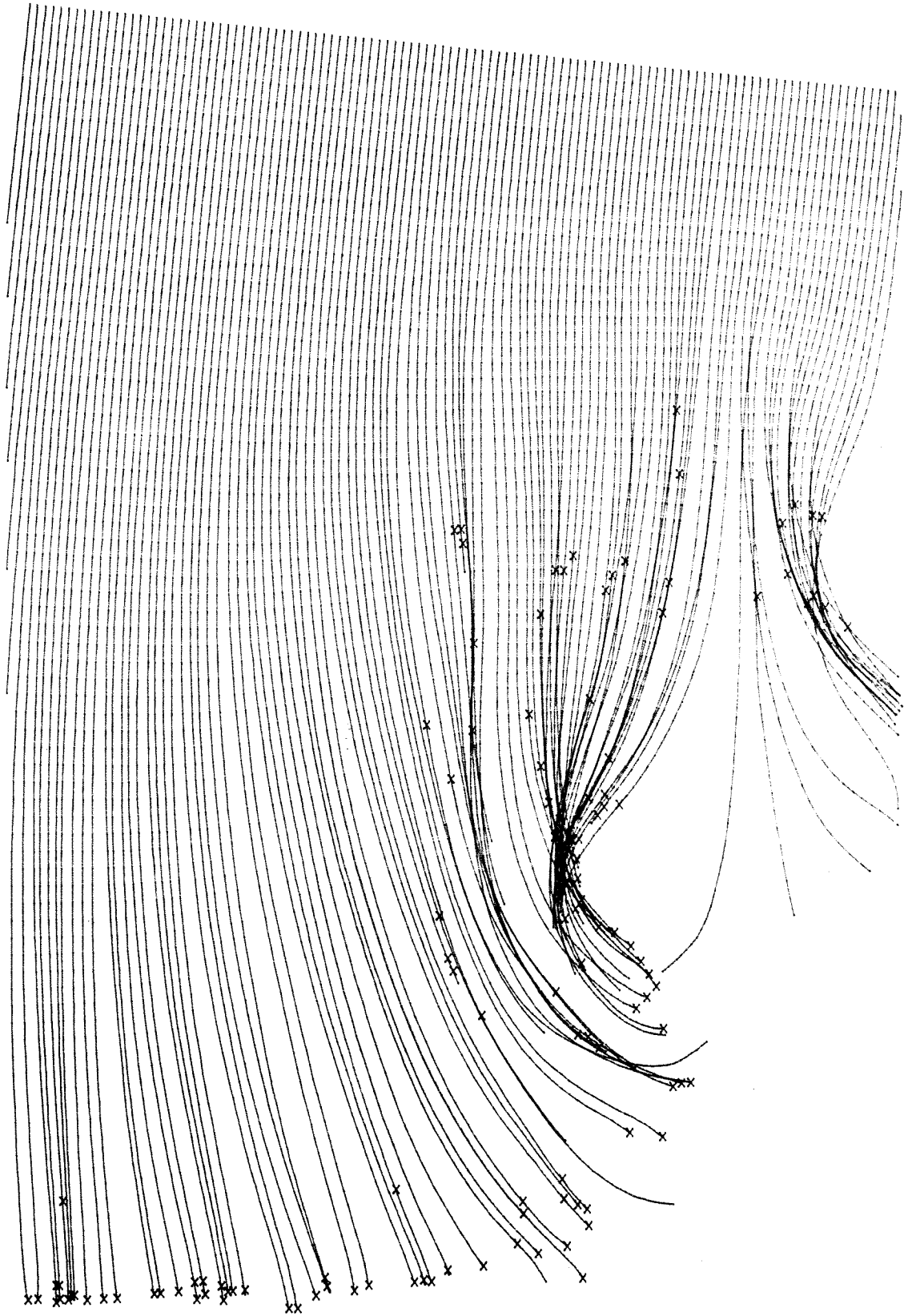
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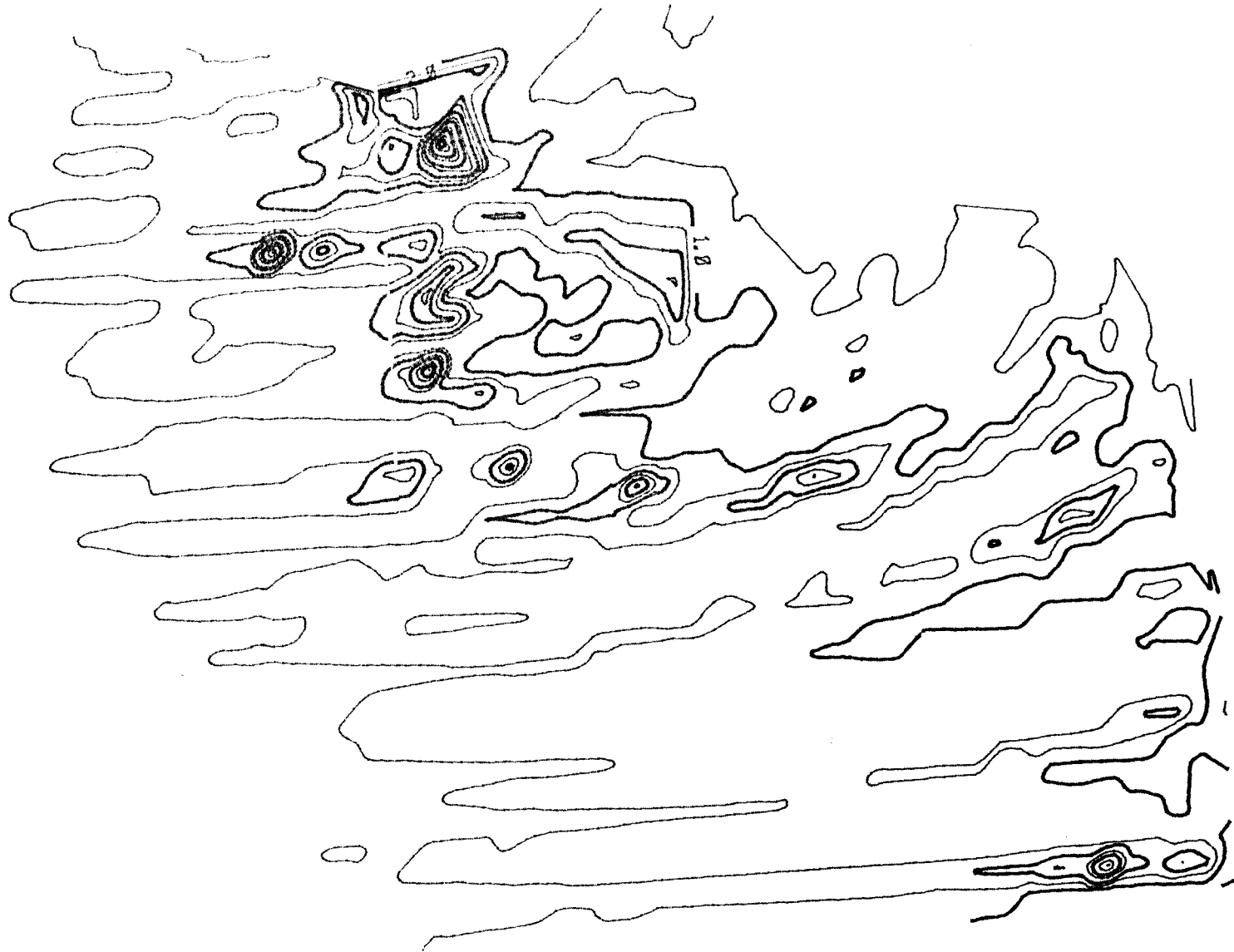




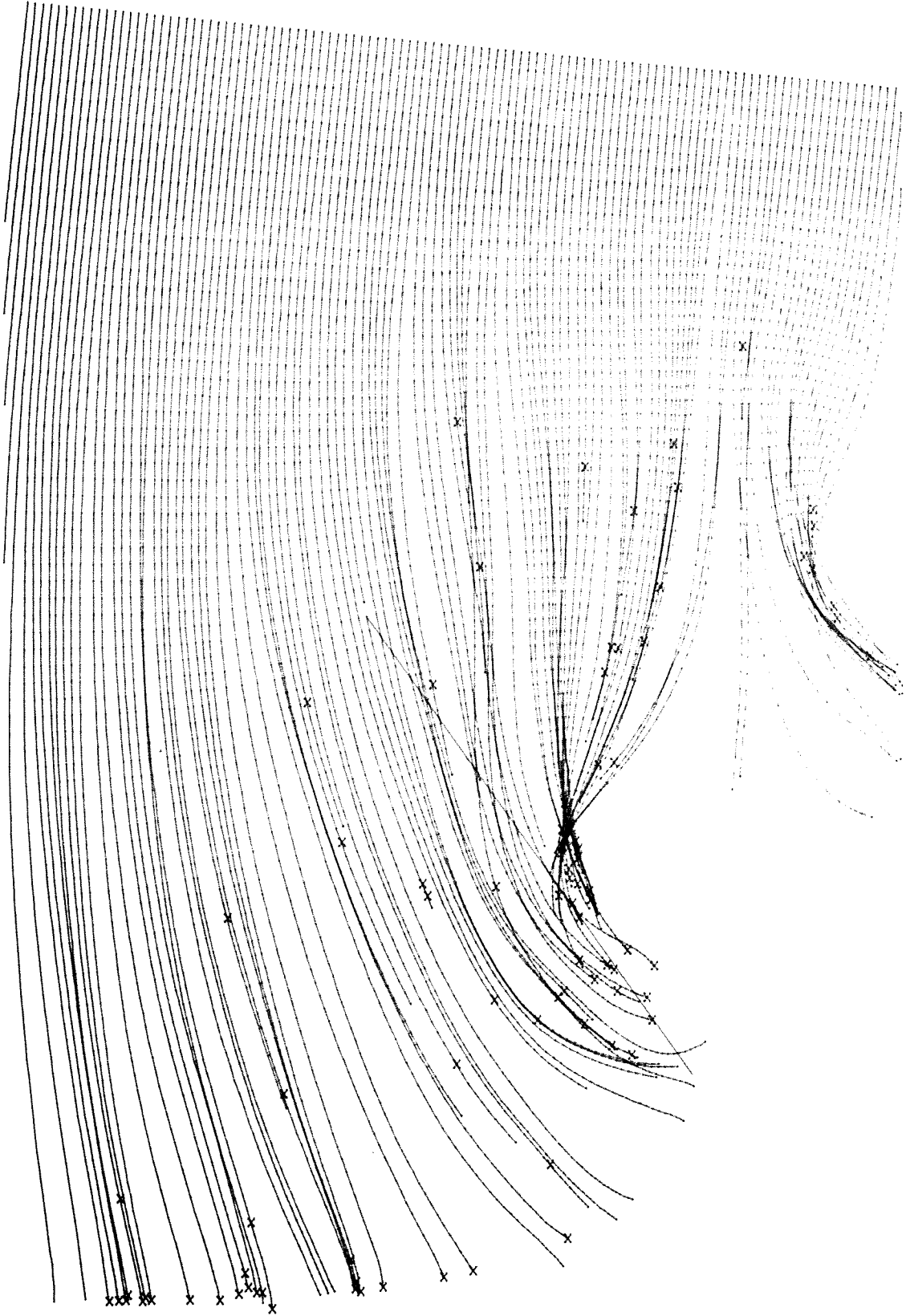


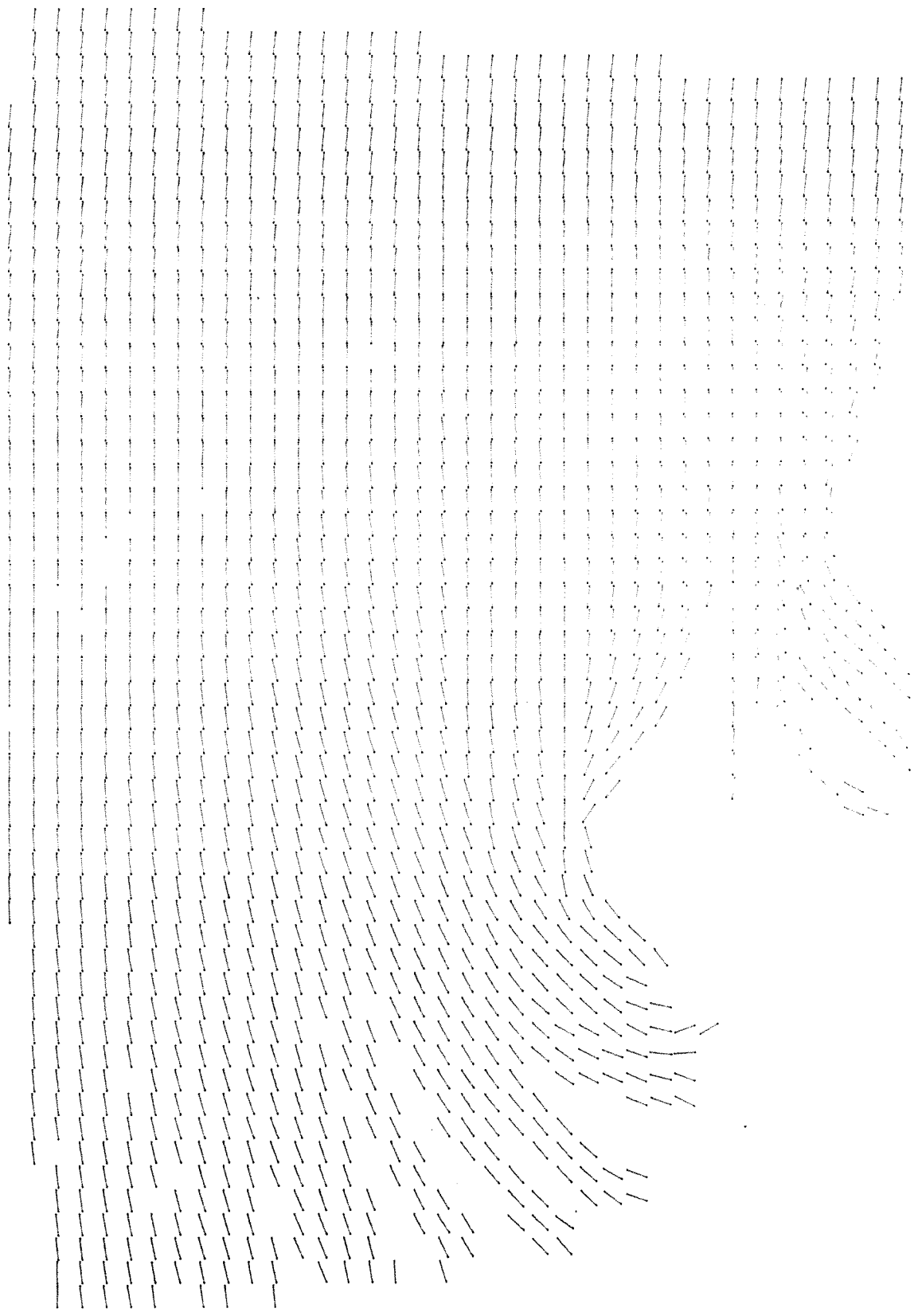
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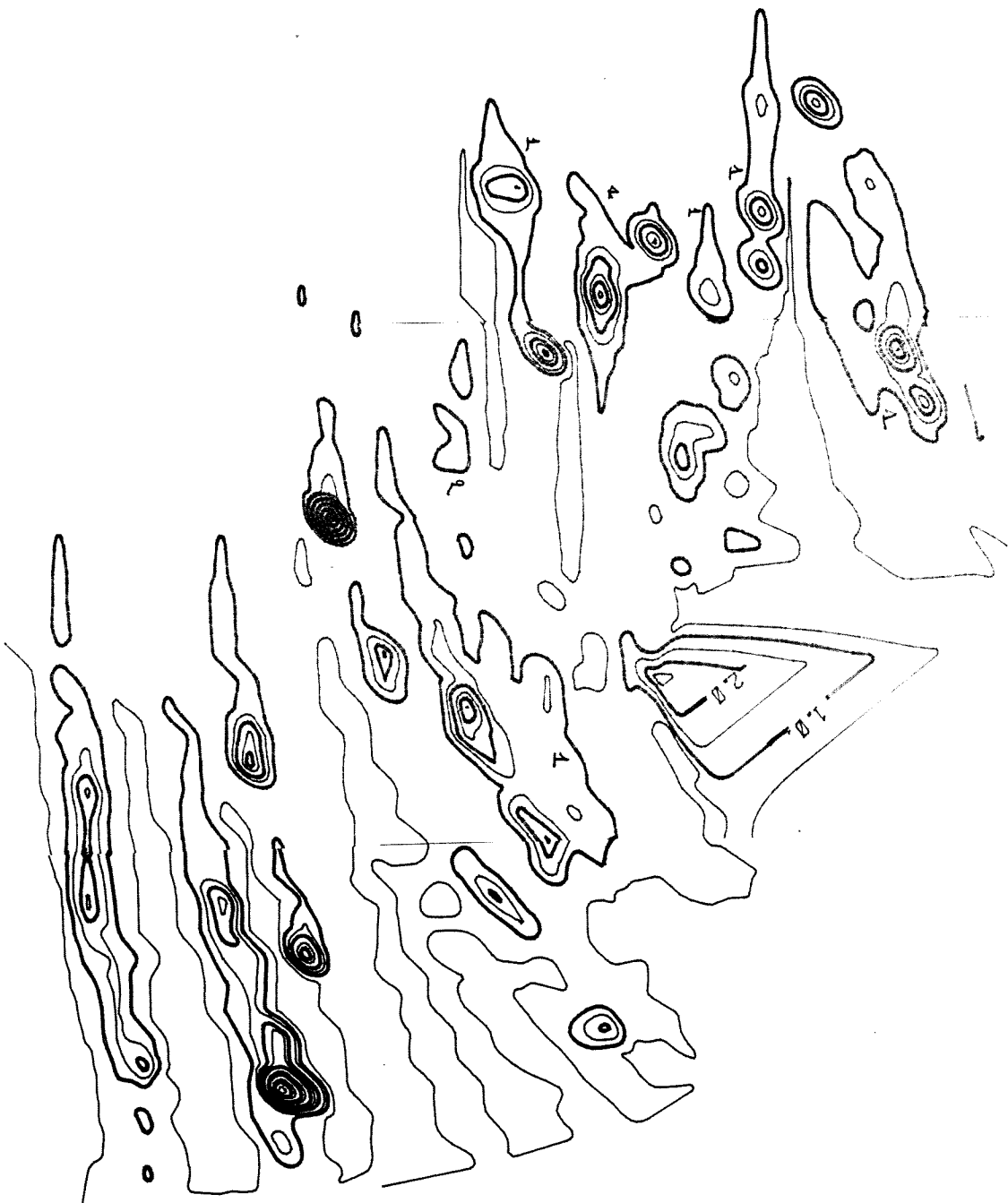
U. S. GEOLOGICAL SURVEY
BUREAU OF MINERAL INVESTIGATION
WASHINGTON, D. C.



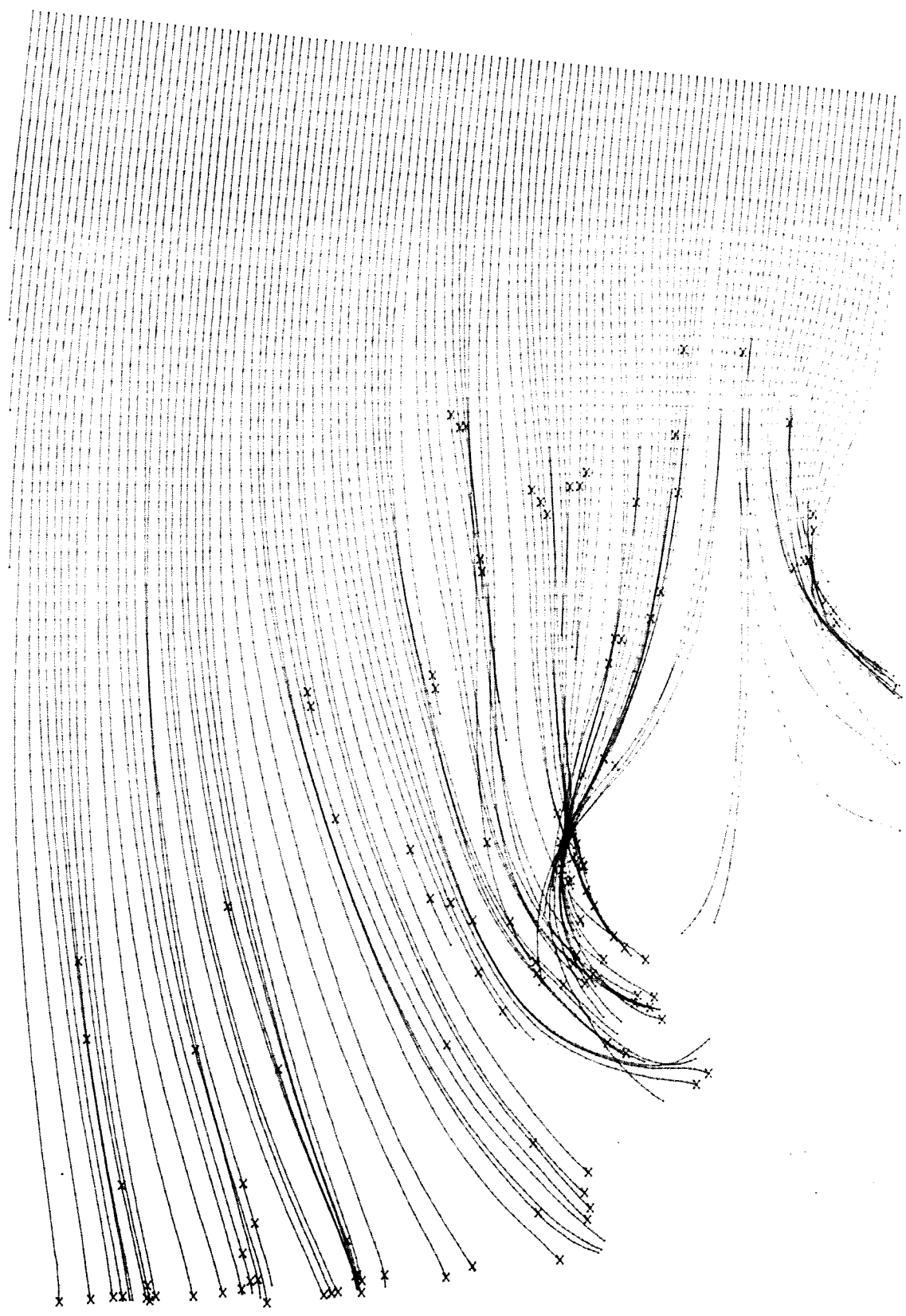


TC25
SCALE 1:

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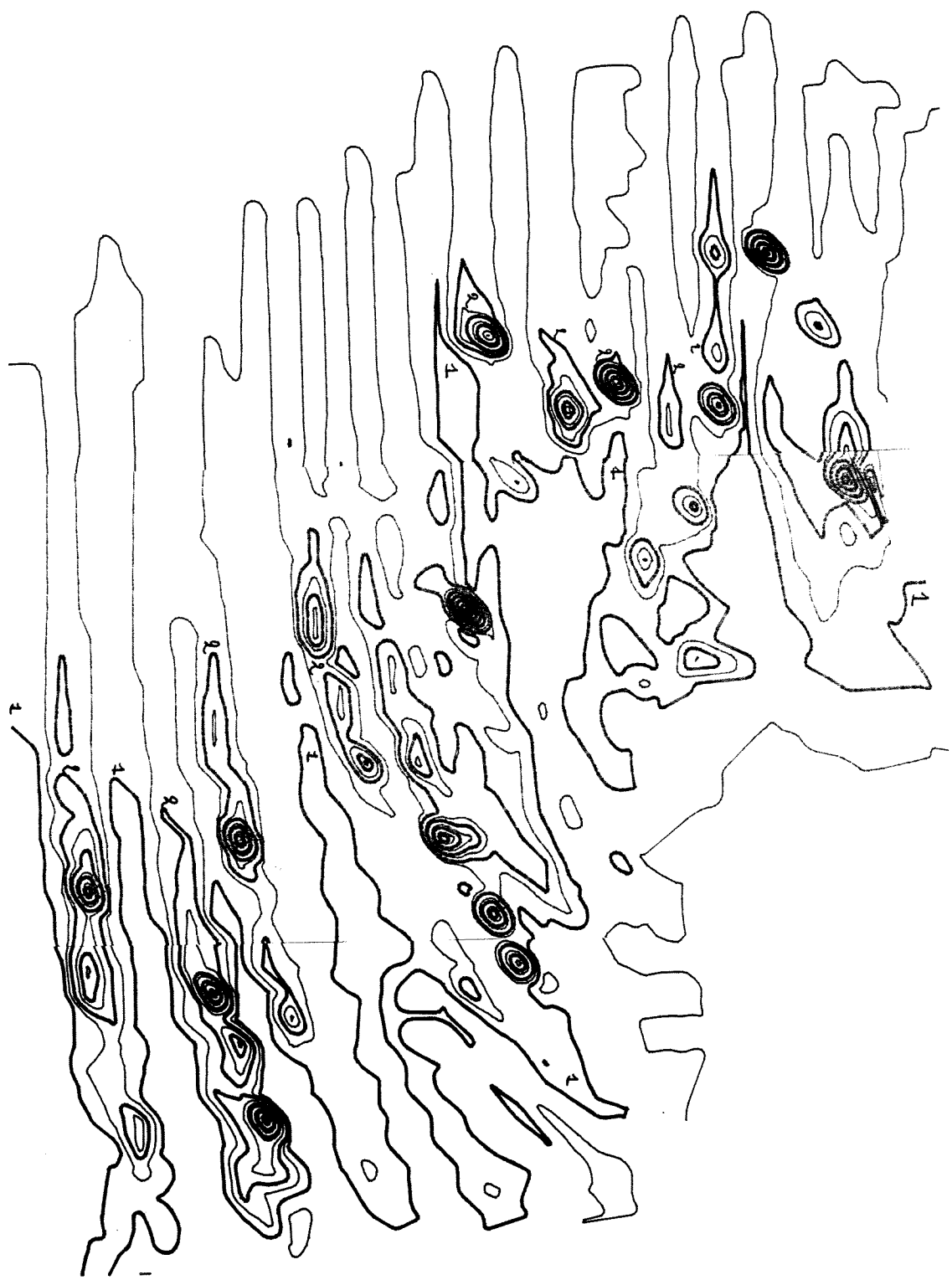
To a certain extent, the degree of
accuracy of the results is
dependent on the accuracy of the
measurements.



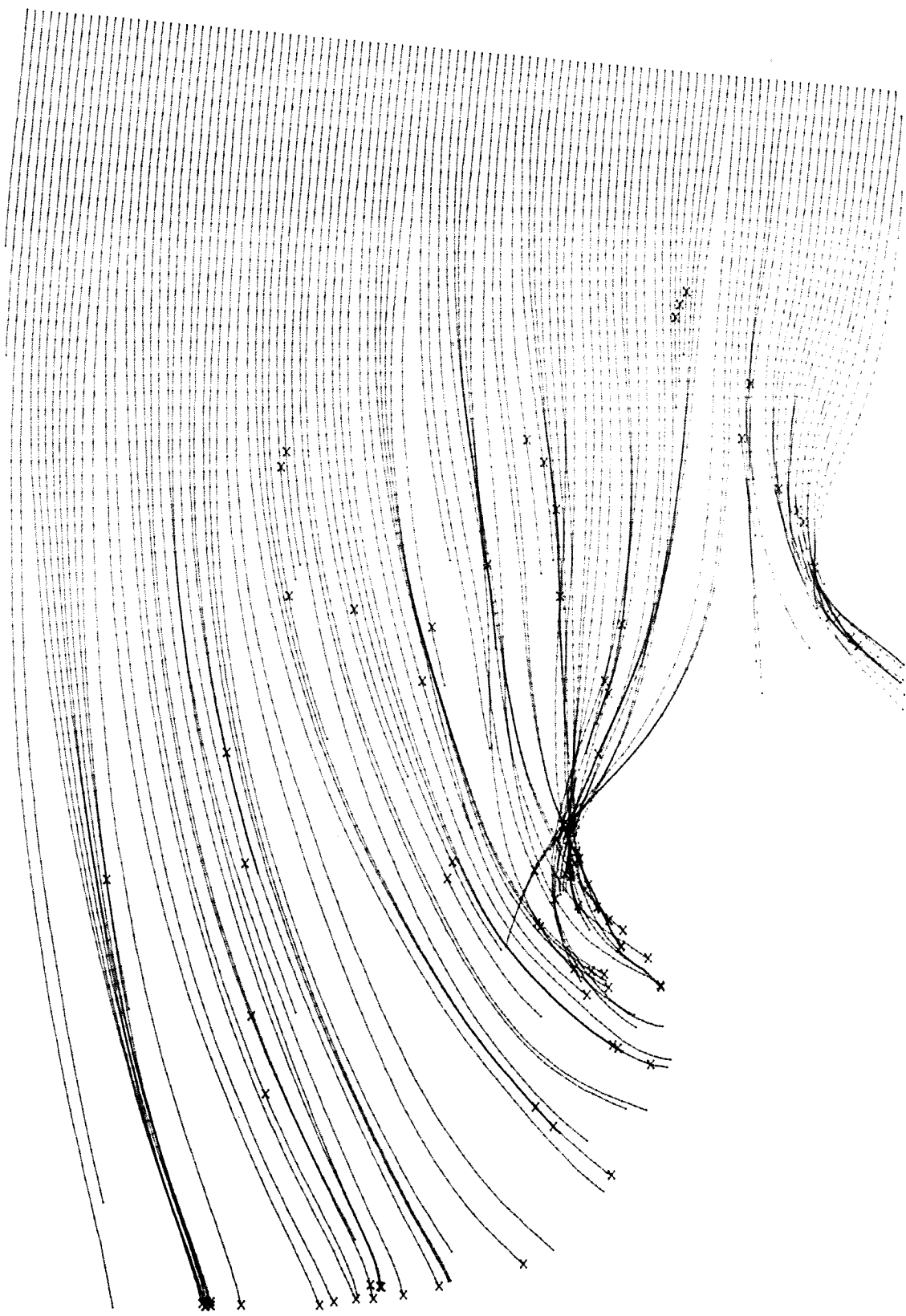


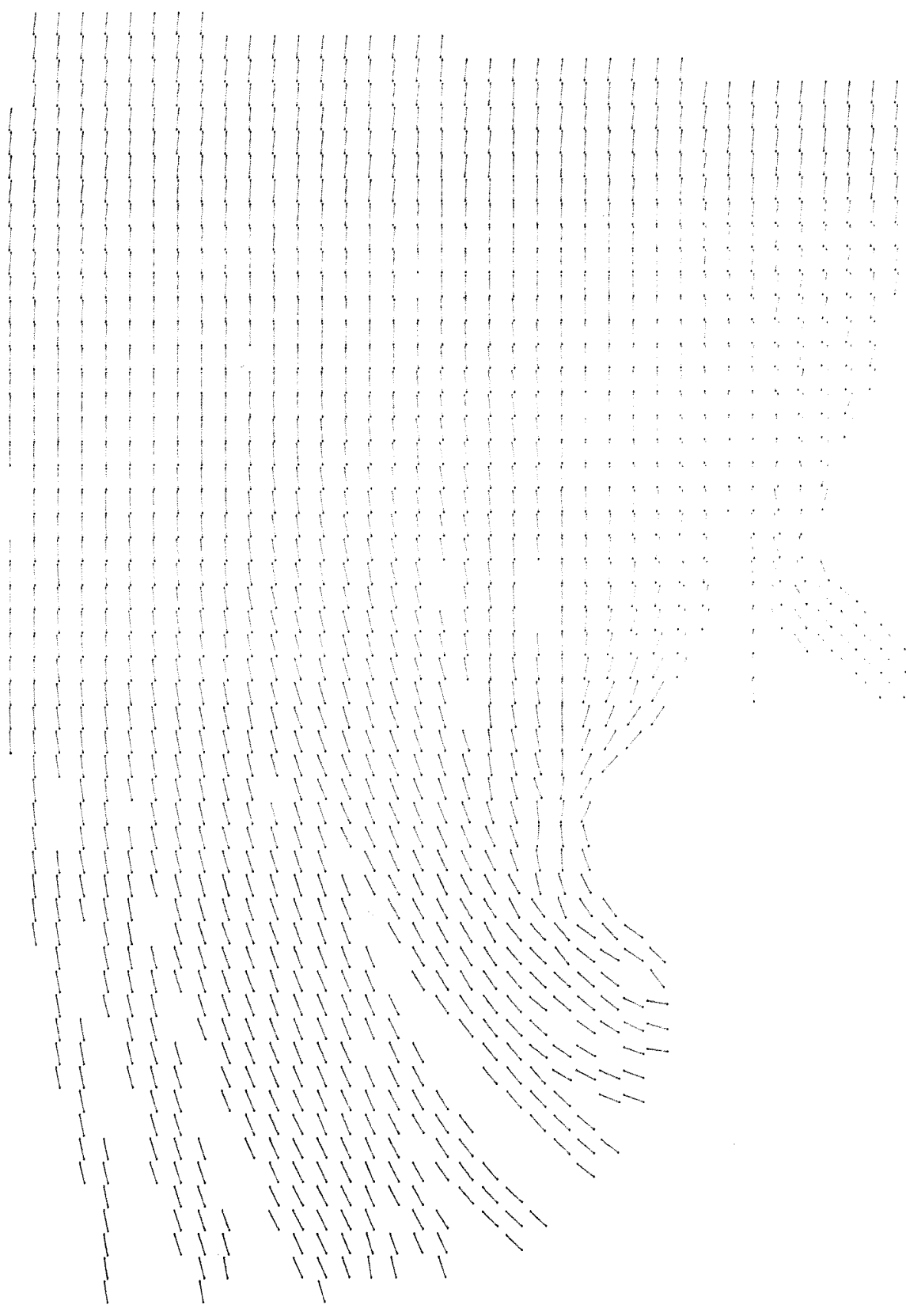
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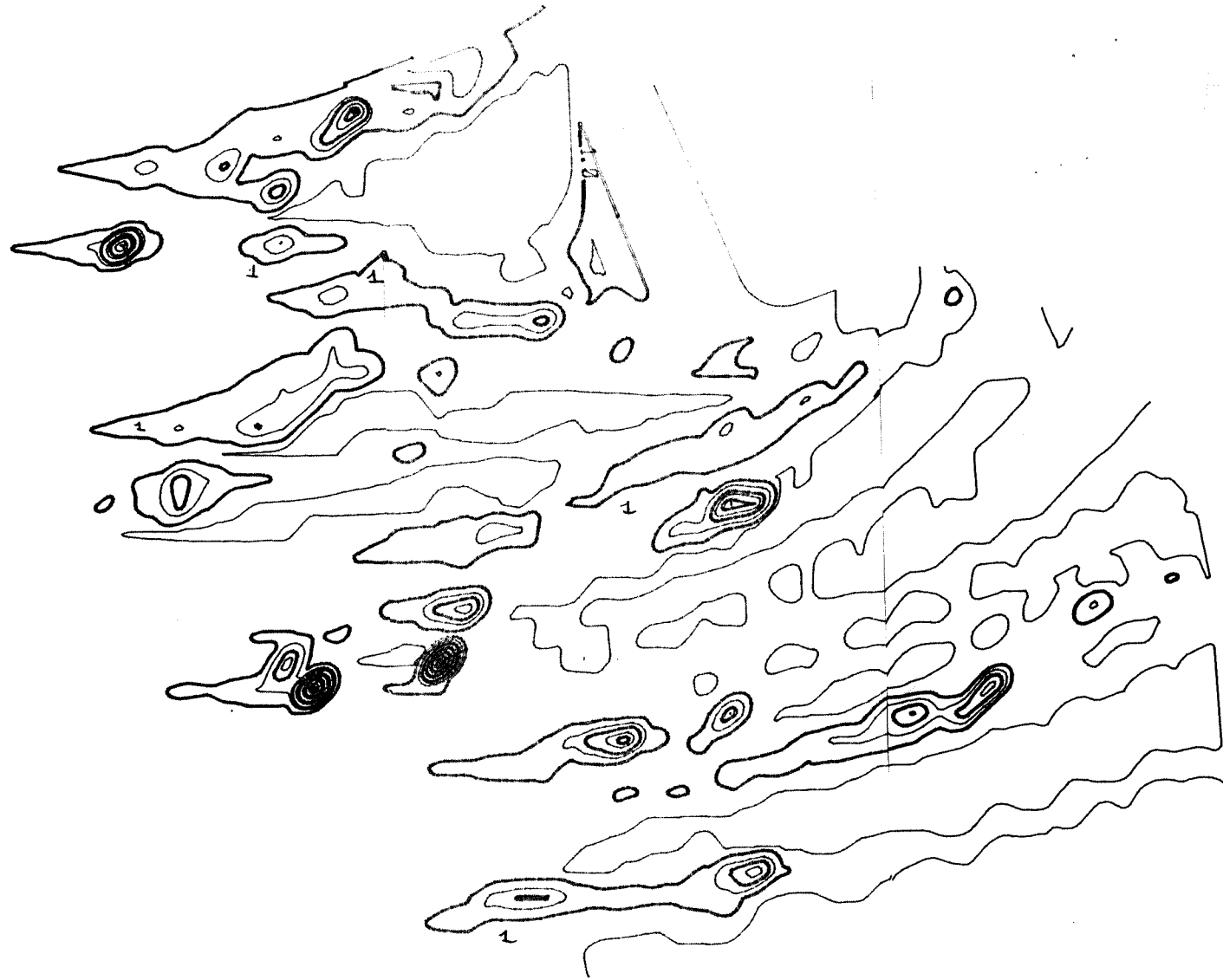
REPRODUCTION OF ORIGINAL AS SUPPLIED
BY THE NATIONAL ARCHIVES
REF ID: A63888



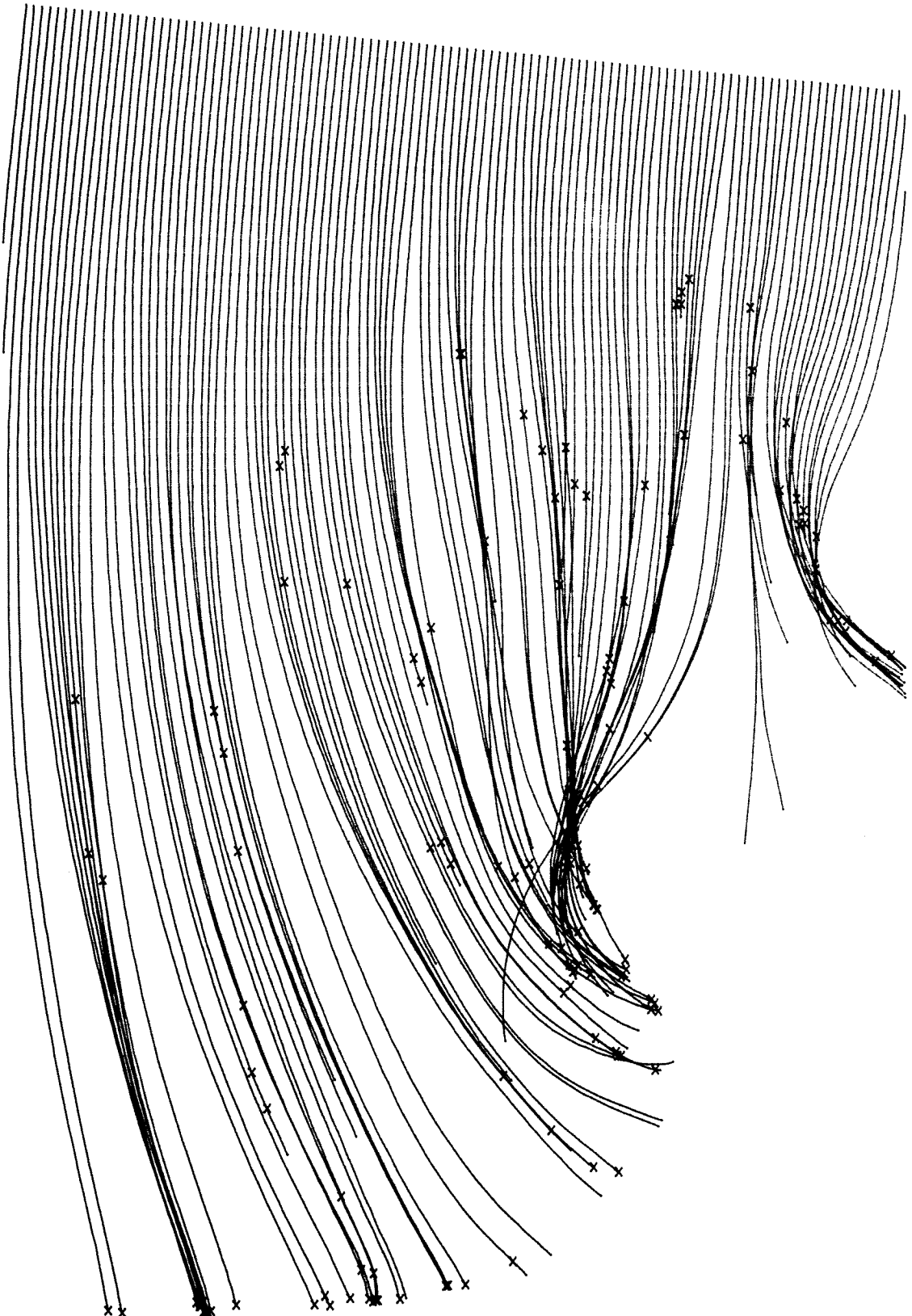


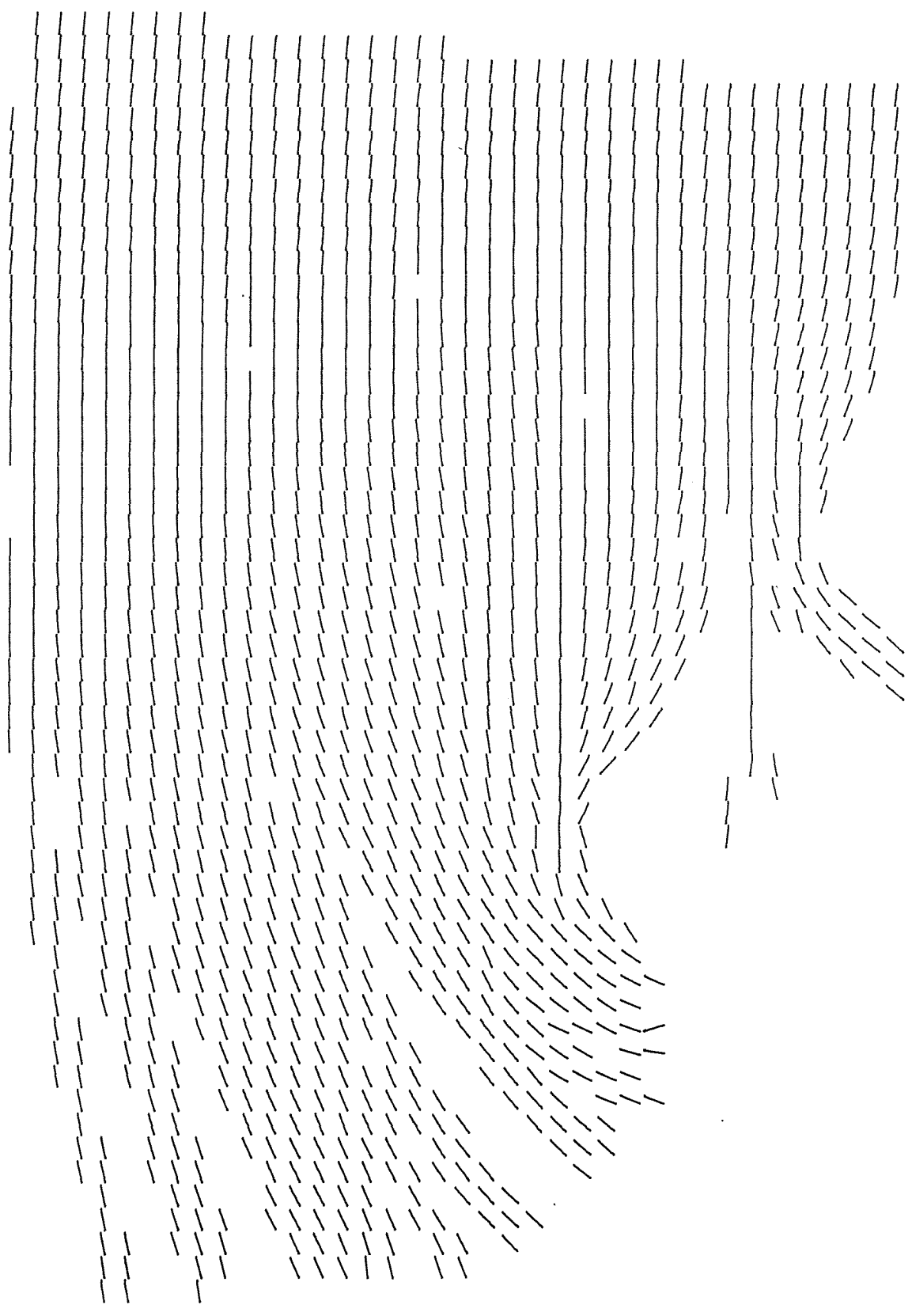
TG27
SCALE 1:

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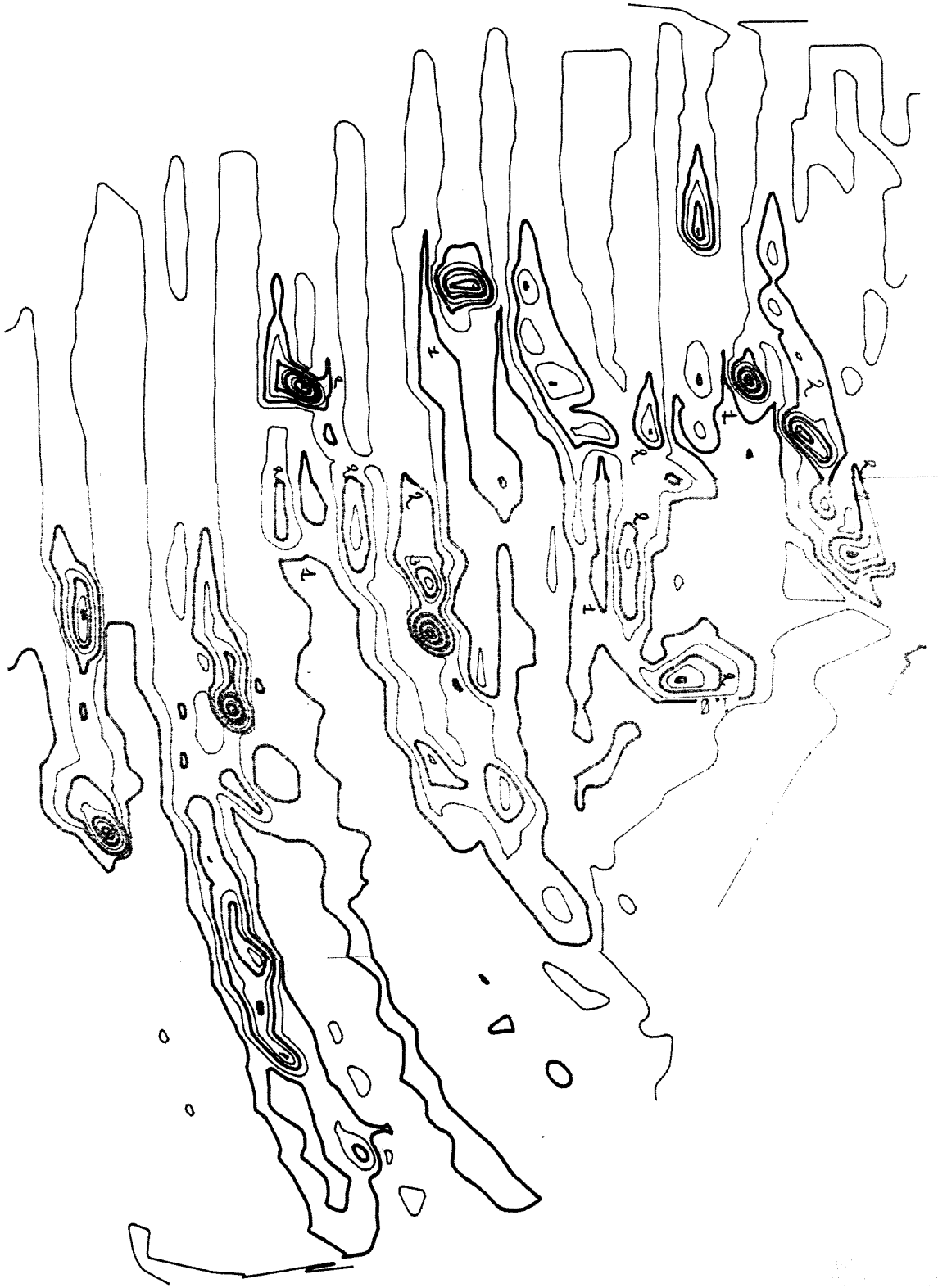
THE A. G. ...
... ..
... ..



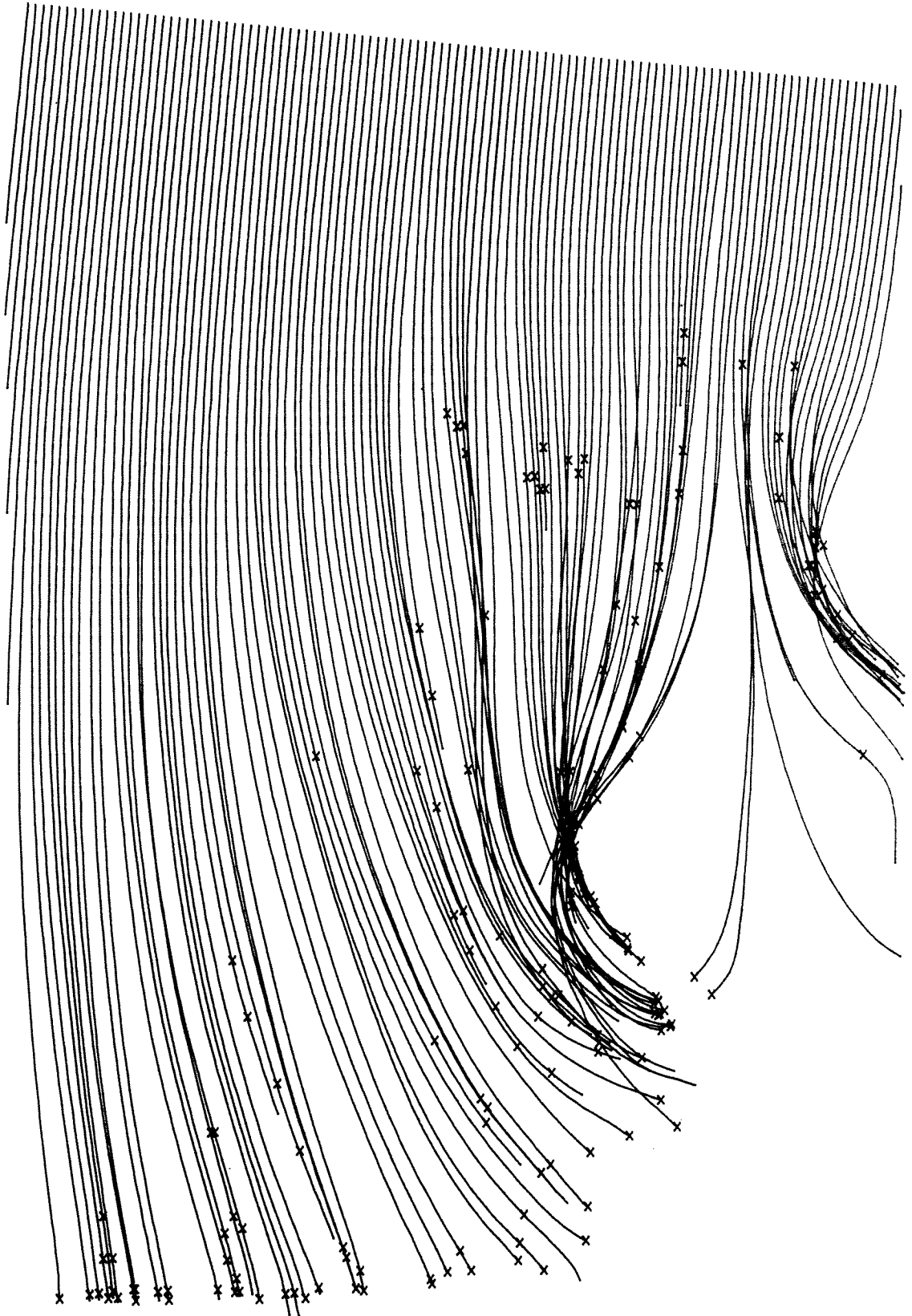


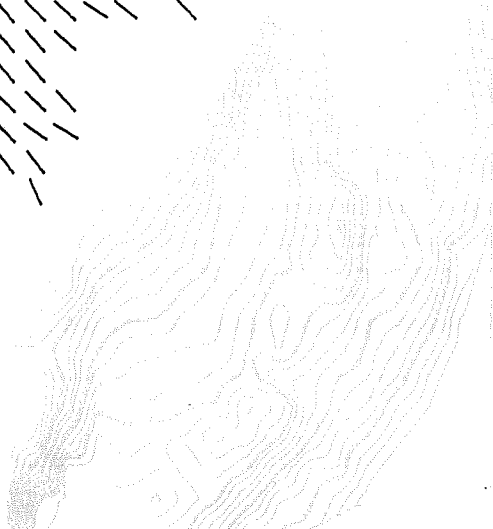
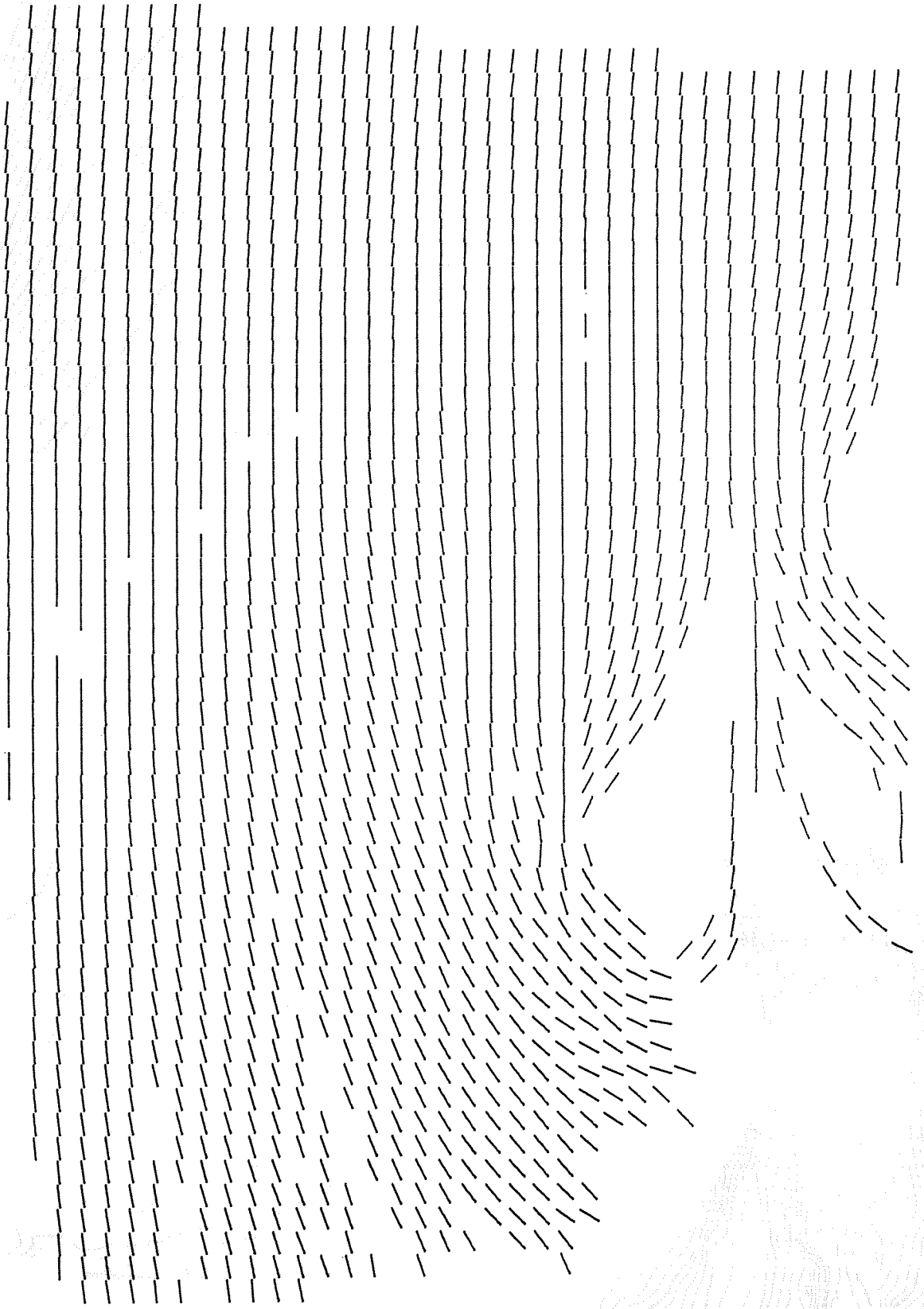
G28
SCALE 1:

450000



SECRET
NO FOREIGN DISSEM
NO UNCLASSIFIED DISSEM





HYDRONAMIC
The Art of Water Motion

TC29
SCALE 1:

45000

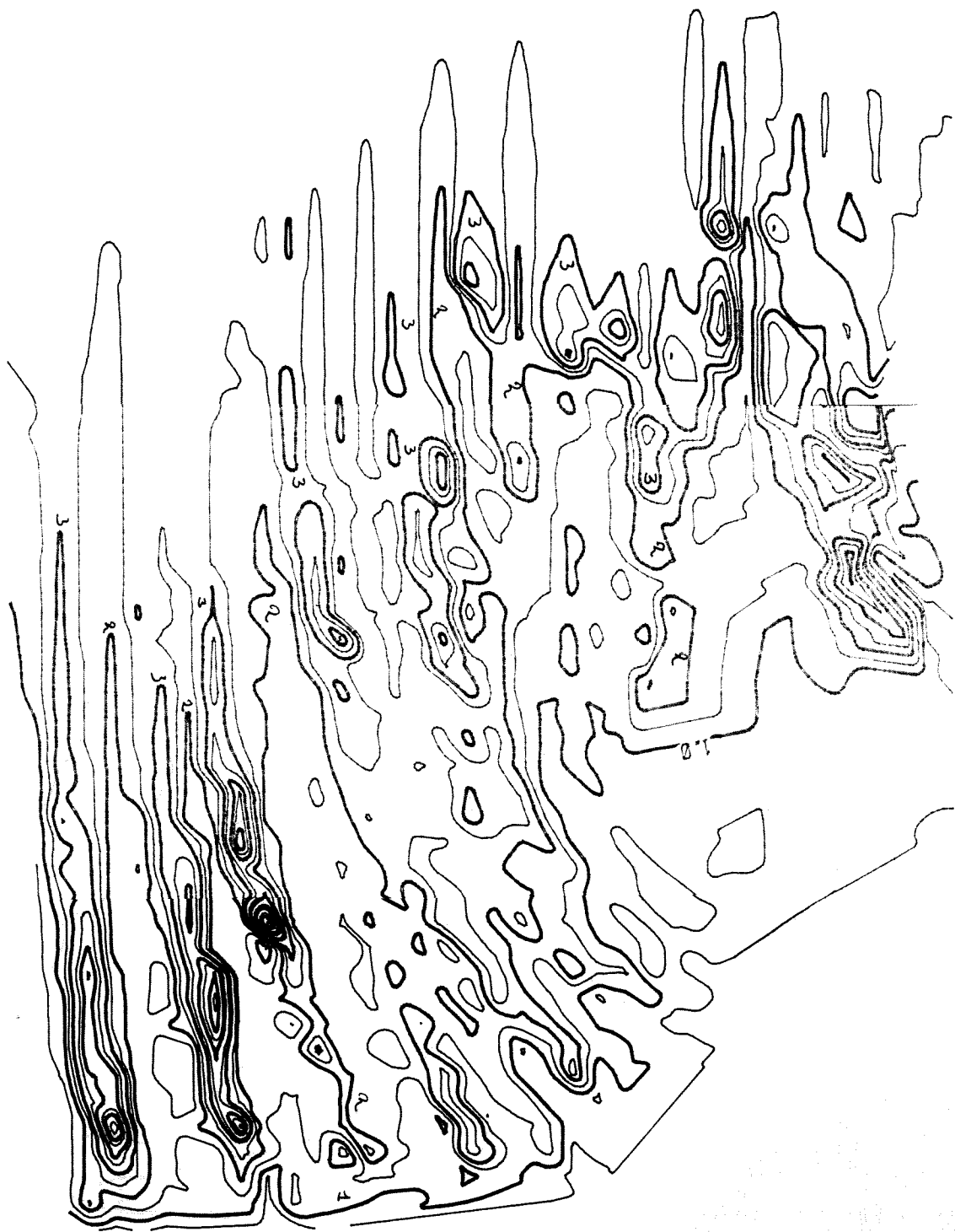
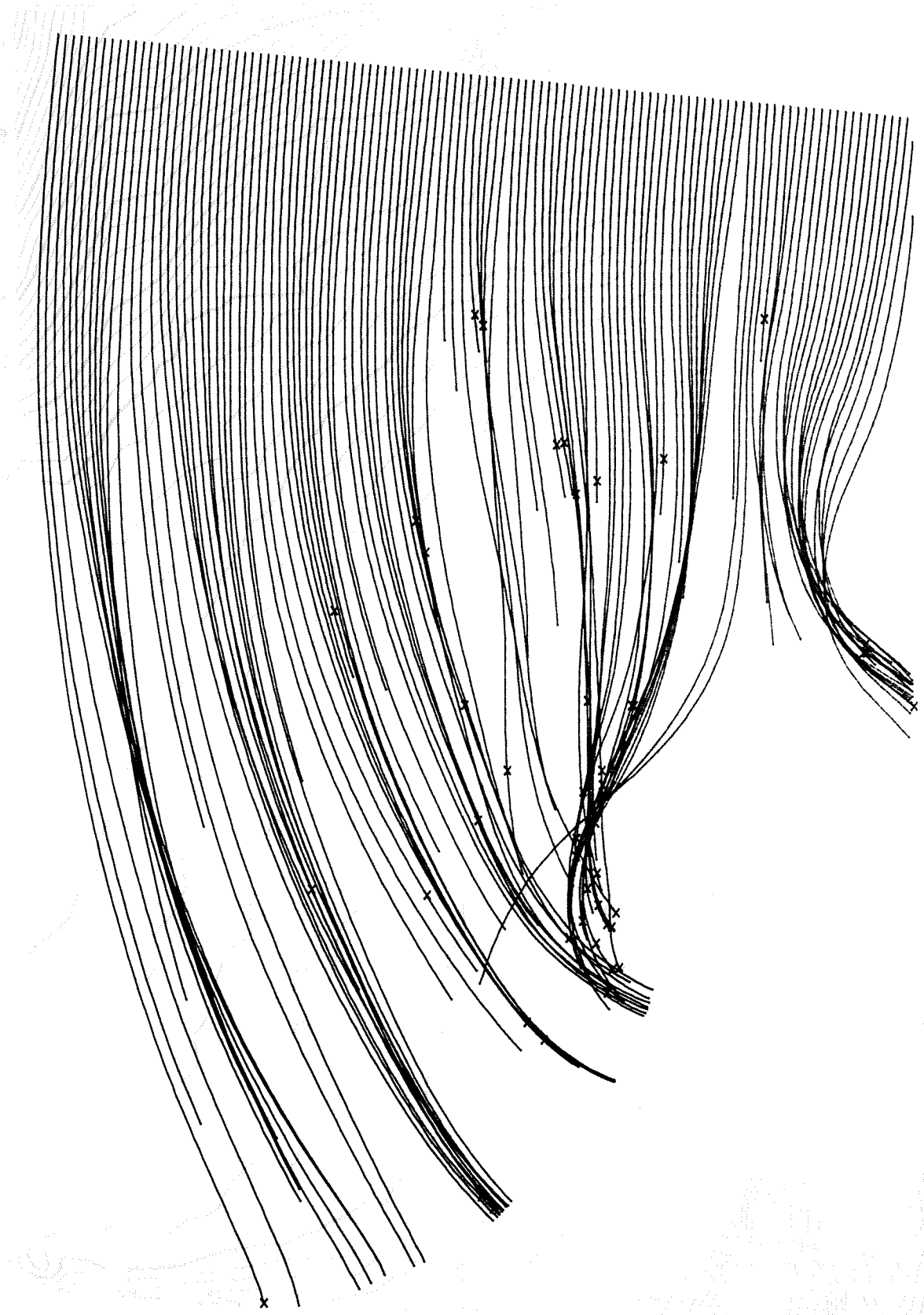
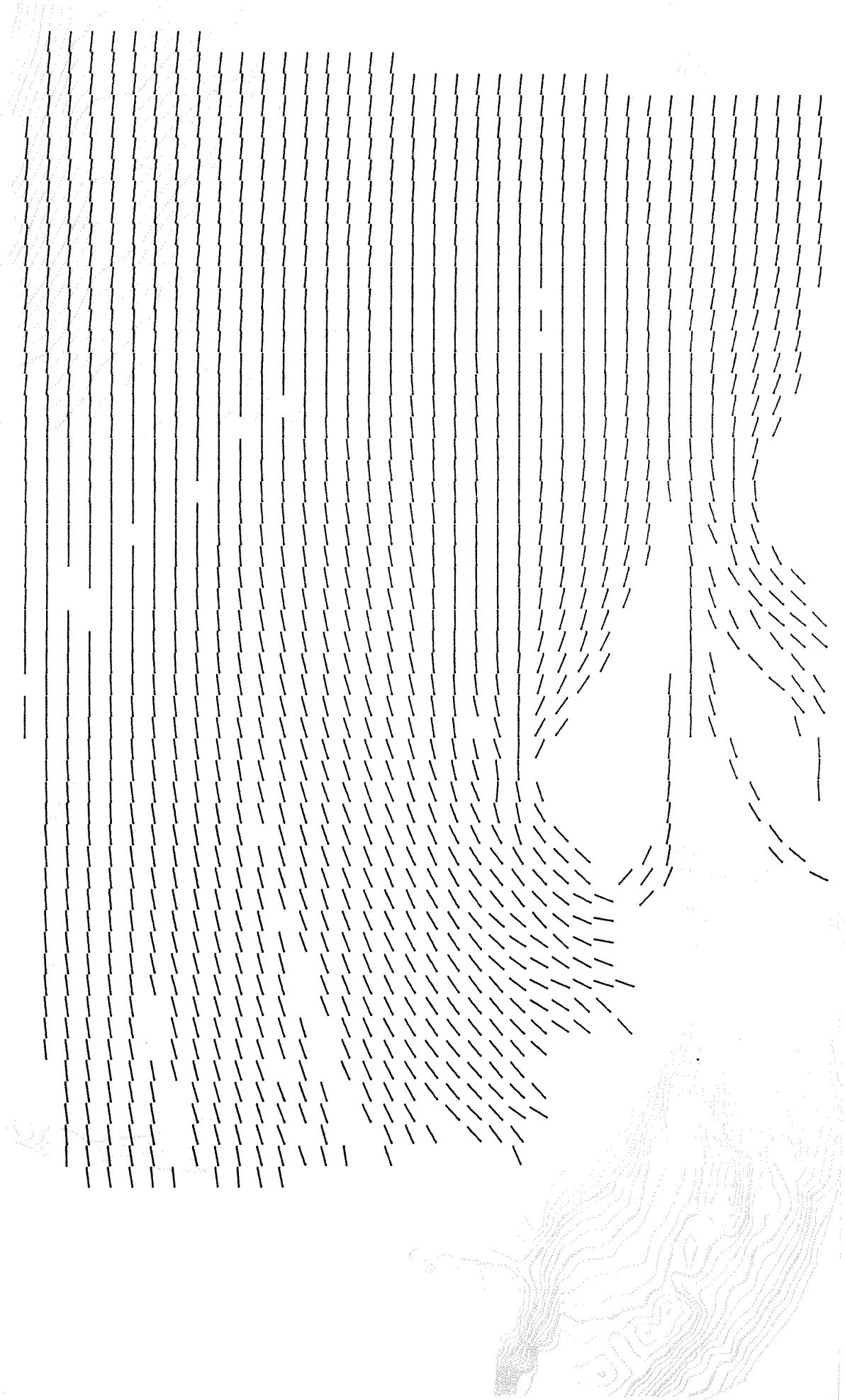


PLATE 10
MOUNTAIN RANGE

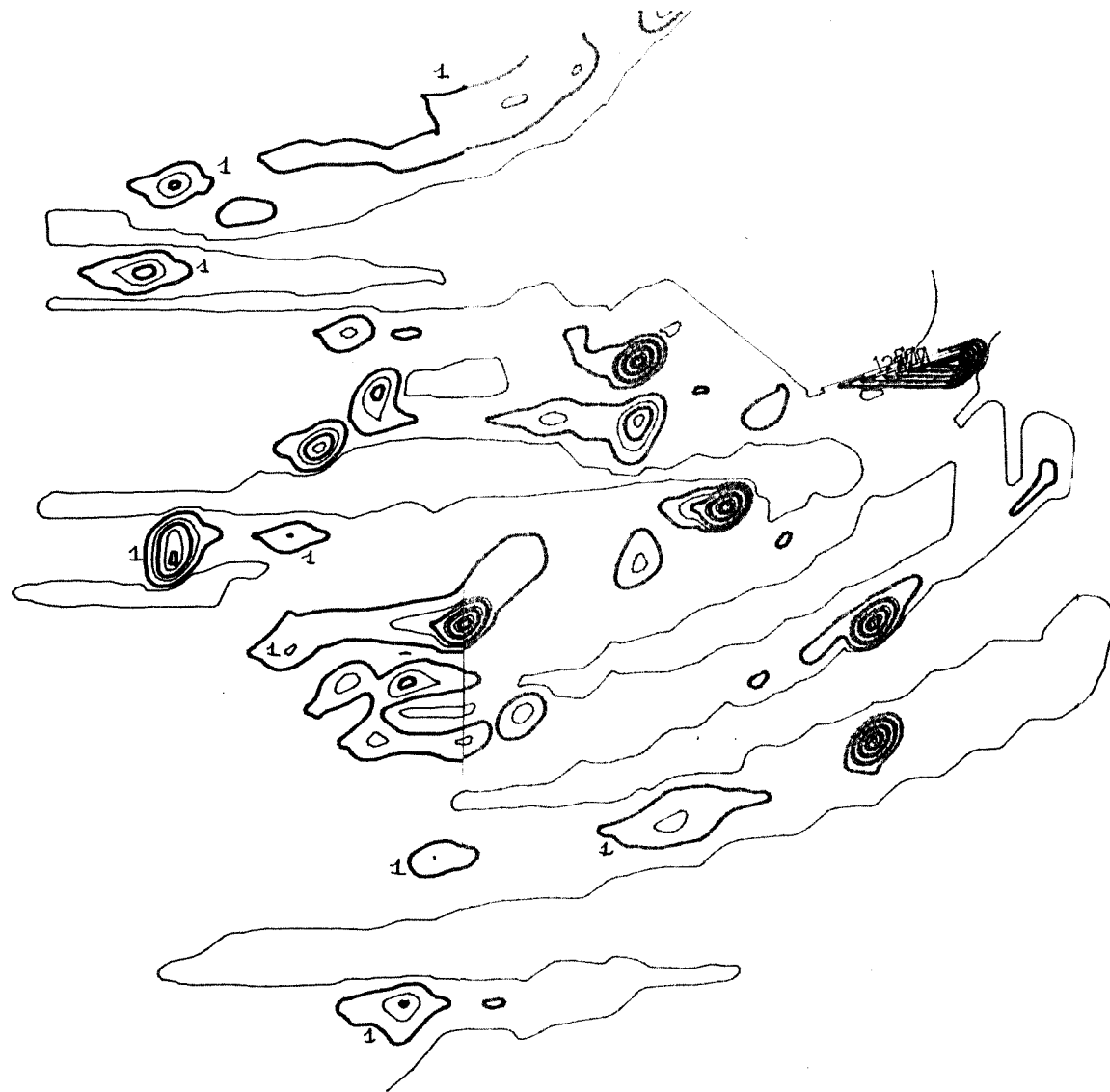


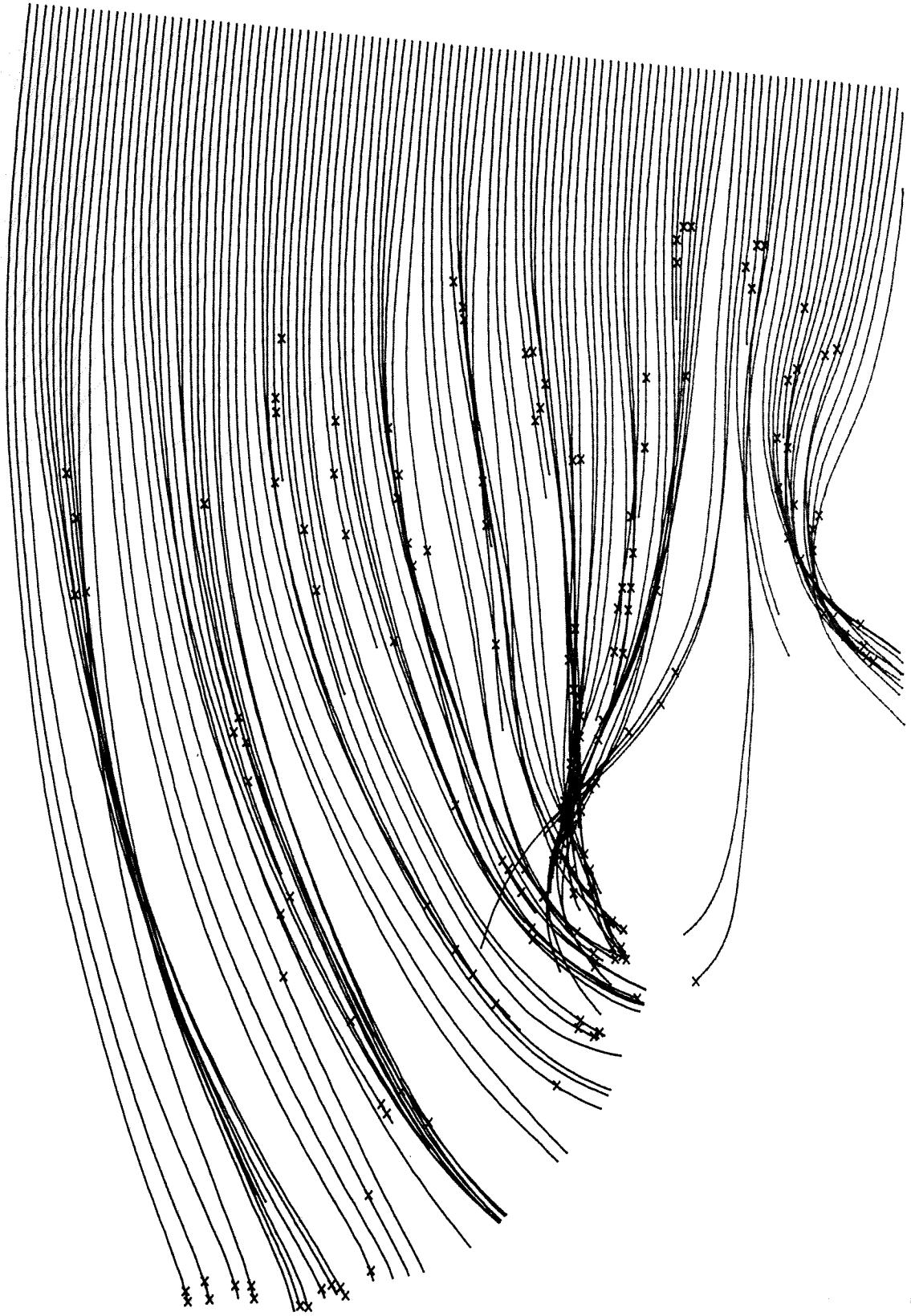
HYDRONAMIC
HYDROLOGIC MODELING

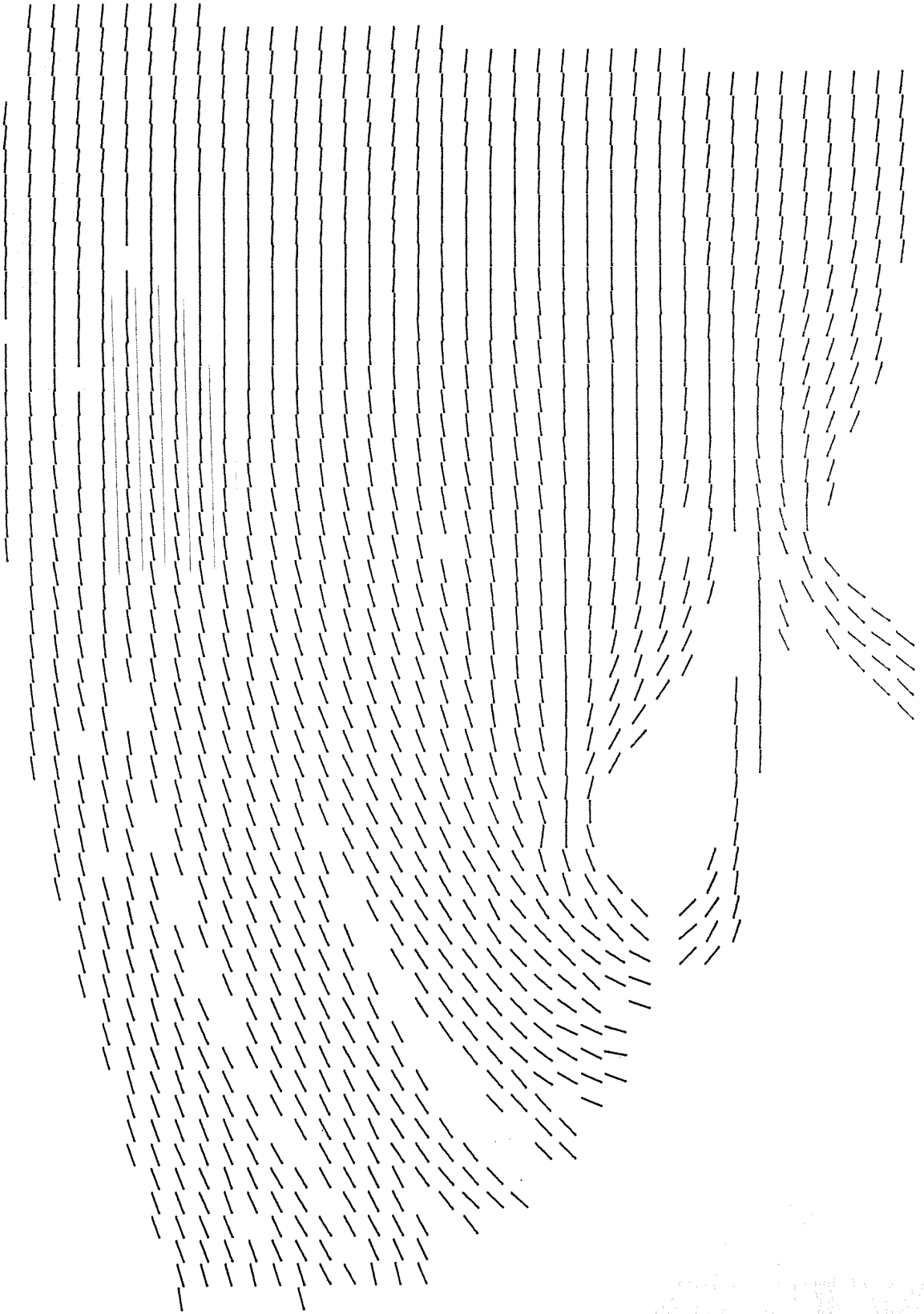


TG30
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45000



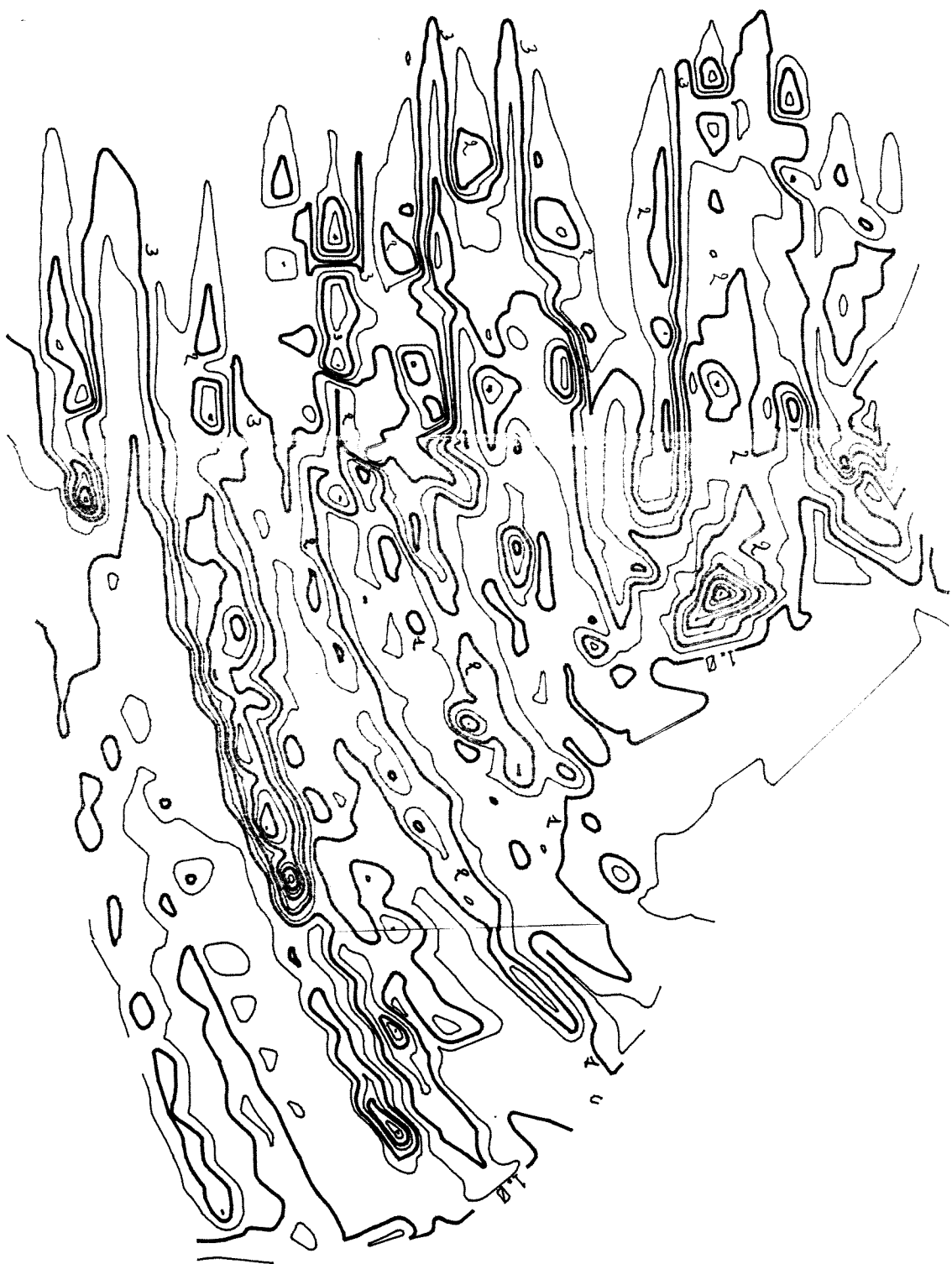




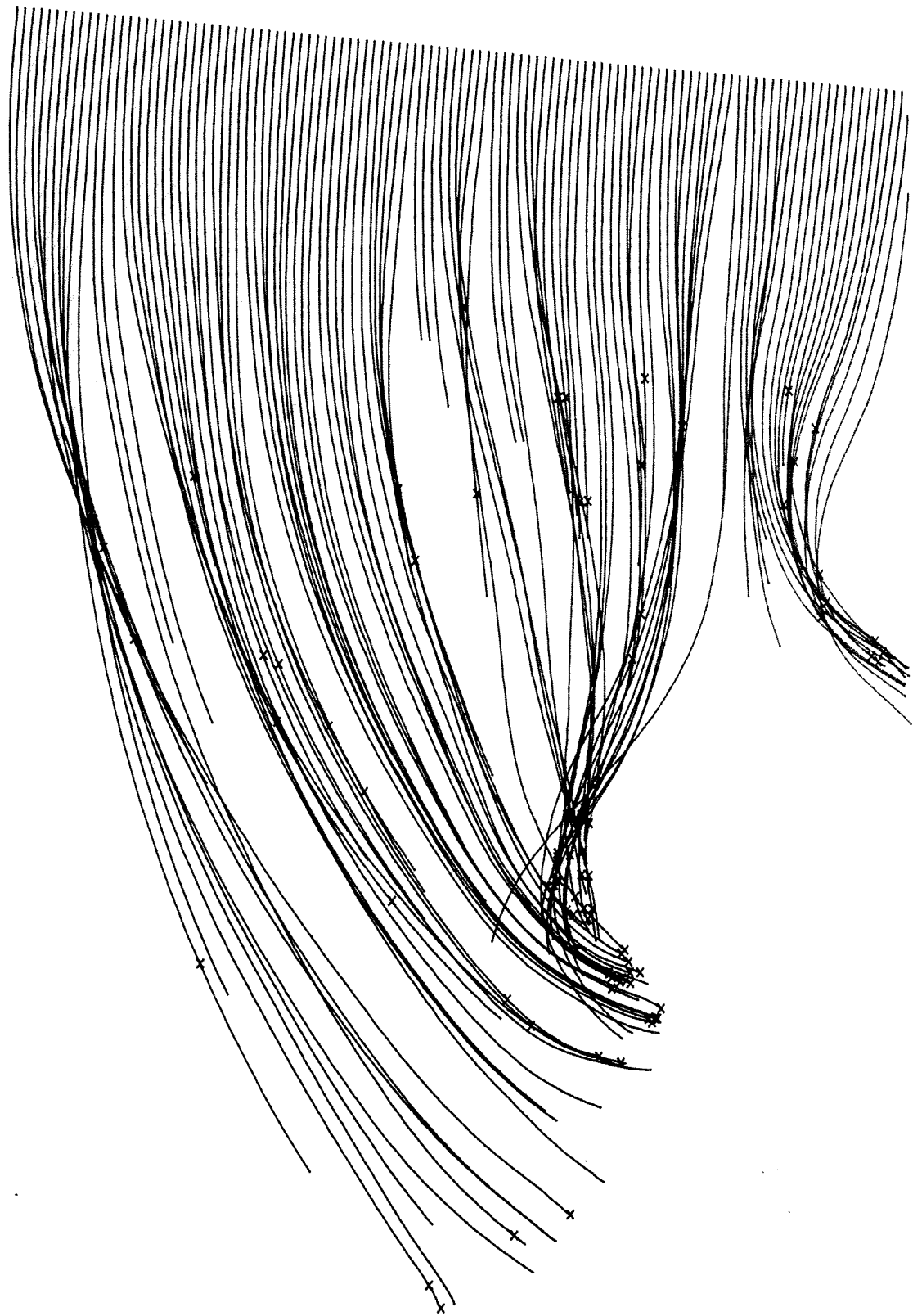
HYPERMARTIC

TC31
SCALE 1:

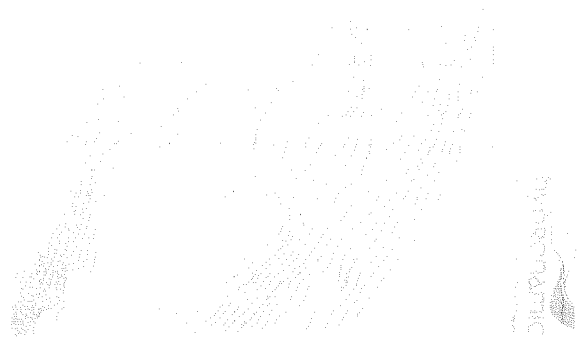
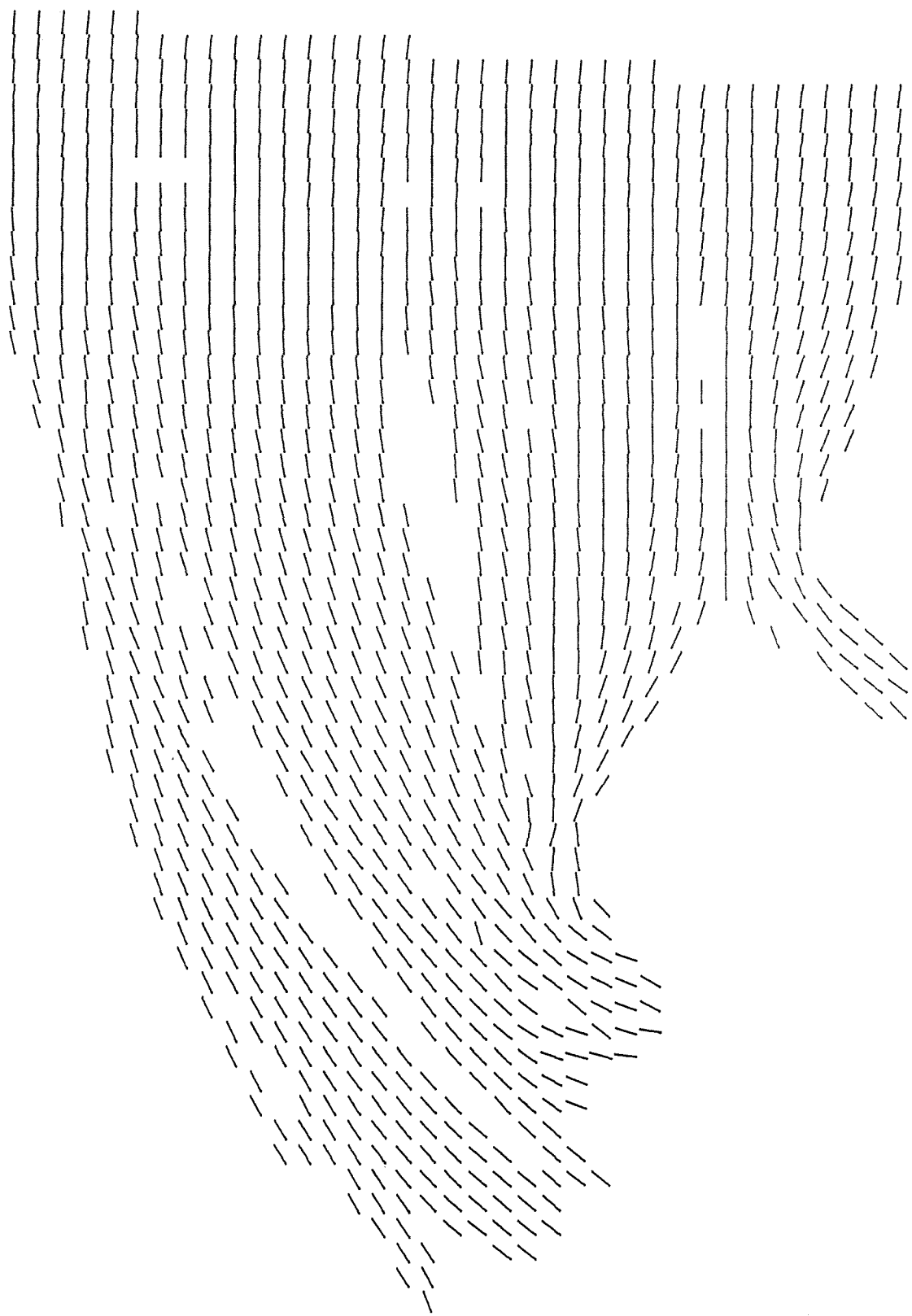
450000



THE UNIVERSITY OF CHICAGO
LIBRARY



UNIVERSITY OF CHICAGO
LIBRARY



TC32
SCALE 1:

450000



THE NATIONAL ARCHIVES
COLLECTION OF DOCUMENTS
SERIALS SECTION



xxx

[The page contains approximately 25 lines of text that has been completely obscured by heavy, repetitive horizontal scribbles or noise. The text is illegible.]

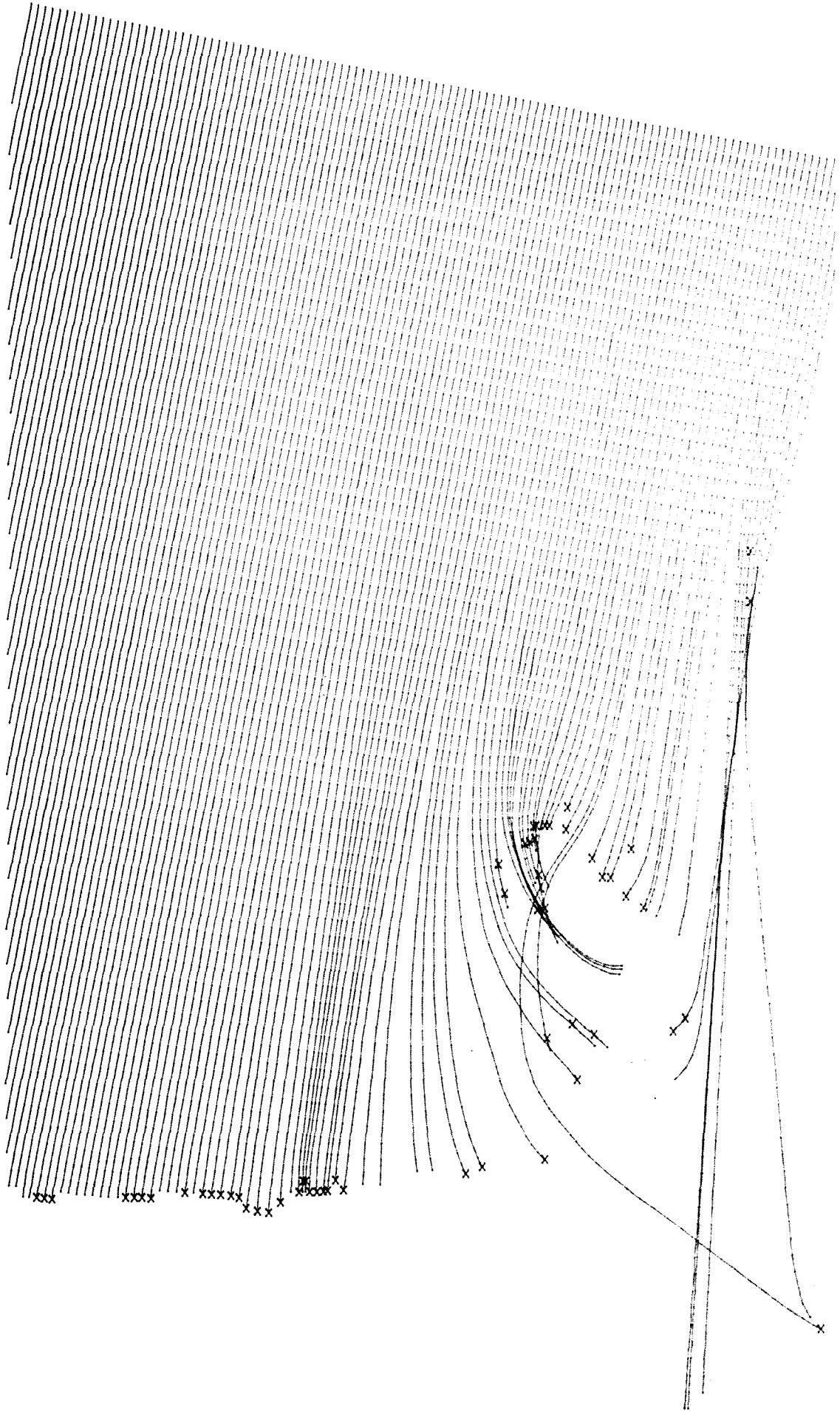
TG33
SCALE 1:

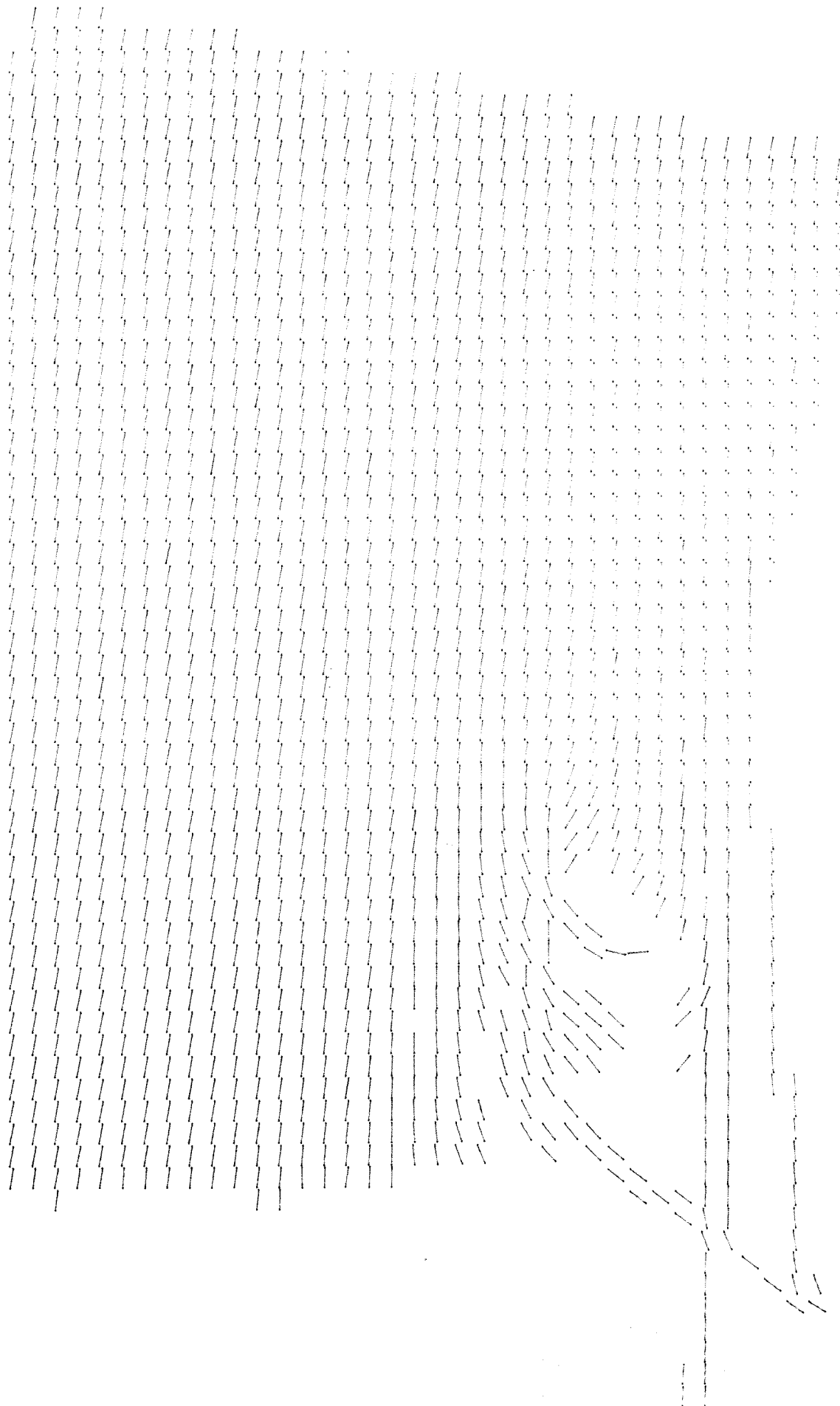
45000

hydrodynamic
laboratory



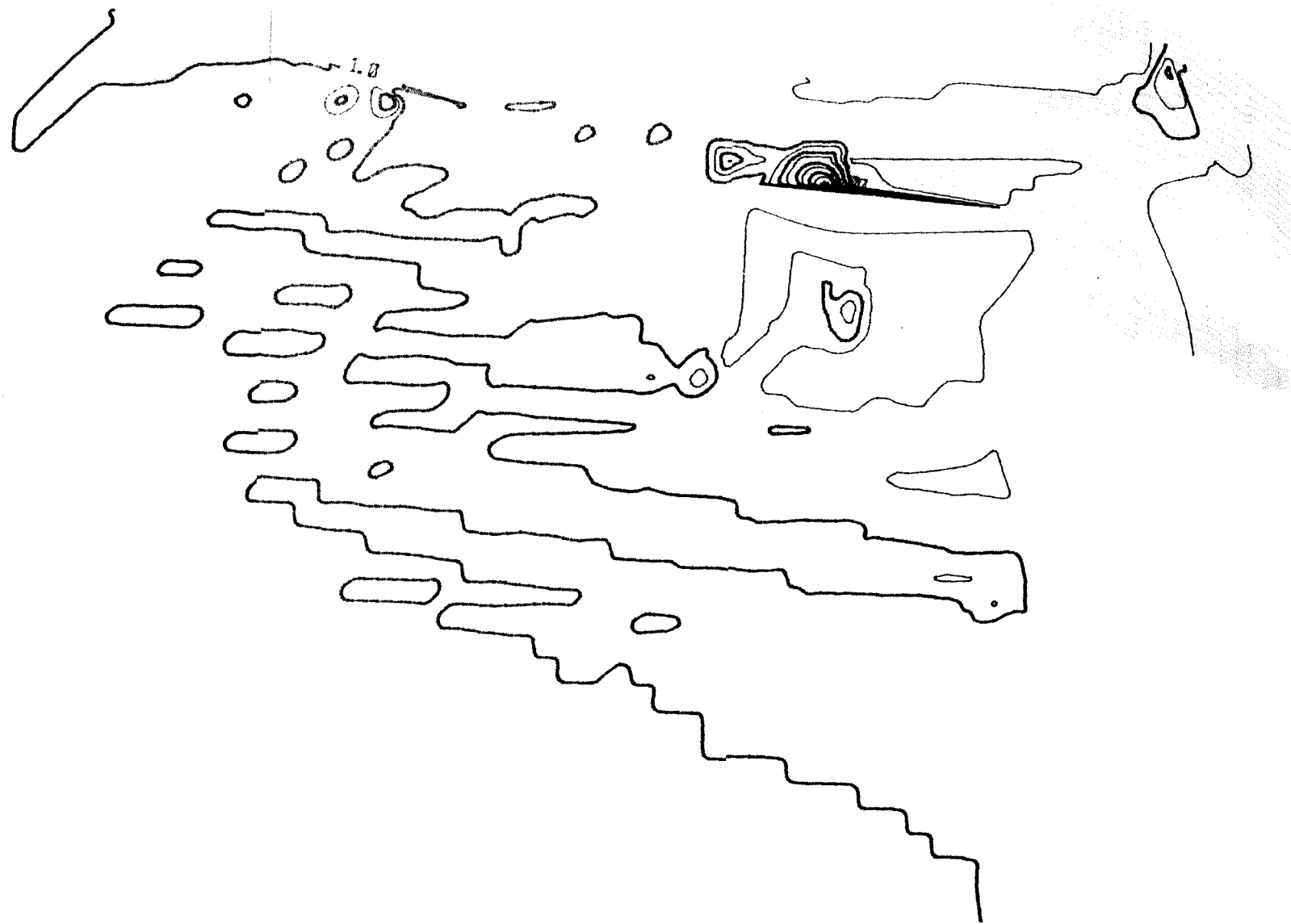
To: A. ...
Date: 1. ...
Place: ...

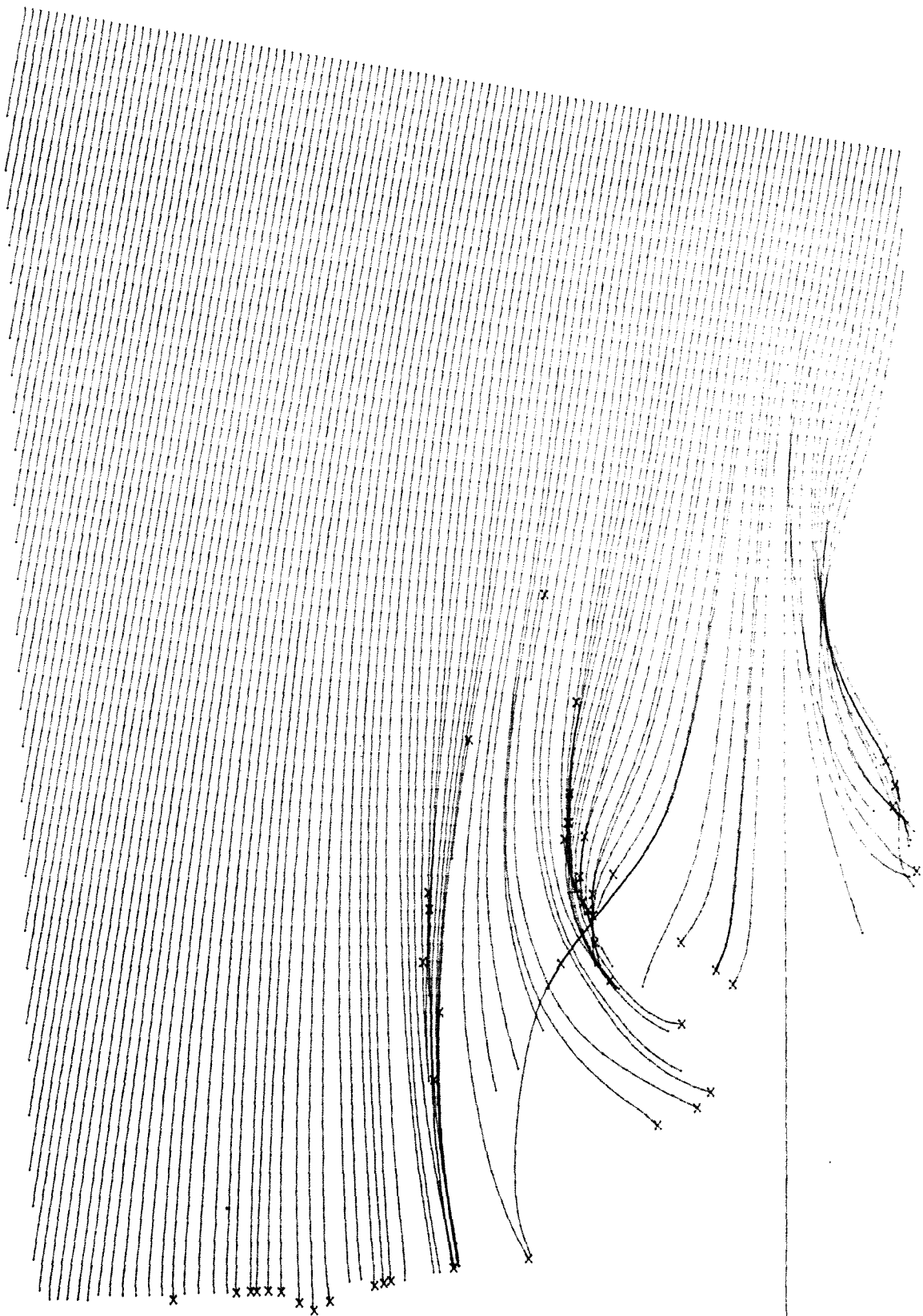




TG34
SCALE 1:

45000

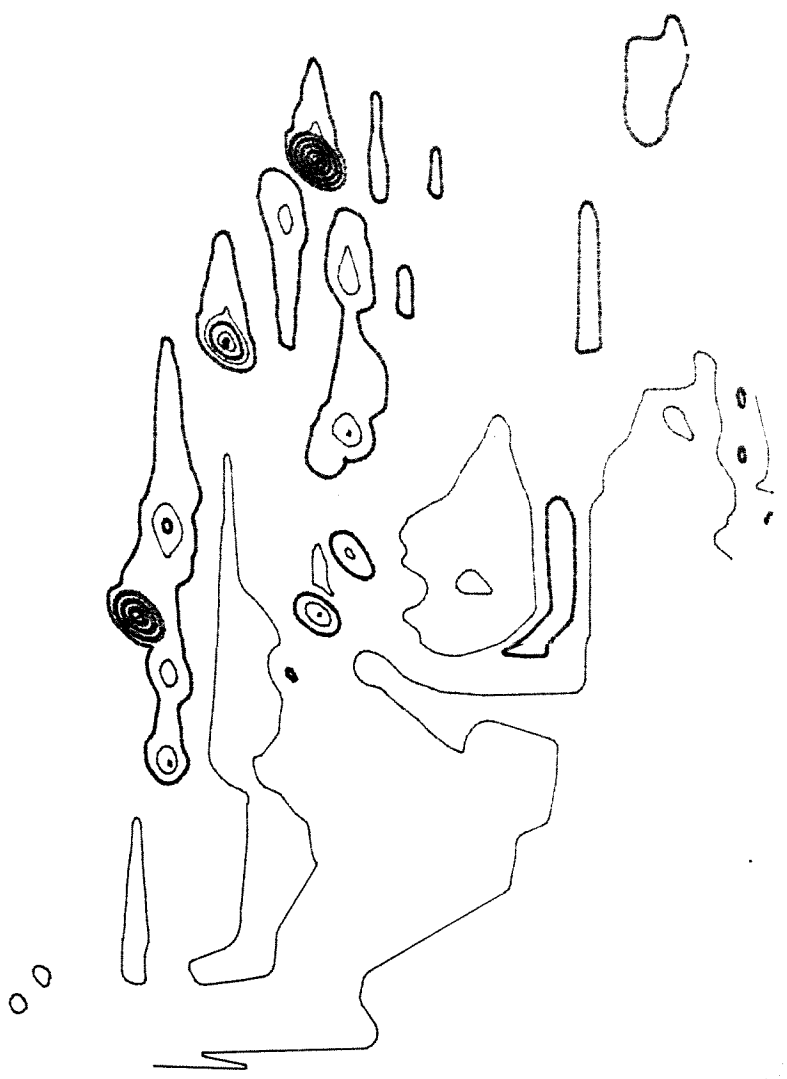




Vertical lines of text, possibly bleed-through from the reverse side of the page. The text is mostly illegible due to the high contrast and orientation. Some faint words like "THE" and "AND" are visible.

TC35
SCALE 1:

450000



Vertical lines of varying lengths and orientations, possibly representing a barcode or a series of data points. The lines are arranged in a roughly rectangular pattern, with some lines being straight and others slightly curved or broken. The lines are black on a white background.

TG36
SCALE 1:

45000



The following information is for the use of the recipient of this document and is not to be disseminated outside the recipient's organization.

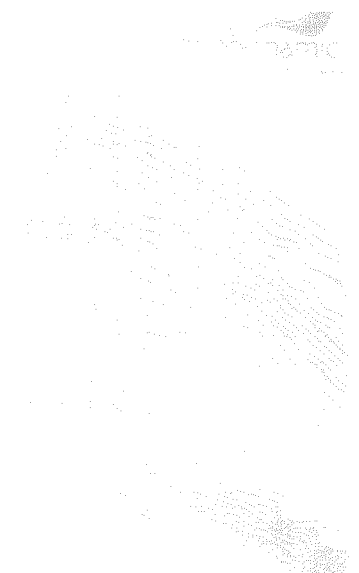
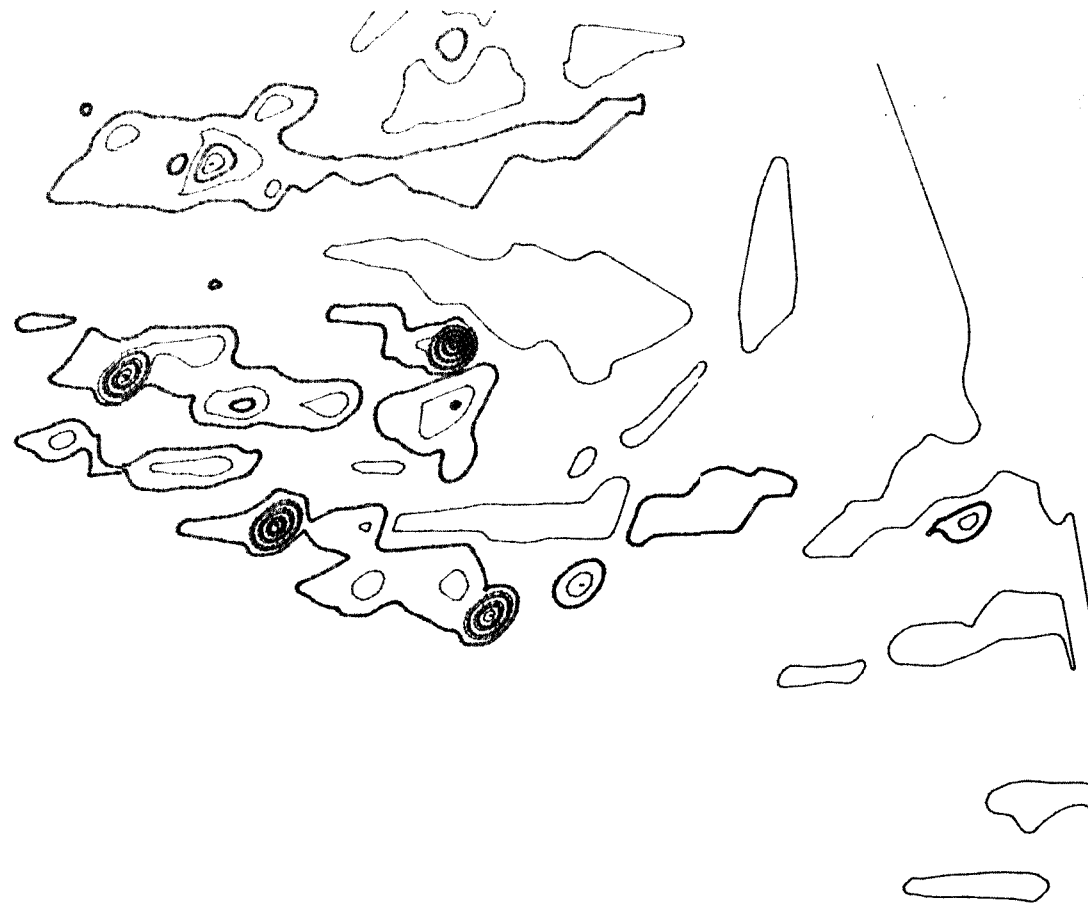


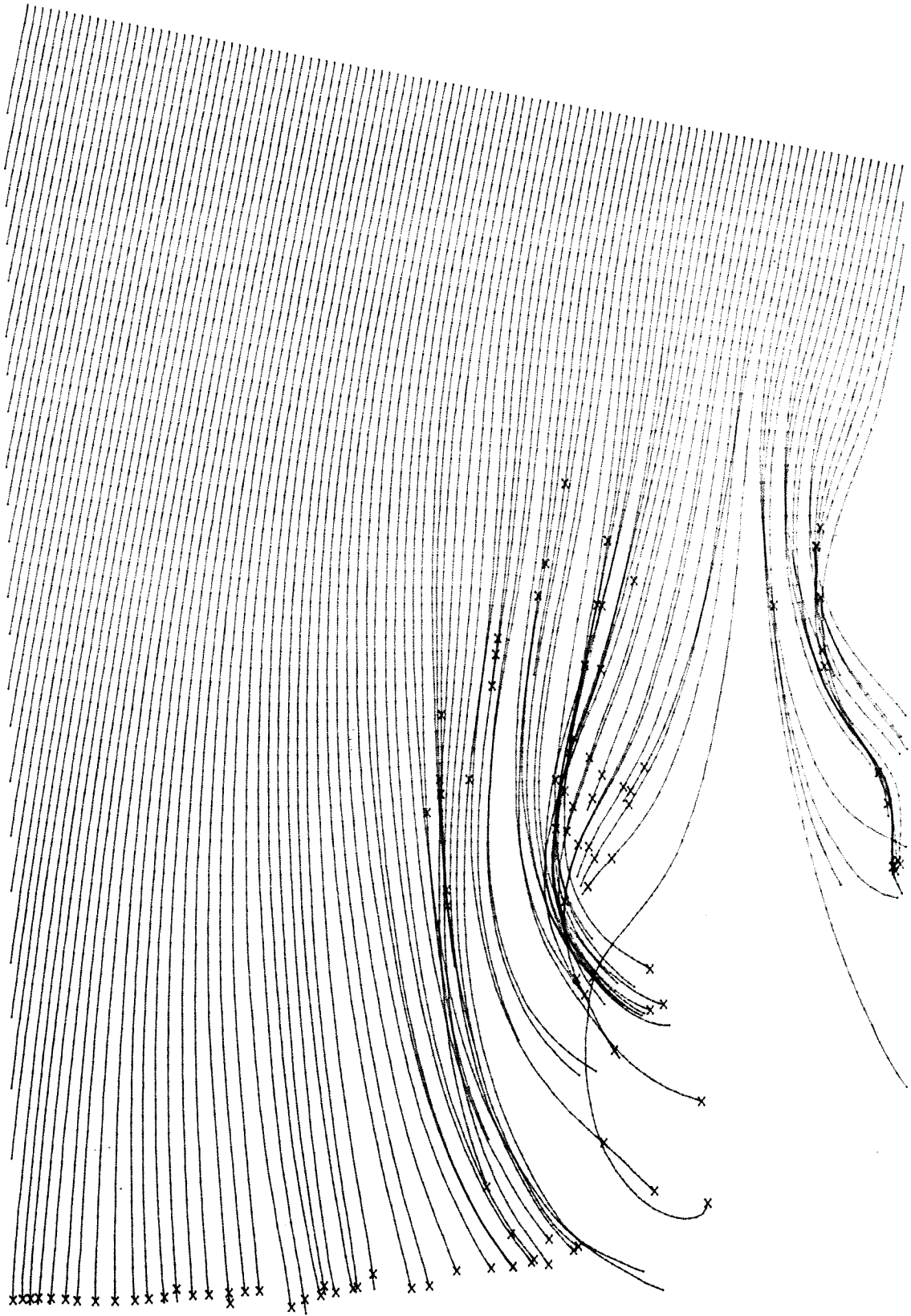
10



TG37
SCALE 1:

45000







TC38
SCALE 1:

45000

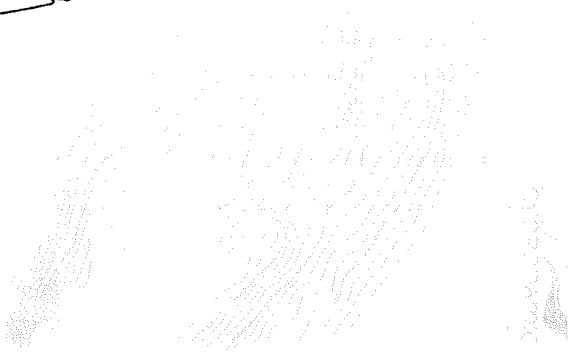
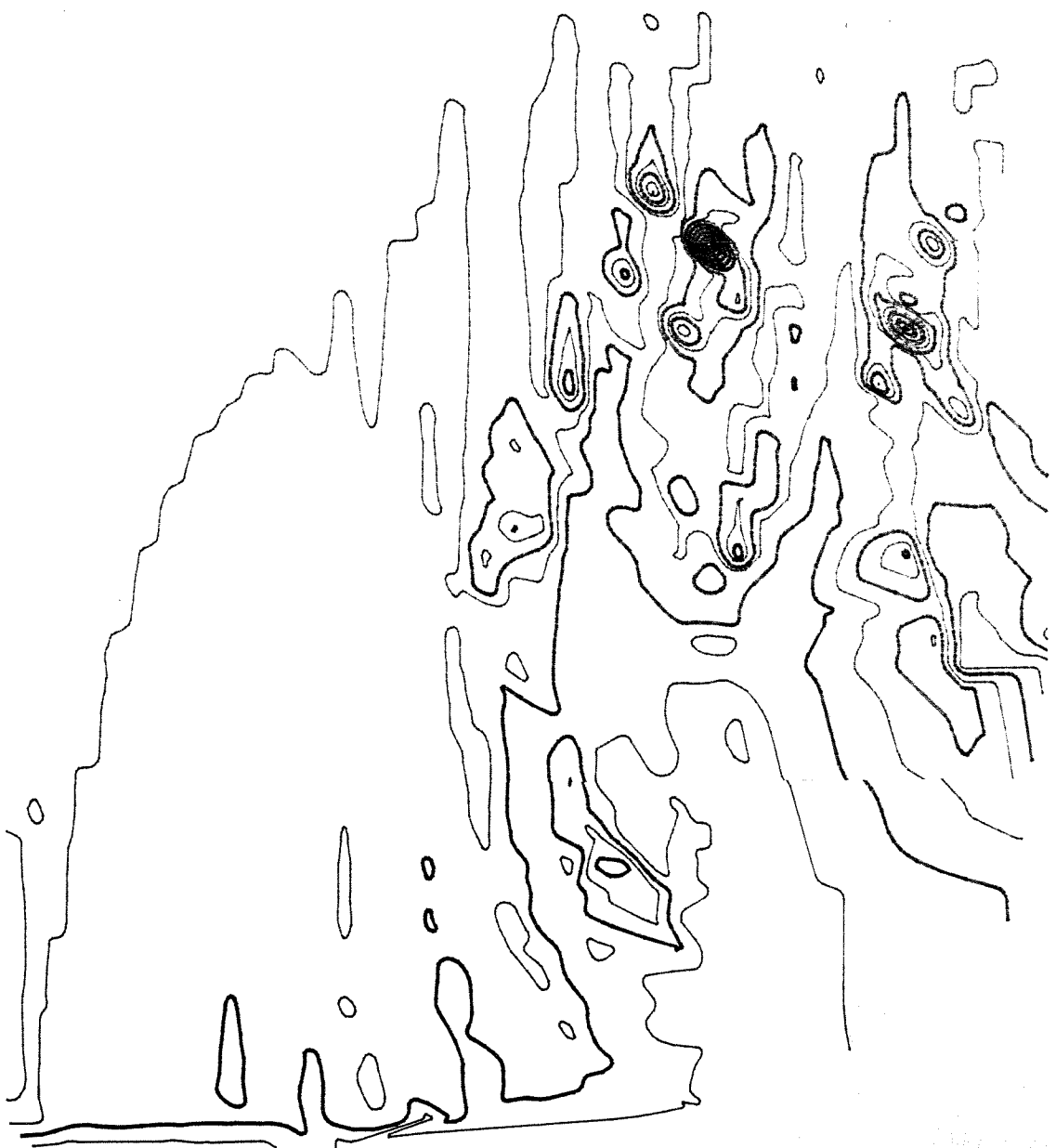
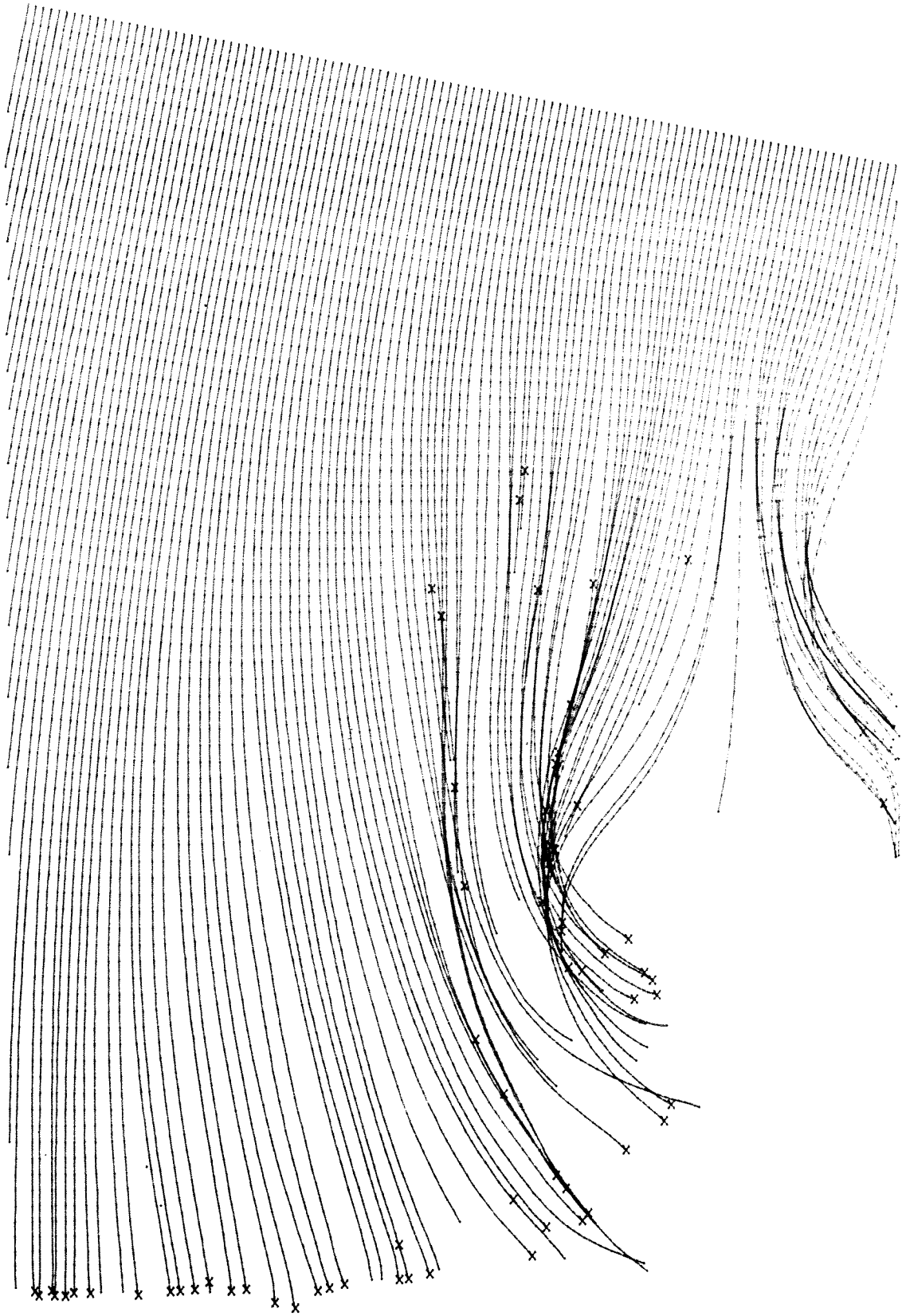
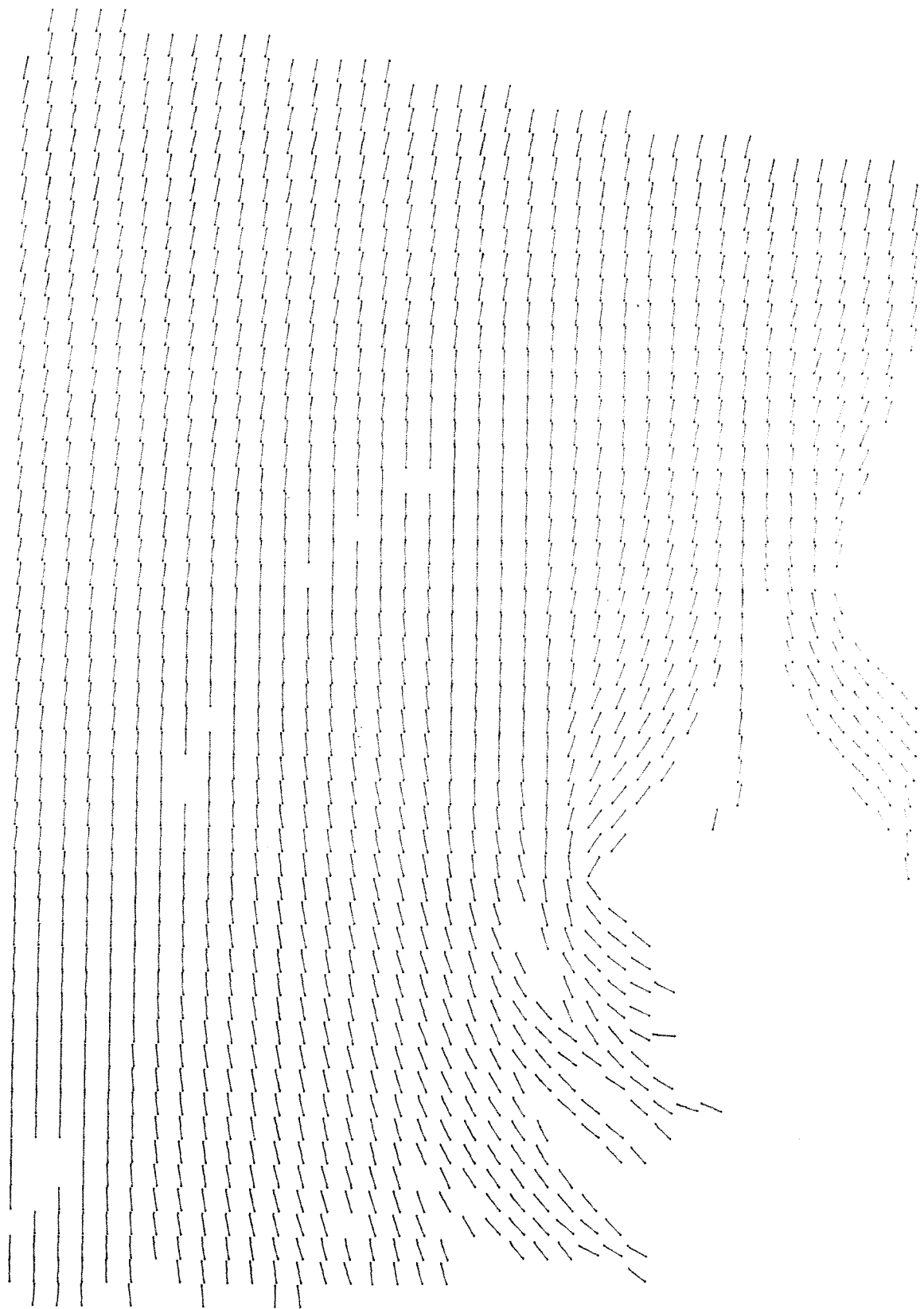


PLATE 1. THE ...

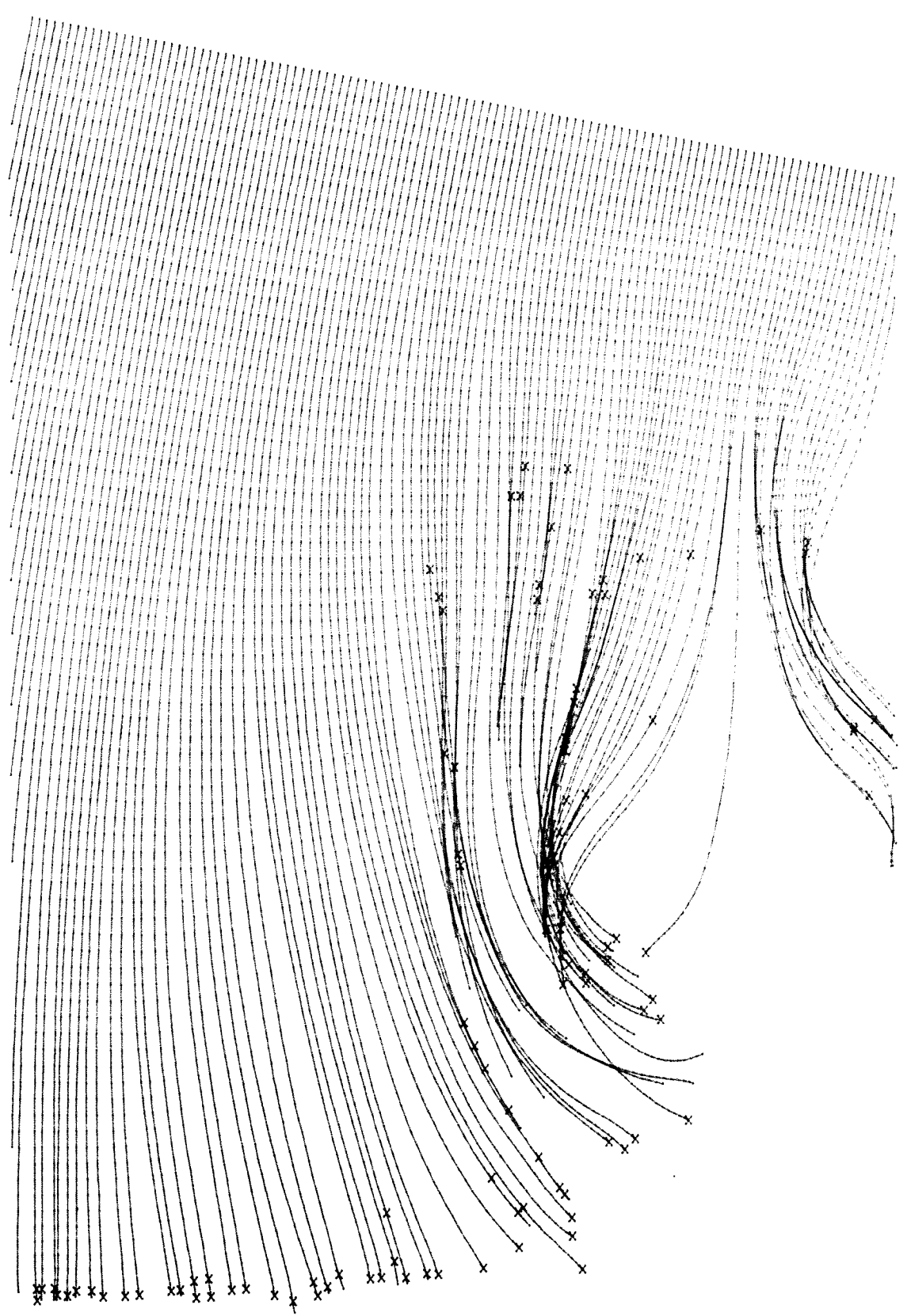


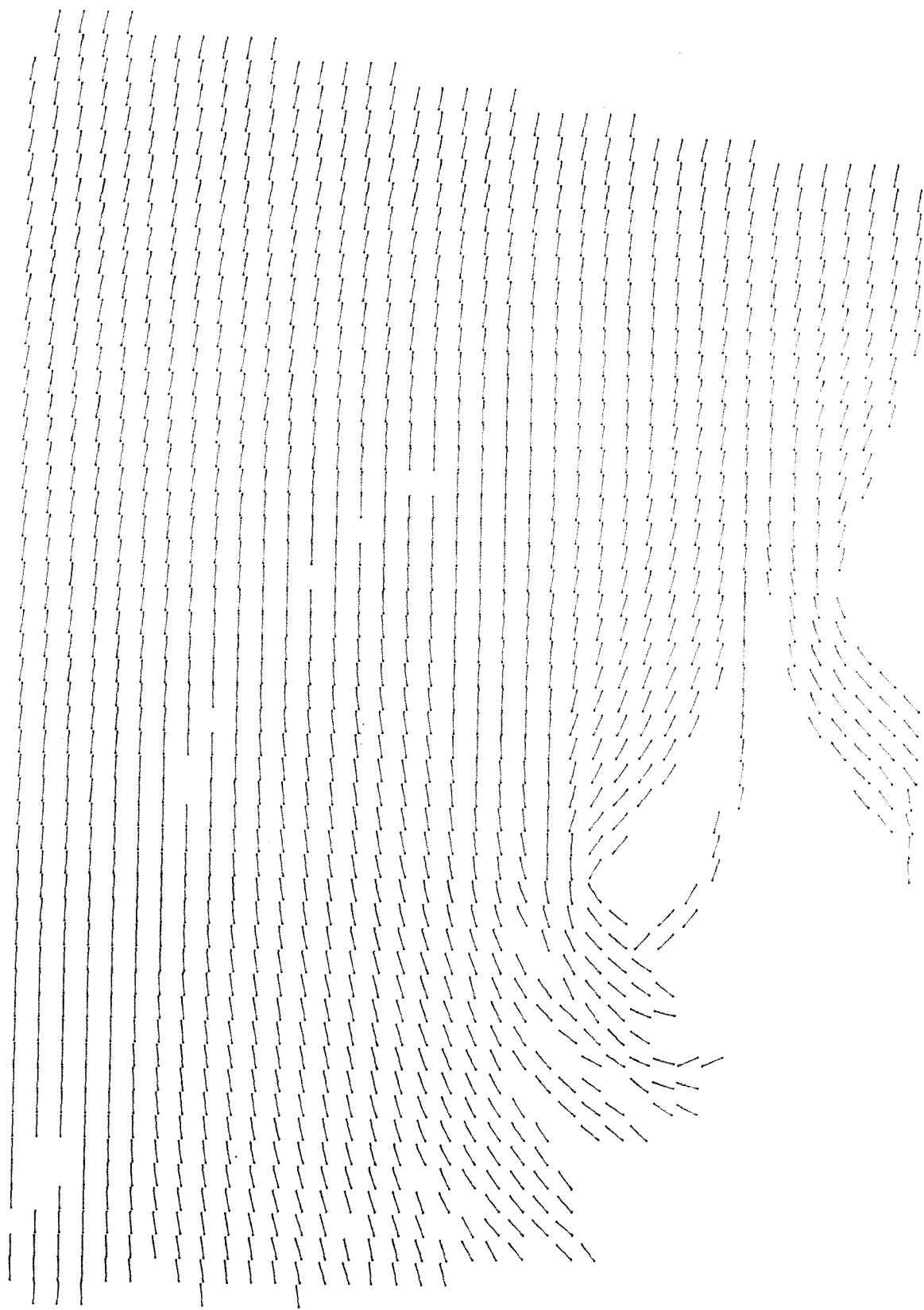


TG39
SCALE 1:

45000

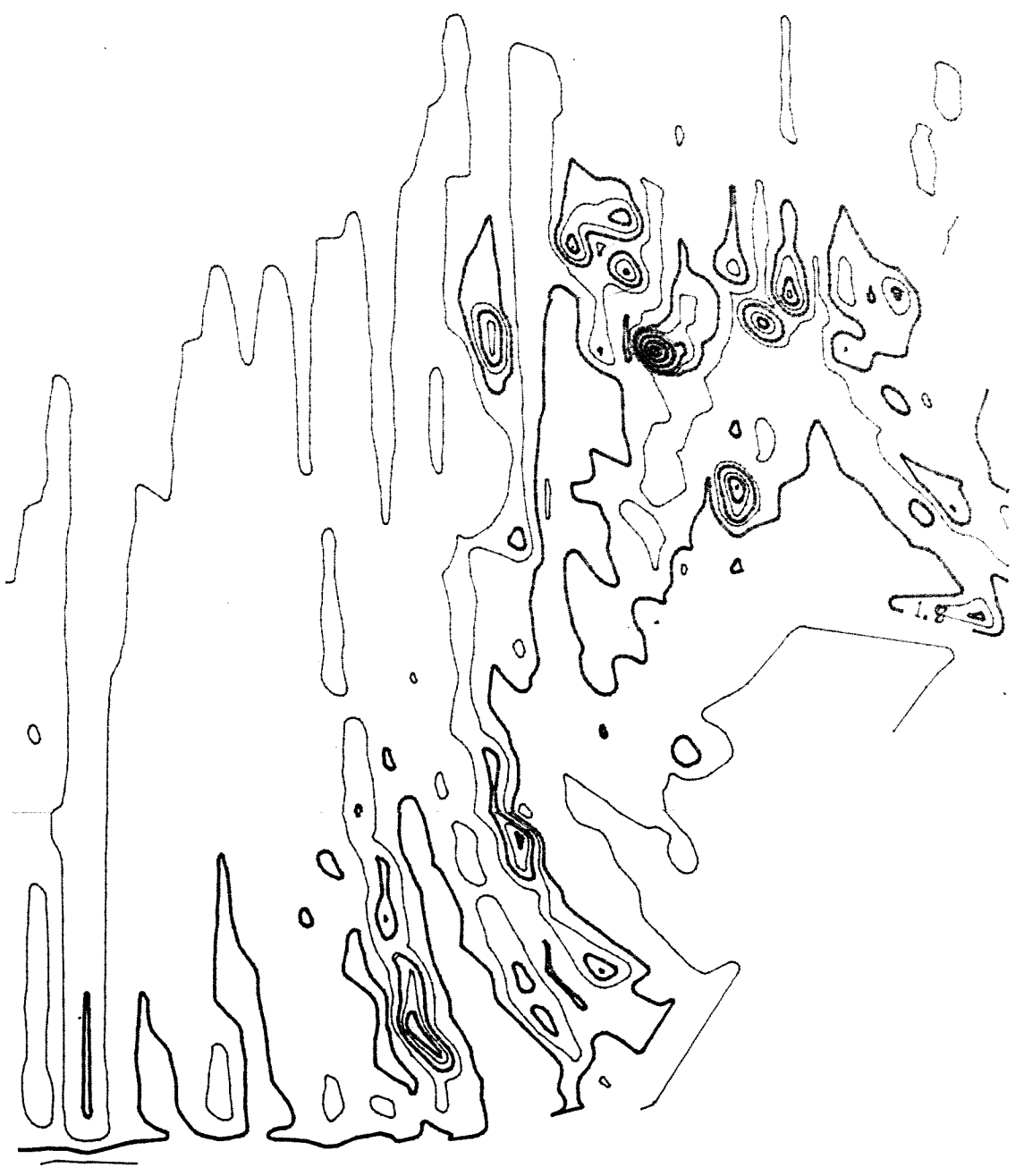




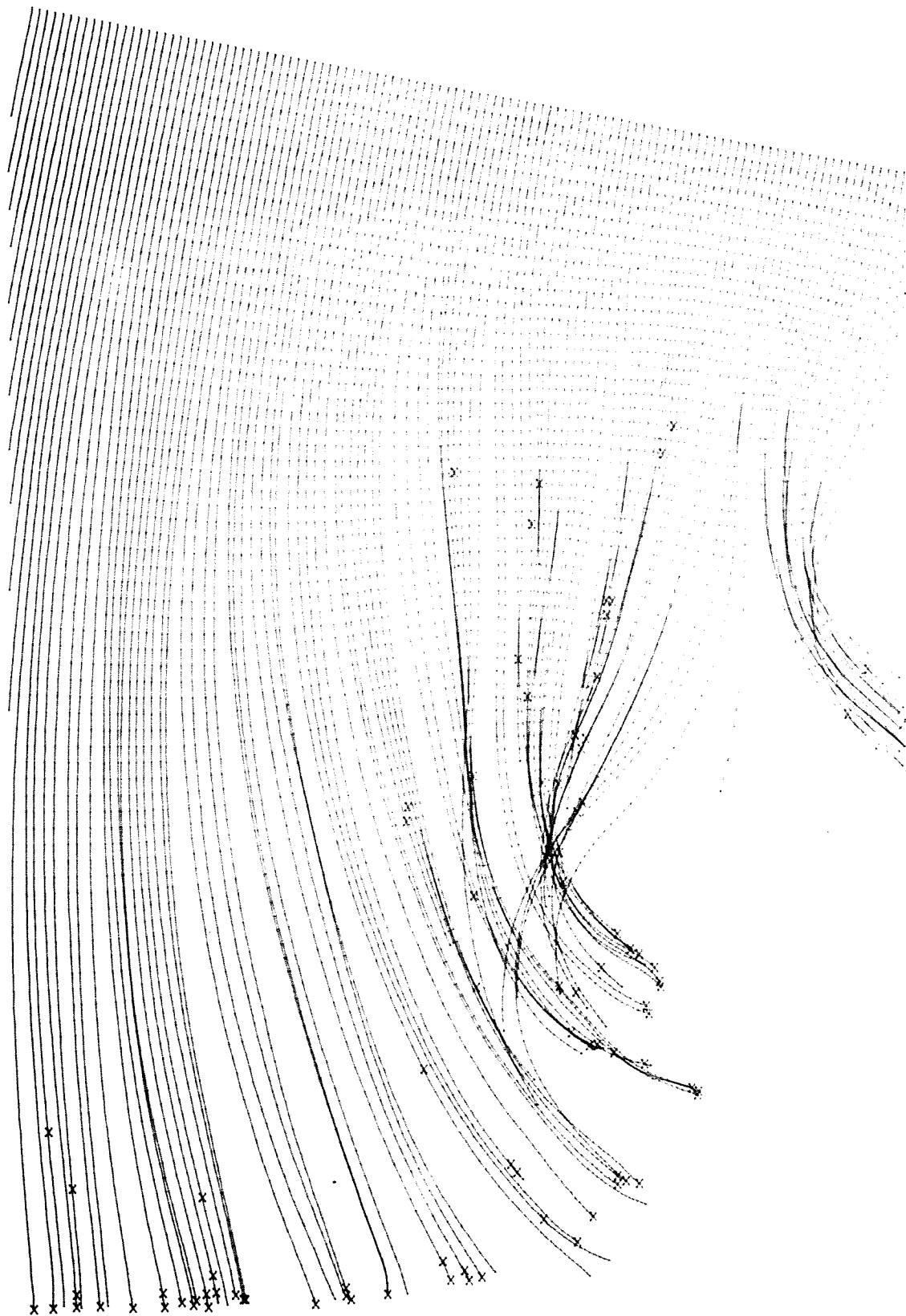


TC40
SCALE 1:

45000



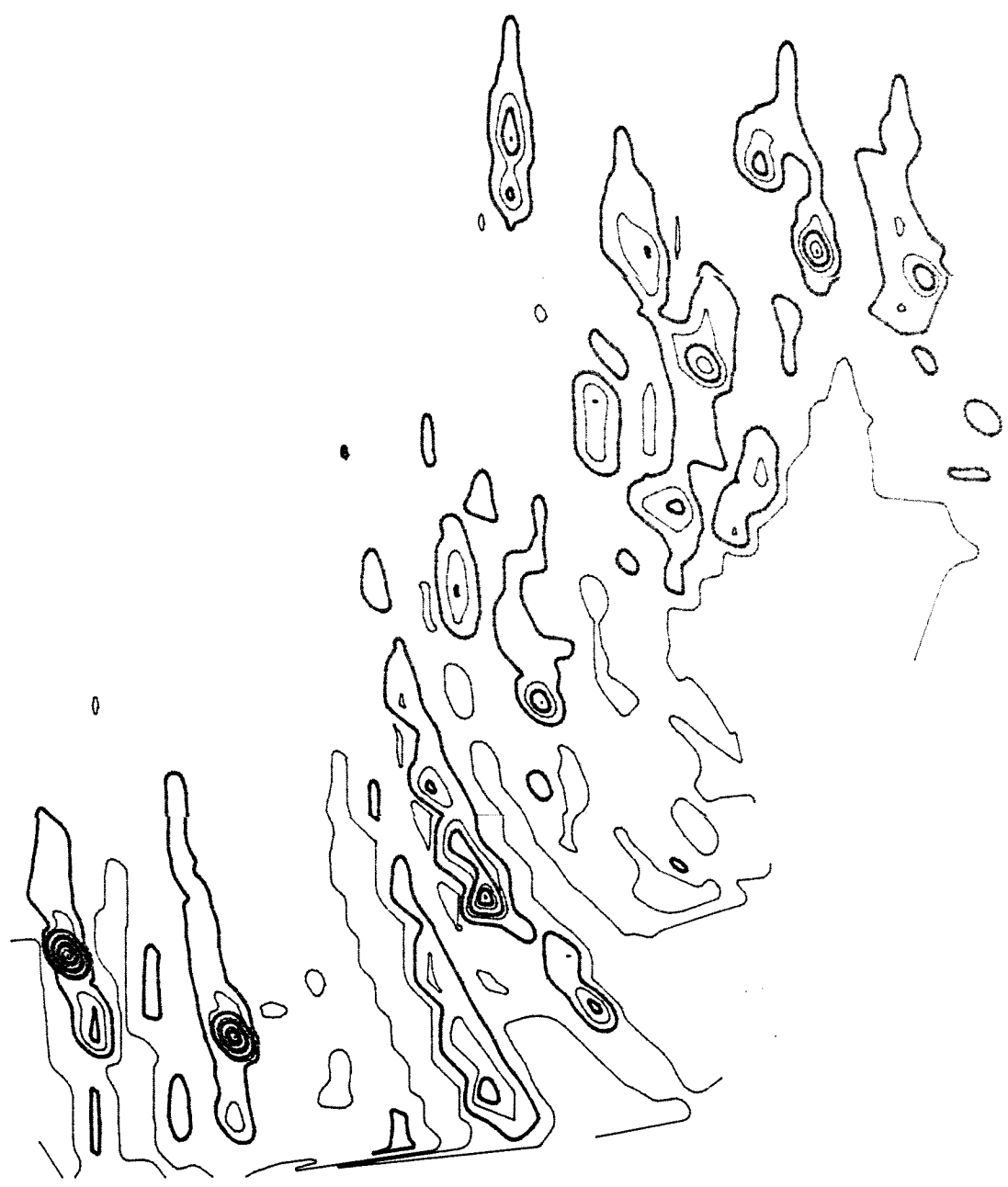
7-10-1954
MAY 10 11 1954

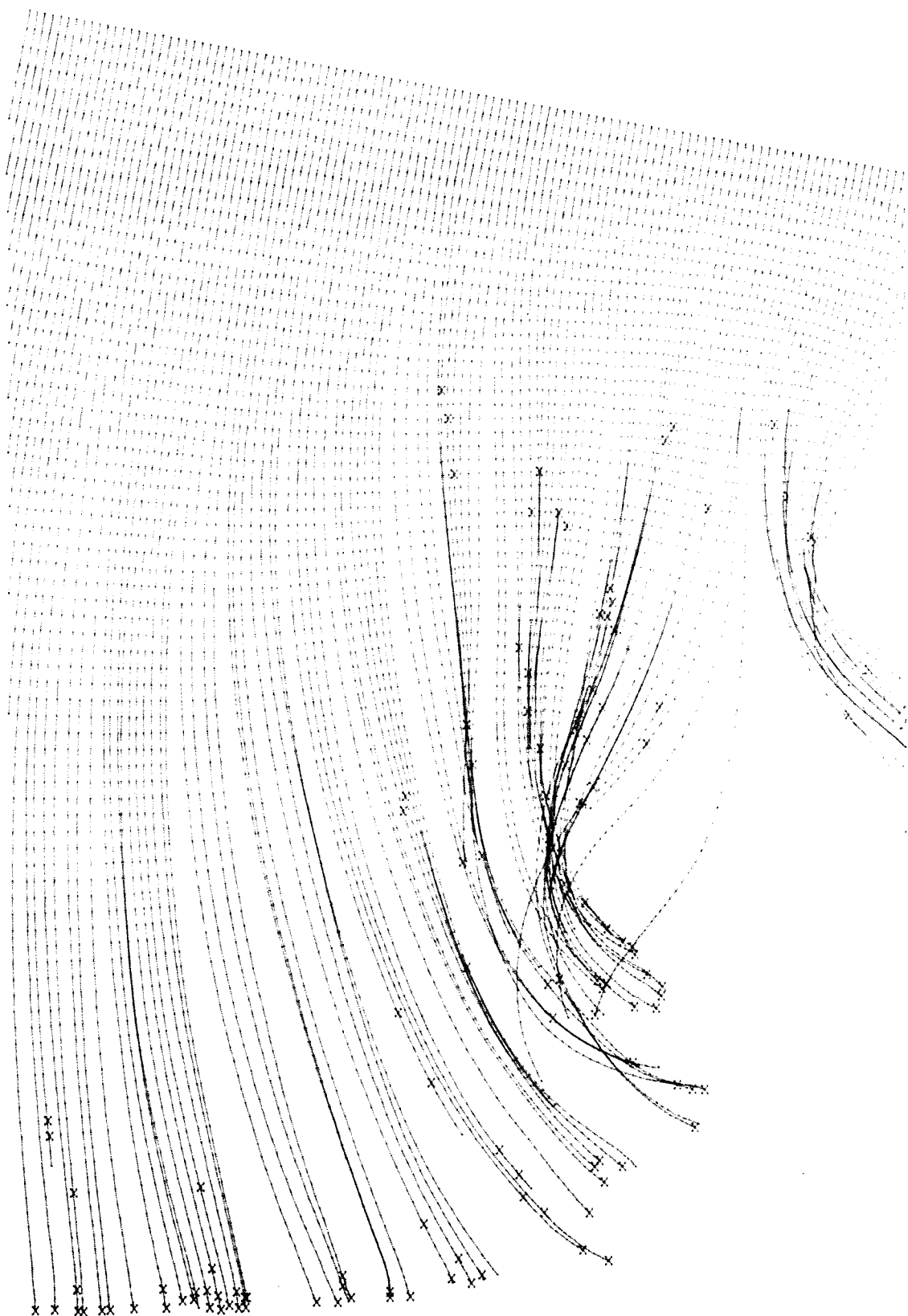




TG41
SCALE 1:

45000

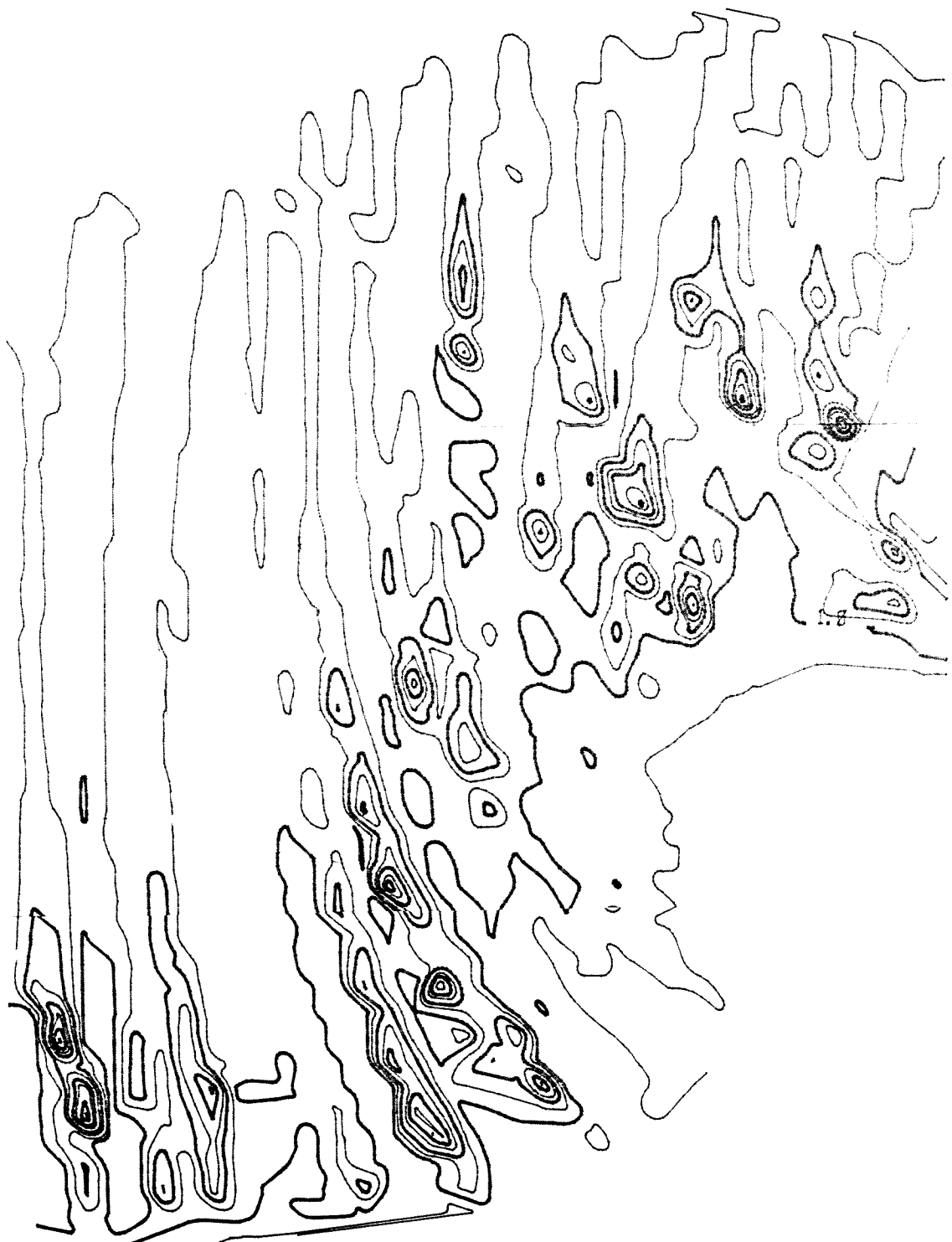




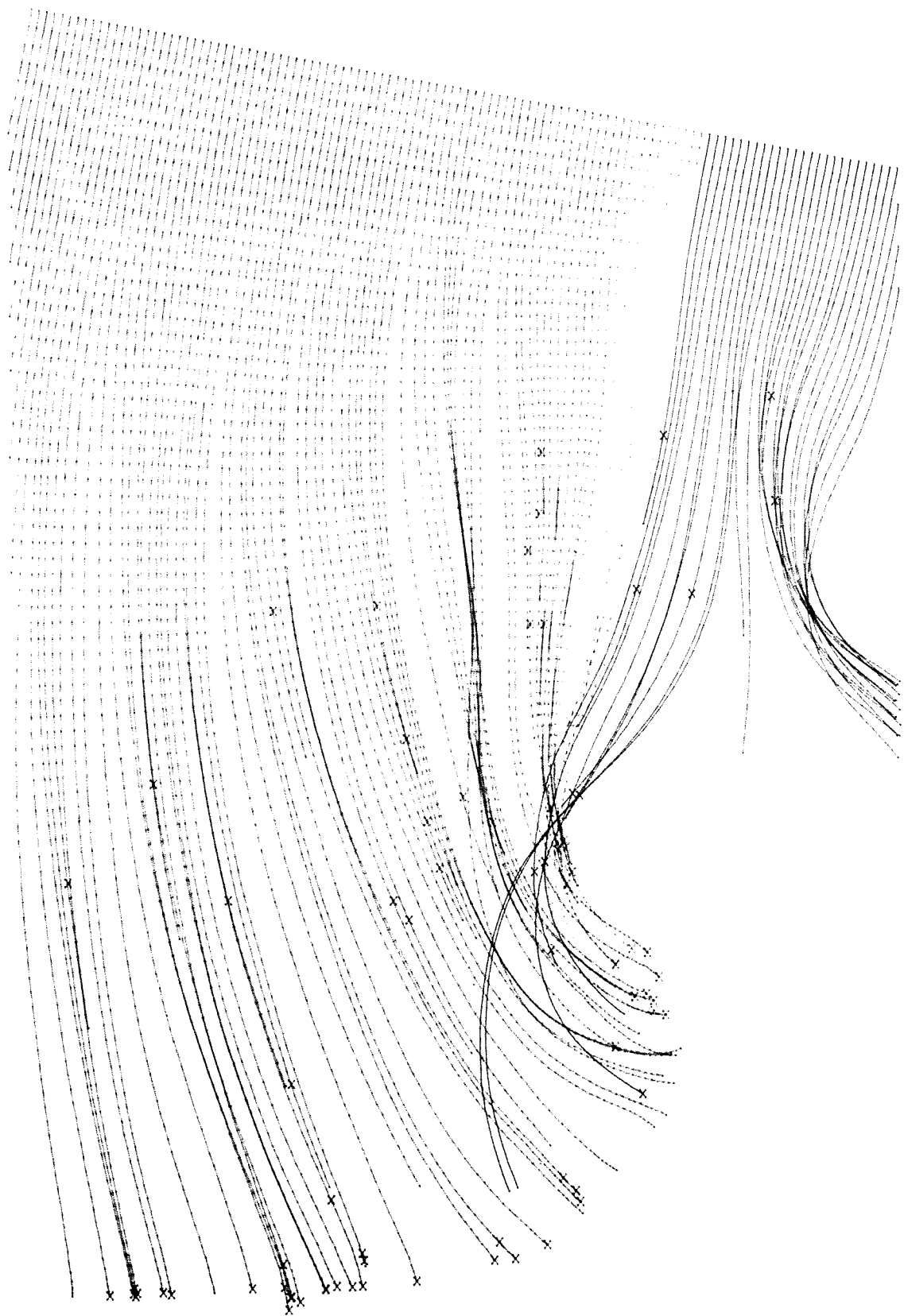


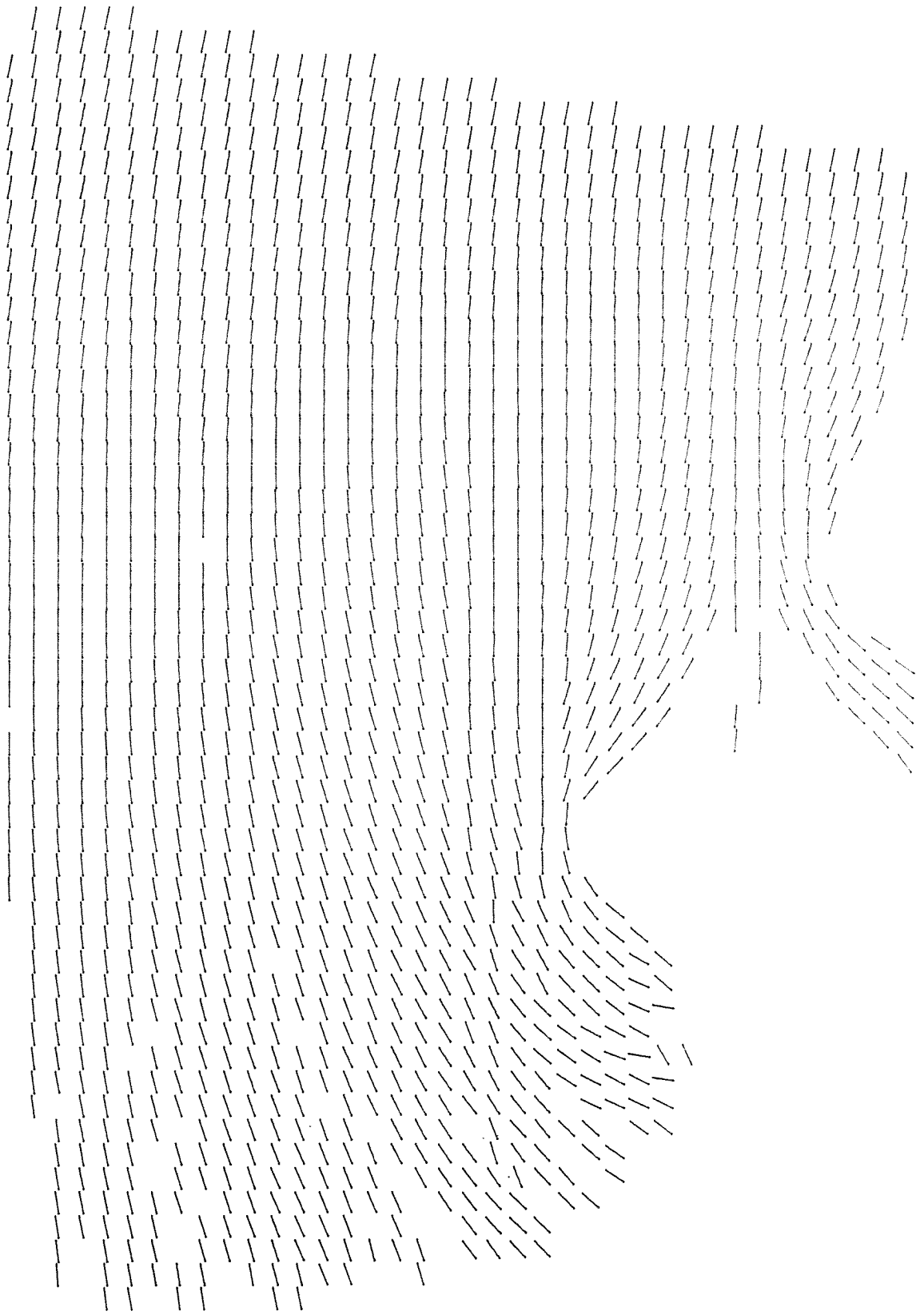
TC42
SCALE 1:

45000



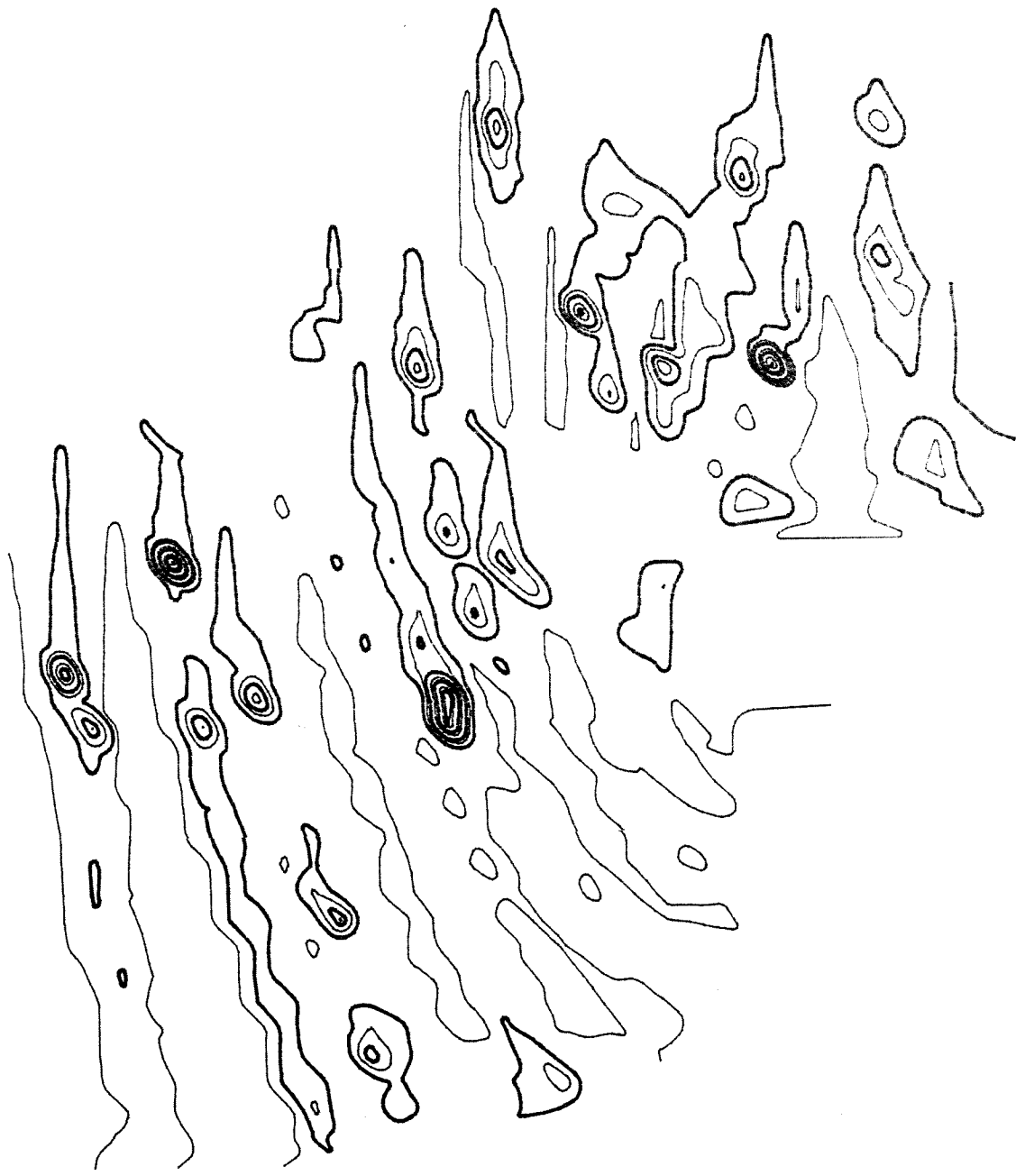
1- 0 0000 10- 00000 0100- 00000-00
TABLE OF INCIDENTS 11.0000 00000000



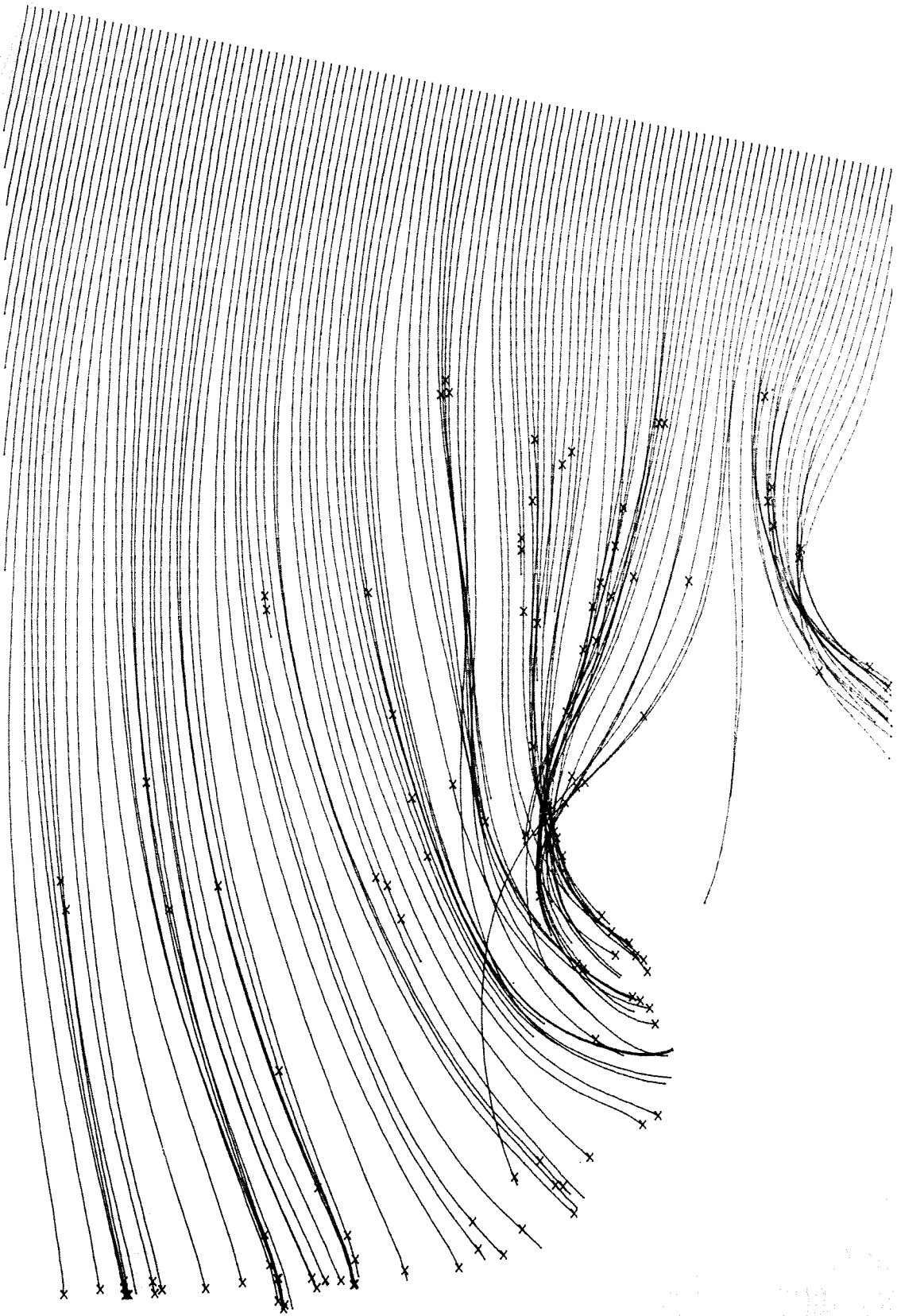


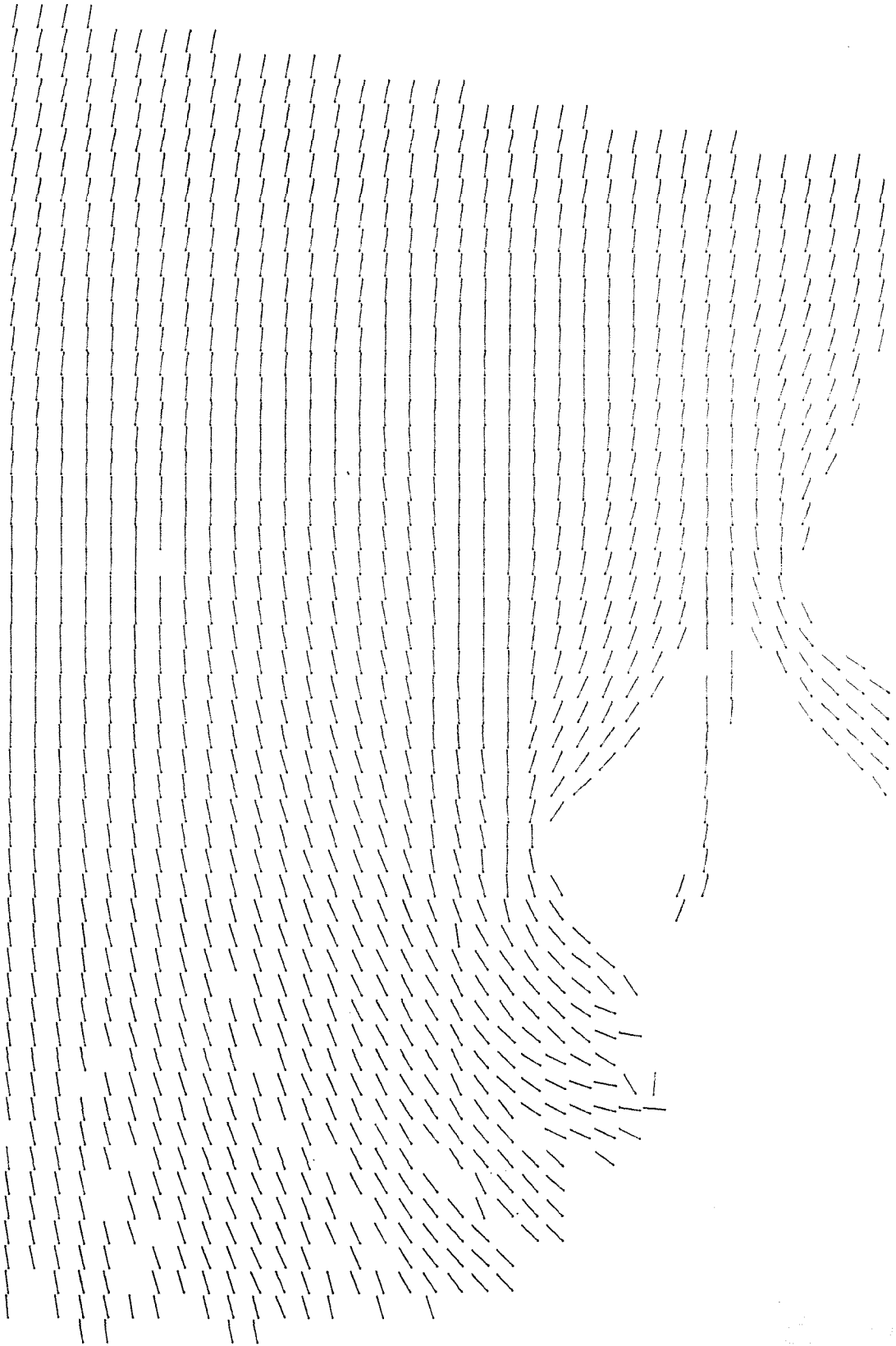
TG43
SCALE 1:

45000



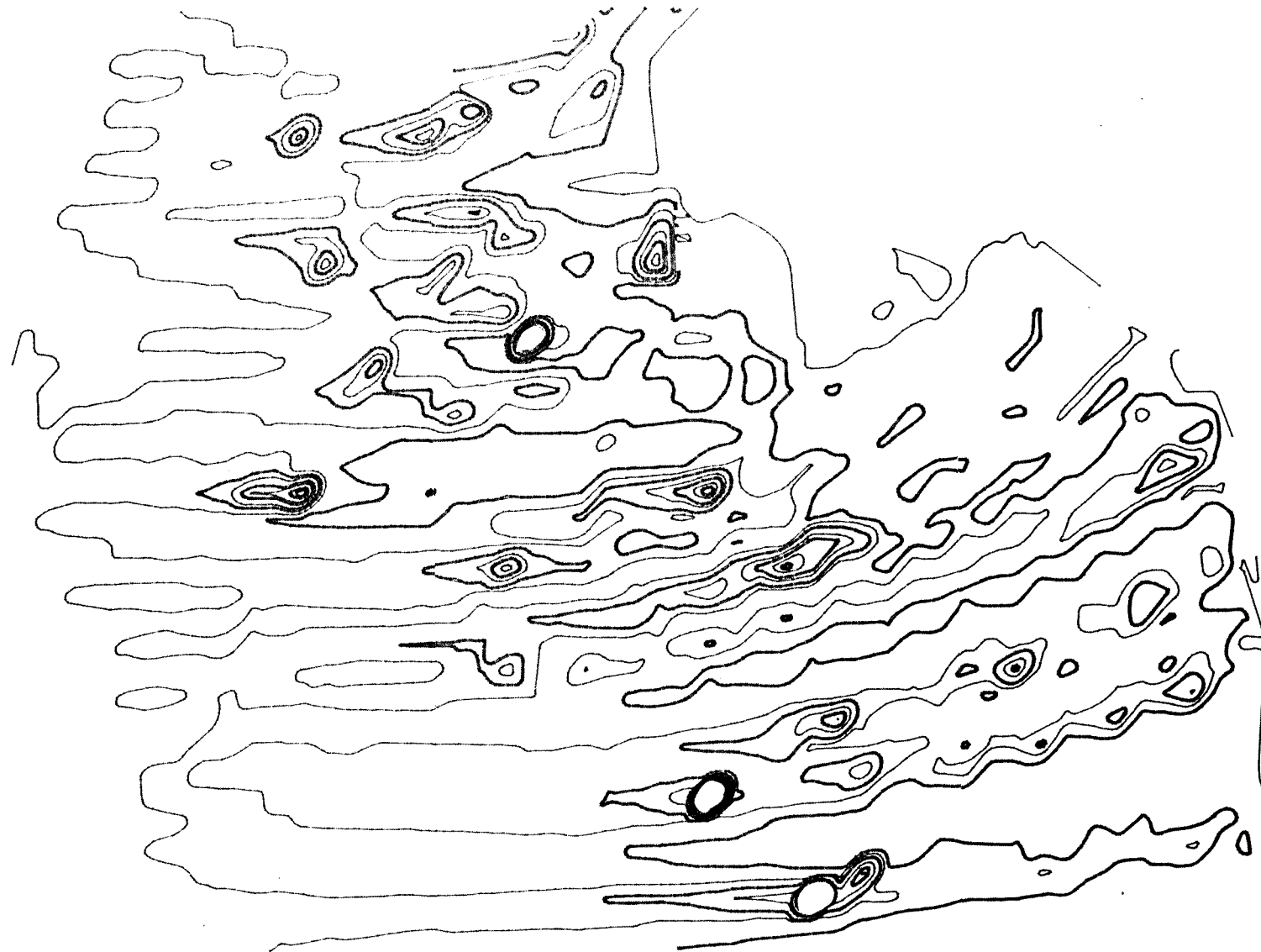
10. A. 10000 100 1.0000 10000 - 100000000
TABLE OF INCIDENCES 11.0000





TG44
SCALE 1:

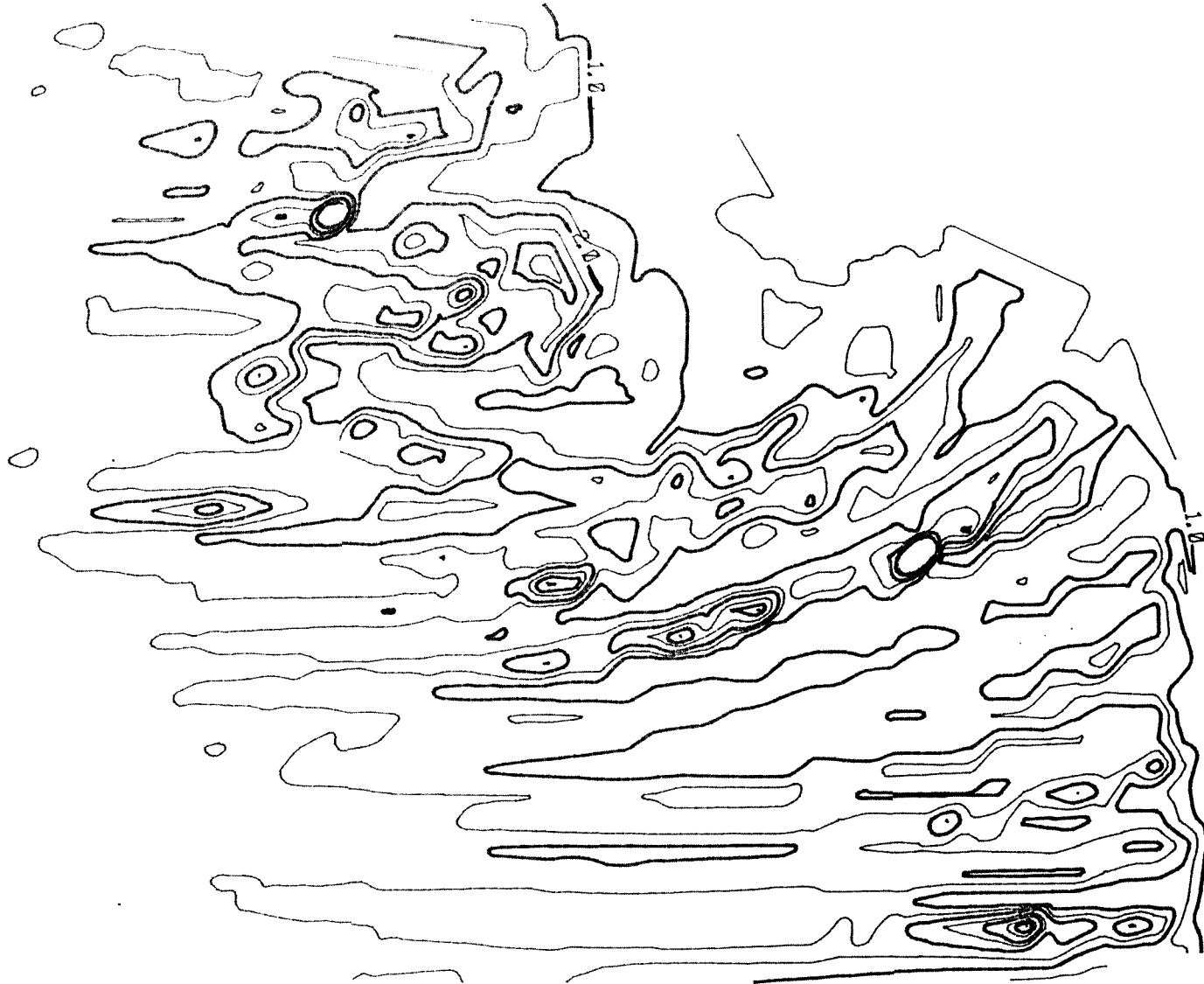
45000



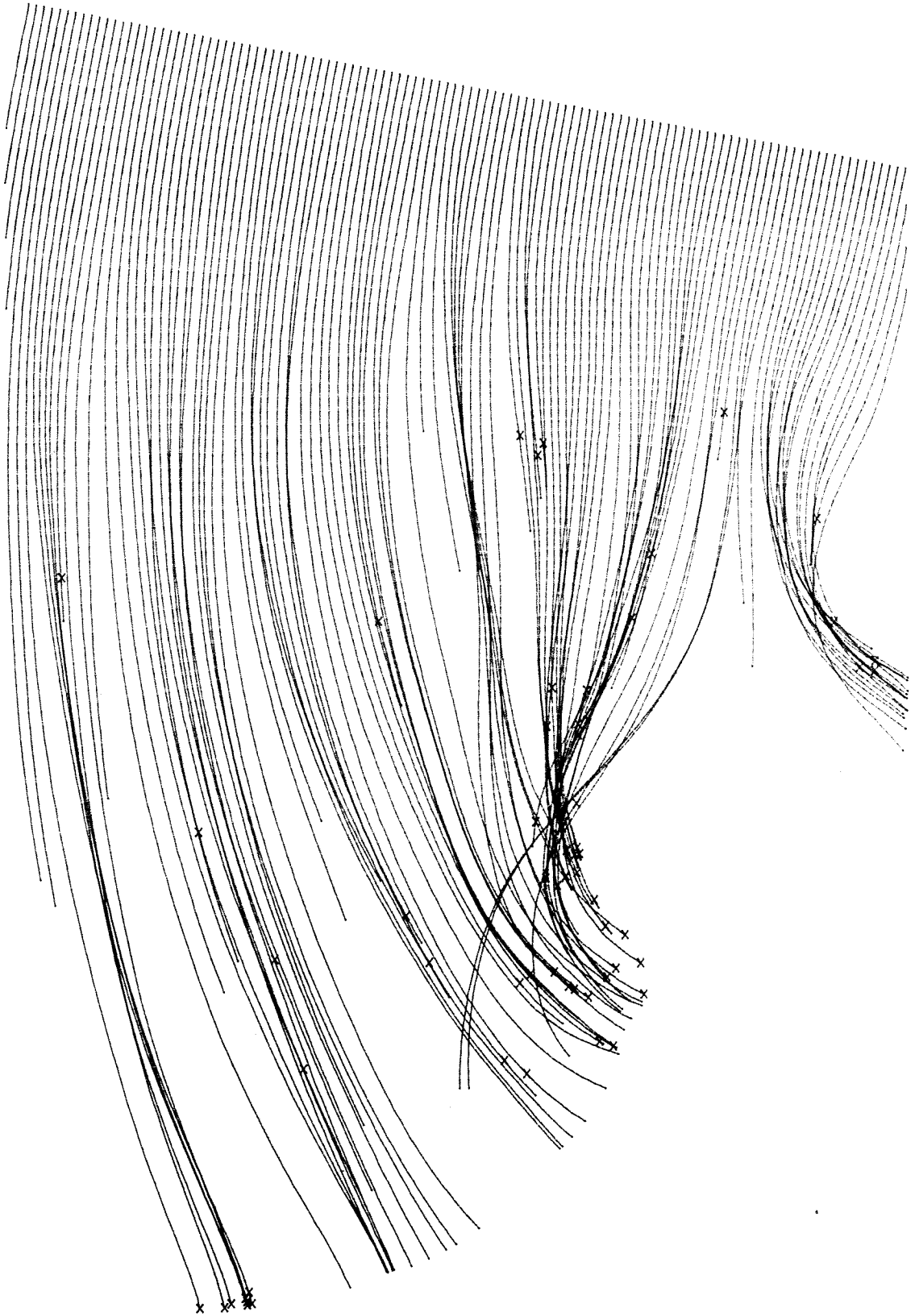


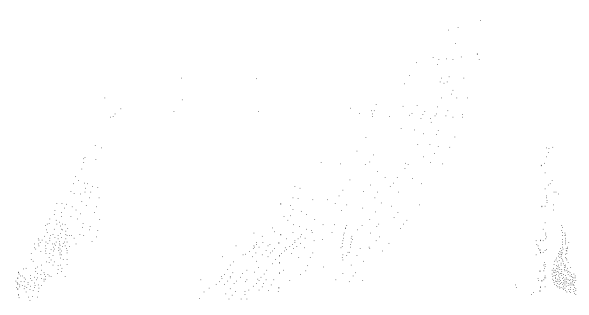
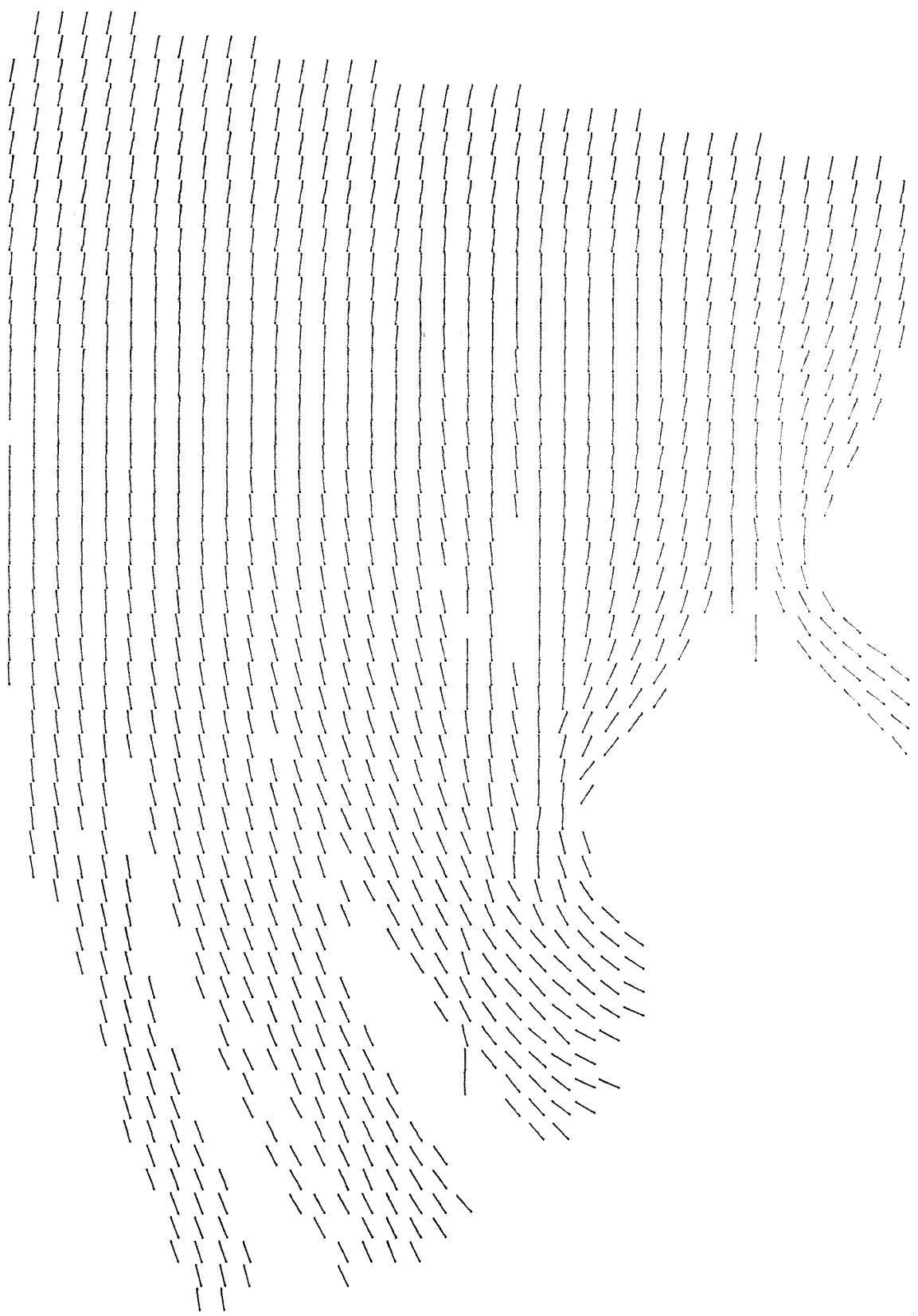
TG45
SCALE 1:

45000



1. 18. 1888
MOUNT OF INDIAN 11. 1888
EXHIBIT

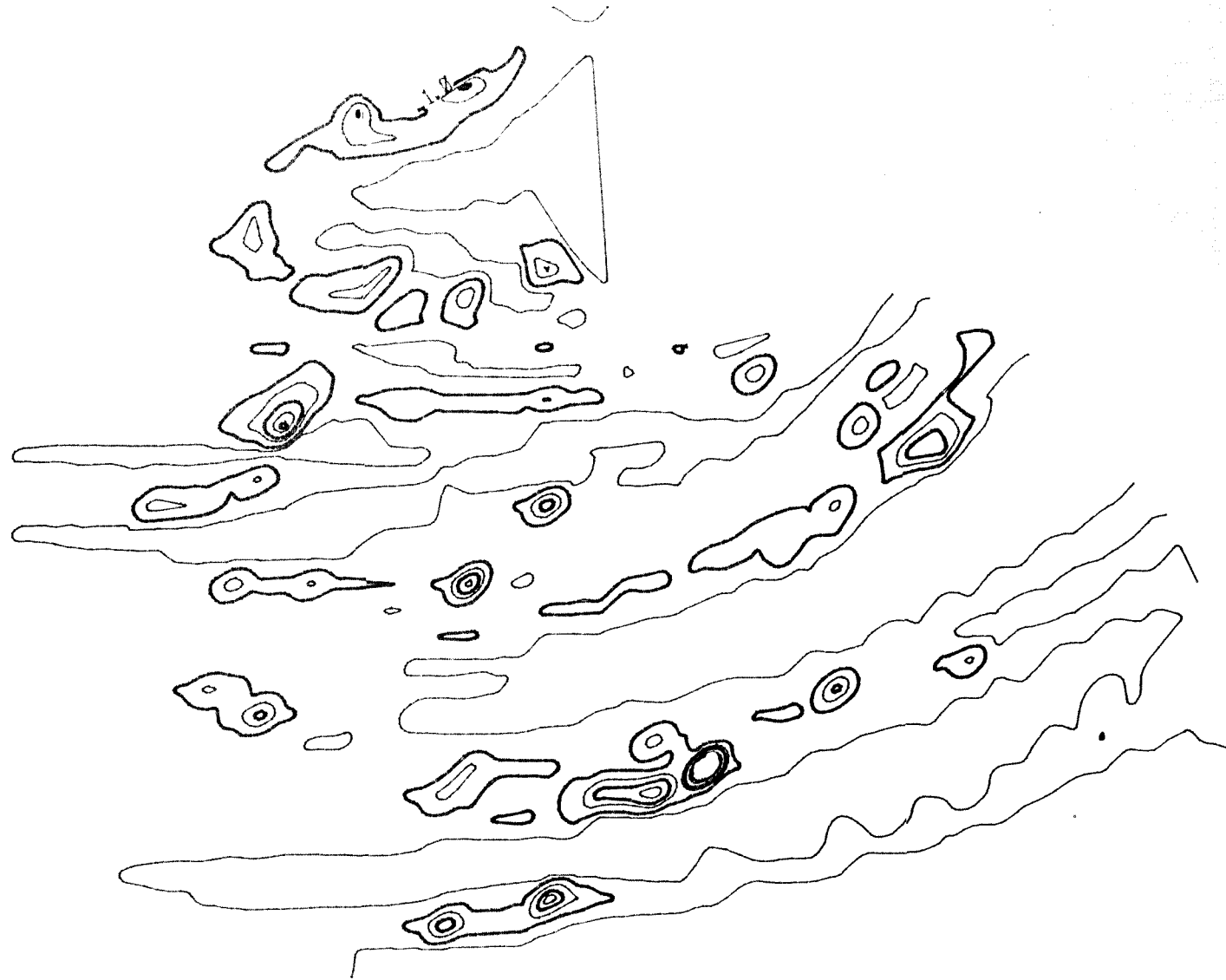




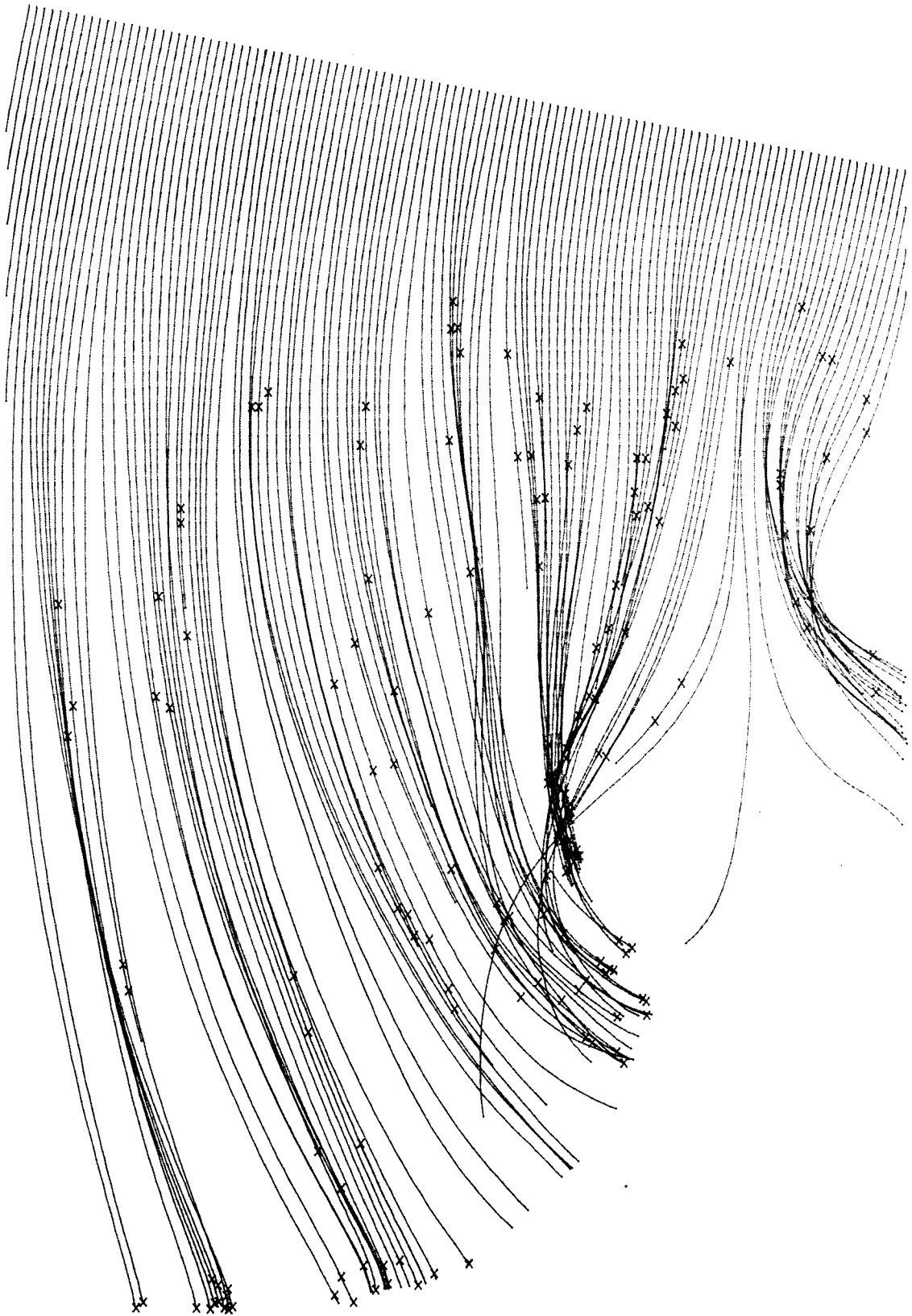
TG46
SCALE 1:

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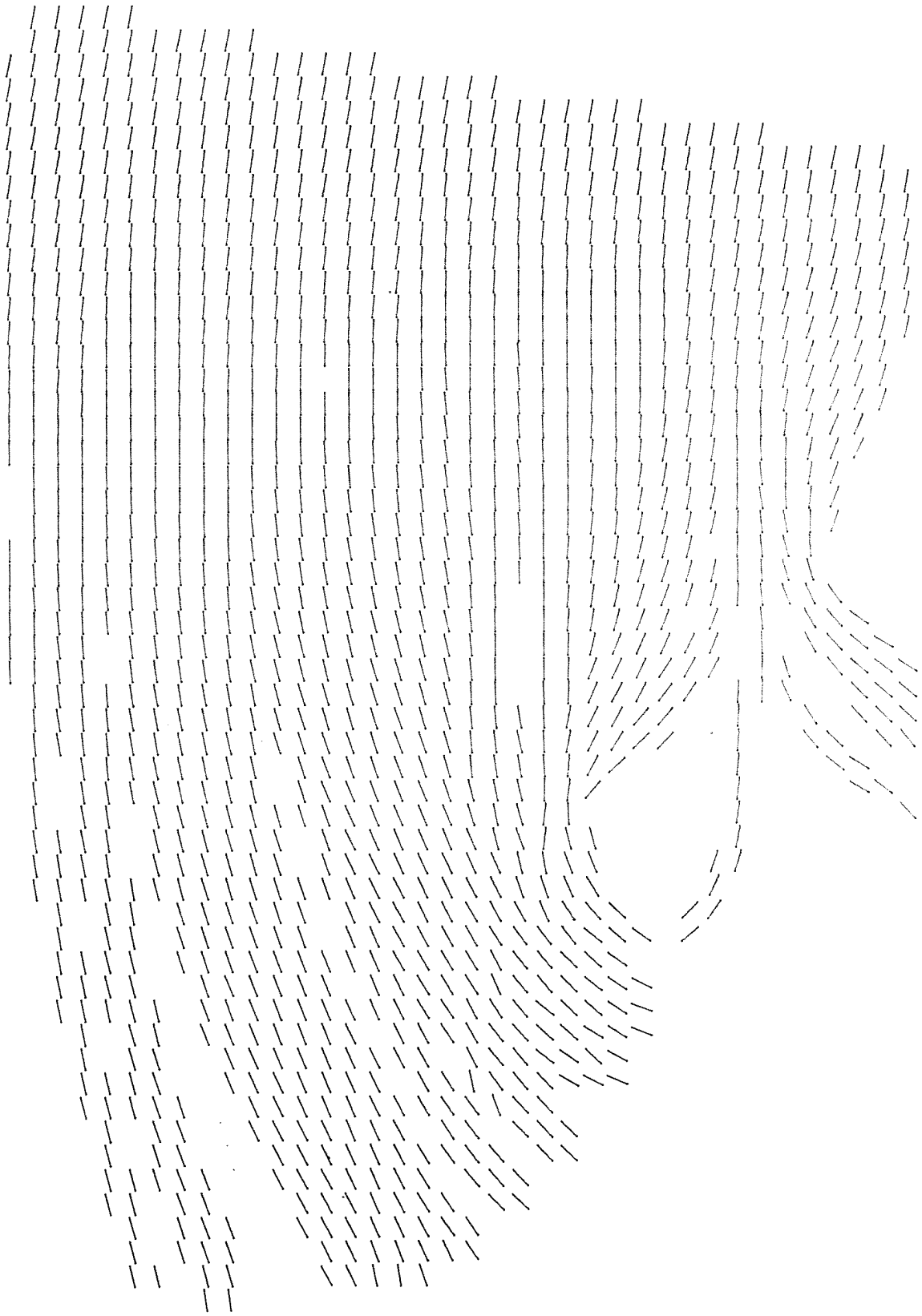
hydrobatic



7-14-50
UNIT OF INSTITUTE 11 1950

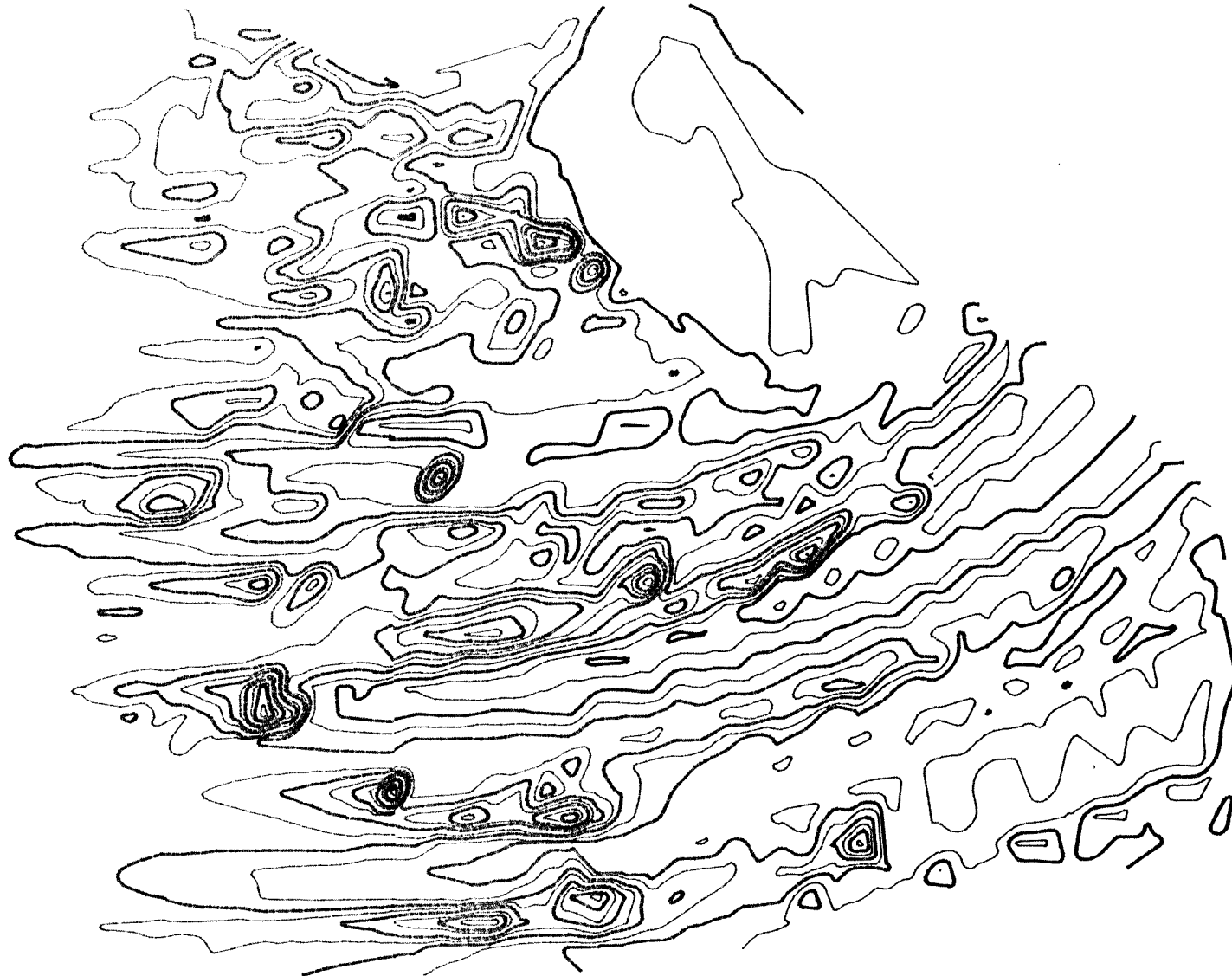


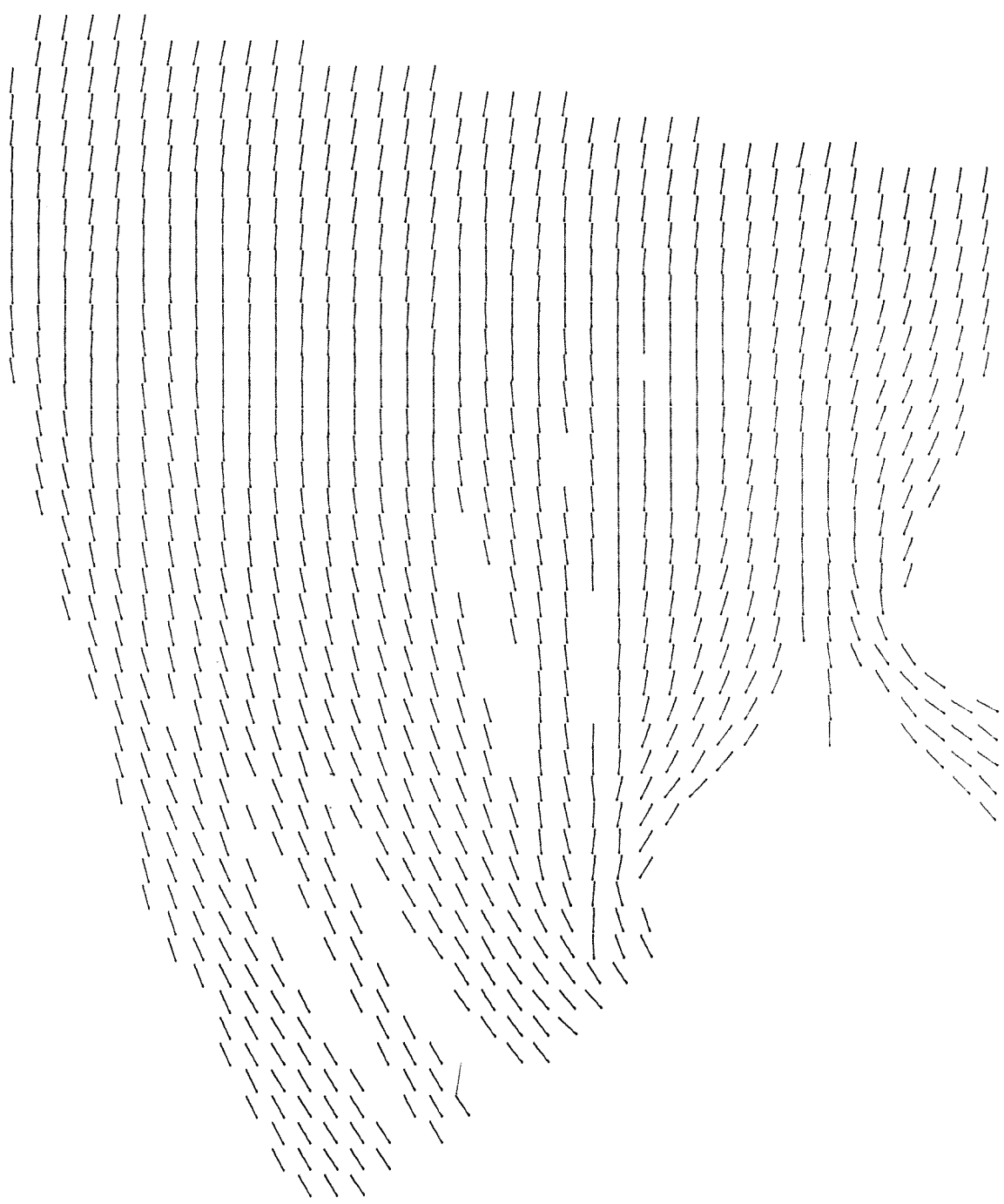
Handwritten notes or a signature in the bottom right corner, which is mostly illegible due to fading and the angle of the page.



TG47
SCALE 1:

45000





TG48
SCALE 1:

45000

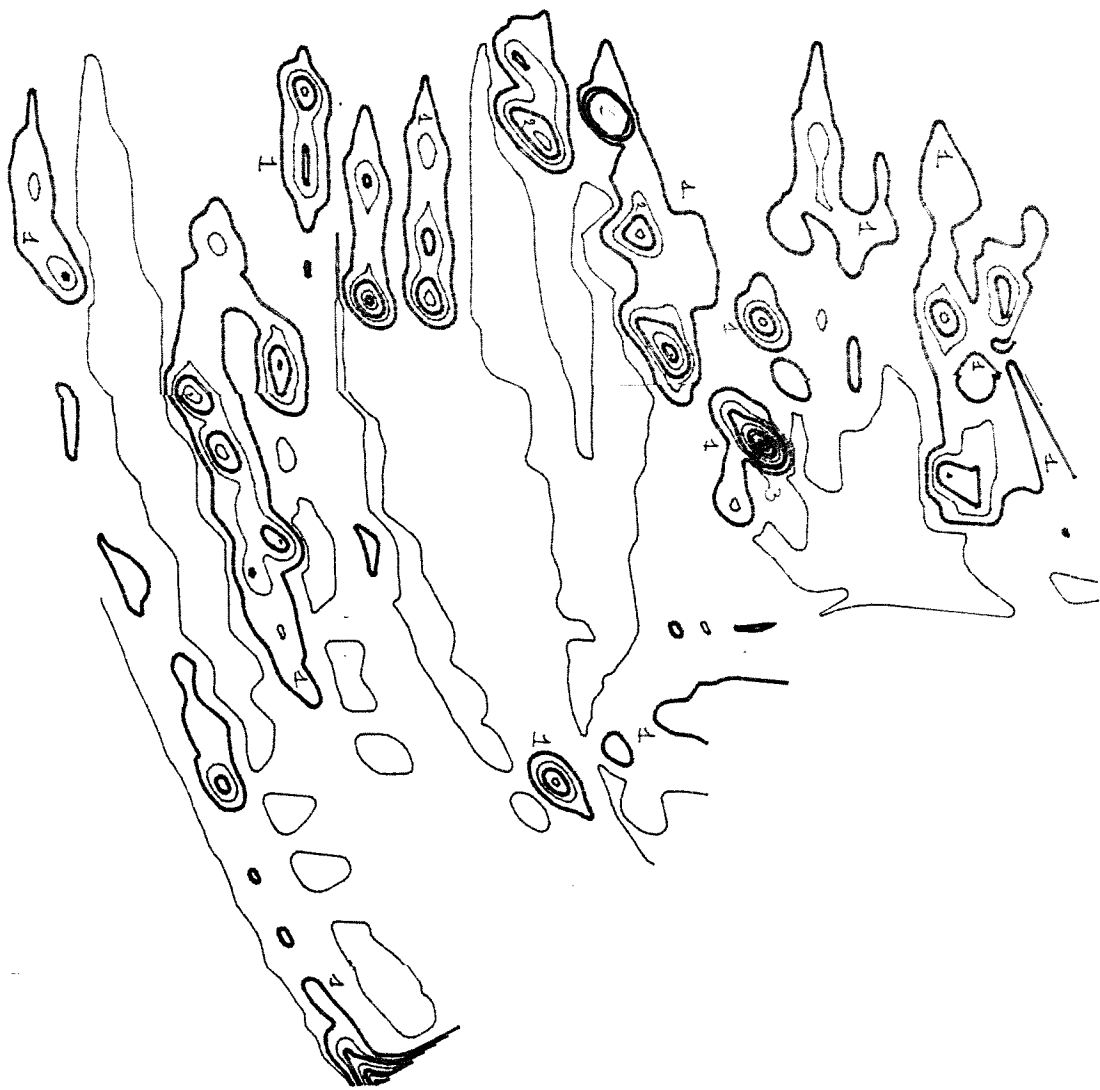
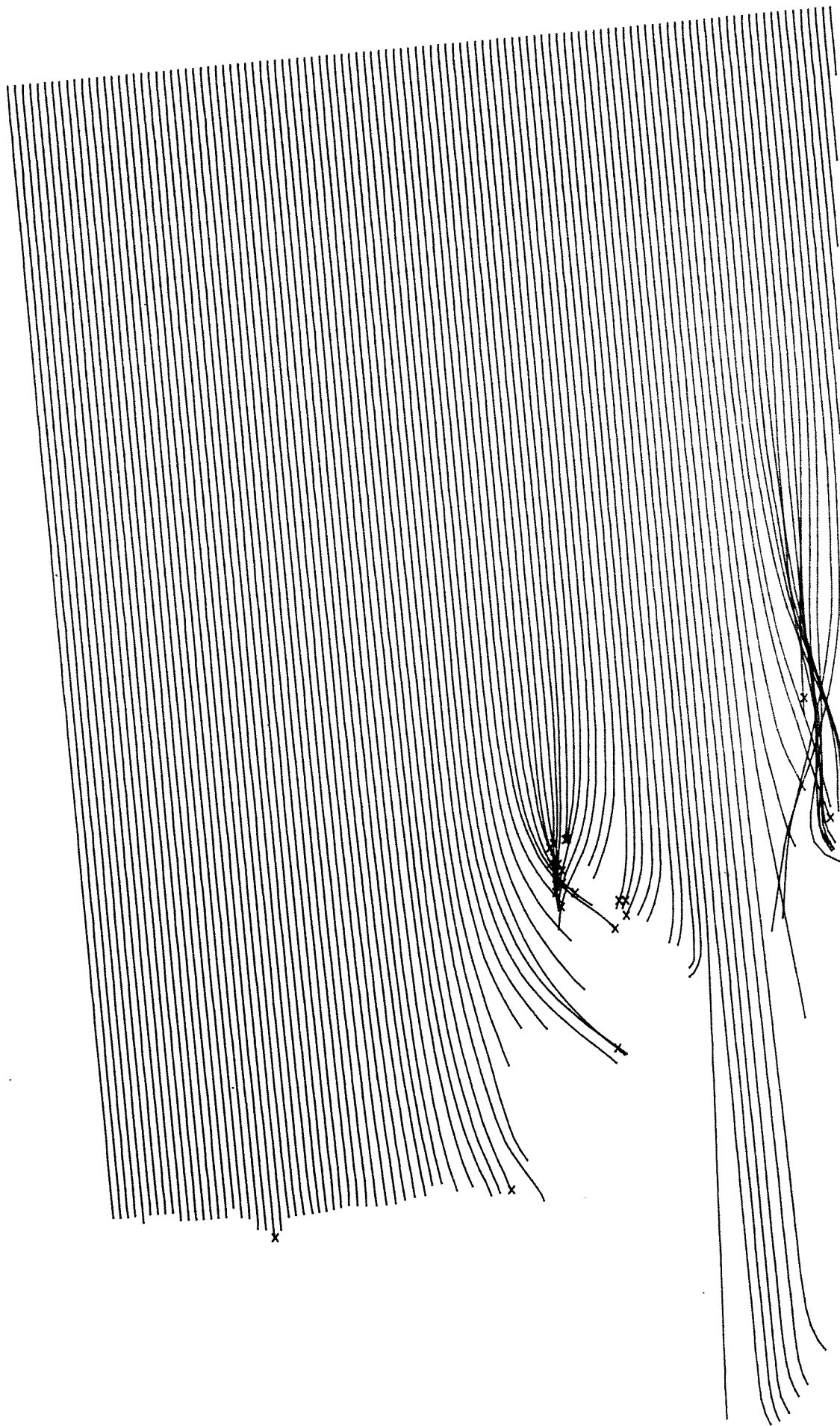
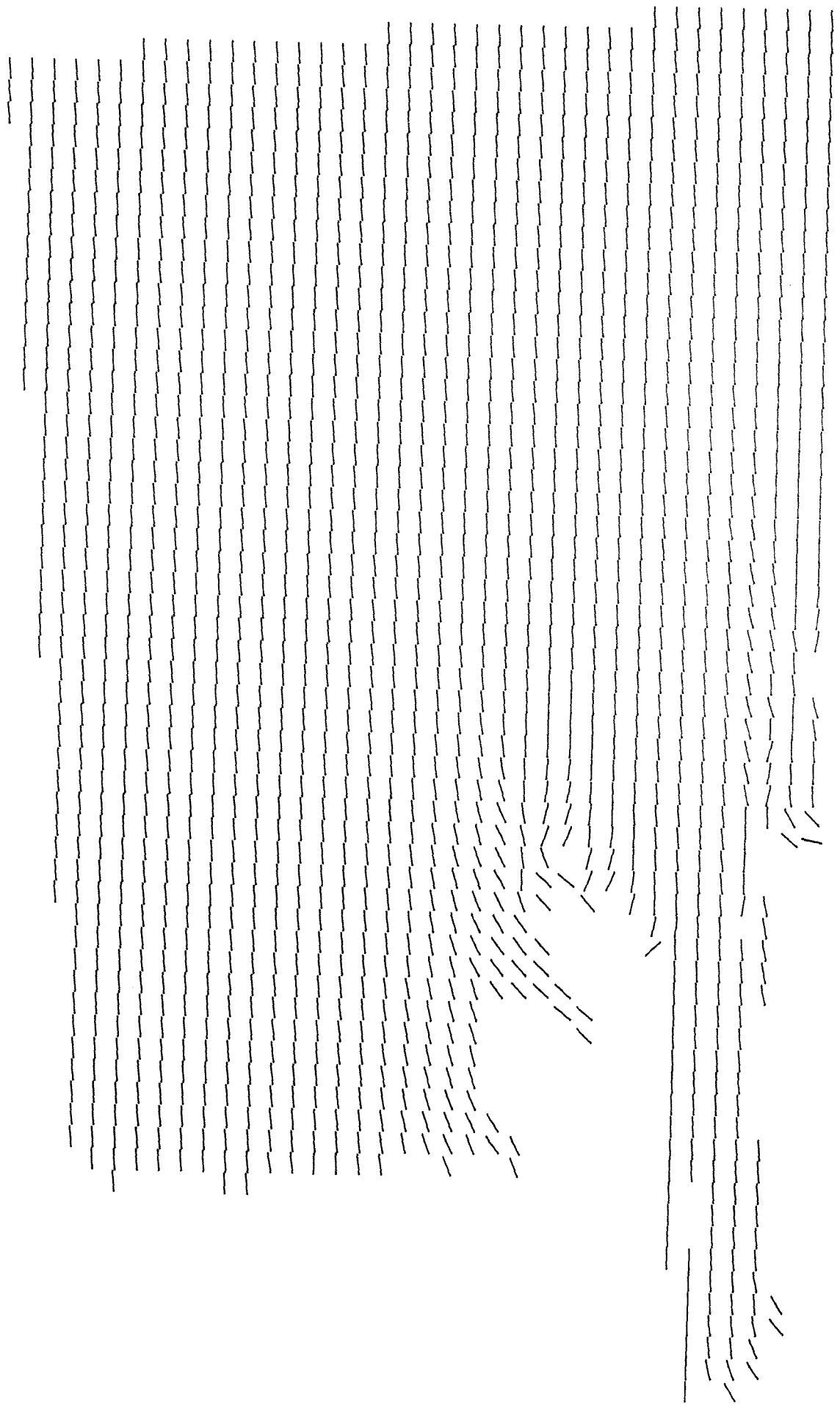


PLATE 10
OF THE
MUSEUM OF
COMPARATIVE ZOOLOGY
AND ANATOMY
OF HARVARD UNIVERSITY





TG49
SCALE 1:

45000

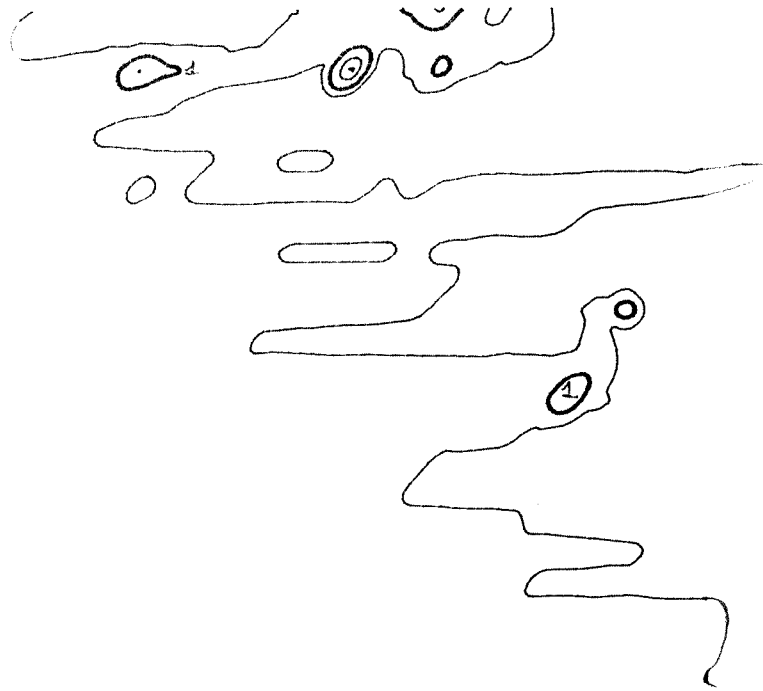
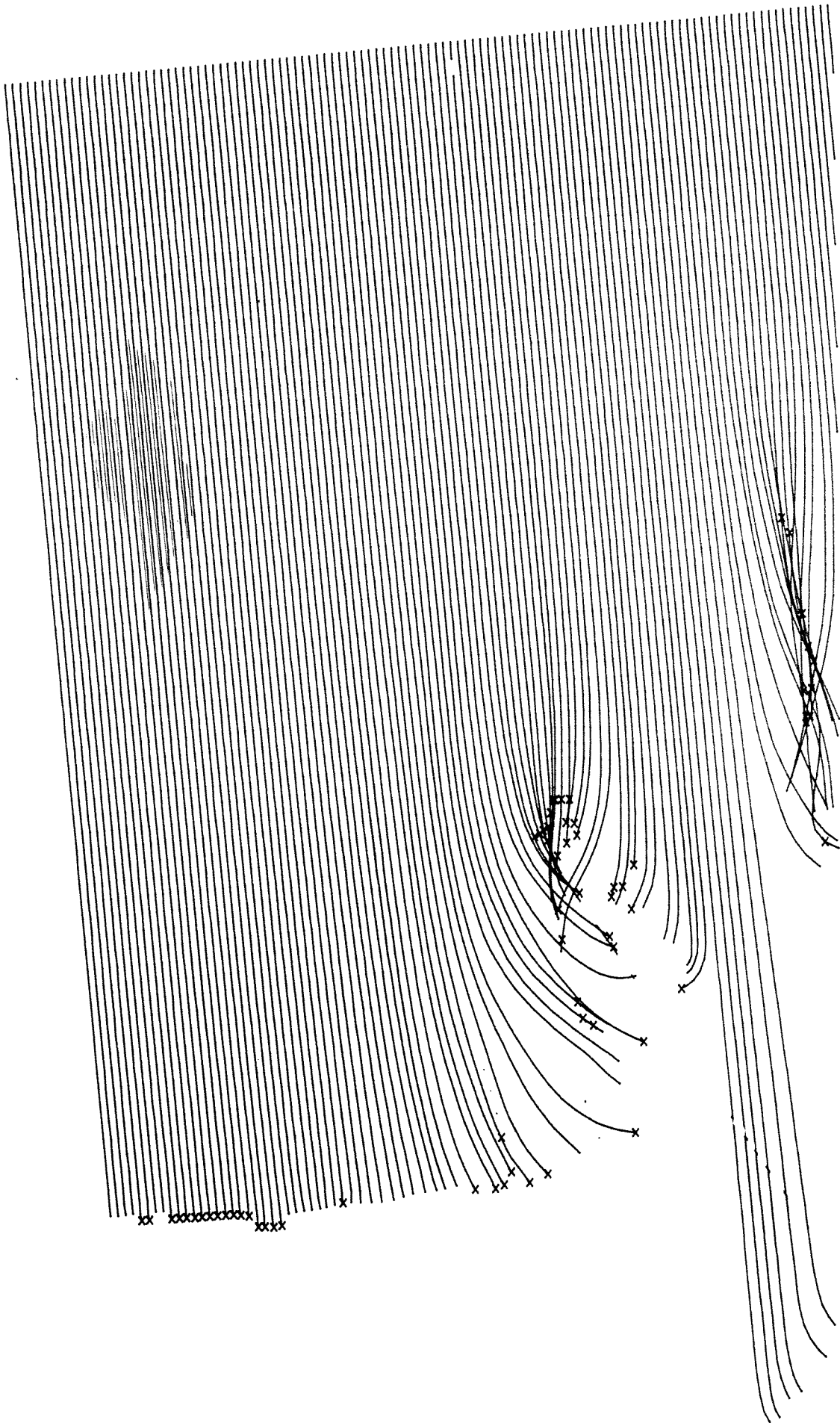
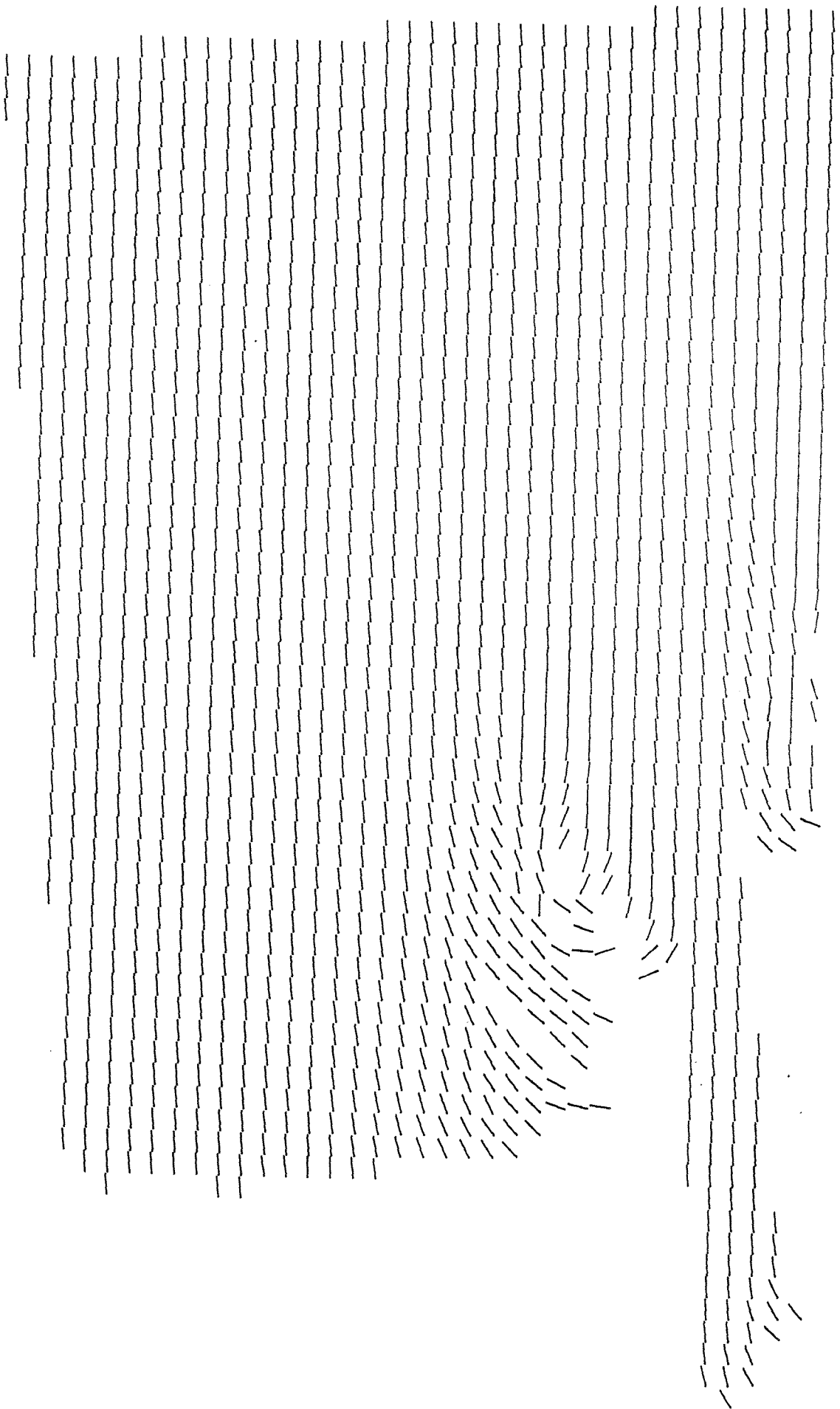


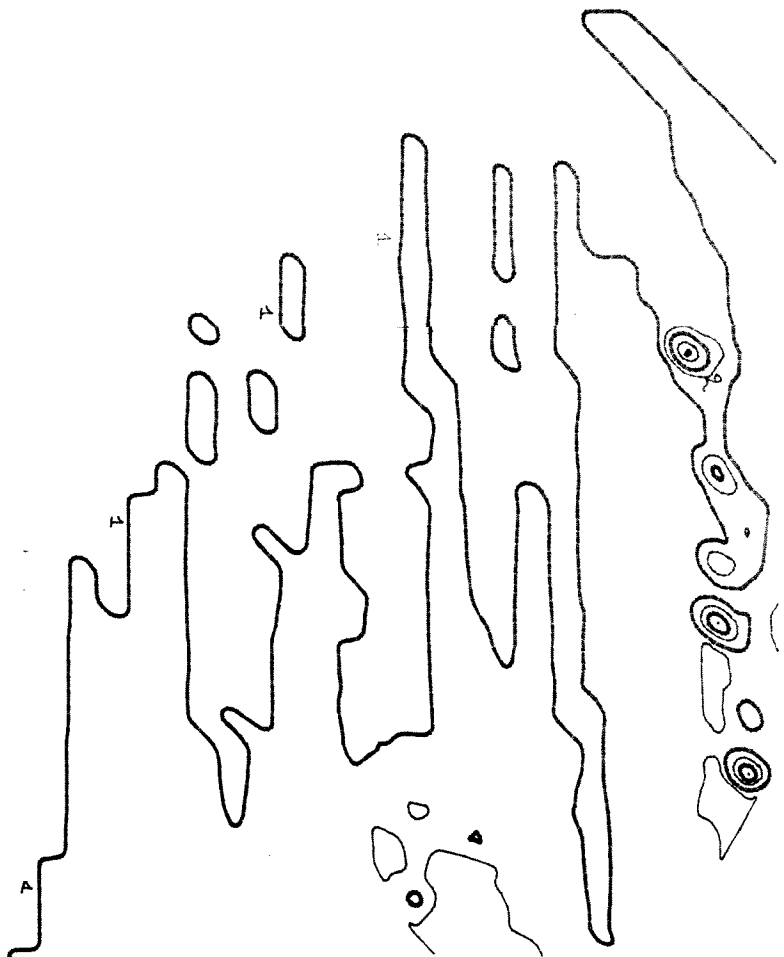
PLATE 10
THE GREAT WALL OF CHINA
1900

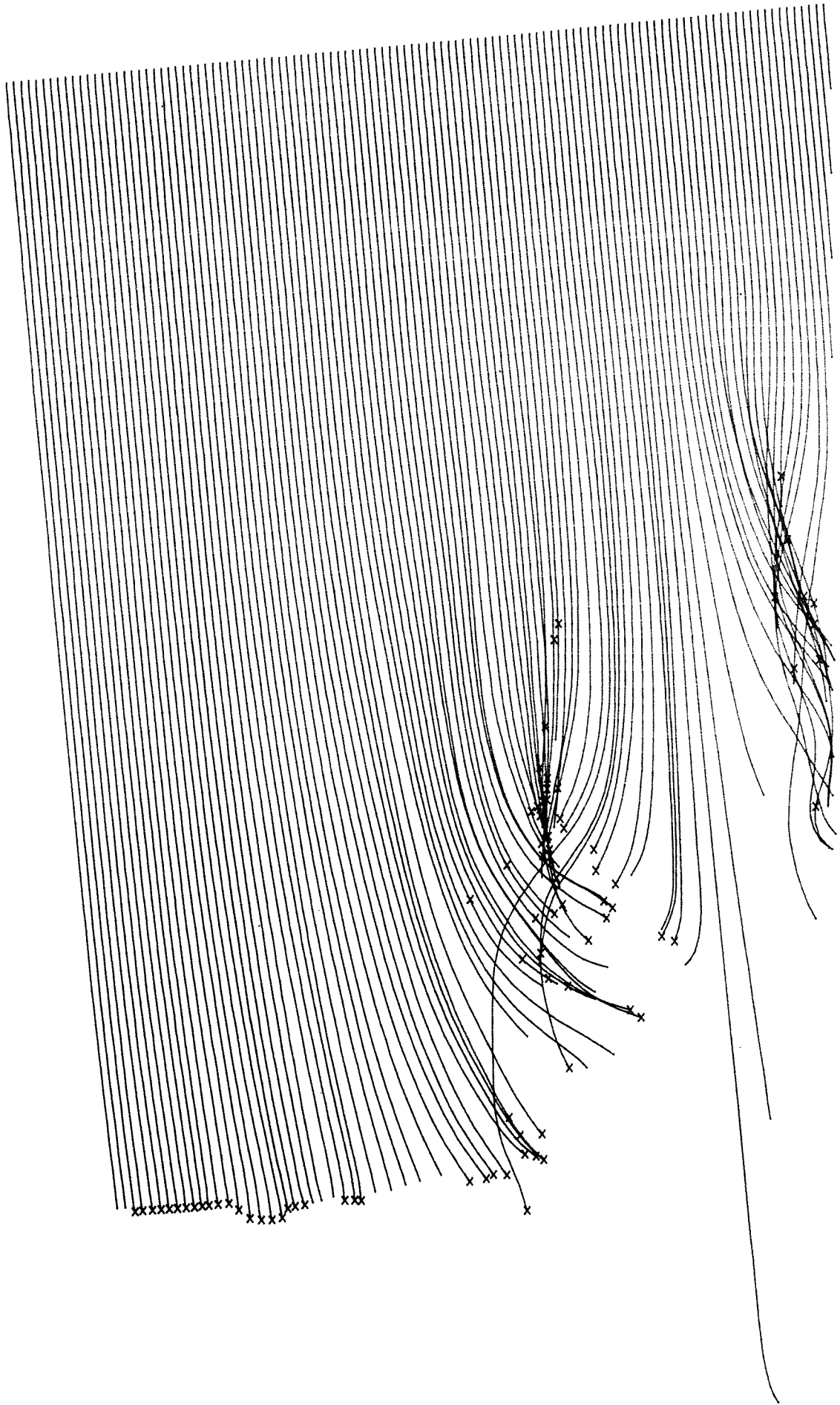


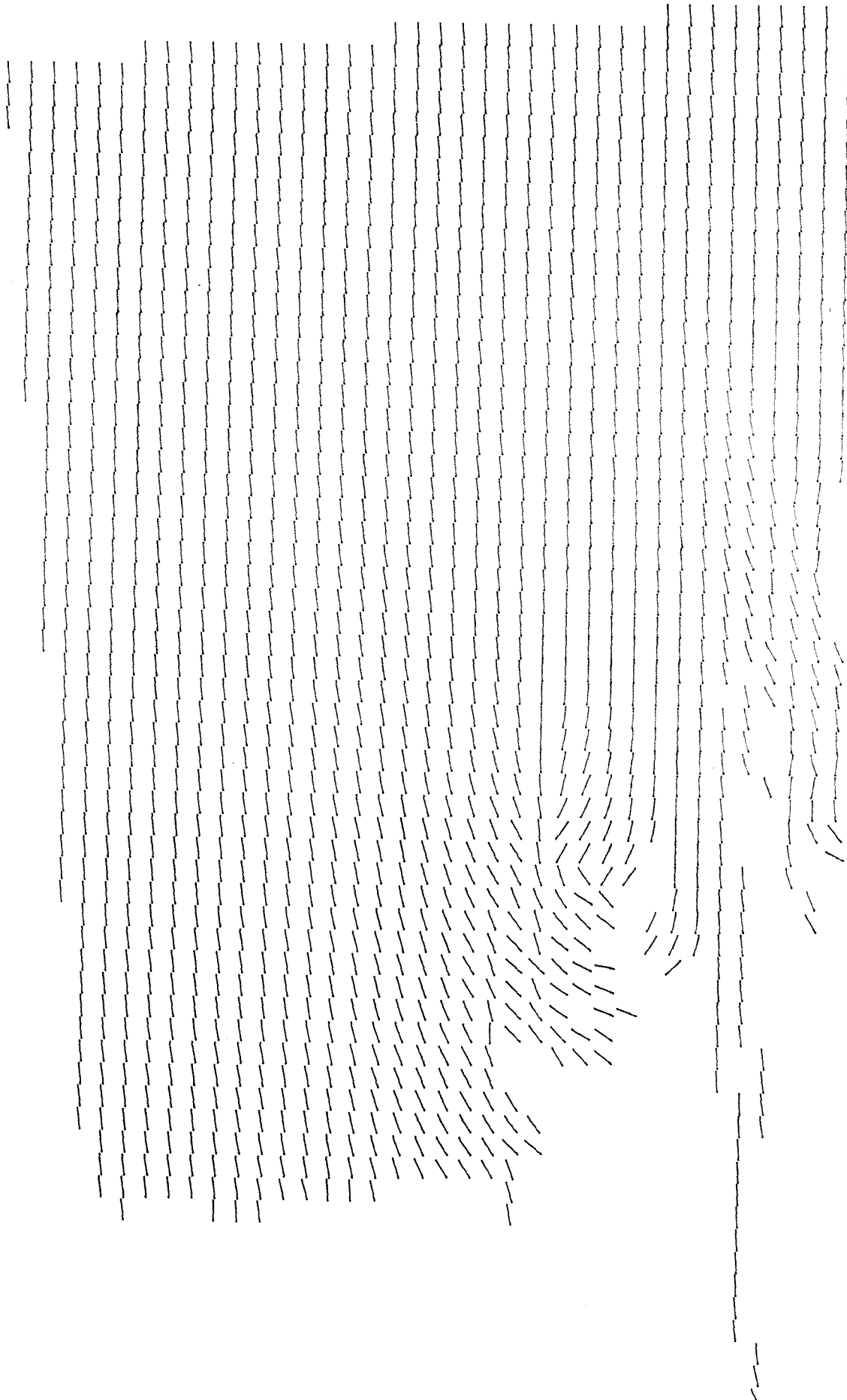


1650
SCALE 1:

45000

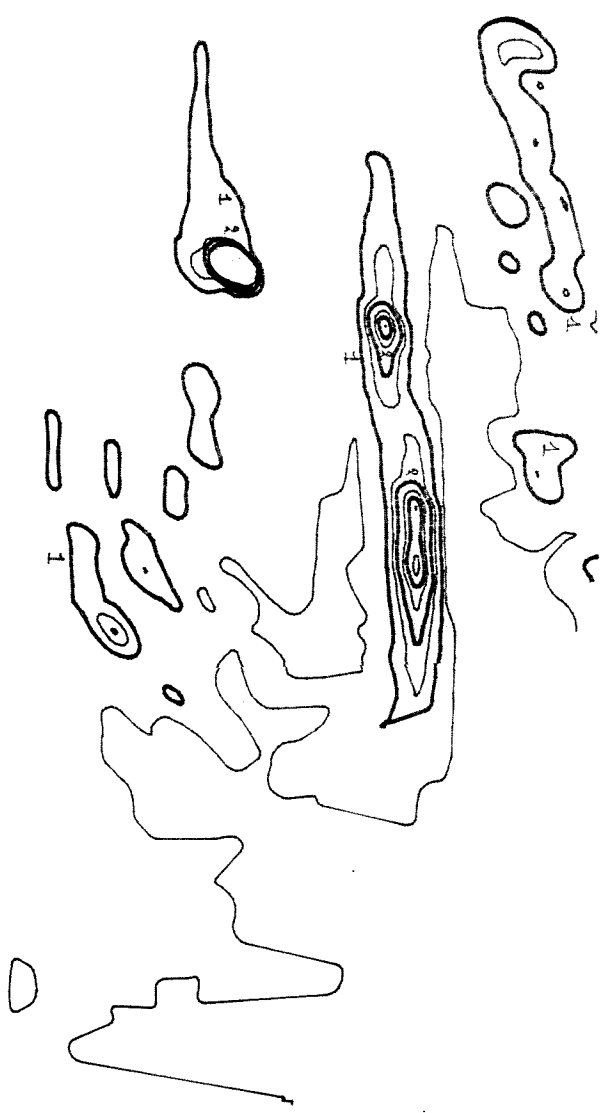


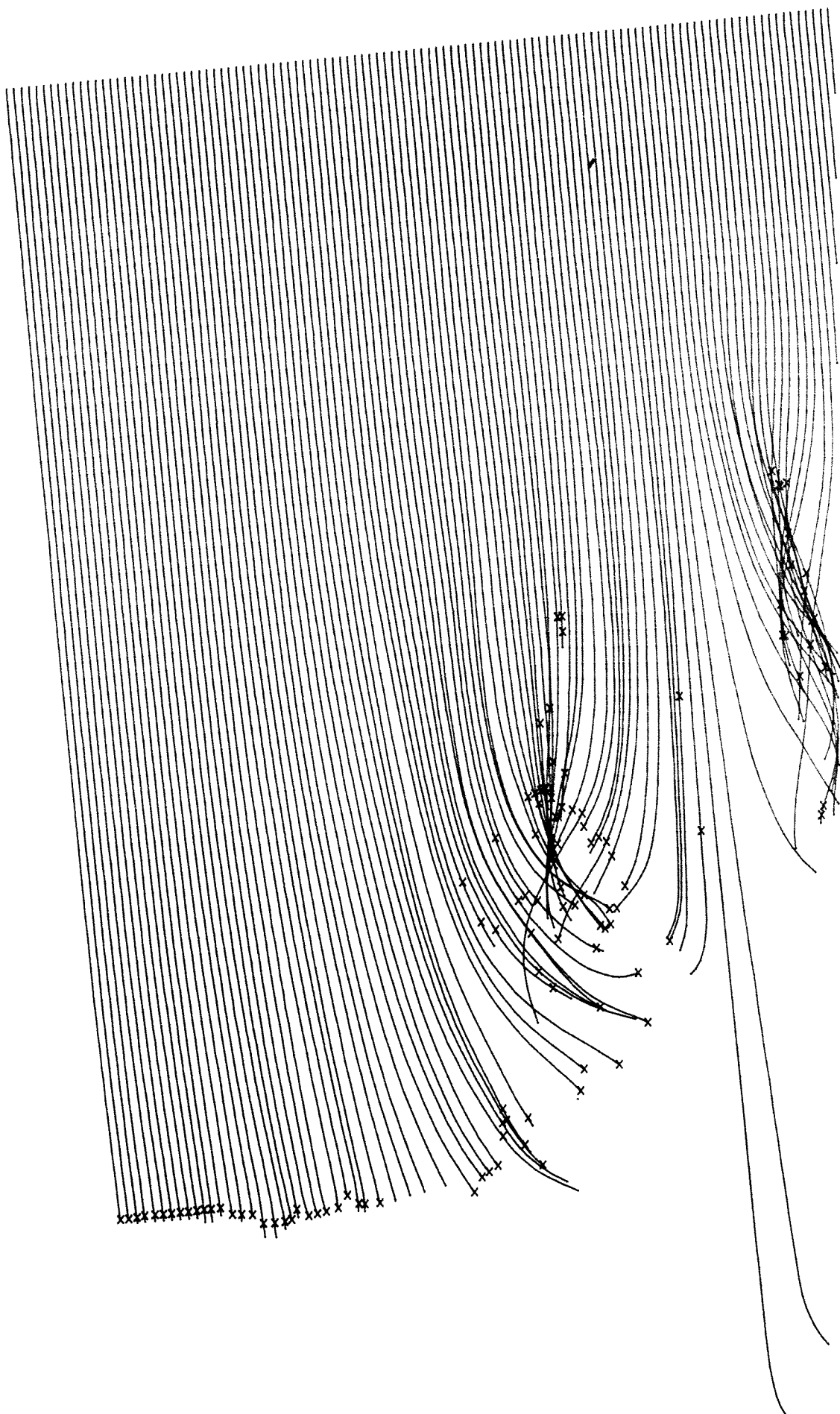


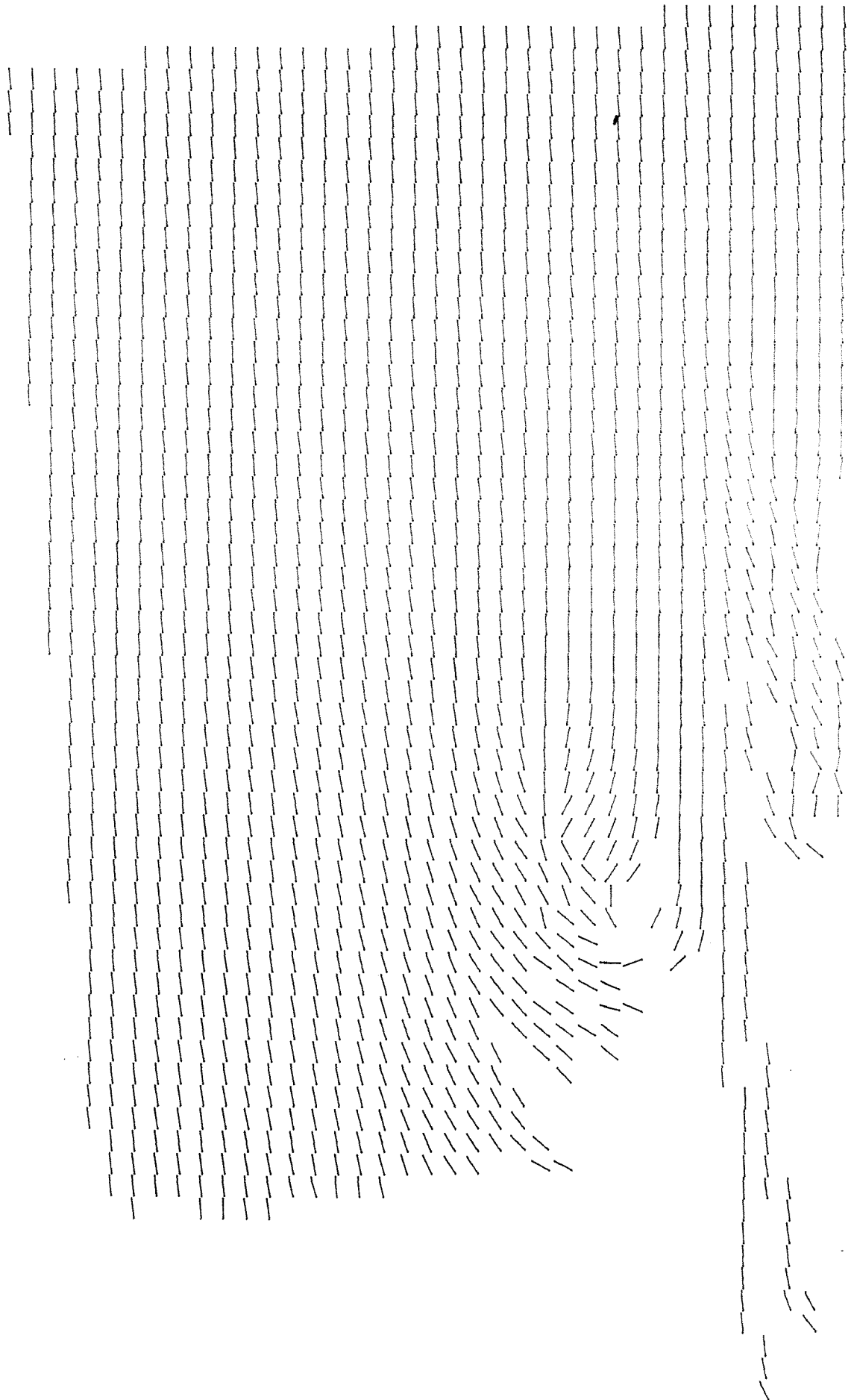


TGS1
SCALE 1:

45000





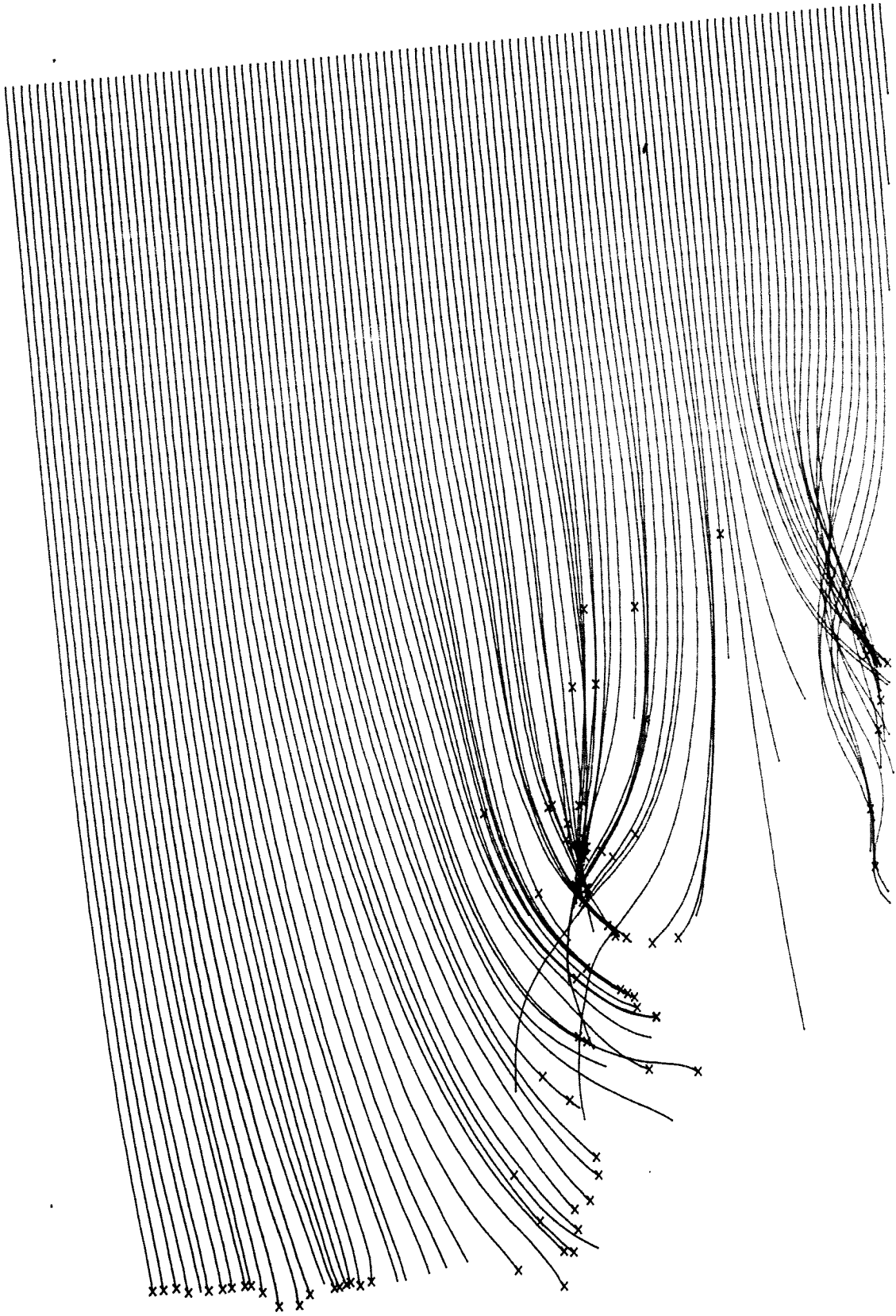


TG52
SCALE 1:

450000



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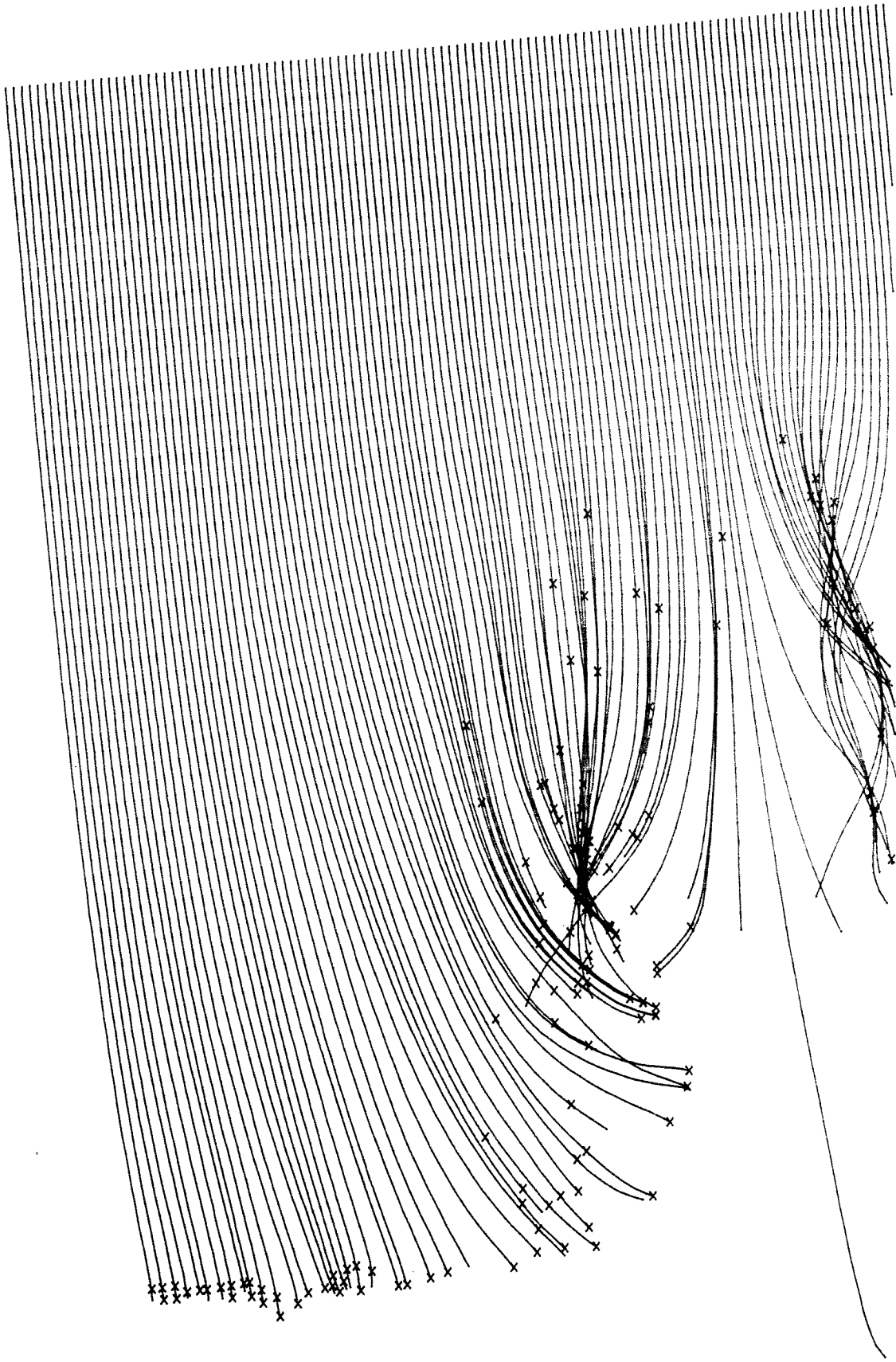
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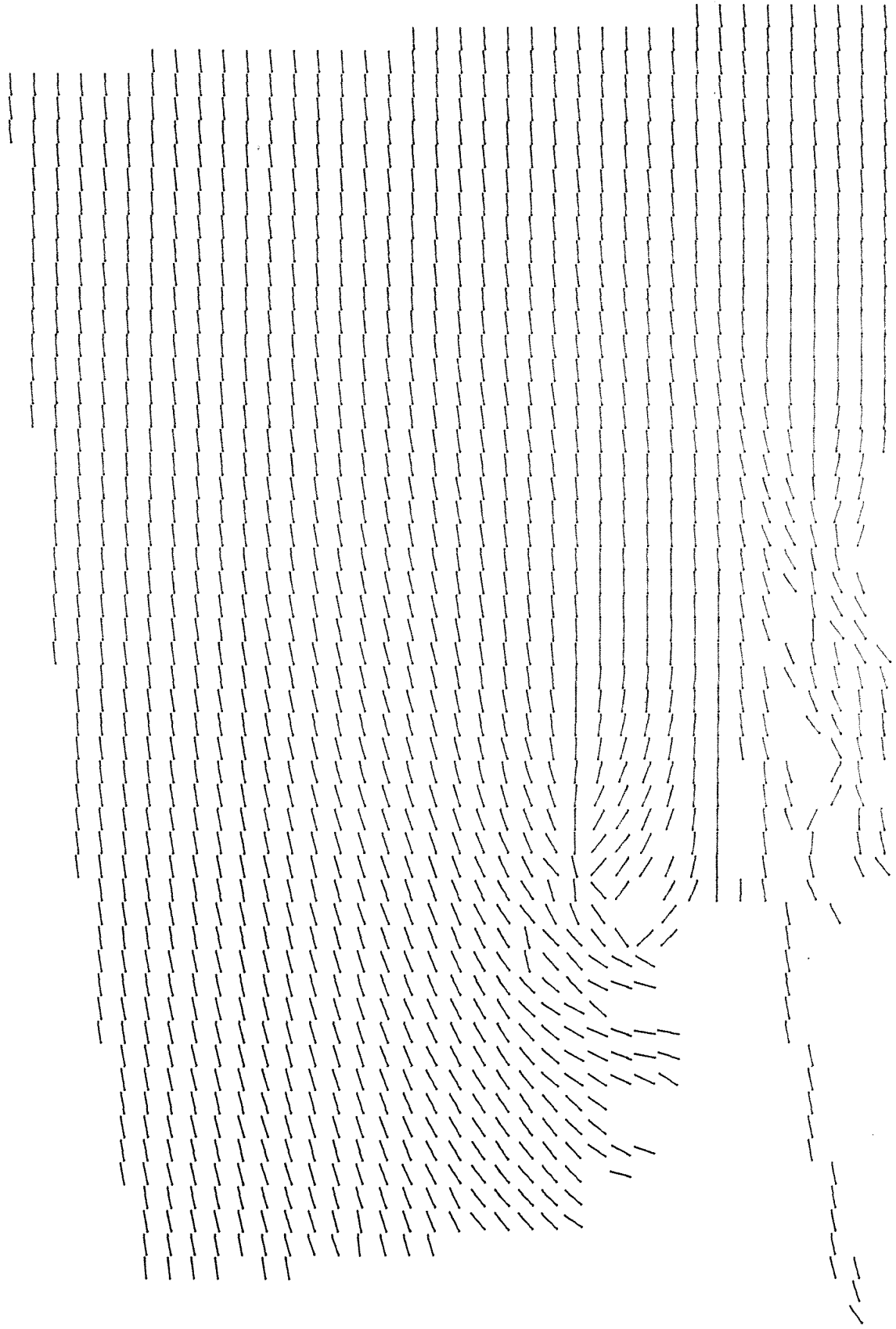
TG53
SCALE 1:

45000



PLATE 1
THE GREAT WALL OF CHINA
1900-1901



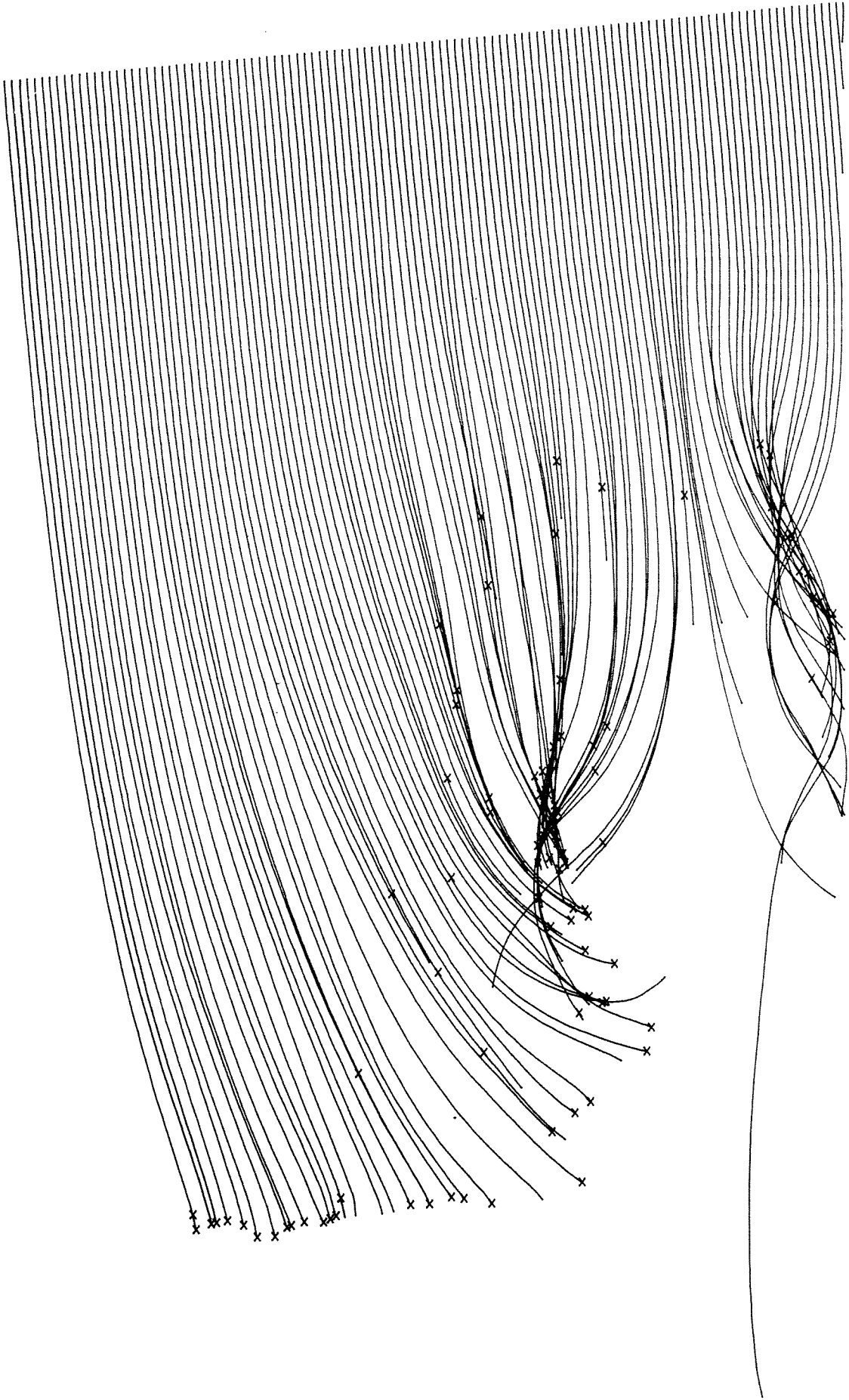


TGS4
SCALE 1:

45000



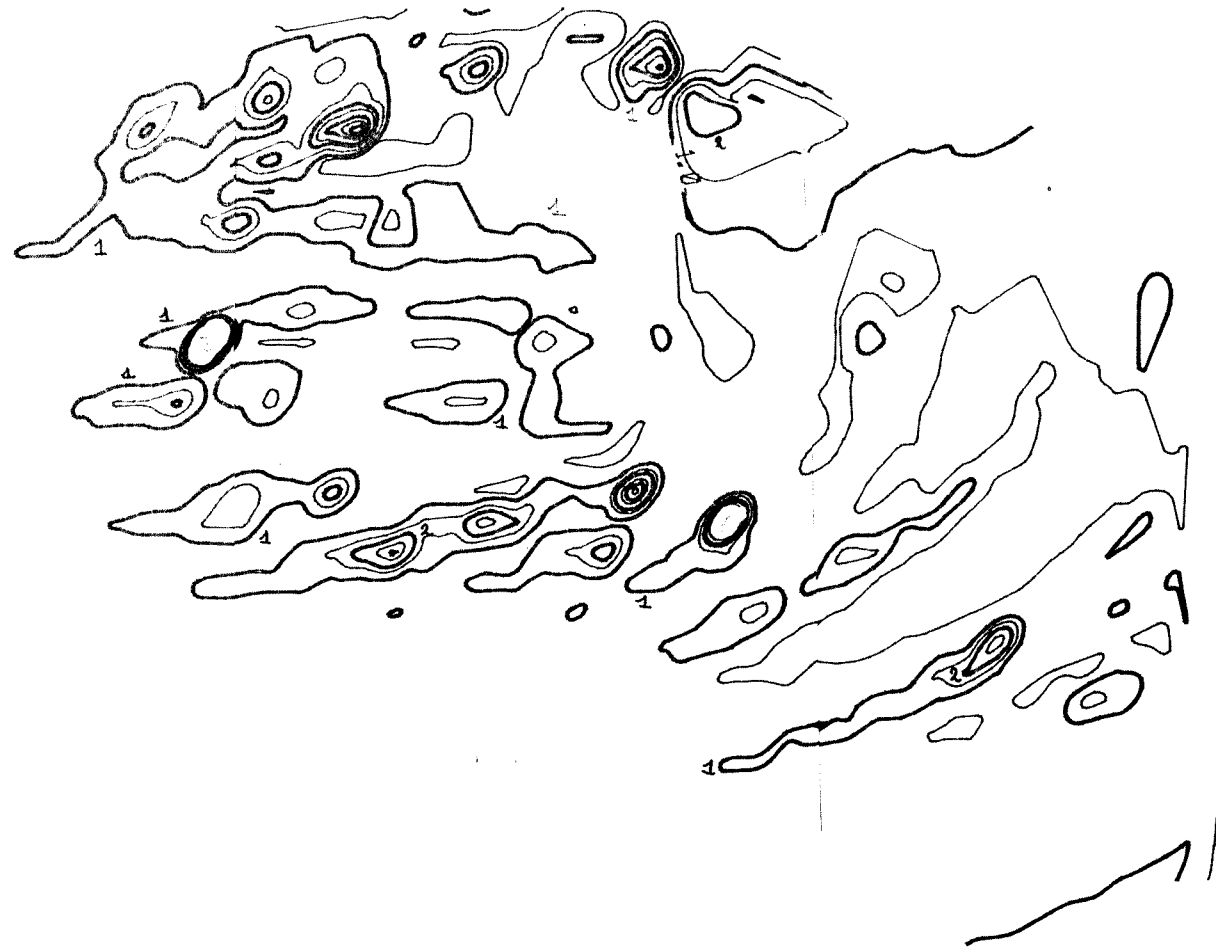
THE UNIVERSITY OF CHICAGO
LIBRARY



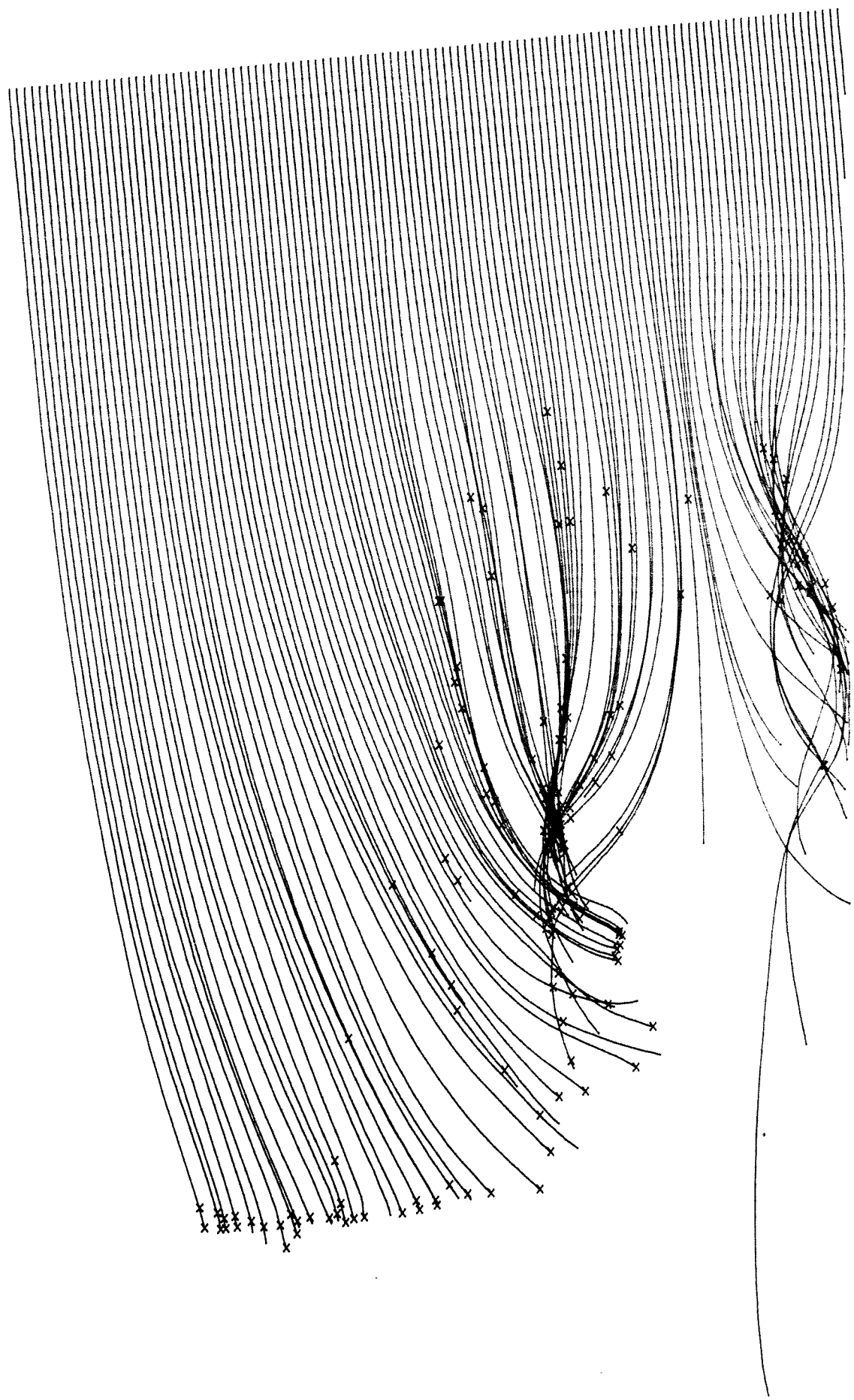


TG55
SCALE 1:

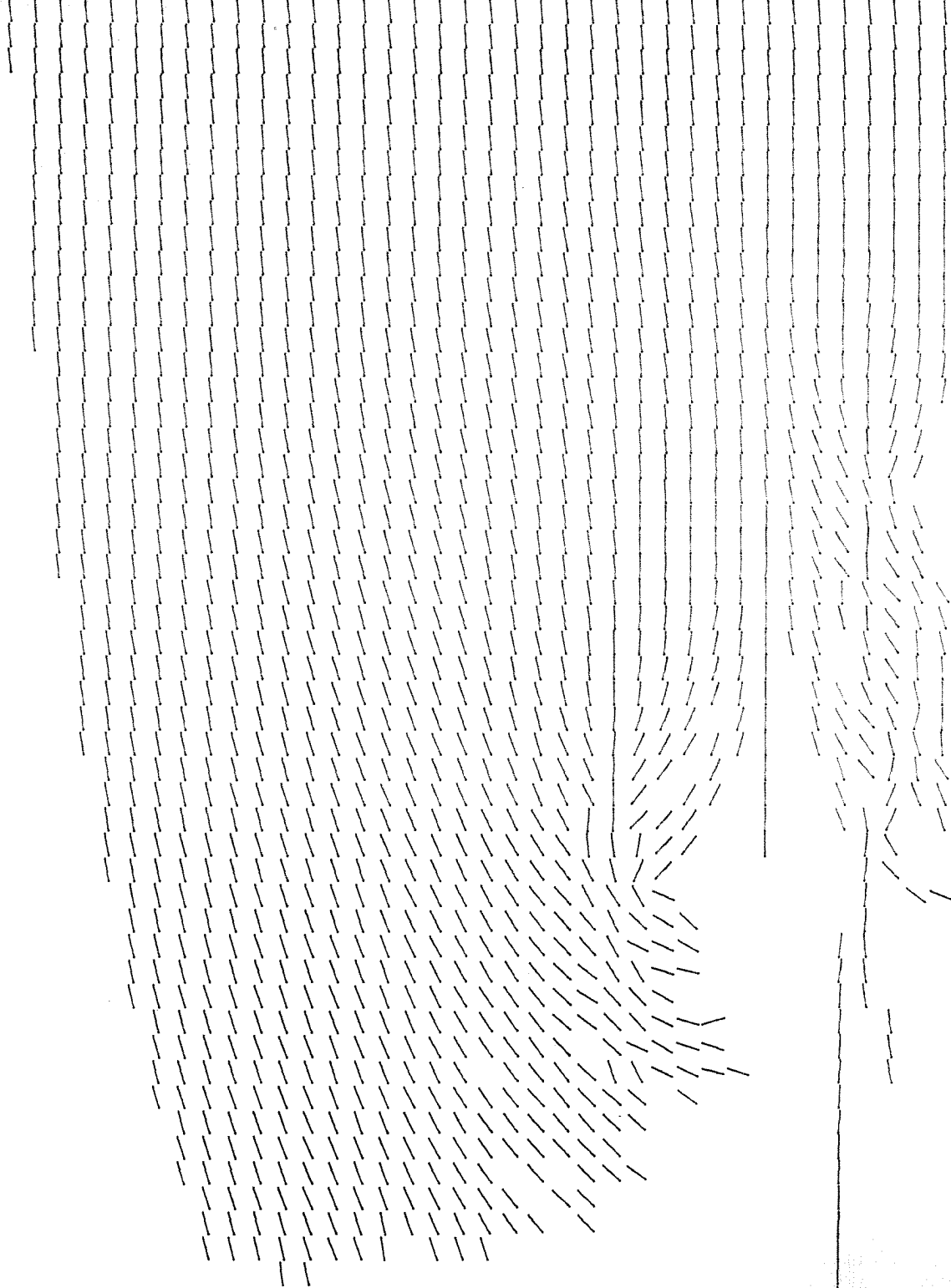
45000



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LIBRARY



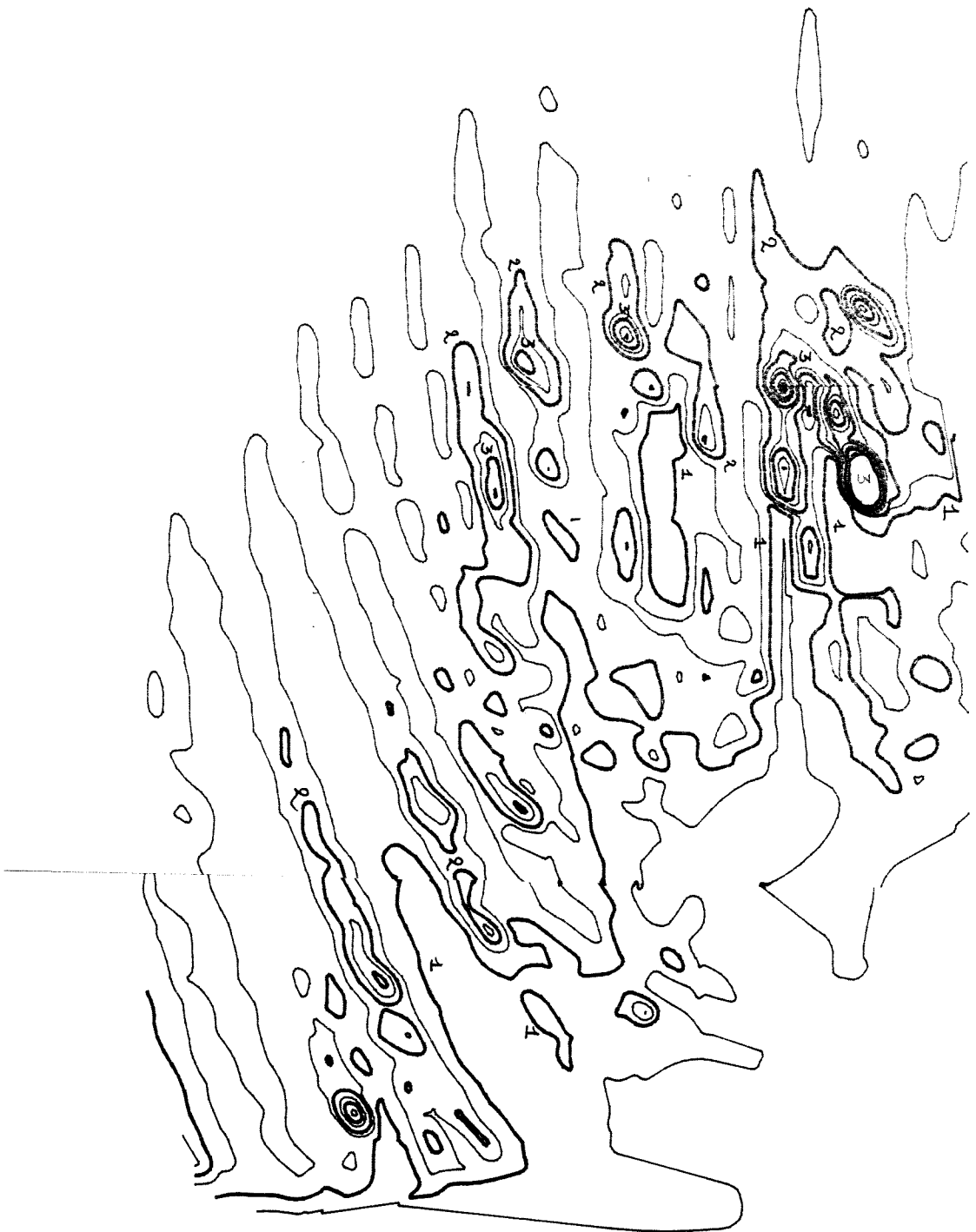
11/11/11



HYPERMARTIC

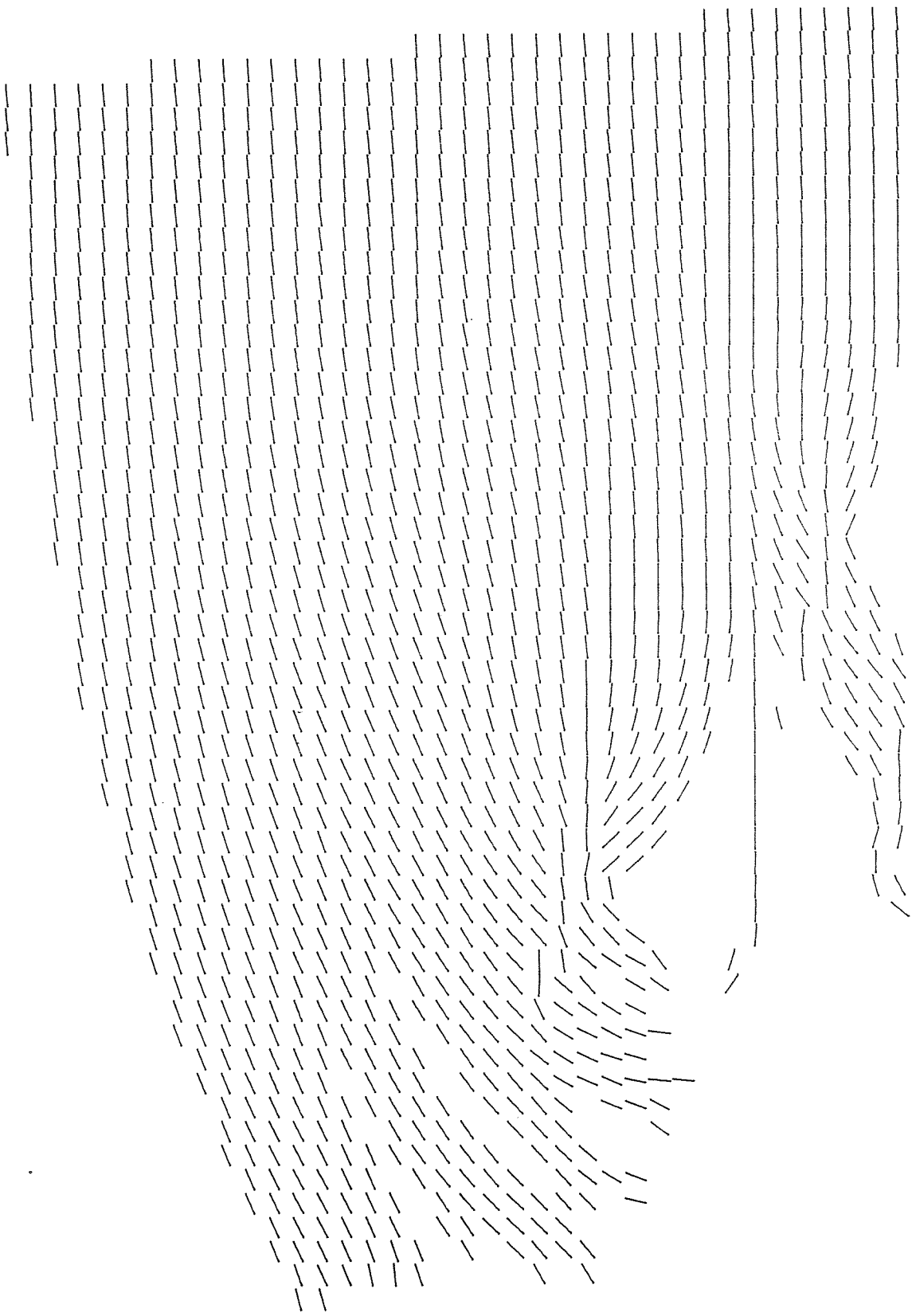
T656
SCALE 1:

450000



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From: [illegible] [illegible] [illegible]
Subject: [illegible] [illegible] [illegible]



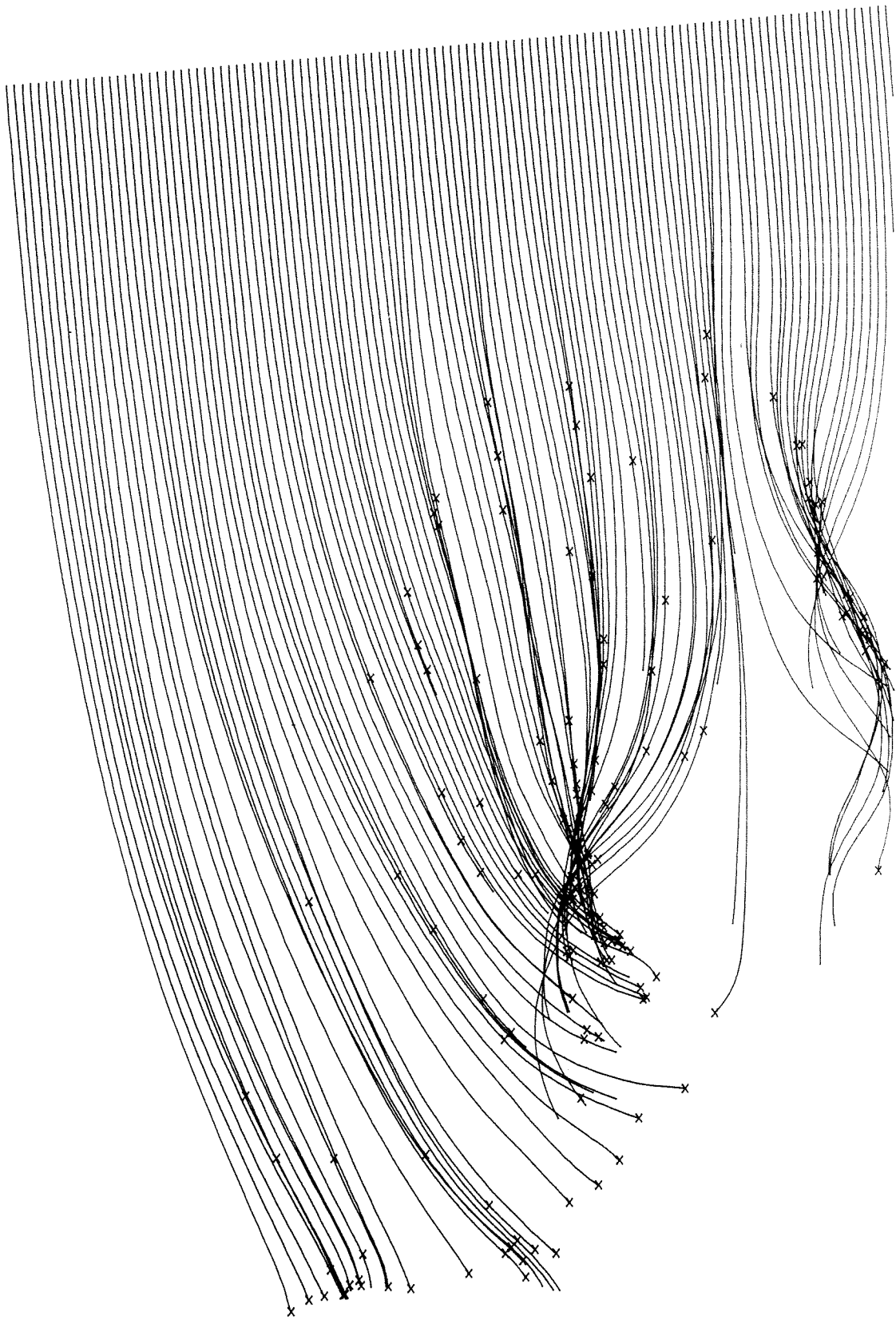


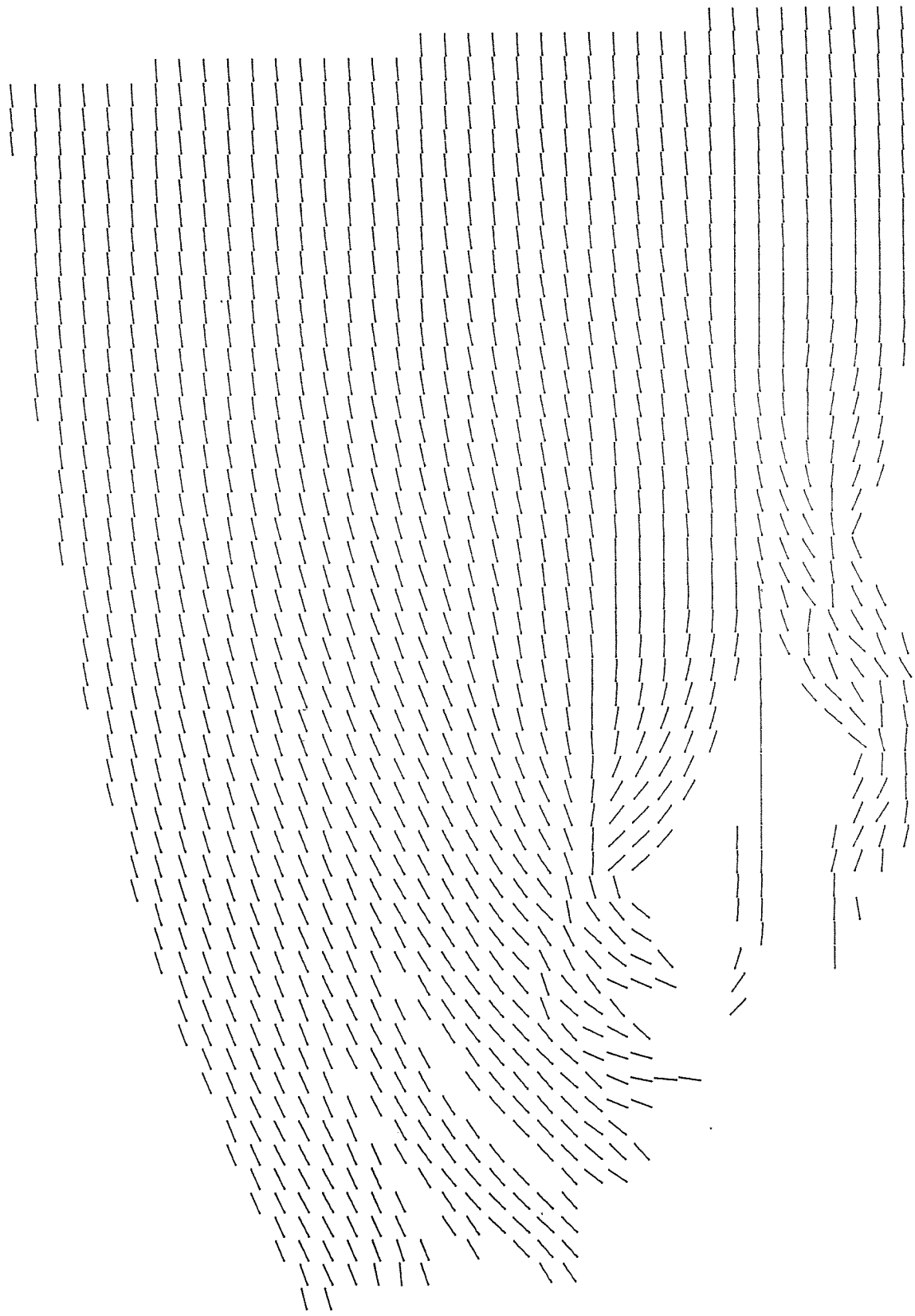
TG57
SCALE 1:

45000



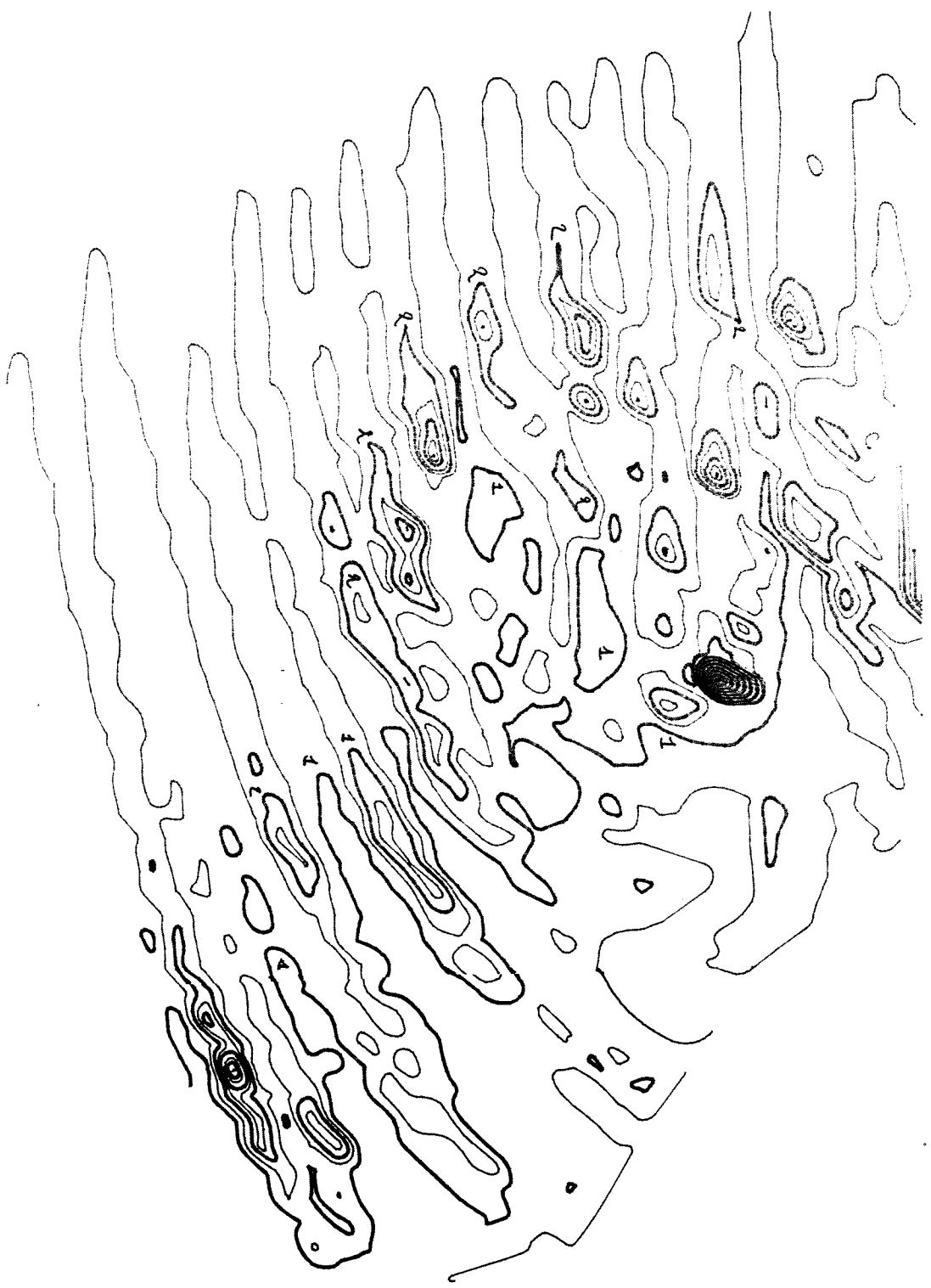
THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
PHYSICAL CHEMISTRY
CHICAGO, ILLINOIS



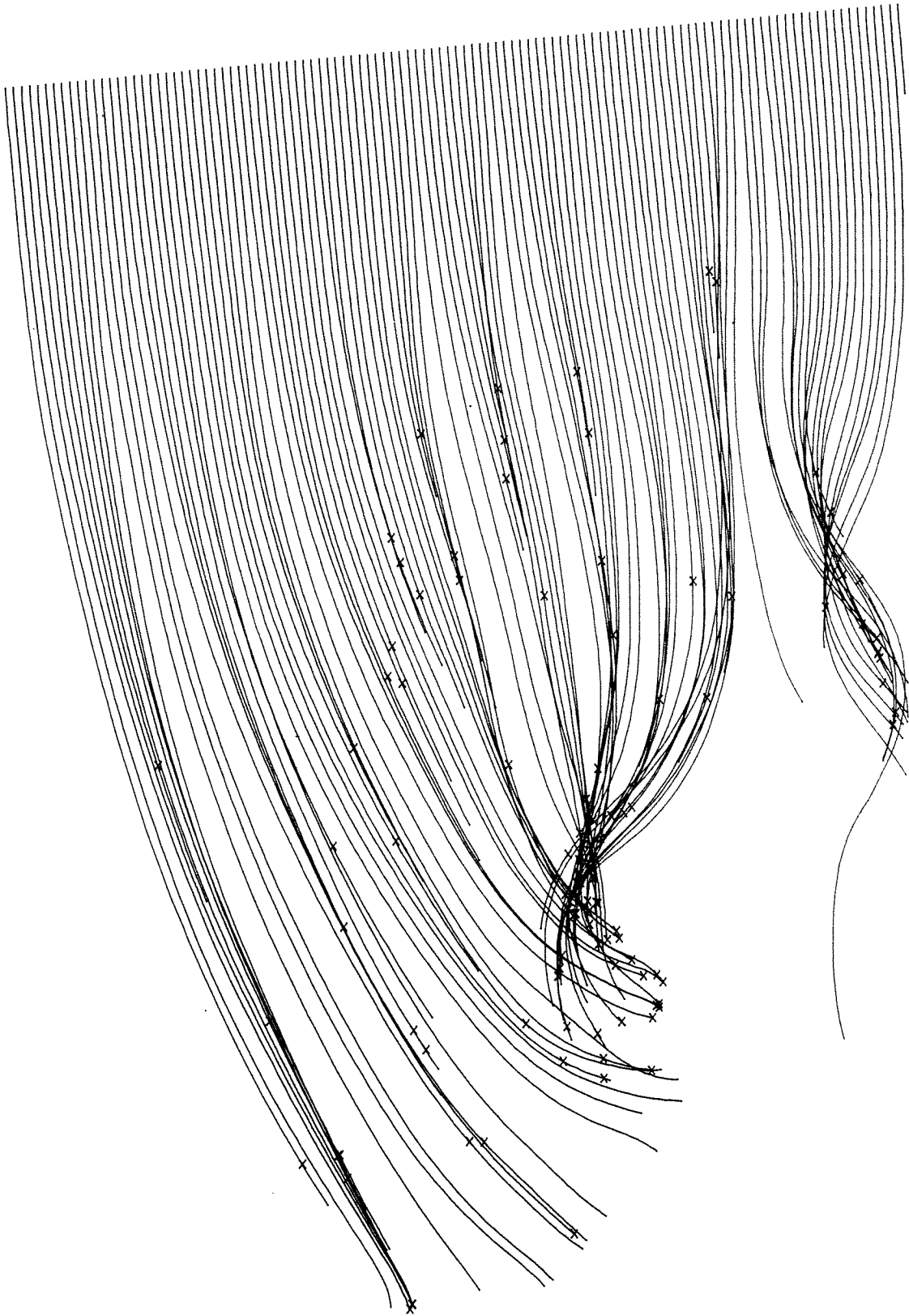


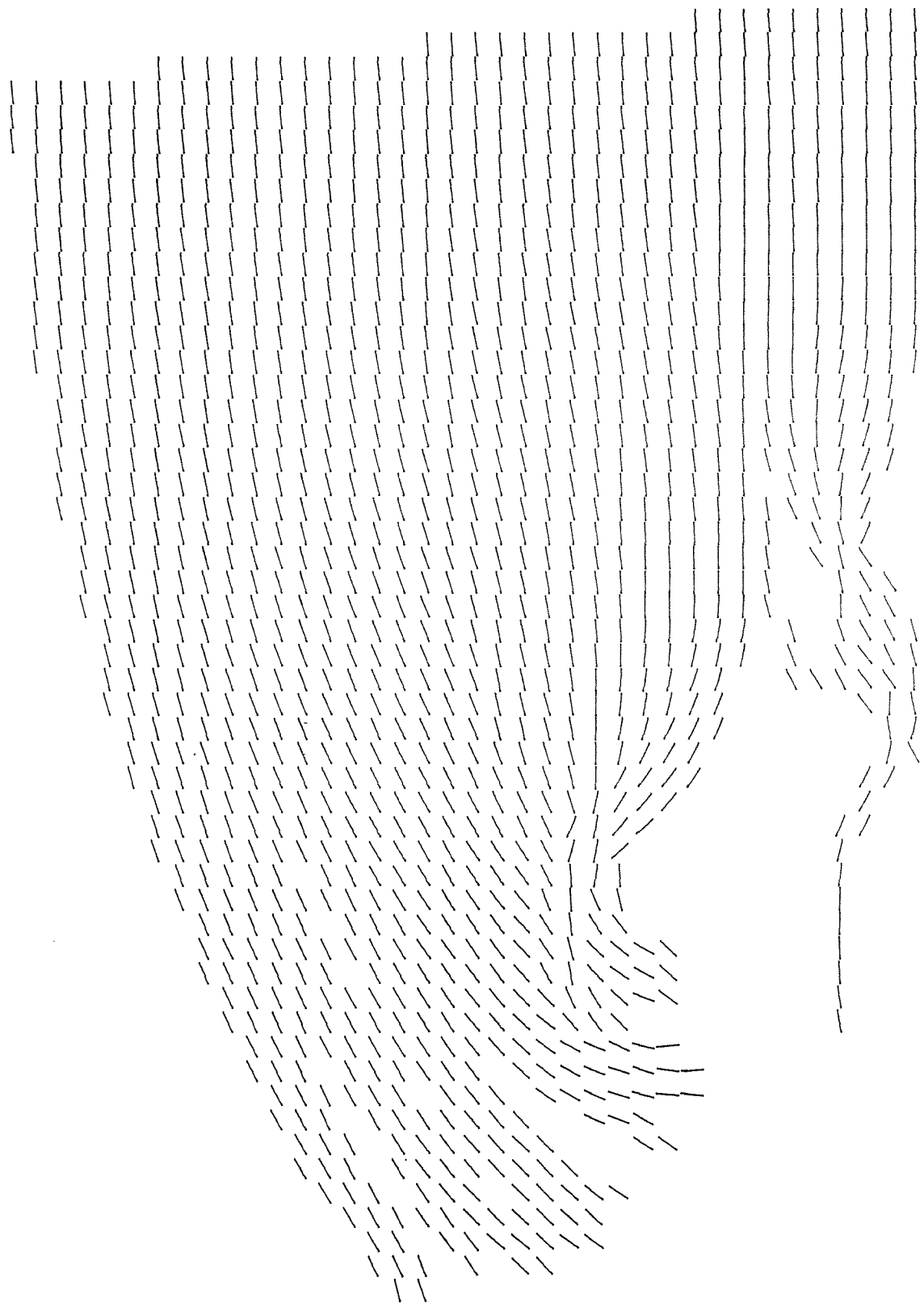
TG58
SCALE 1:

45000



U.S. GEOLOGICAL SURVEY
BUREAU OF MINERAL RESOURCES
WASHINGTON, D.C.





TG59
SCALE 1:

45000

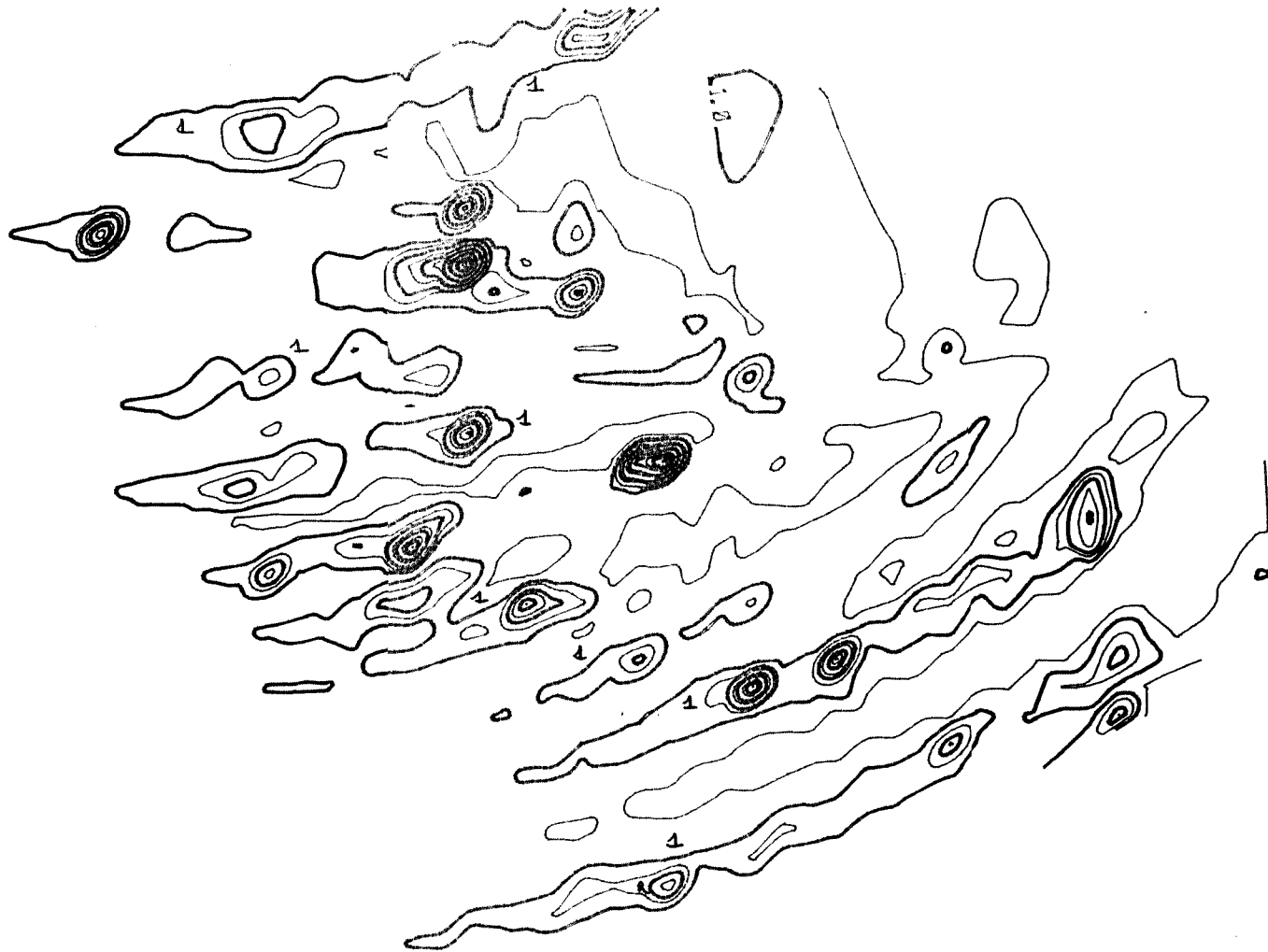
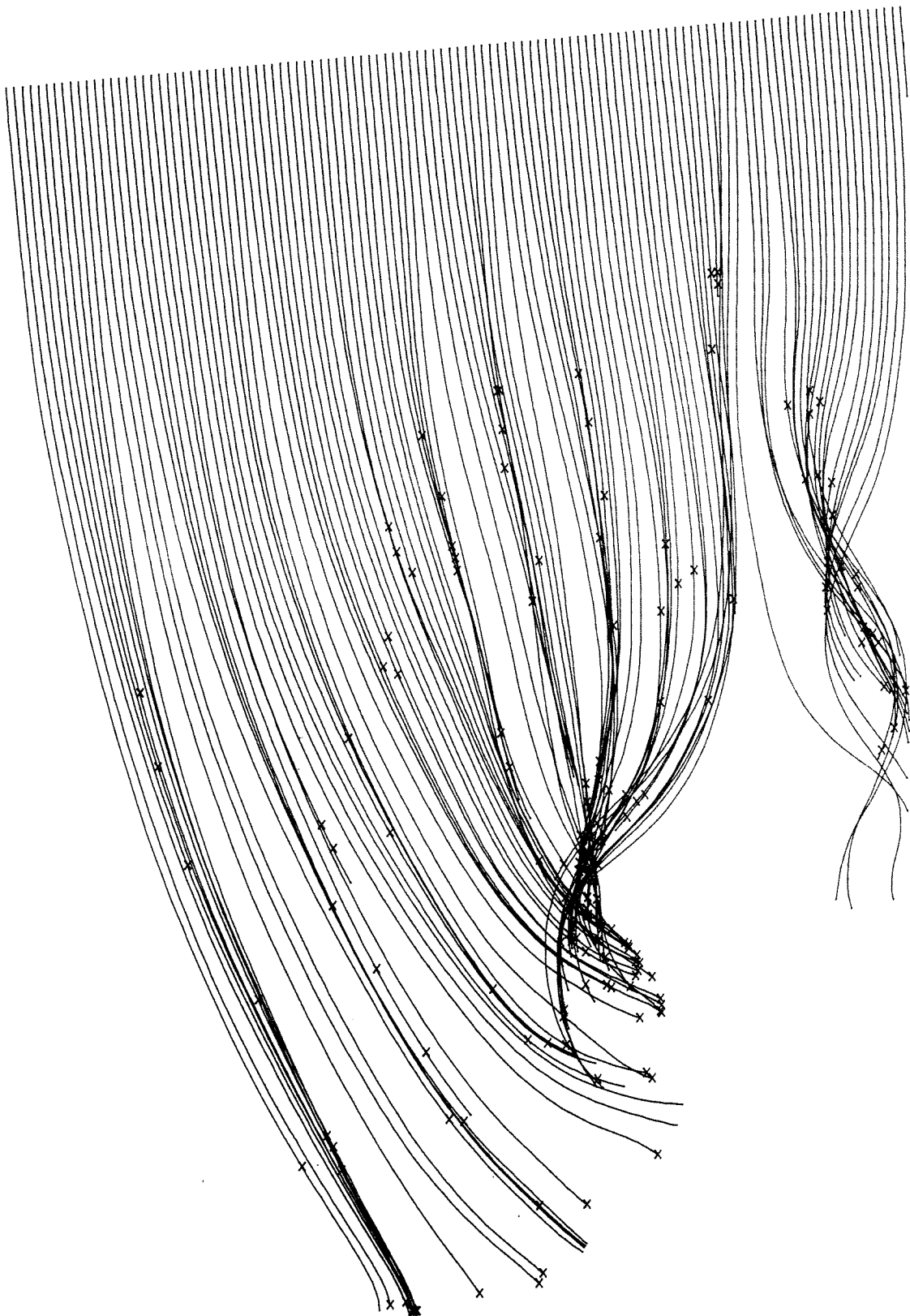


PLATE I
THE L. G. B. SYSTEM
OF THE L. G. B. SYSTEM
OF THE L. G. B. SYSTEM



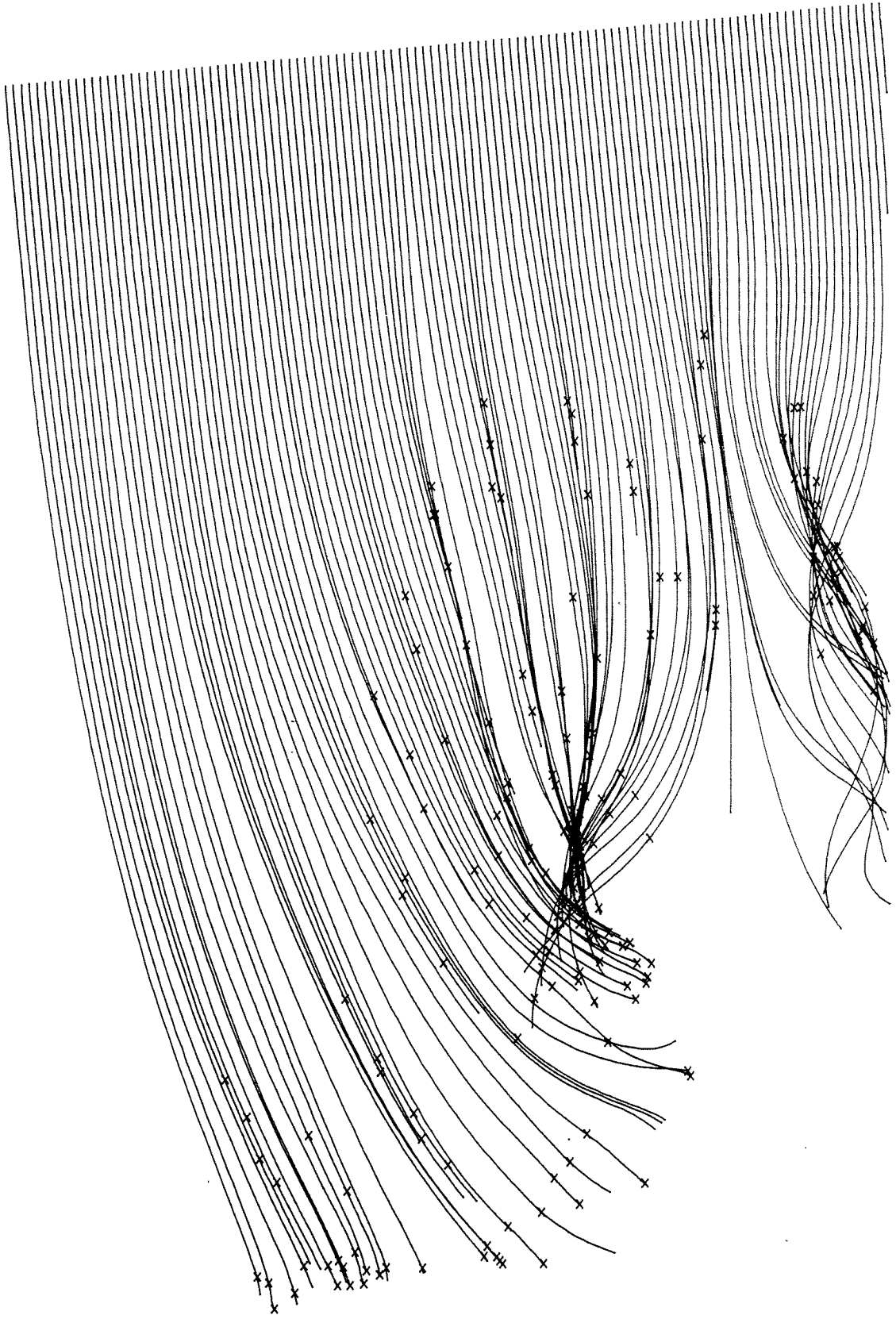


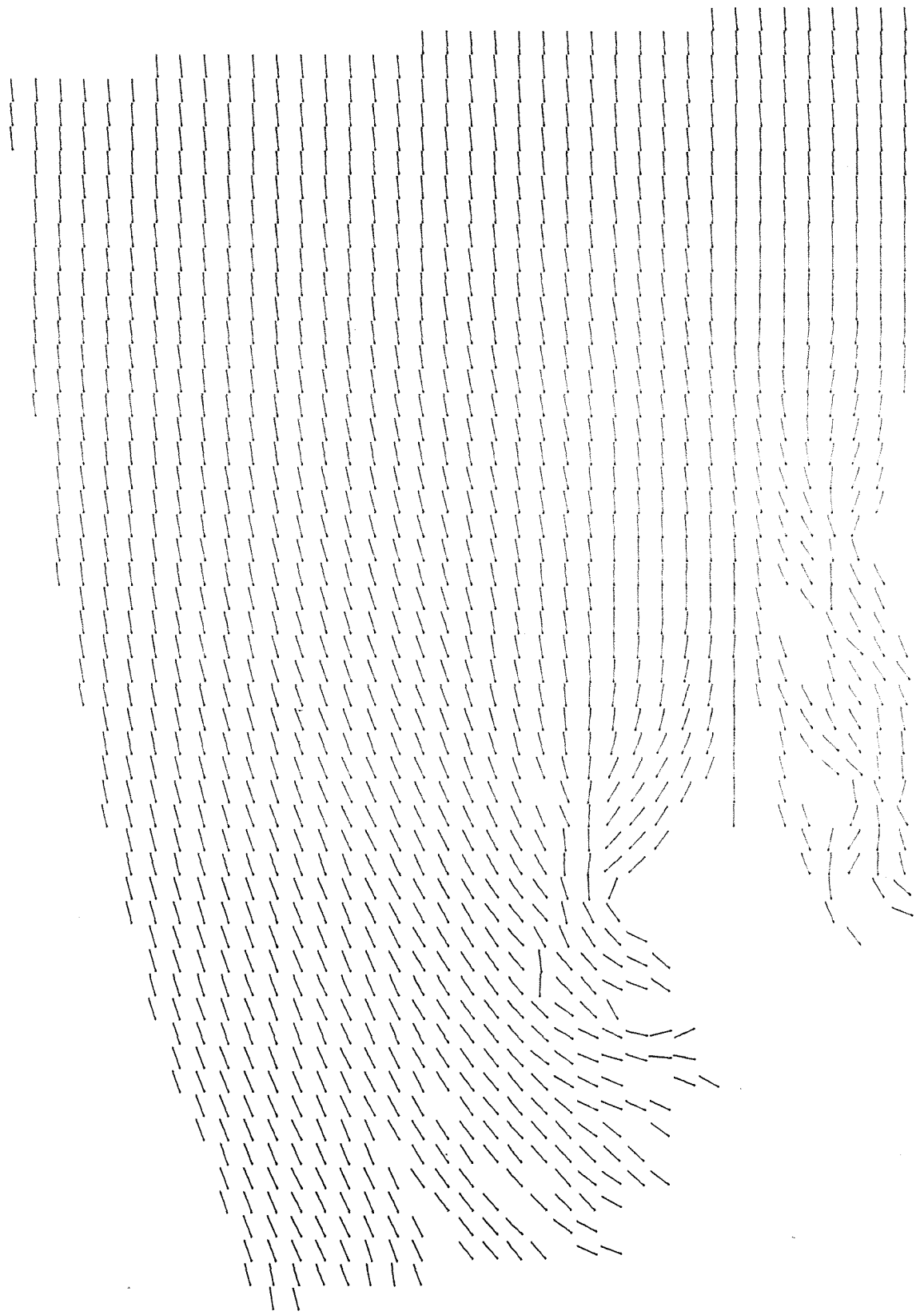
TG60
SCALE 1:

45000



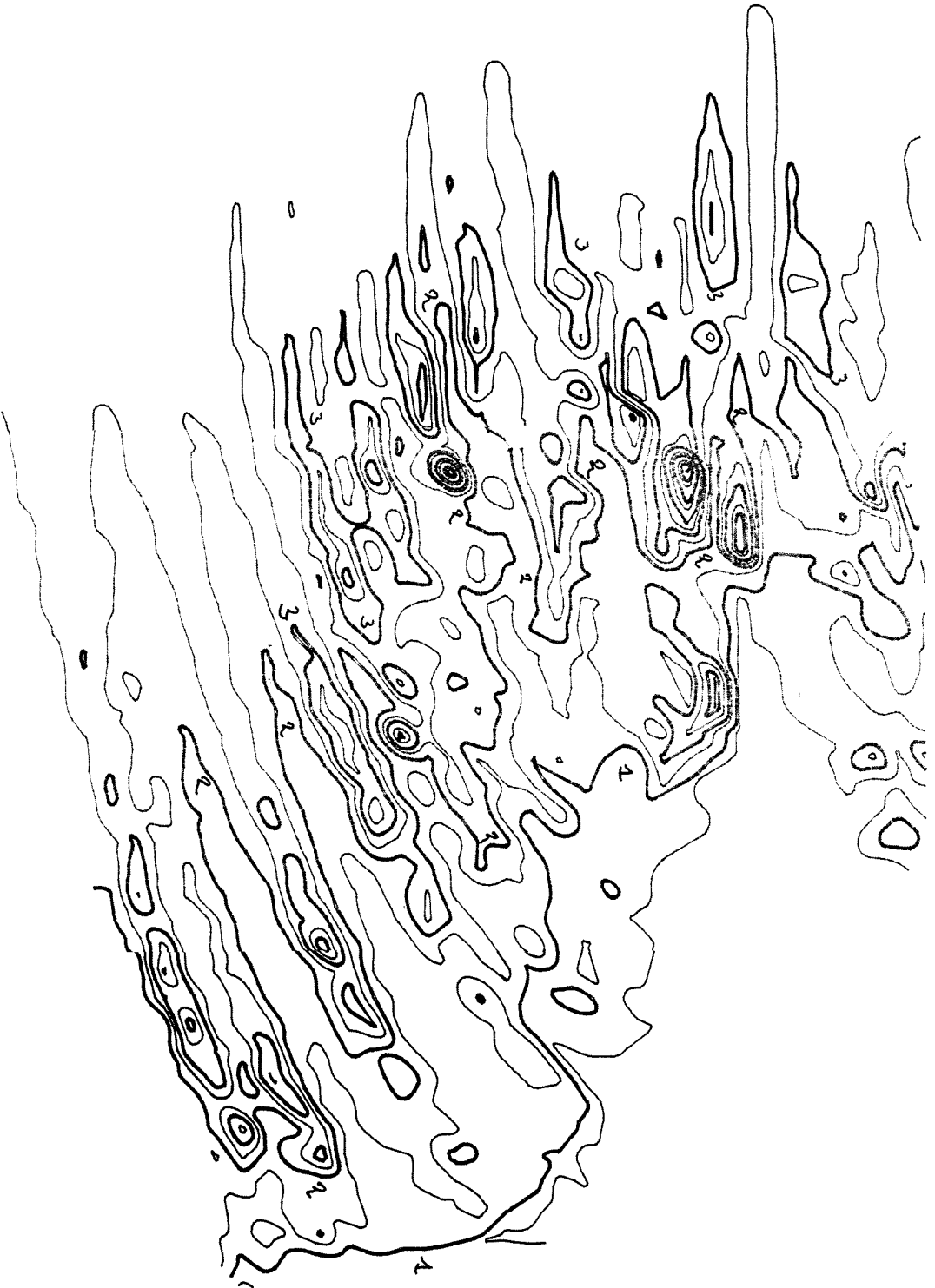
TABLE OF INCIDENTS FOR THE
PERIOD 1961-1962



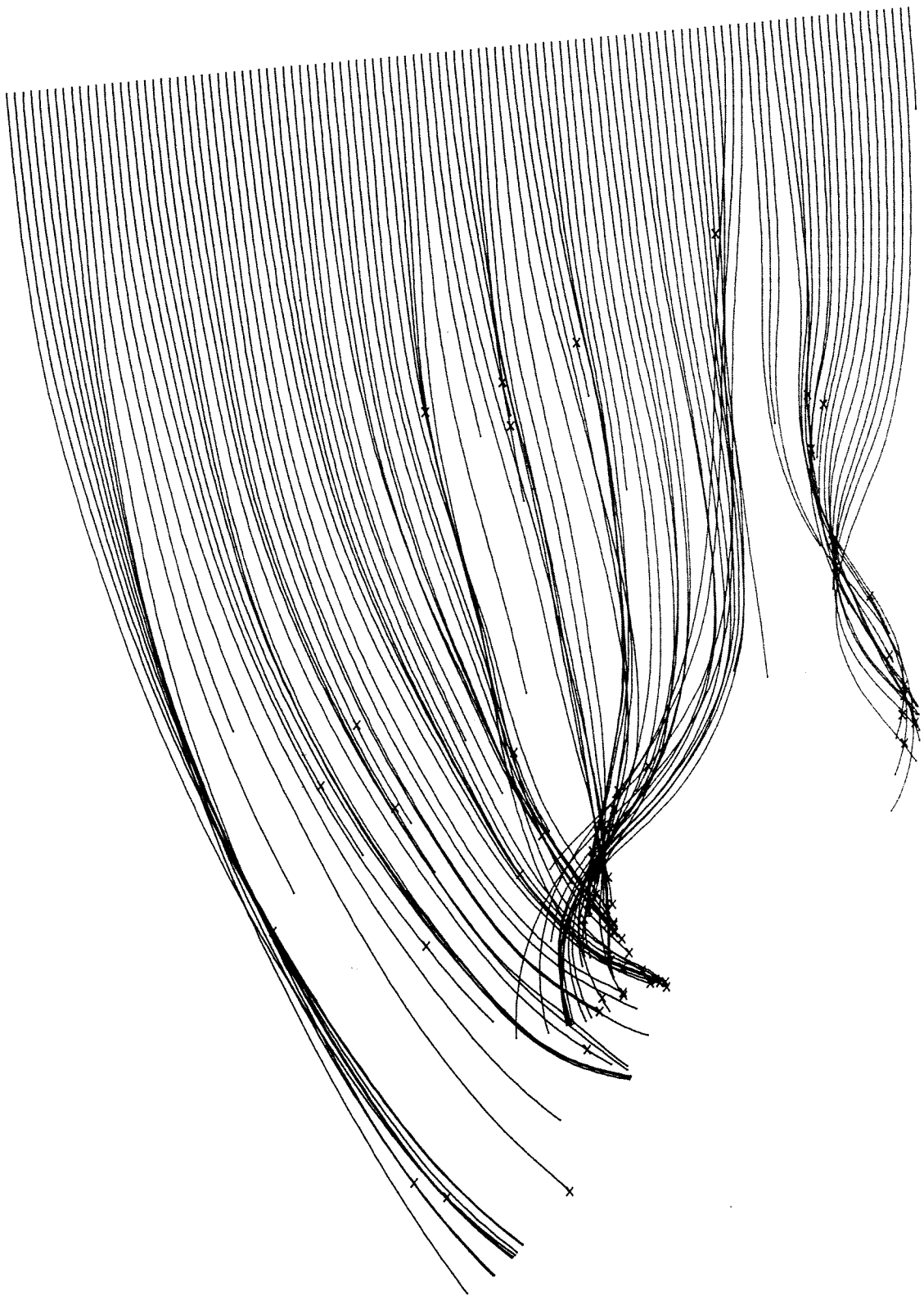


TG61
SCALE 1:

45000



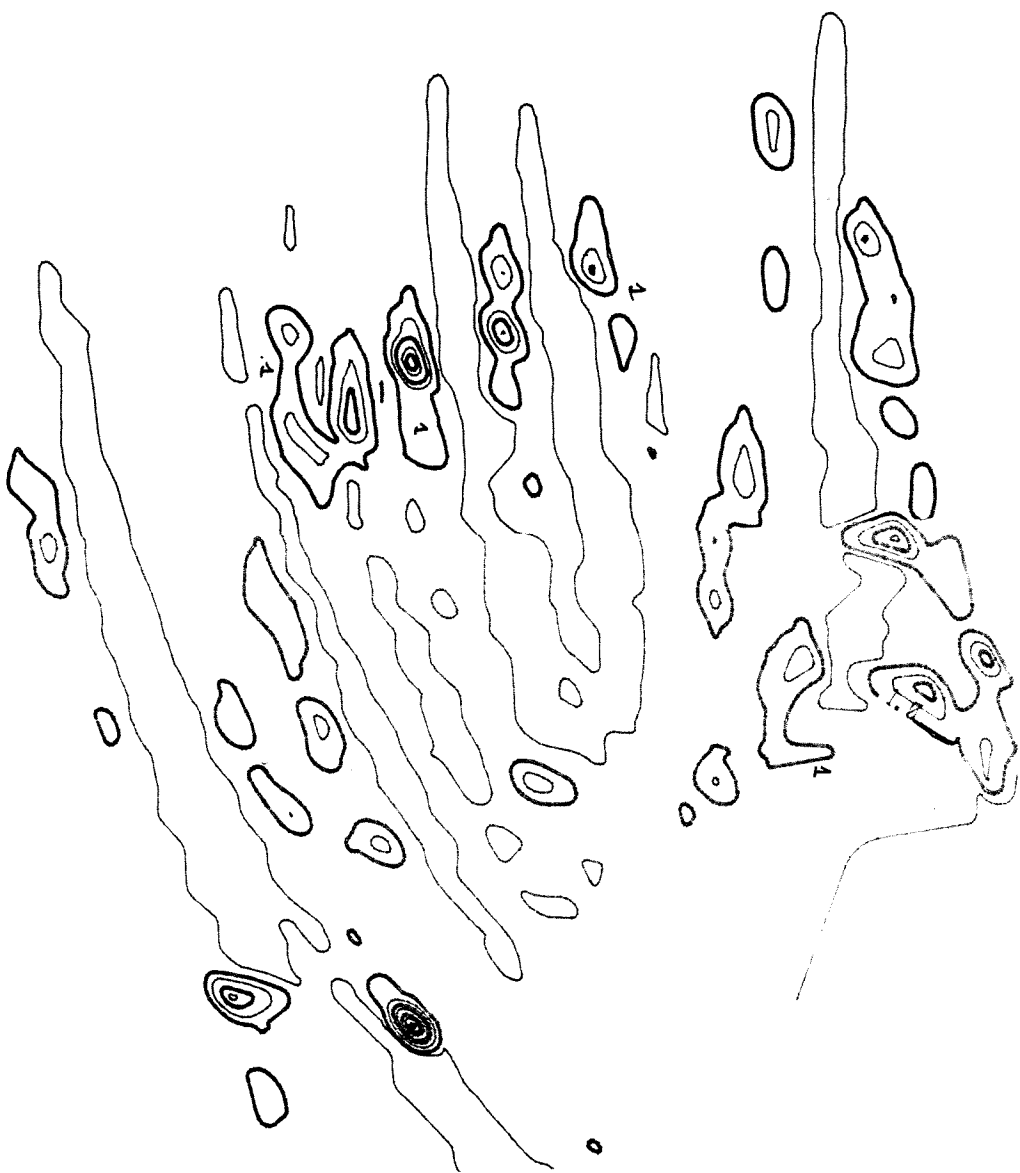
7-14-68
TABLE OF CONTENTS
PAGE



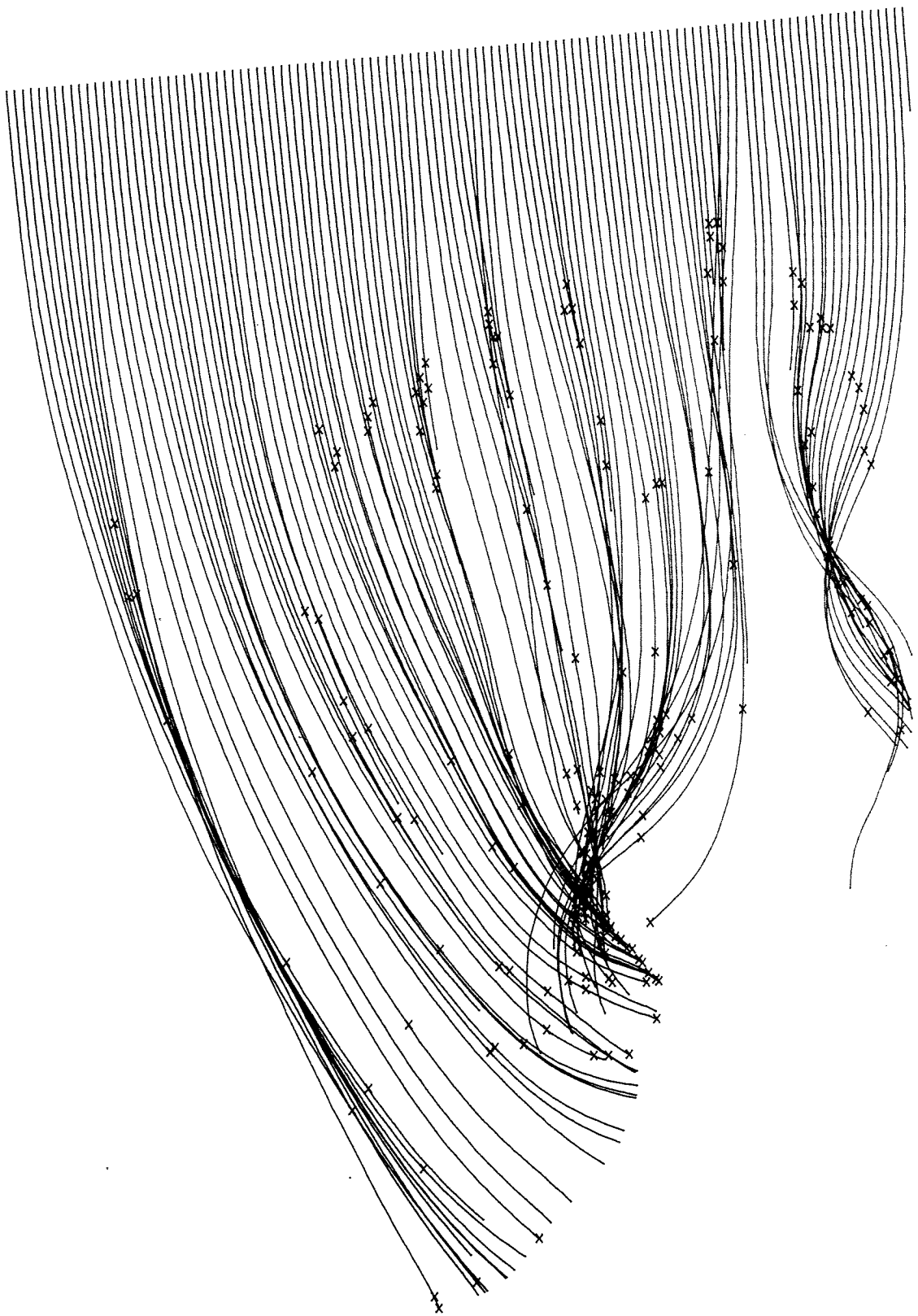


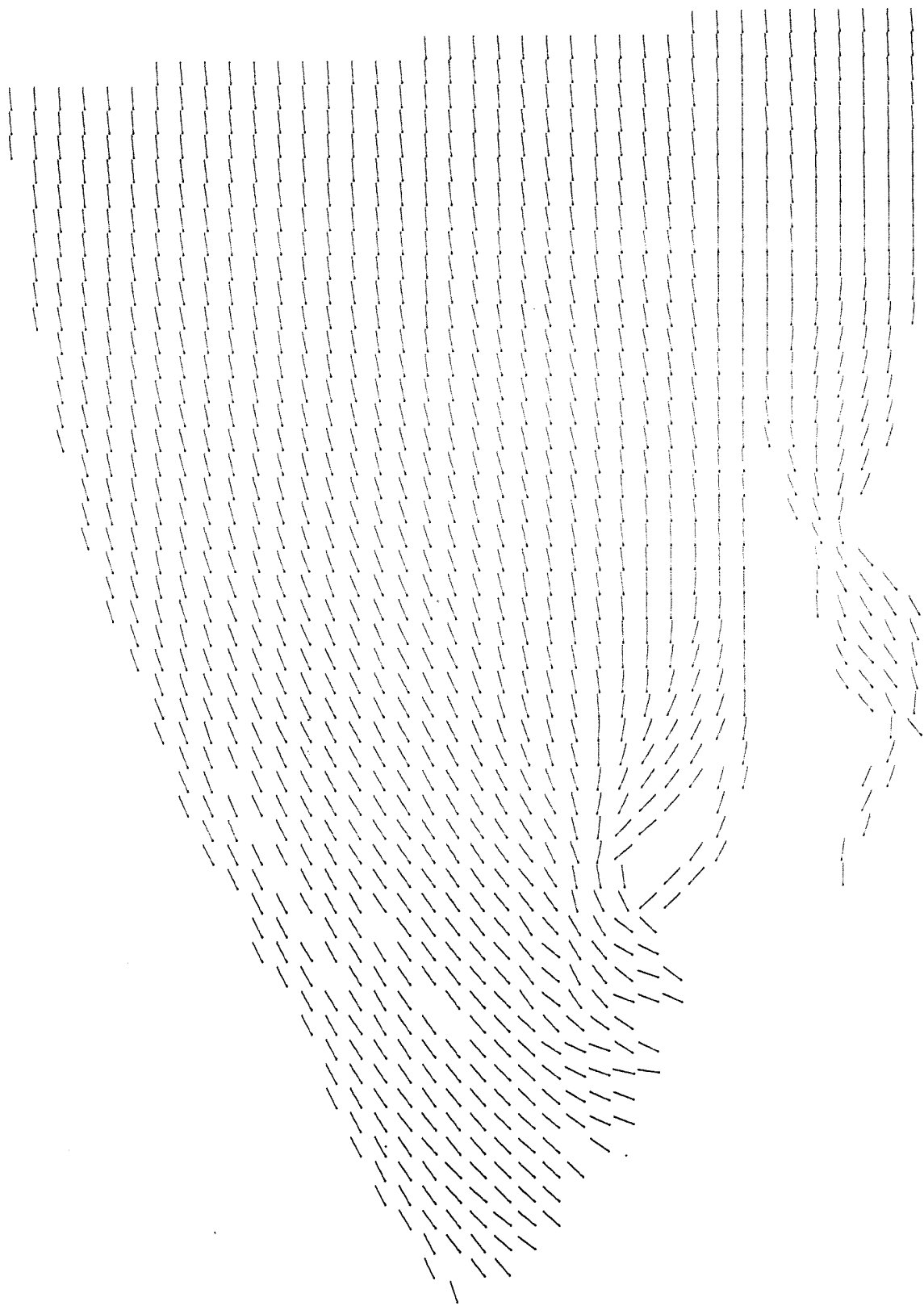
TG62
SCALE 1:

45000



1. 14. 1963
M. A. ...
M. A. ...
M. A. ...



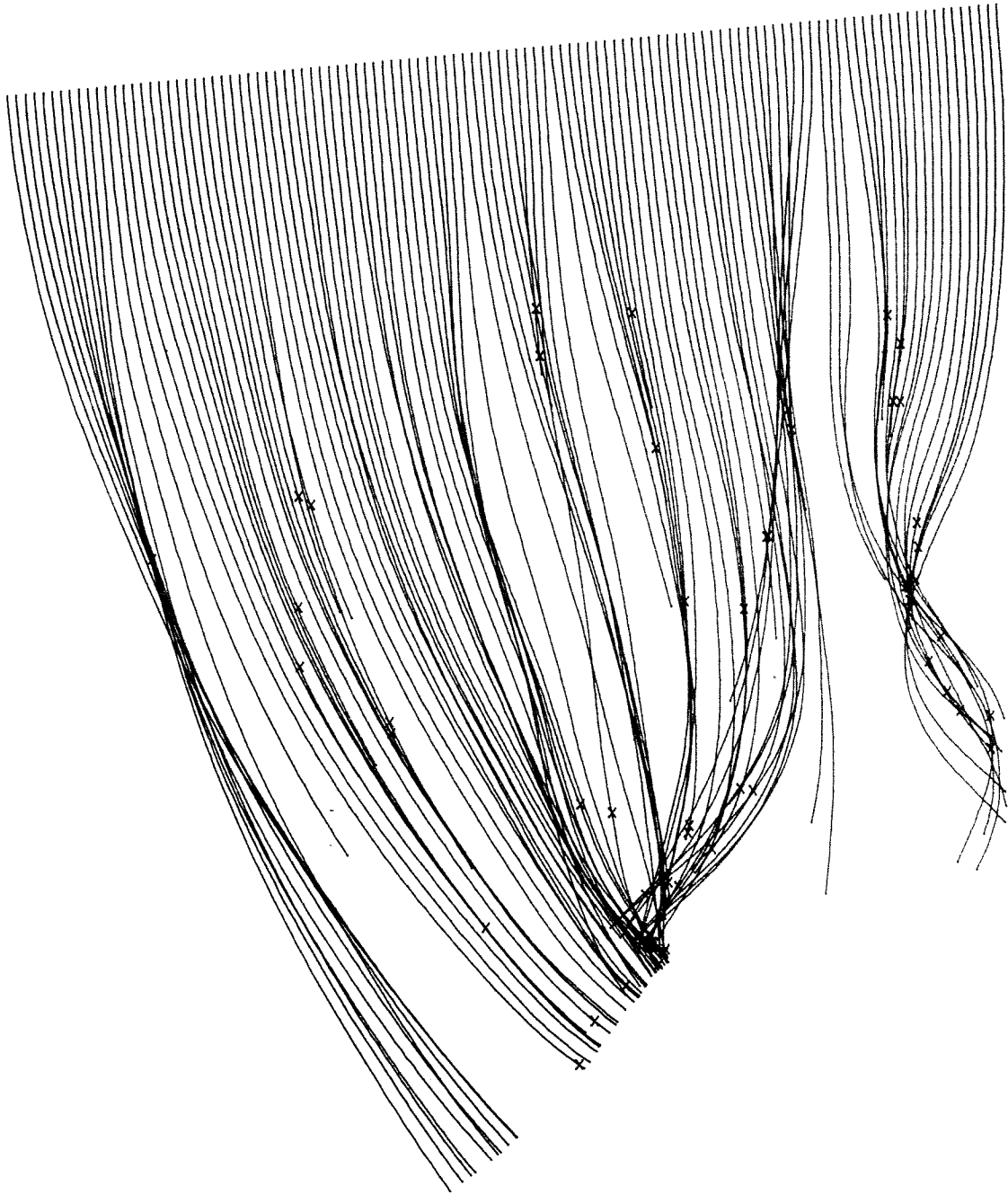


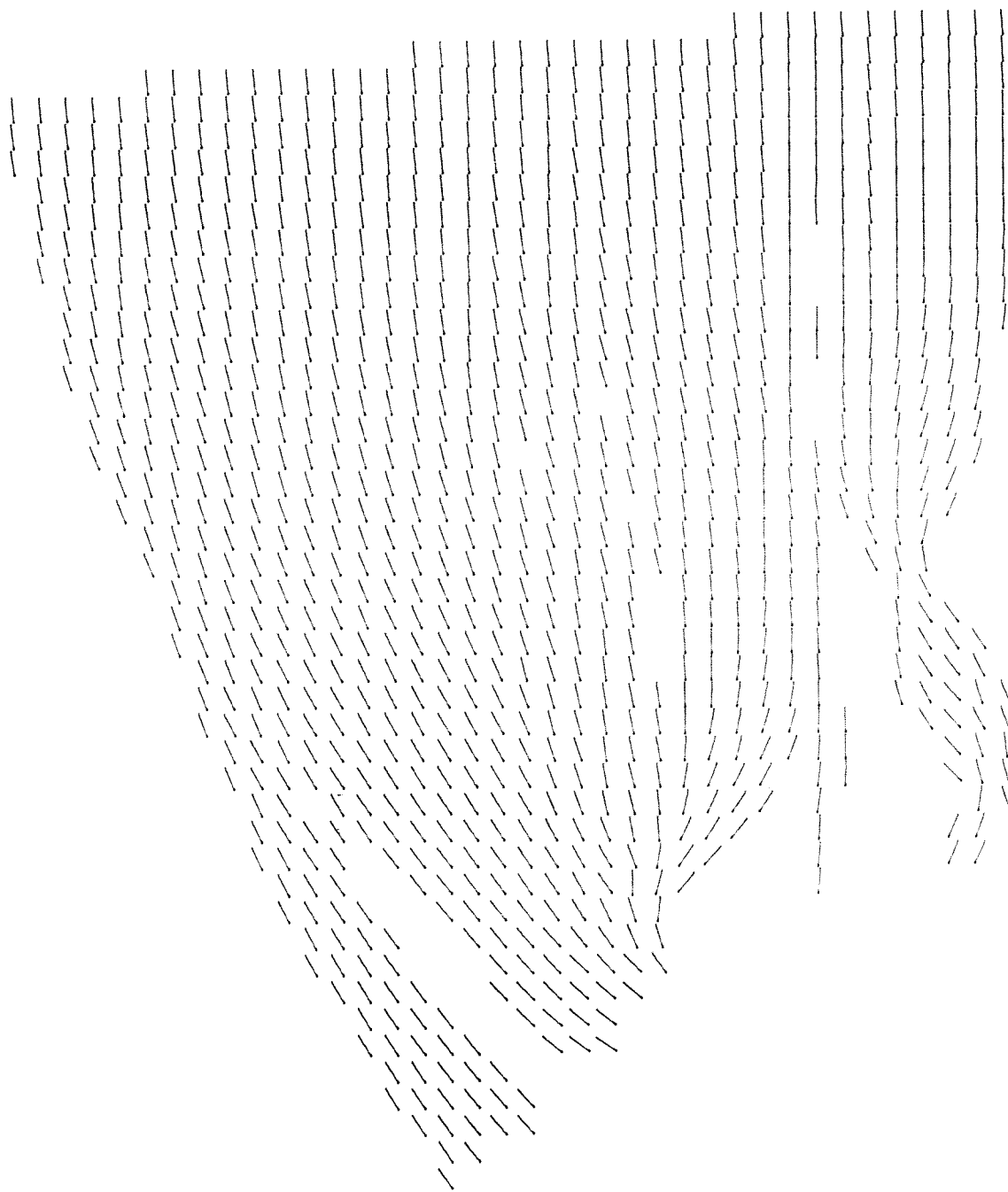
T663
SCALE 1:

45000



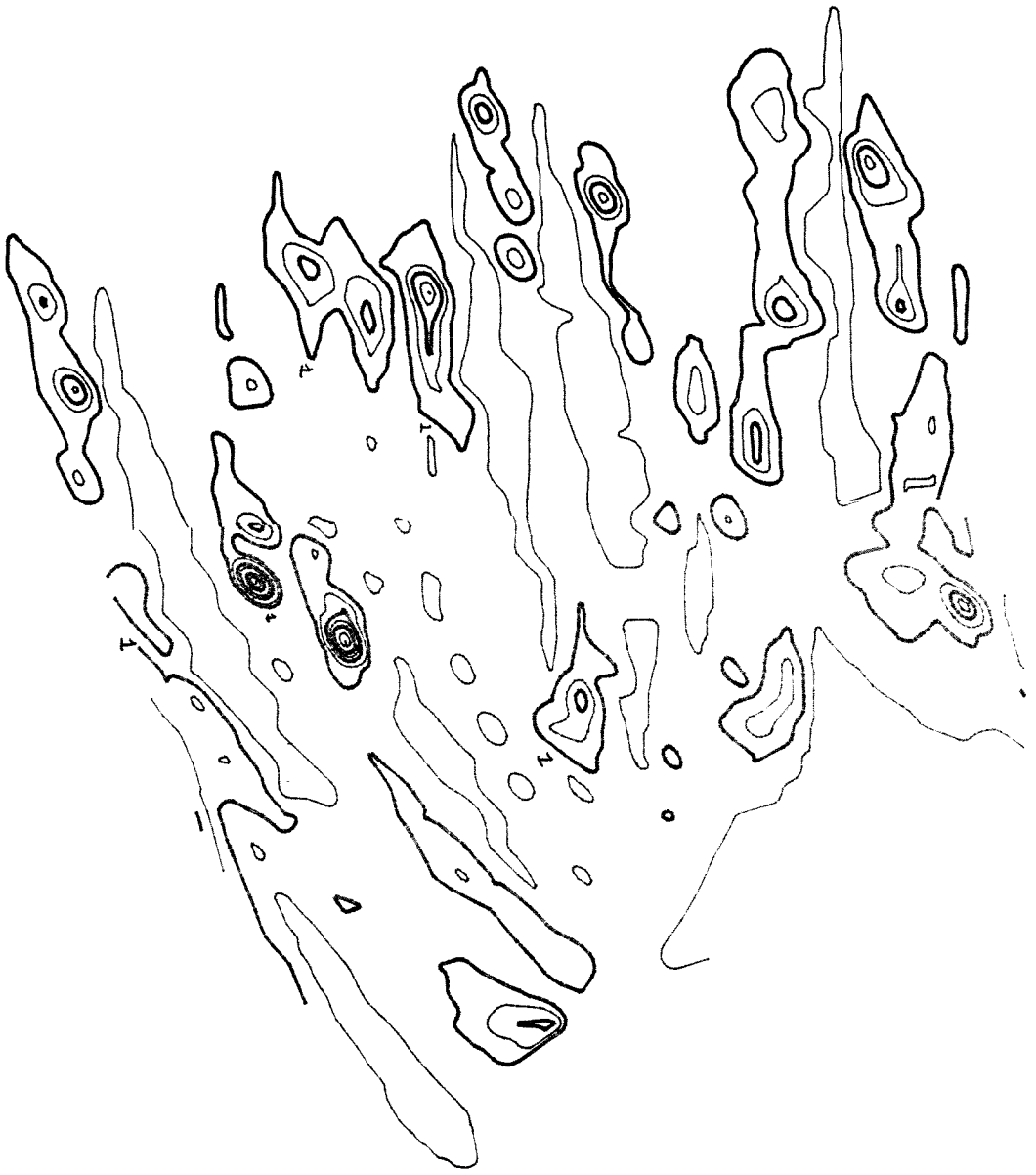
To: 14 0000 100 10000 10000 10000
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DISTANCE



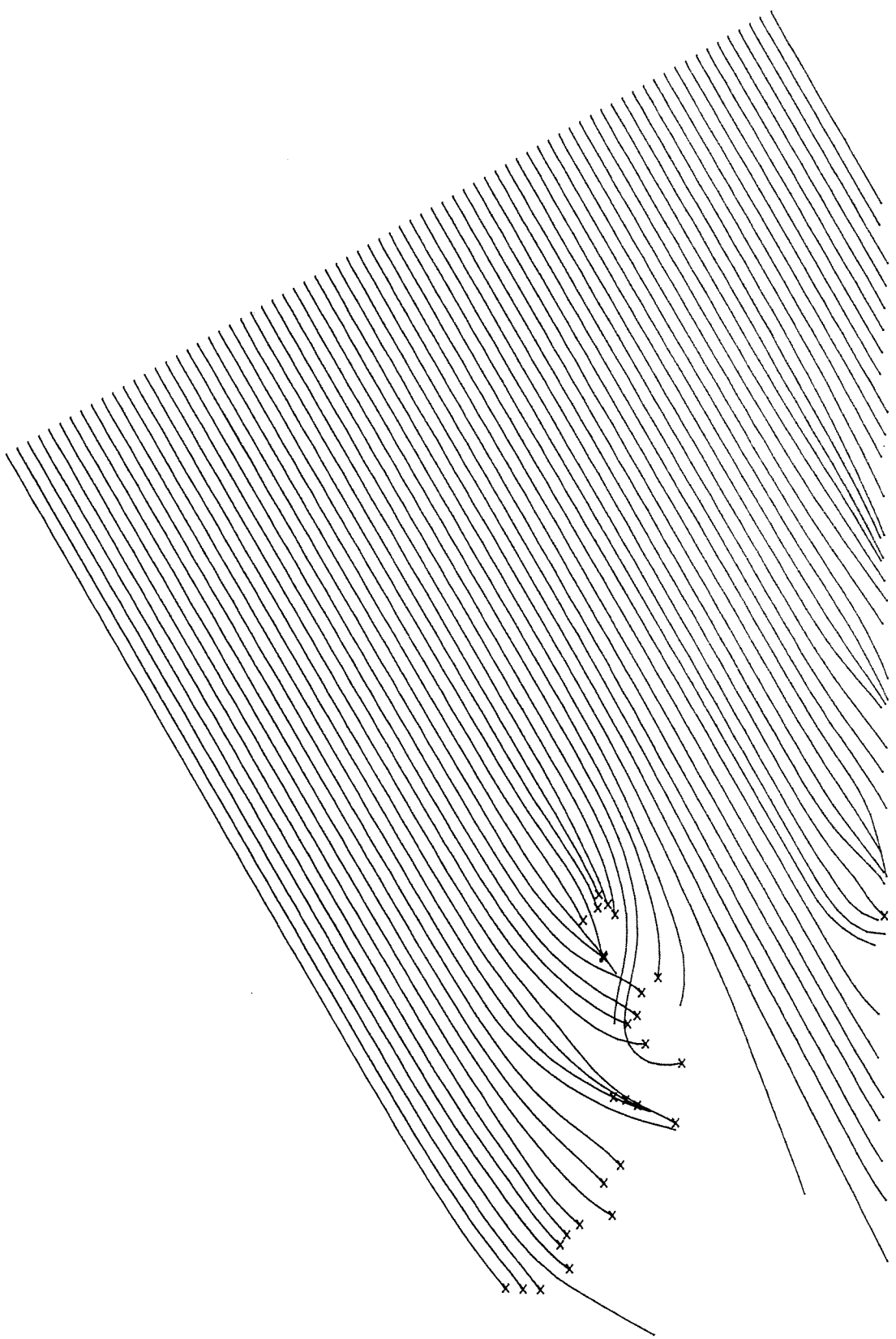


TC64
SCALE 1:

45000



T= 3.860000 HB= .720000 RISE= .800000E+00
ANGLE OF INCIDENCE = 90.0000 DEGREES

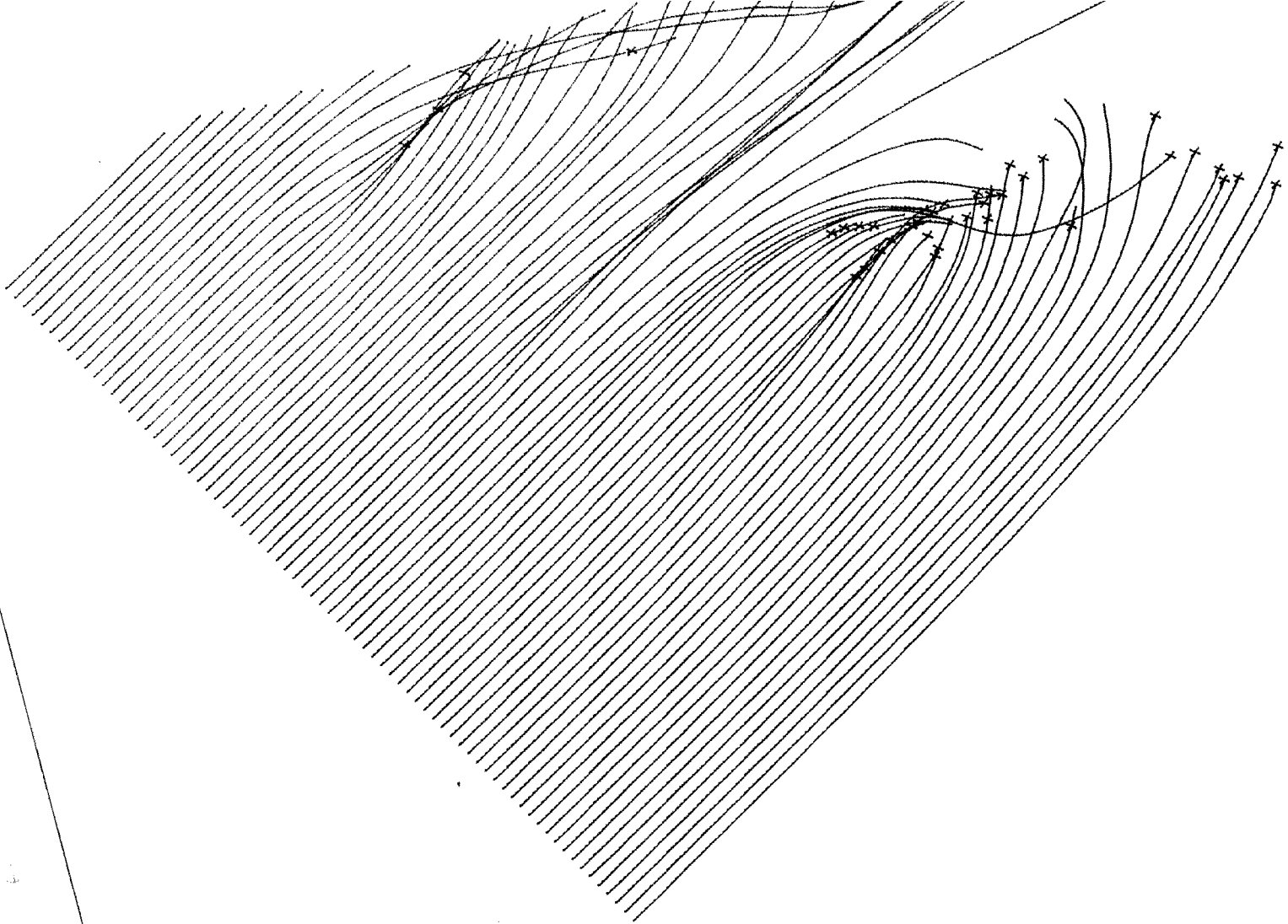




65
SCALE 1:

45000





T= 5.50000 R= .700000 RISE= .000000E+00
ANGLE OF INCIDENCE = 90.0000 DEGREE

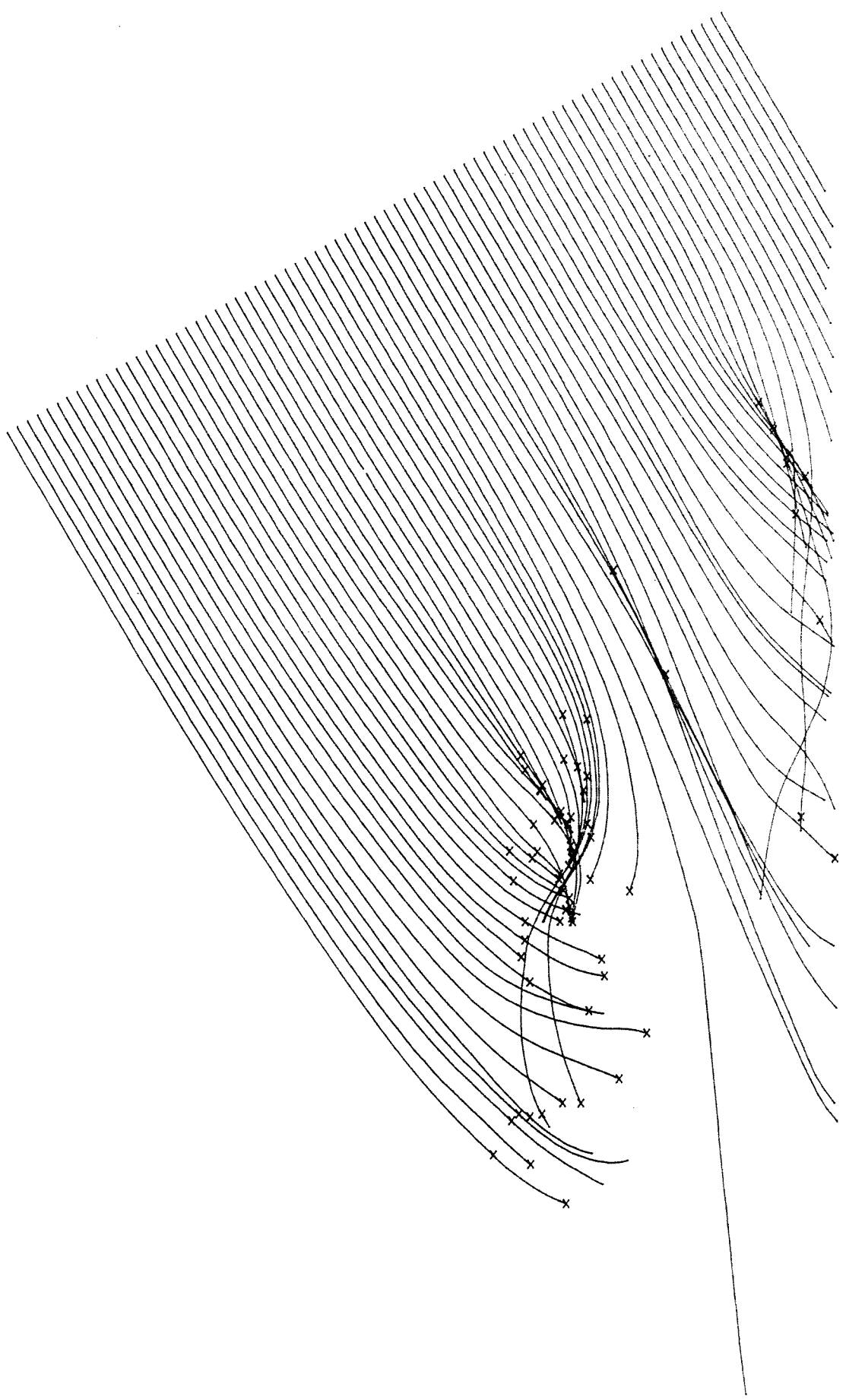


66
SCALE 1:

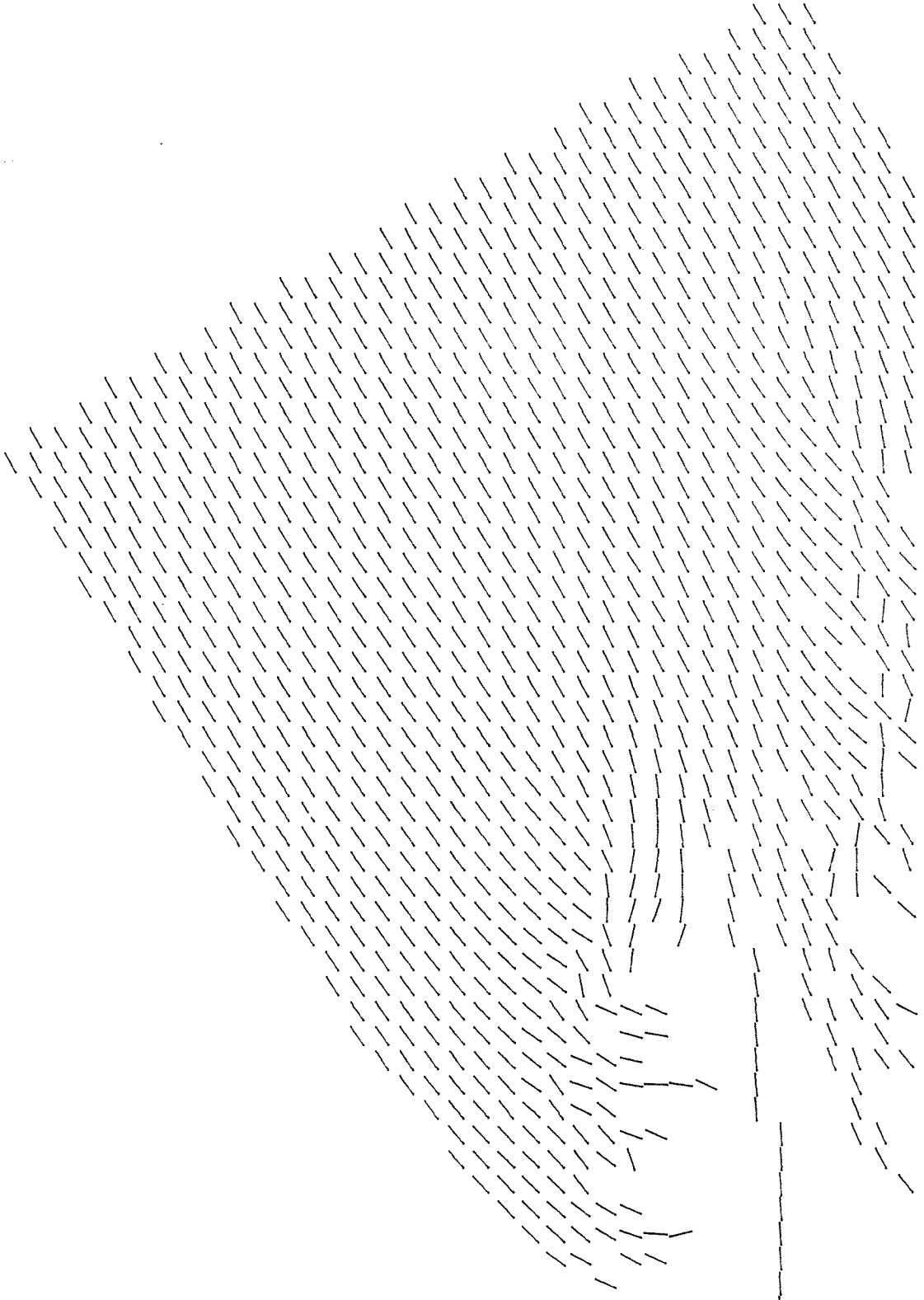
45000



T- 5.000000 H- 1.710000 RISE- .000000E-000
ANGLE OF INCIDENCE -30.00000 DEGREES



TG 67

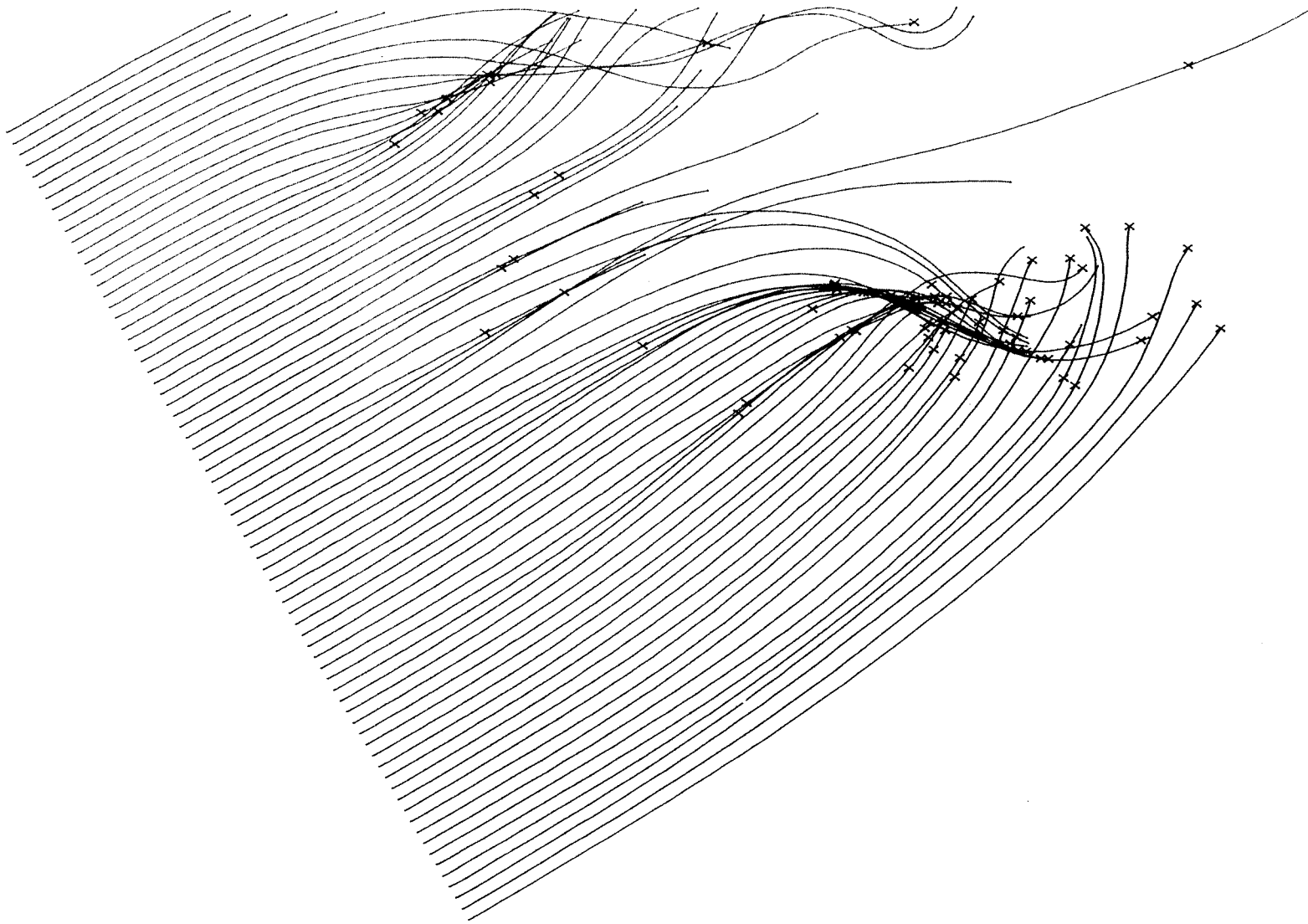


TG 67

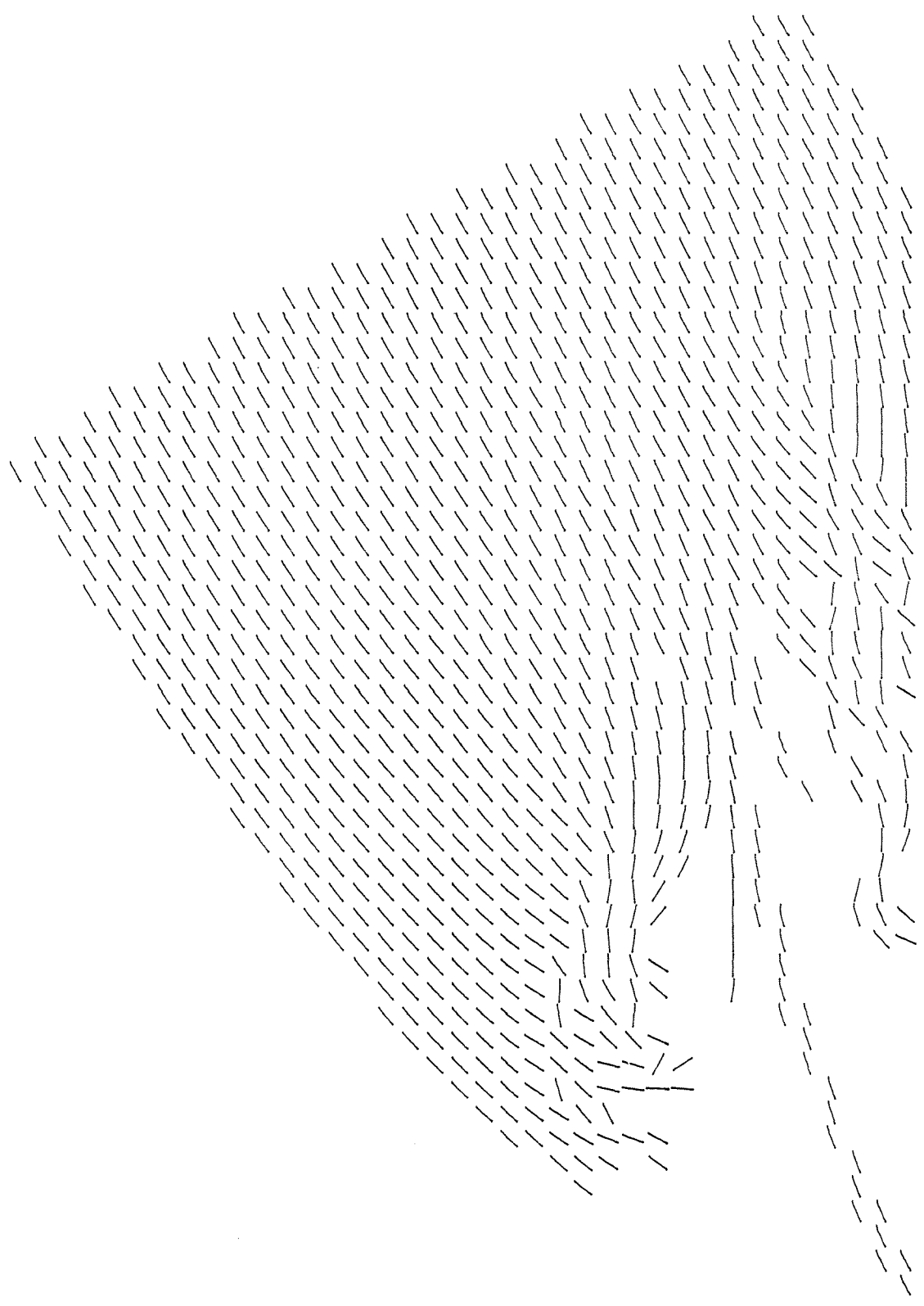
67
SCALE 1:

45000



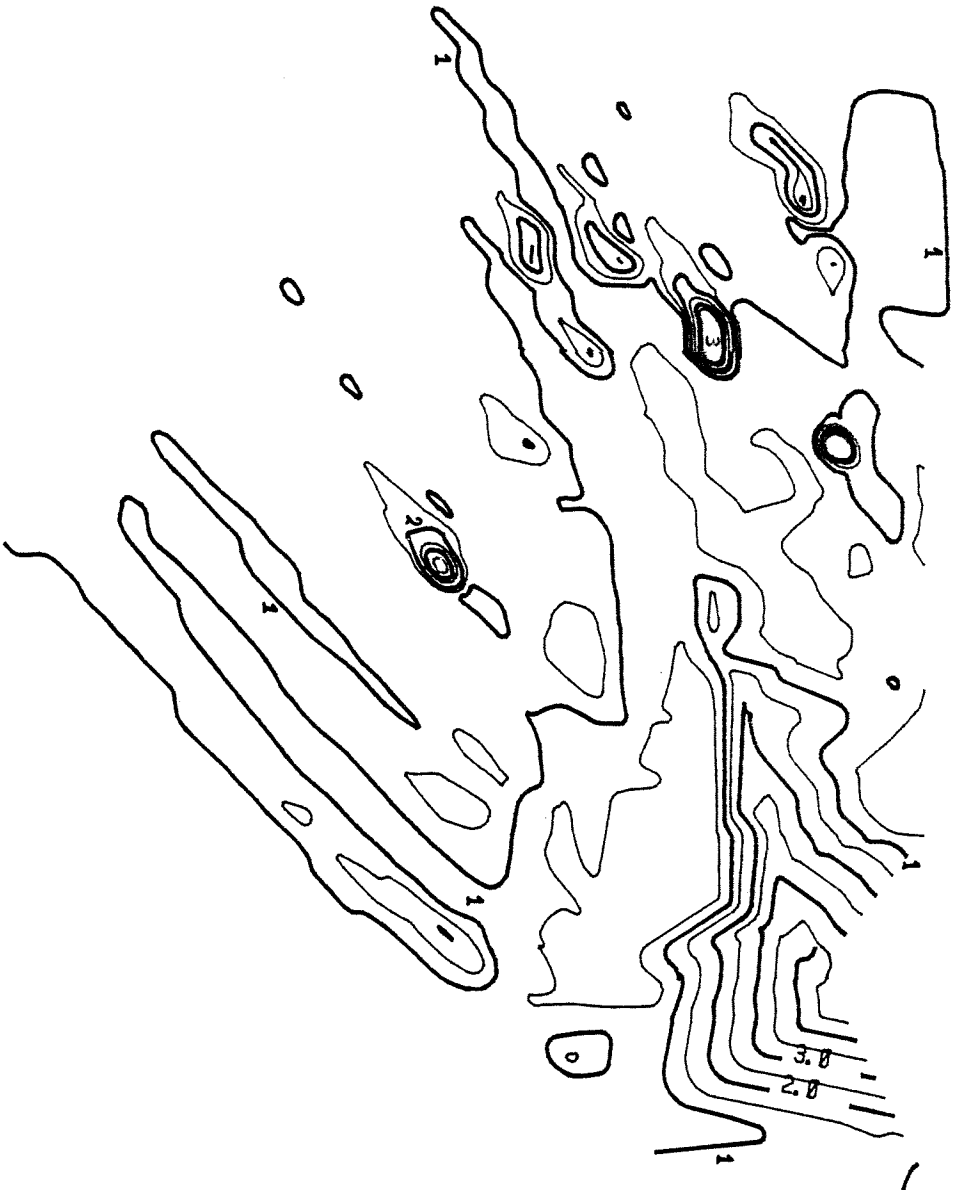


T= 7.00000 H0= 1.15000 RISE= .000000E+00
ANGLE OF INCIDENCE -90.0000 DEGREES

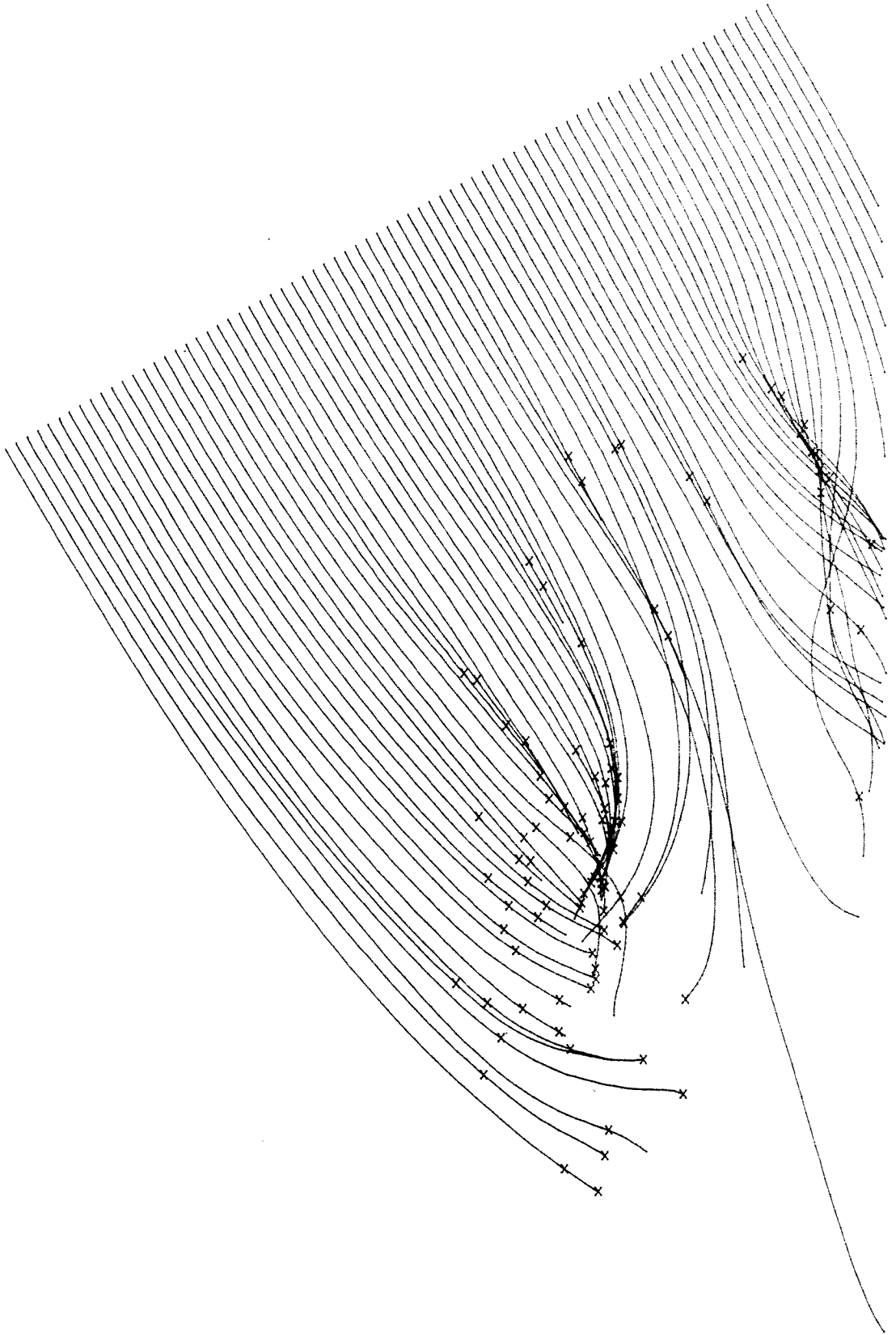


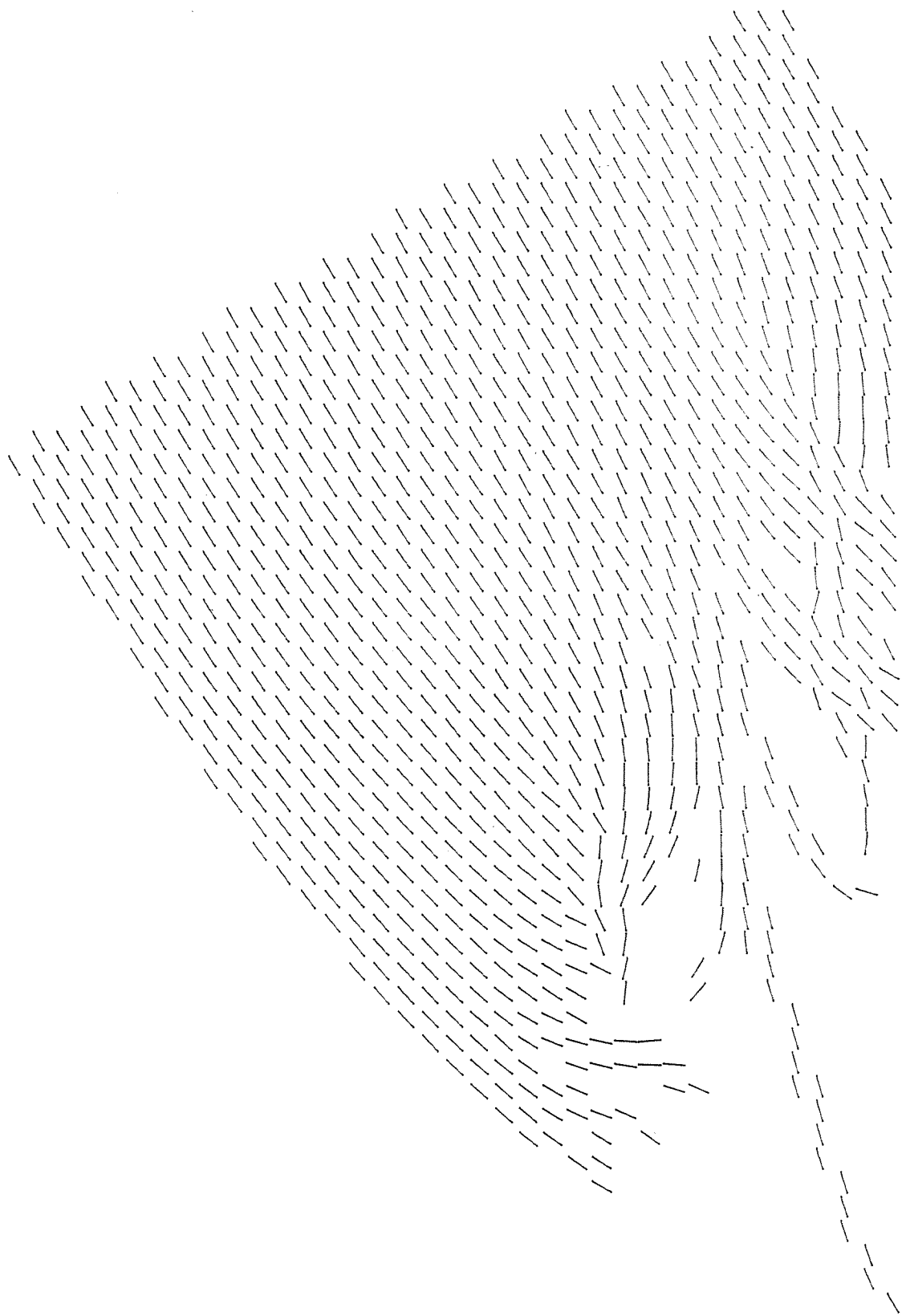
TG68
SCALE 1:

45000



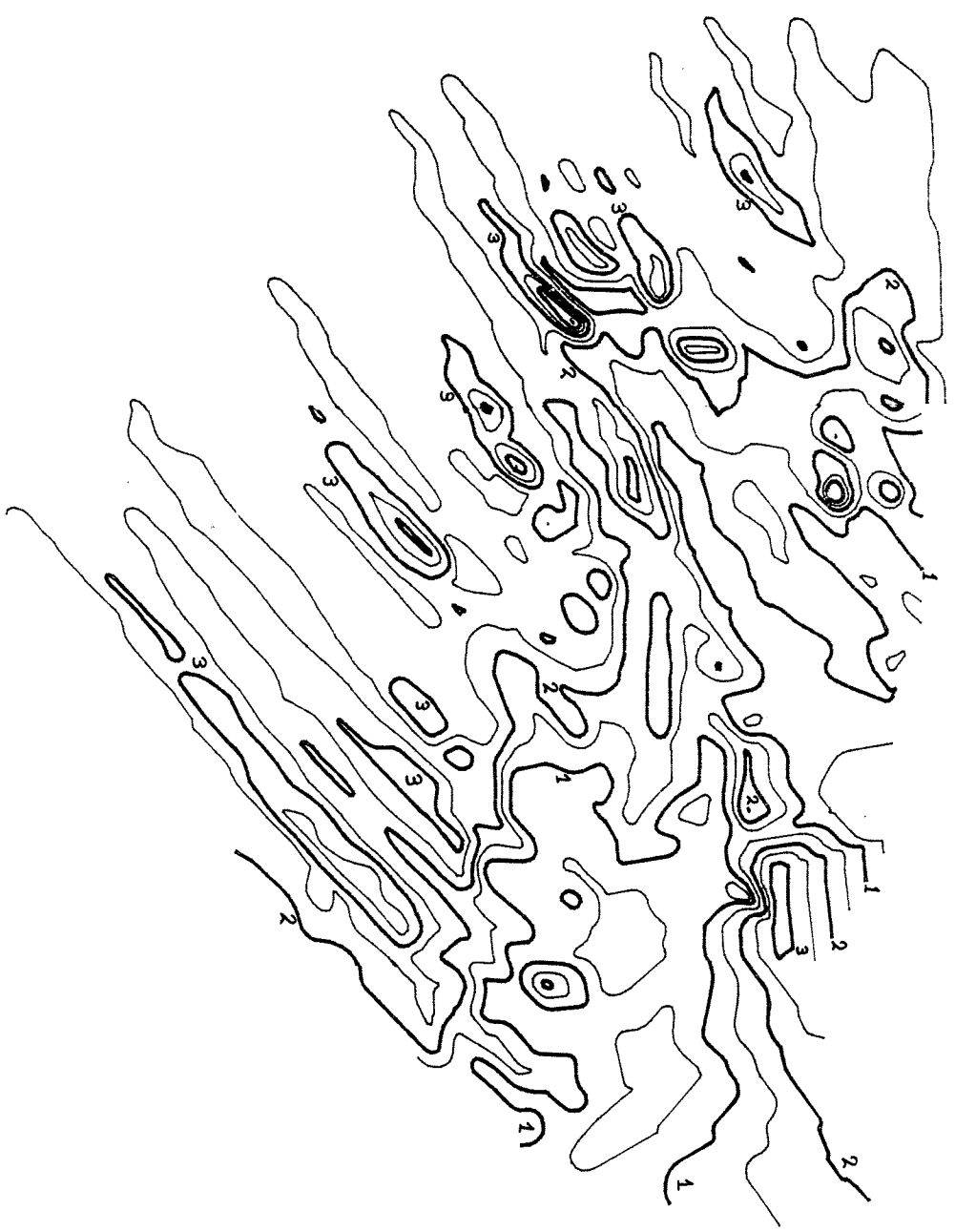
T= 7.700000 H= 2.000000 RISE= .000000E+00
ANGLE OF INCIDENCE = 90.000000 DEGREES



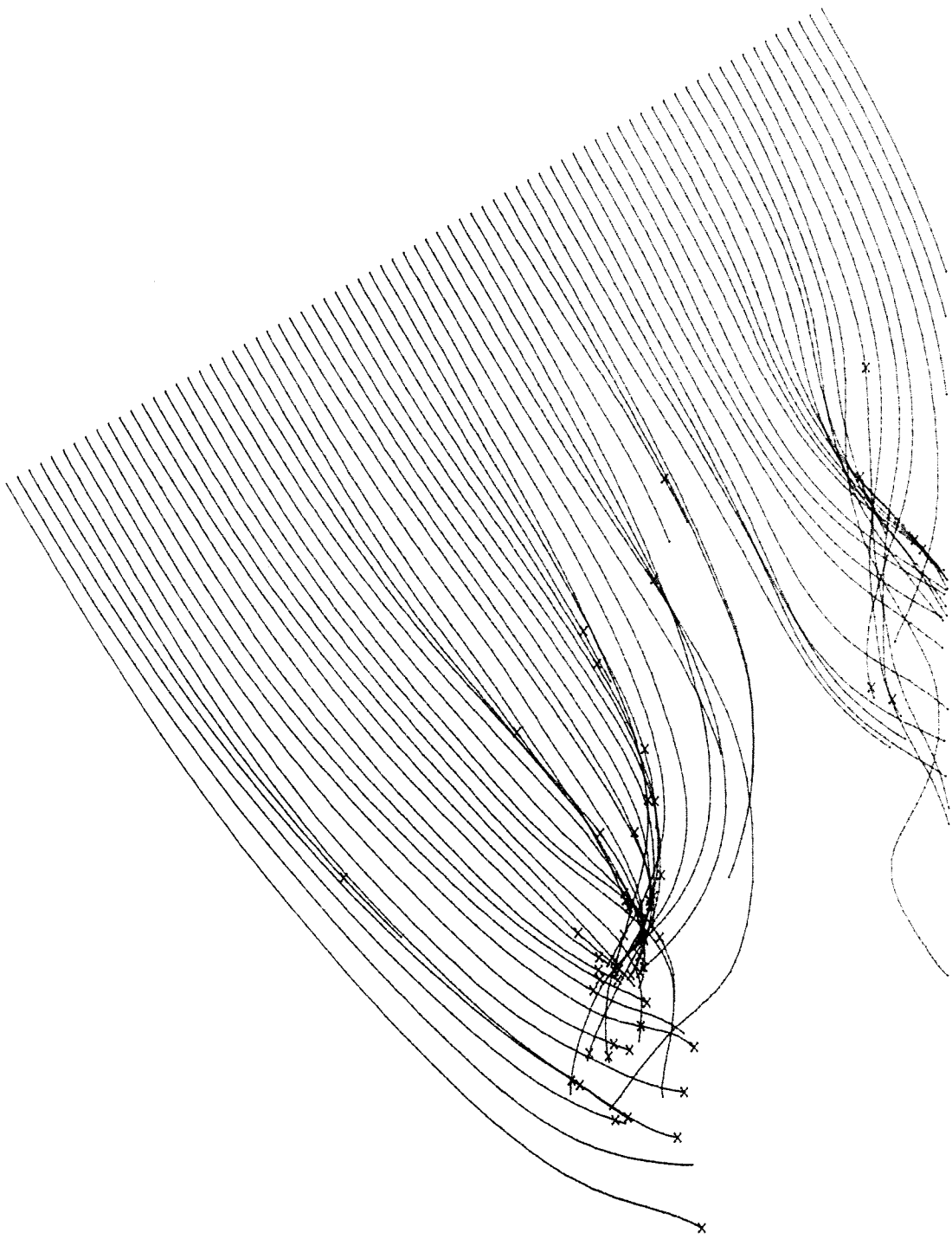


T669
SCALE 1:

45000



T- 18.5000 Hg- .000000 RISE- .000000E+00
ANGLE OF INCIDENCE -90.0000 DEGREES



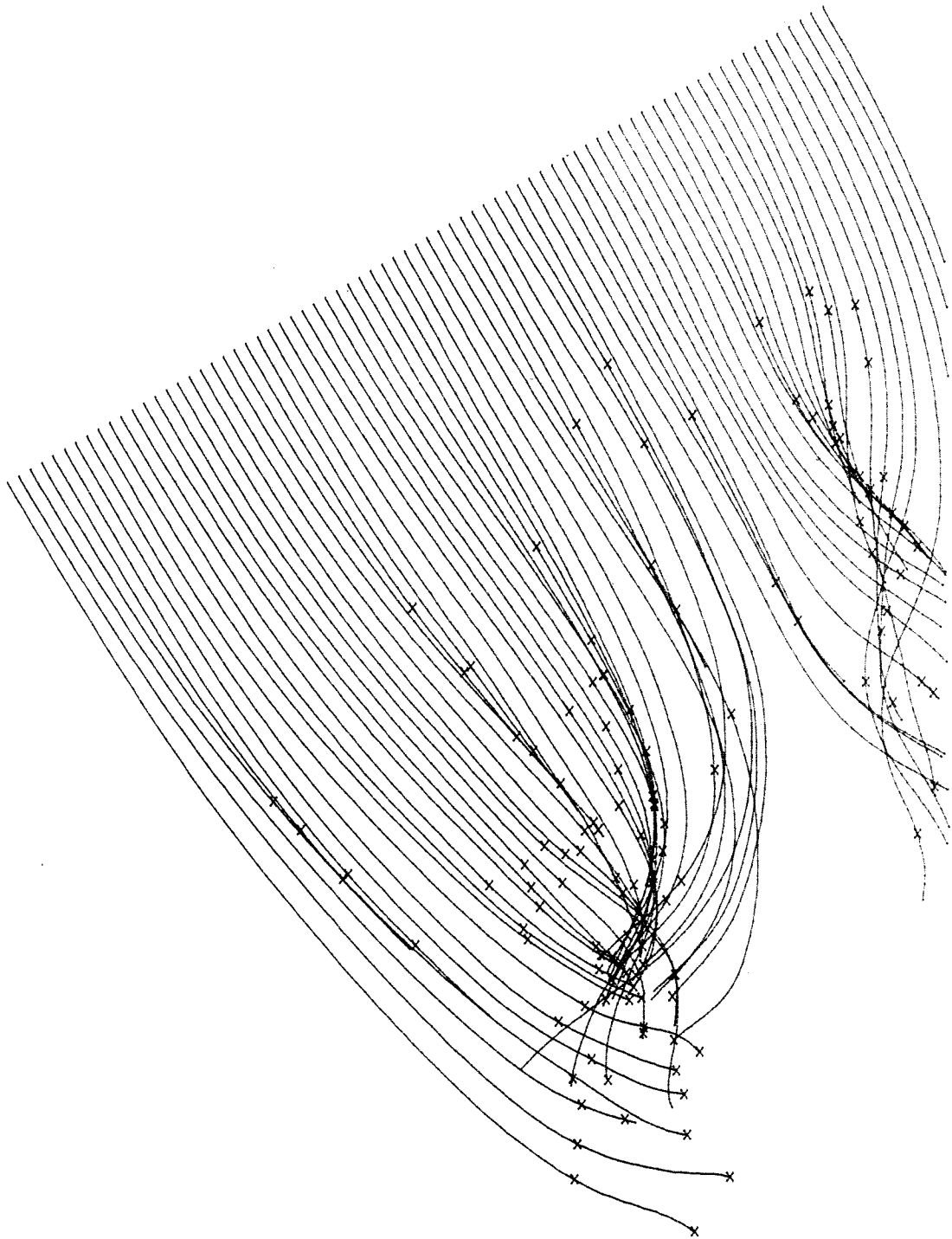


TG70
SCALE 1:

45000



T- 10.2000 Hg- 3.50000
ANGLE OF INCIDENCE -90.0000 RISE- .000000E+00
DEGREES

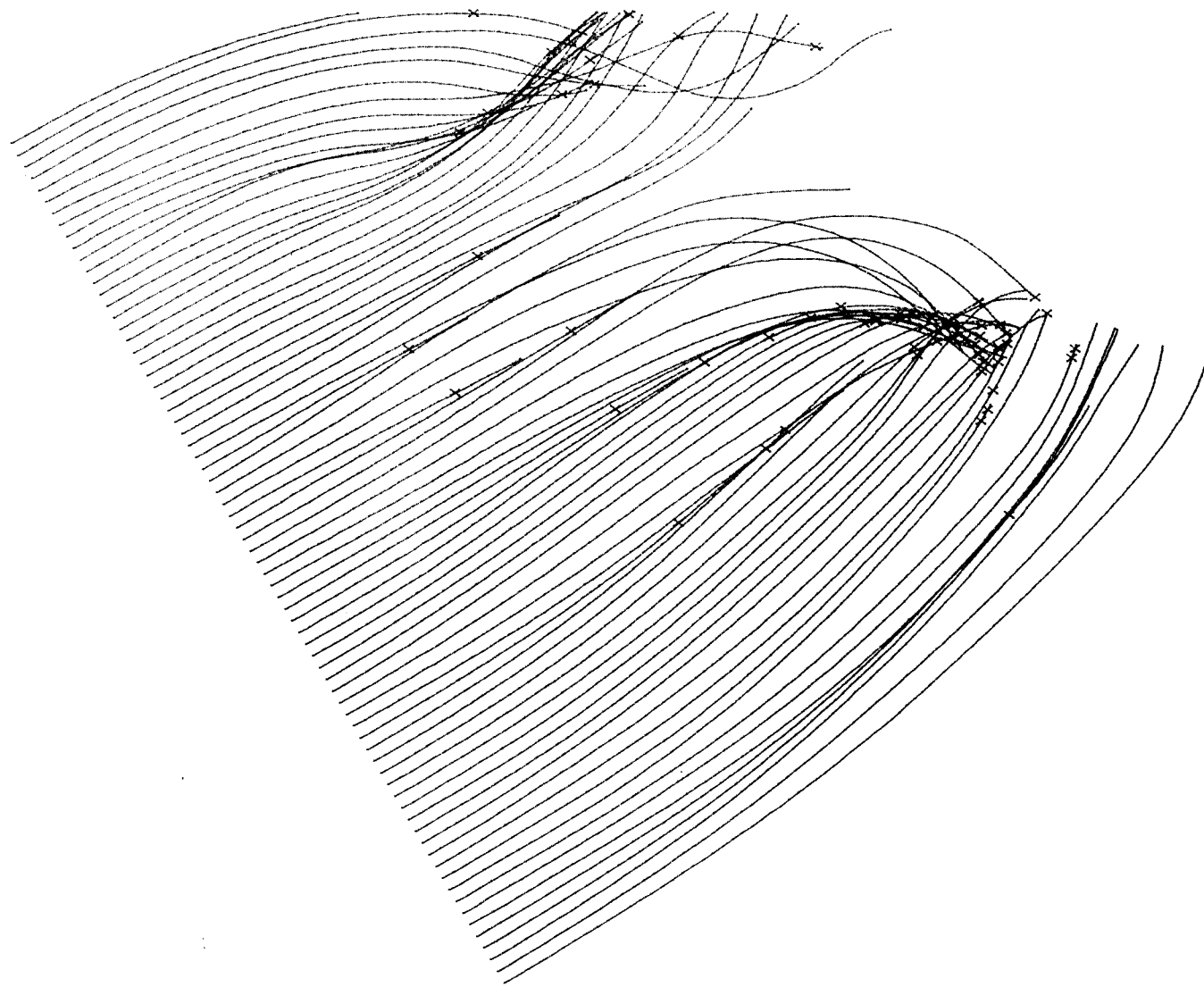




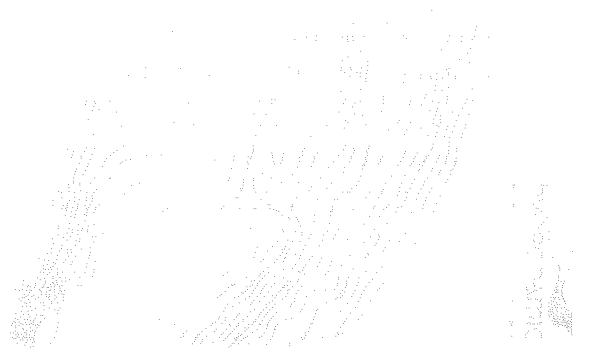
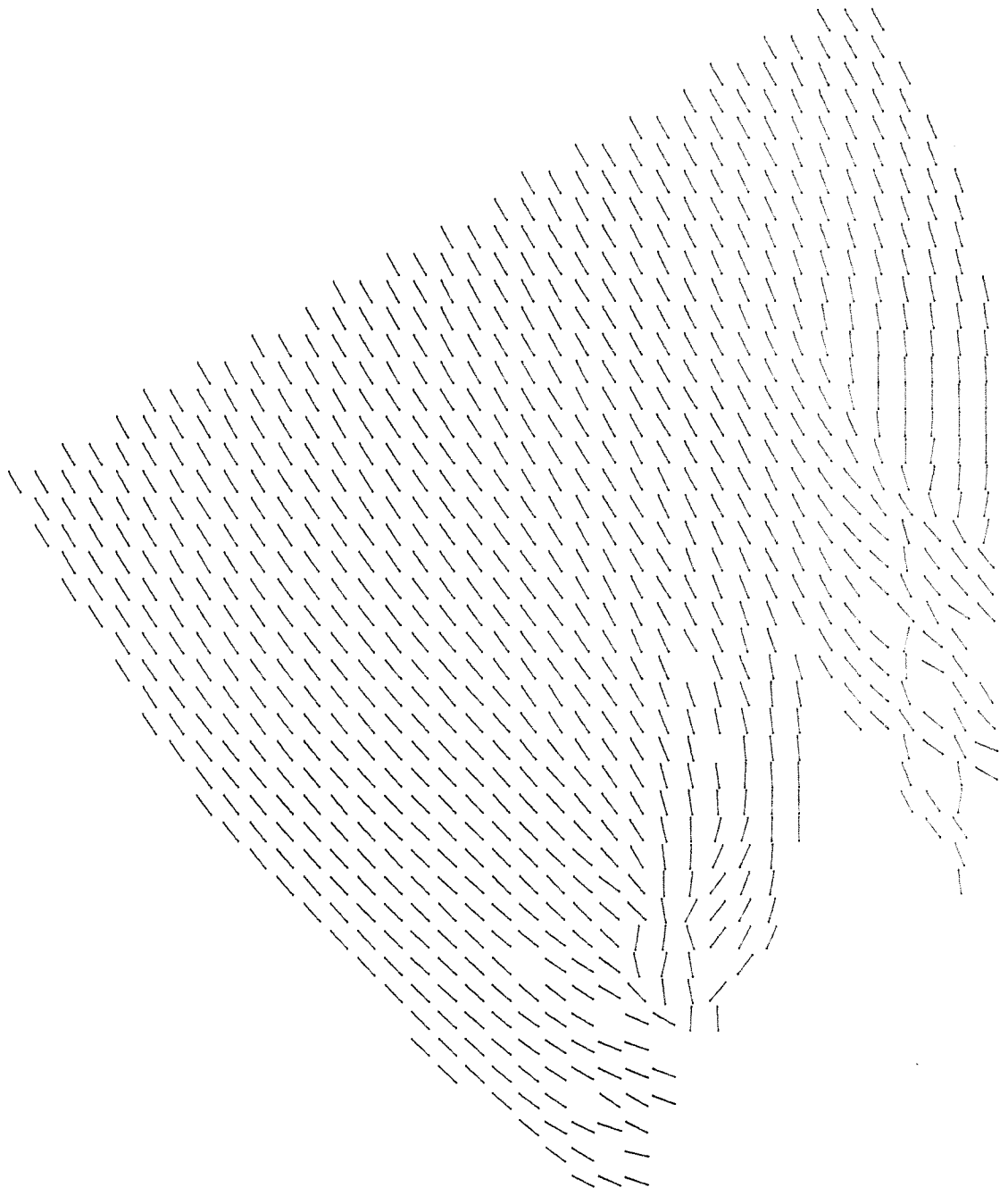
TG71
SCALE 1:

45000



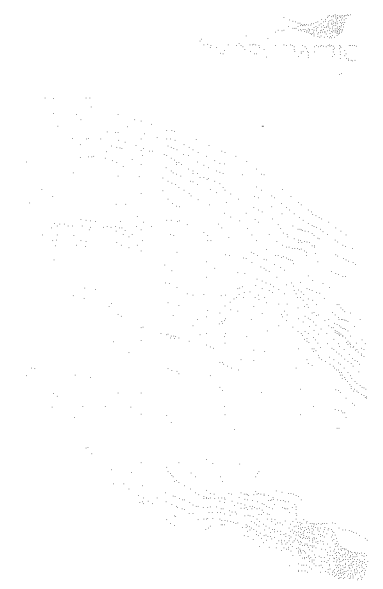
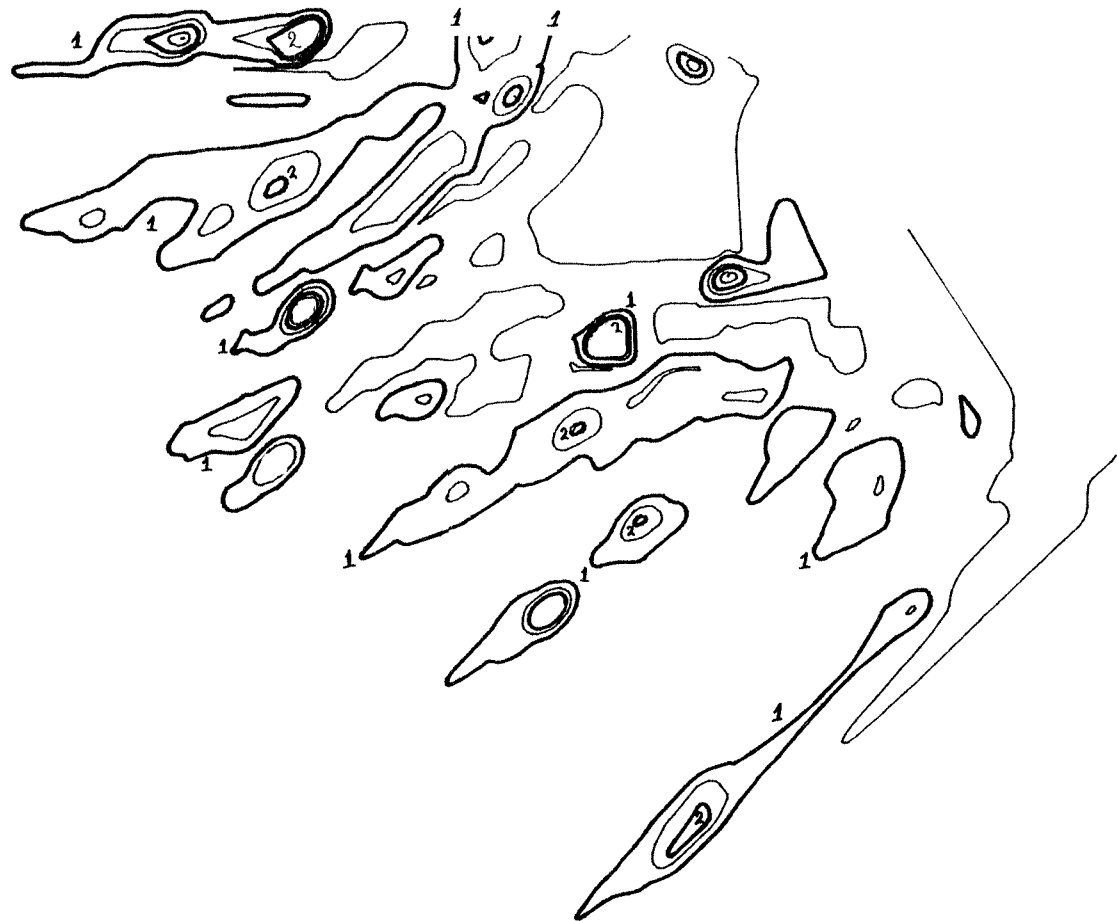


T= 14.3000 H0= .700000 RISE= .000000E+00
ANGLE OF INCIDENCE =30.0000 DEGREES

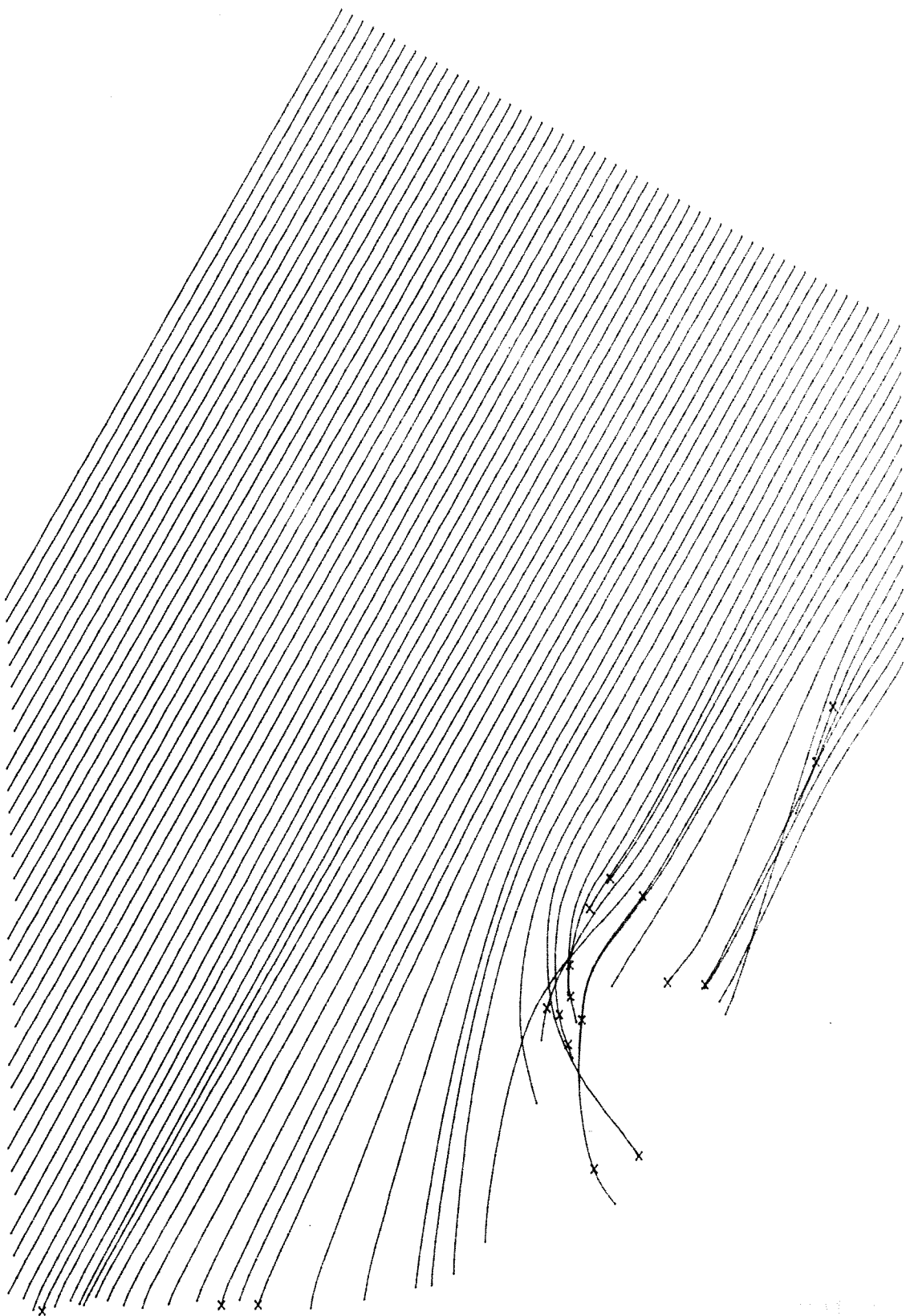


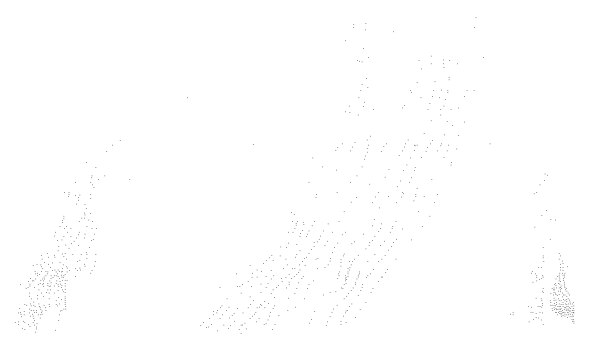
TG72
SCALE 1:

45000



T₁ = 3.8620000 H₀ = .7200000 RISE = .0000000-00
ANGLE OF INCIDENCE 30.00000 DEGREES



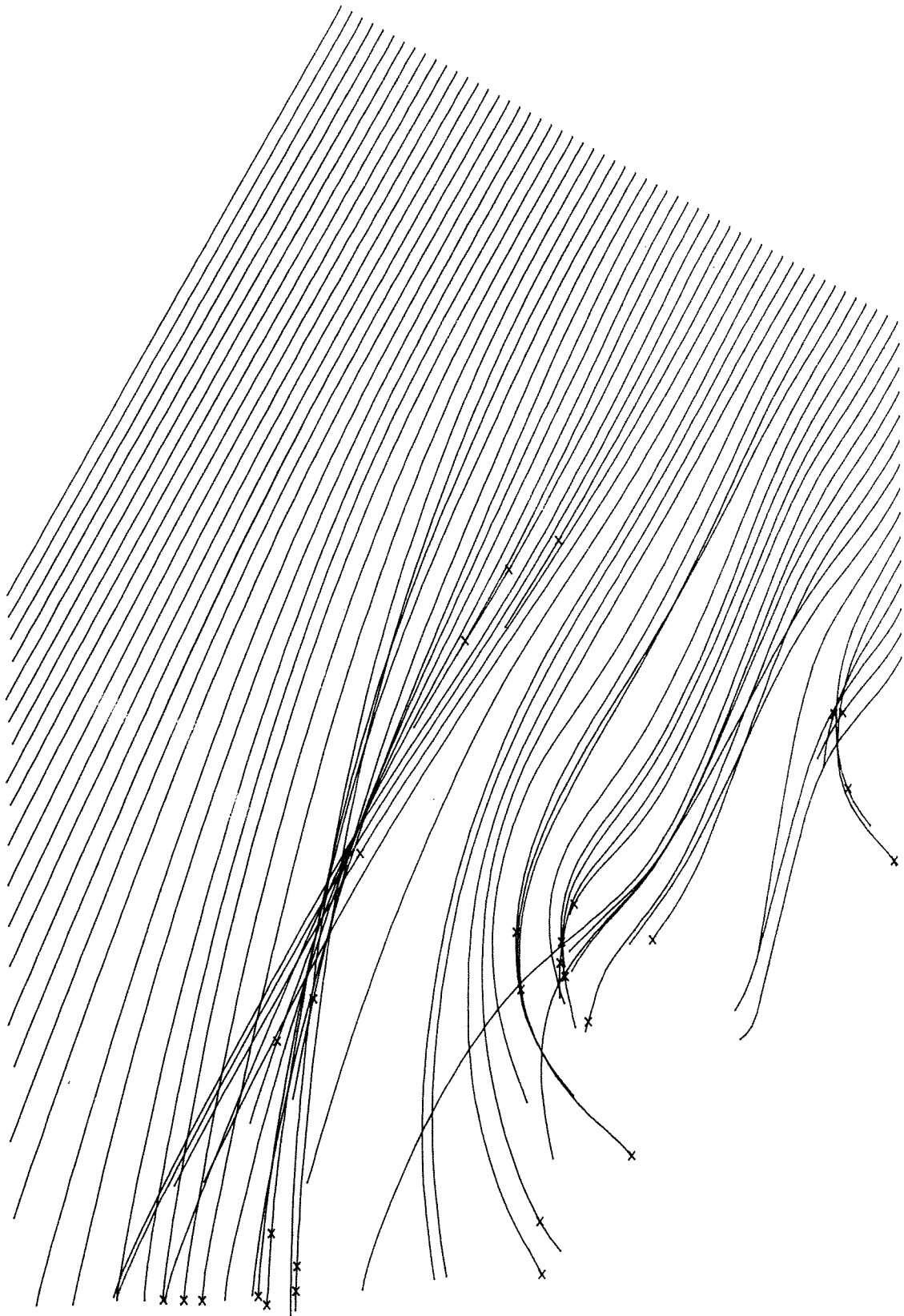


73
SCALE 1:

45000

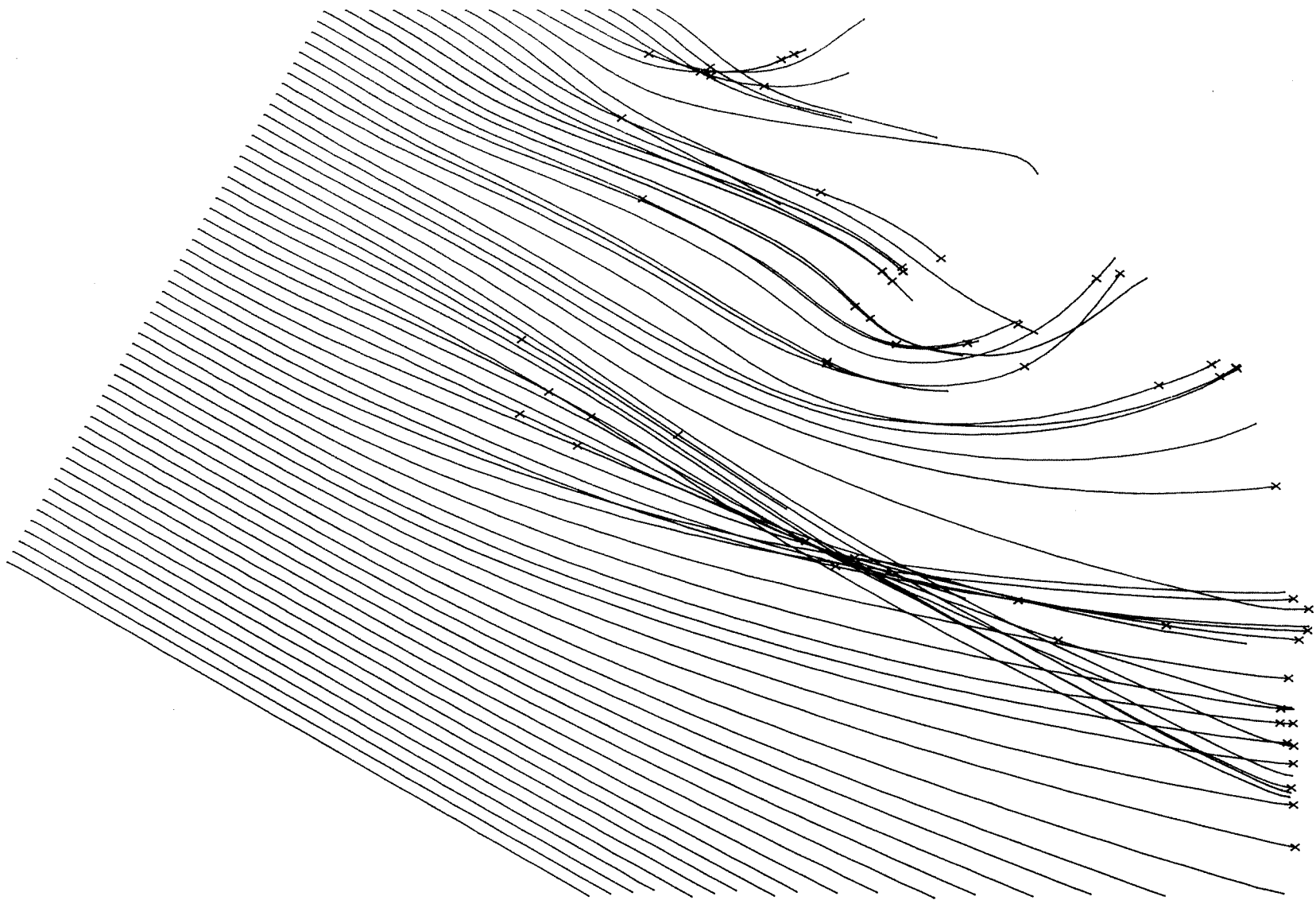


T- 5.50000 H₀ - .70000 RISE - .00000E+00
ANGLE OF INCIDENCE 30.0000 DEGREES









T= 5.0000 H0= 1.7100 RISE= .00000E+00
ANGLE OF INCIDENCE 30.0000 DEGREES

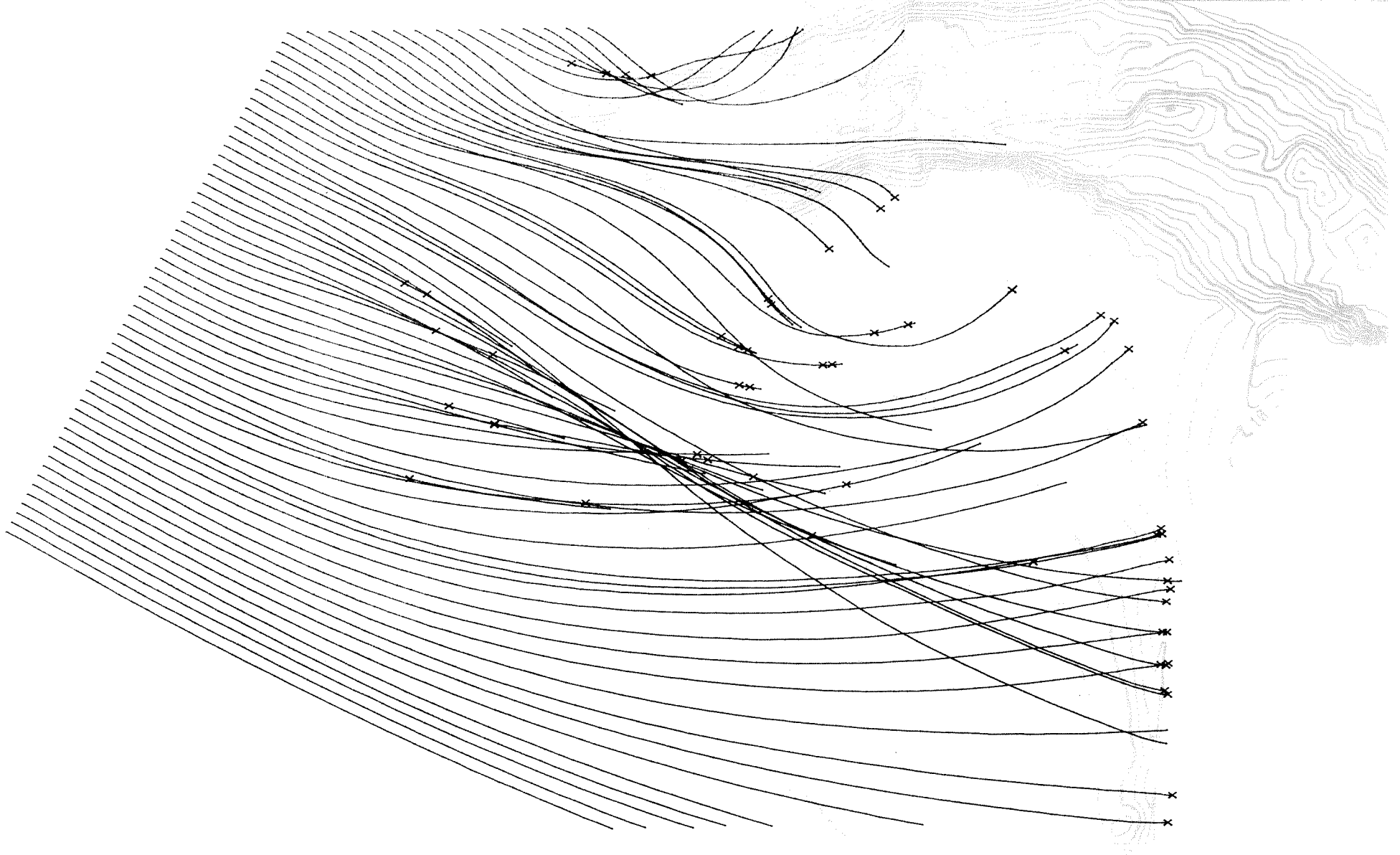


75
SCALE 1:

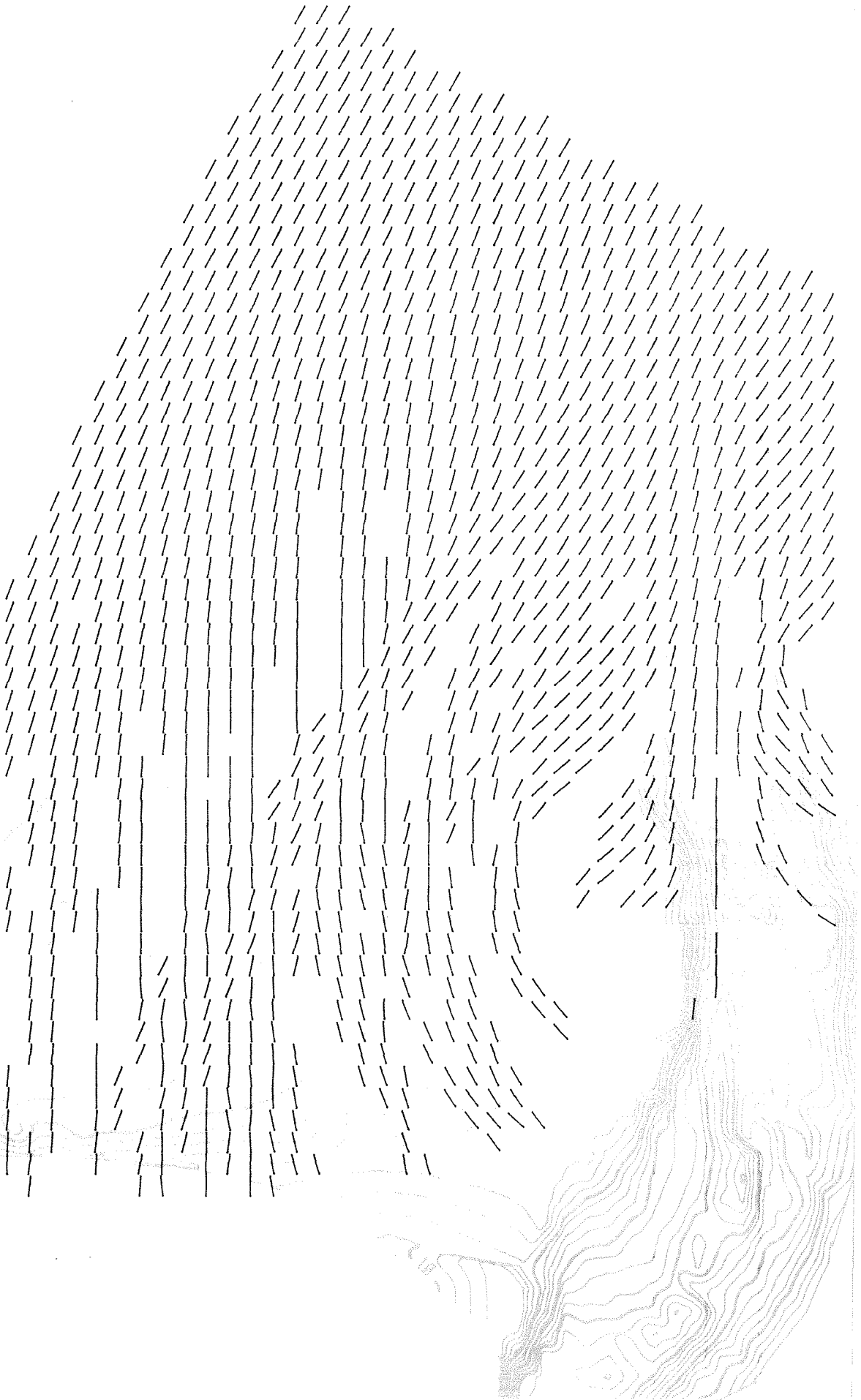
45000



HYDROMATIC
MILWAUKEE TOOL CO.



T= 7.00000 H0= 1.15000 RISE= .000000E+00
ANGLE OF INCIDENCE 30.0000 DEGREES



HYDRONAMIC
MAPPING INC. PHILADELPHIA

TG76
SCALE 1:

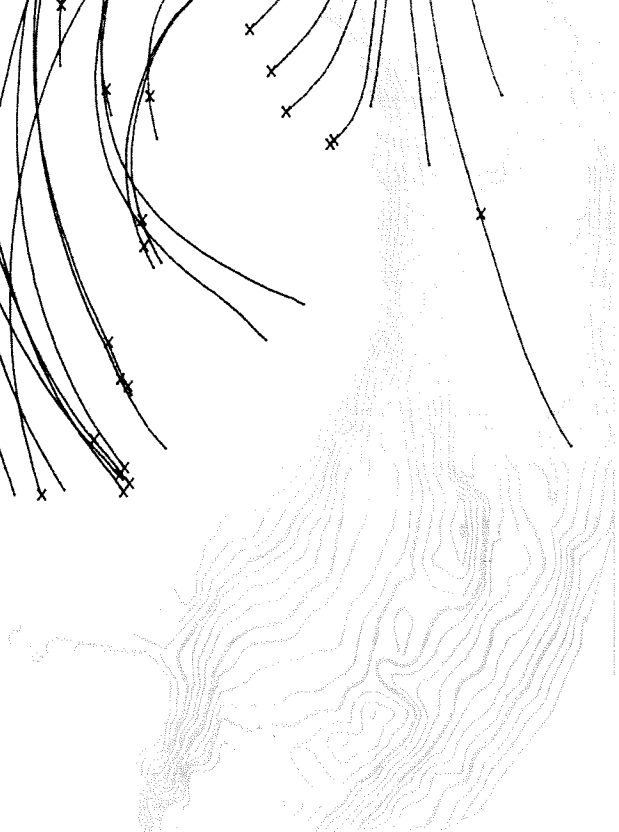
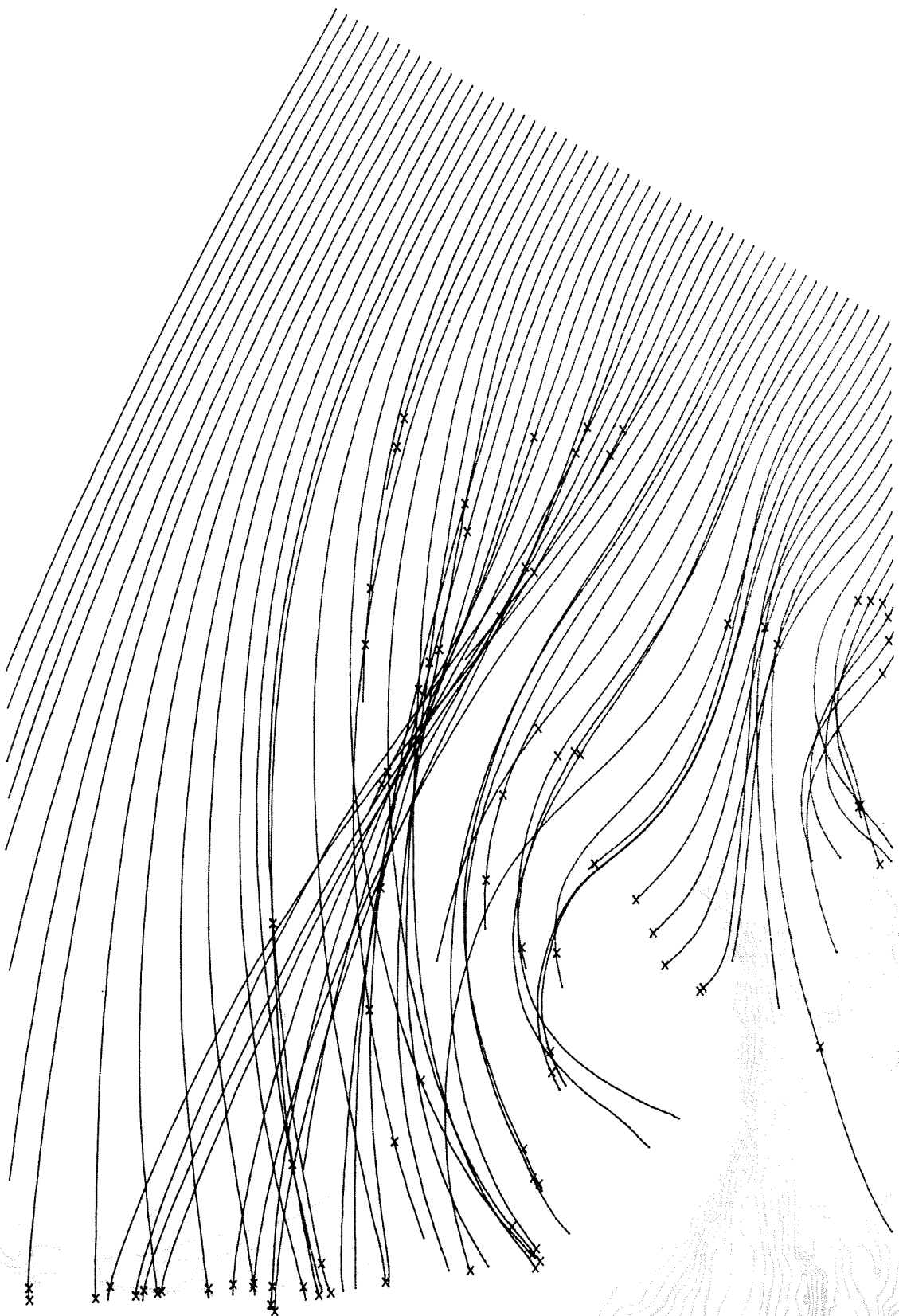
45000



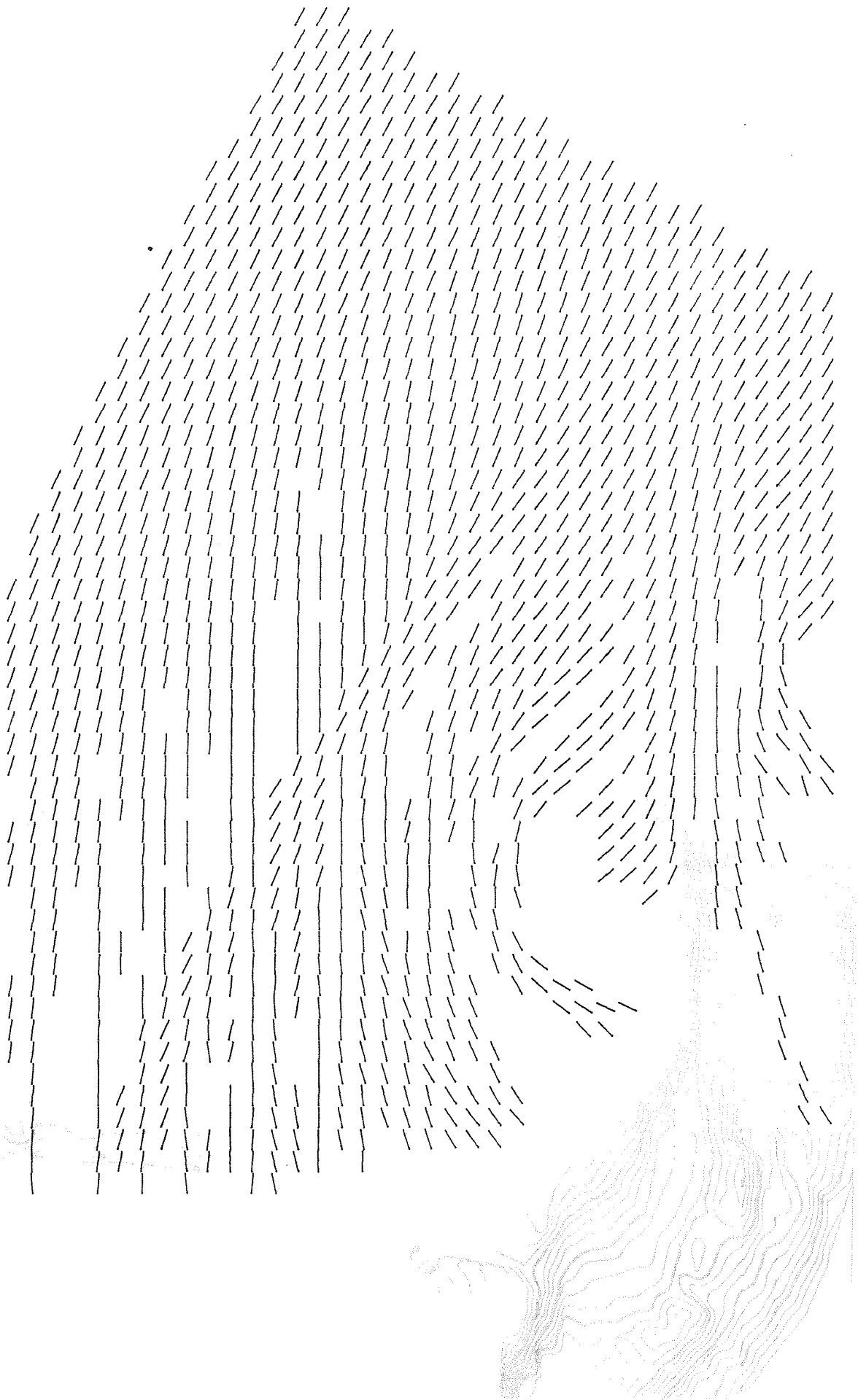
HYDROMATIC
SILVERWOOD - 1907 800

TG 76

T = 7.70000 H = 2.60000 RISE = .000000E+00
ANGLE OF INCIDENCE 36.00000 DEGREES



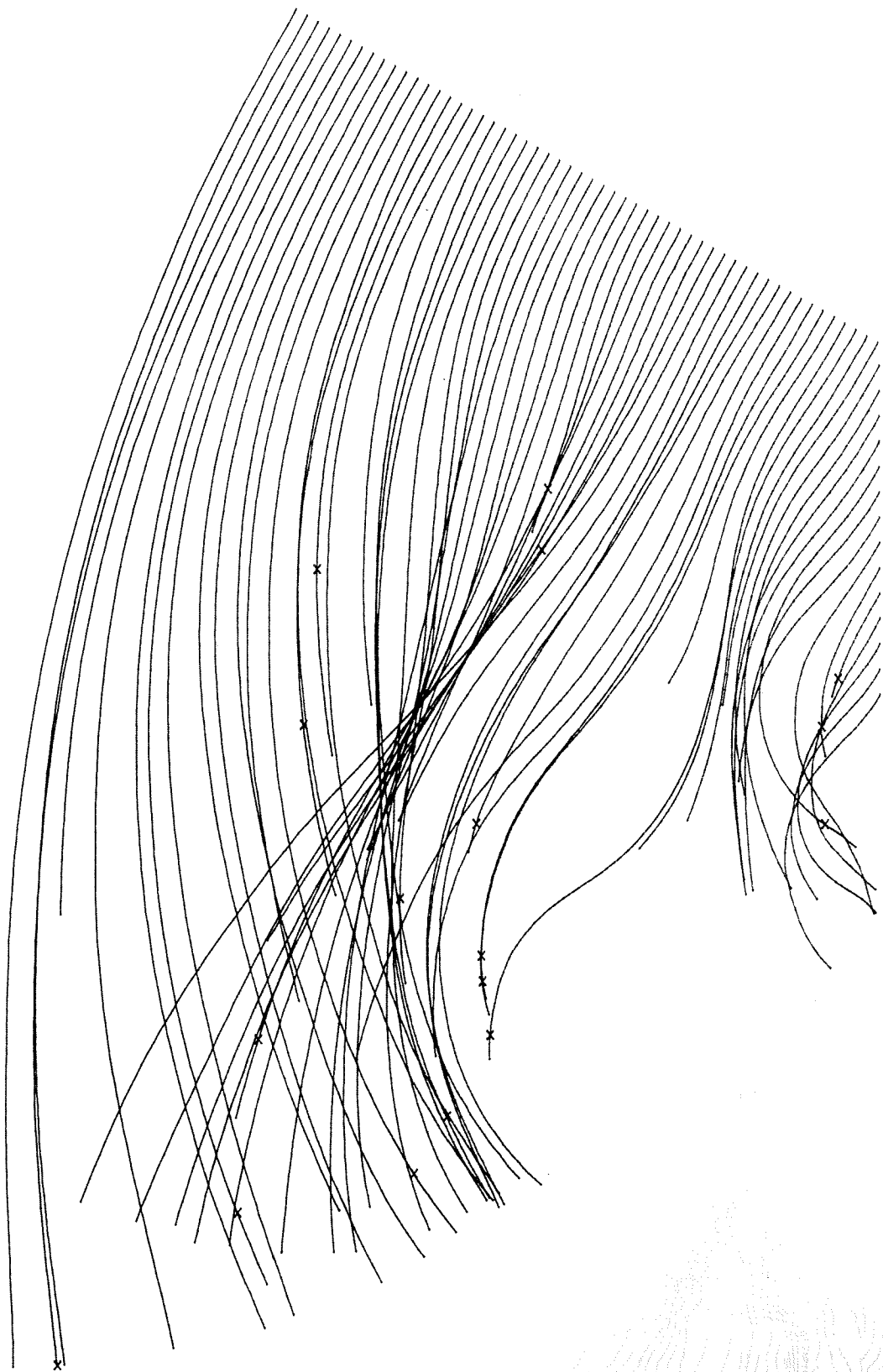
HYPOCAMIC
HYPOCAMIC
HYPOCAMIC



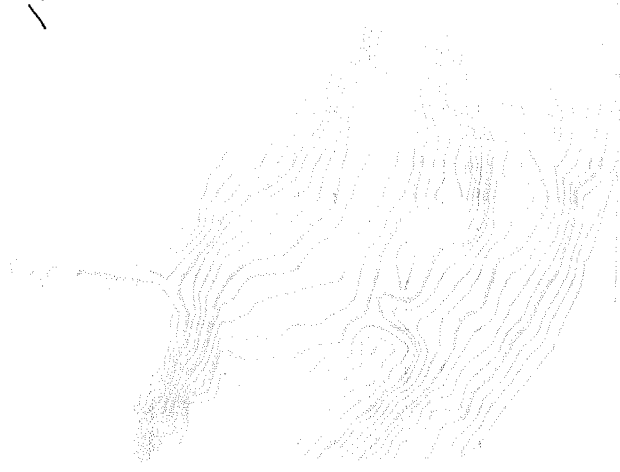
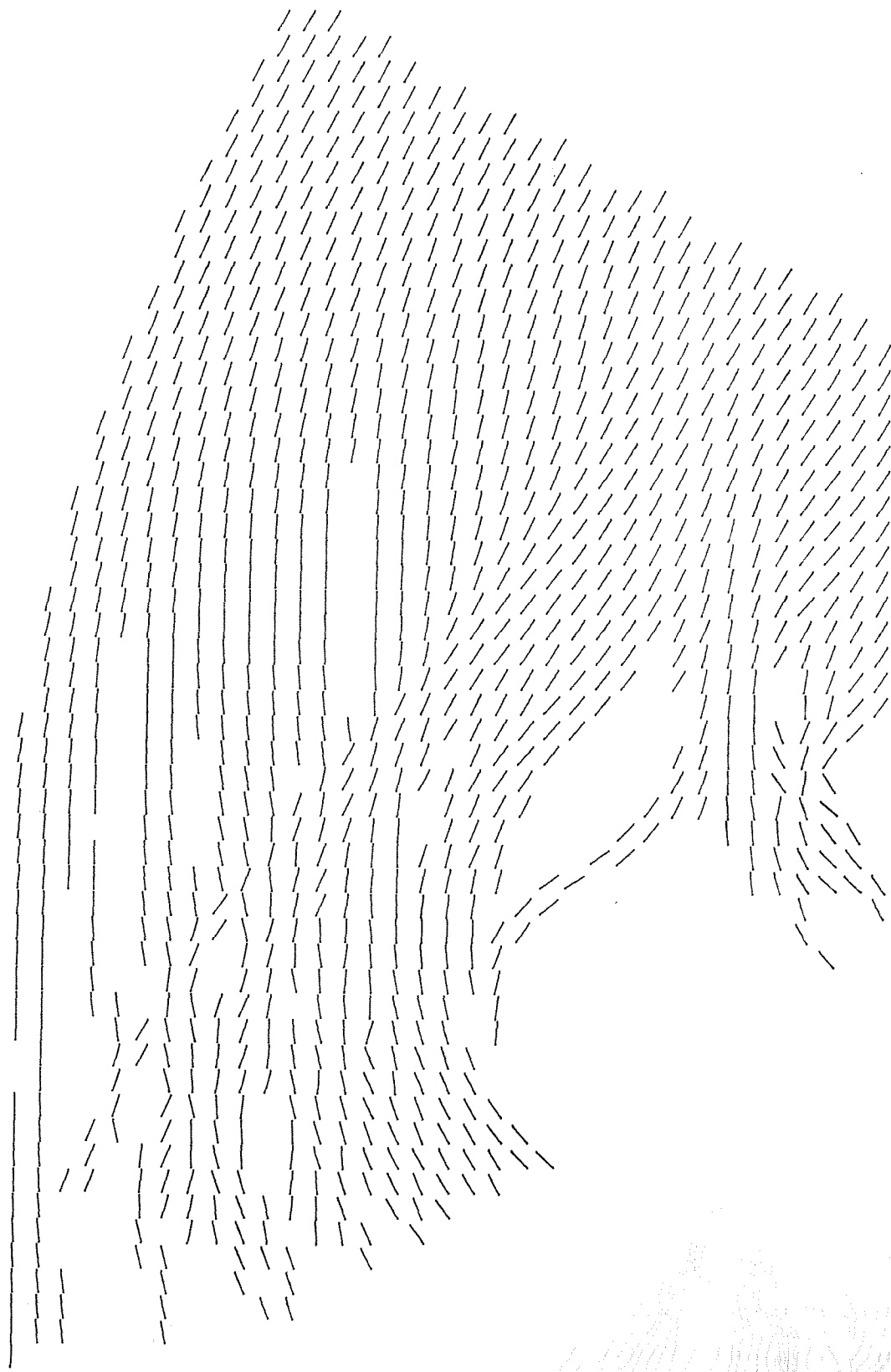
hyeronamik
Software Engineering



T- 10.5000 H- .000000 RISE- .000000+00
ANGLE OF INCIDENCE 90.00000 DEGREES



HYDROGRAPHIC



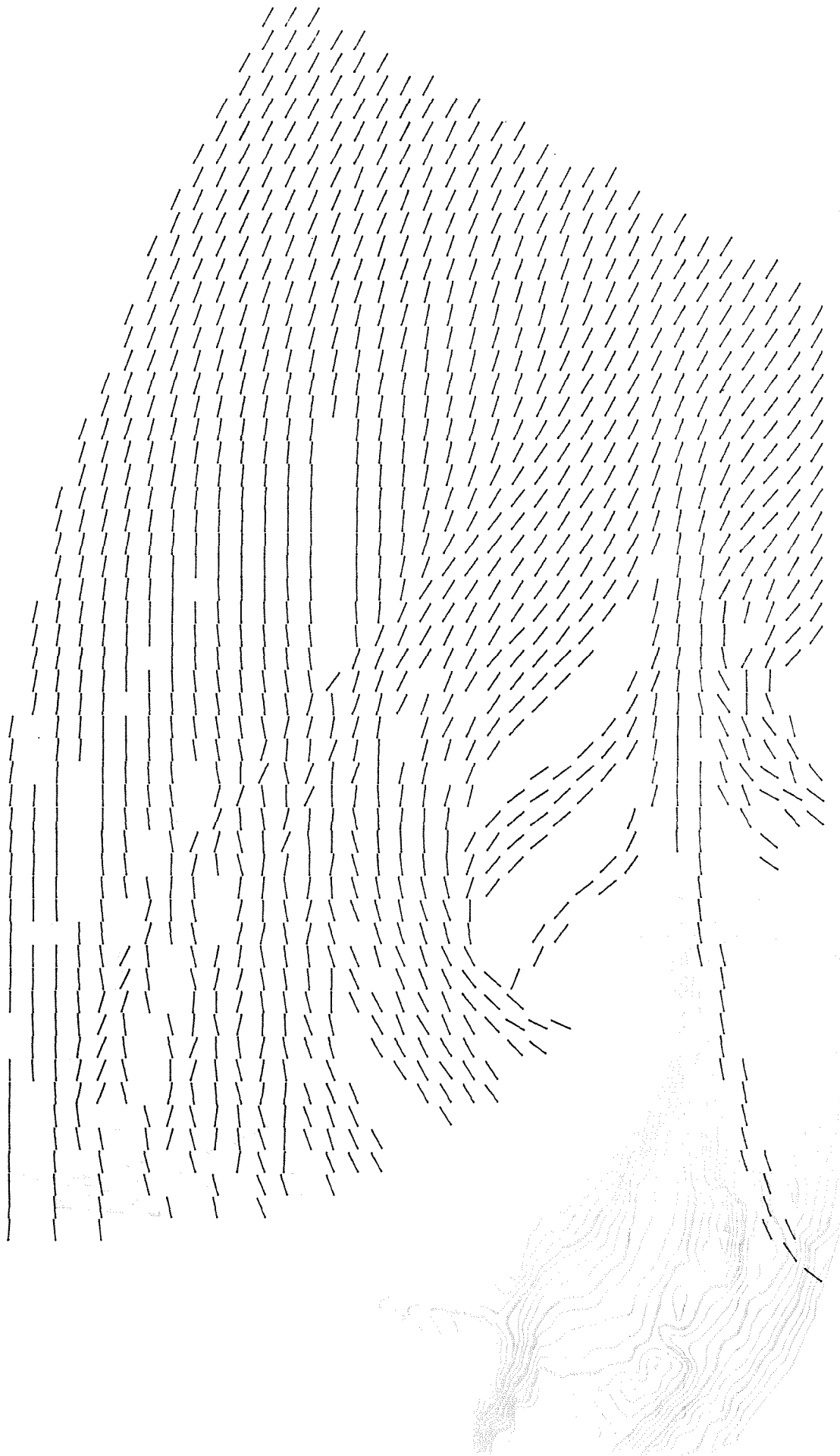
HYDROGRAPHIC

TG78
SCALE 1:

45000

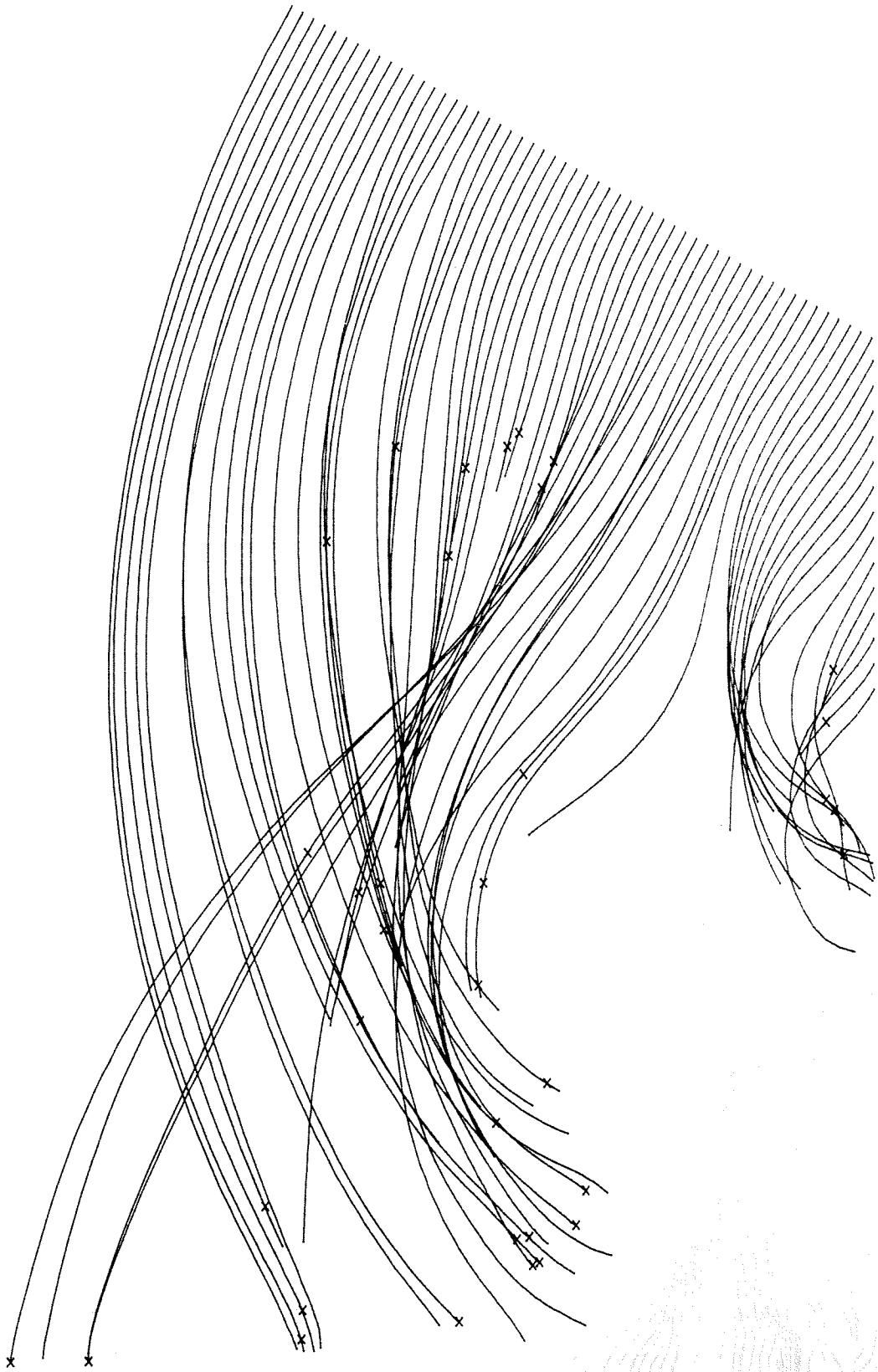
hydrodynamic
shaping • testing • engineering





TGP 79

HYDROARTIFIC
S.A.



T- 14.3000 Hgt. .700000
ANGLE OF INCIDENCE SW. 00000
RISE- .000000E+00
DEGREES



HYRONANTIC
micro-ripes - haitiens