The Distribution of Temperature, Salinity and Density on Flemish Cap (47°00'N, 45°00'W) in April, May and July 1980

Ted A. Kendaris

Research and Resource Services
Department of Fisheries and Oceans
P.O. Box 5667
St. John's, Newfoundland A1C 5X1

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Canadian Data Report of

Fisheries and Aquatic Sciences 270

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by

Ted A. Kendaris

Research and Resource Services

Department of Fisheries and Oceans

P.O. Box 5667

St. John's, Newfoundland A1C 5X1

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ABSTRACT

Kendaris, T. A. 1981. The distribution of temperature, salinity and density on Flemish Cap (47°00'N, 45°00'W) in April, May and July 1980. Can. Data Rep. Fish. Aquat. Sci. 270: iv + 173 p.

Three oceanographic research cruises to the Flemish Cap were performed in April, May and July 1980. Vertical CTD profiles from 'Flemish Cap Plankton Grid' stations were obtained. Fully calibrated and processed data were interpolated to standard hydrographic depths and tabulated in Appendices. Computer generated contour diagrams from each horizontal distribution of temperature, salinity and density have been provided.

Key words: temperature, salinity, density, oceanographic data, contours, Flemish Cap, Northwest Atlantic

RÉSUMÉ

Kendaris, T. A. 1981. The distribution of temperature, salinity and density on Flemish Cap (47°00'N, 45°00'W) in April, May and July 1980. Can. Data Rep. Fish. Aquat. Sci. 270: iv + 173 p.

Trois expéditions de recherche océanographique ont été menées sur le Bonnet flamand en avril, mai et juillet 1980. On a obtenu des profils verticaux CTP des stations de l'étude systématique du plancton sur le Bonnet flamand. Les données entièrement étalonnées et traitées ont été interpolées dans les profondeurs hydrographiques normalisées et figurent dans les tableaux en annexe. Des contours réalisés par ordinateur sont fournis pour chaque distribution horizontale de la température, de la salinité et de la densité.

INTRODUCTION

During 1980, three oceanographic research cruises to the Flemish Cap were carried out by the Northwest Atlantic Fisheries Centre. This report presents a tabulation of physical oceanographic data collected from stations along the 'Flemish Cap Plankton Grid' as established by the ICNAF Environmental Subcommittee in 1977. Temperature, salinity and density contour diagrams at standard hydrographic depths are provided. Comparable information from 1979 has been compiled by Kendaris (1981).

METHODS

In 1980, the R/V "Gadus Atlantica" undertook three oceanographic surveys of the Flemish Cap (Fig. 1), from 06-13 April, 20-26 May and 22-28 July. Among the stations occupied were those of the 'Flemish Cap Plankton Grid' (ICNAF 1977). This rectangular grid consisted of seven east-west transects (from 48°20'N to 46°20'N) separated by 20' of latitude, with six equally spaced (30' longitude) sampling locations between 46°30'W and 44°00'W.

Profiles of conductivity and temperature with depth were obtained from a Guildline Mark IV (model 8701) CTD system. Water samples were collected with a General Oceanics rosette sampler for the calibration of salinity. Based on a minimum of 500 points per cast, the analog record was reduced to a small number of data points sufficient to reproduce the water column structure. Temperature, salinity and sigma-t values were then linearly interpolated at standard depths (to a maximum of 500 m). Results from each cruise have been tabulated in Appendices 1, 2 and 3.

Temperature, salinity and density contours were computer generated using the surface fitting techniques described by Taylor et al. (1971). Spline interpolation predominated over Laplacian, resulting in a balance between increased smoothing and an avoidance of sharp peaks. Contour intervals (0.5°C, 0.1°/$_{oo}$, 0.1 sigma-t units) have been identified on each horizontal distribution. Bottom topography has been included, with 100, 200, 300, 400 and 1000 m isobaths outlined. Diagrams from April, May and July are presented in Fig. 2-43, 44-83, and 84-125, respectively.

An analysis of the oceanographic observations carried out on Flemish Cap during 1980 will be published subsequently by the author. The fully processed data from this report have been submitted to the MEDS data preservation archive (Jones 1976).

ACKNOWLEDGMENTS

I would like to take this opportunity to thank those individuals who aided in the preparation of this data report. Gary Somerton devoted considerable time in modifying the computer graphics programs used. Gill Campbell provided her excellent drafting skills in adding the bathymetric contours. My wife Benedikta helped in the painstaking task of blanking out data isolines from unsampled areas. Cathy Wilson was responsible for the photoreduction of all figures. Finally, Vern Pepper and Joe Kiceniuk offered their helpful comments.

REFERENCES

ICNAF. 1977. Annex 1. Report of the Flemish Cap Working Group. Redbook, p. 83-86.

Jones, H. A. 1976. Overview of MEDS Data Preservation Archive. Marine Environmental Data Service, Tech. Note No. 13, 10 p.

Kendaris, T. A. 1981. The distribution of temperature, salinity and density on Flemish Cap (47°00N, 45°00W) in March, April and May 1979. Can. Data Rep. Fish. Aquat. Sci. 269: iv + 127 p.

Taylor, J., P. Richards, and R. Halstead. 1971. Computer routines for surface generation and display. Marine Sciences Branch, Department of Energy, Mines and Resources, Manuscript Report Series No. 16, 47 p.

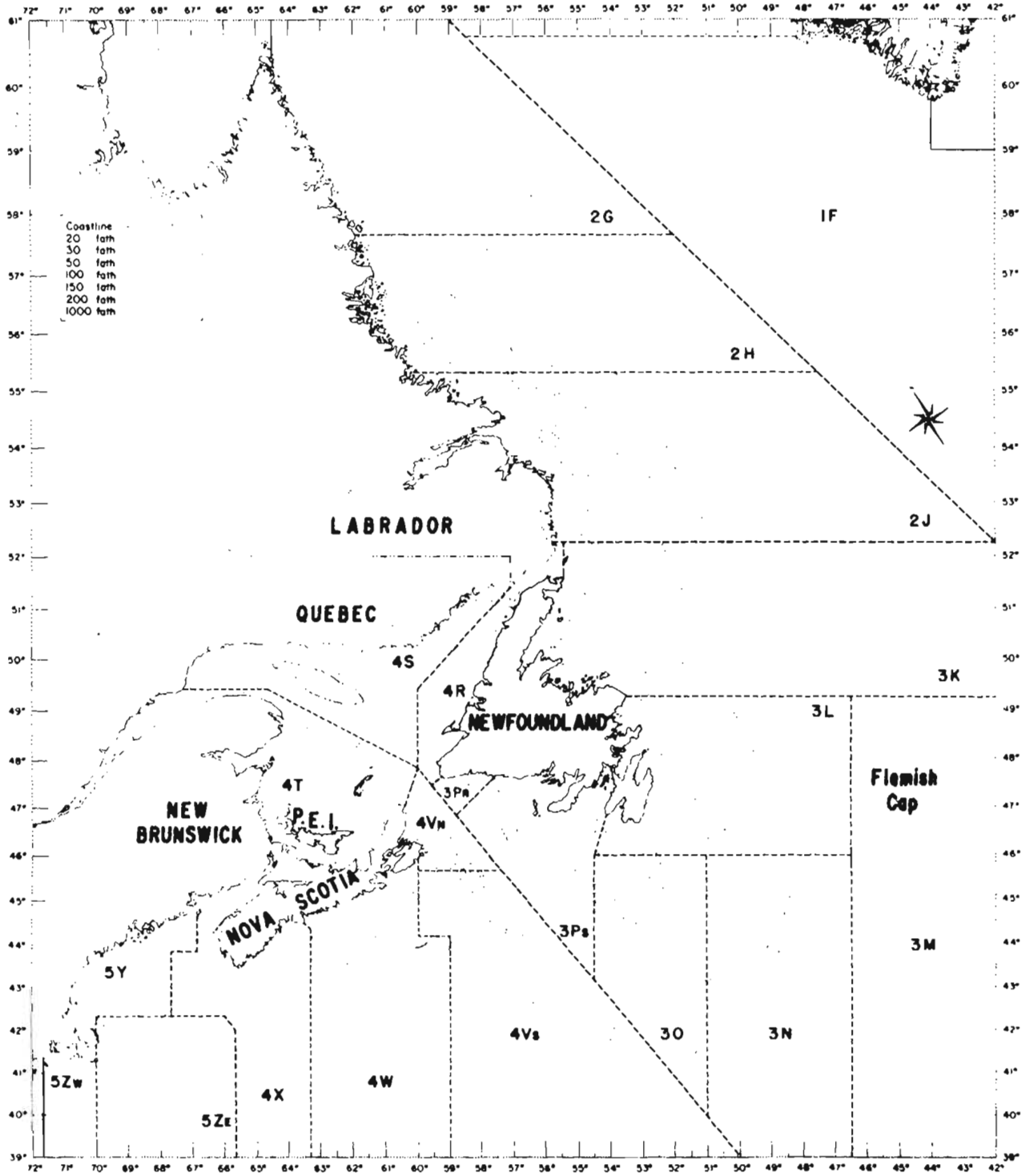

Fig. 1. Location of Flemish Cap Bank.

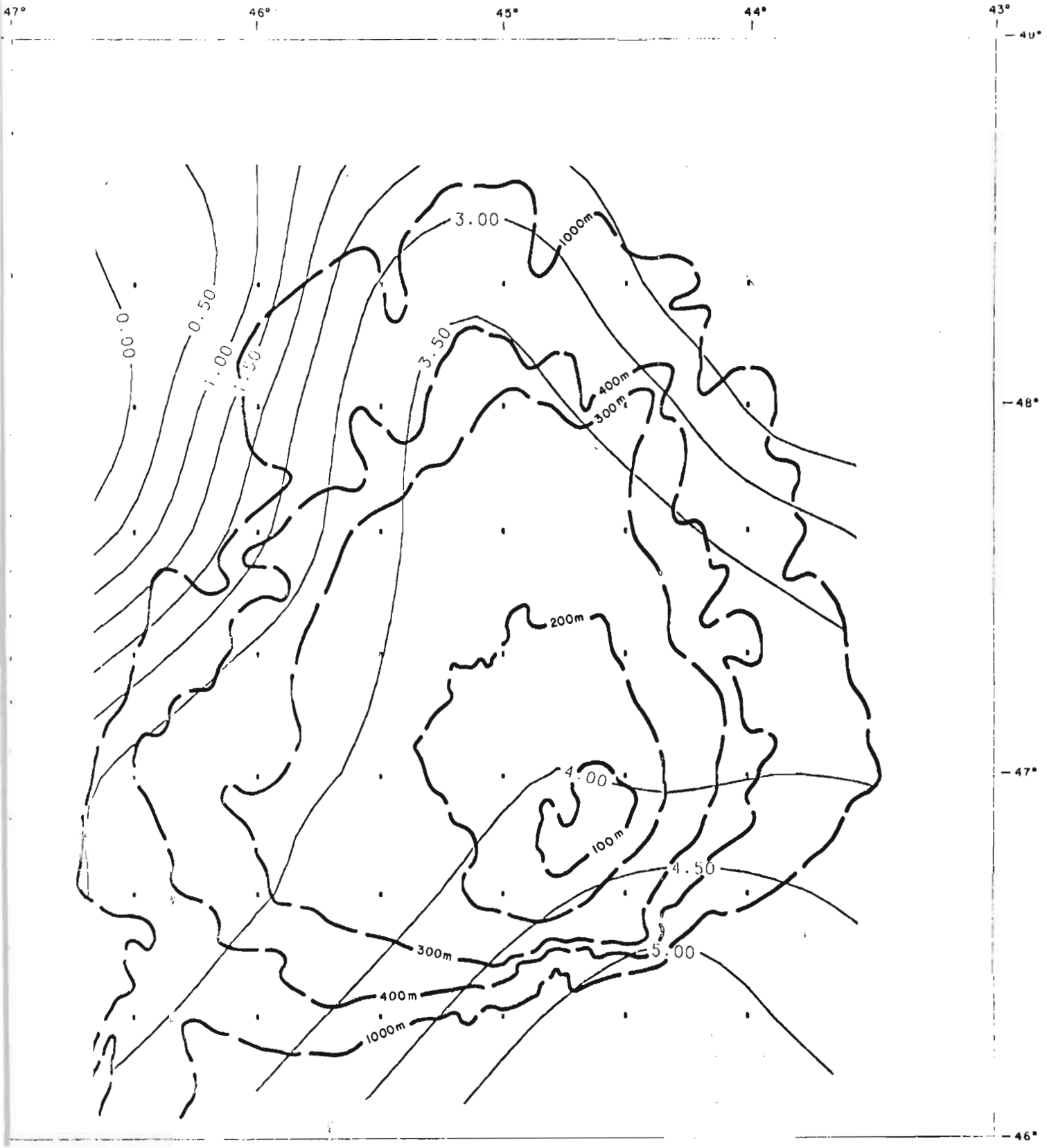

Fig. 2. Temperature contours at 000 meters - GADUS 35 (April 1980).

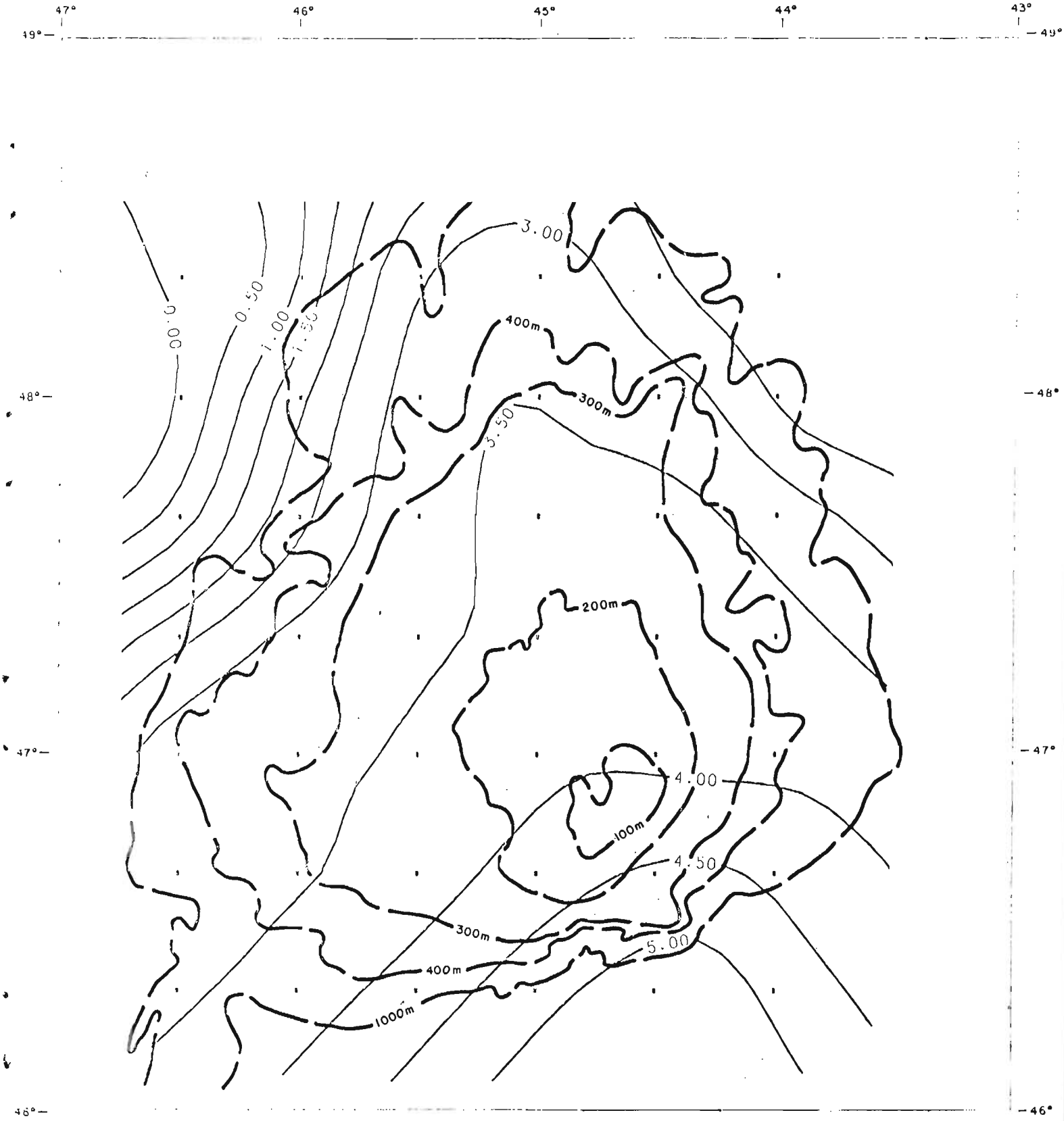

Fig. 3. Temperature contours at 010 meters - GADUS 35 (April 1980).

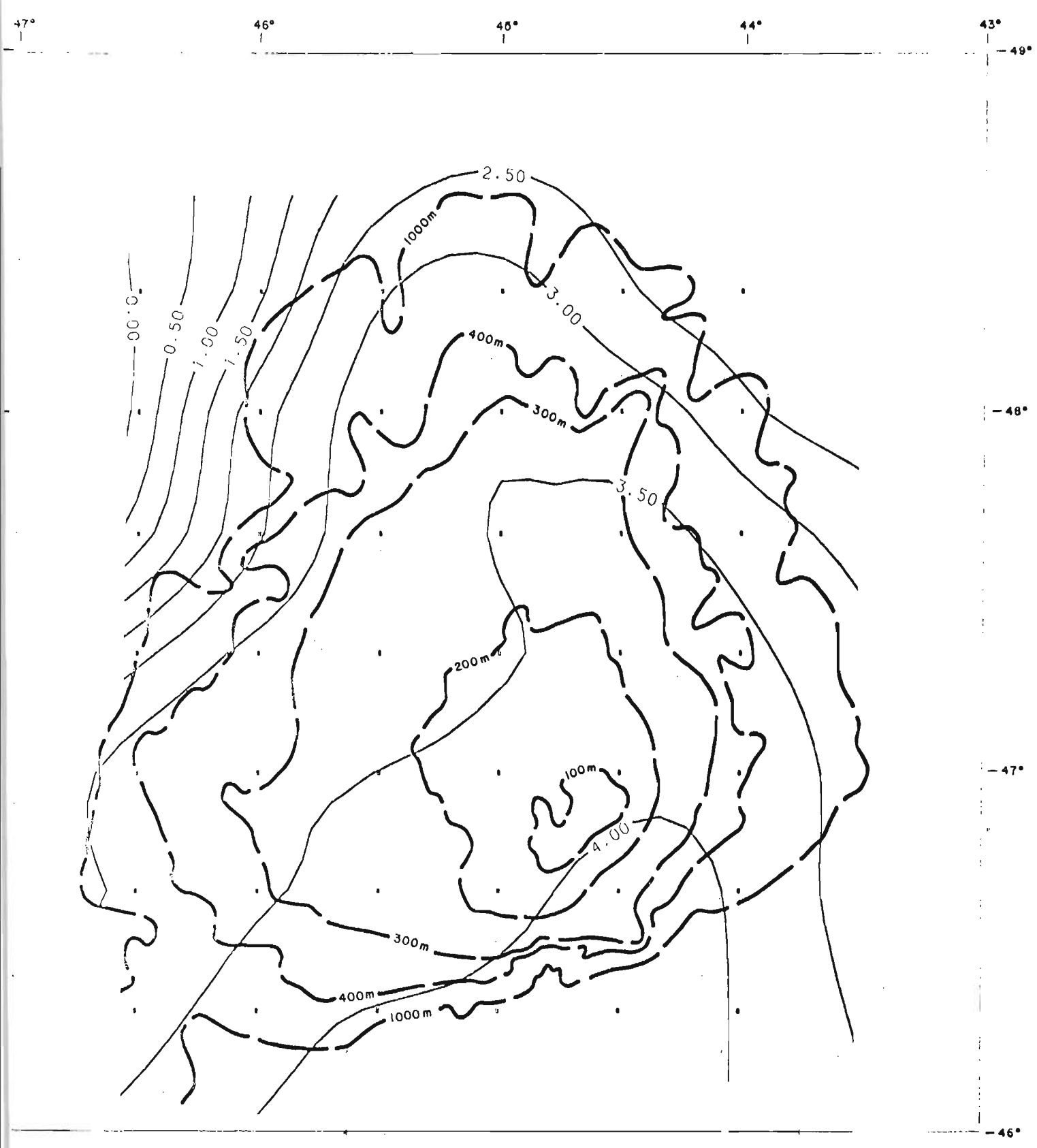

Fig. 4. Temperature contours at 020 meters - GADUS 35 (April 1980).

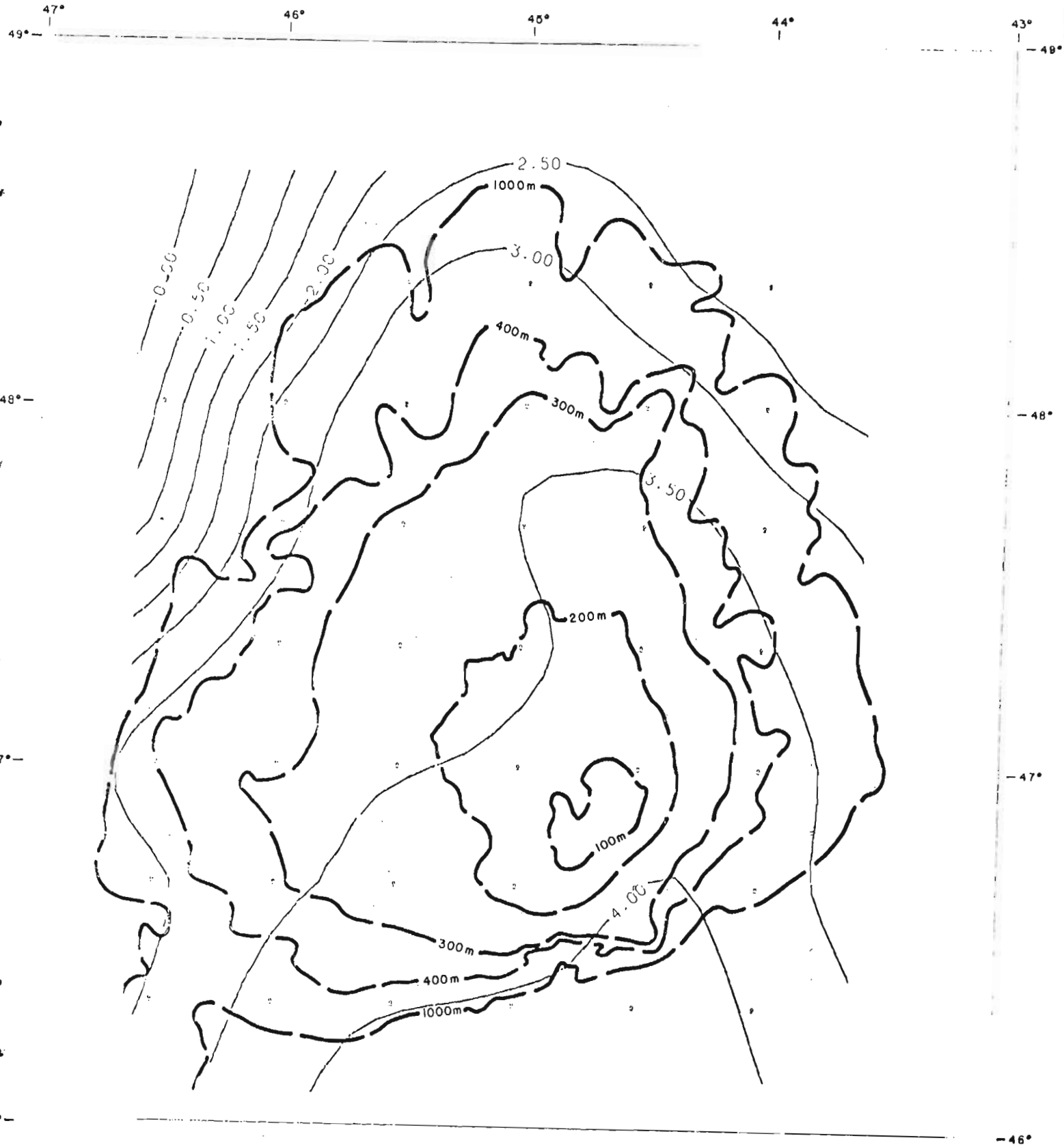

Fig. 5. Temperature contours at 030 meters - GADUS 35 (April 1980).

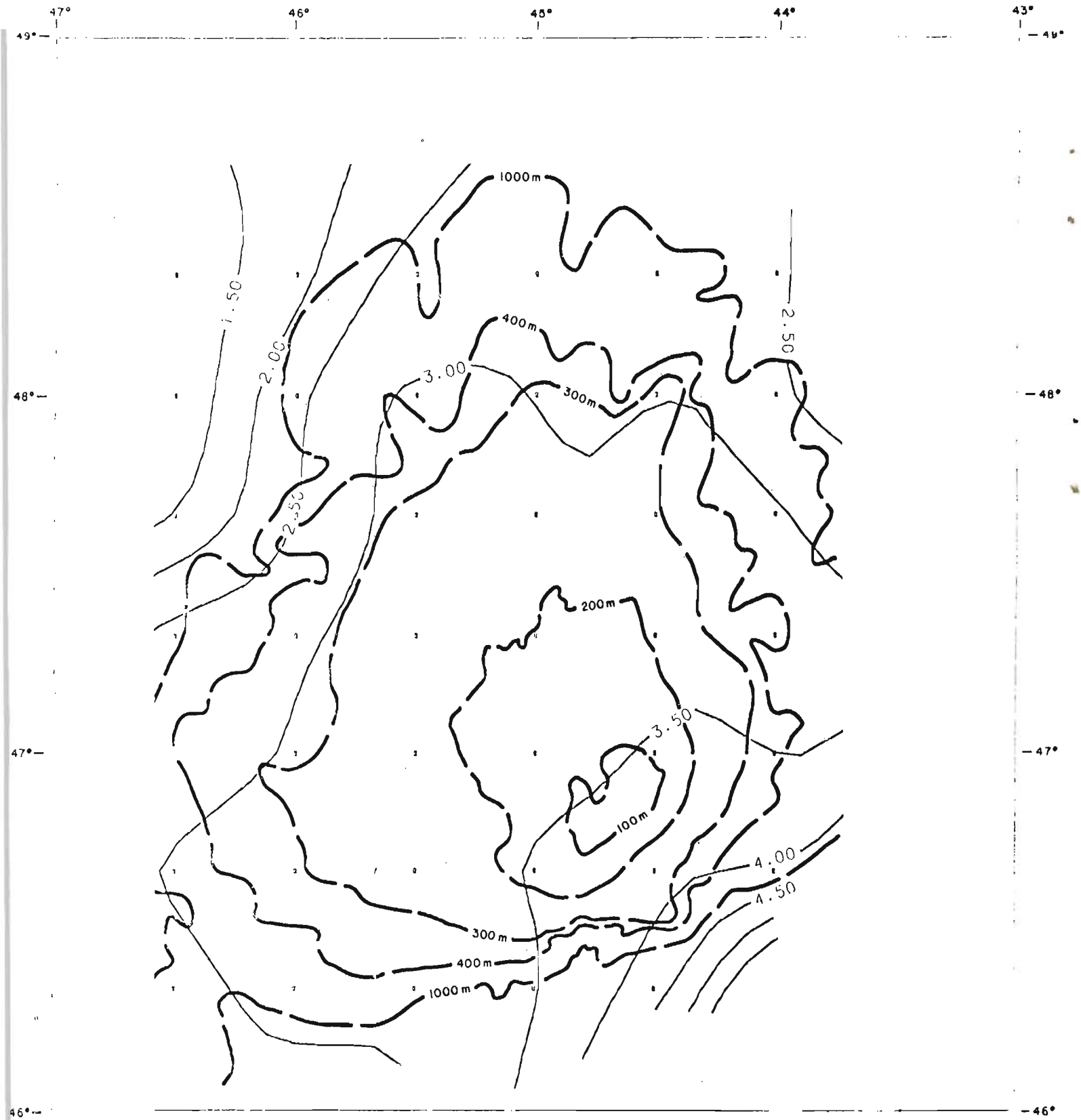

Fig. 6. Temperature contours at 050 meters - GADUS 35 (April 1980).

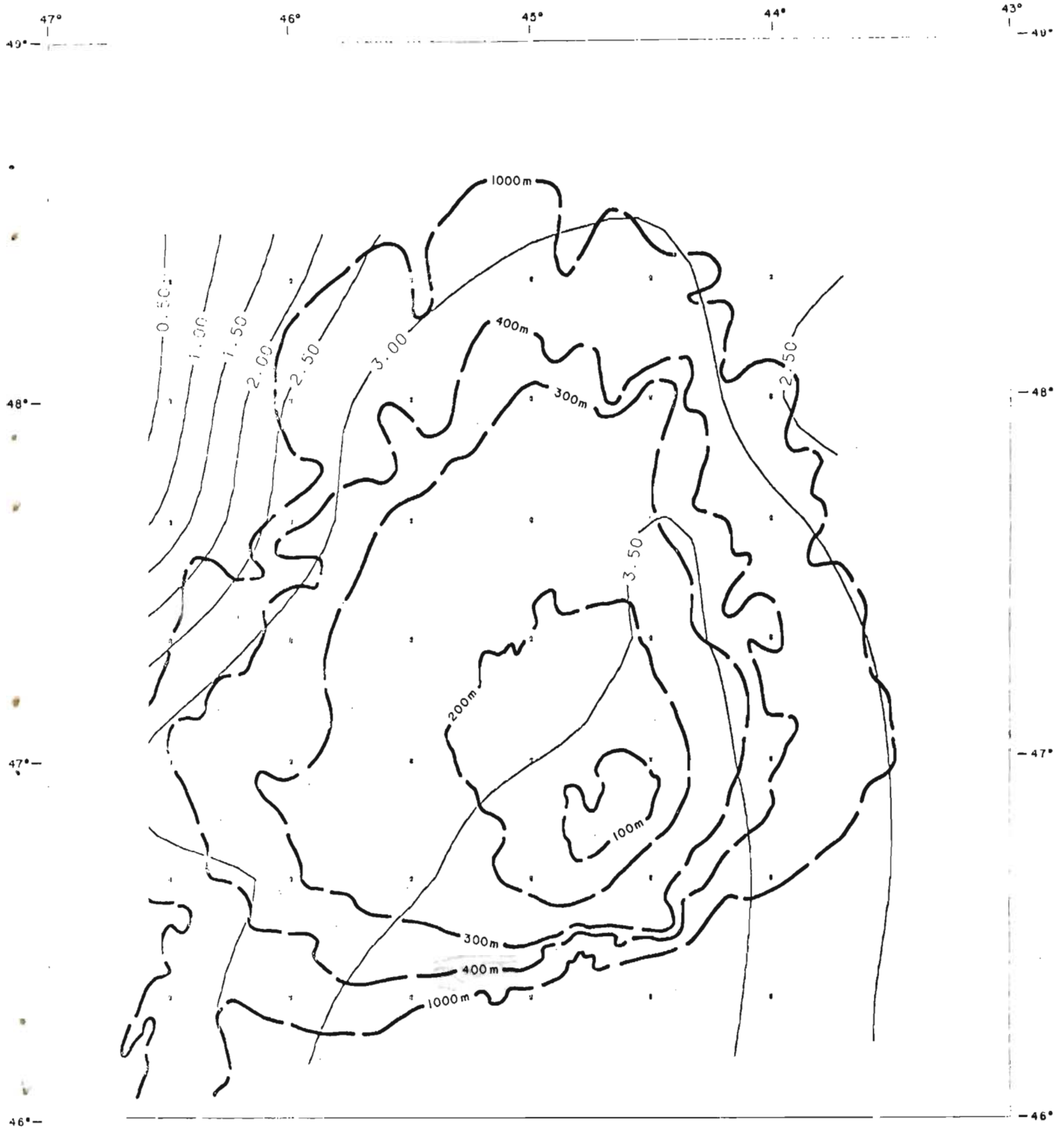

Fig. 7. Temperature contours at 075 meters - GADUS 35 (April 1980).

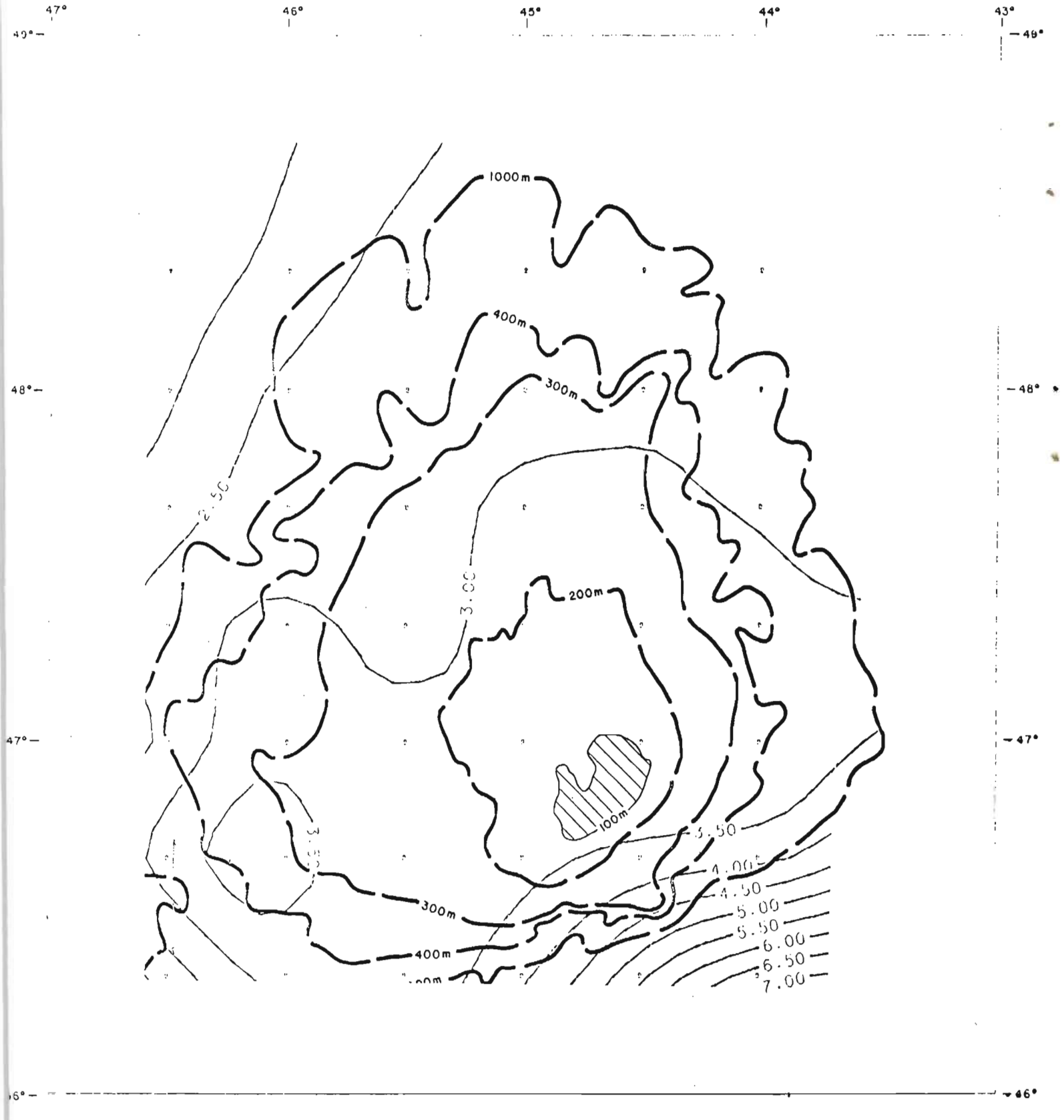

Fig. 8. Temperature contours at 100 meters - GADUS 35 (April 1980).

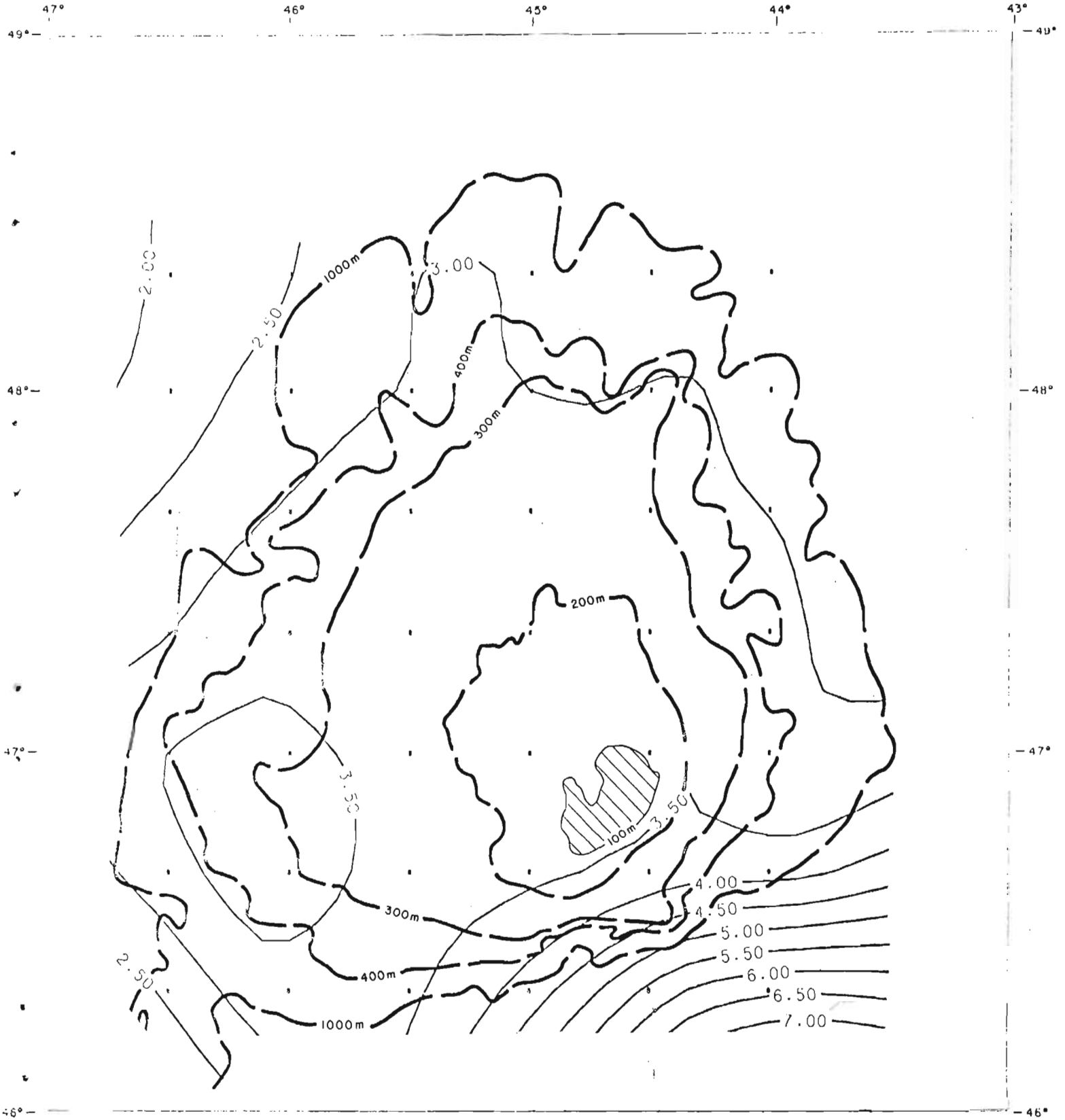

Fig. 9. Temperature contours at 125 meters - GADUS 35 (April 1980).

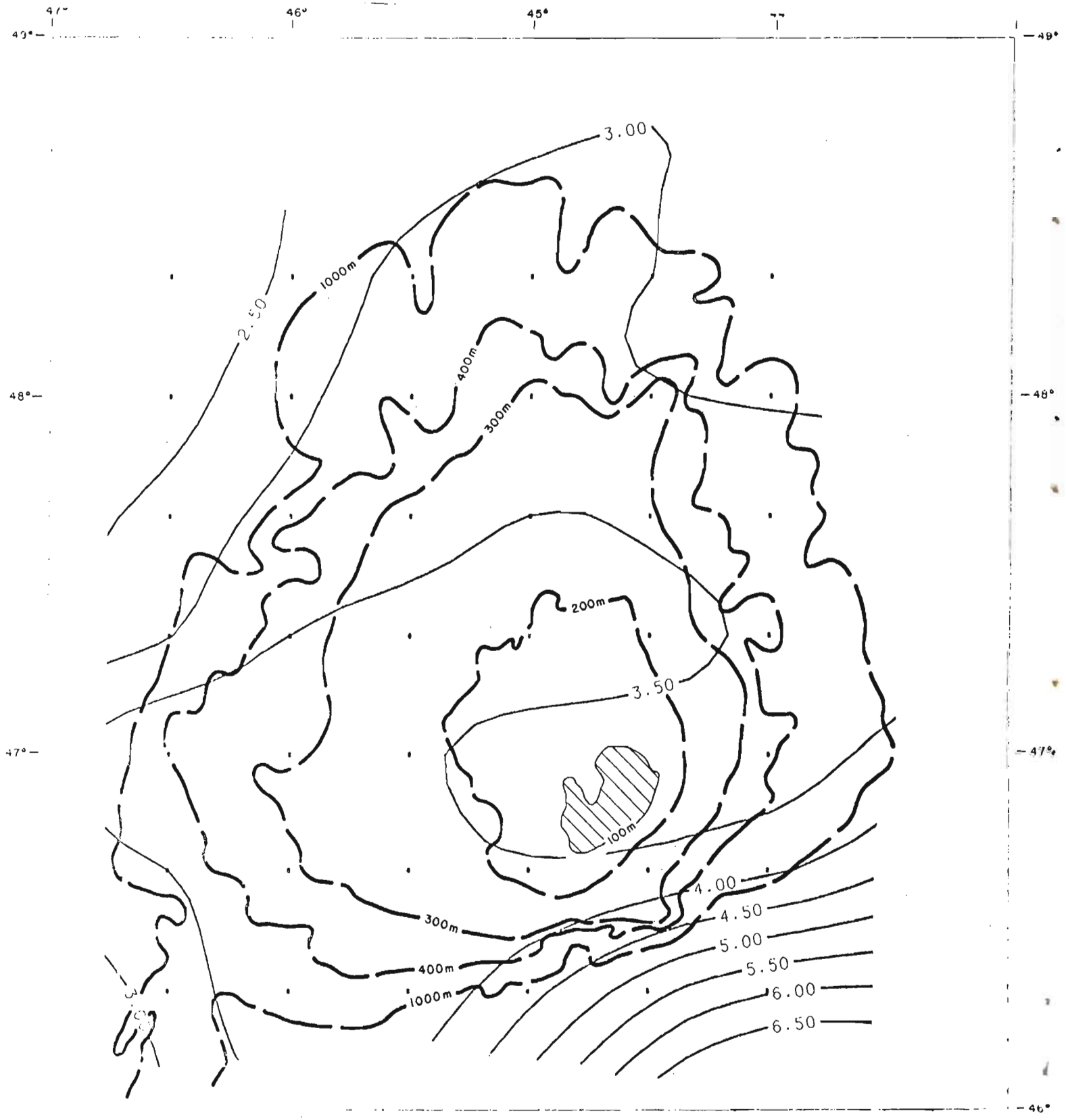

Fig. 10. Temperature contours at 150 meters - GADUS 35 (April 1980).

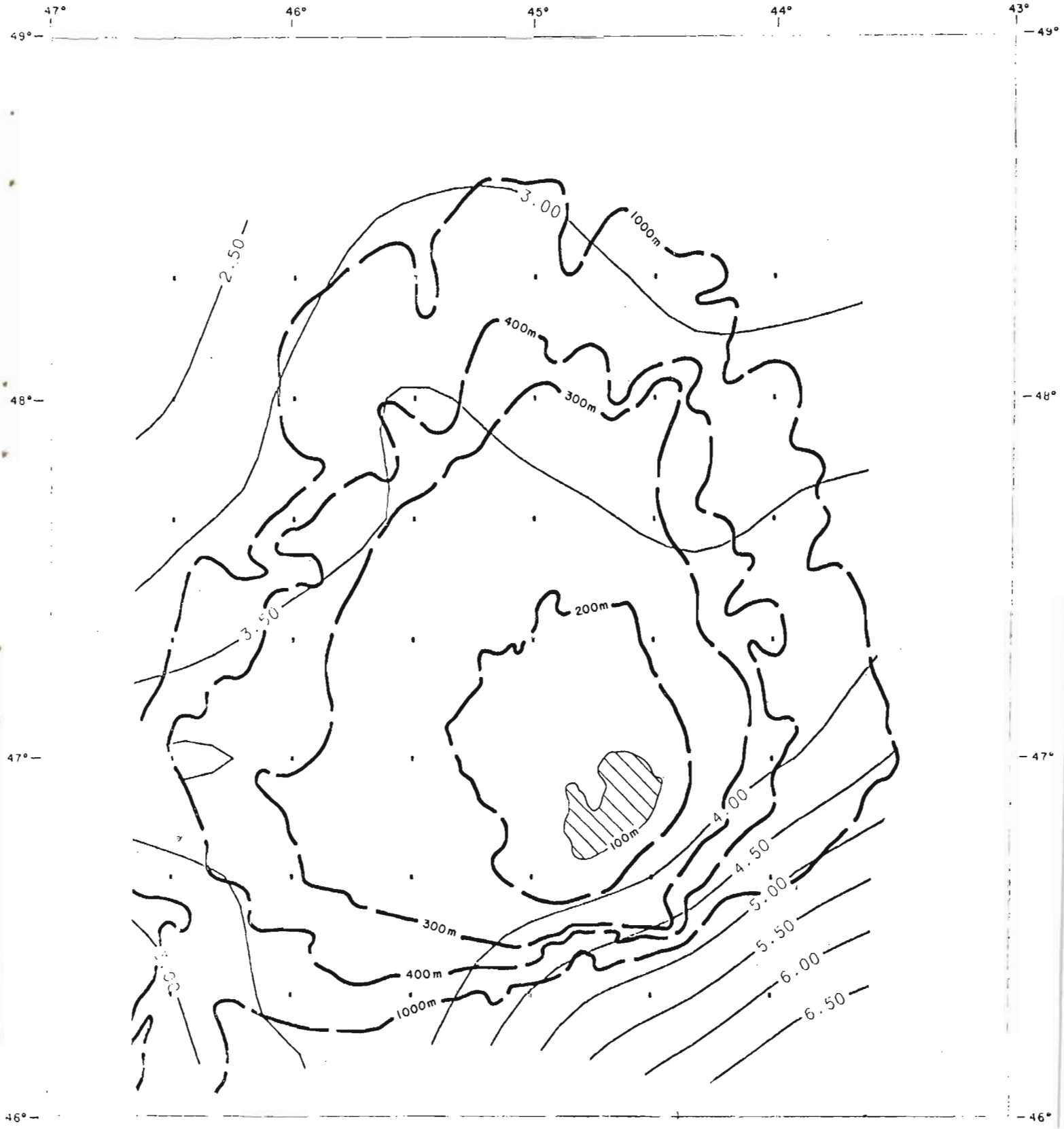

Fig. 11. Temperature contours at 175 meters - GADUS 35 (April 1980).

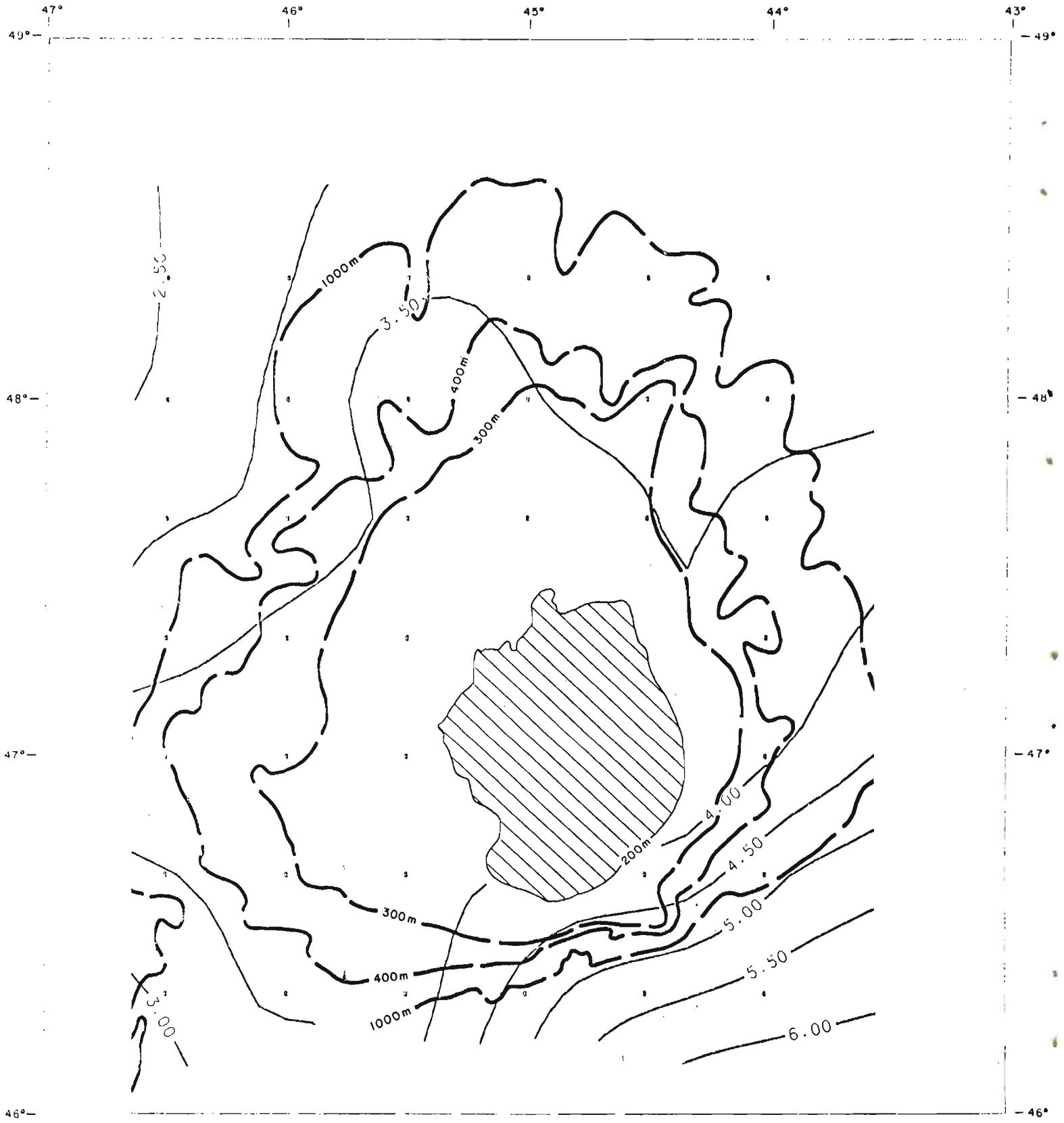

Fig. 12. Temperature contours at 200 meters - GADUS 35 (April 1980).

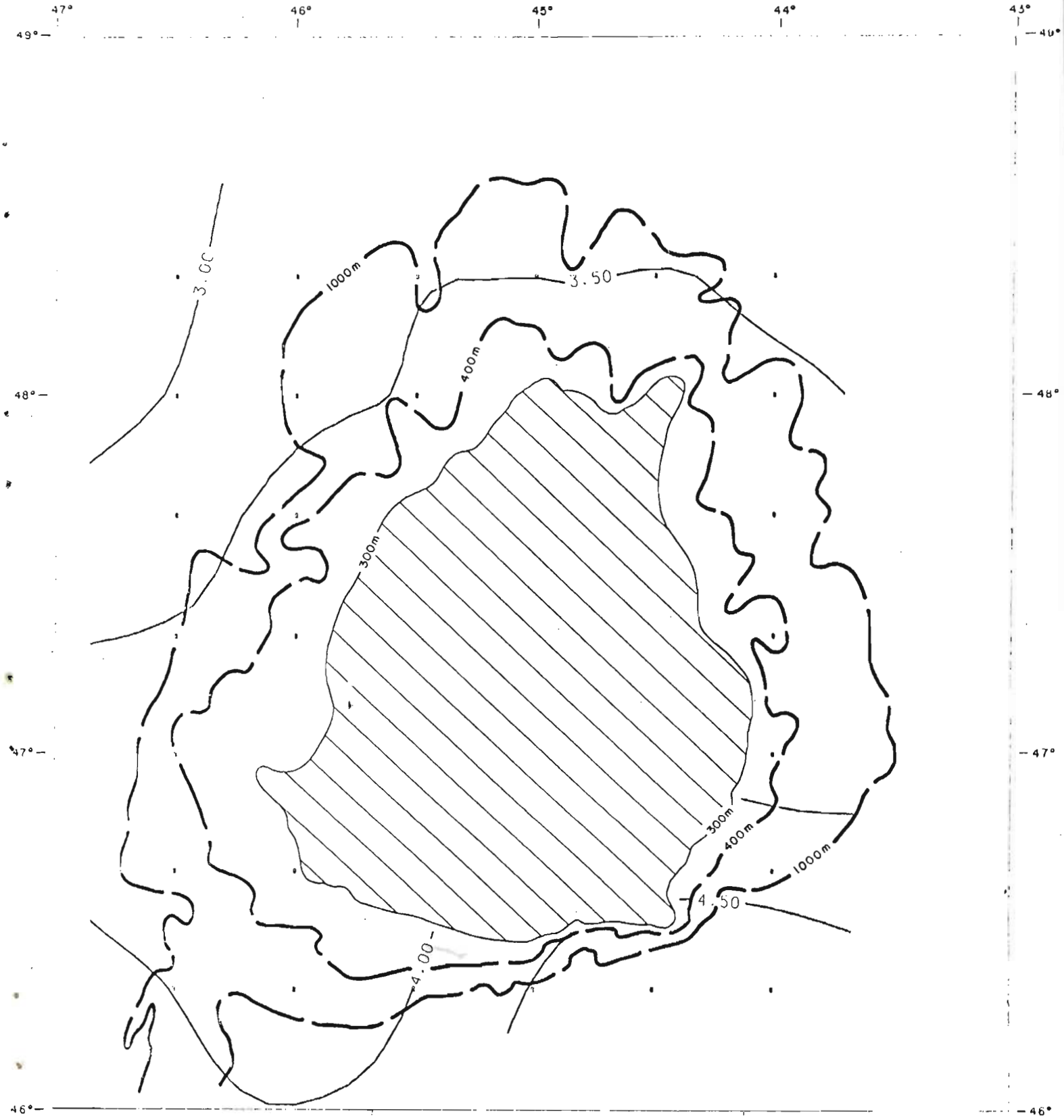

Fig. 13. Temperature contours at 300 meters - GADUS 35 (April 1980).

Fig. 14. Temperature contours at 400 meters - GADUS 35 (April 1980).

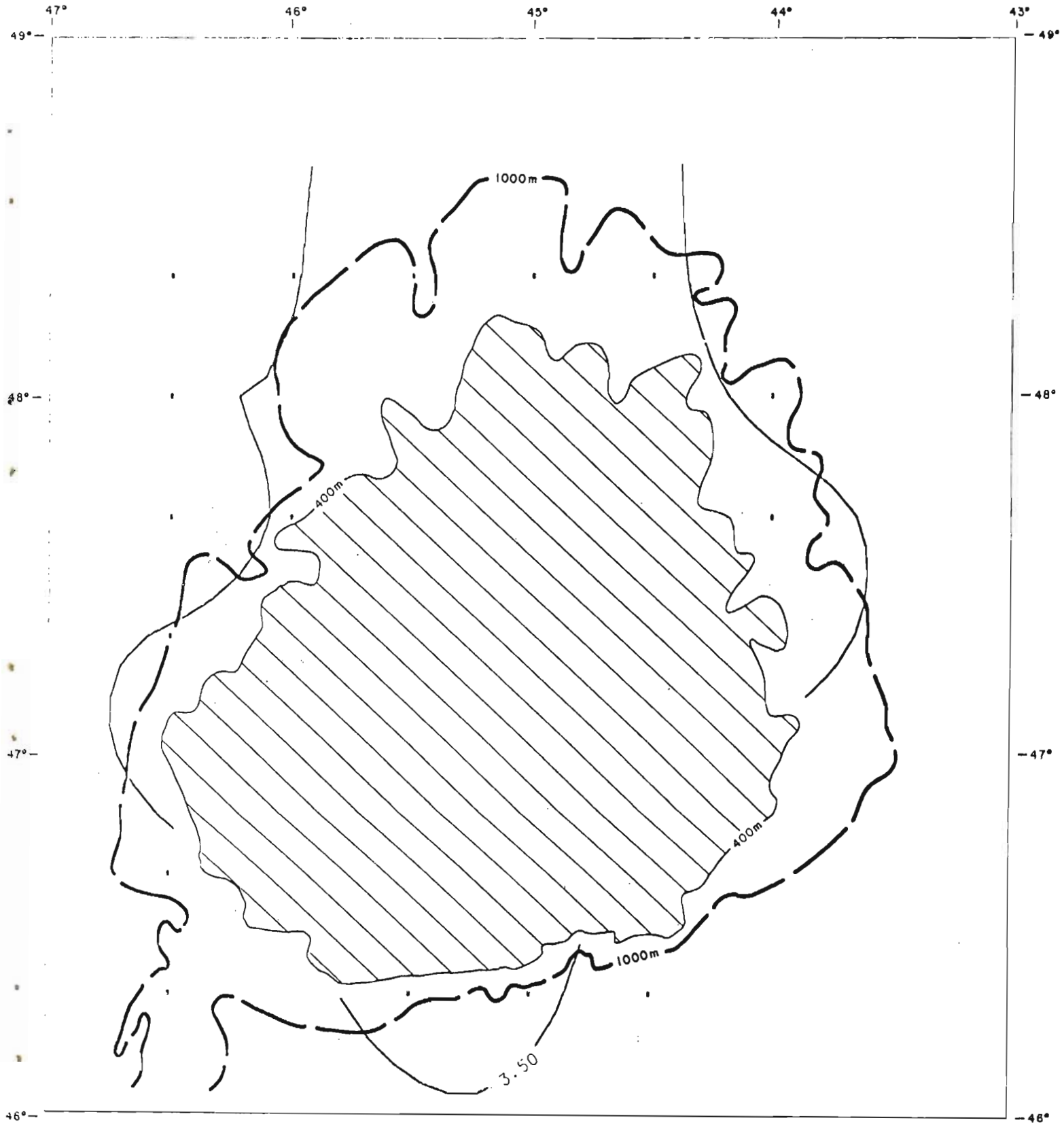

Fig. 15. Temperature contours at 500 meters - GADUS 35 (April 1980).

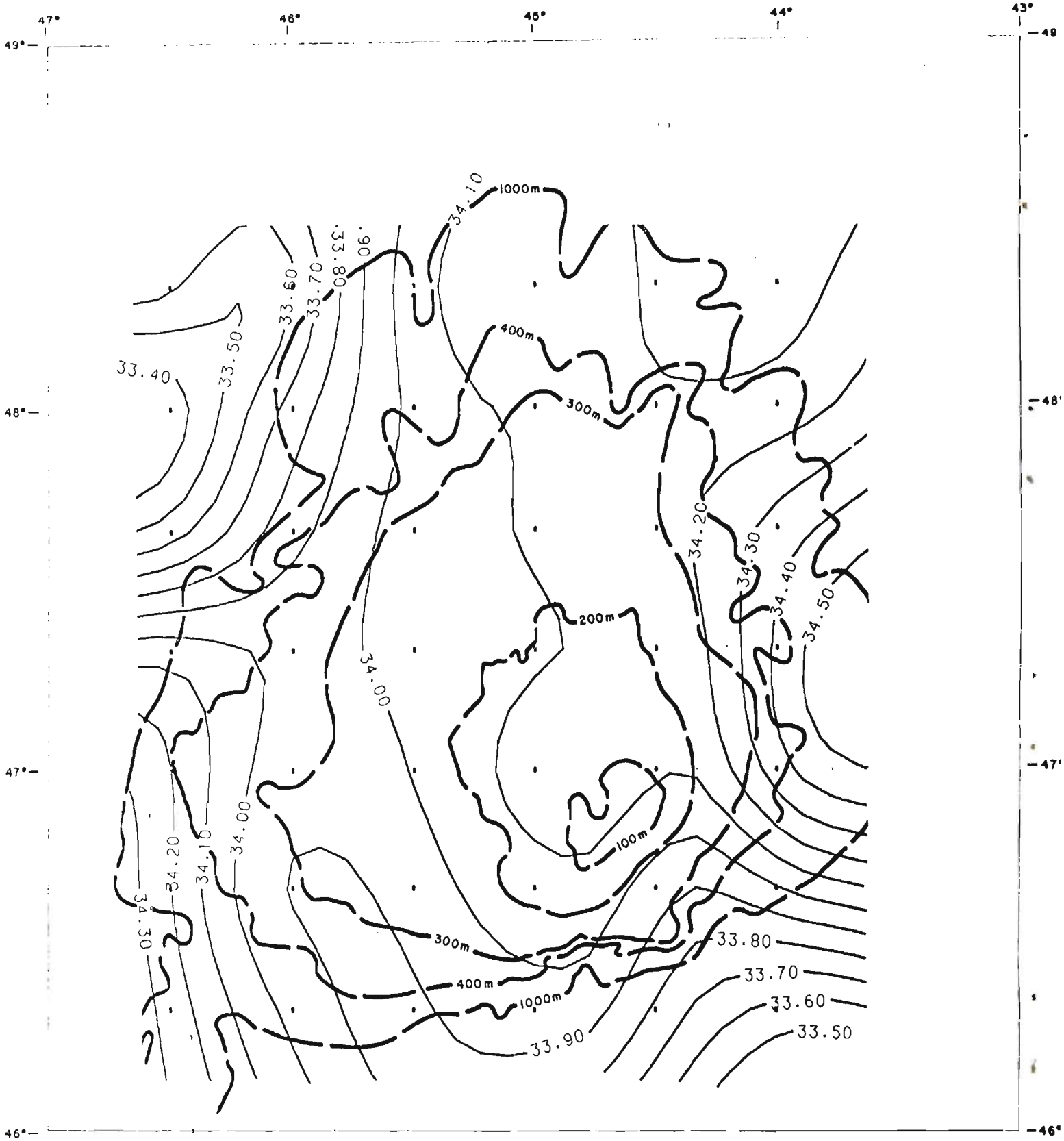

Fig. 16. Salinity contours at 000 meters - GADUS 35 (April 1980).

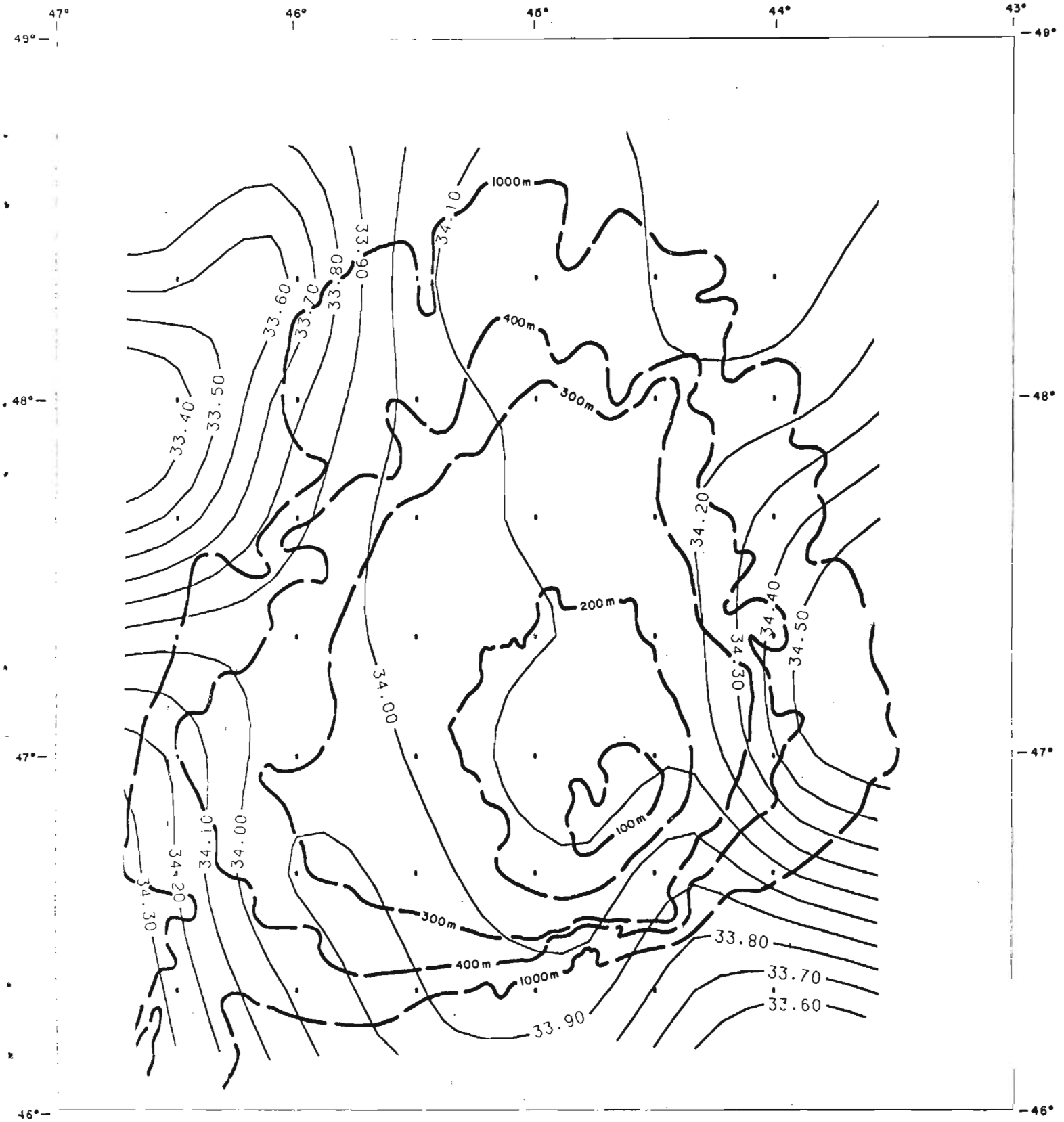

Fig. 17. Salinity contours at 010 meters - GADUS 35 (April 1980).

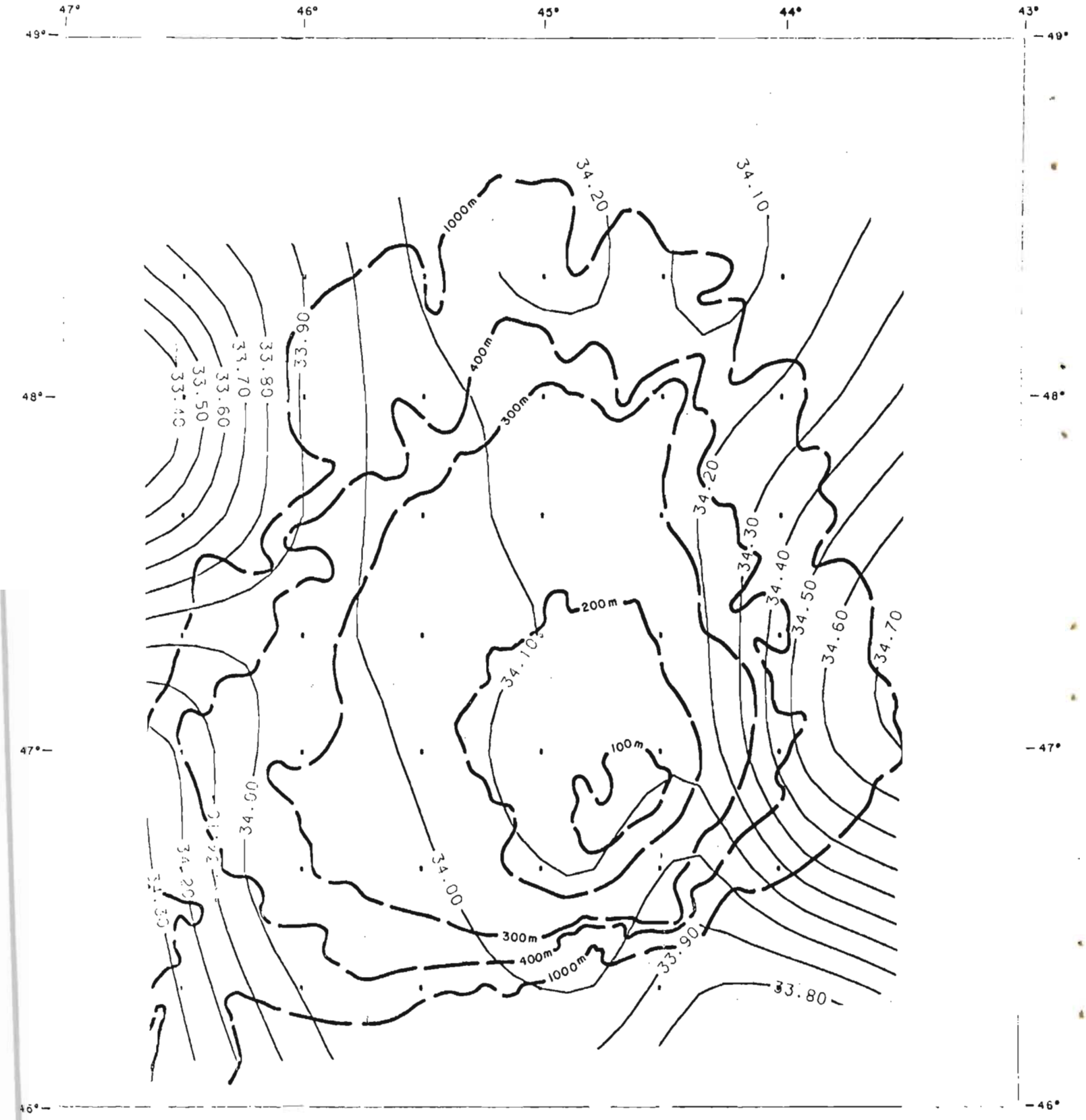

Fig. 18. Salinity contours at 020 meters - GADUS 35 (April 1980).

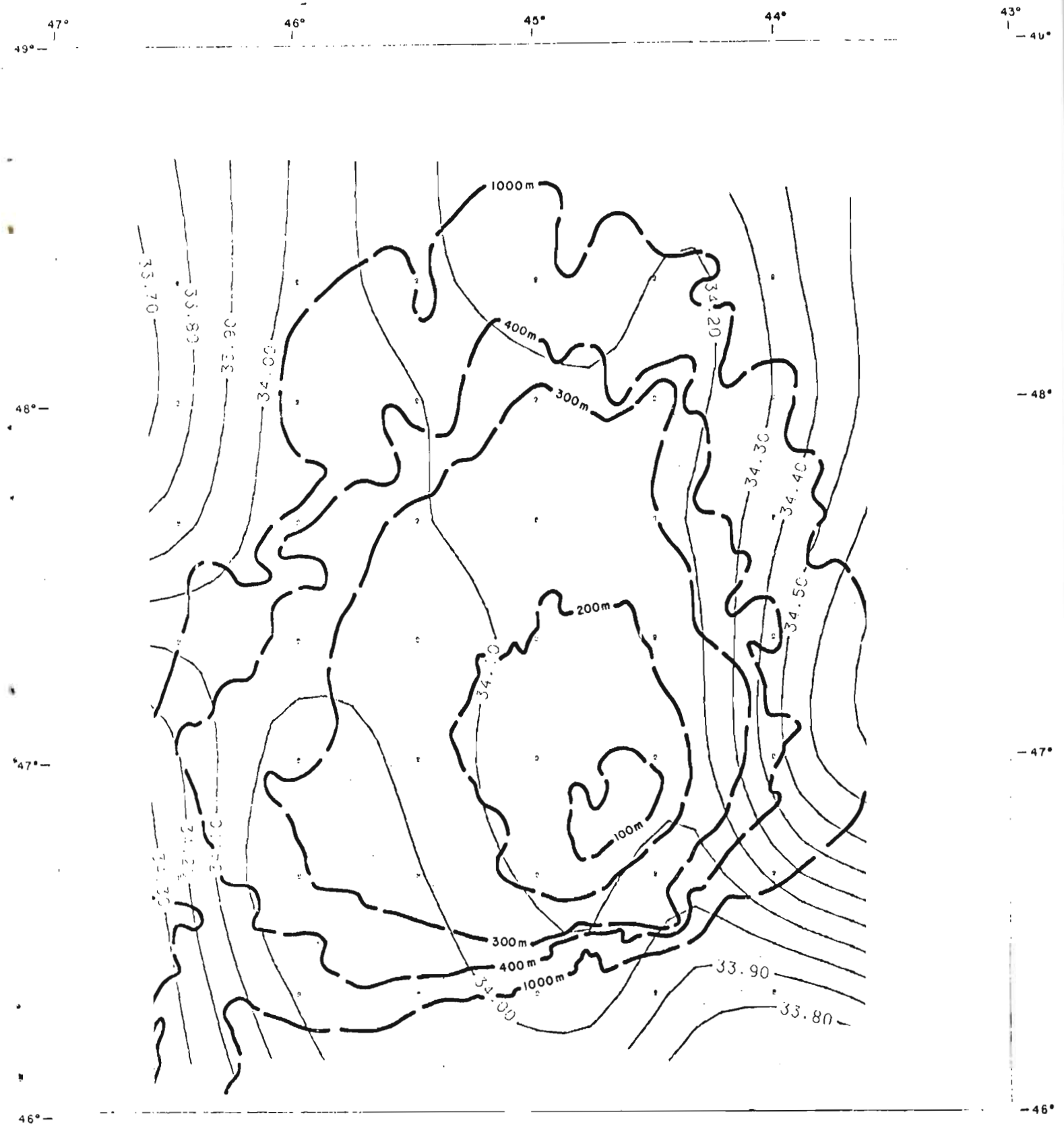

Fig. 19. Salinity contours at 030 meters - GADUS 35 (April 1980).

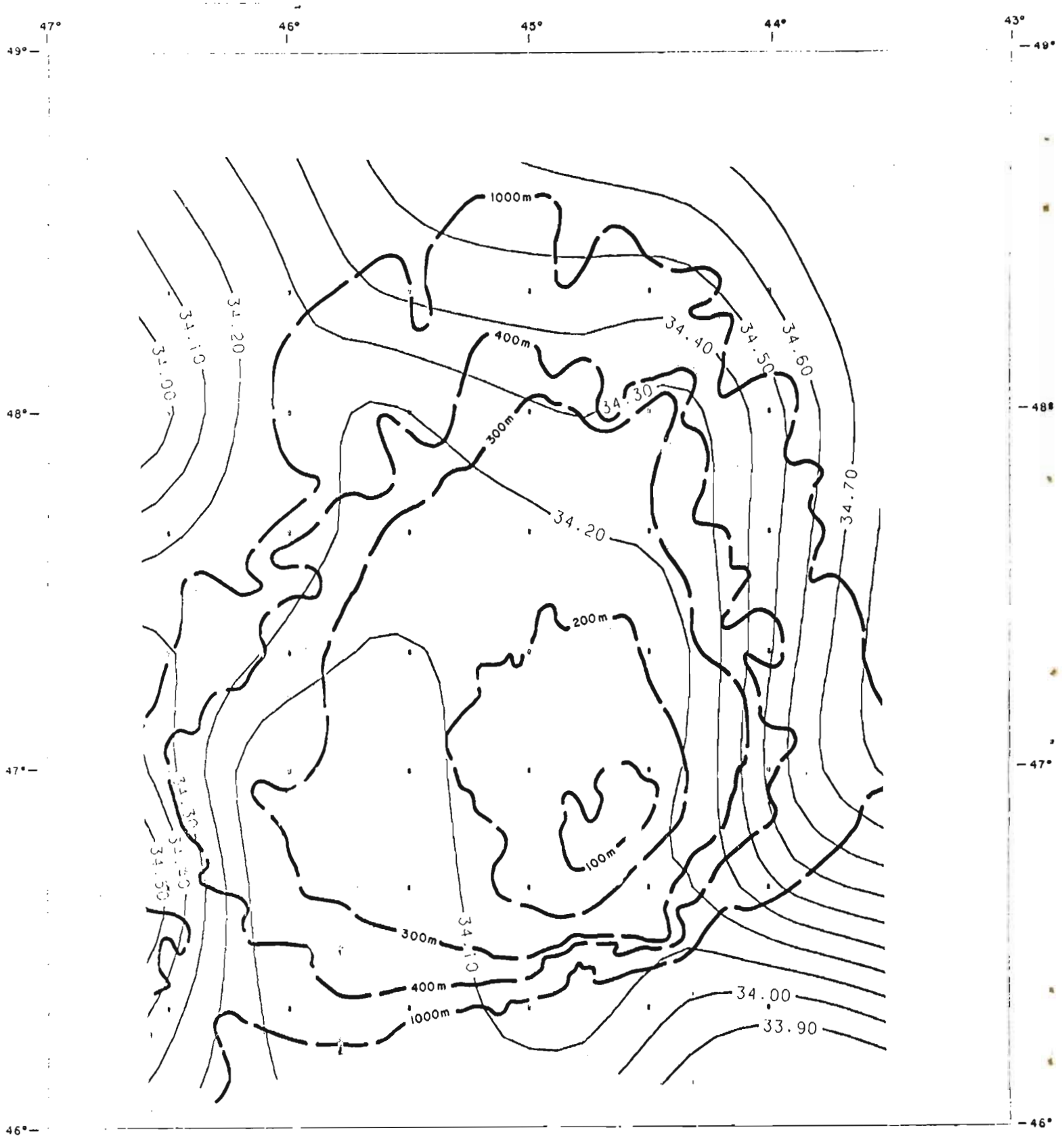

Fig. 20. Salinity contours at 050 meters - GADUS 35 (April 1980).

Fig. 21. Salinity contours at 075 meters - GADUS 35 (April 1980).

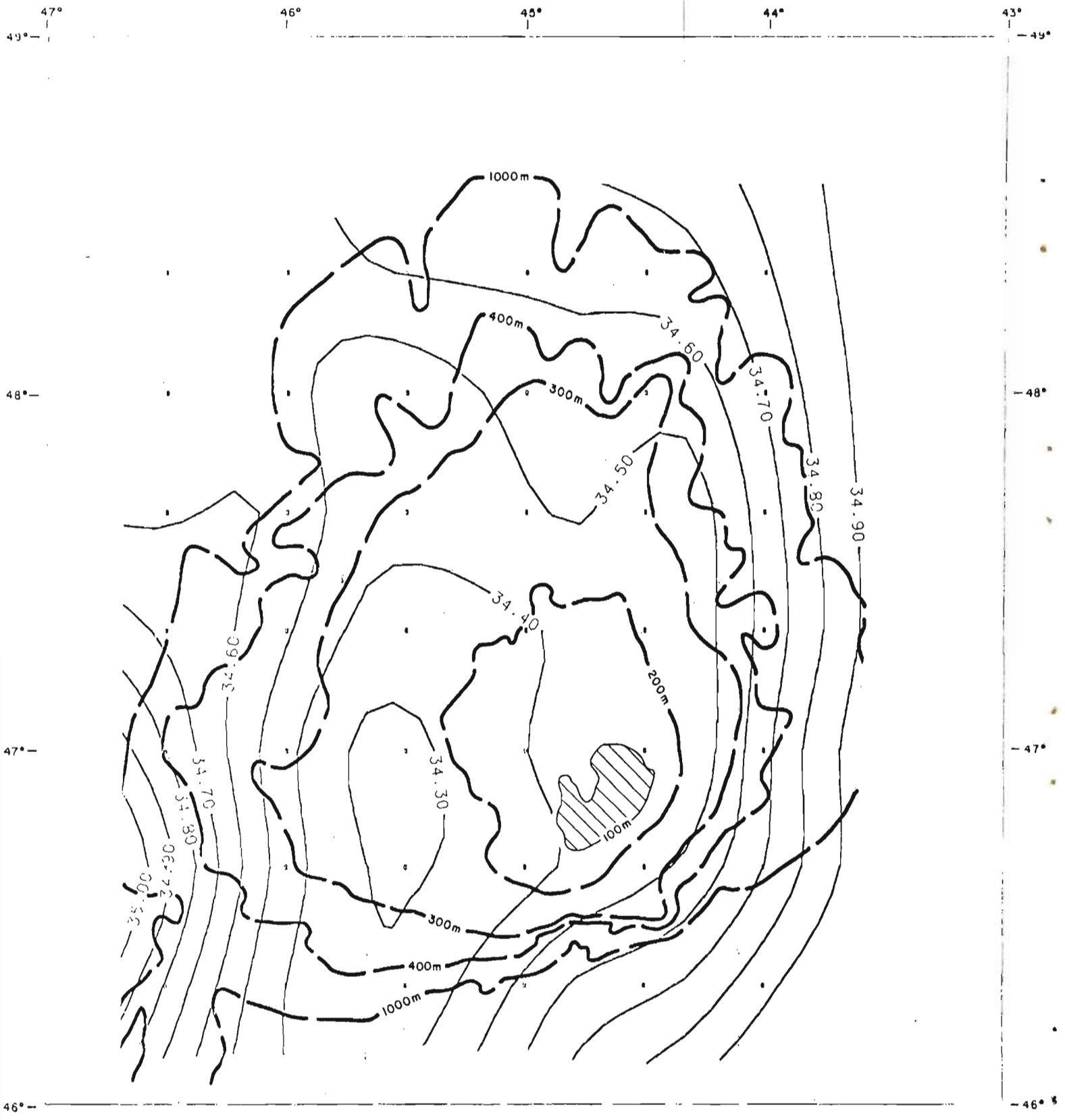

Fig. 22. Salinity contours at 100 meters - GADUS 35 (April 1980).

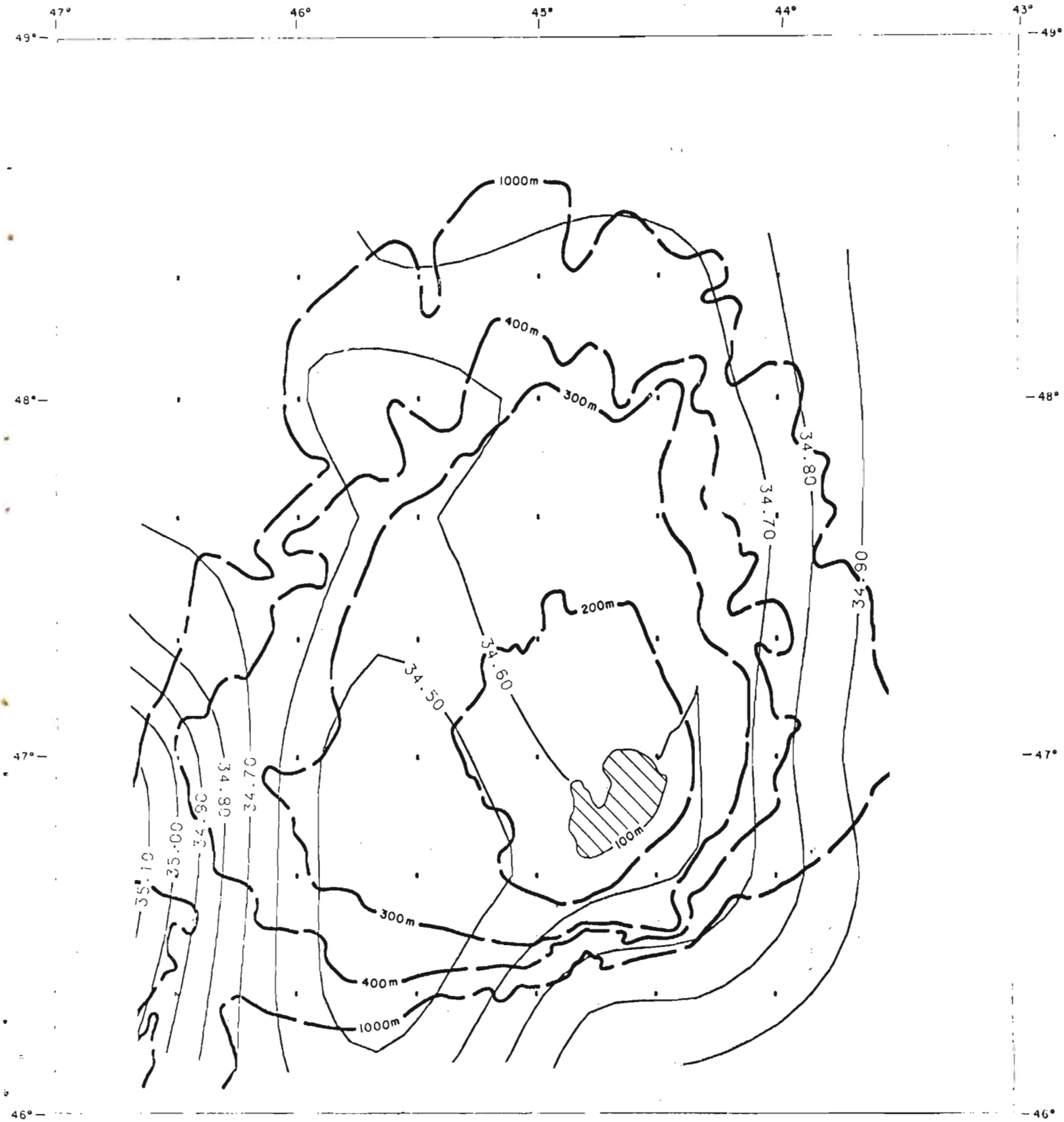

Fig. 23. Salinity contours at 125 meters - GADUS 35 (April 1980).

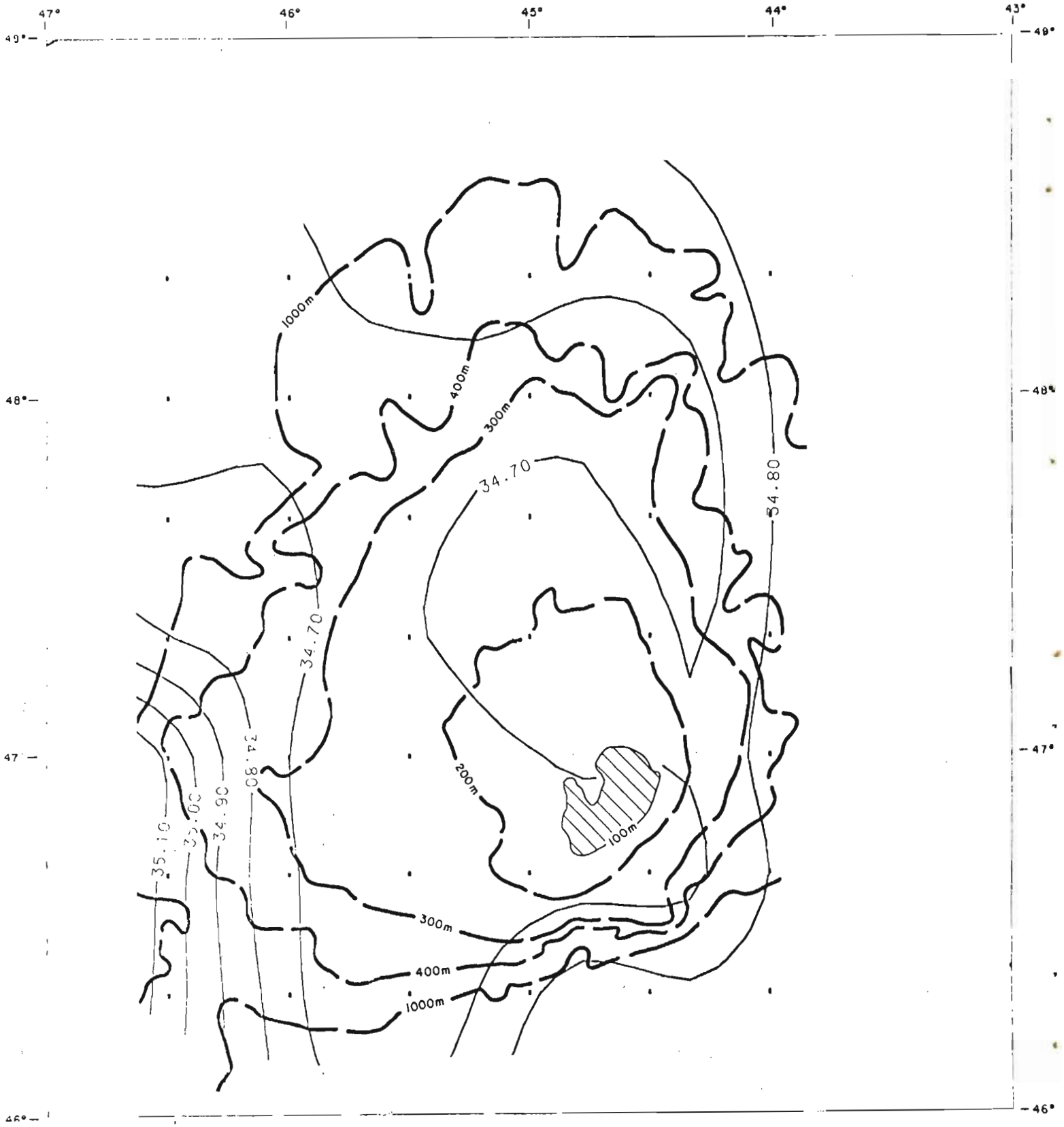

Fig. 24. Salinity contours at 150 meters - GADUS 35 (April 1980).

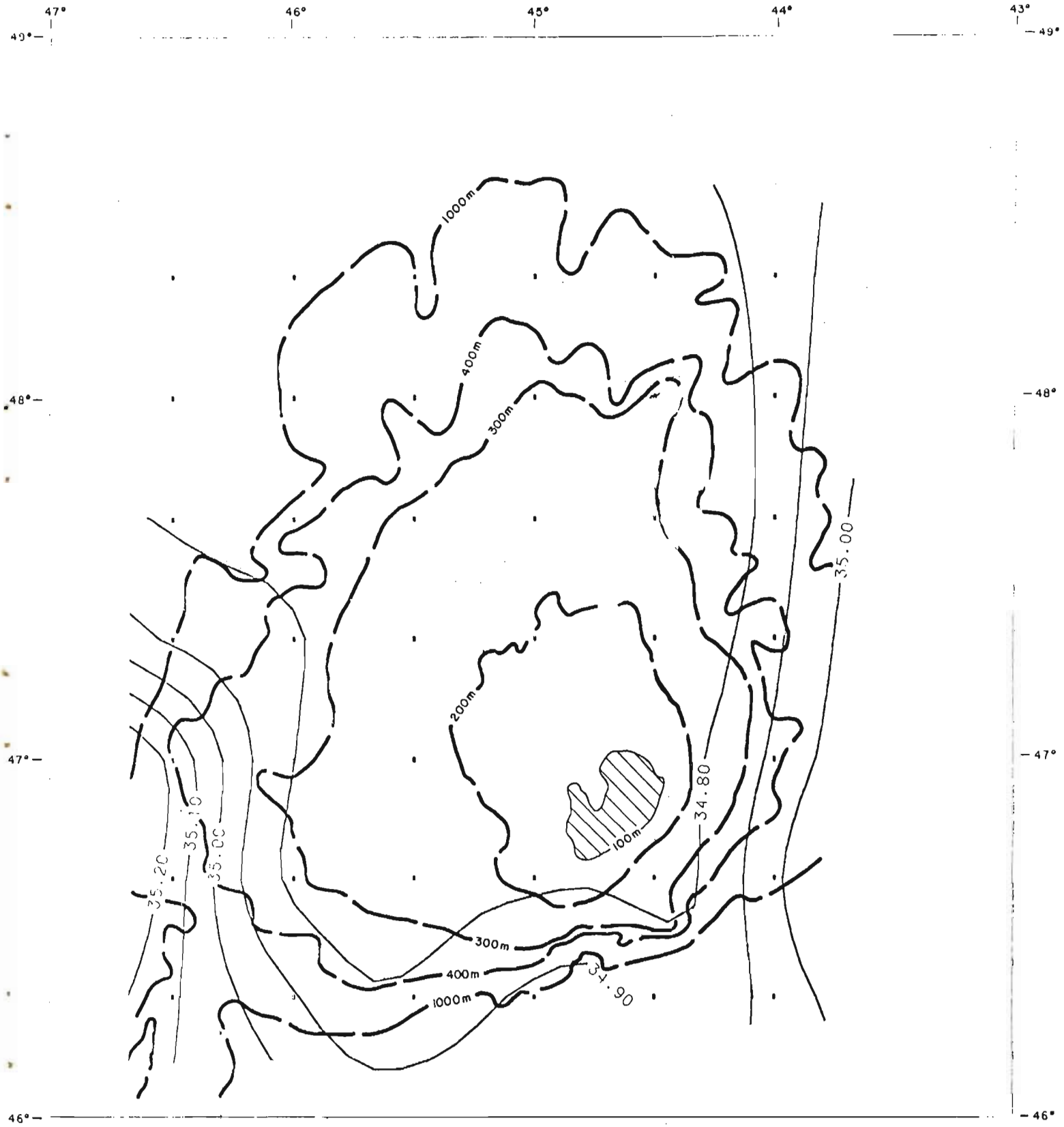

Fig. 25. Salinity contours at 175 meters - GADUS 35 (April 1980).

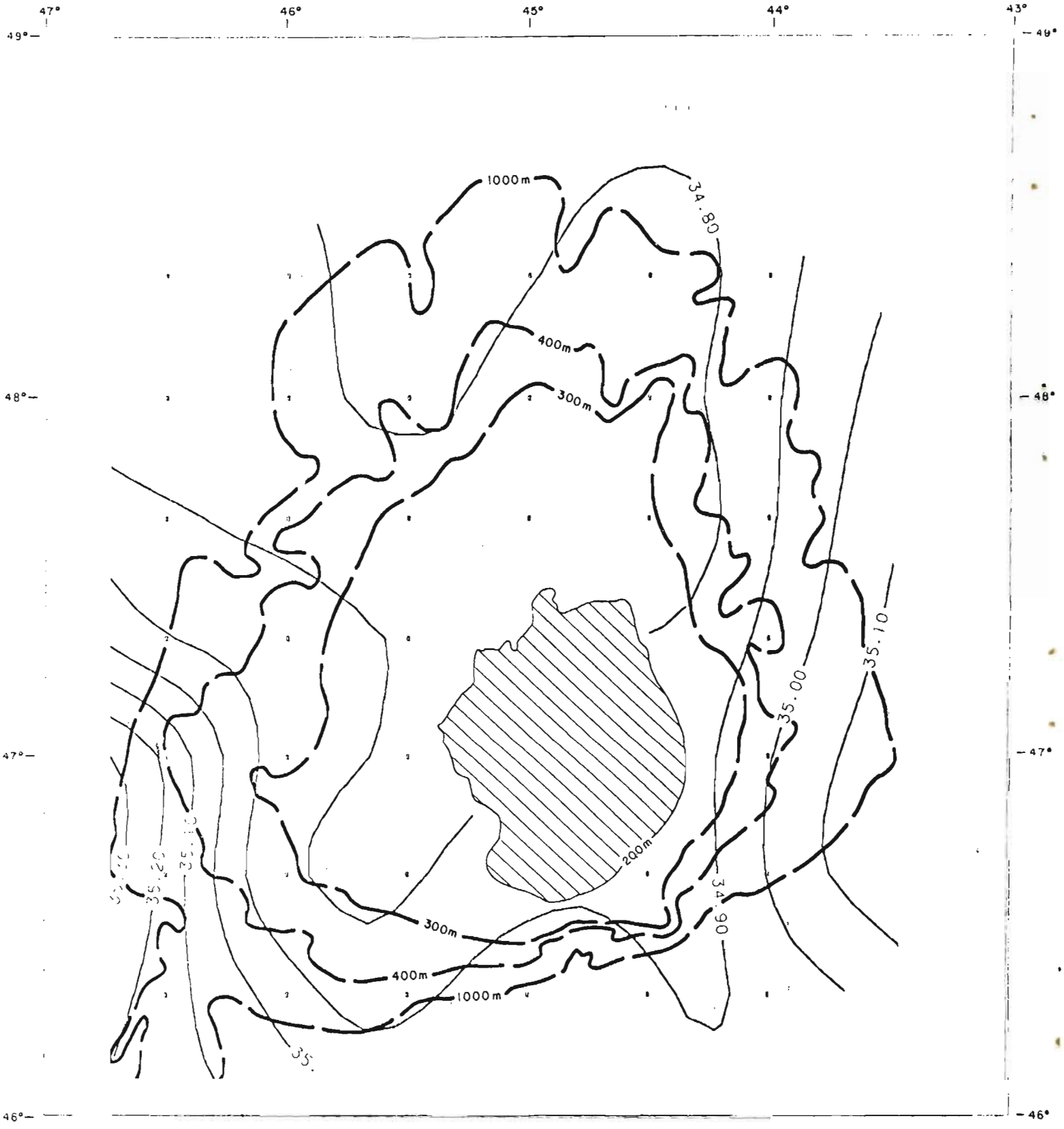

Fig. 26. Salinity contours at 200 meters - GADUS 35 (April 1980).

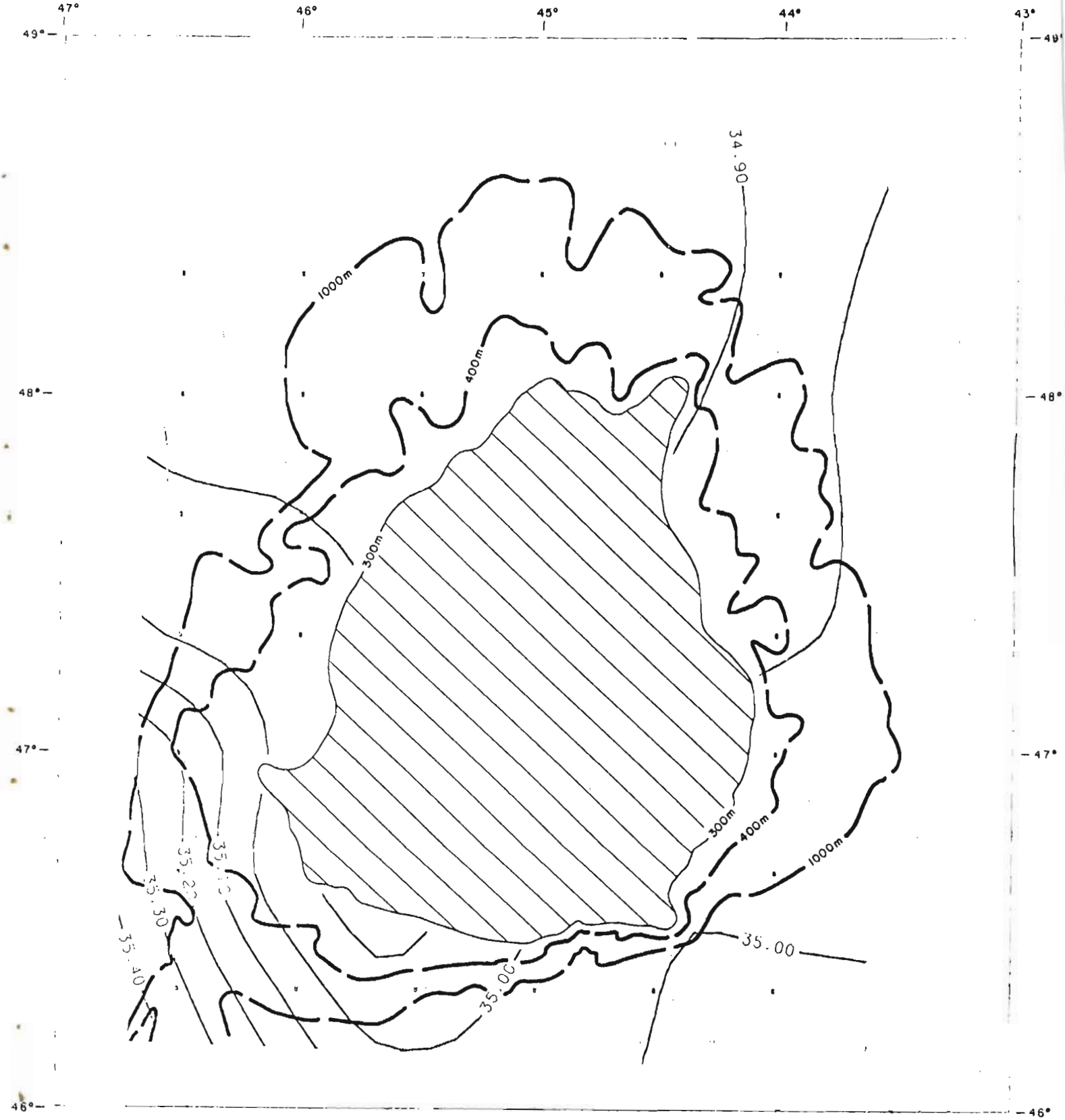

Fig. 27. Salinity contours at 300 meters - GADUS 35 (April 1980).

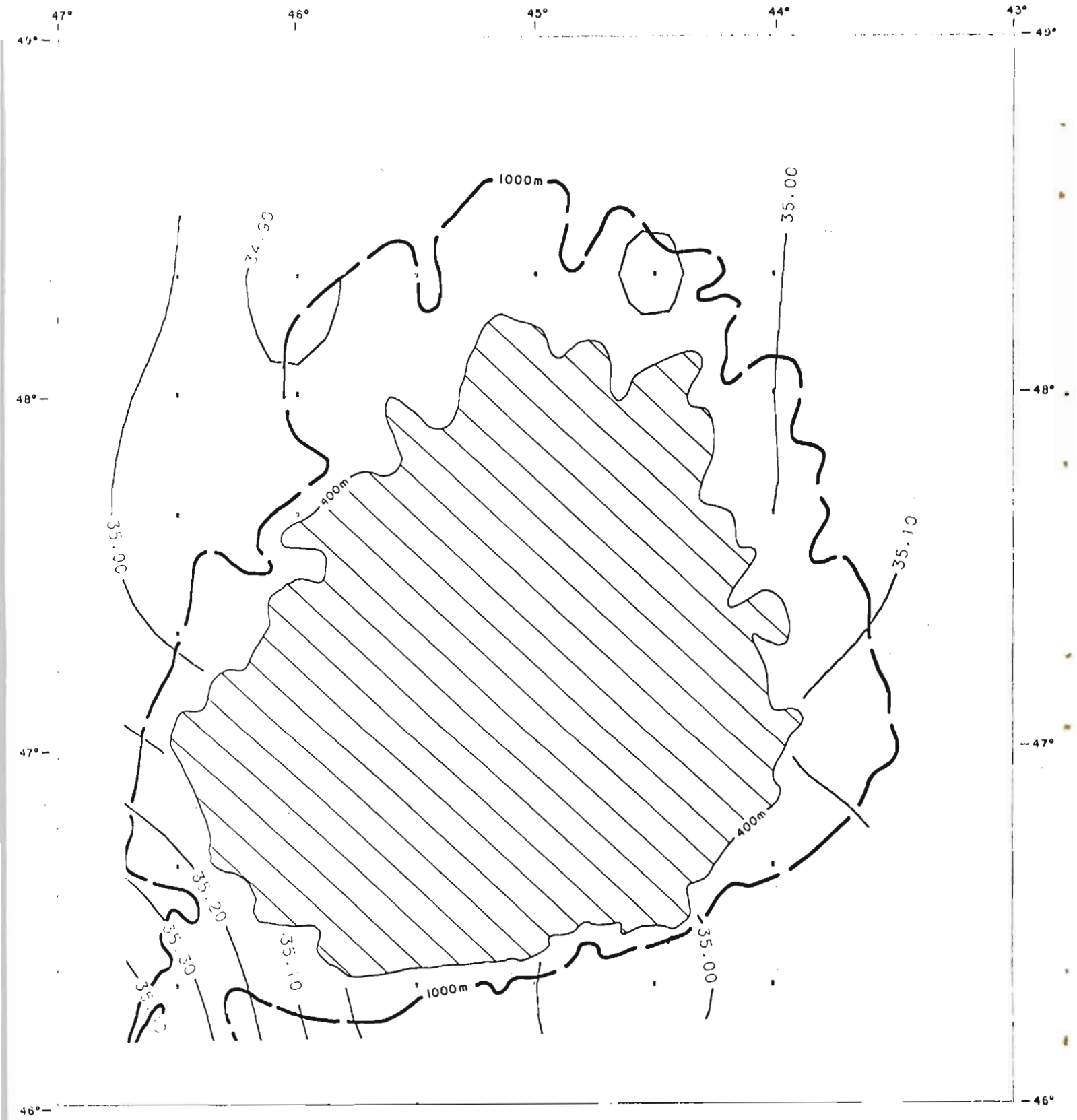

Fig. 28. Salinity contours at 400 meters - GADUS 35 (April 1980).

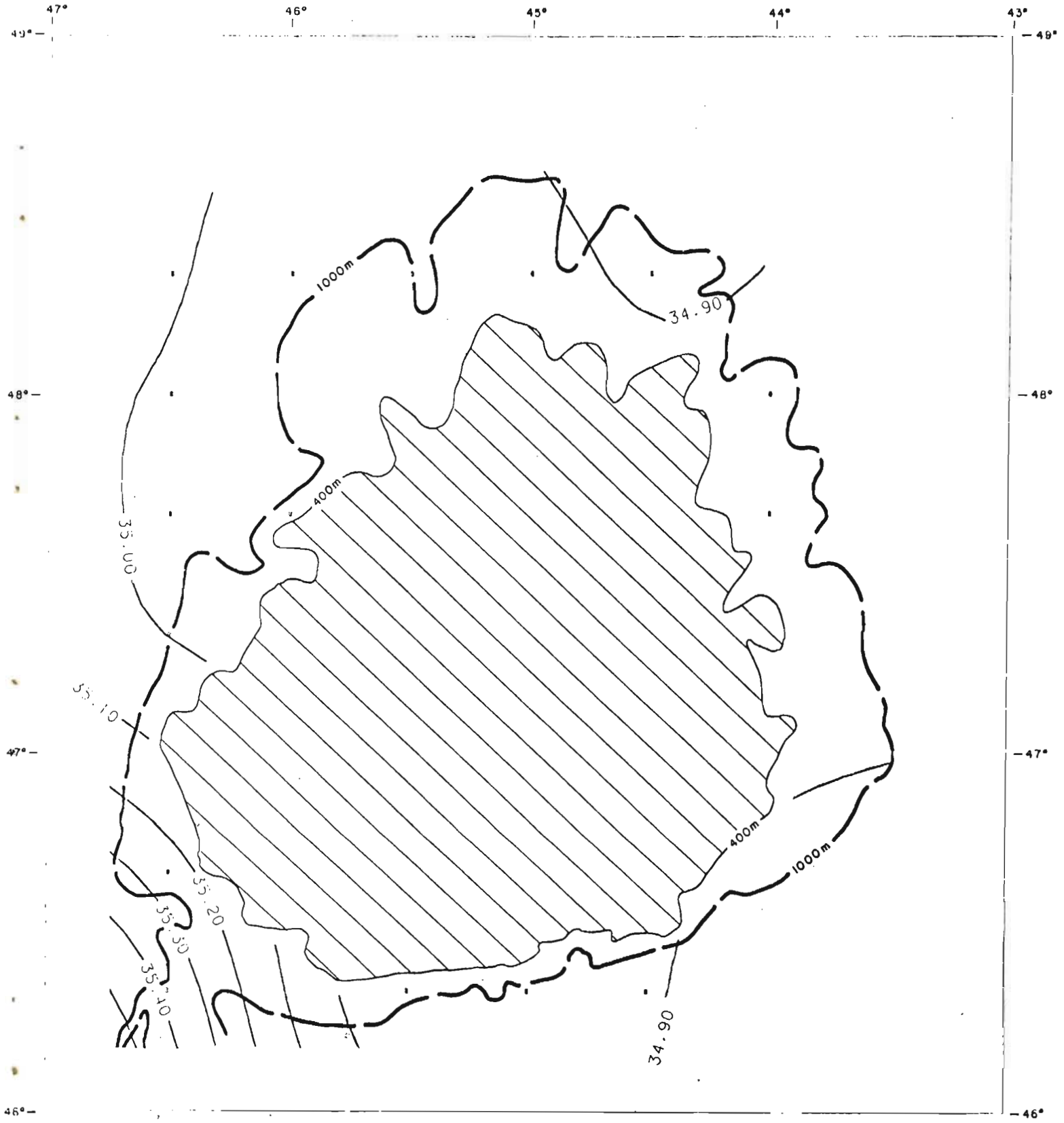

Fig. 29. Salinity contours at 500 meters - GADUS 35 (April 1980).

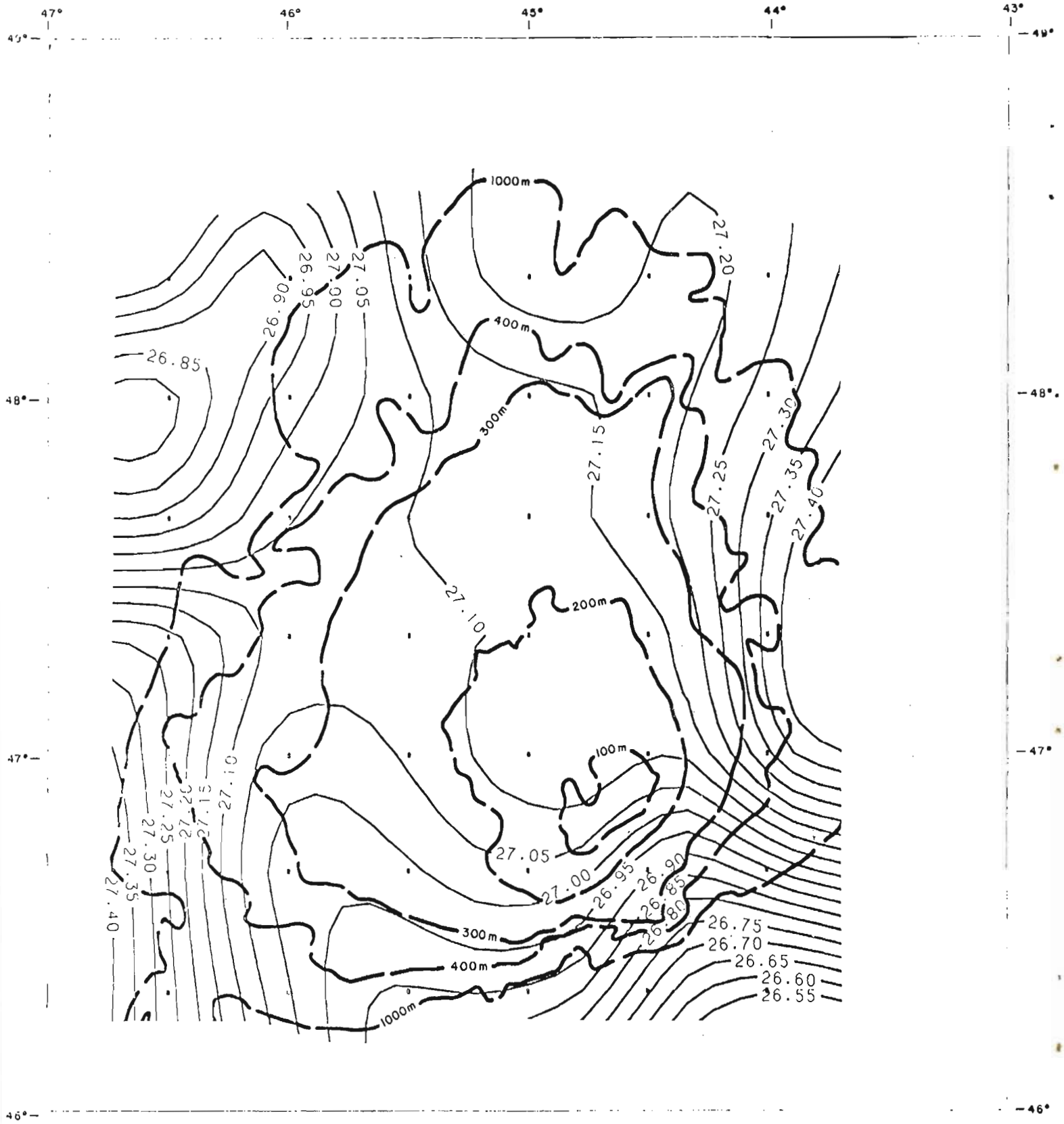

Fig. 30. Density contours at 000 meters - GADUS 35 (April 1980).

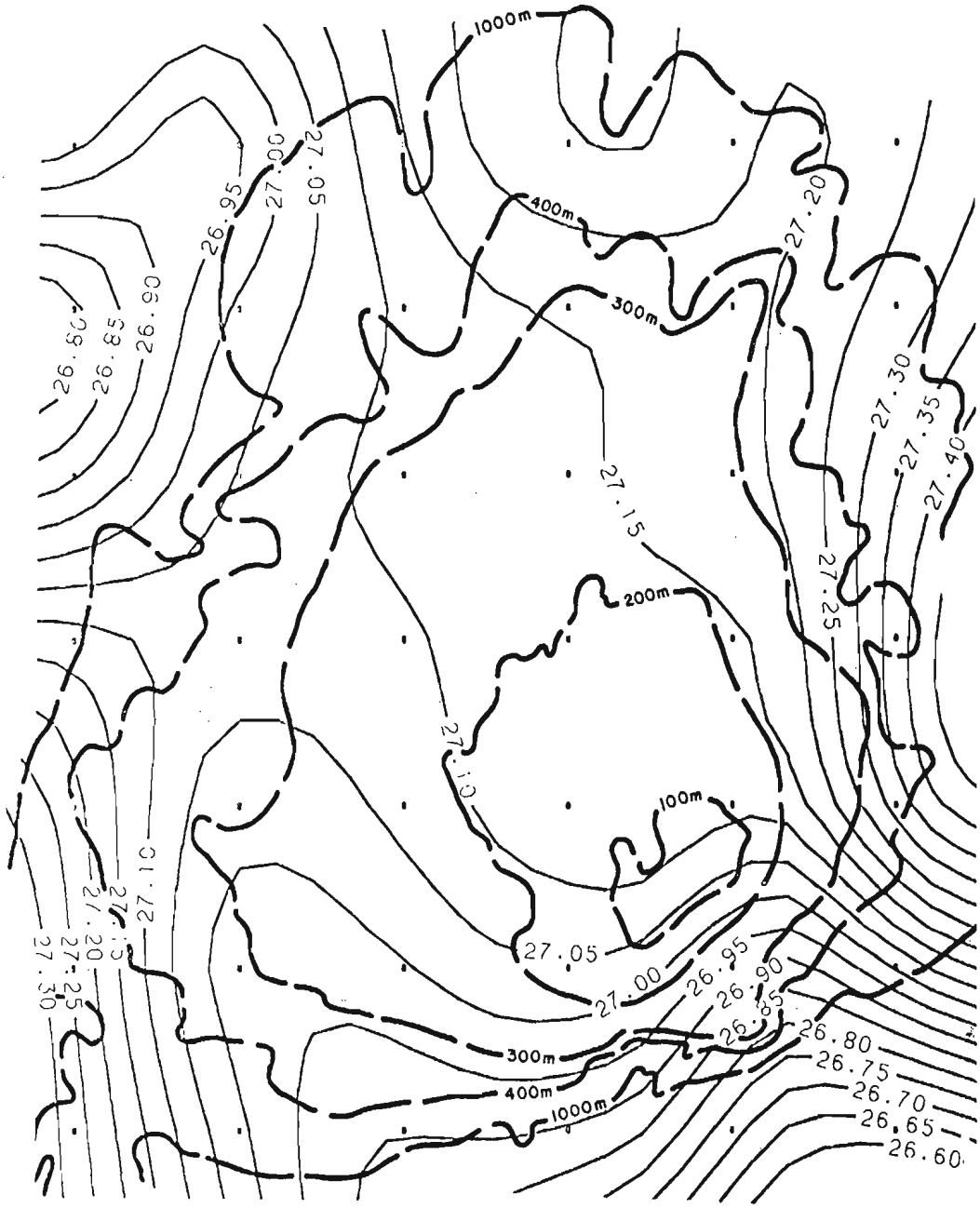

Fig. 31. Density contours at 010 meters - GADUS 35 (April 1980).

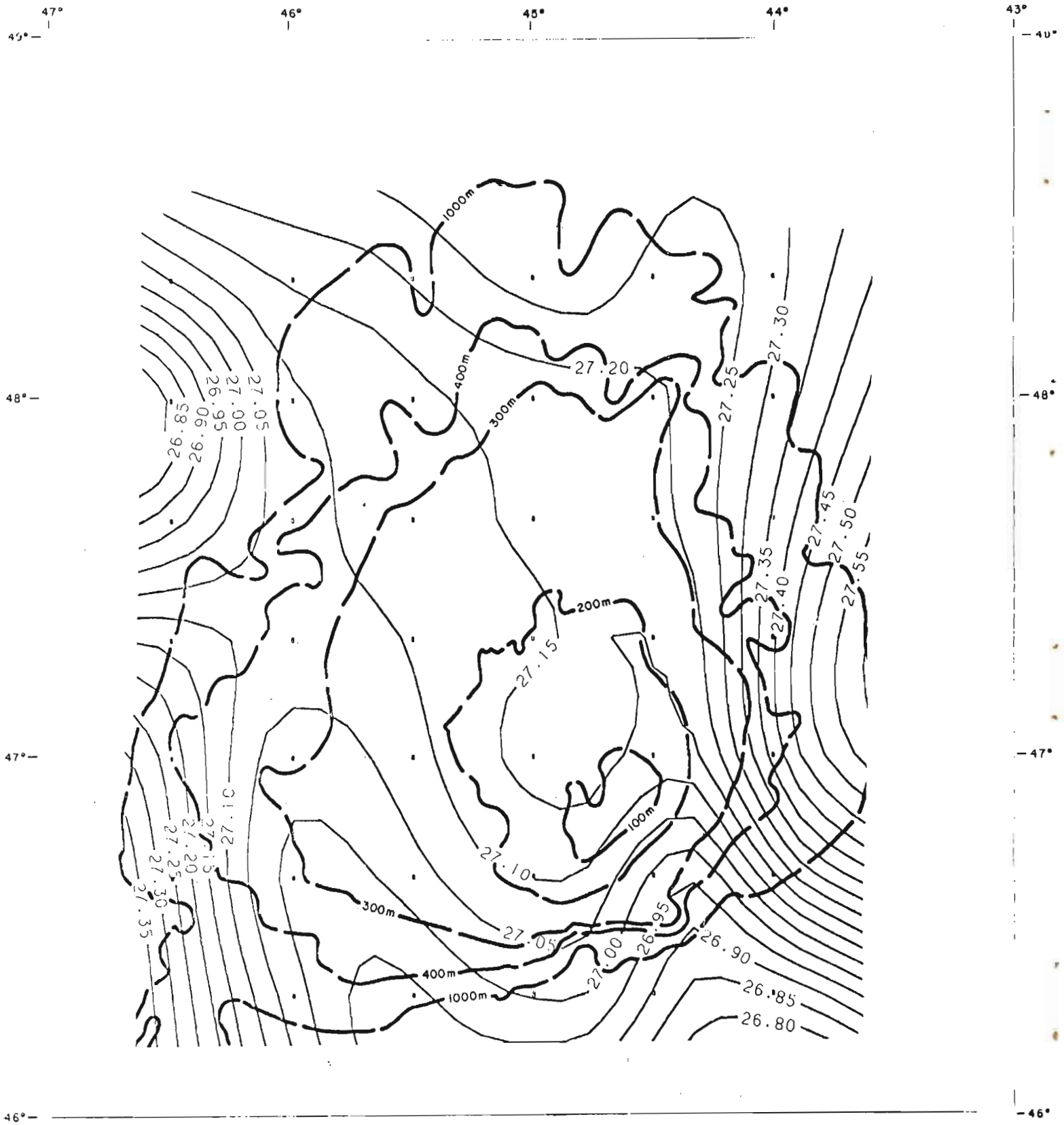

Fig. 32. Density contours at 020 meters - GADUS 35 (April 1980).

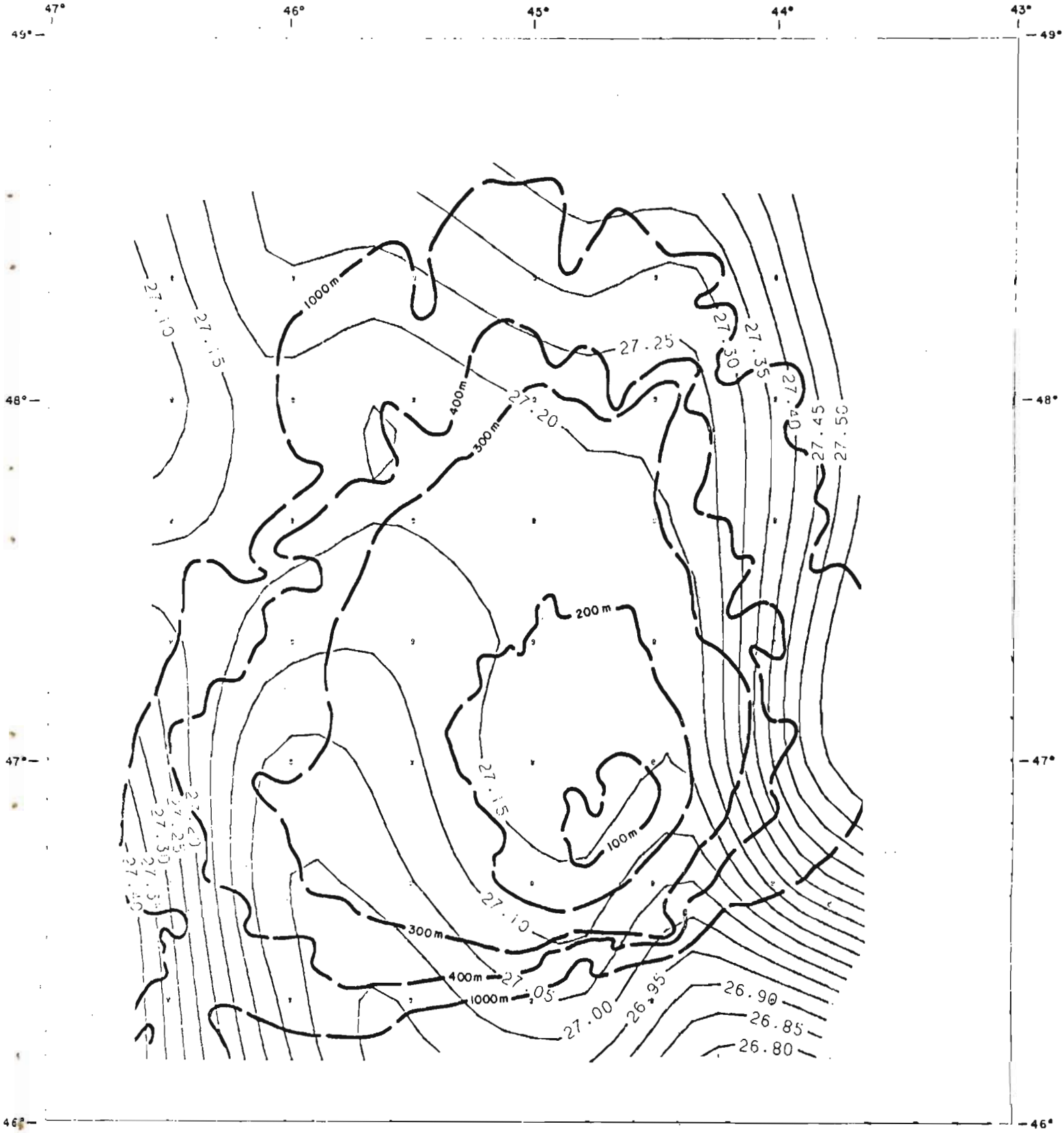

Fig. 33. Density contours at 030 meters - GADUS 35 (April 1980).

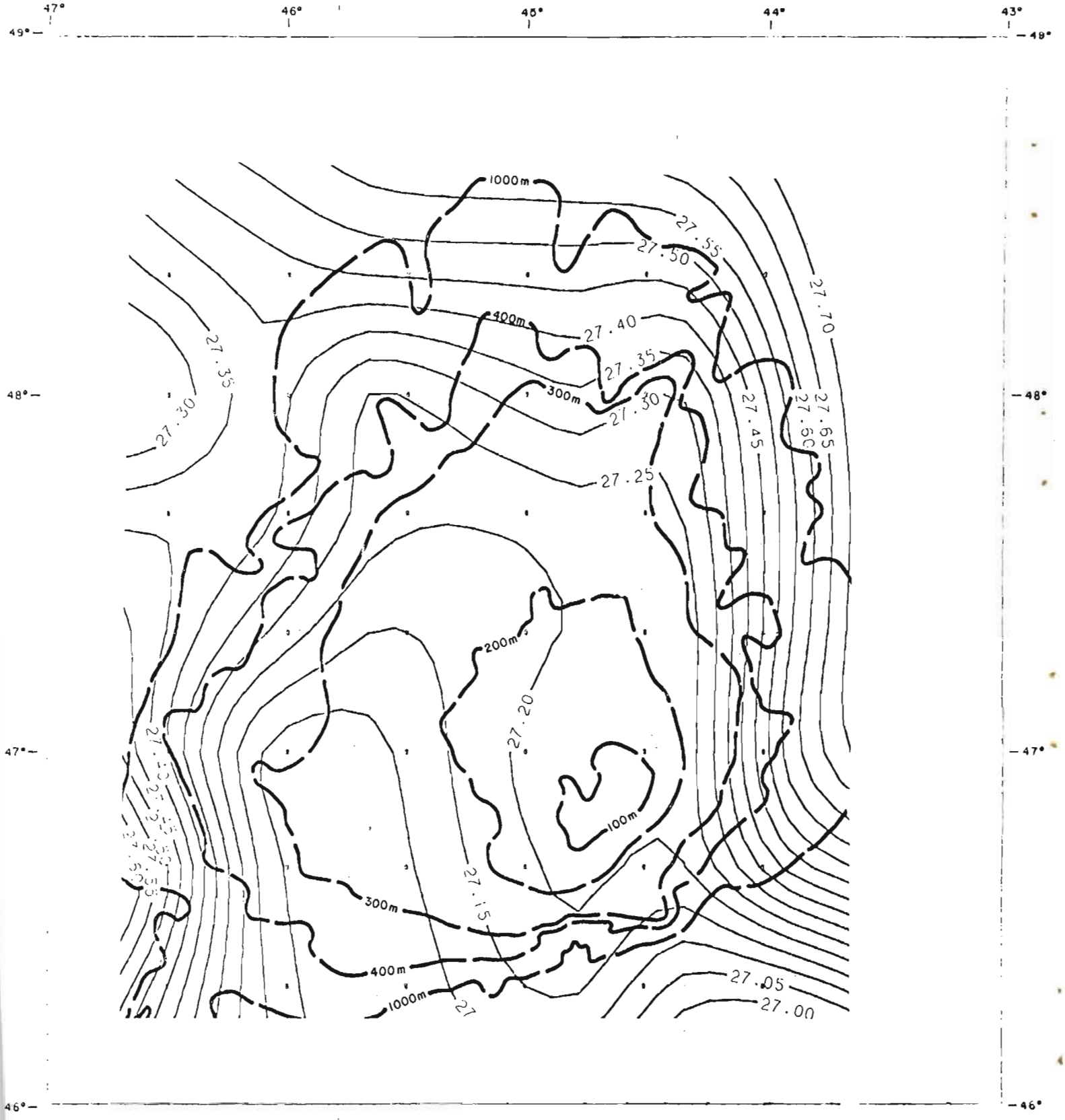

Fig. 34. Density contours at 050 meters - GADUS 35 (April 1980).

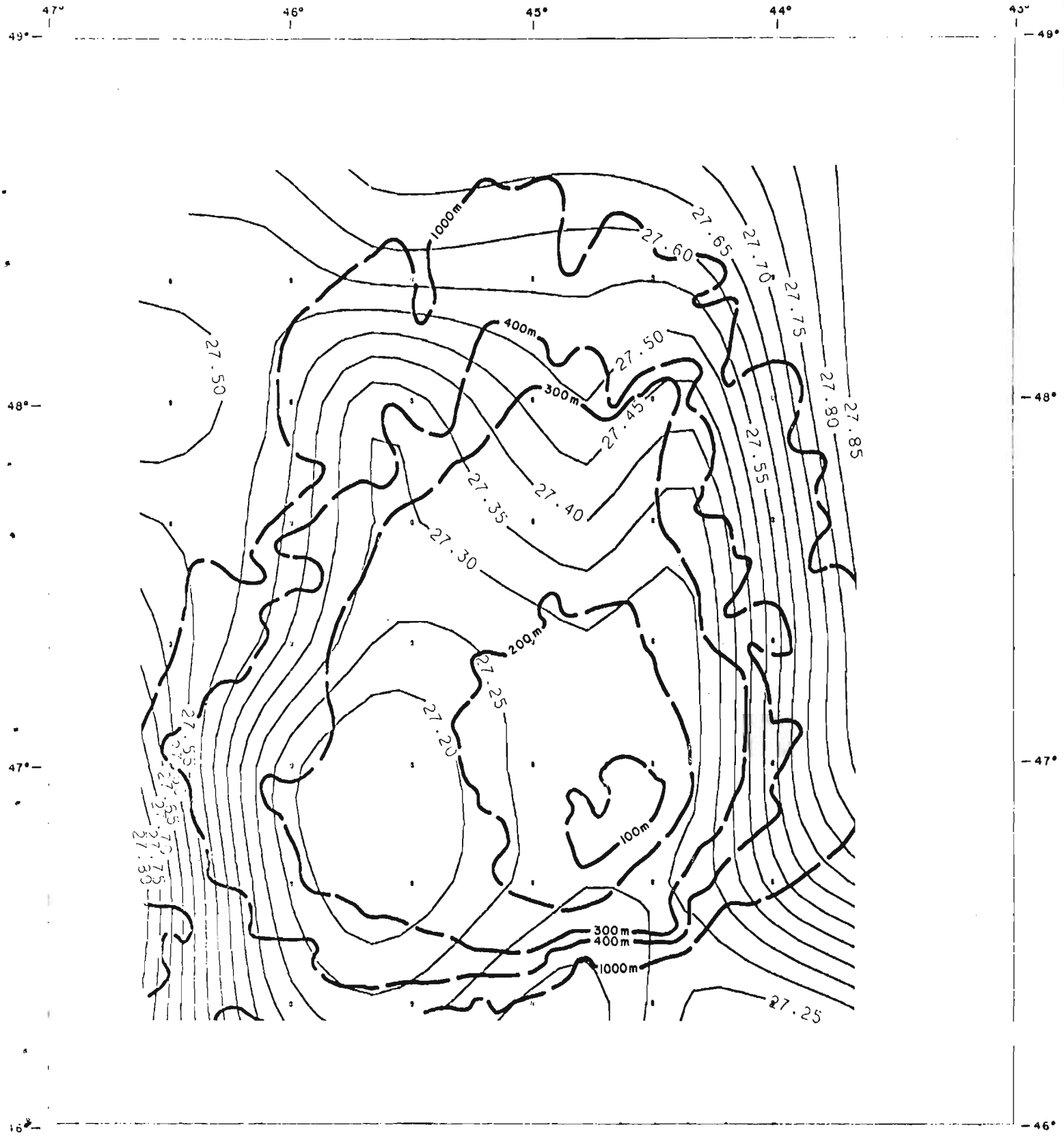

Fig. 35. Density contours at 075 meters - GADUS 35 (April 1980).

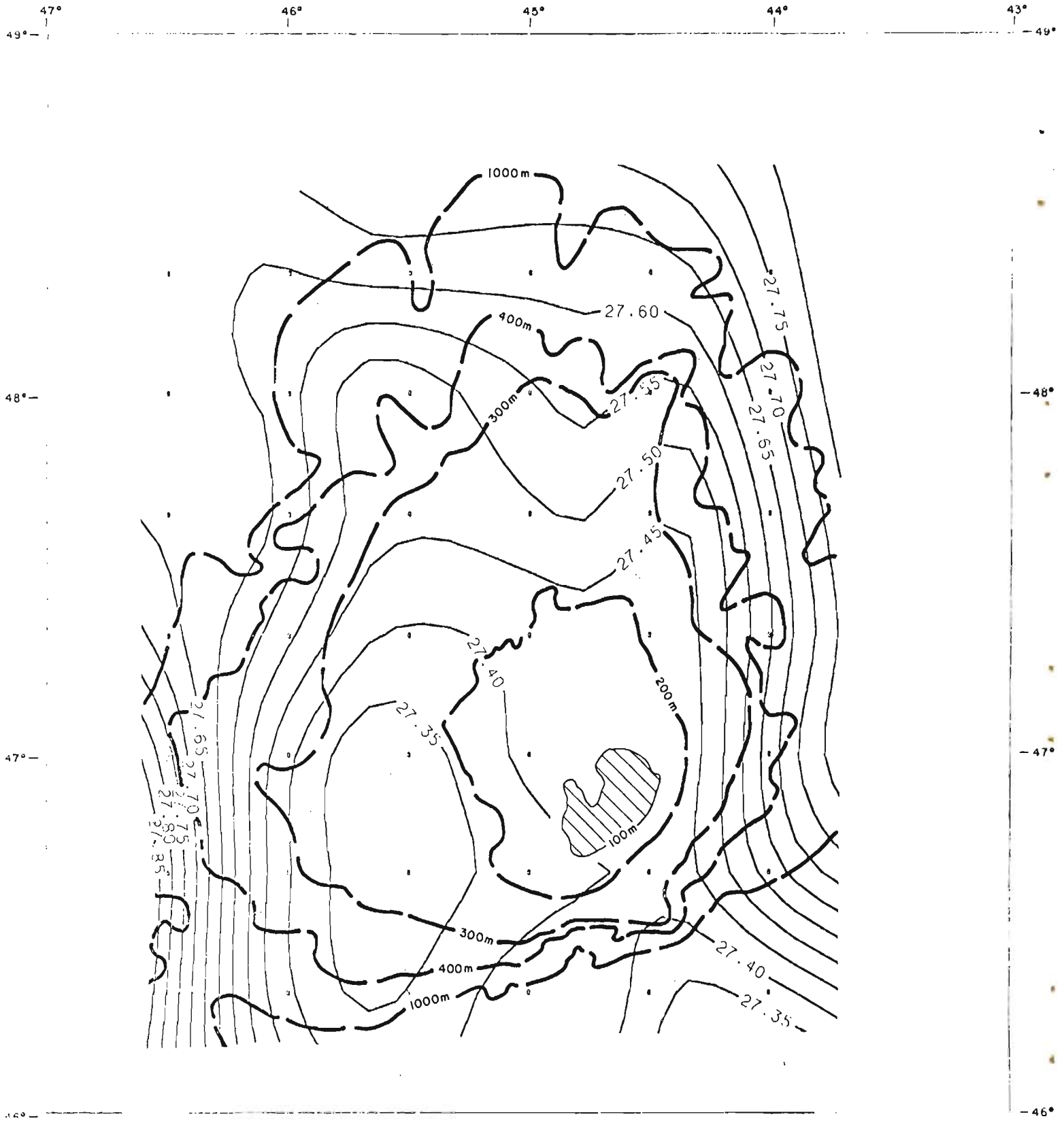

Fig. 36. Density contours at 100 meters - GADUS 35 (April 1980).

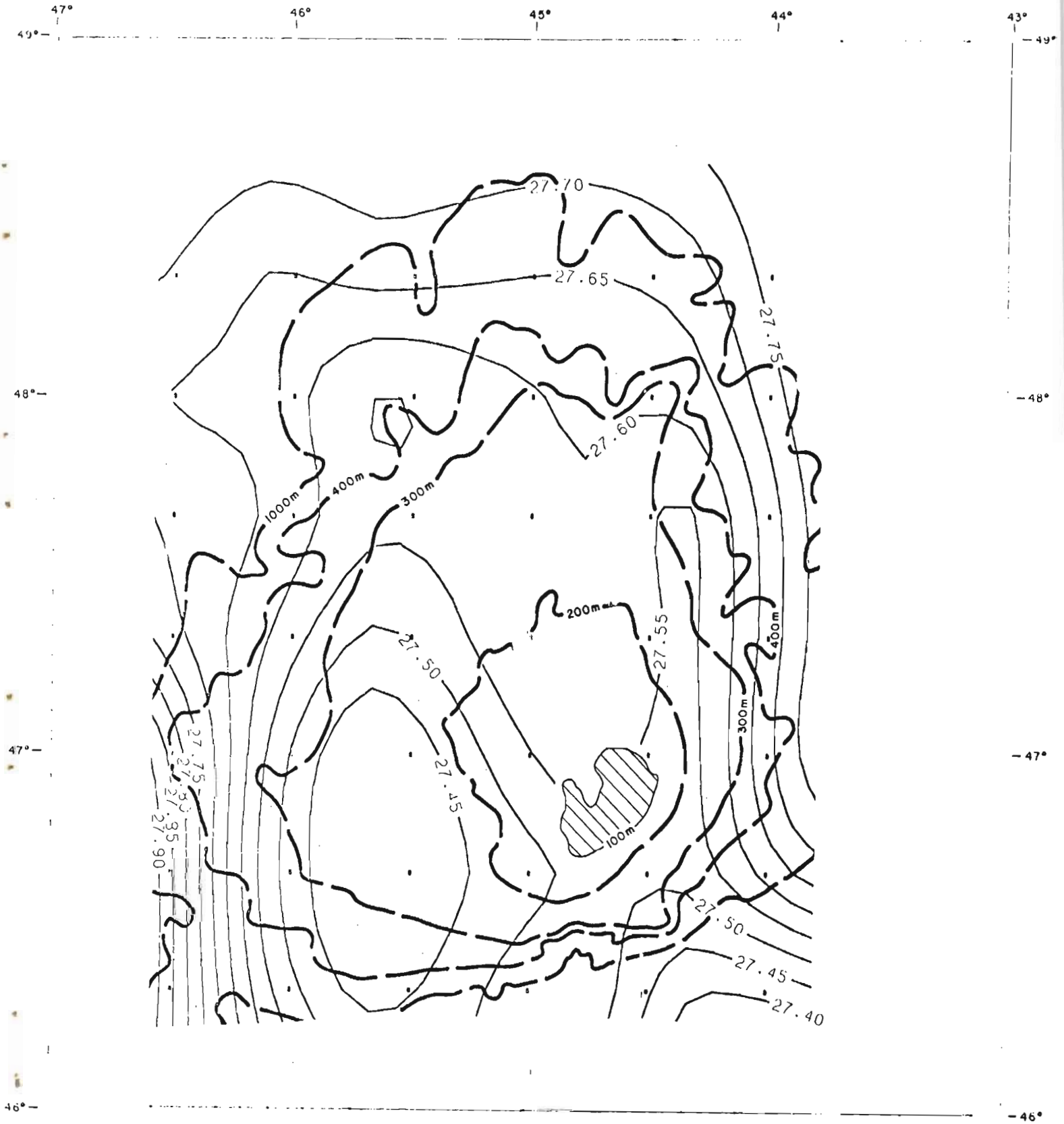

Fig. 37. Density contours at 125 meters - GADUS 35 (April 1980).

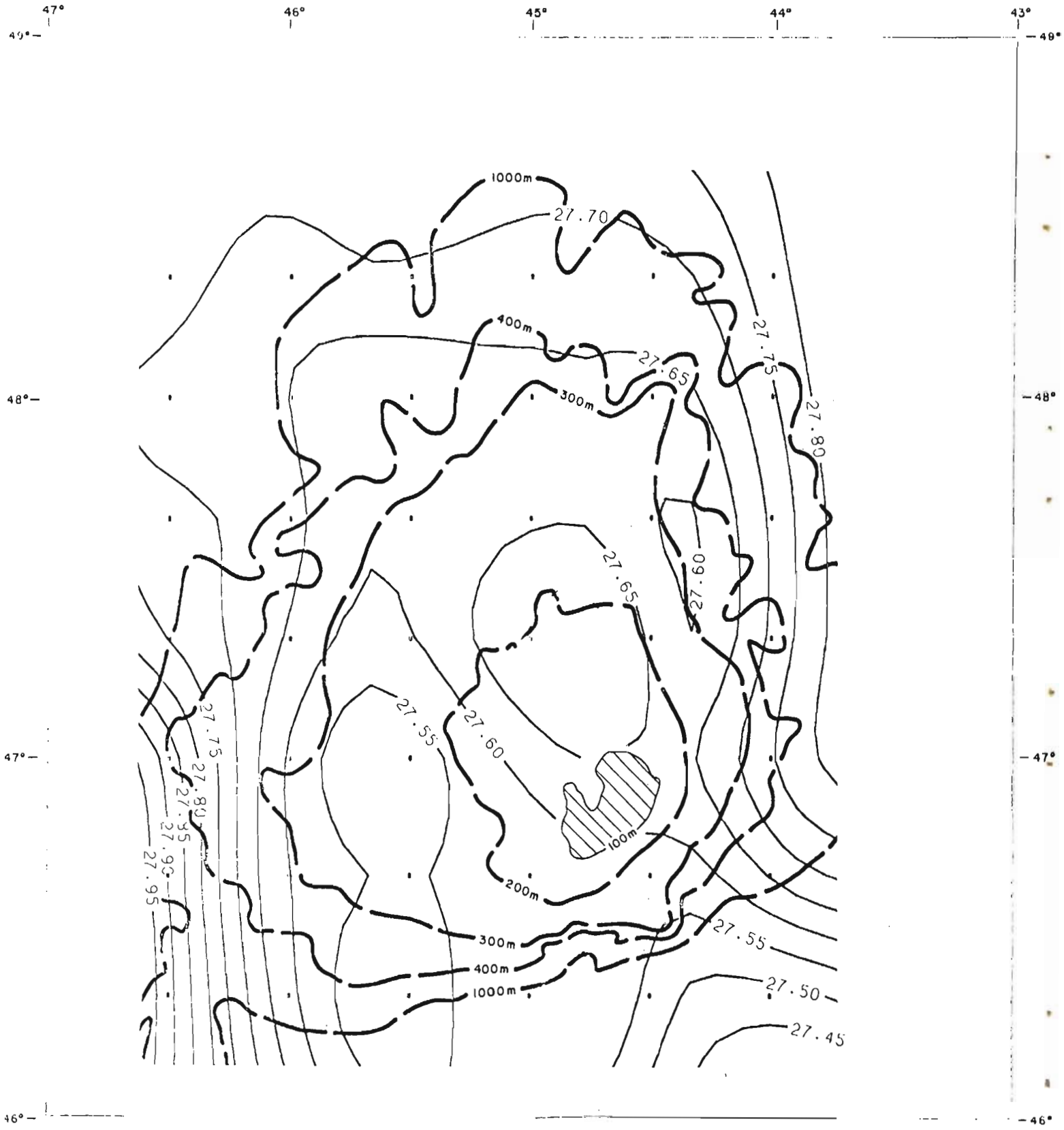

Fig. 38. Density contours at 150 meters - GADUS 35 (April 1980).

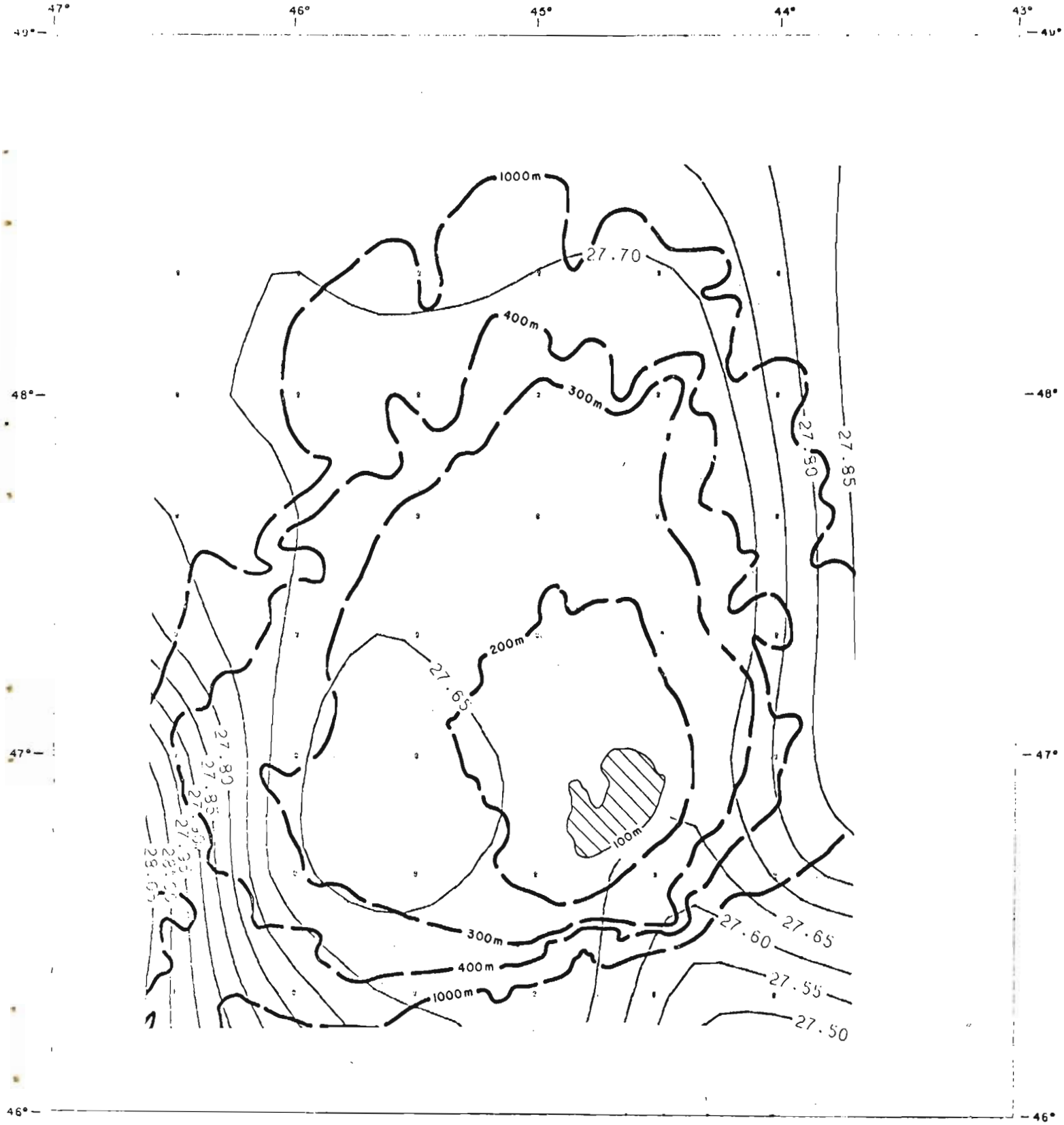

Fig. 39. Density contours at 175 meters - GADUS 35 (April 1980).

Fig. 40. Density contours at 200 meters - GADUS 35 (April 1980).

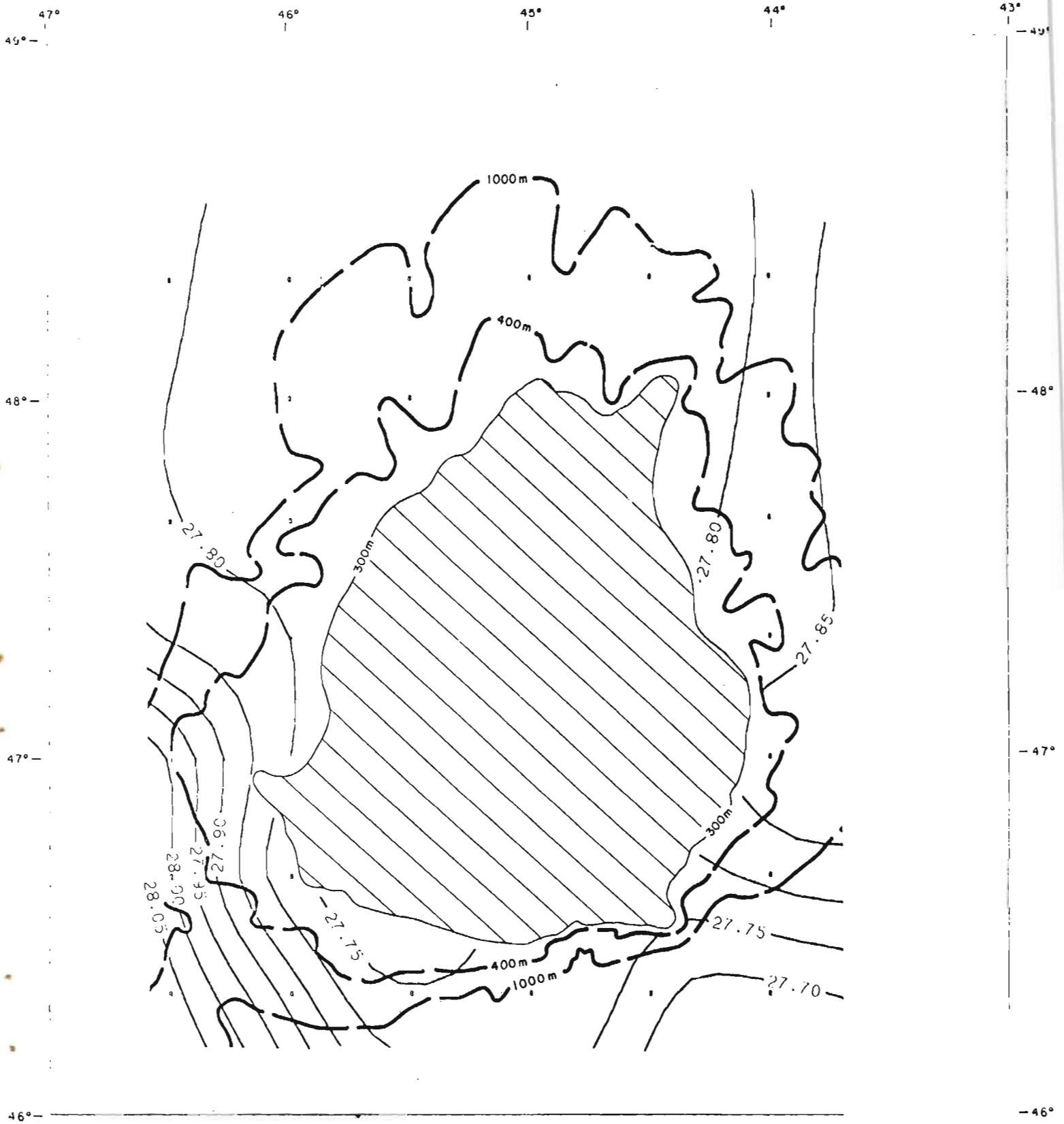

Fig. 41. Density contours at 300 meters - GADUS 35 (April 1980).

Fig. 42. Density contours at 400 meters - GADUS 35 (April 1980).

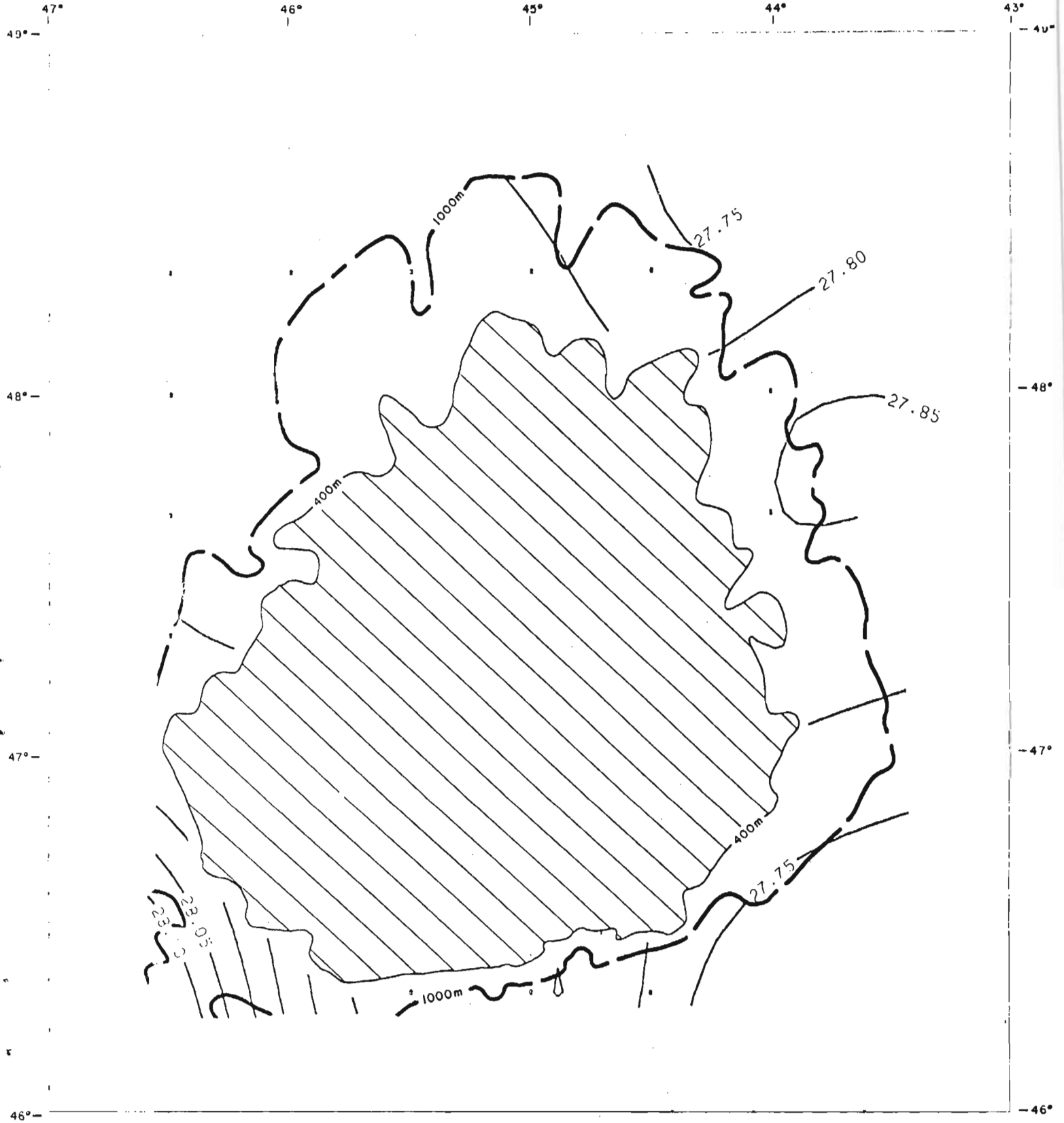

Fig. 43. Density contours at 500 meters - GADUS 35 (April 1980).

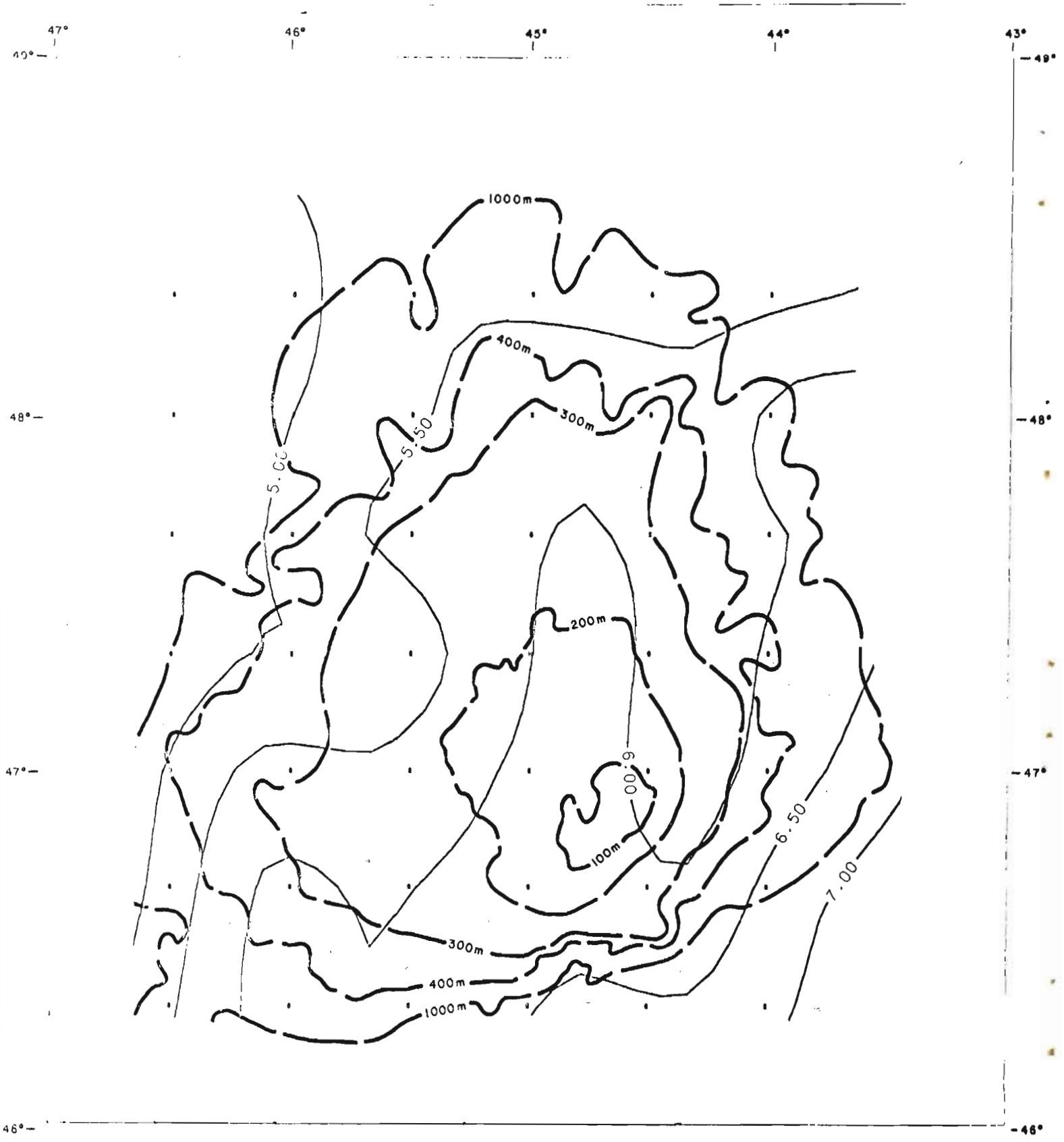

Fig. 44. Temperature contours at 000 meters - GADUS 37 (May 1980).

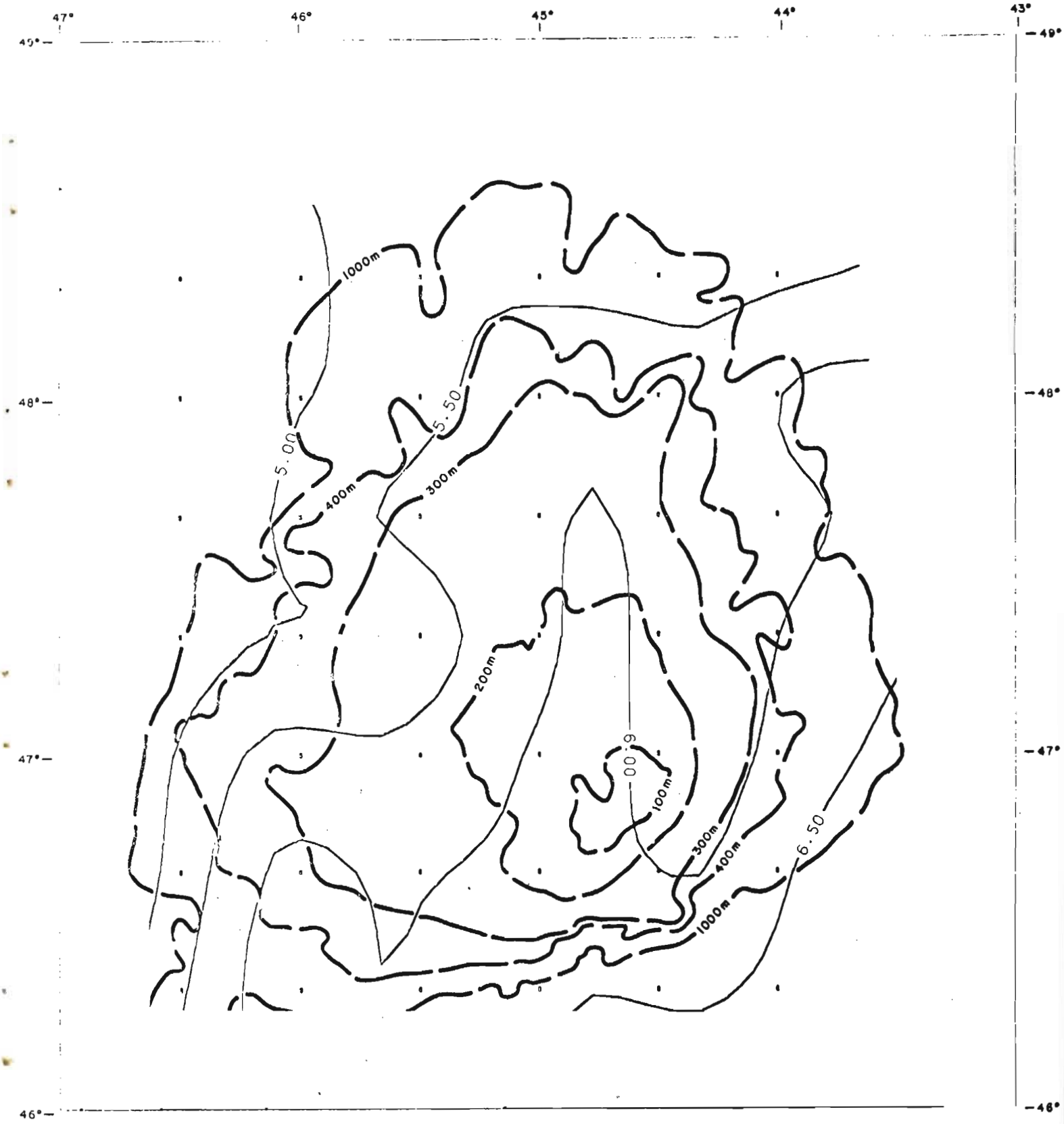

Fig. 45. Temperature contours at 010 meters - GADUS 37 (May 1980).

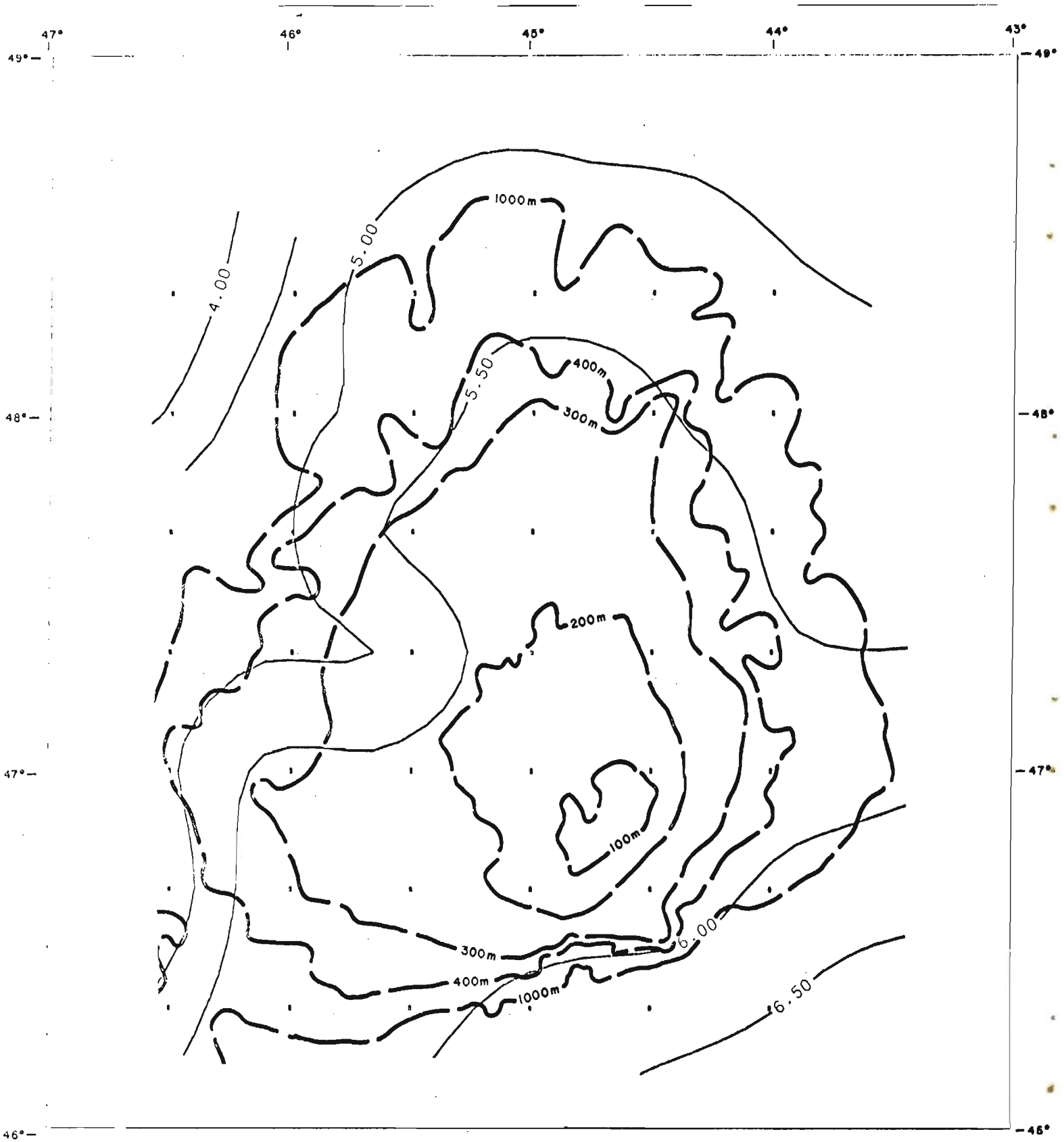

Fig. 46. Temperature contours at 020 meters - GADUS 37 (May 1980).

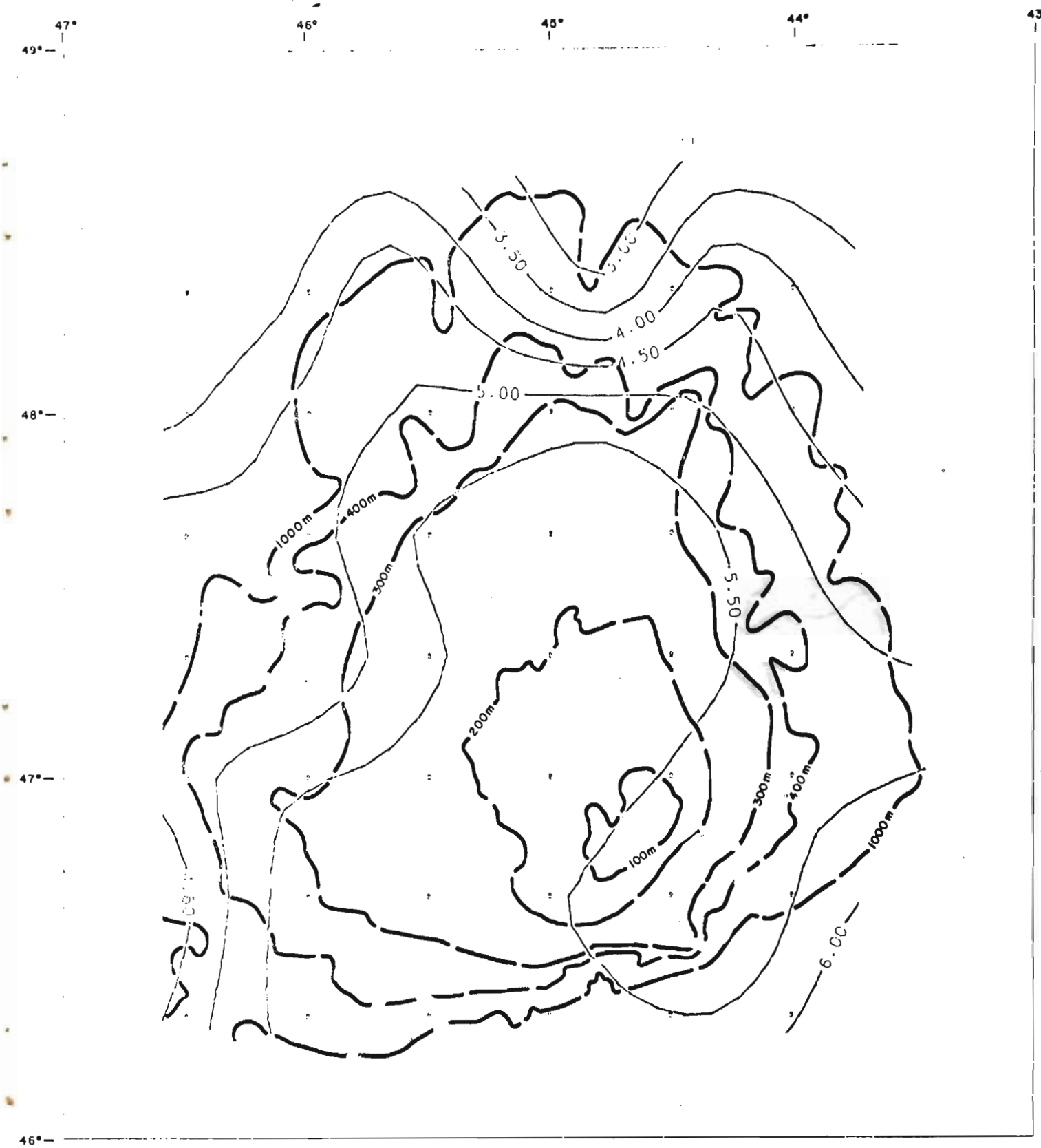

Fig. 47. Temperature contours at 030 meters - GADUS 37 (May 1980).

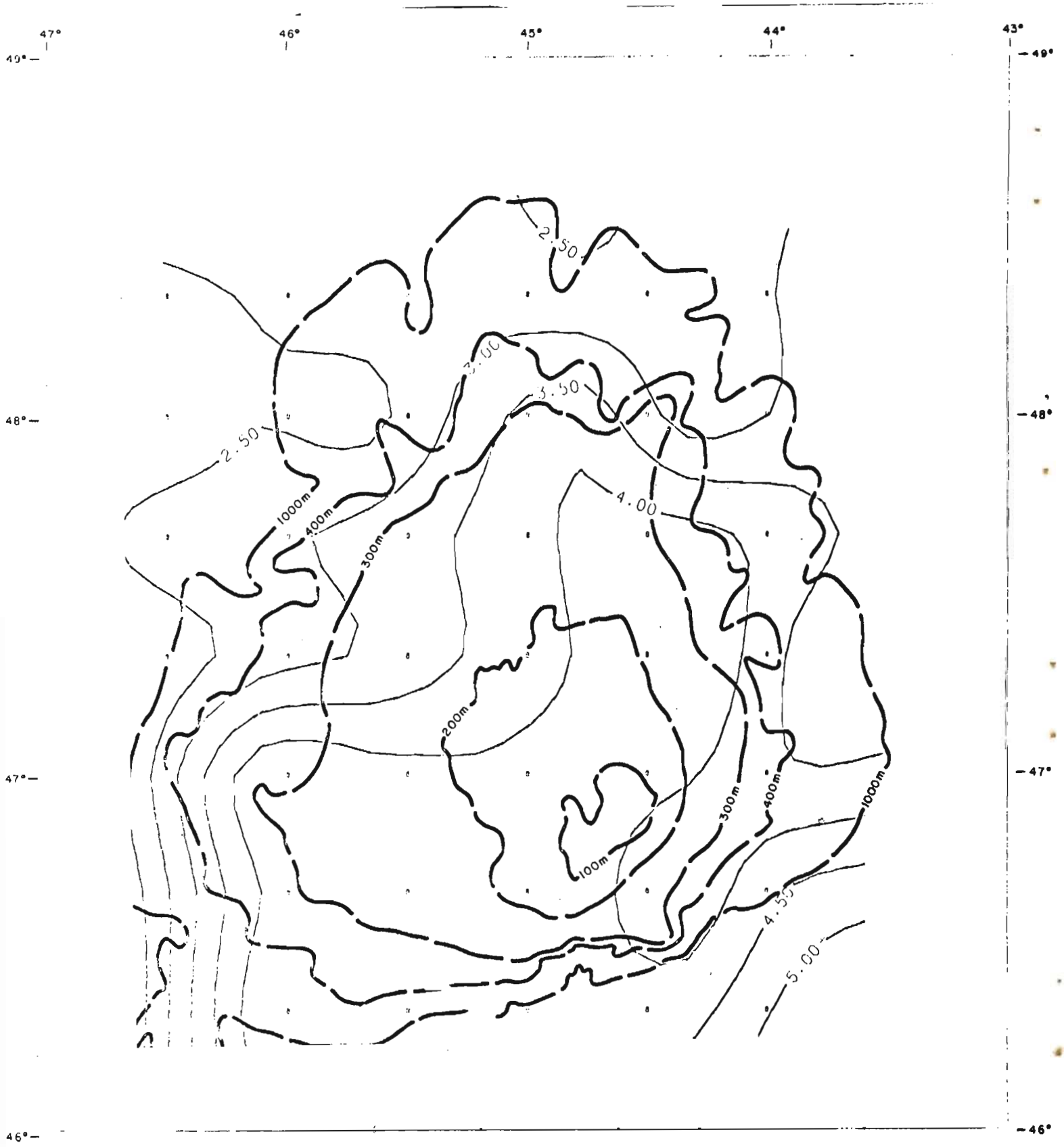

Fig. 48. Temperature contours at 050 meters - GADUS 37 (May 1980).

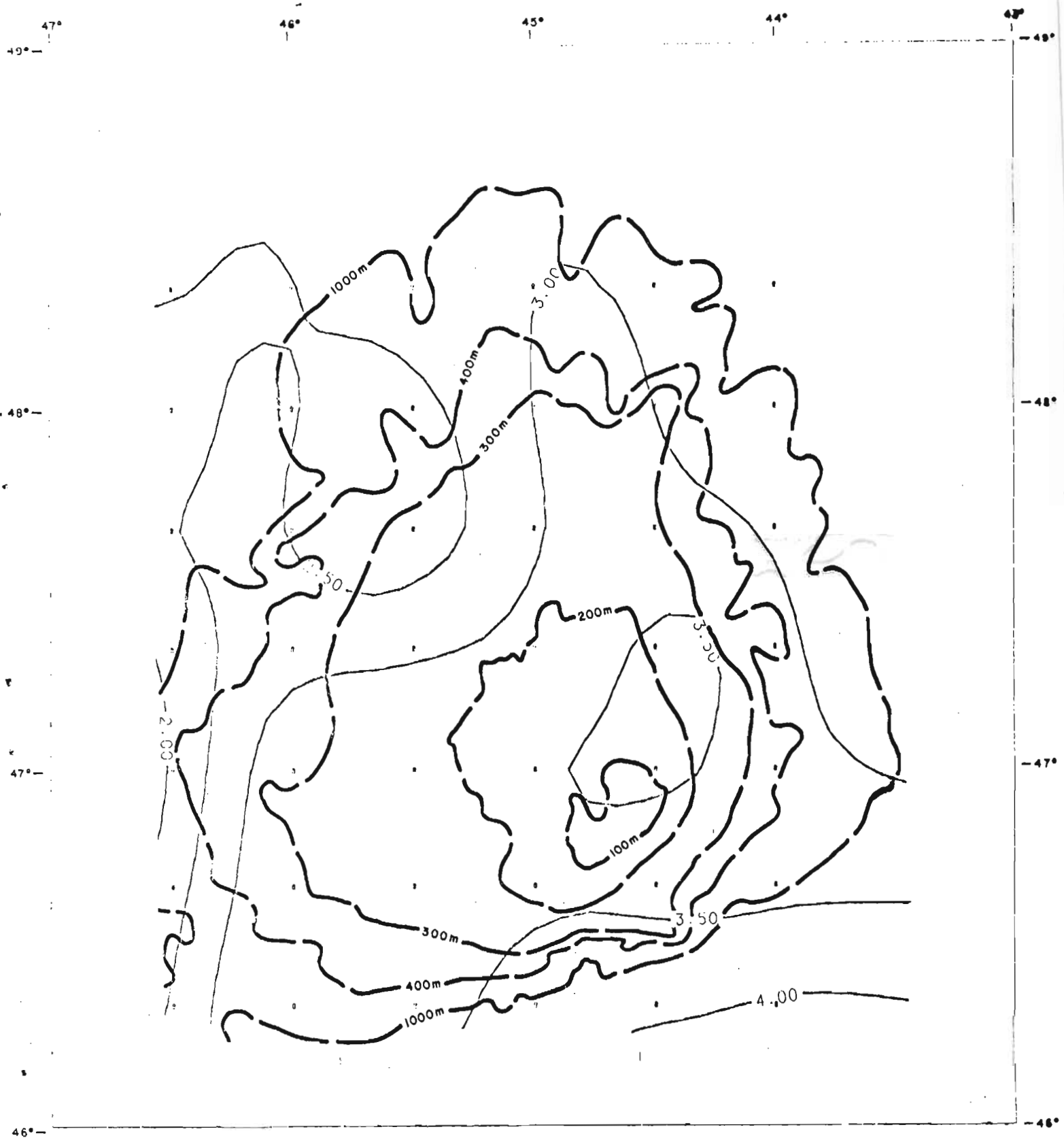

Fig. 49. Temperature contours at 075 meters - GADUS 37 (May 1980).

Fig. 50. Temperature contours at 100 meters - GADUS 37 (May 1980).

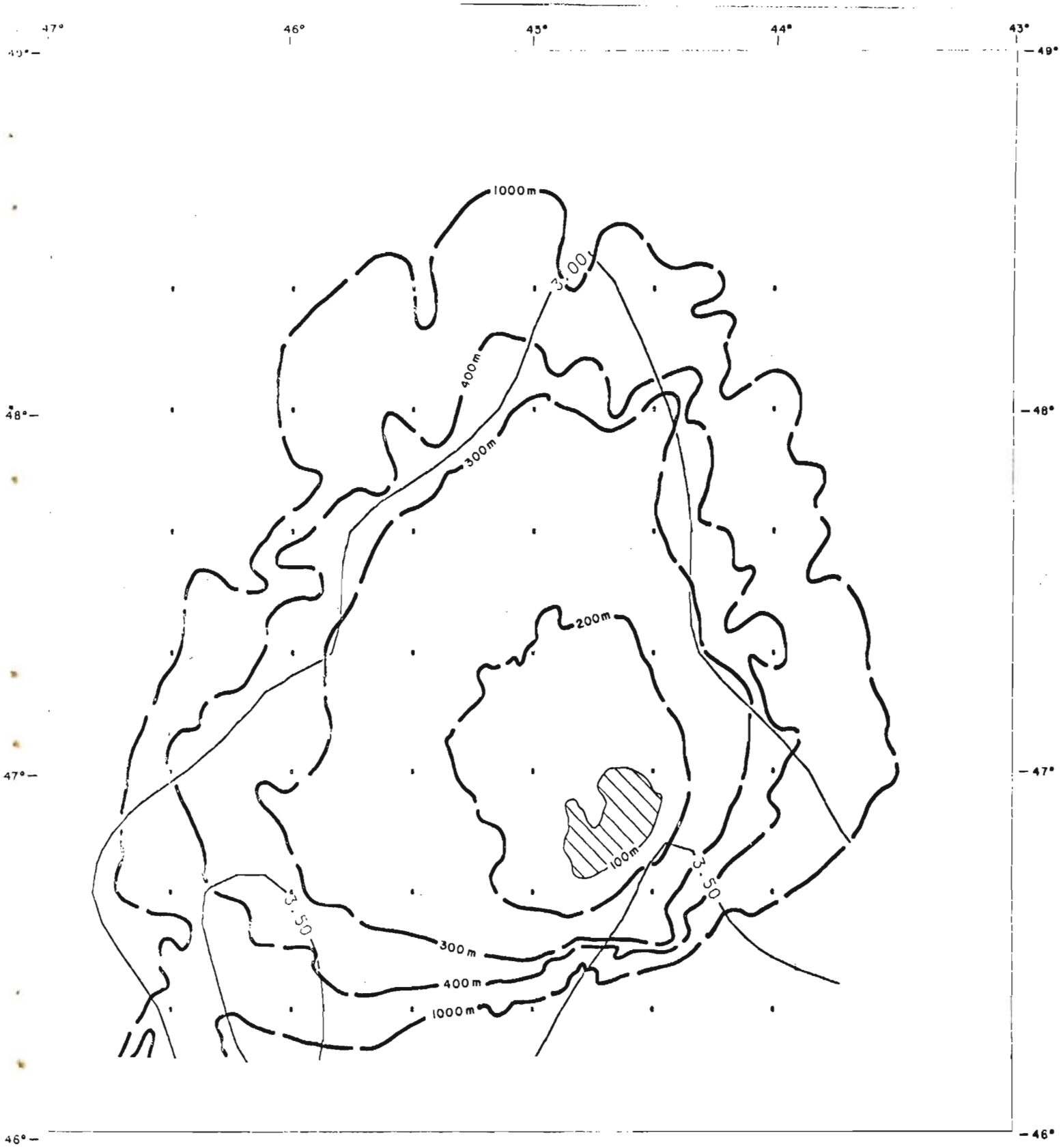

Fig. 51. Temperature contours at 125 meters - GADUS 37 (May 1980).

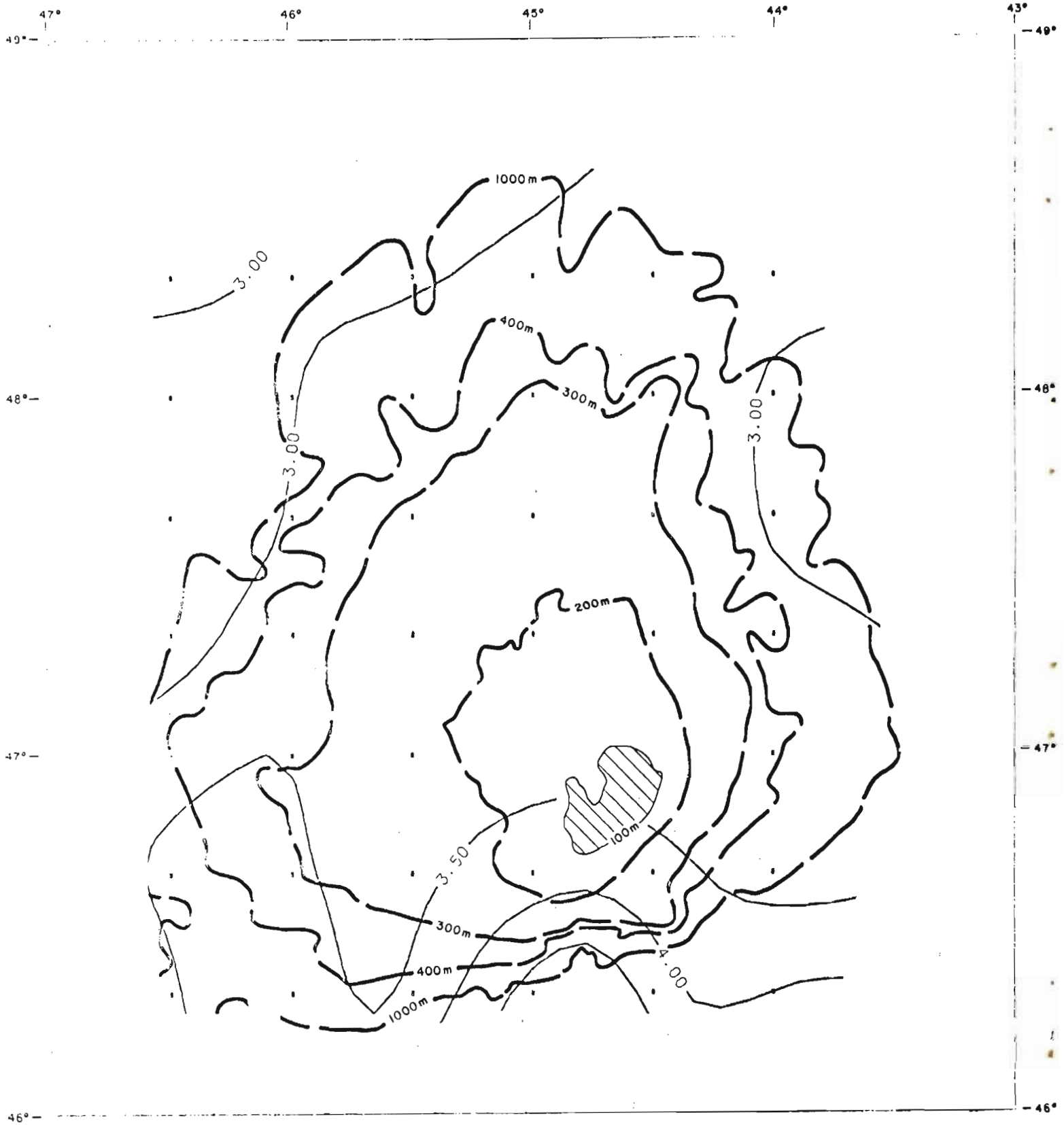

Fig. 52. Temperature contours at 150 meters - GADUS 37 (May 1980).

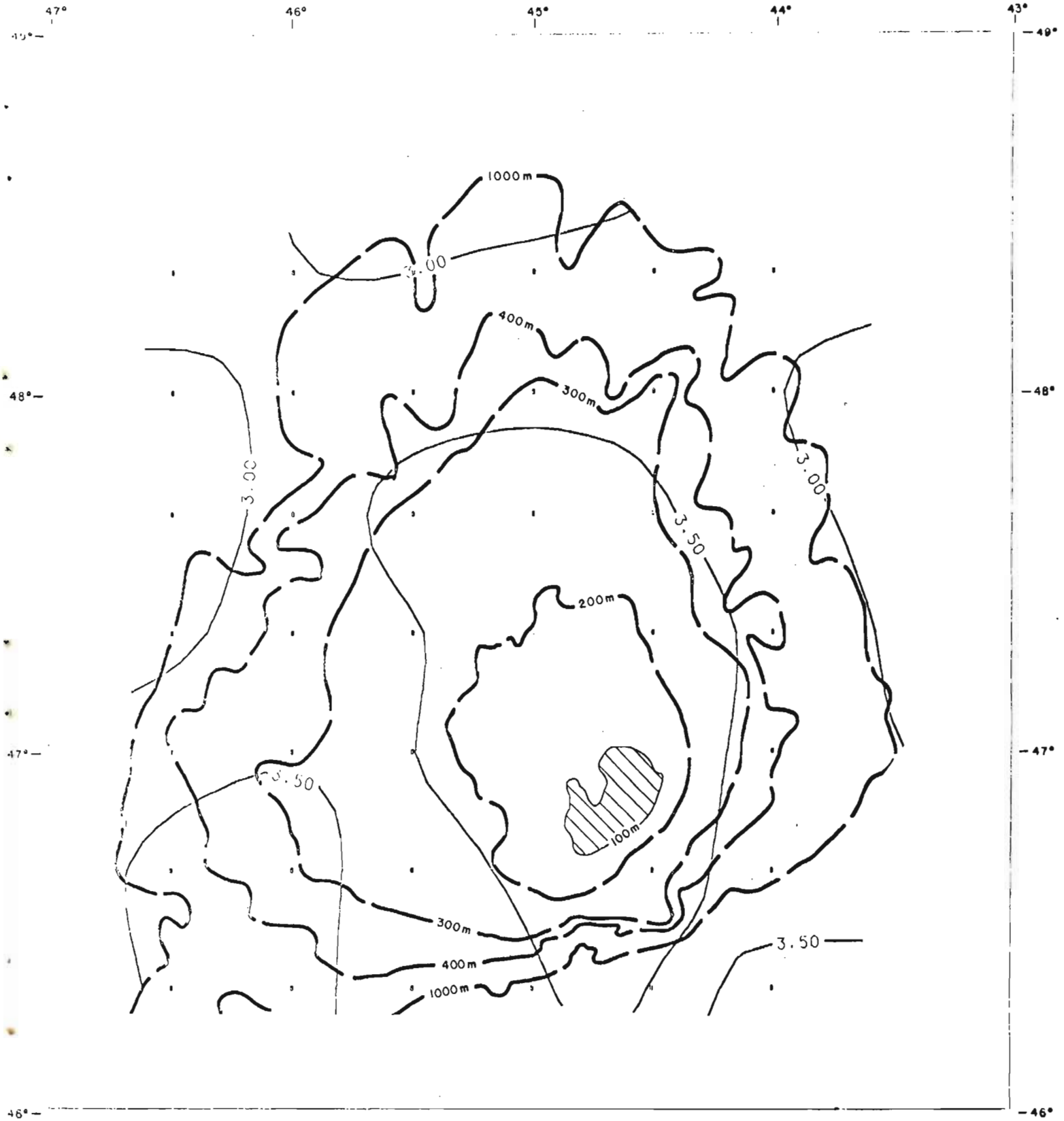

Fig. 53. Temperature contours at 175 meters - GADUS 37 (May 1980).

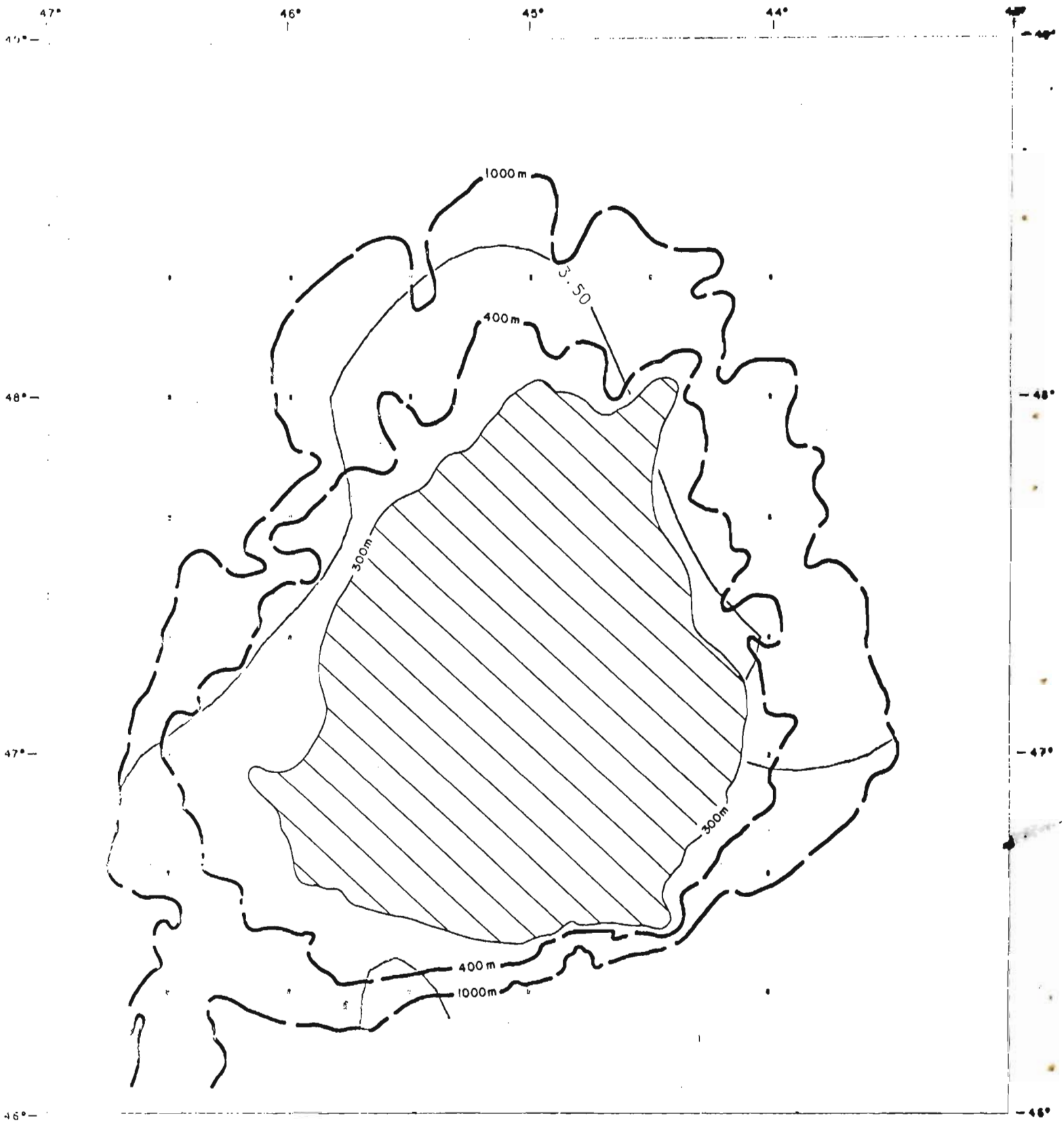

Fig. 54. Temperature contours at 300 meters - GADUS 37 (May 1980).

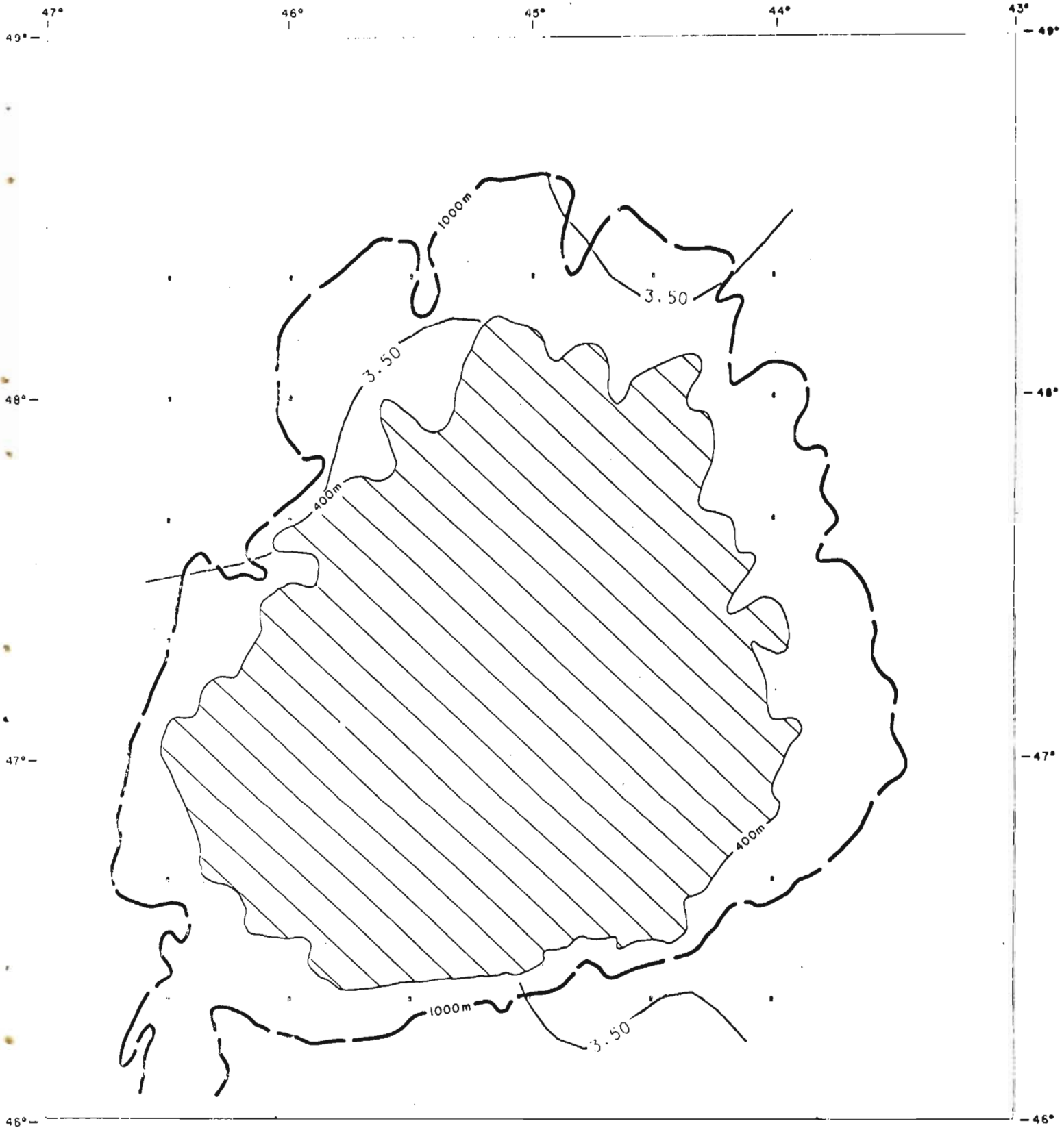

Fig. 55. Temperature contours at 400 meters - GADUS 37 (May 1980).

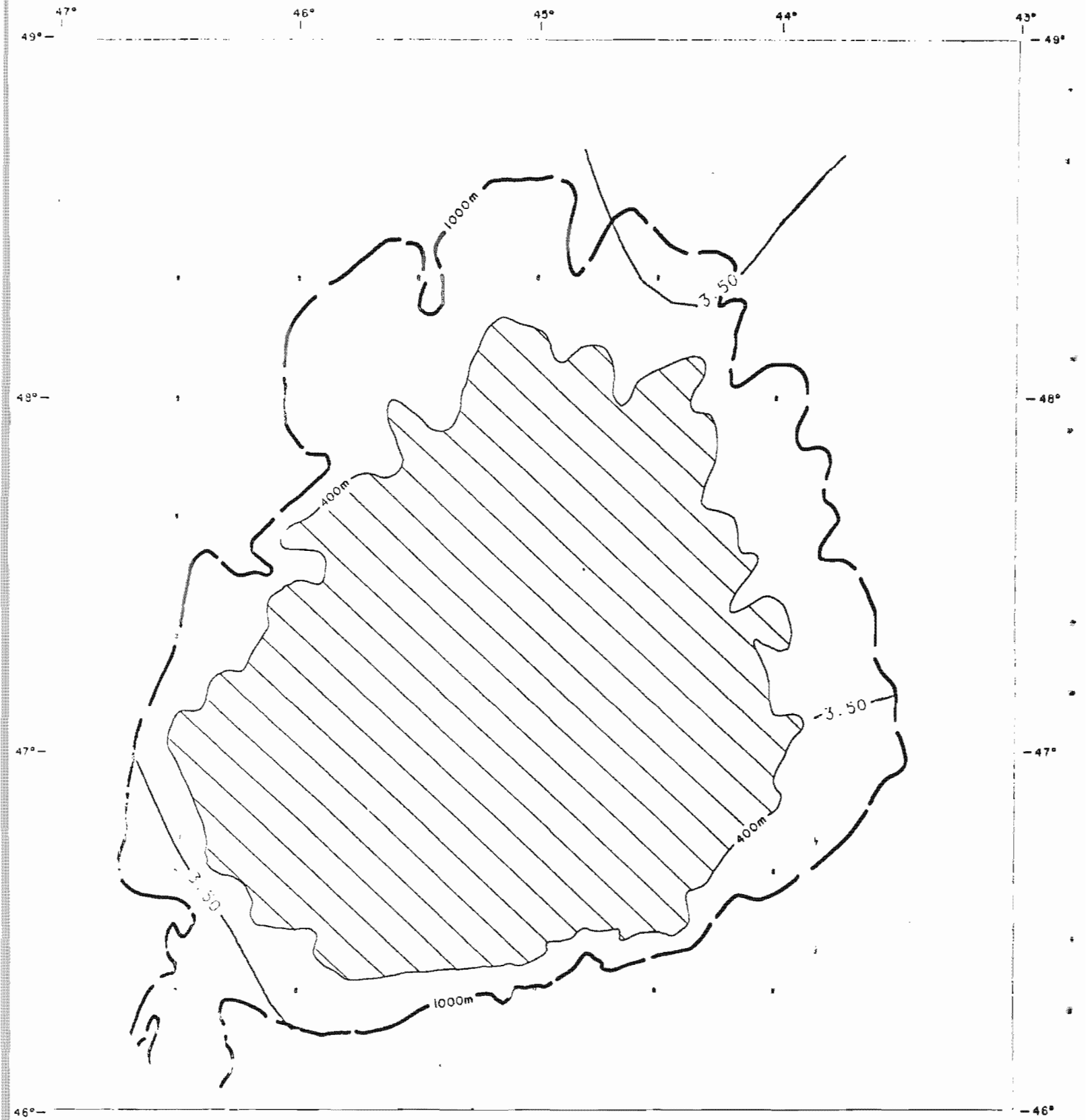

Fig. 56. Temperature contours at 500 meters - GADUS 37 (May 1980).

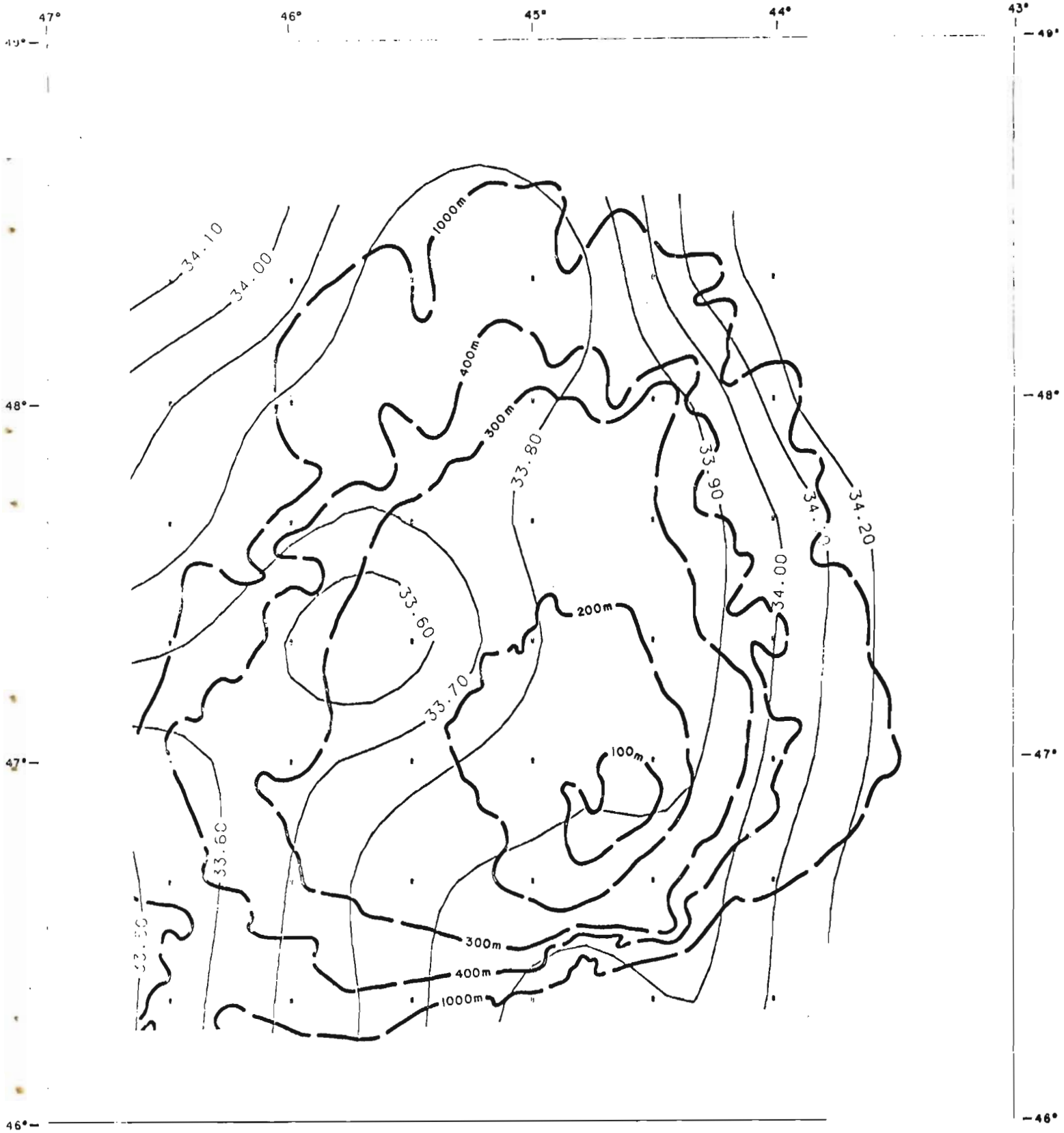

Fig. 57. Salinity contours at 000 meters - GADUS 37 (May 1980).

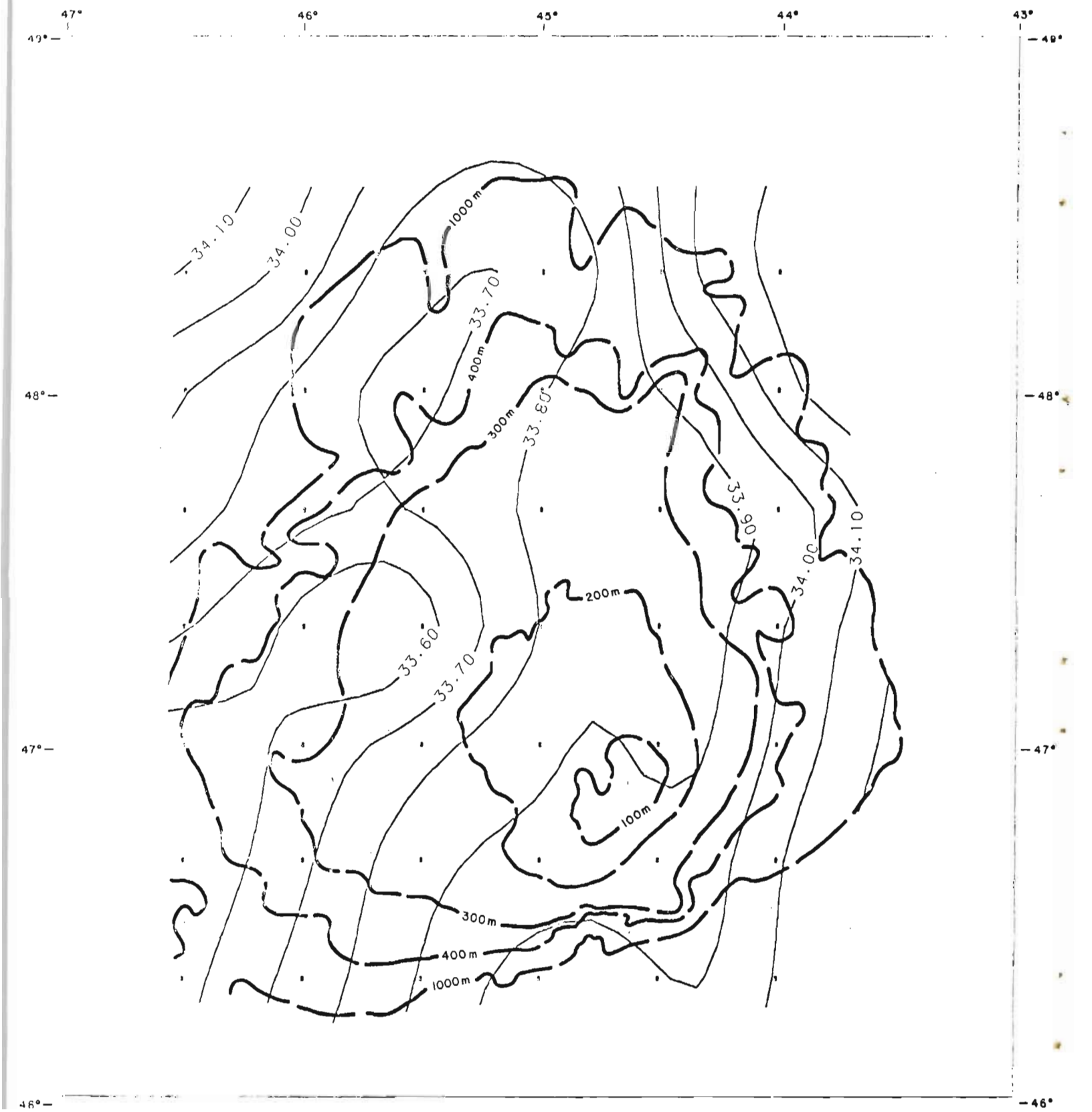

Fig. 58. Salinity contours at 010 meters - GADUS 37 (May 1980).

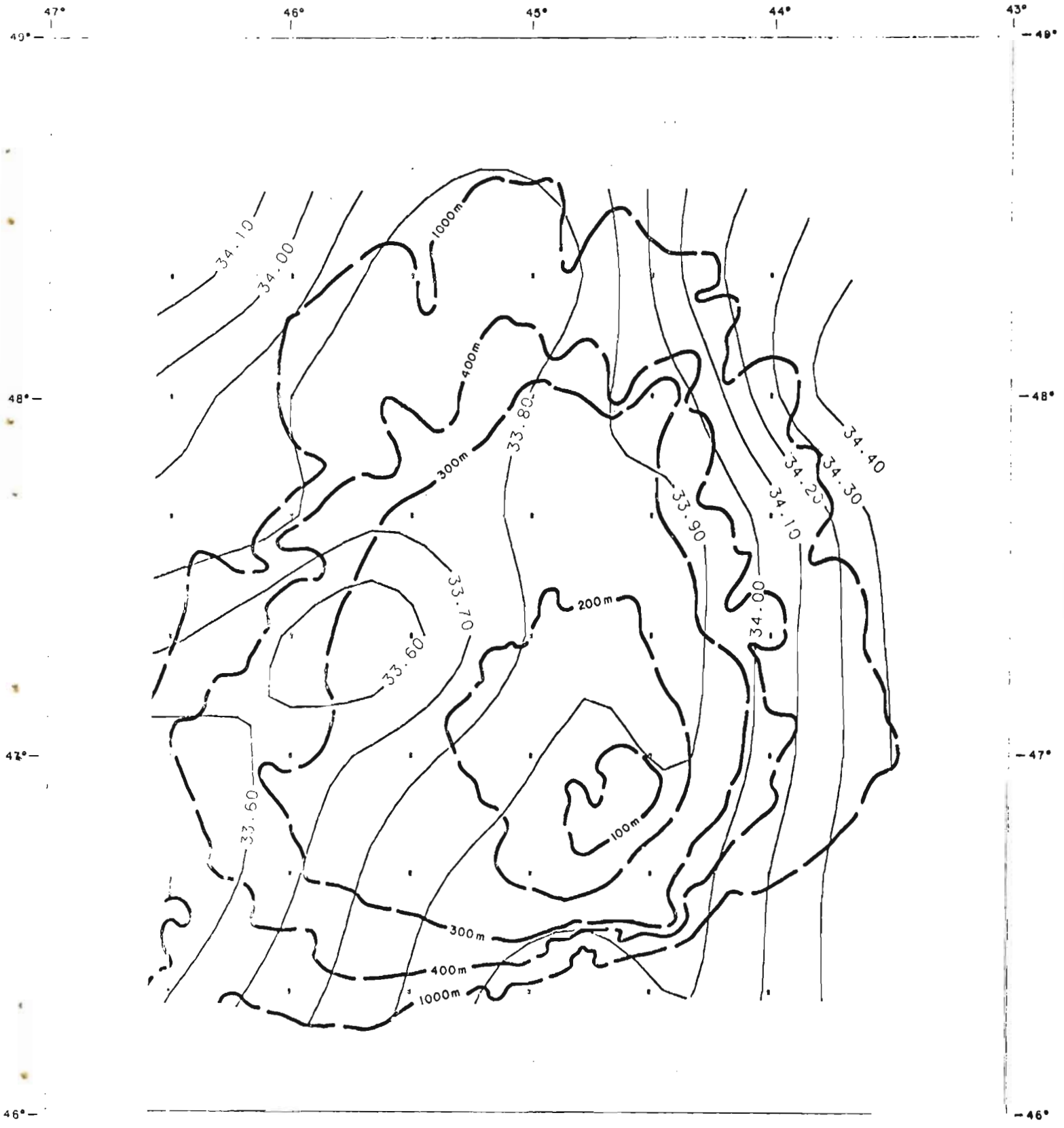

Fig. 59. Salinity contours at 020 meters - GADUS 37 (May 1980).

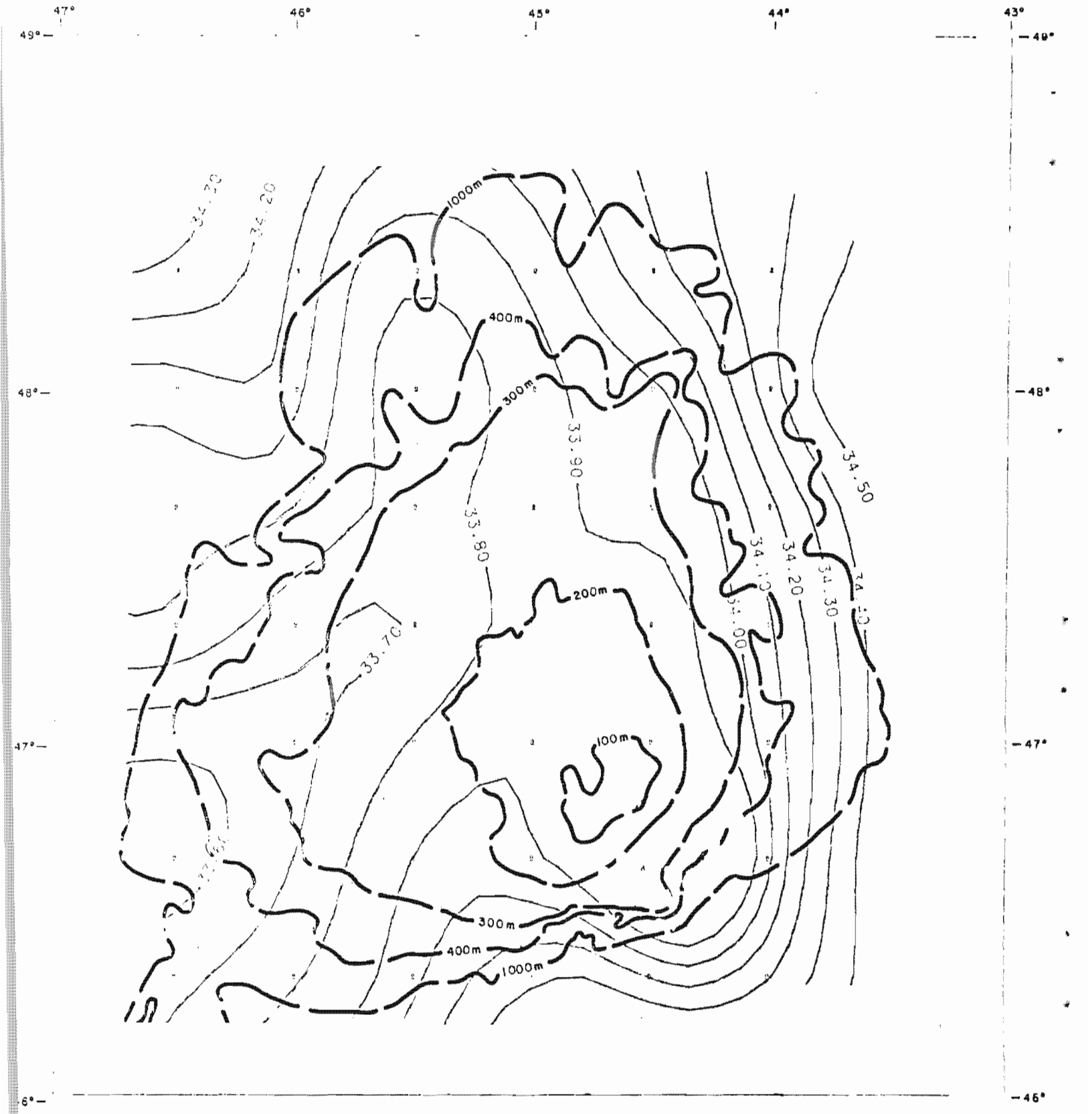

Fig. 60. Salinity contours at 030 meters - GADUS 37 (May 1980).

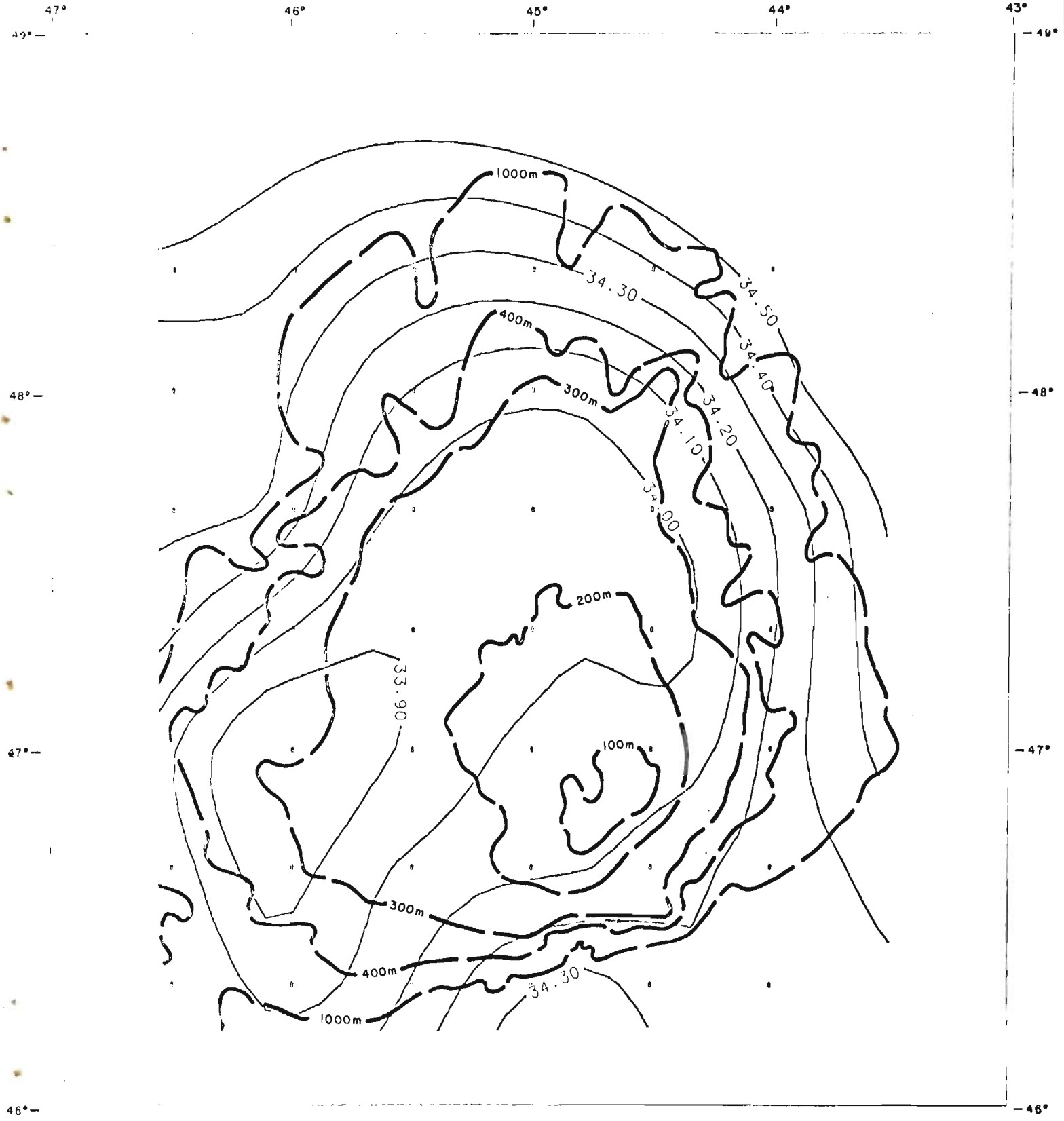

Fig. 61. Salinity contours at 050 meters - GADUS 37 (May 1980).

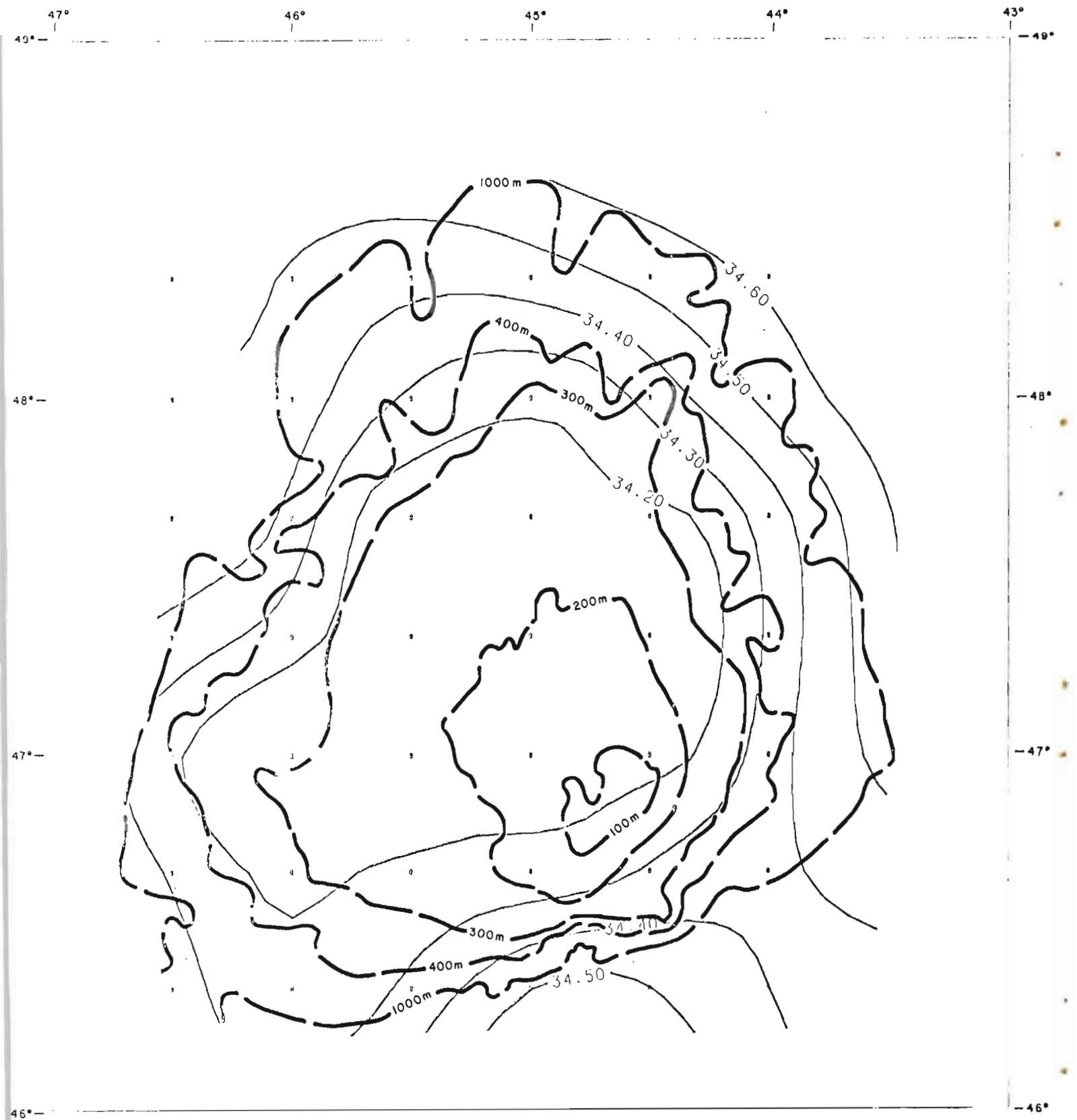

Fig. 62. Salinity contours at 075 meters - GADUS 37 (May 1980).

Fig. 63. Salinity contours at 100 meters - GADUS 37 (May 1980).

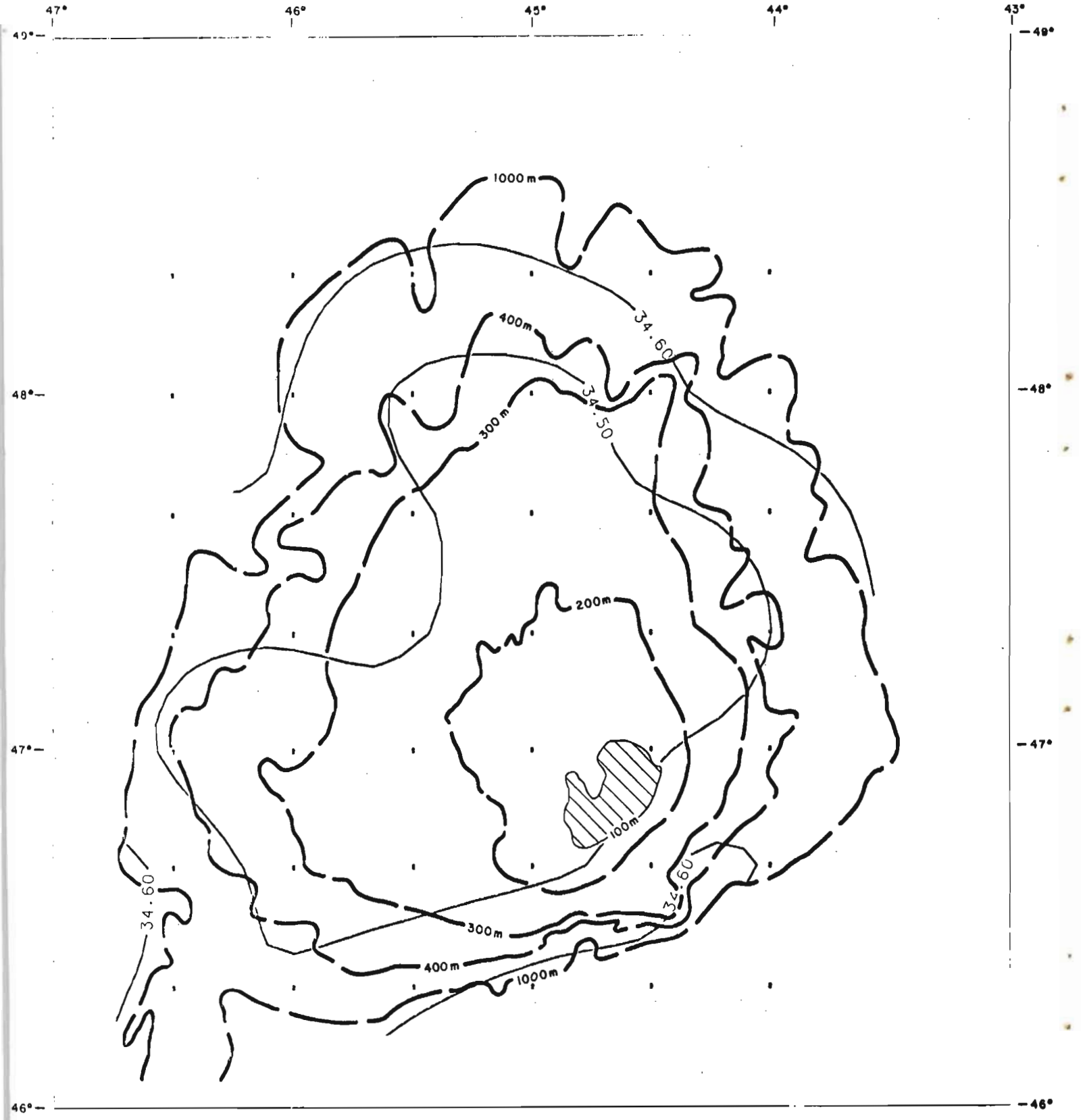

Fig. 64. Salinity contours at 125 meters - GADUS 37 (May 1980).

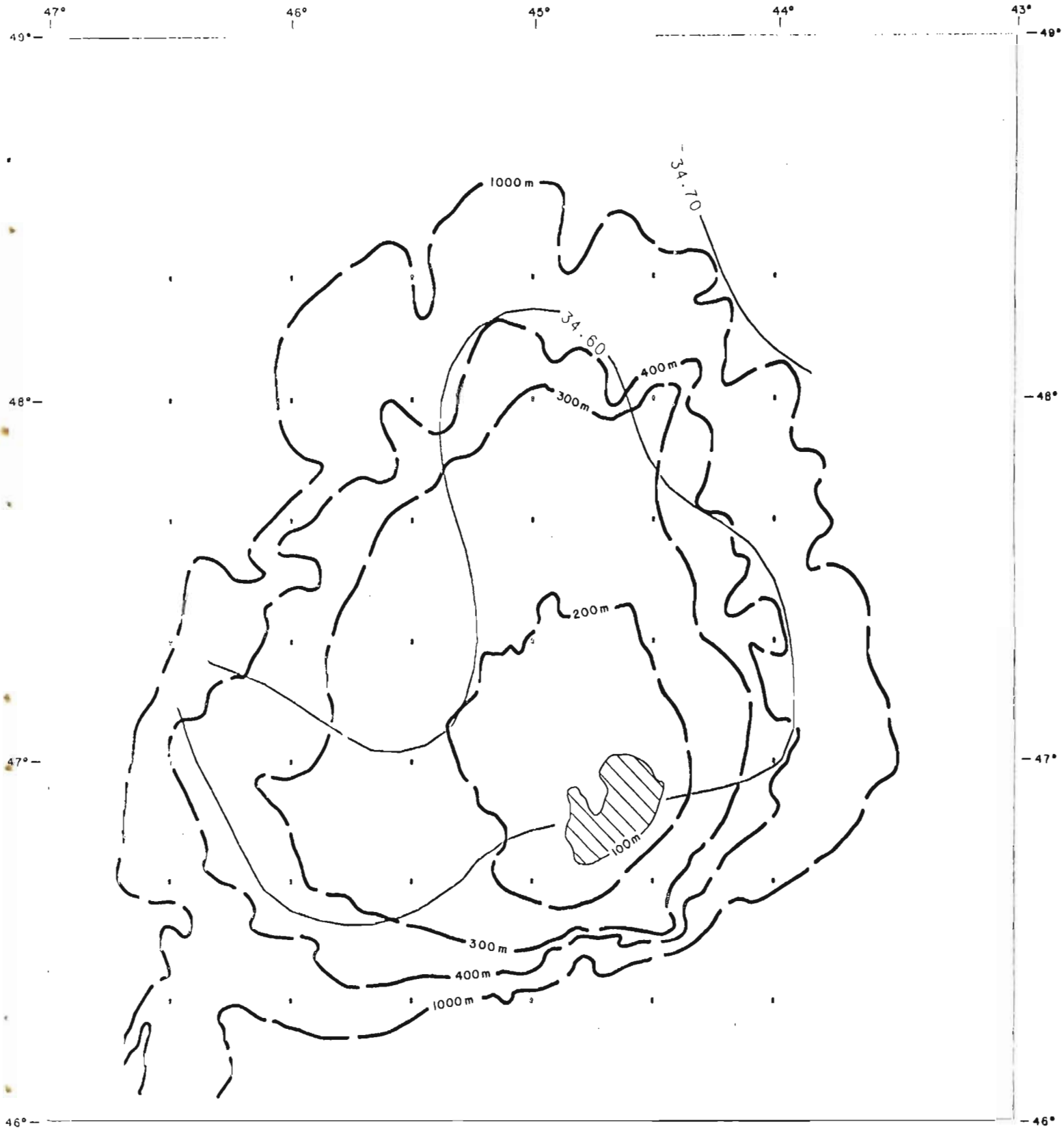

Fig. 65. Salinity contours at 150 meters - GADUS 37 (May 1980).

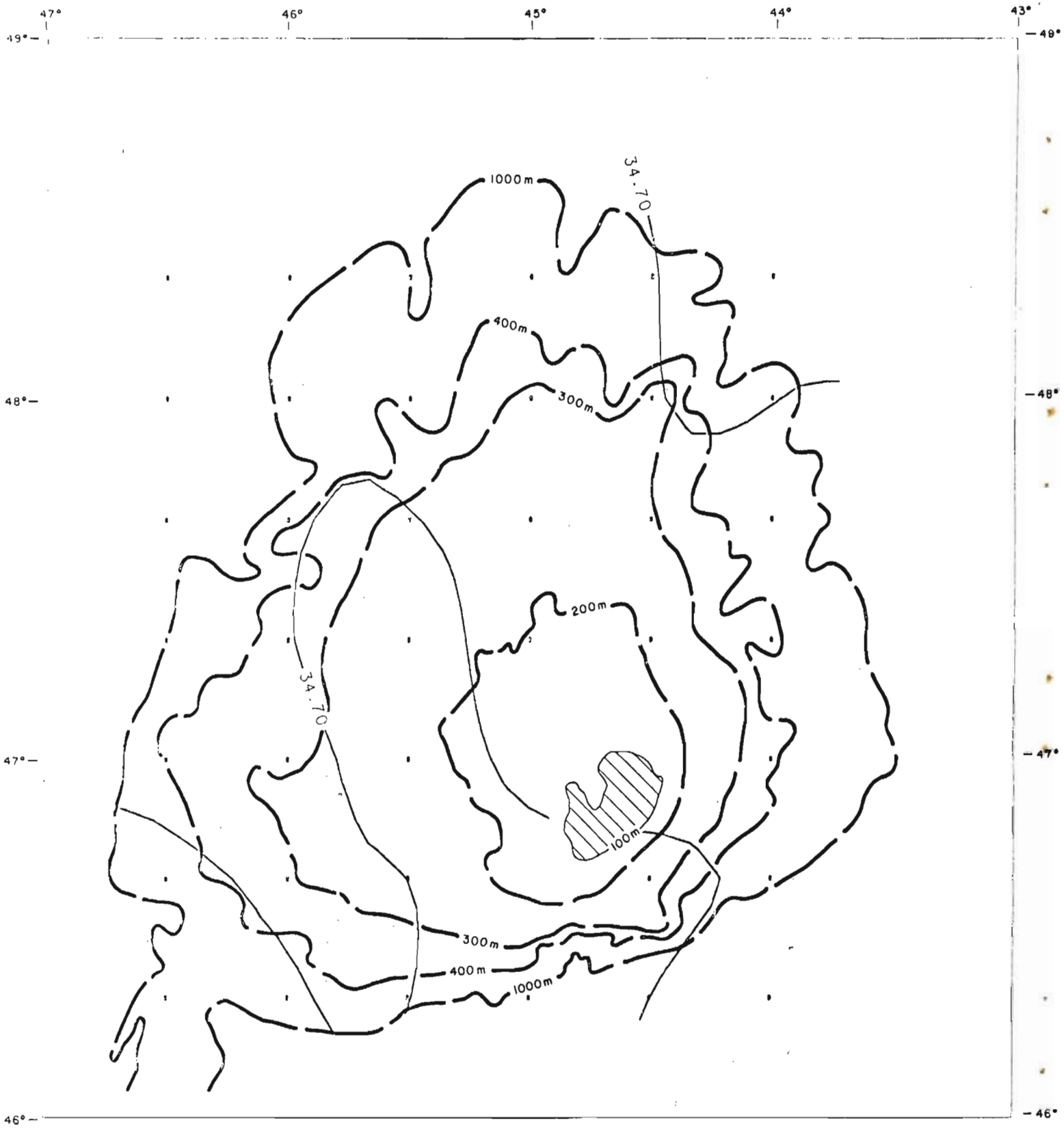

Fig. 66. Salinity contours at 175 meters - GADUS 37 (May 1980).

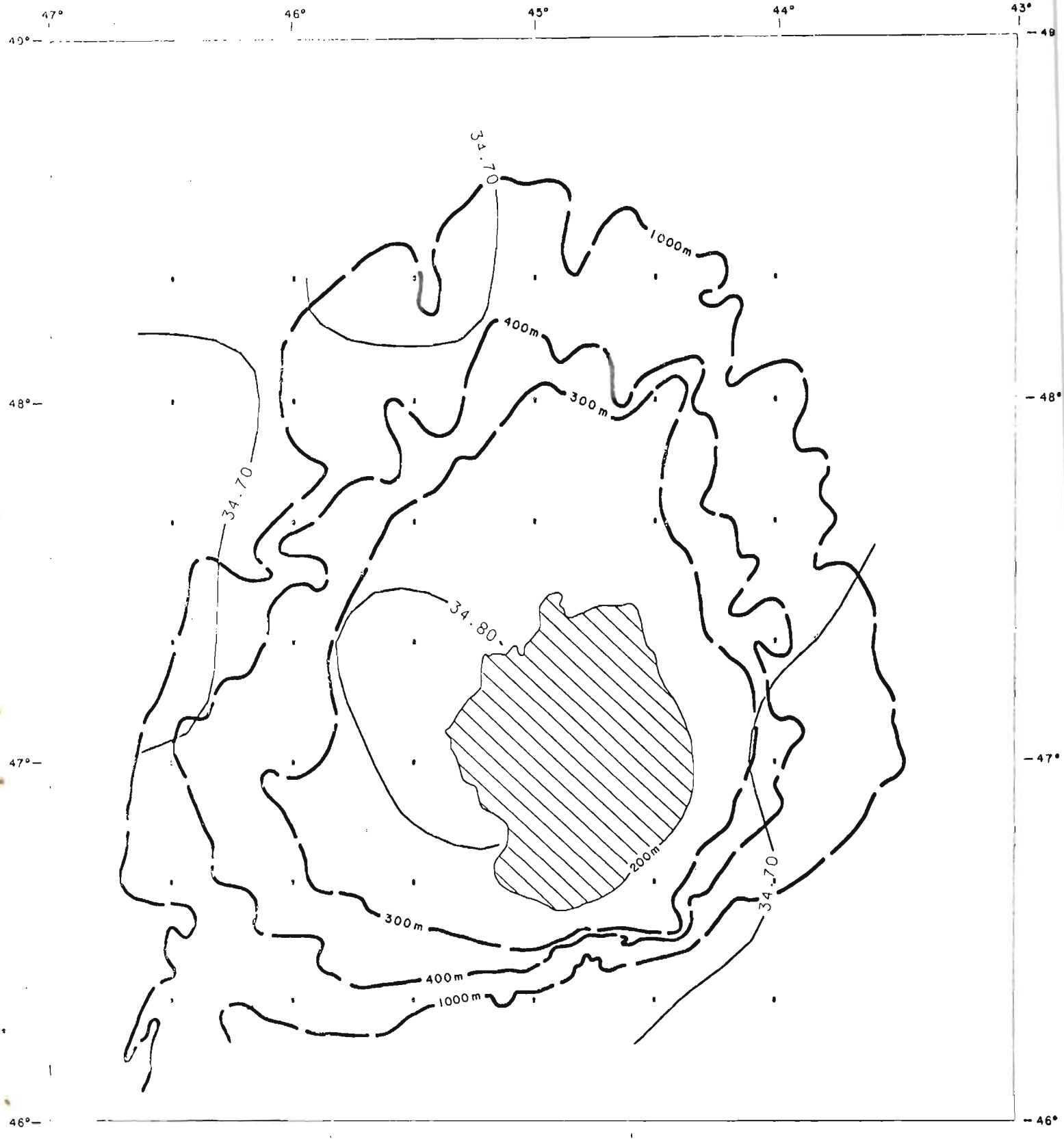

Fig. 67. Salinity contours at 200 meters - GADUS 37 (May 1980).

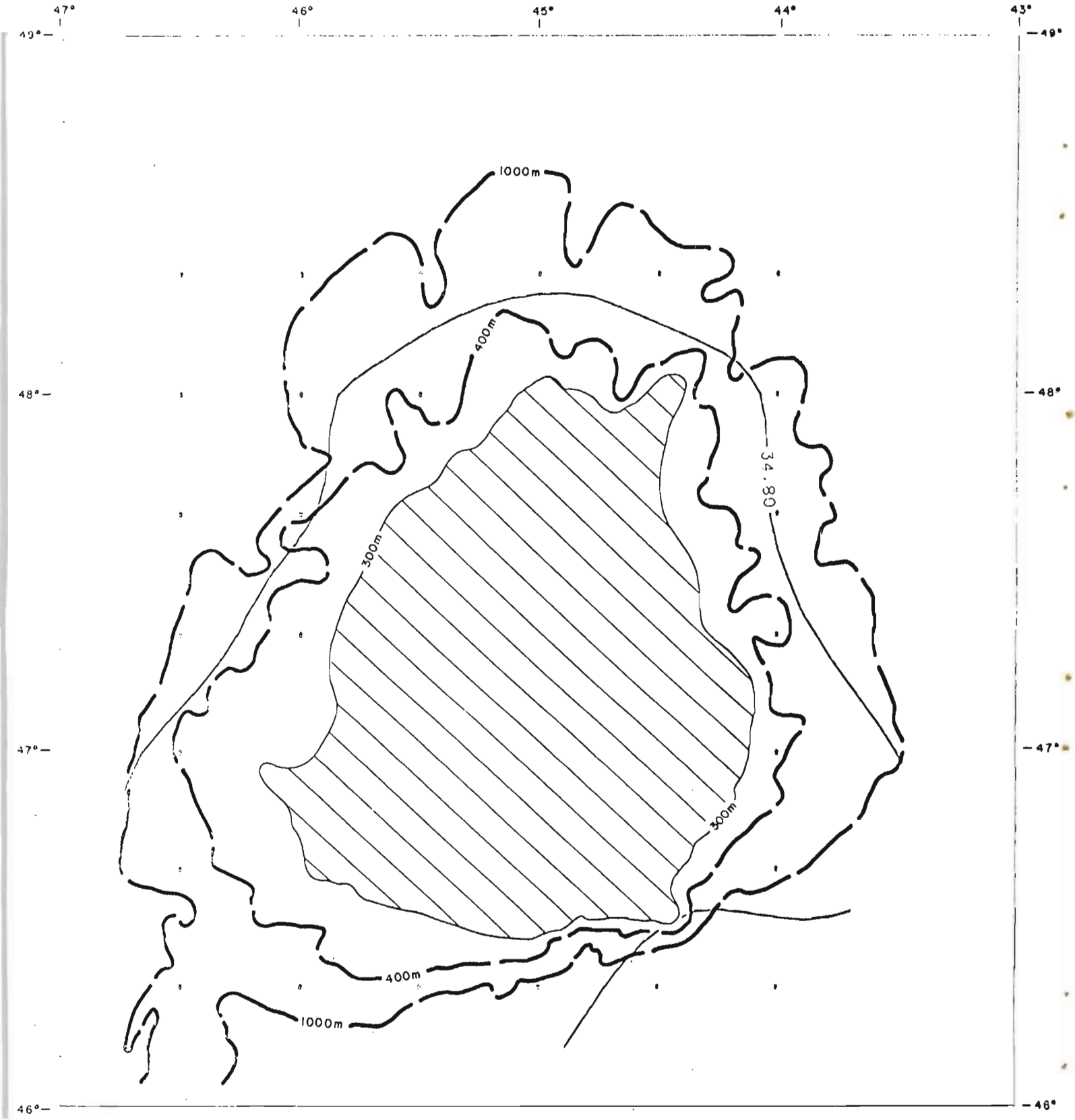

Fig. 68. Salinity contours at 300 meters - GADUS 37 (May 1980).

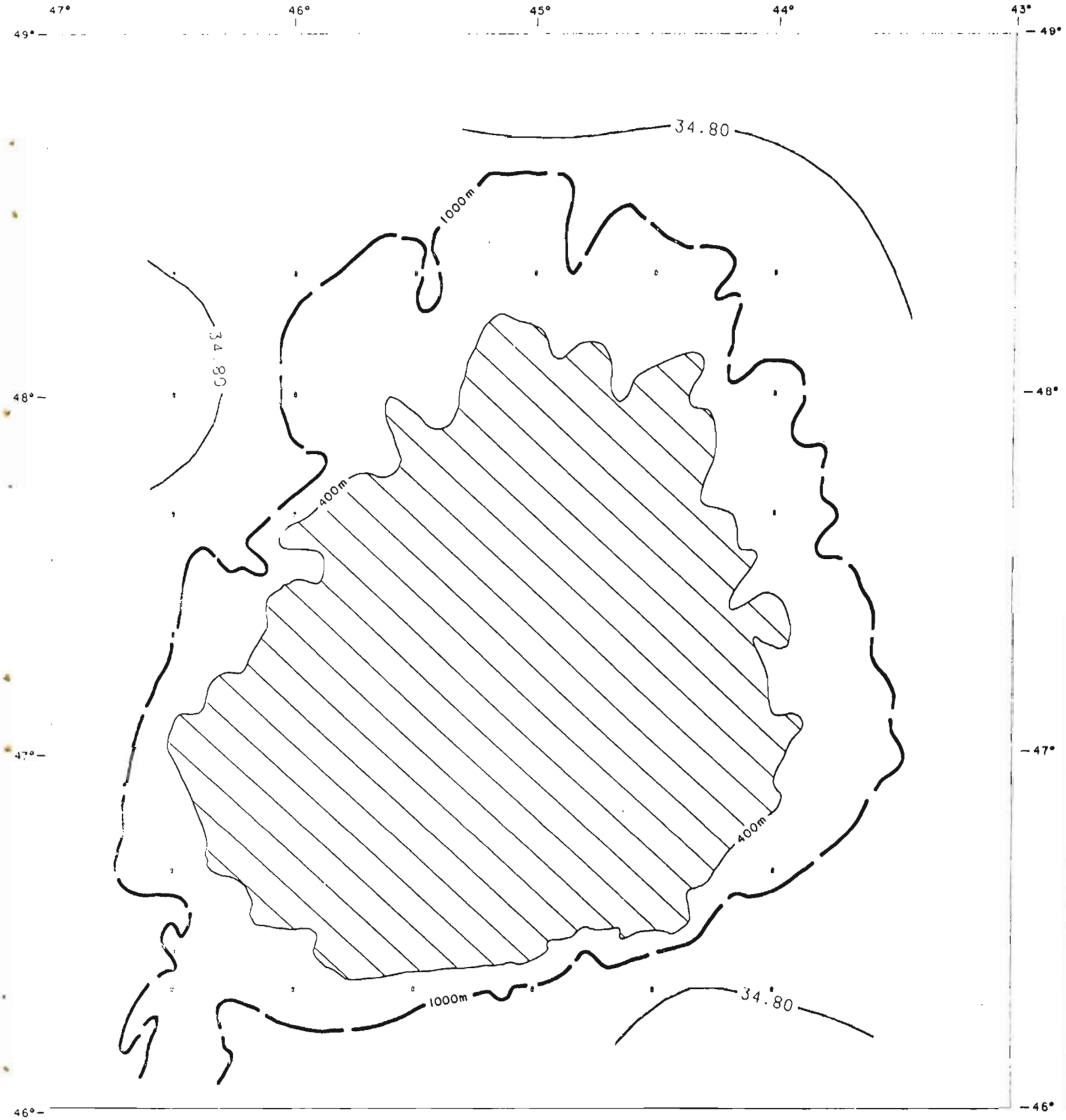

Fig. 69. Salinity contours at 400 meters - GADUS 37 (May 1980).

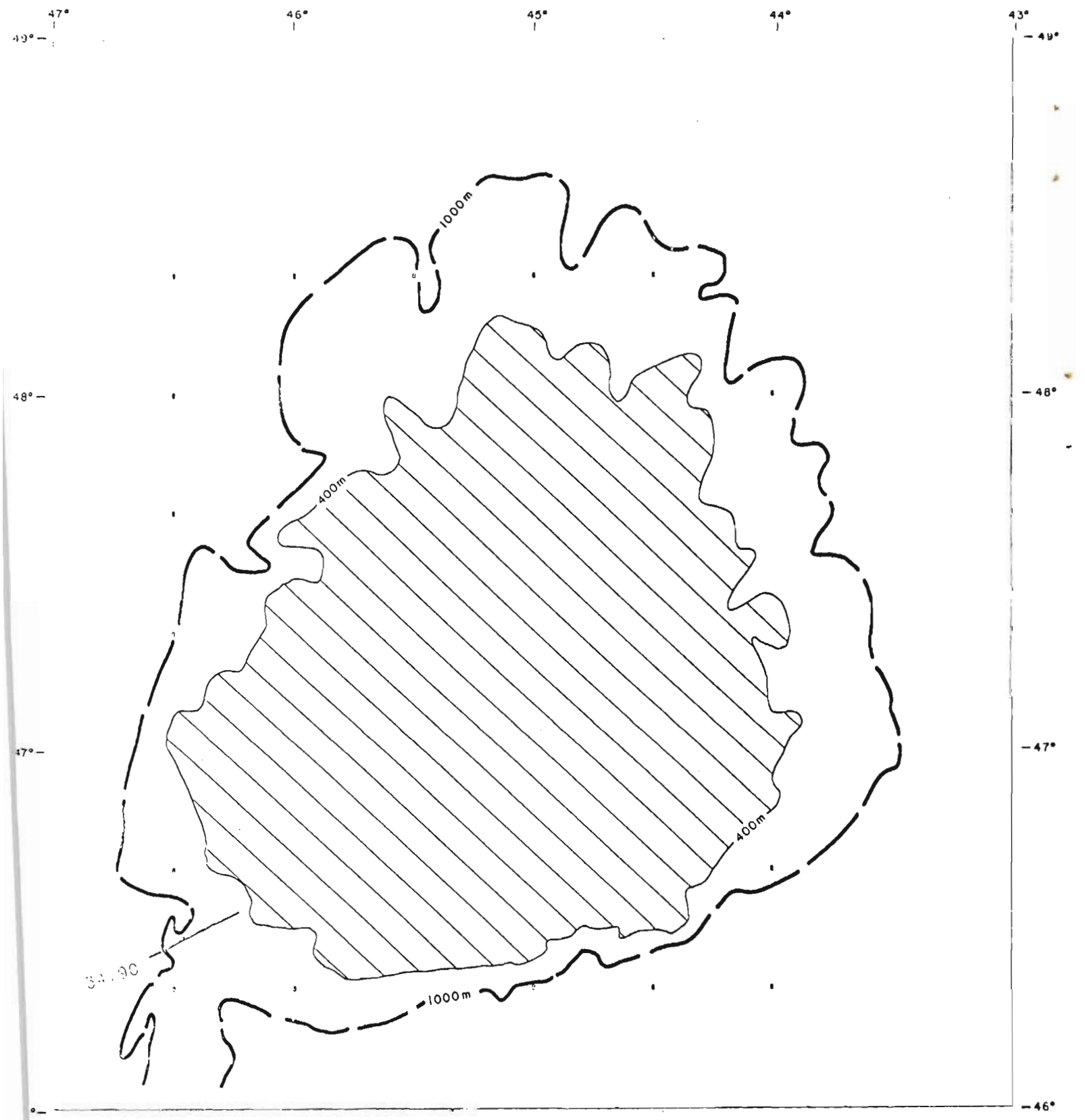

Fig. 70. Salinity contours at 500 meters - GADUS 37 (May 1980).

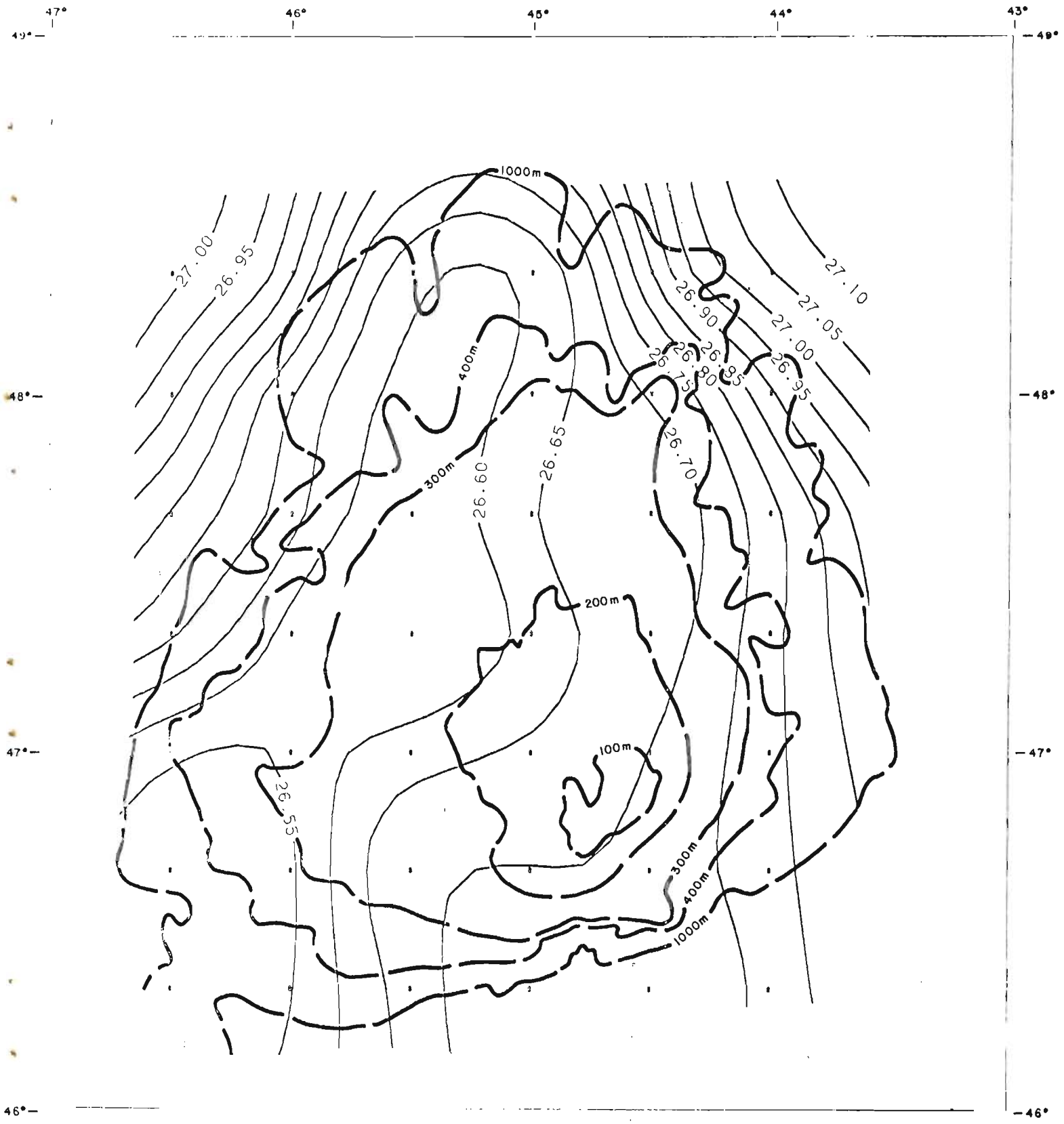

Fig. 71. Density contours at 000 meters - GADUS 37 (May 1980).

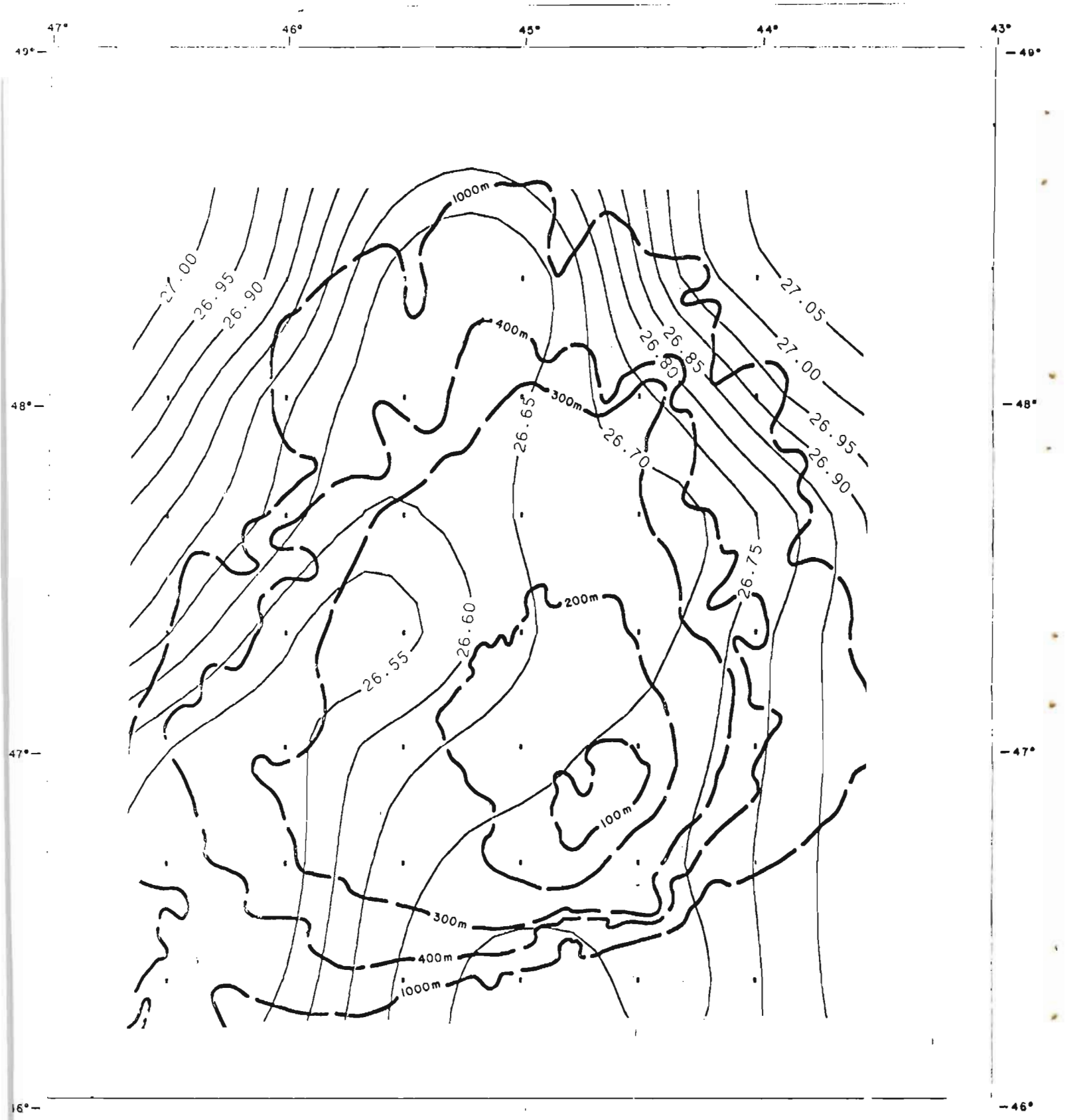

Fig. 72. Density contours at 010 meters - GADUS 37 (May 1980).

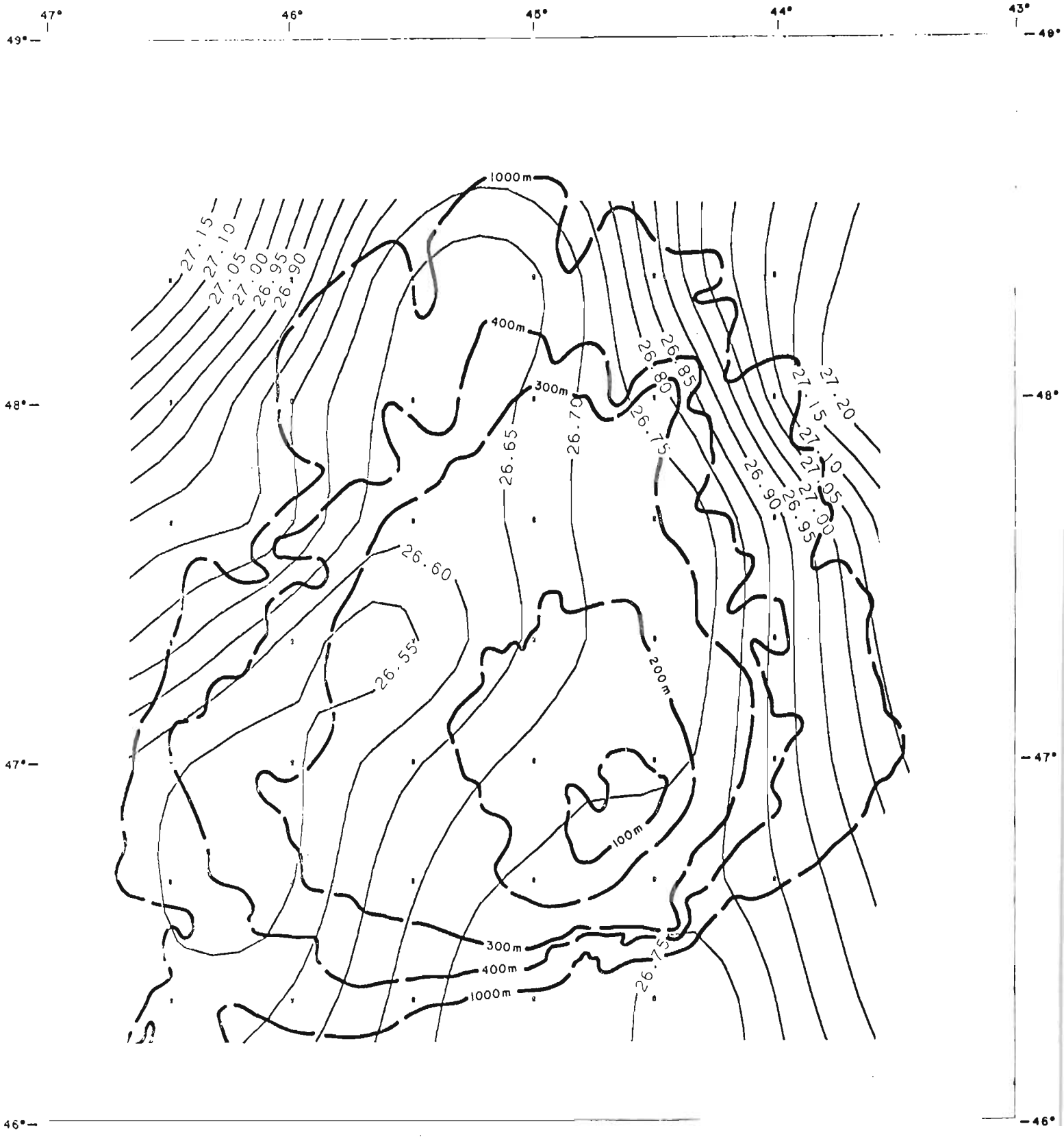

Fig. 73. Density contours at 020 meters - GADUS 37 (May 1980).

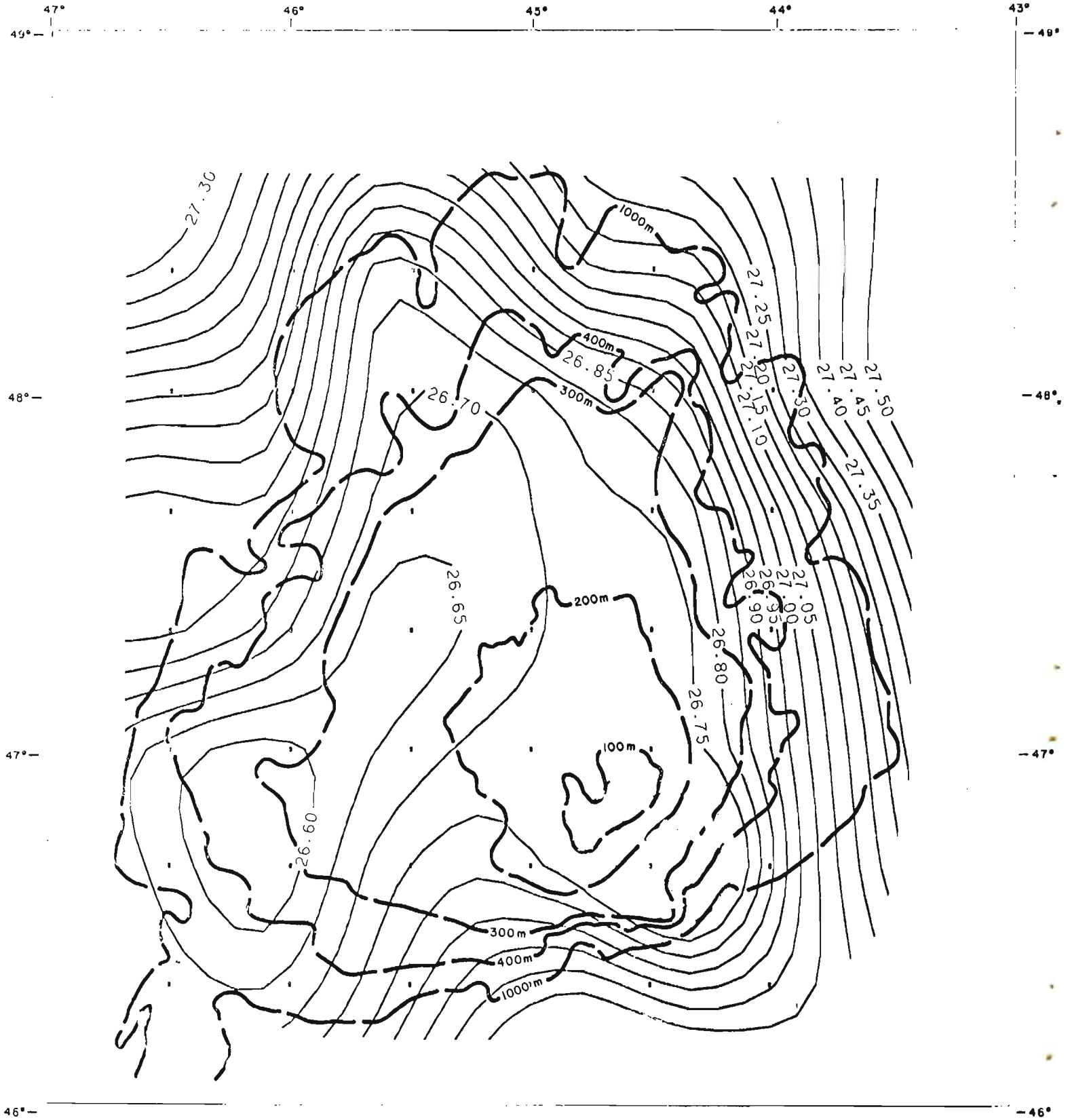

Fig. 74. Density contours at 030 meters - GADUS 37 (May 1980).

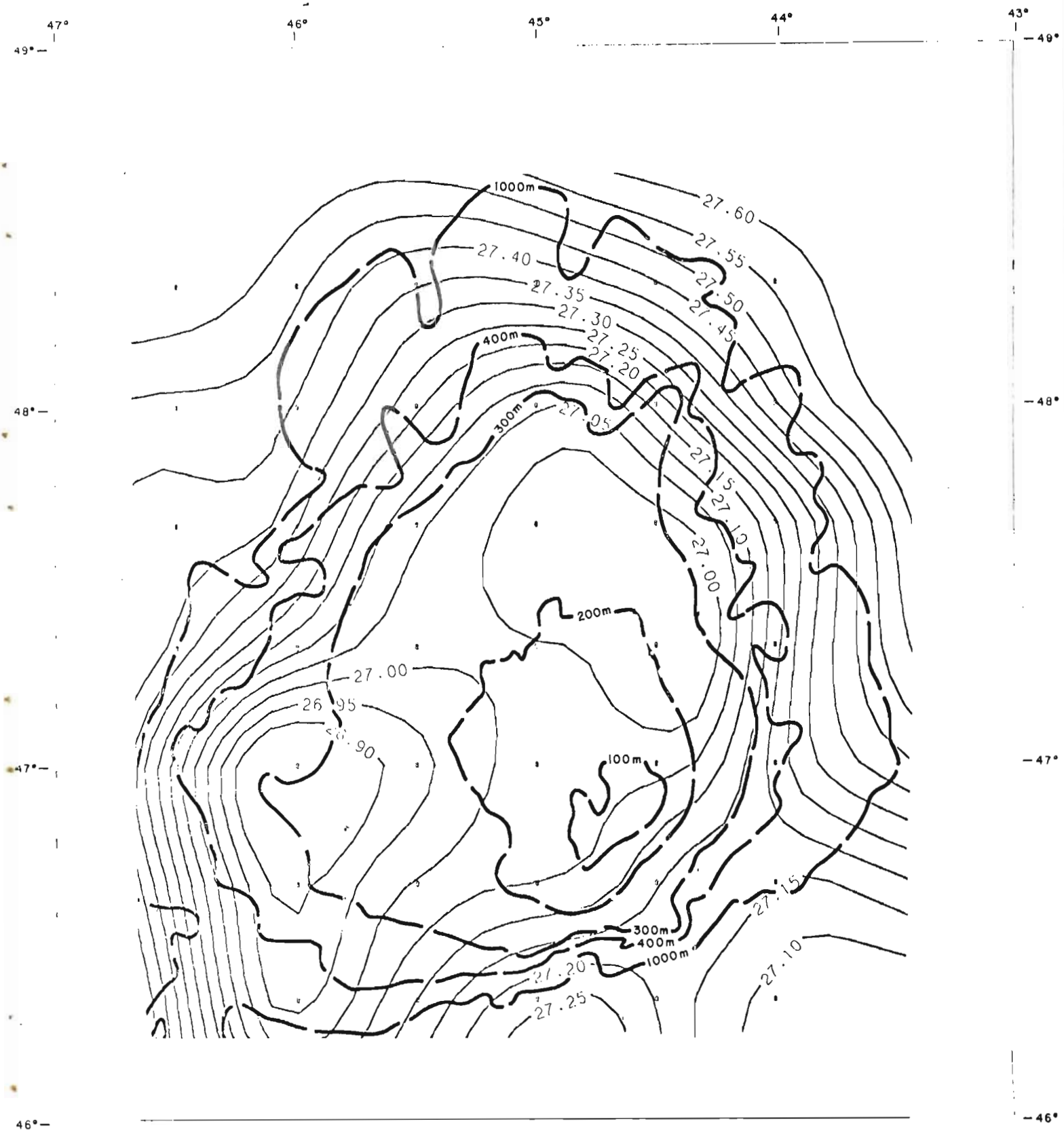

Fig. 75. Density contours at 050 meters - GADUS 37 (May 1980).

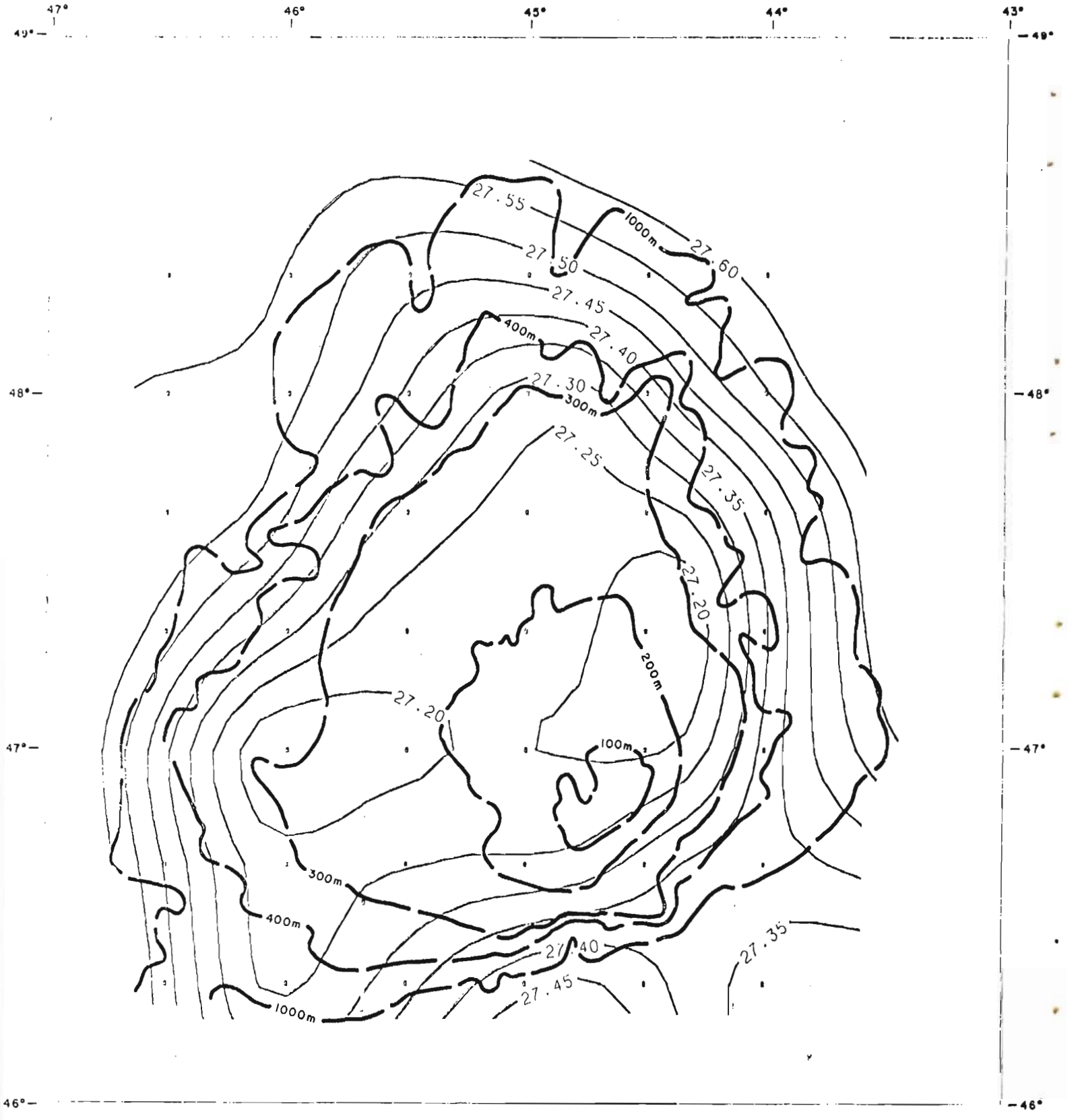

Fig. 76. Density contours at 075 meters - GADUS 37 (May 1980).

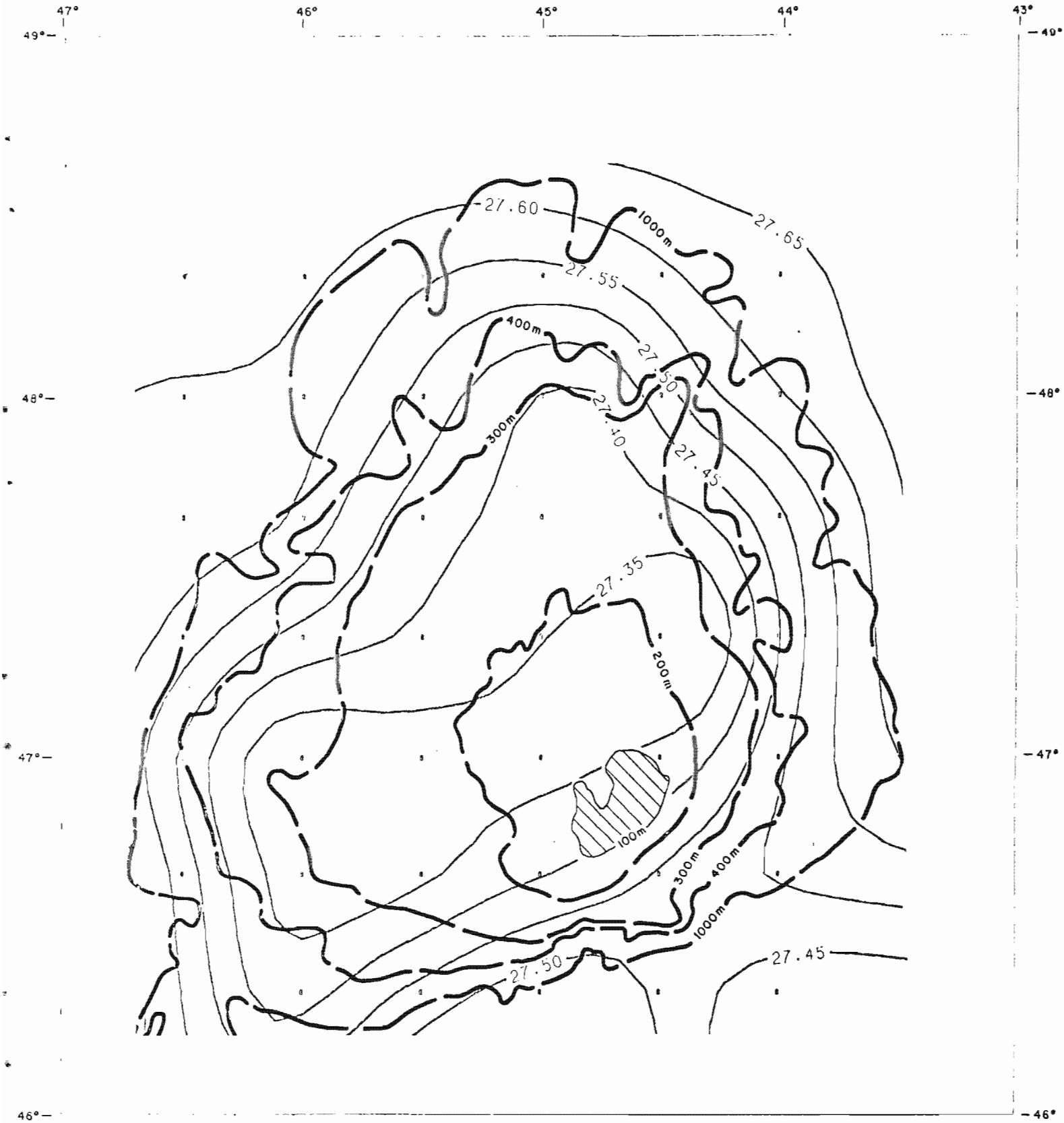

Fig. 77. Density contours at 100 meters - GADUS 37 (May 1980).

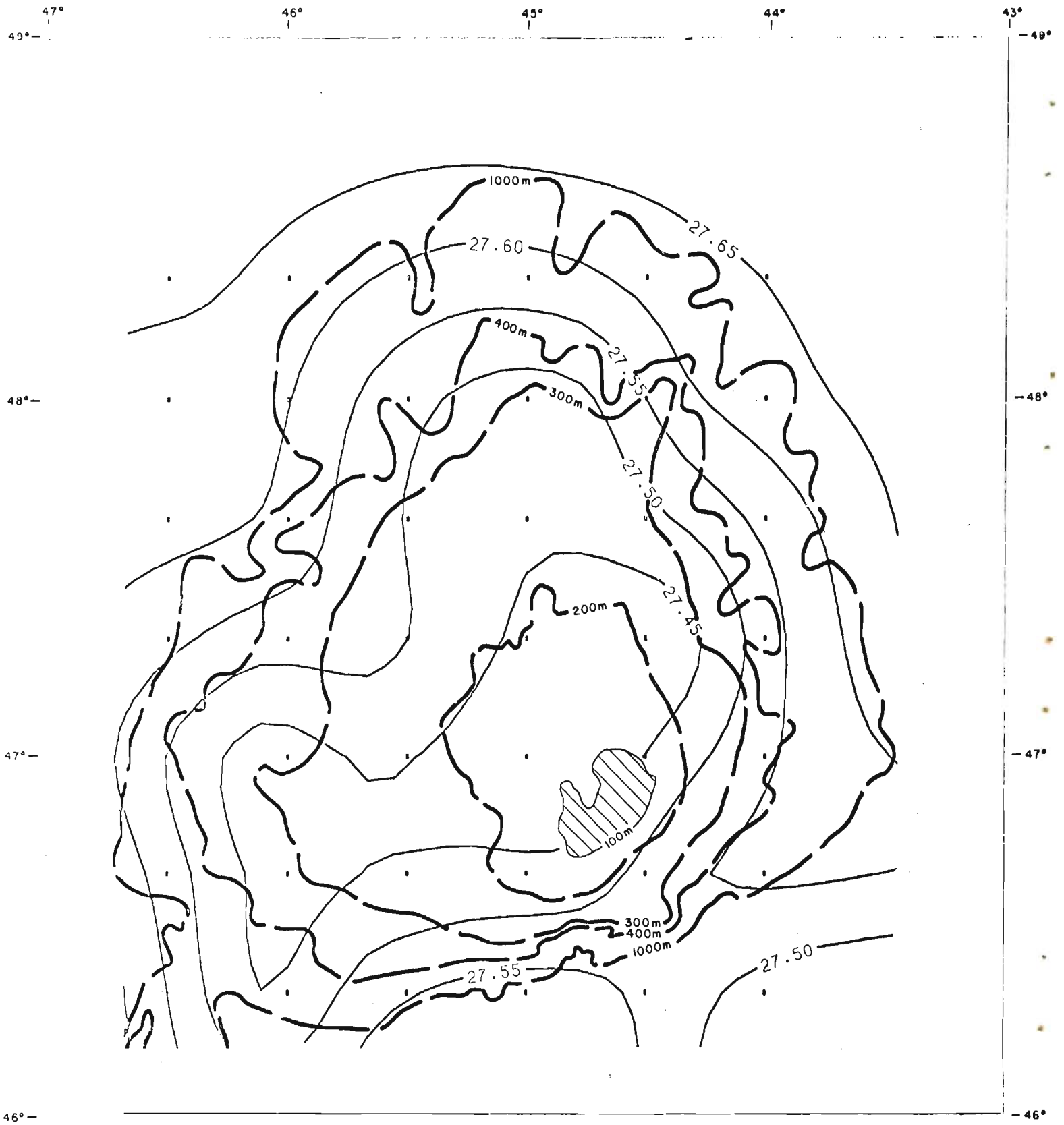

Fig. 78. Density contours at 125 meters - GADUS 37 (May 1980).

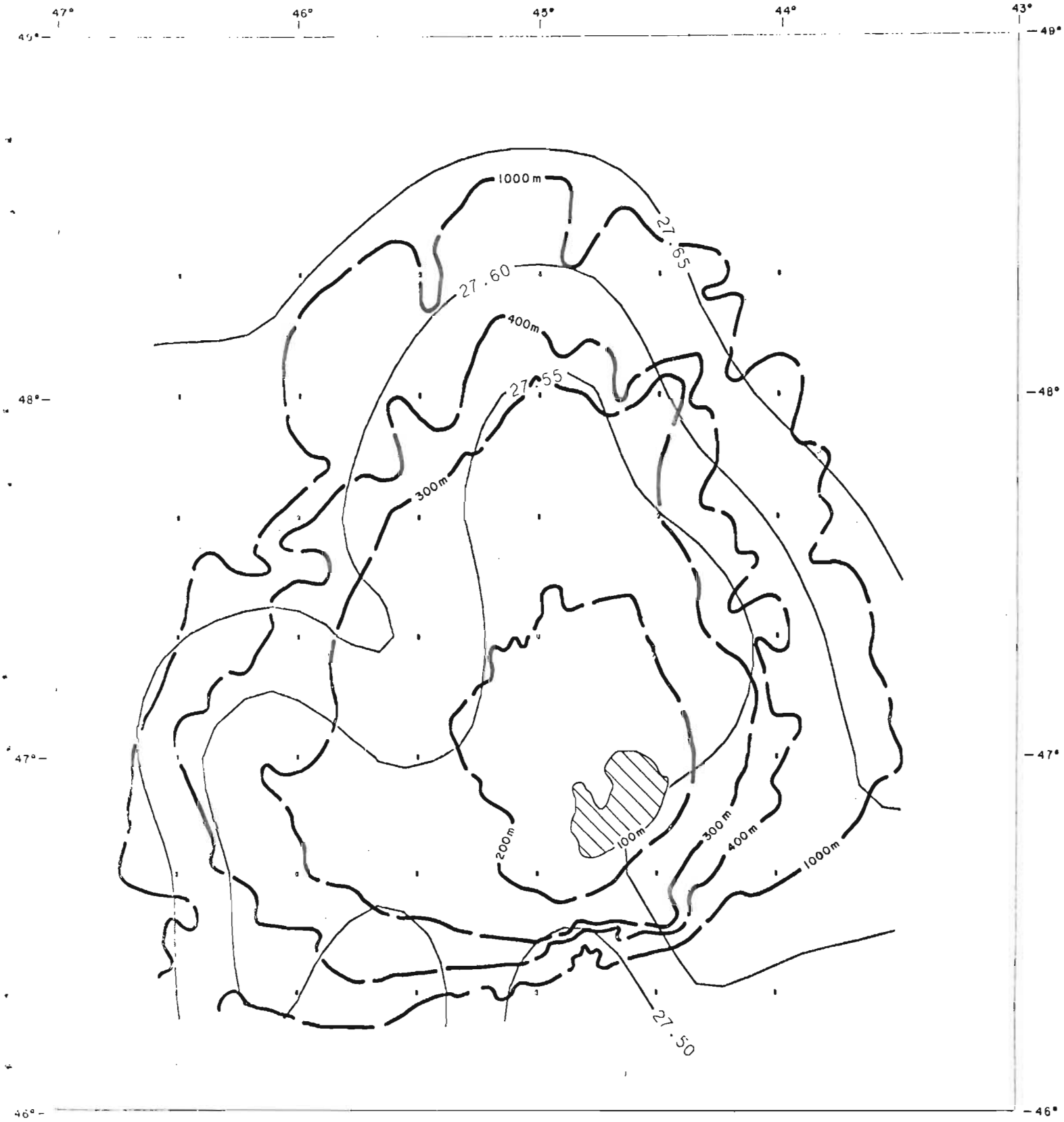

Fig. 79. Density contours at 150 meters - GADUS 37 (May 1980).

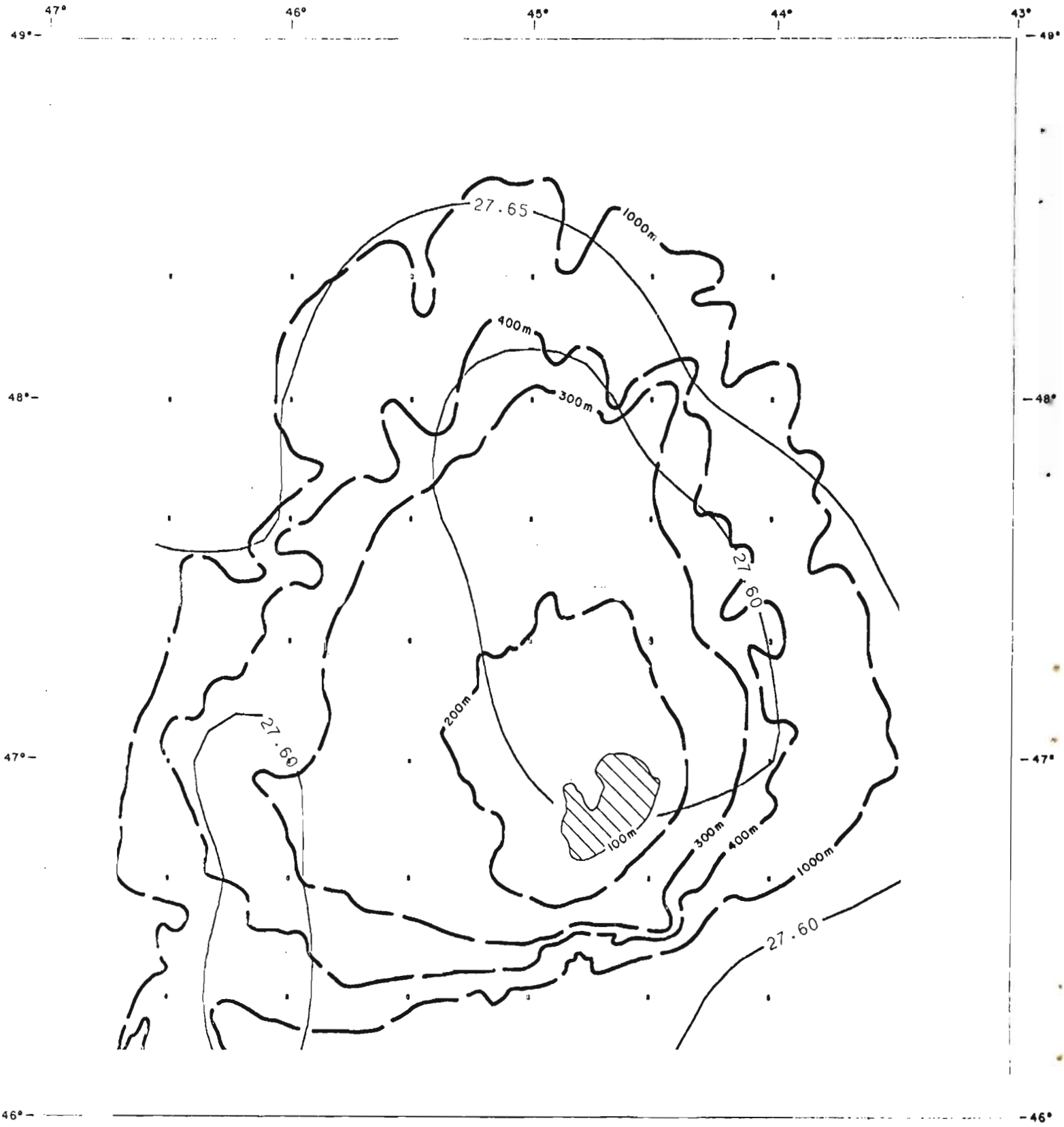

Fig. 80. Density contours at 175 meters - GADUS 37 (May 1980).

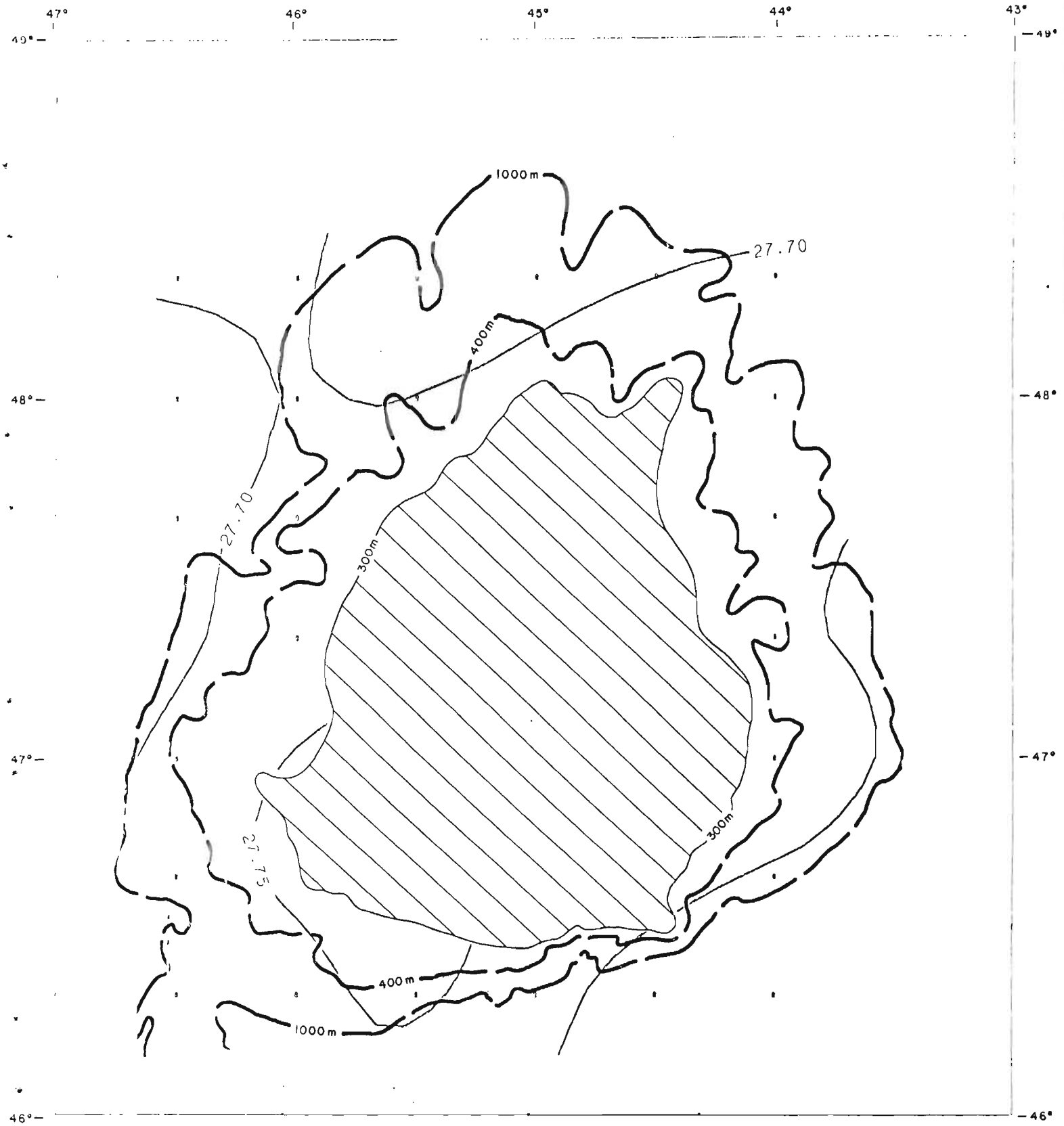

Fig. 81. Density contours at 300 meters - GADUS 37 (May 1980).

Fig. 82. Density contours at 400 meters - GADUS 37 (May 1980).

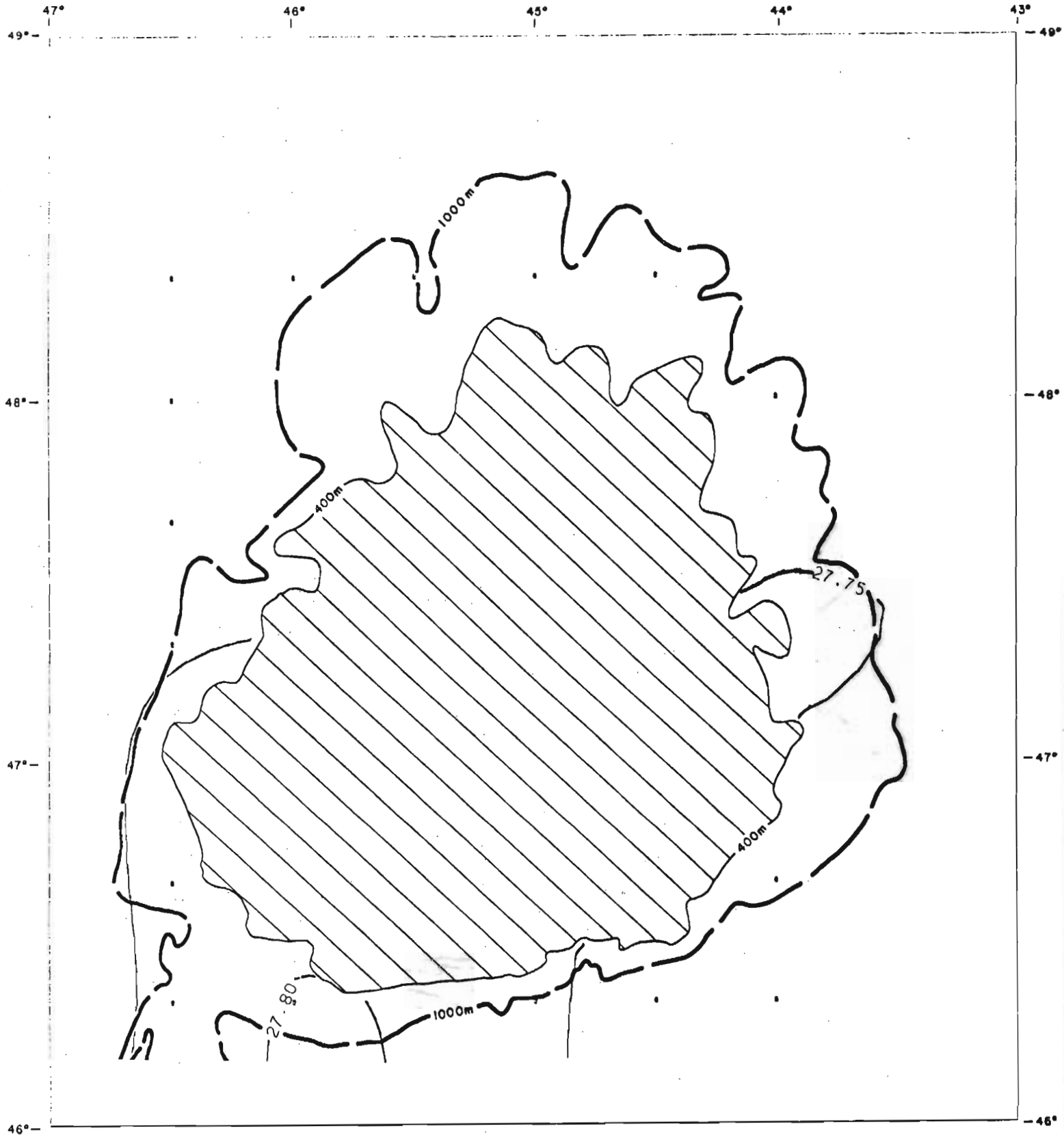

Fig. 83. Density contours at 500 meters - GADUS 37 (May 1980).

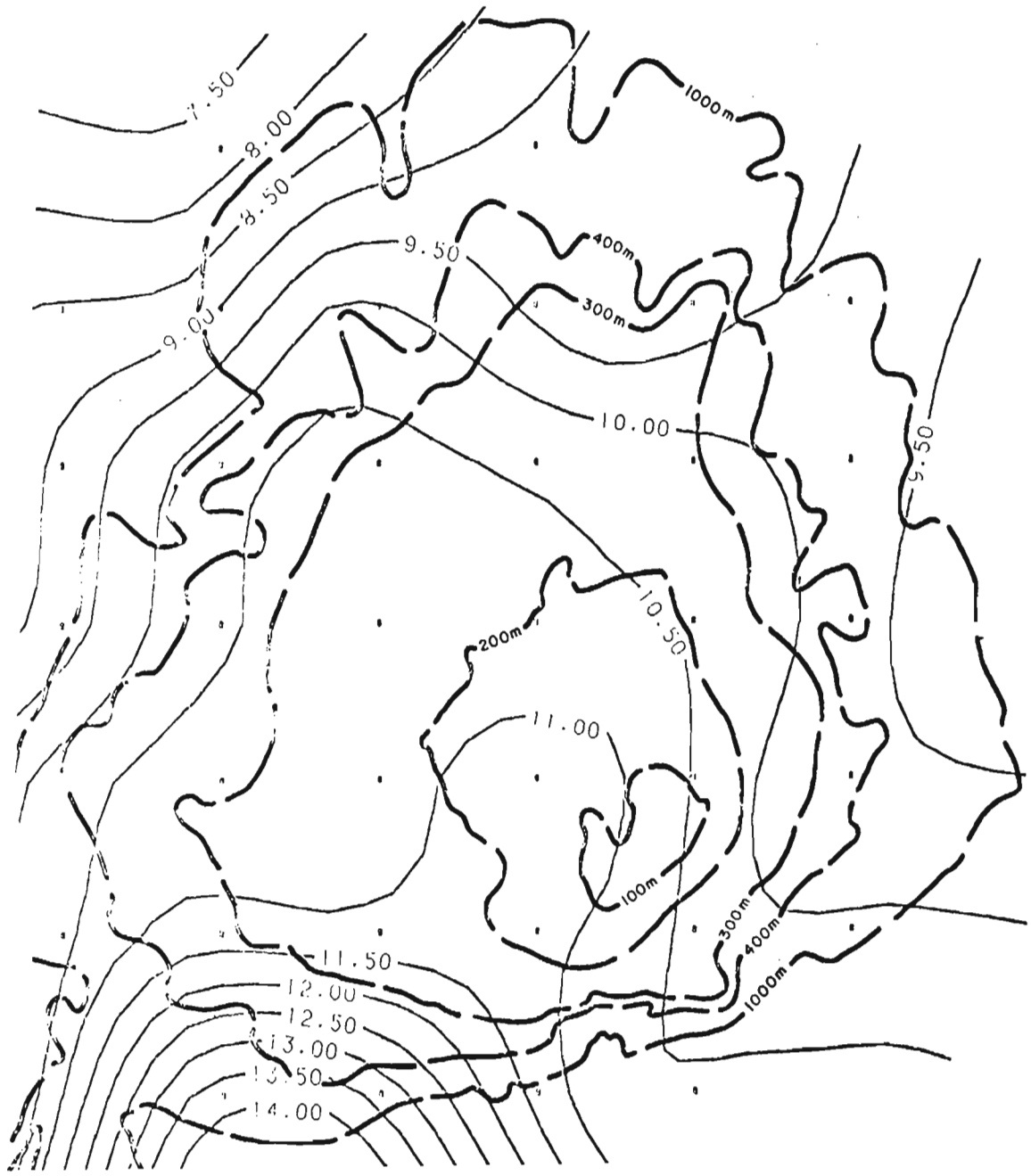

Fig. 84. Temperature contours at 000 meters - ZAGREB 04 (July 1980).

Fig. 85. Temperature contours at 010 meters - ZAGREB 04 (July 1980).

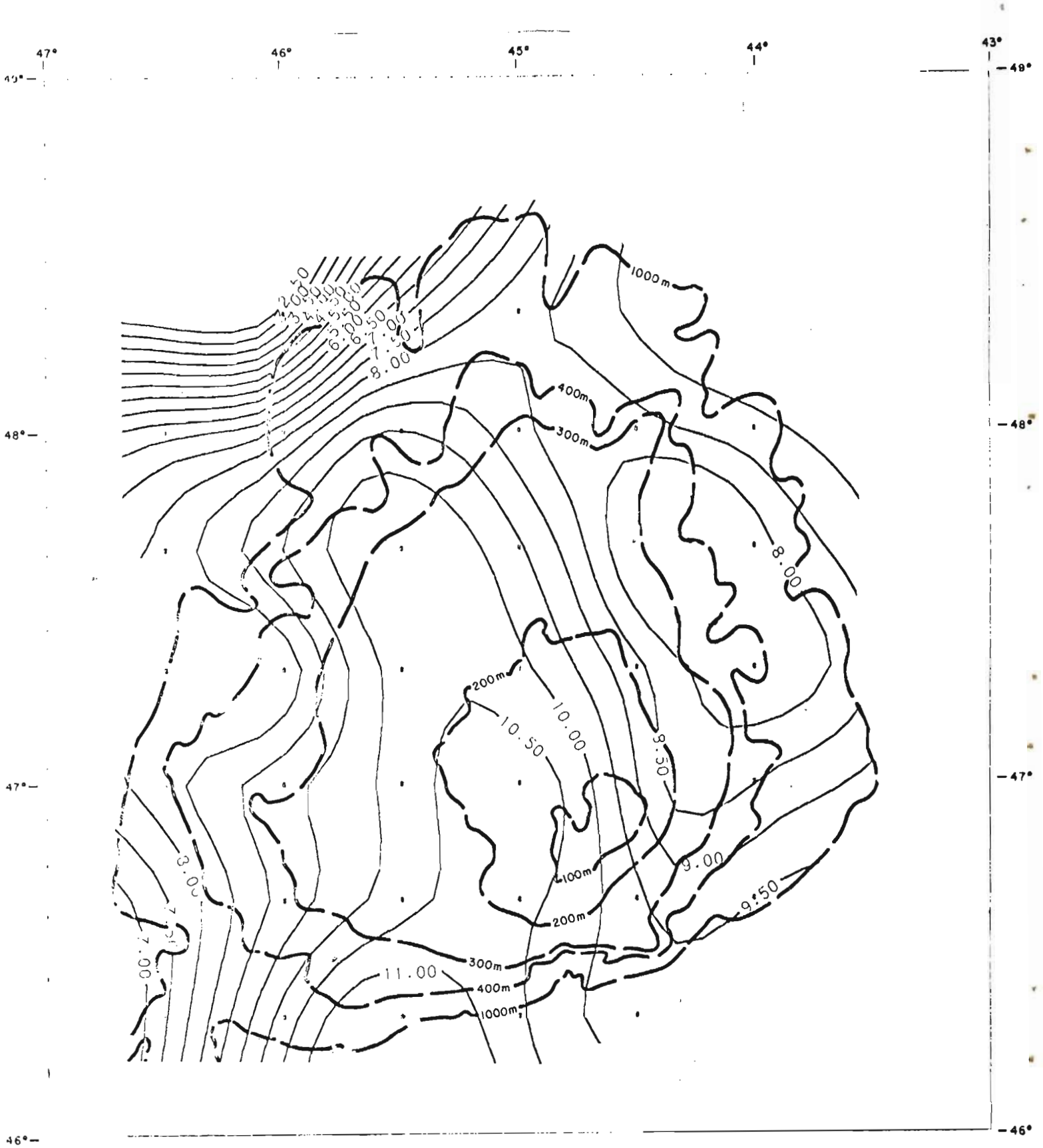

Fig. 86. Temperature contours at 020 meters - ZAGREB 04 (July 1980).

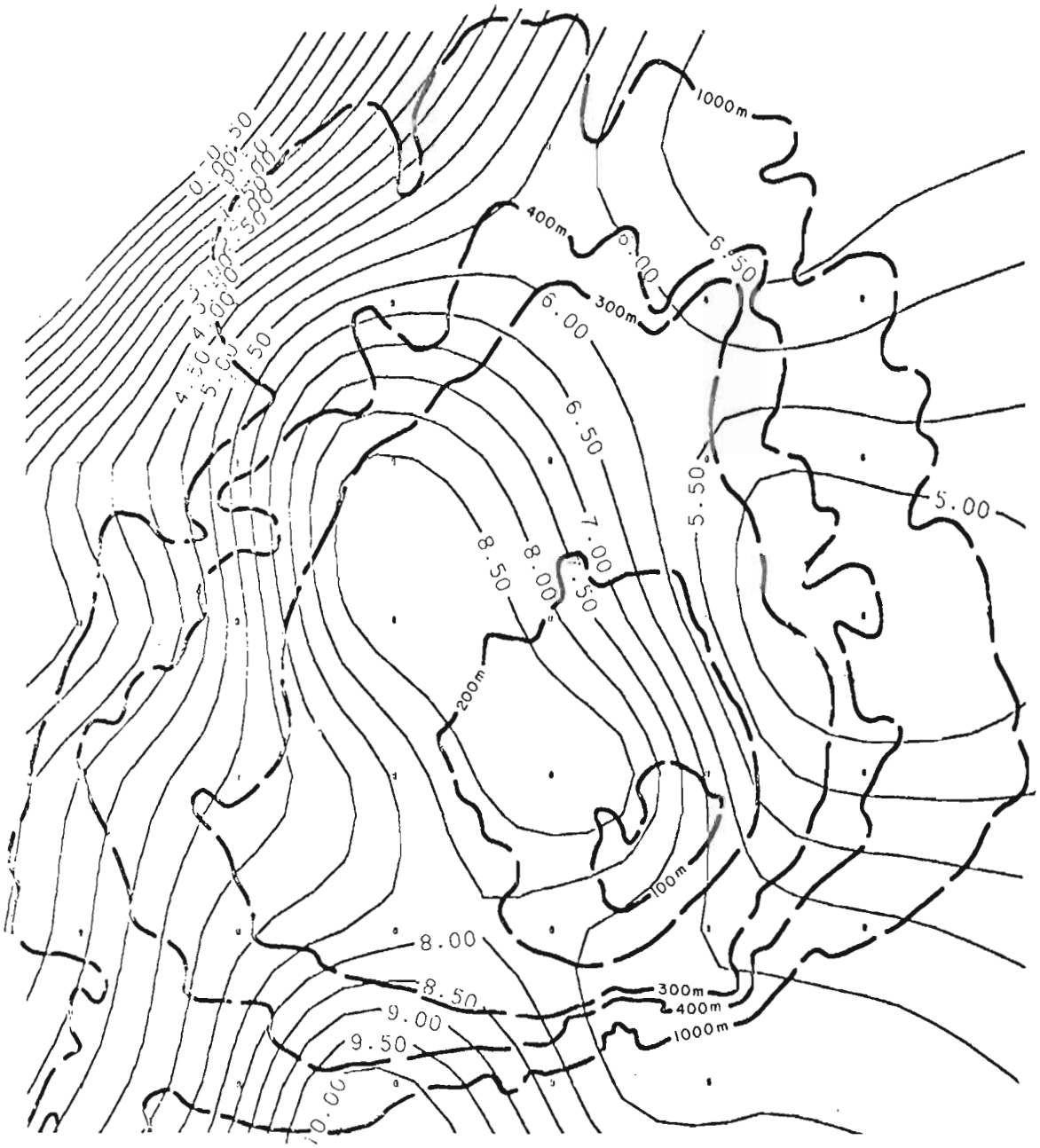

Fig. 87. Temperature contours at 030 meters - ZAGREB 04 (July 1980).

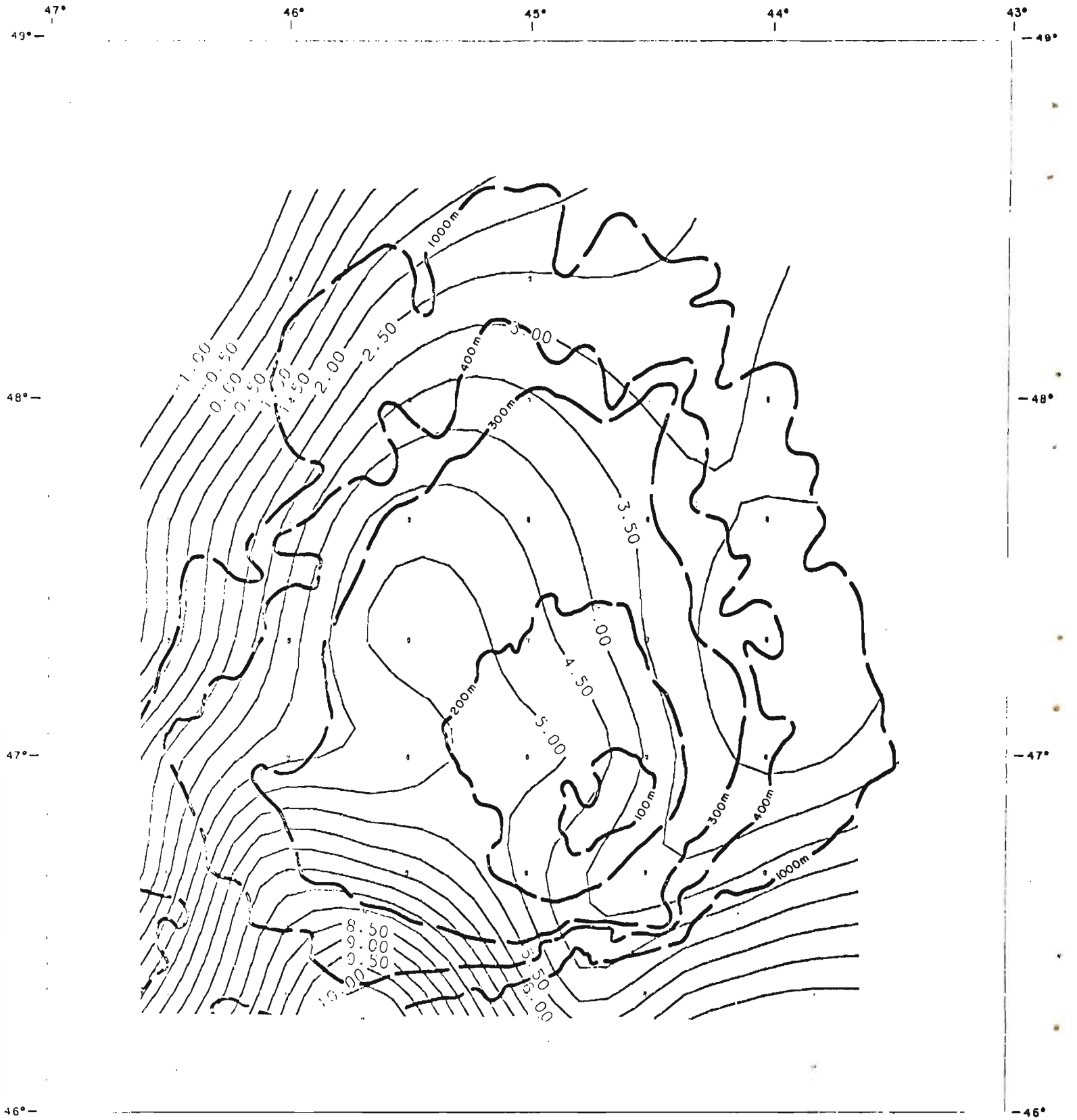

Fig. 88. Temperature contours at 050 meters - ZAGREB 04 (July 1980).

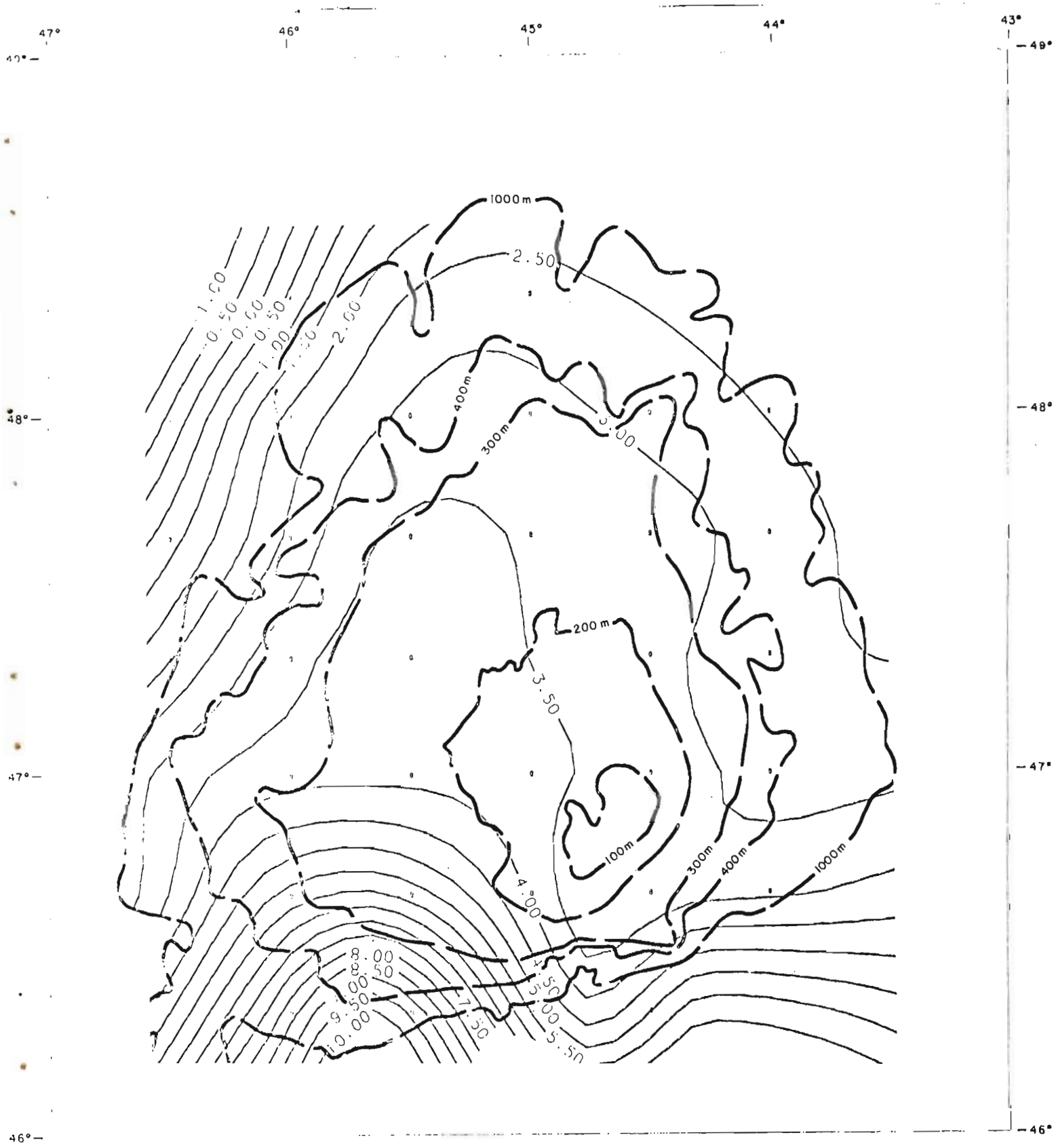

Fig. 89. Temperature contours at 075 meters - ZAGREB 04 (July 1980).

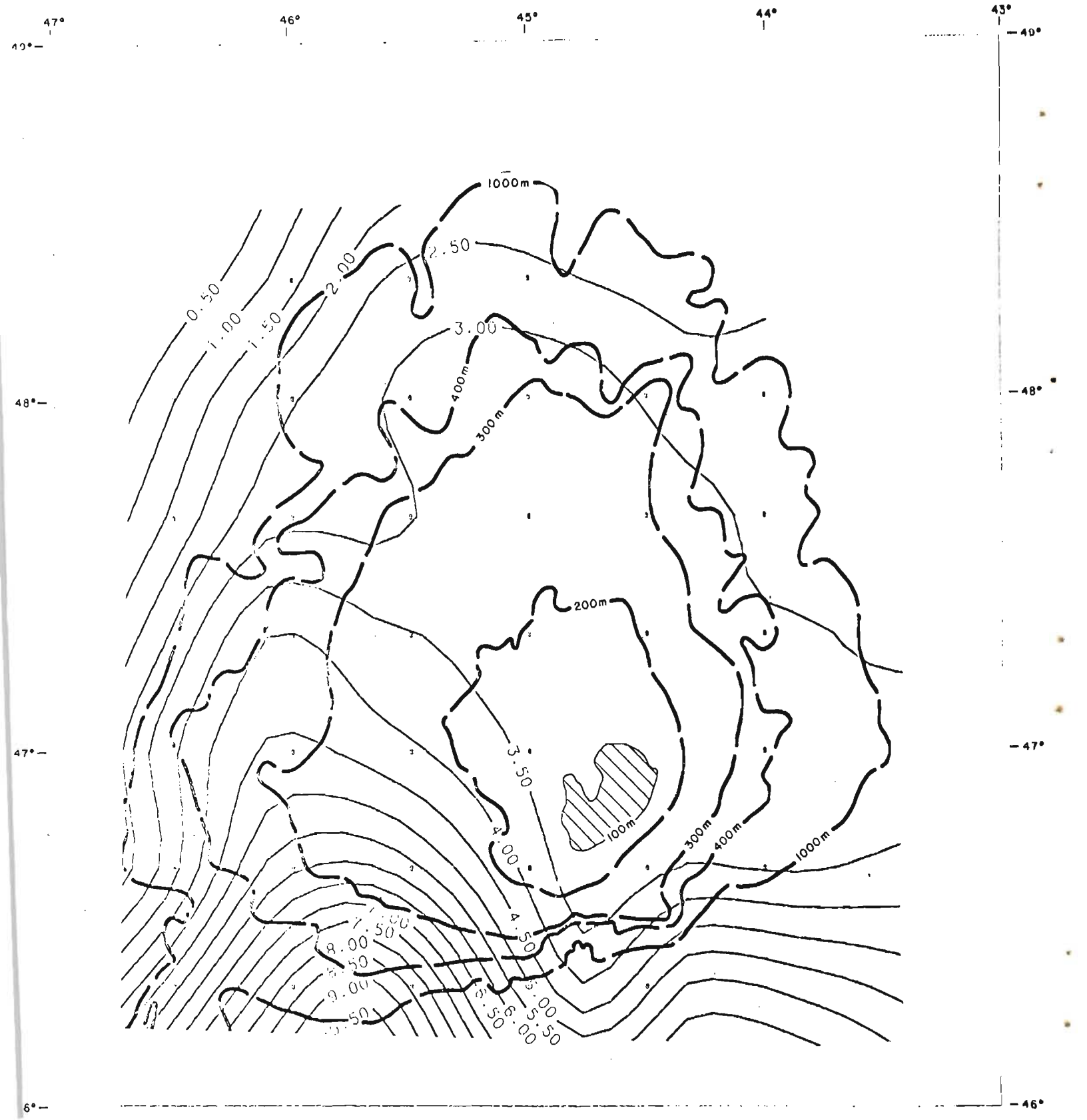

Fig. 90. Temperature contours at 100 meters - ZAGREB 04 (July 1980).

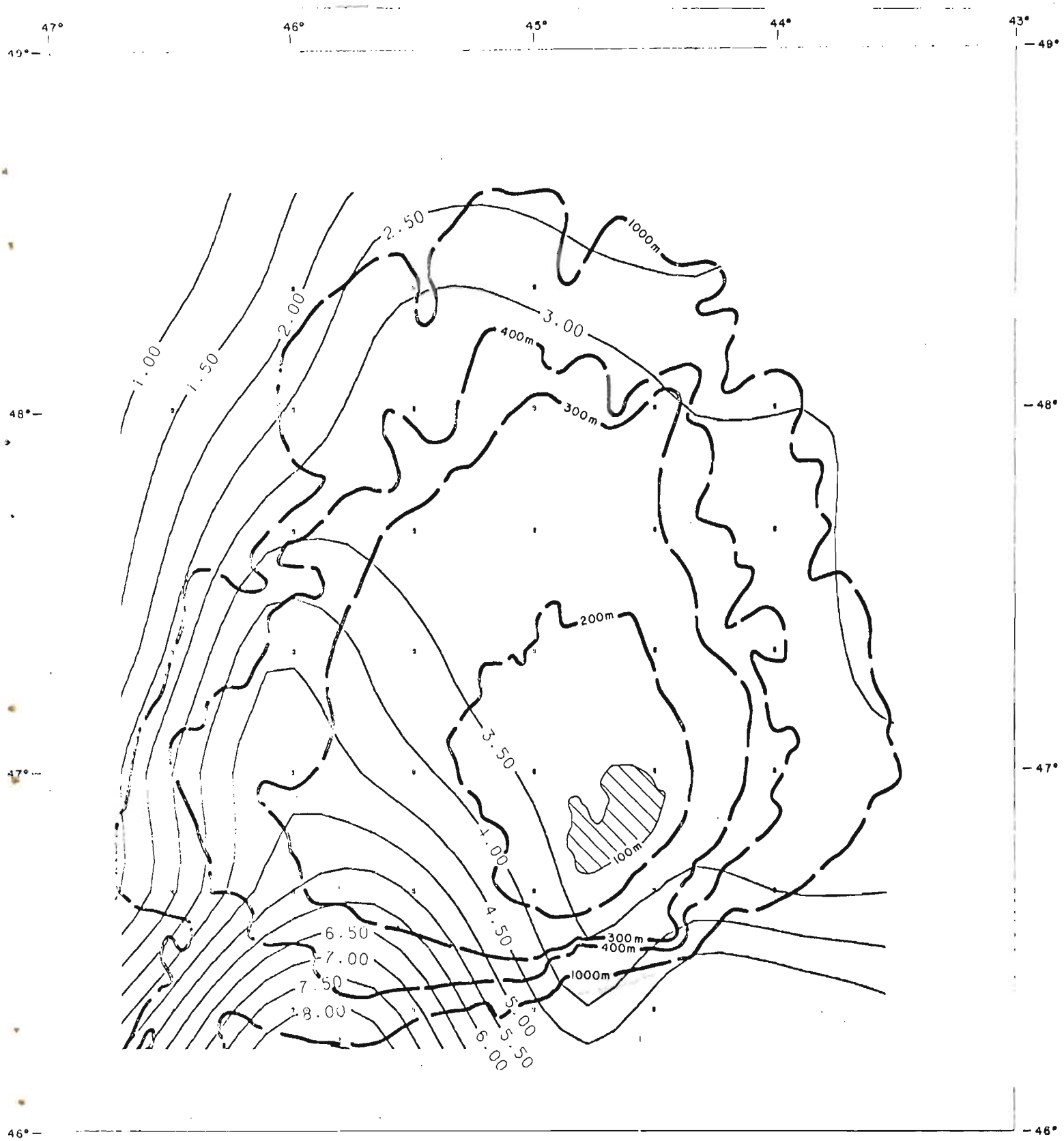

Fig. 91. Temperature contours at 125 meters - ZAGREB 04 (July 1980).

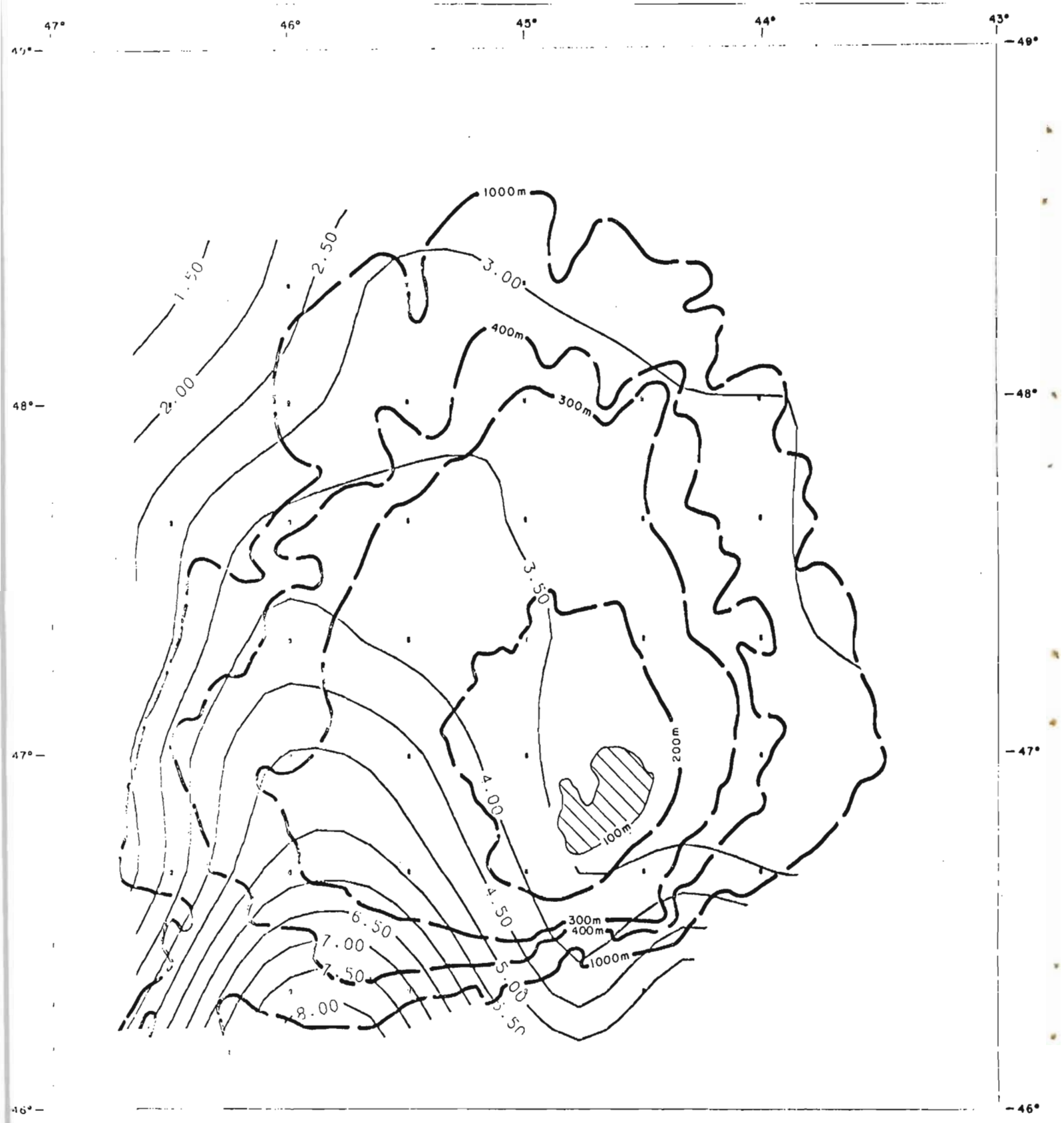

Fig. 92. Temperature contours at 150 meters - ZAGREB 04 (July 1980).

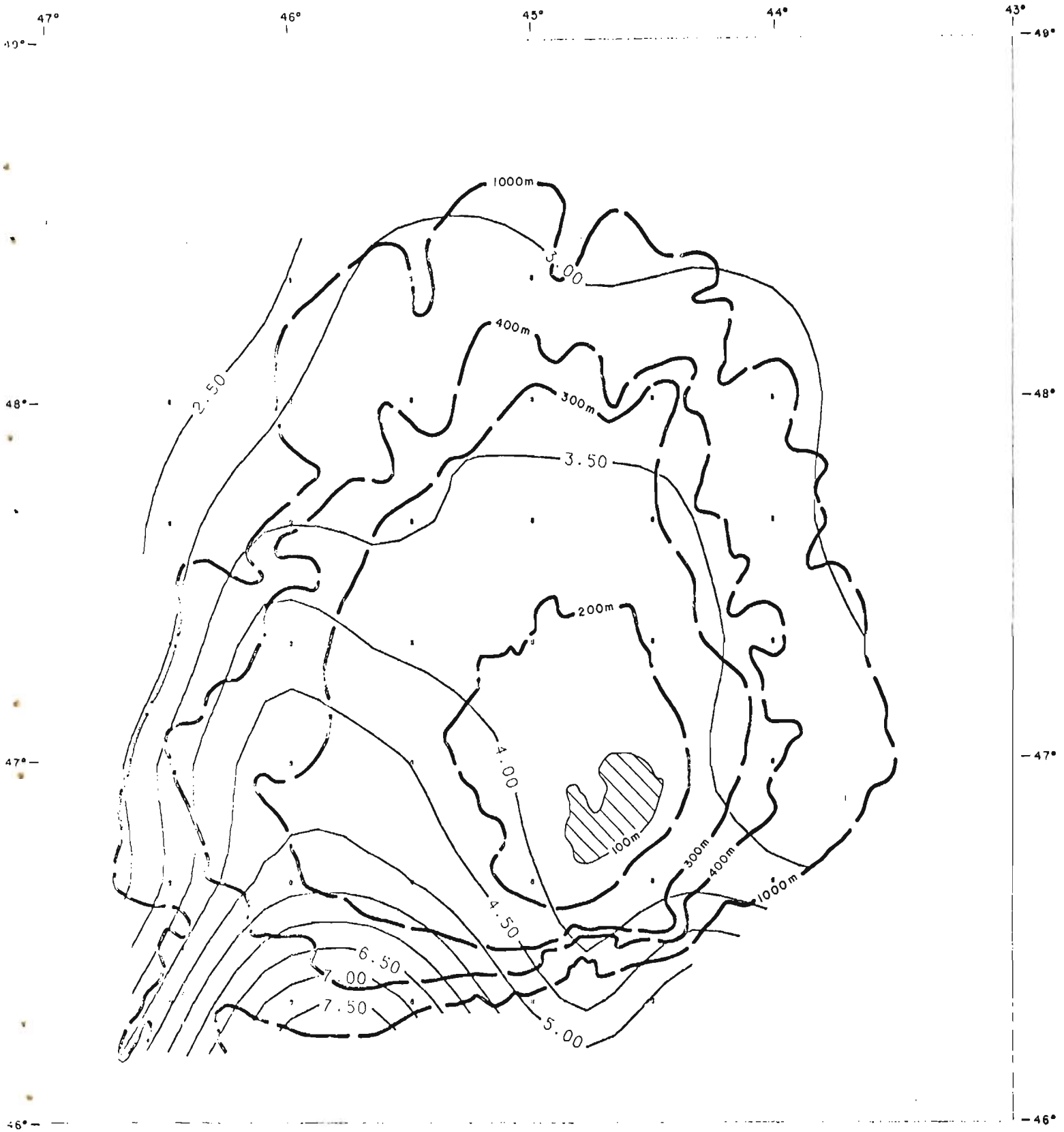

Fig. 93. Temperature contours at 175 meters - ZAGREB 04 (July 1980).

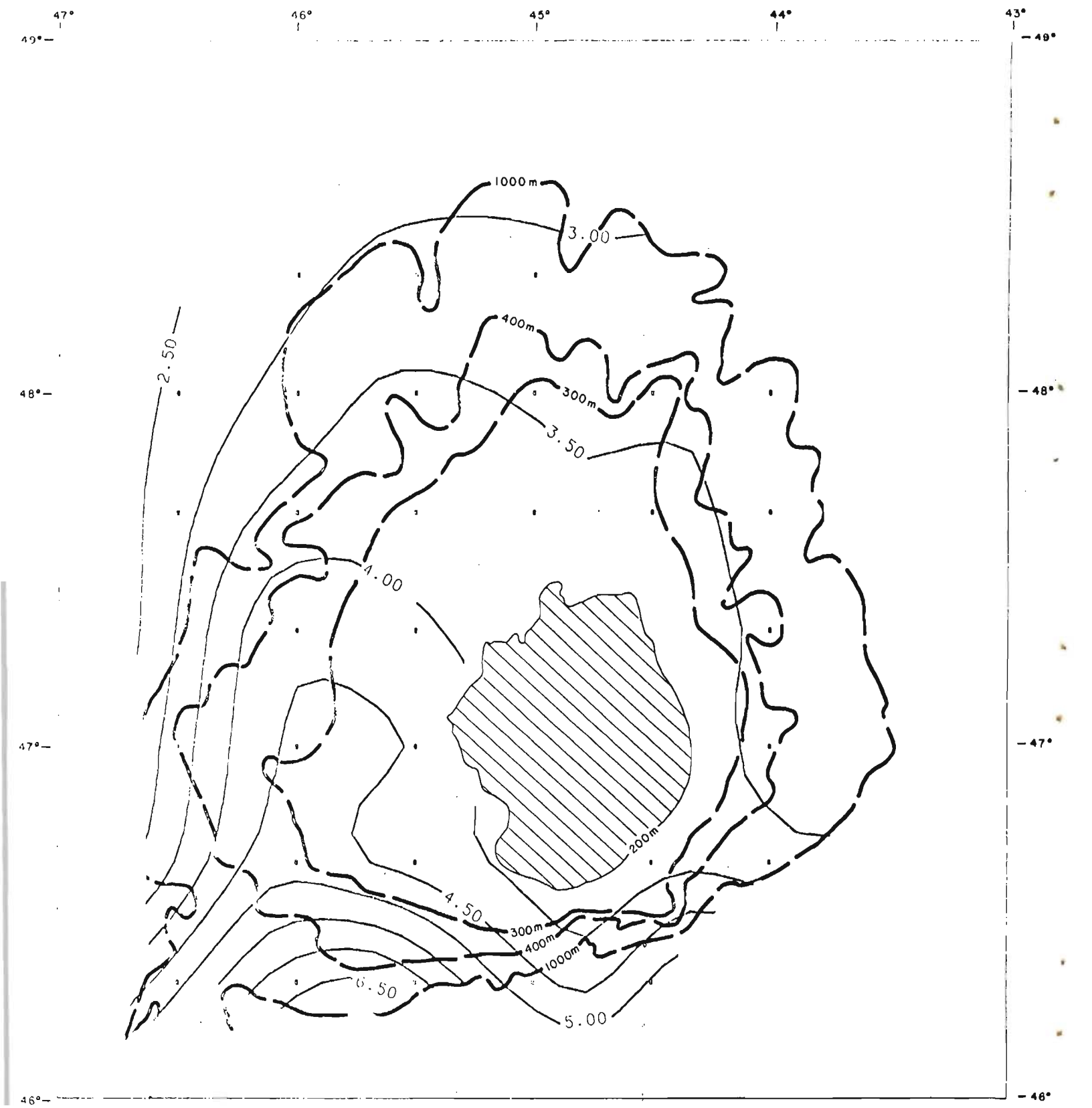

Fig. 94. Temperature contours at 200 meters - ZAGREB 04 (July 1980).

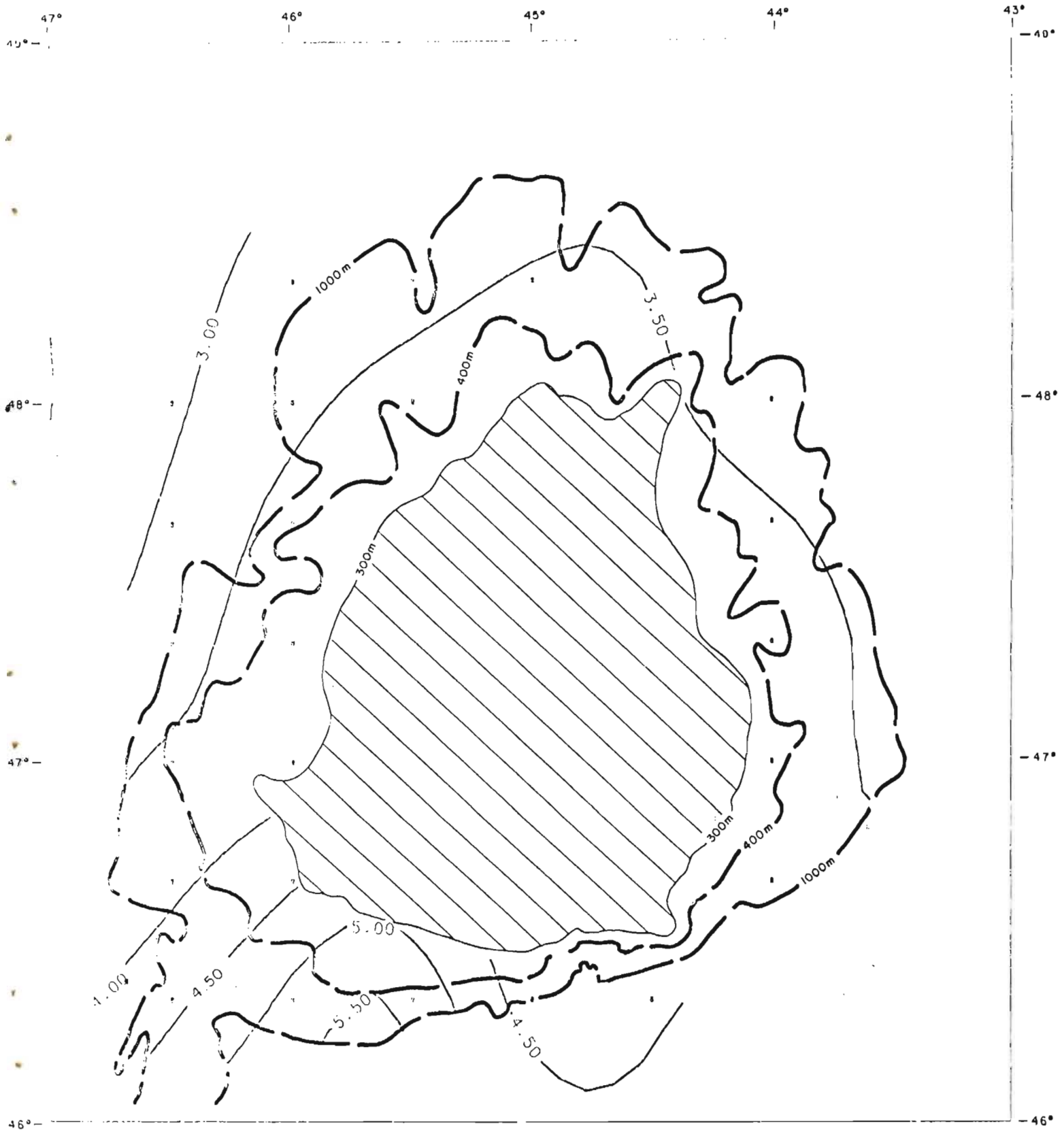

Fig. 95. Temperature contours at 300 meters - ZAGREB 04 (July 1980).

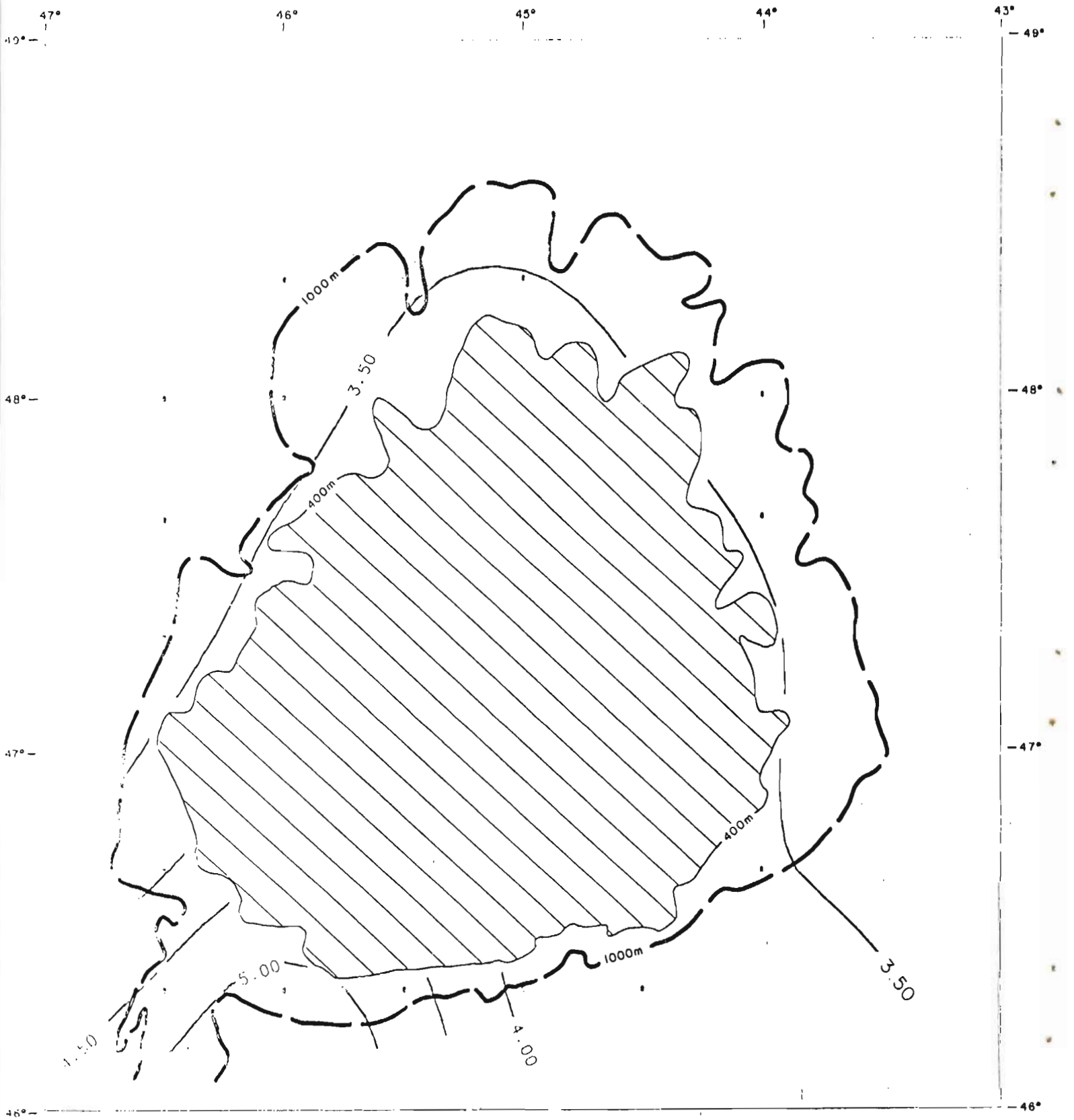

Fig. 96. Temperature contours at 400 meters - ZAGREB 04 (July 1980).

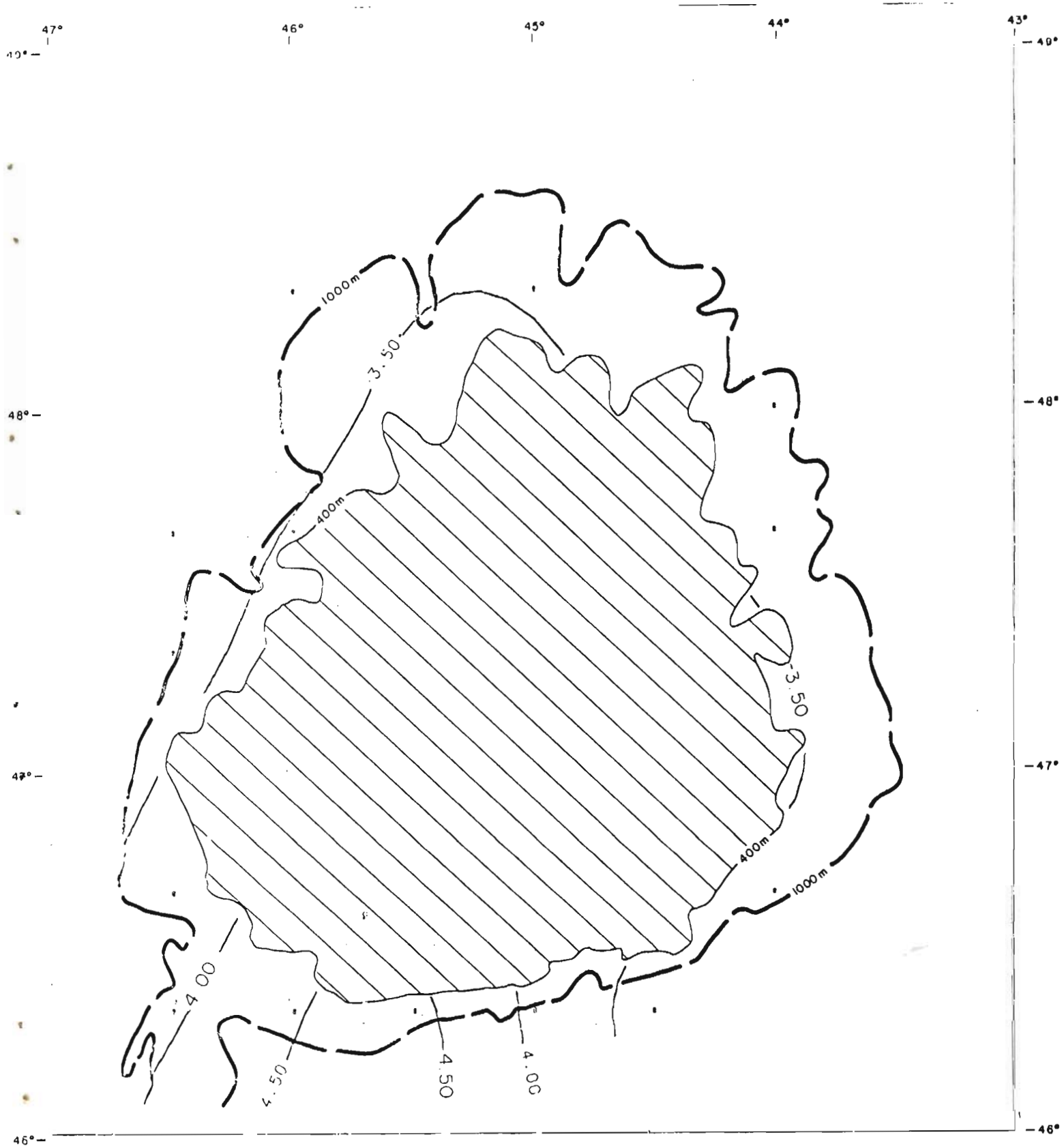

Fig. 97. Temperature contours at 500 meters - ZAGREB 04 (July 1980).

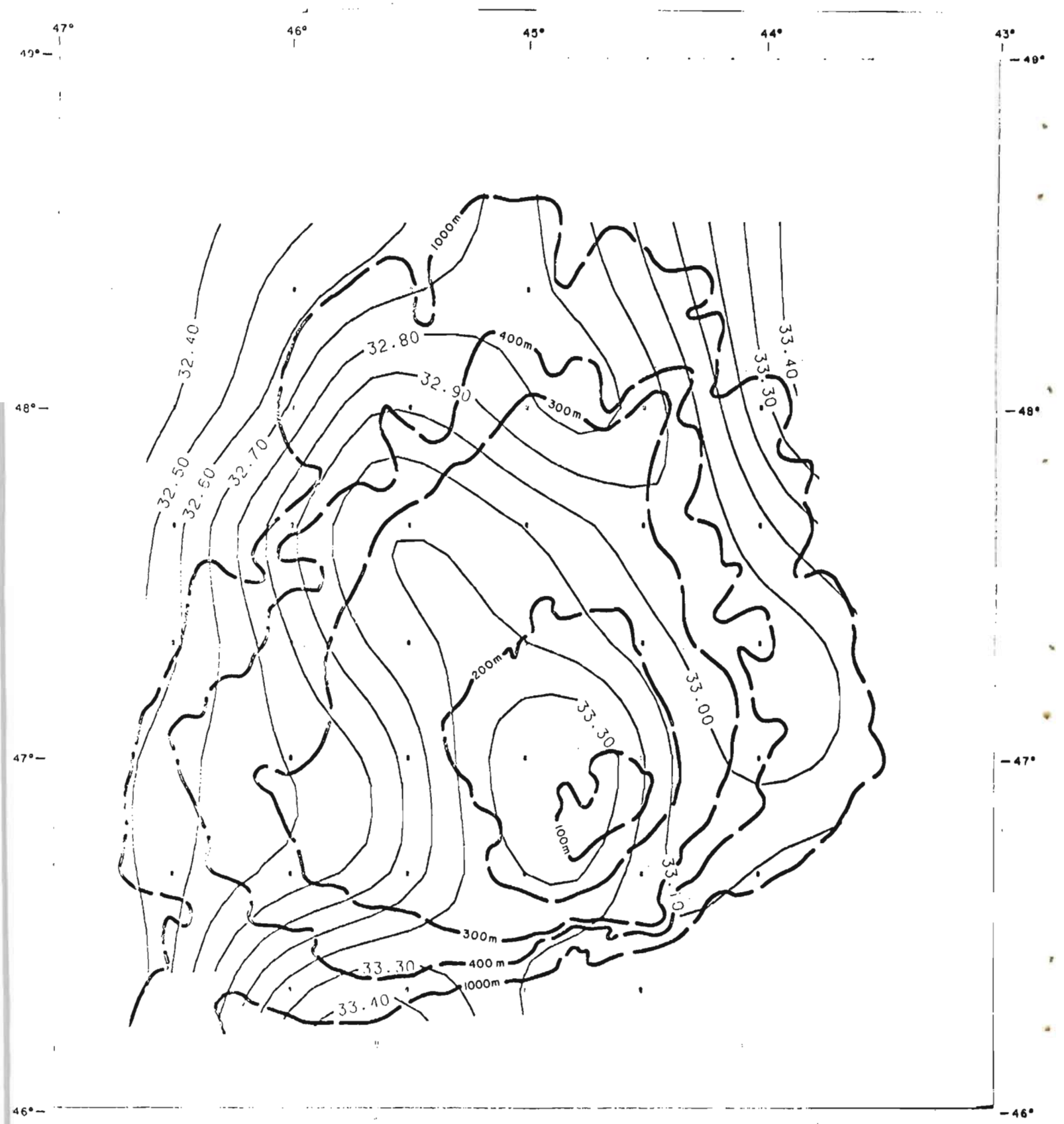

Fig. 98. Salinity contours at 000 meters - ZAGREB 04 (July 1980).

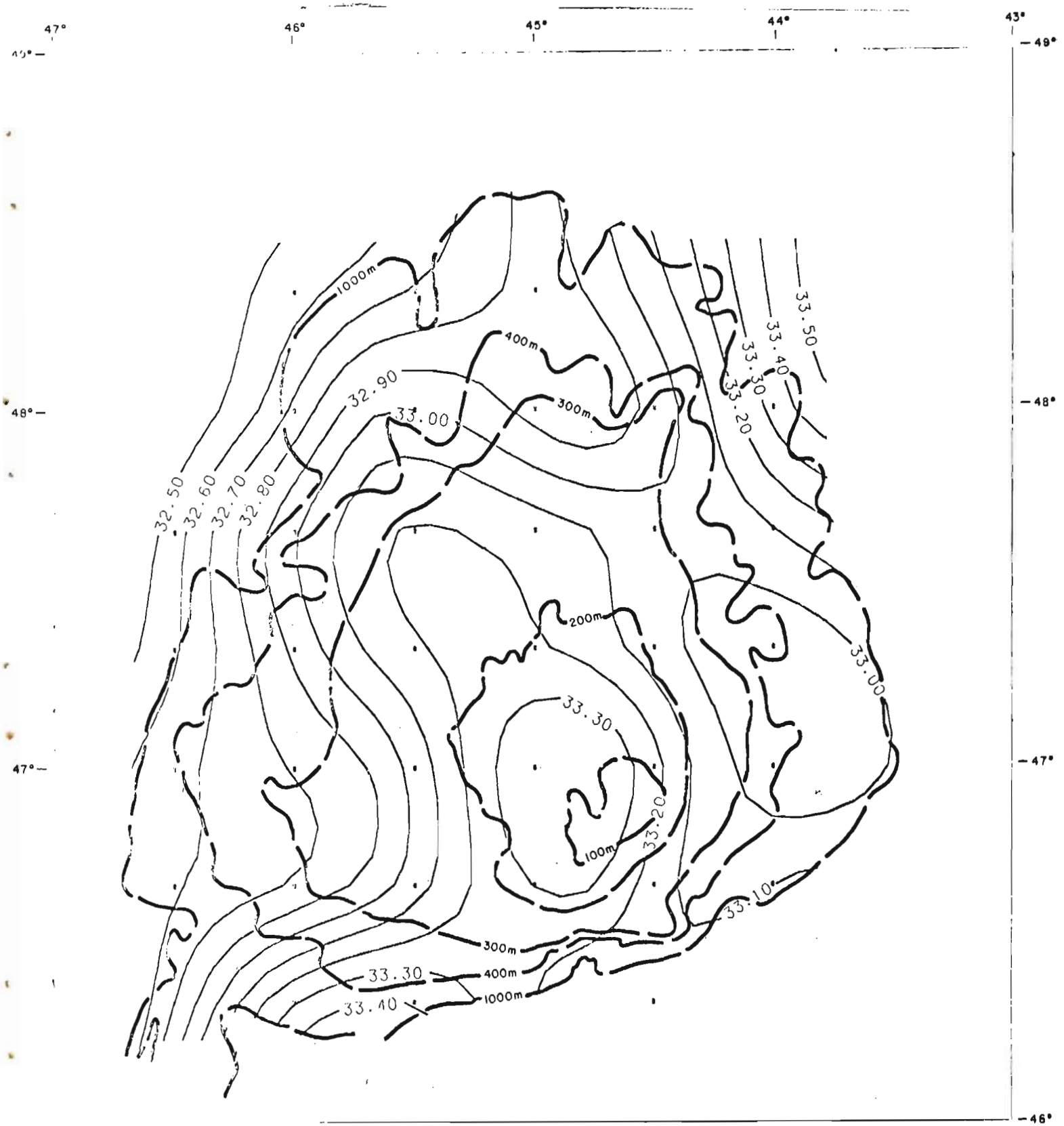

Fig. 99. Salinity contours at 010 meters - ZAGREB 04 (July 1980).

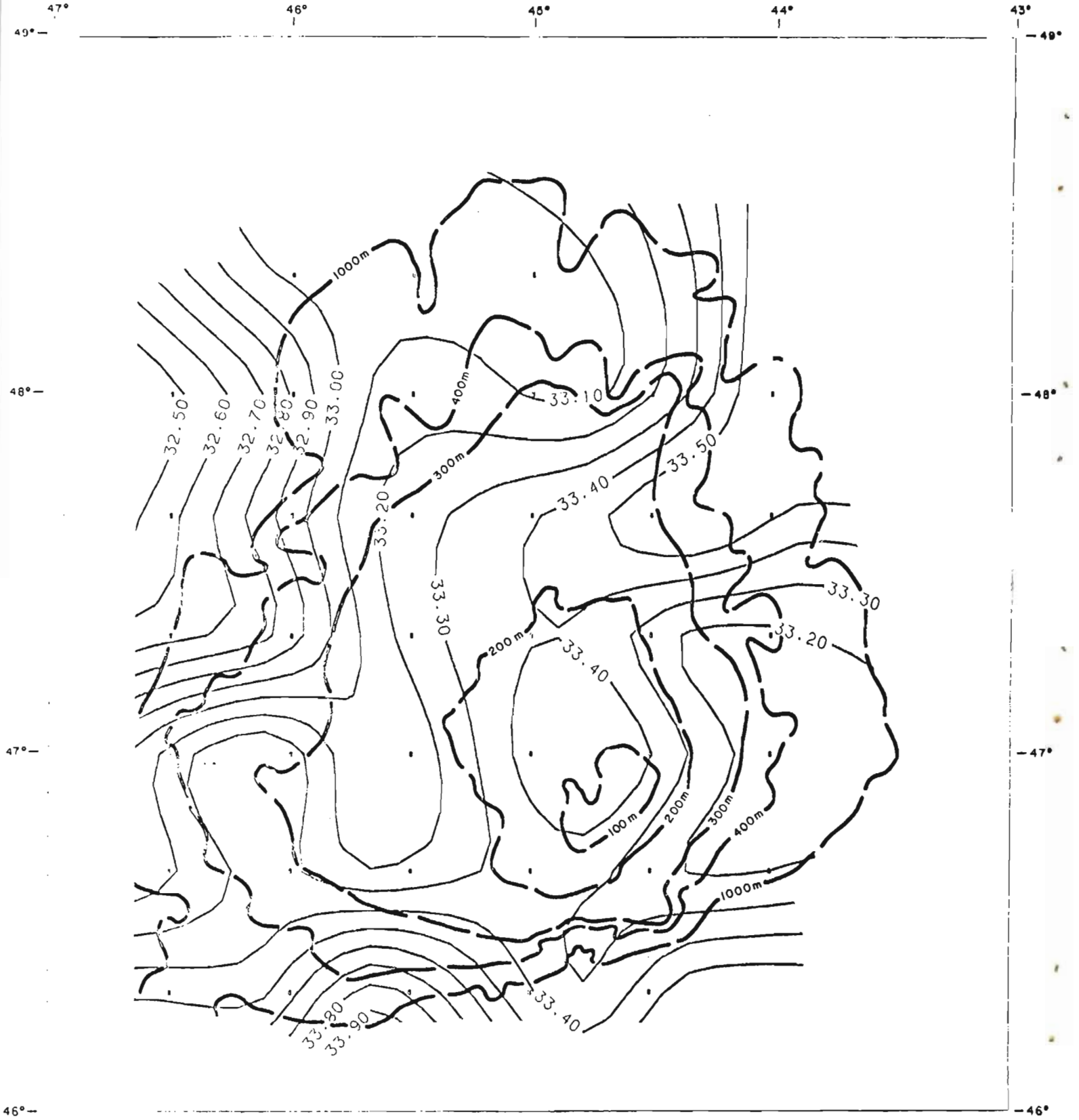

Fig. 100. Salinity contours at 020 meters - ZAGREB 04 (July 1980).

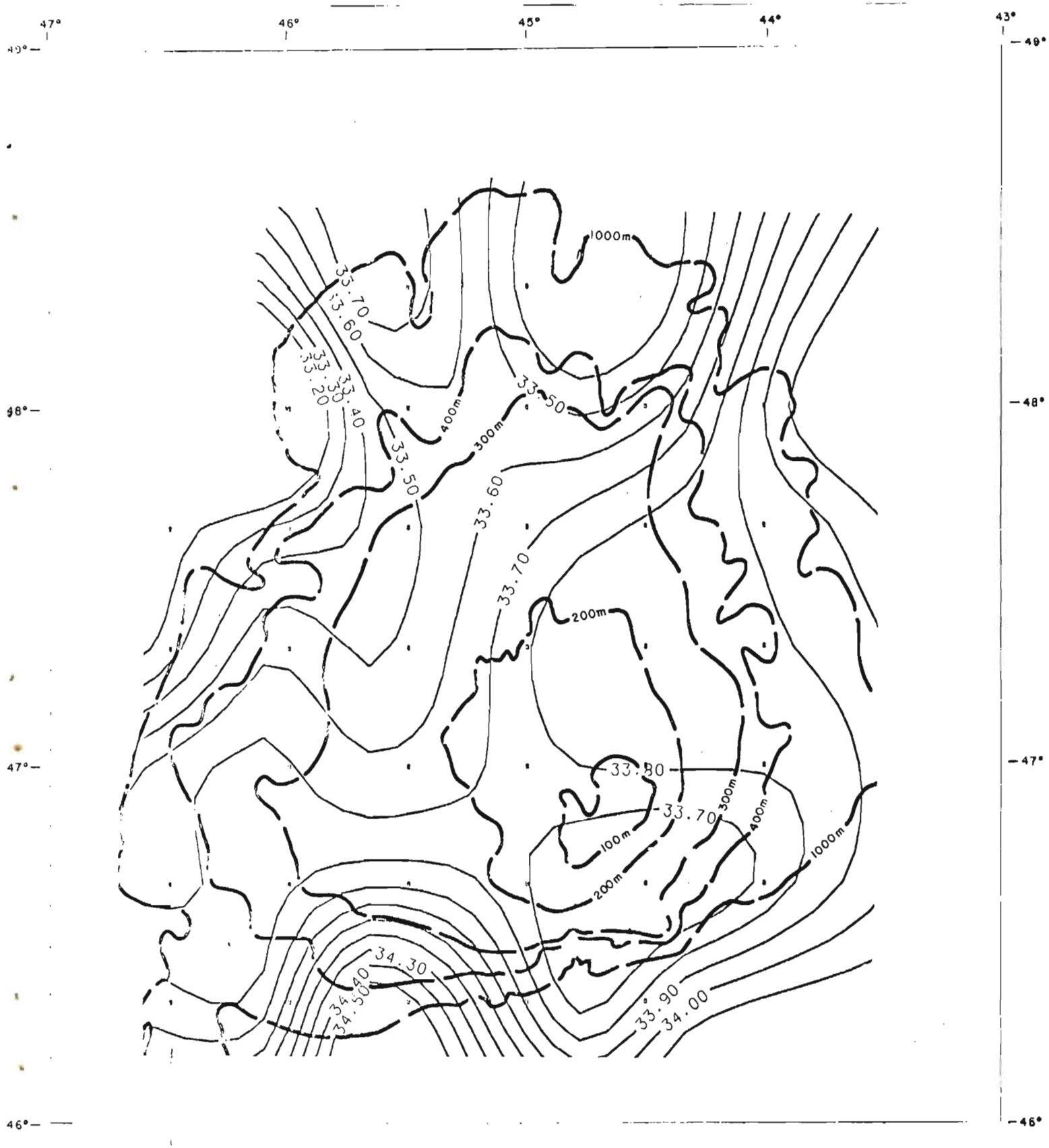

Fig. 101. Salinity contours at 030 meters - ZAGREB 04 (July 1980).

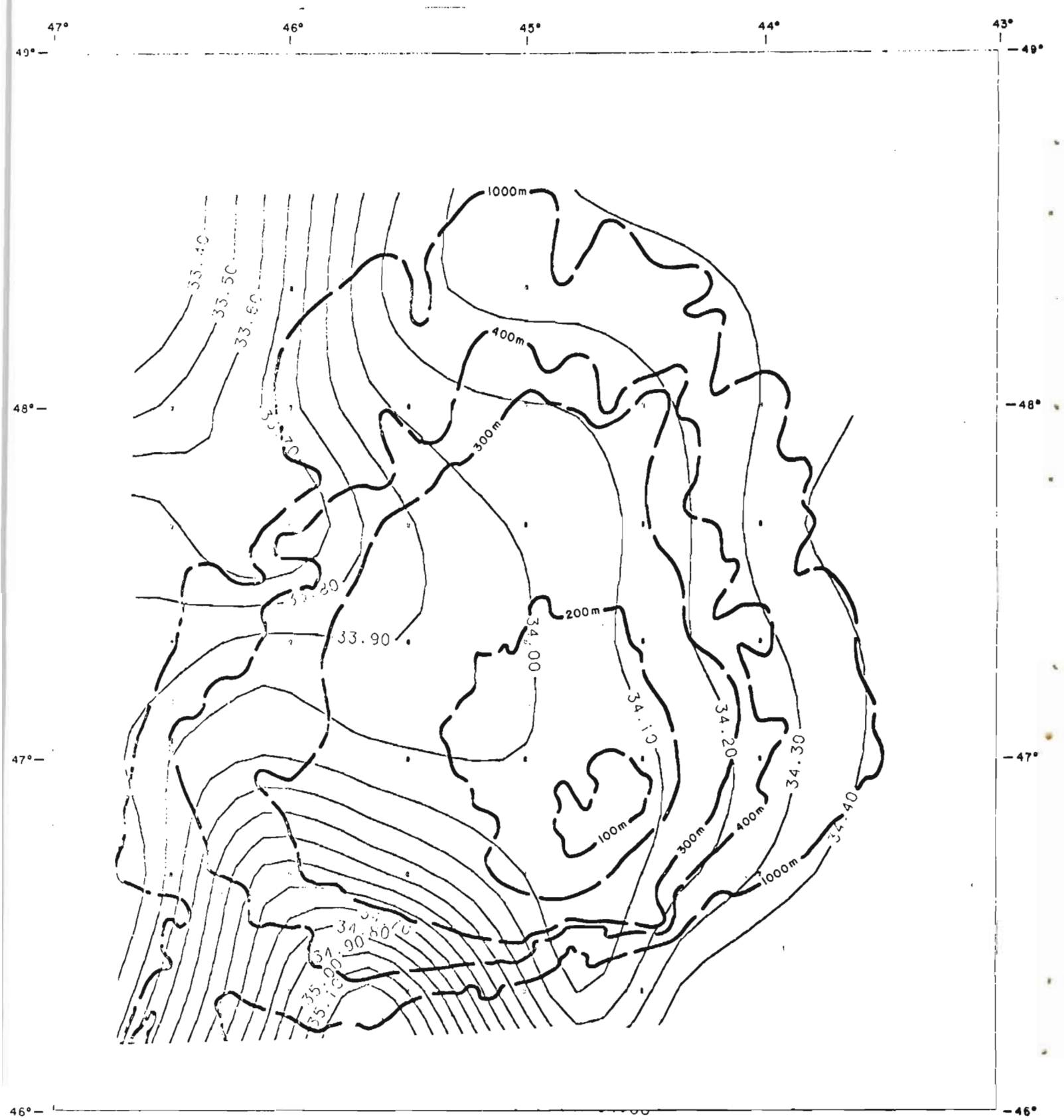

Fig. 102. Salinity contours at 050 meters - ZAGREB 04 (July 1980).

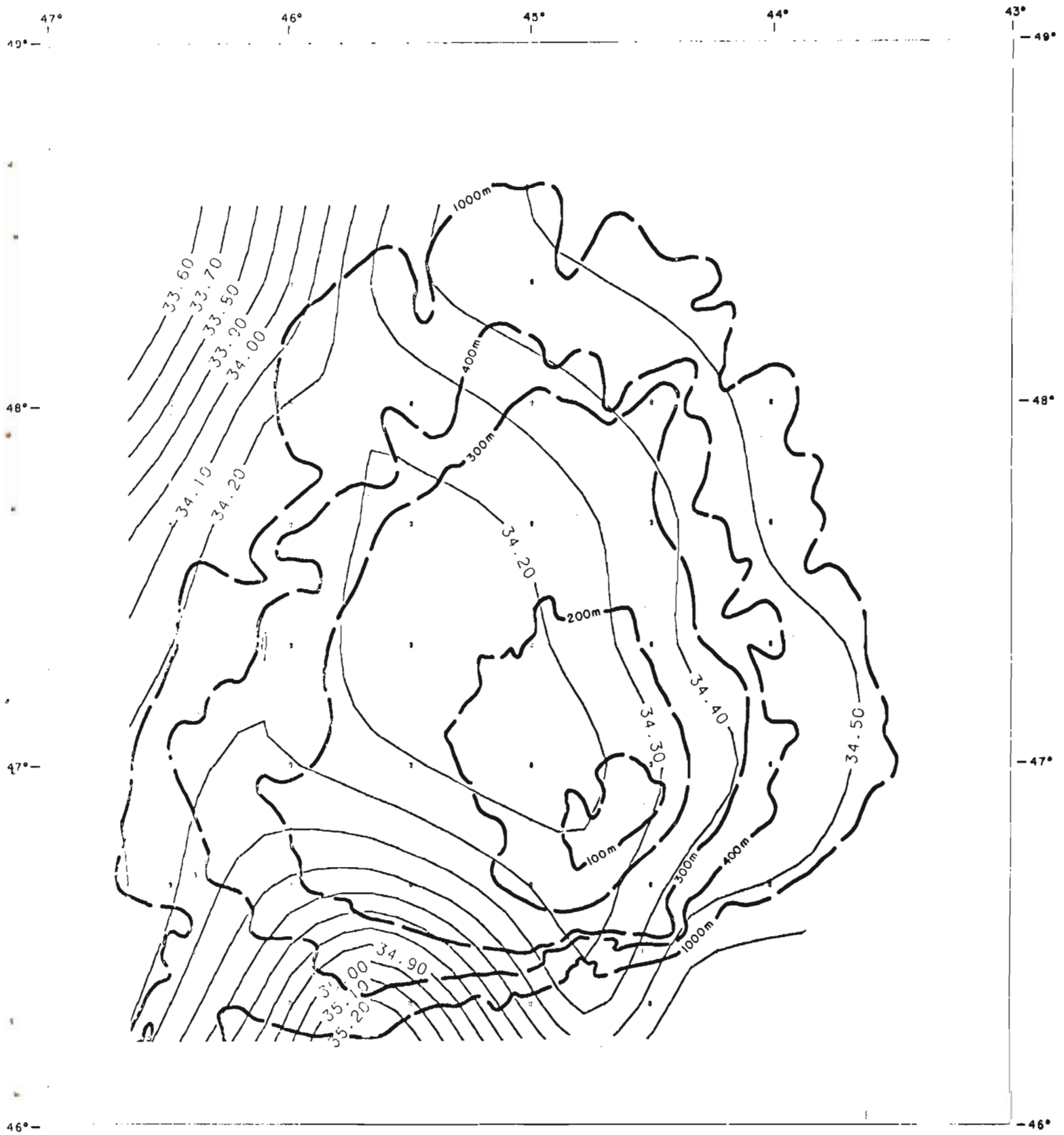

Fig. 103. Salinity contours at 075 meters - ZAGREB 04 (July 1980).

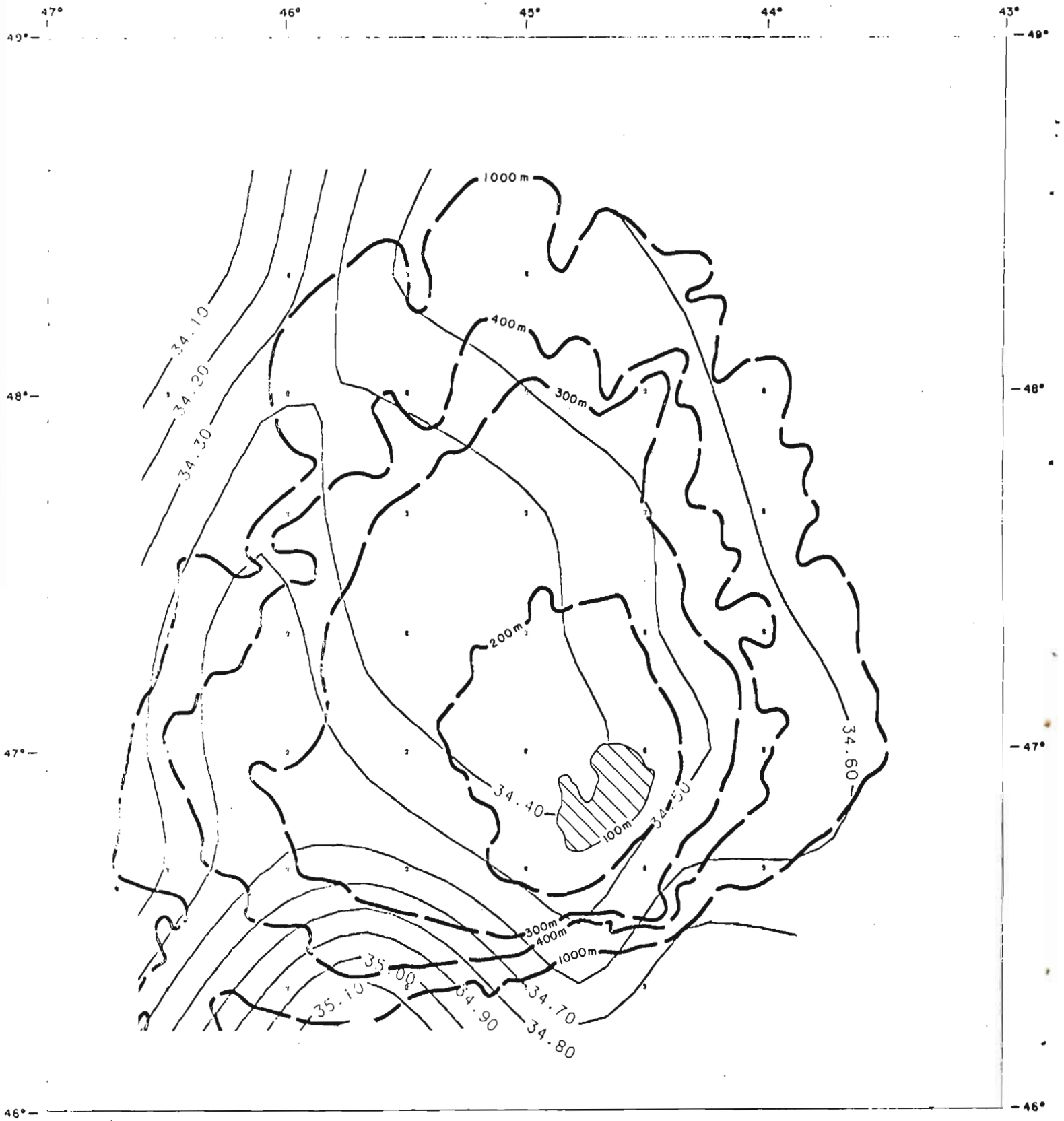

Fig. 104. Salinity contours at 100 meters - ZAGREB 04 (July 1980).

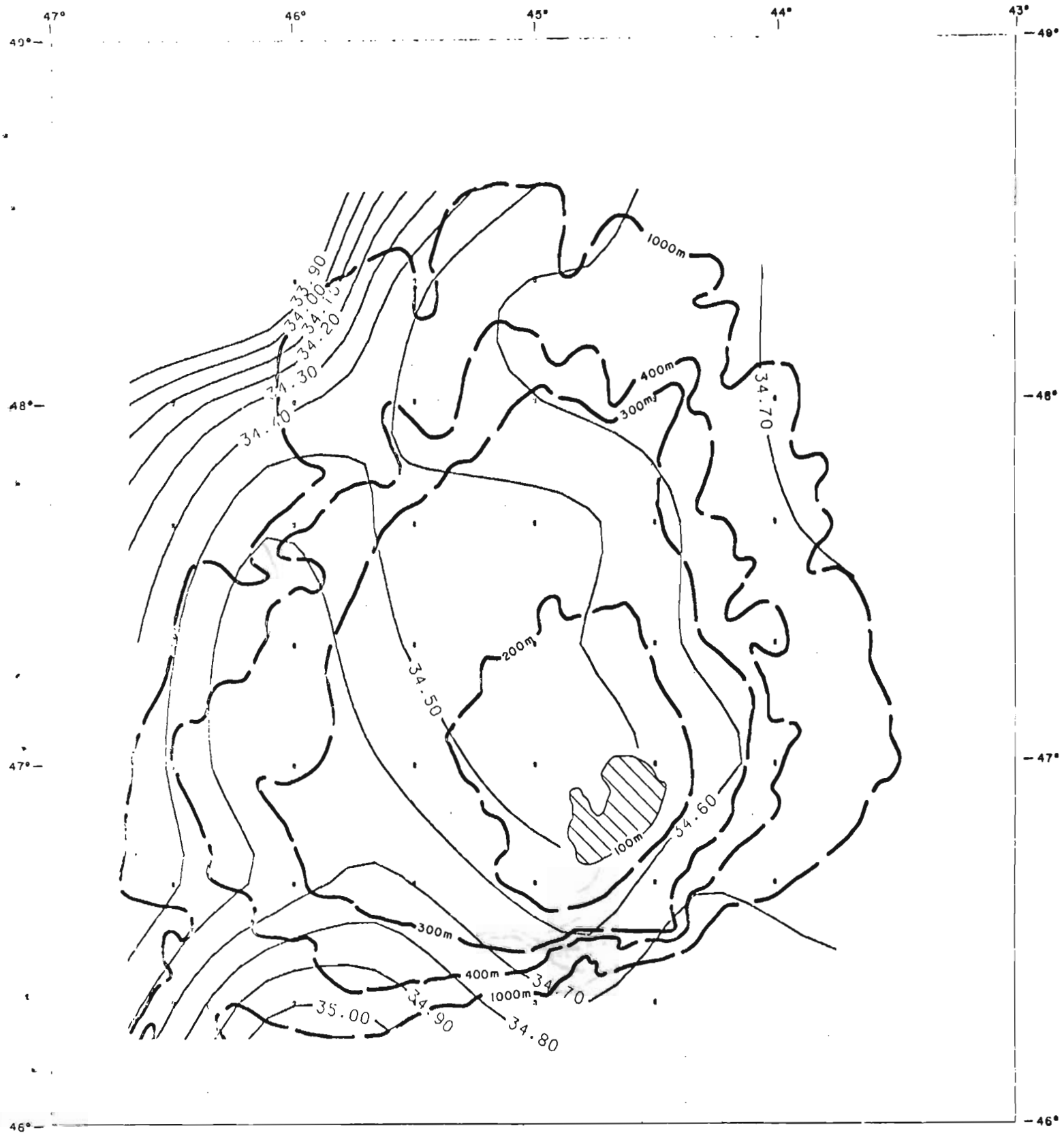

Fig. 105. Salinity contours at 125 meters - ZAGREB 04 (July 1980).

Fig. 106. Salinity contours at 150 meters - ZAGREB 04 (July 1980).

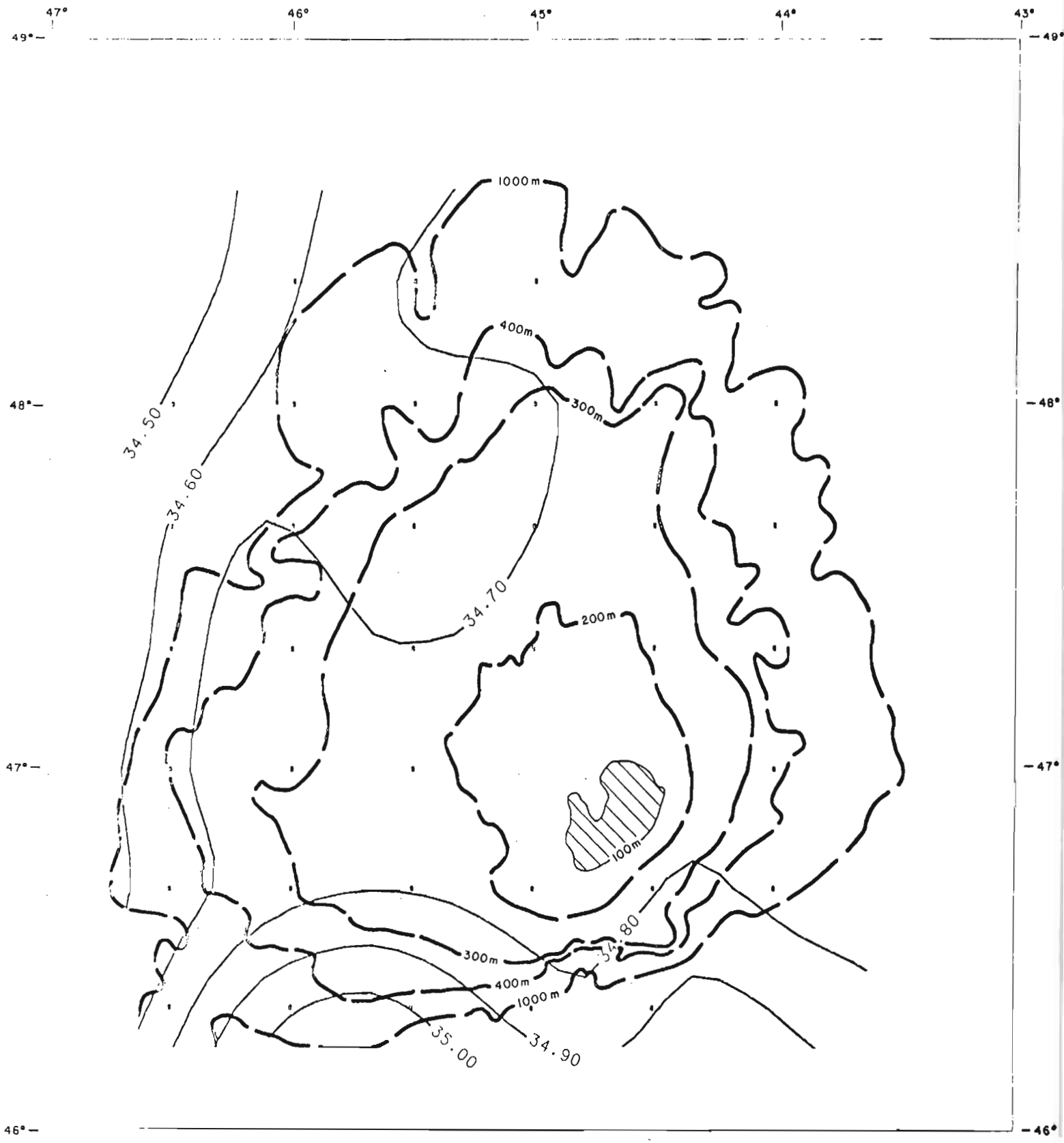

Fig. 107. Salinity contours at 175 meters - ZAGREB 04 (July 1980).

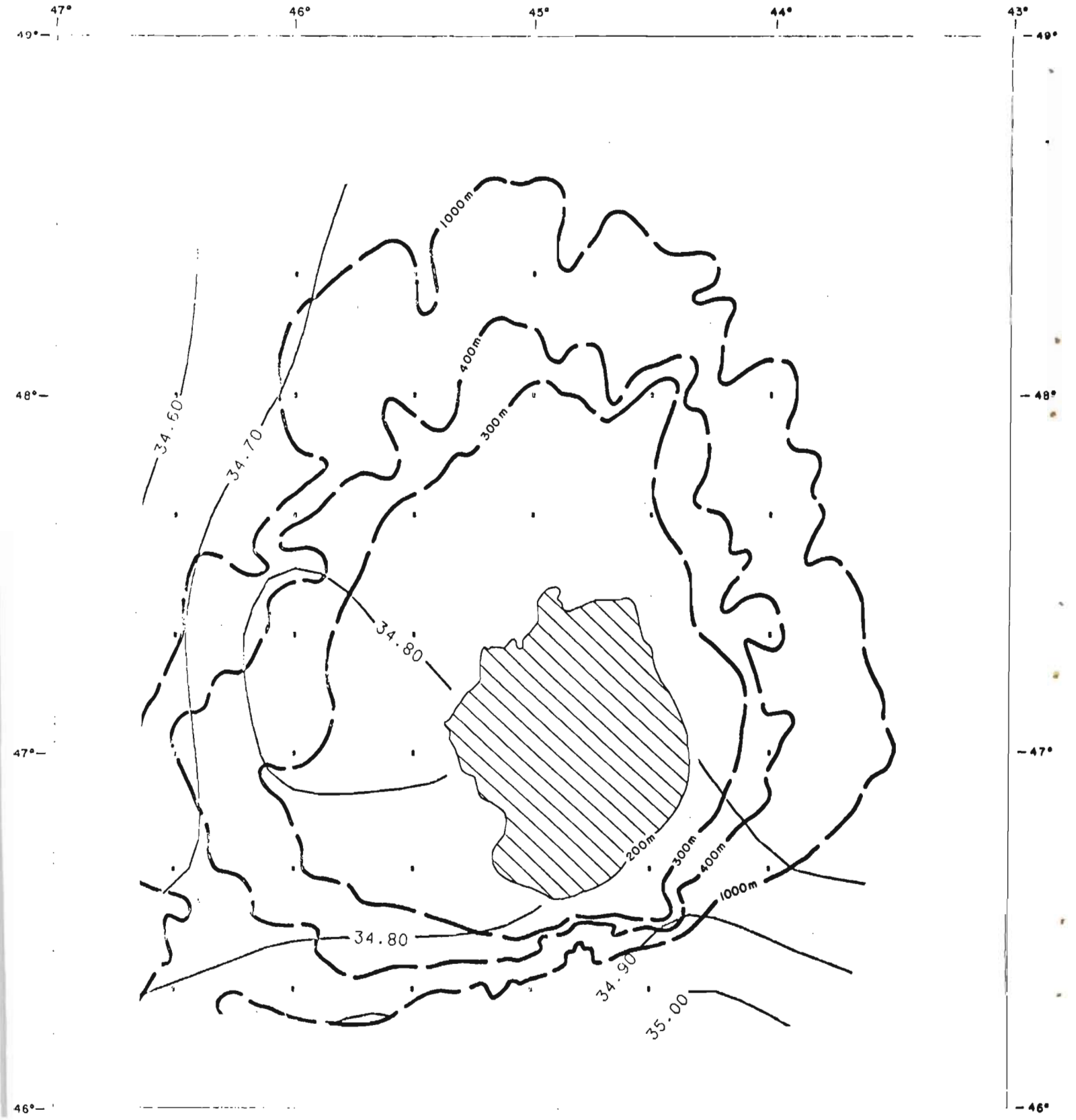

Fig. 108. Salinity contours at 200 meters - ZAGREB 04 (July 1980).

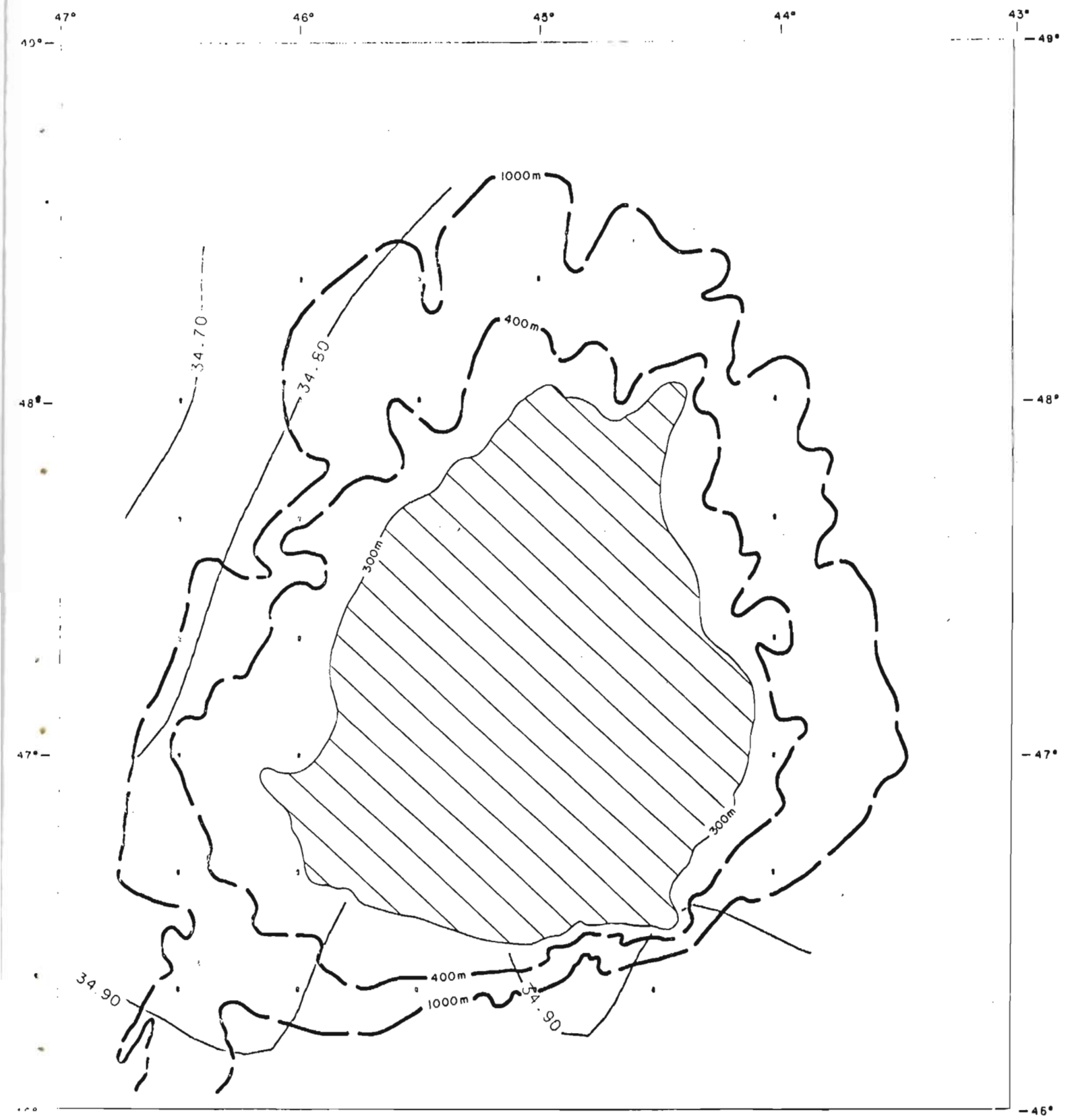

Fig. 109. Salinity contours at 300 meters - ZAGREB 04 (July 1980).

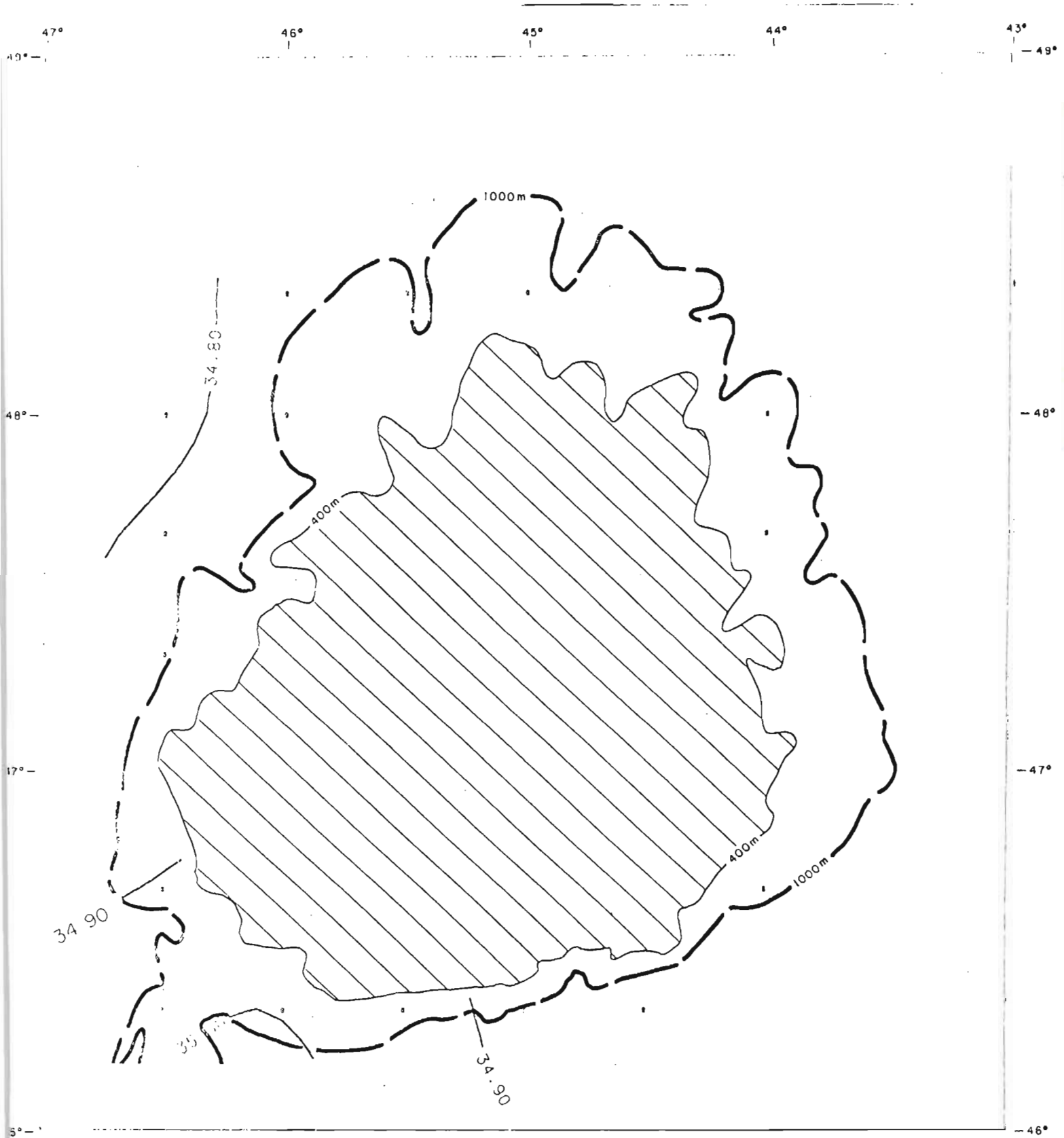

Fig. 110. Salinity contours at 400 meters - ZAGREB 04 (July 1980).

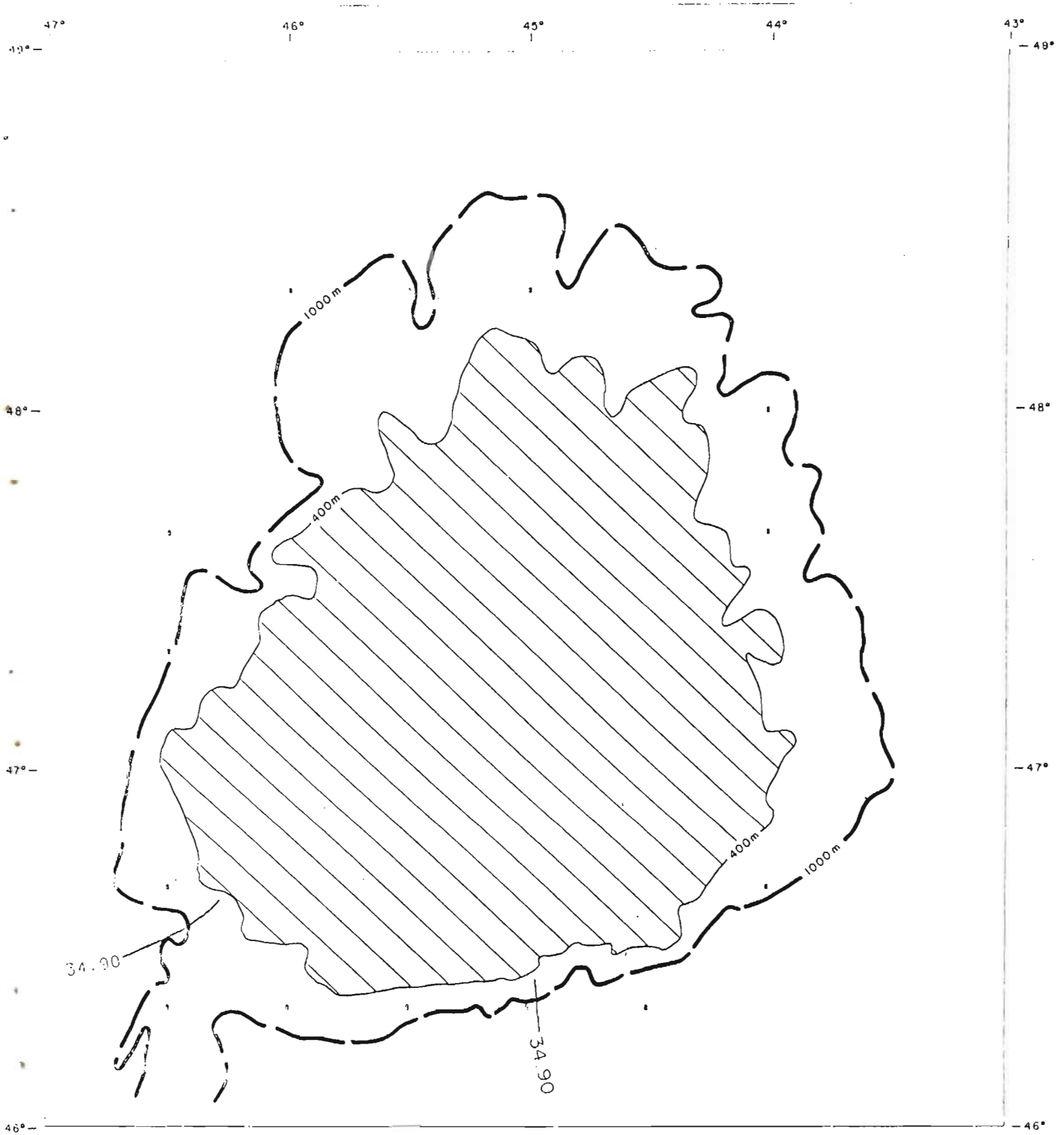

Fig. 111. Salinity contours at 500 meters - ZAGREB 04 (July 1980).

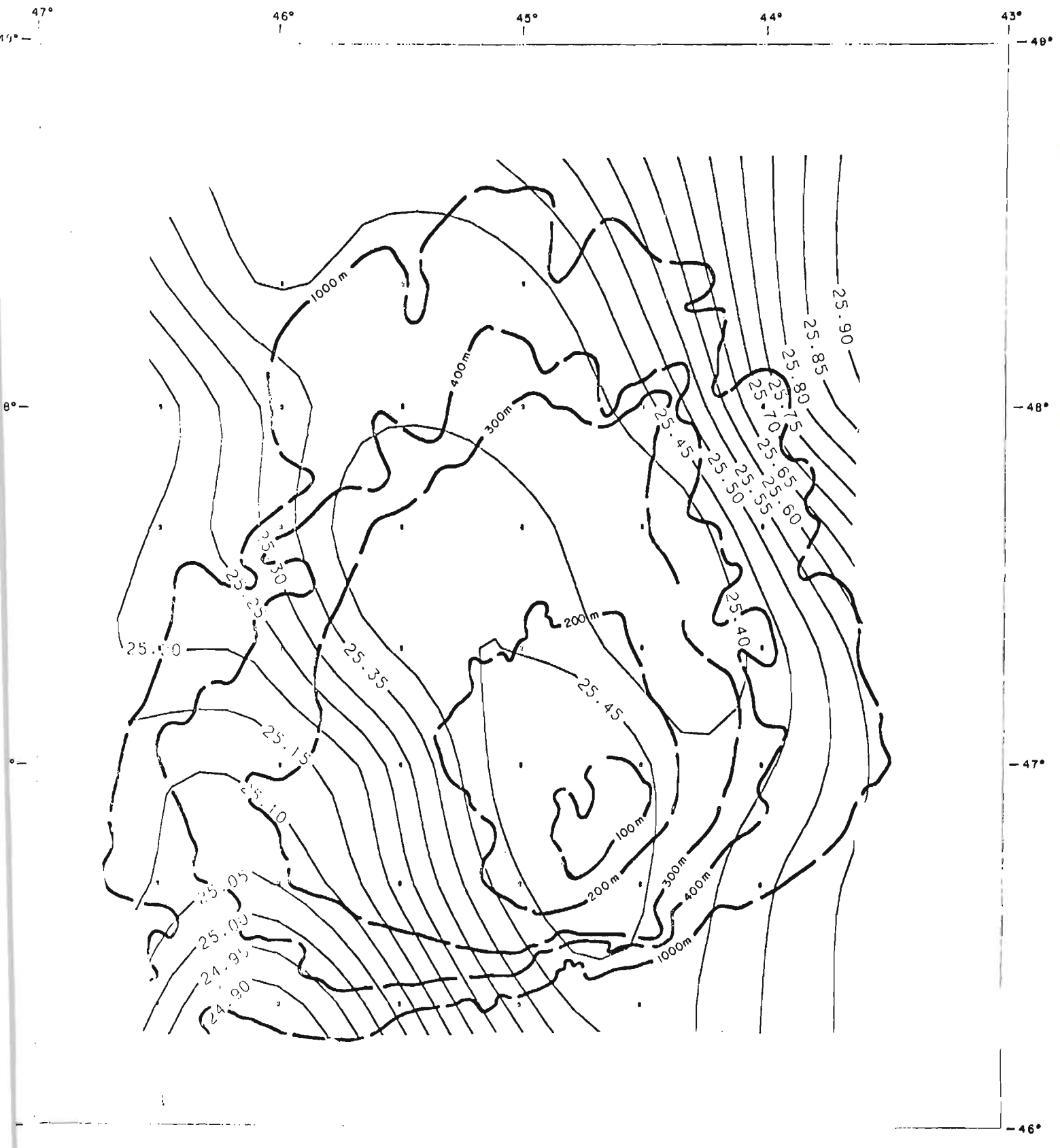

Fig. 112. Density contours at 000 meters - ZAGREB 04 (July 1980).

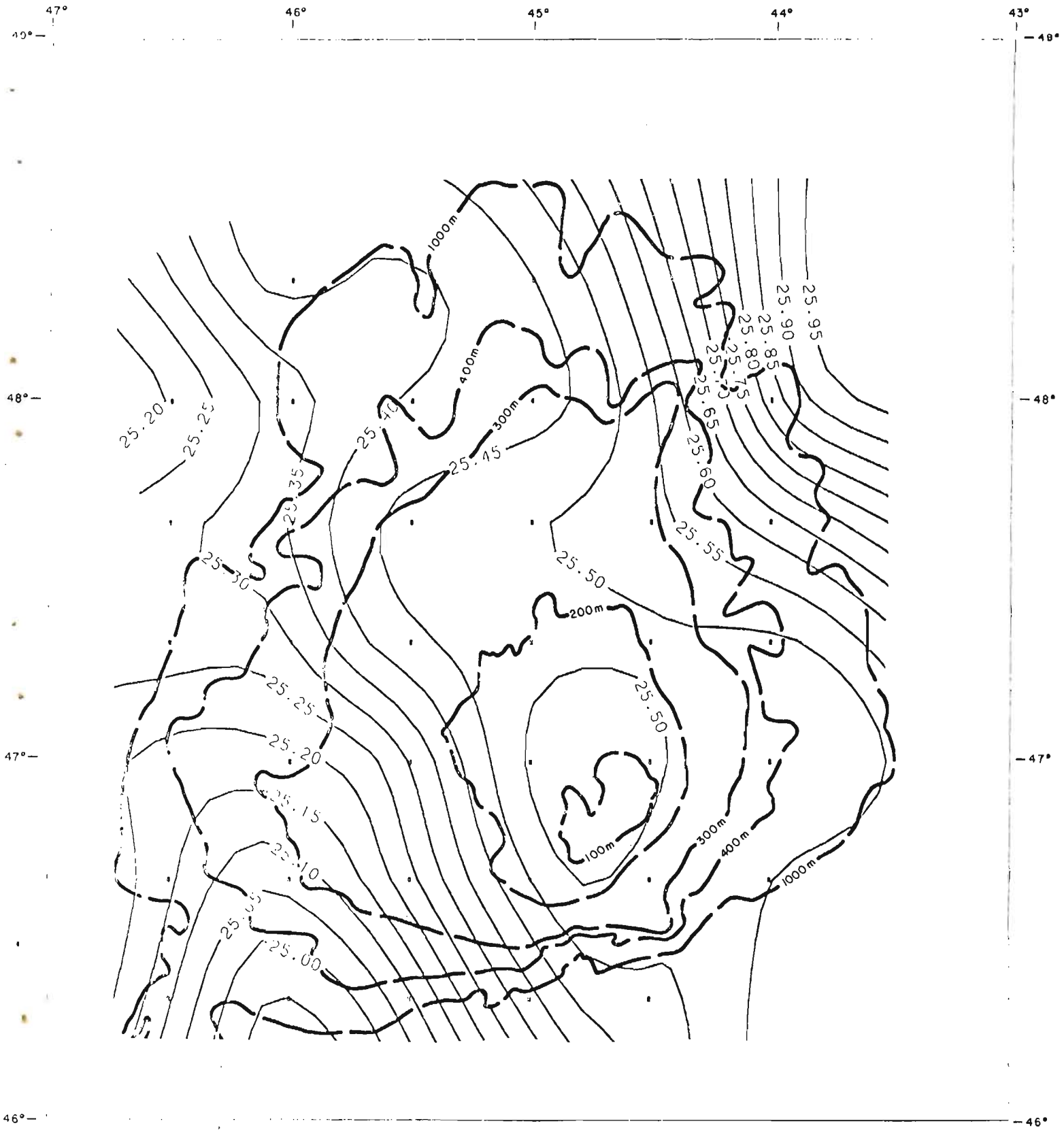

Fig. 113. Density contours at 010 meters - ZAGREB 04 (July 1980).

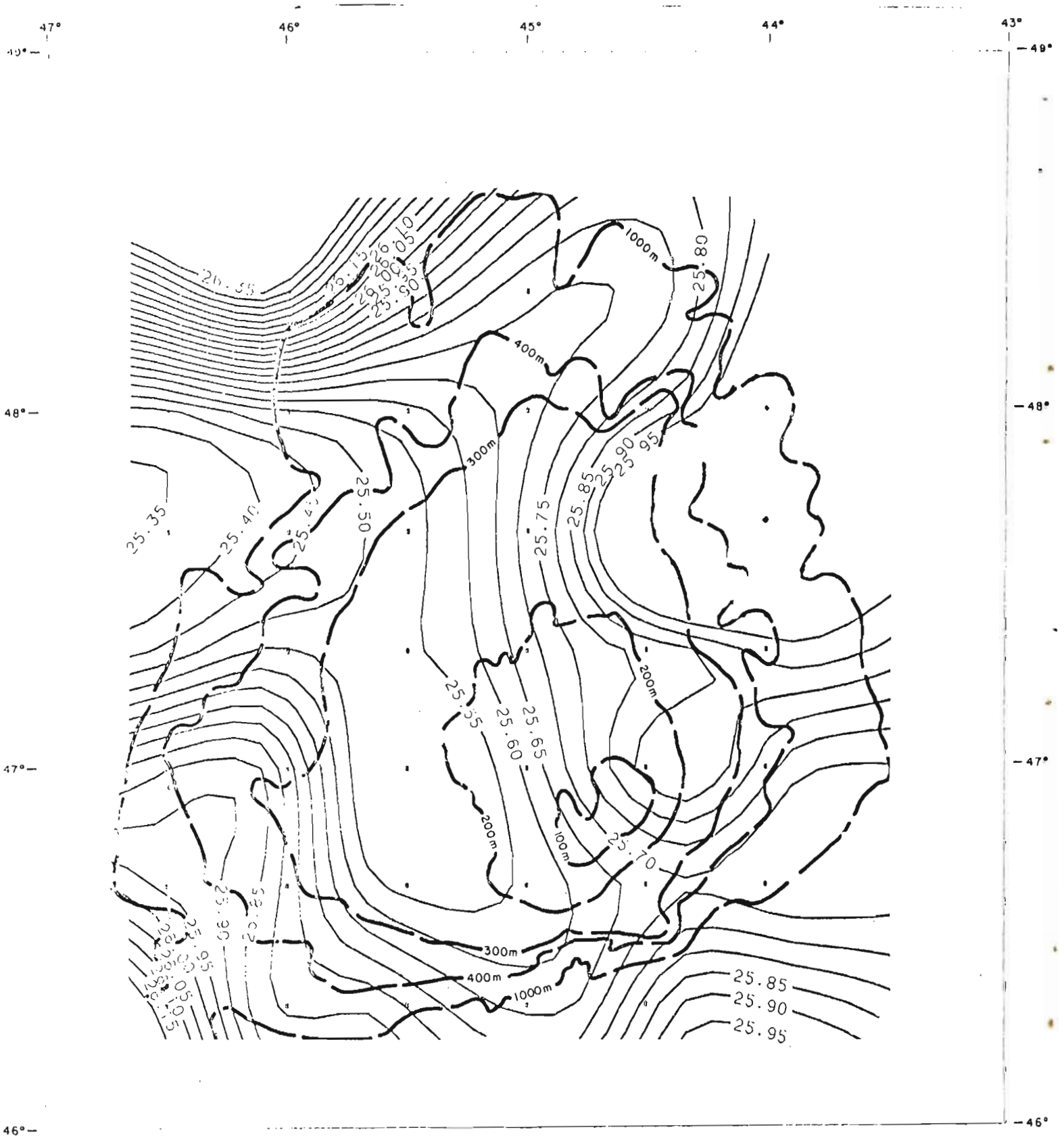

Fig. 114. Density contours at 020 meters - ZAGREB 04 (July 1980).

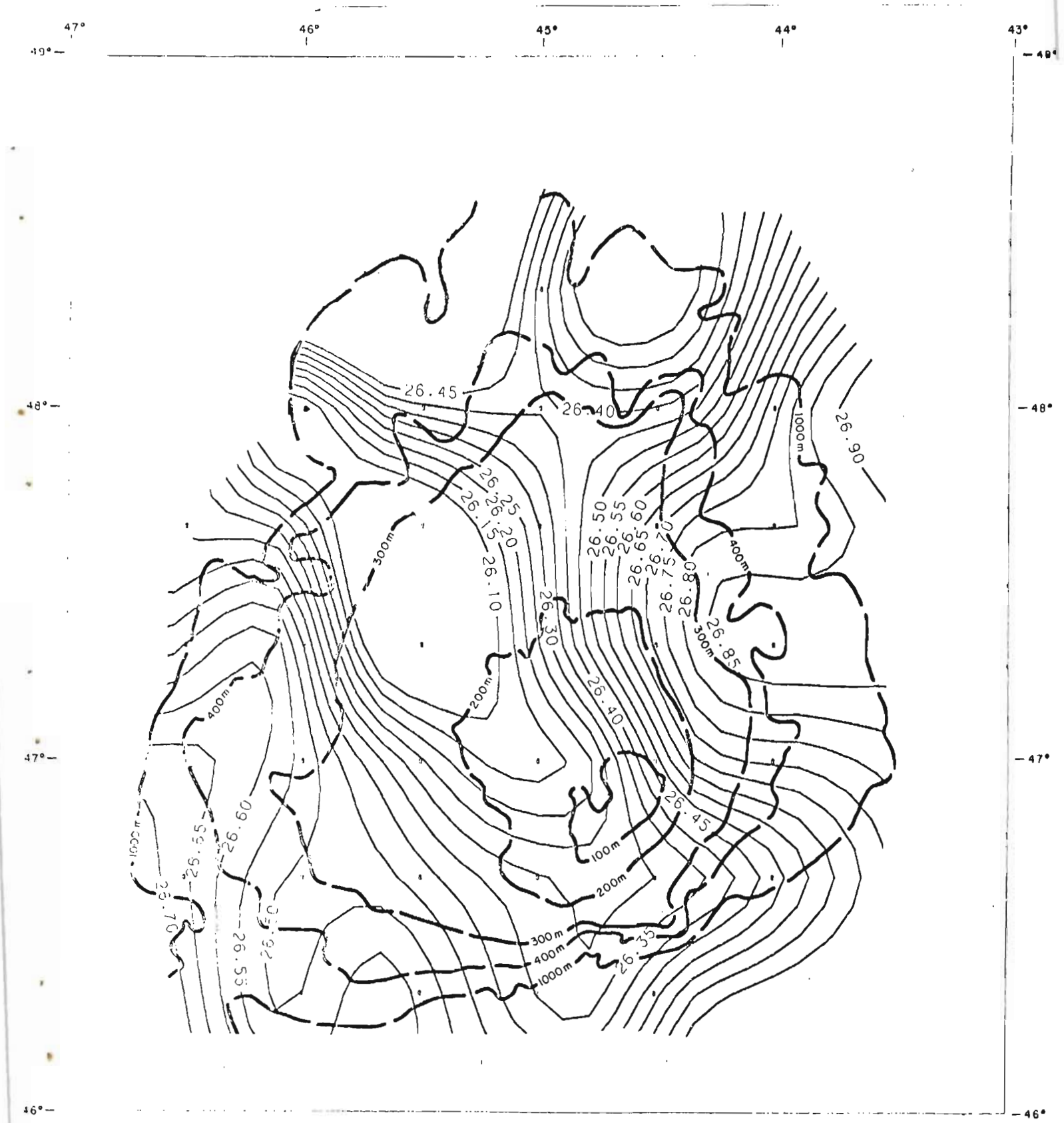

Fig. 115. Density contours at 030 meters - ZAGREB 04 (July 1980).

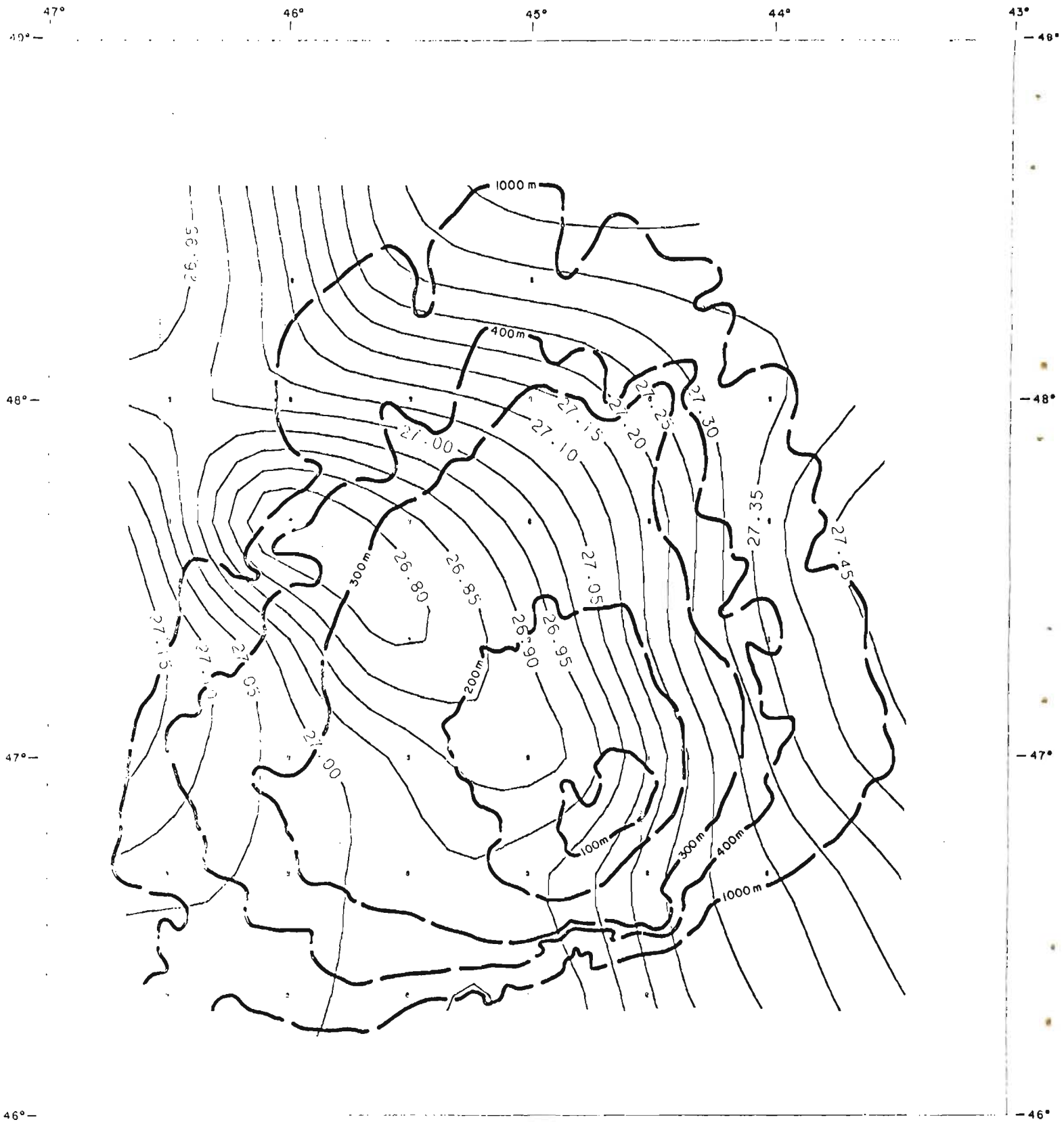

Fig. 116. Density contours at 050 meters - ZAGREB 04 (July 1980).

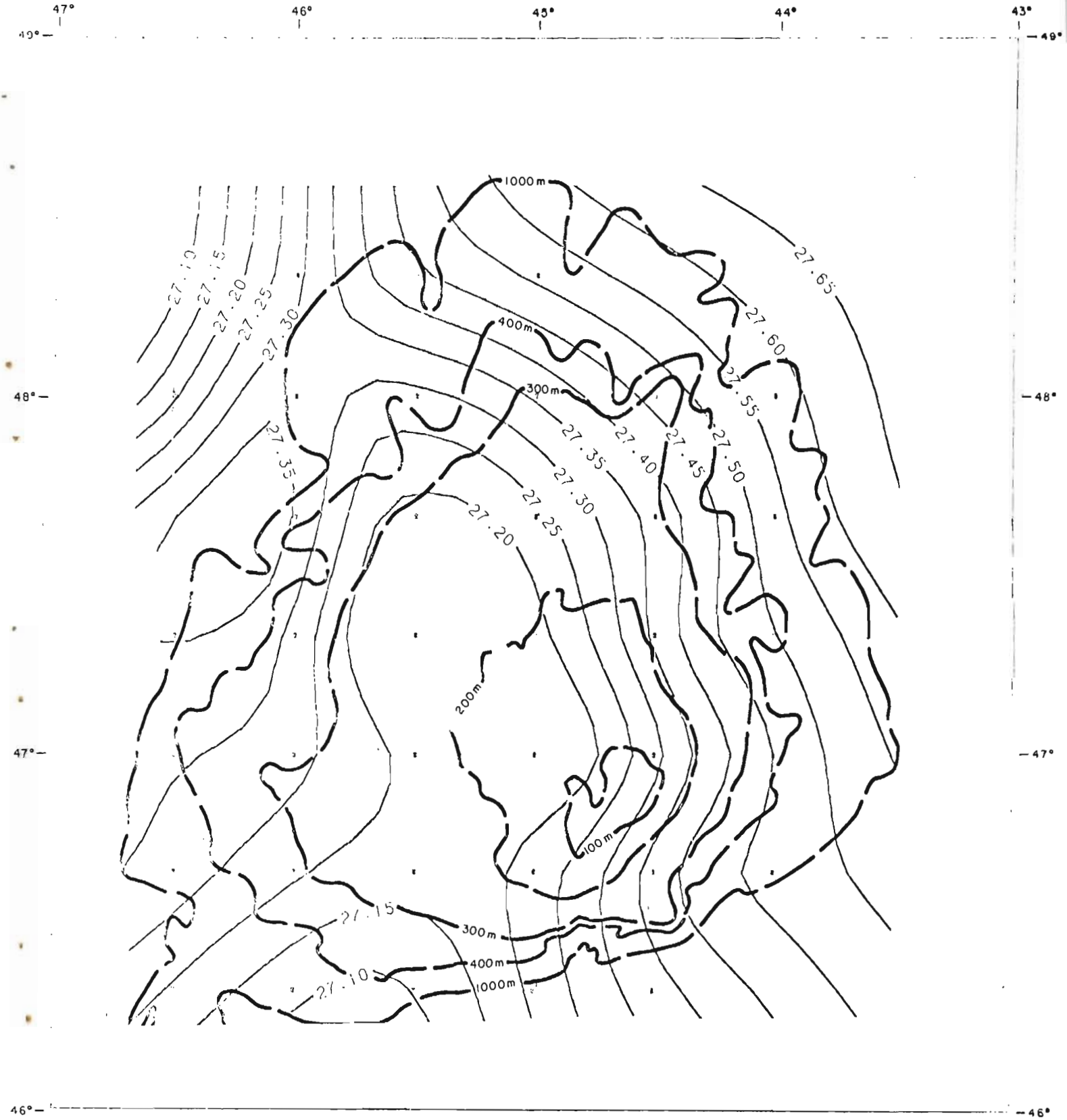

Fig. 117. Density contours at 075 meters - ZAGREB 04 (July 1980).

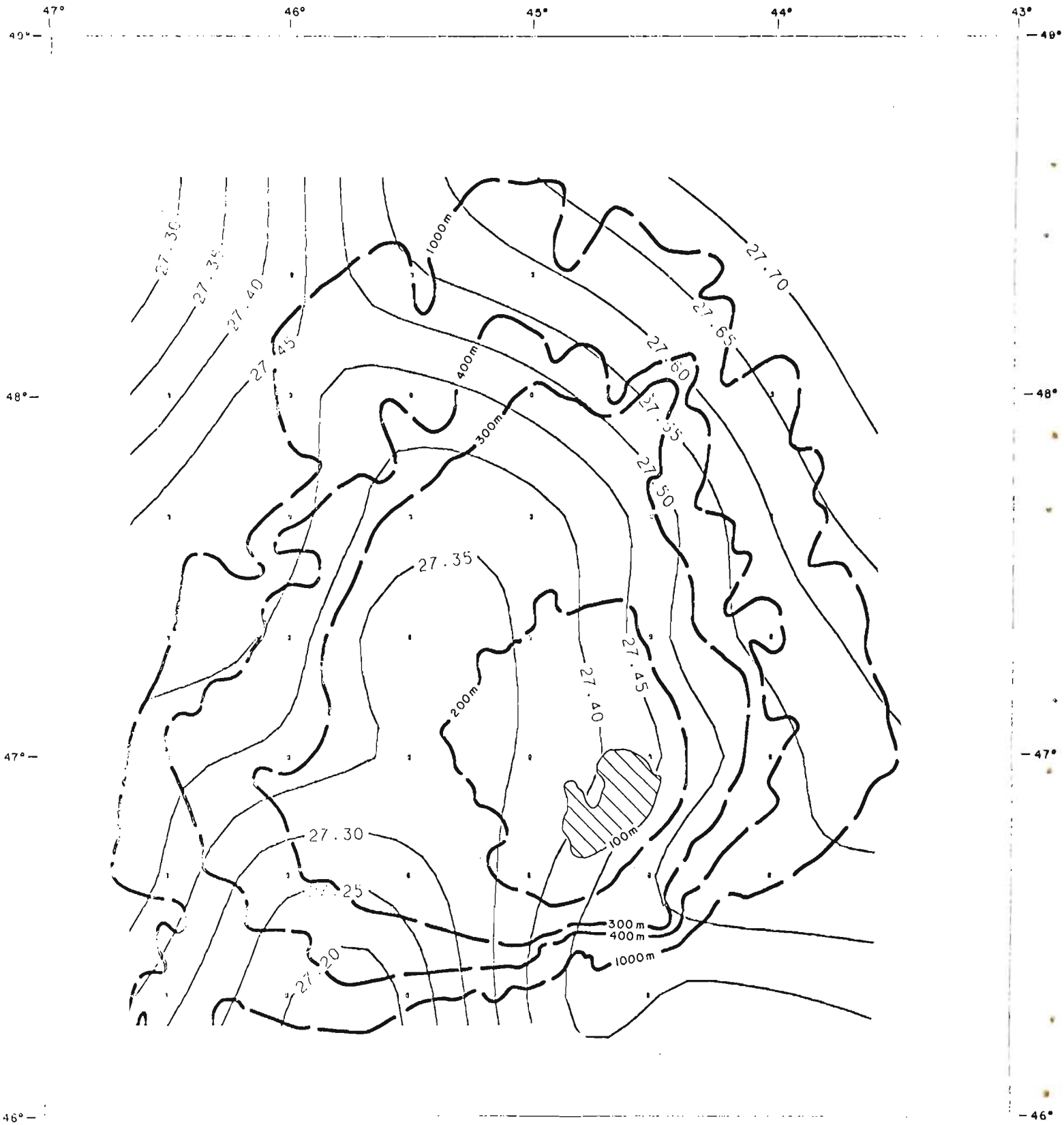

Fig. 118. Density contours at 100 meters - ZAGREB 04 (July 1980).

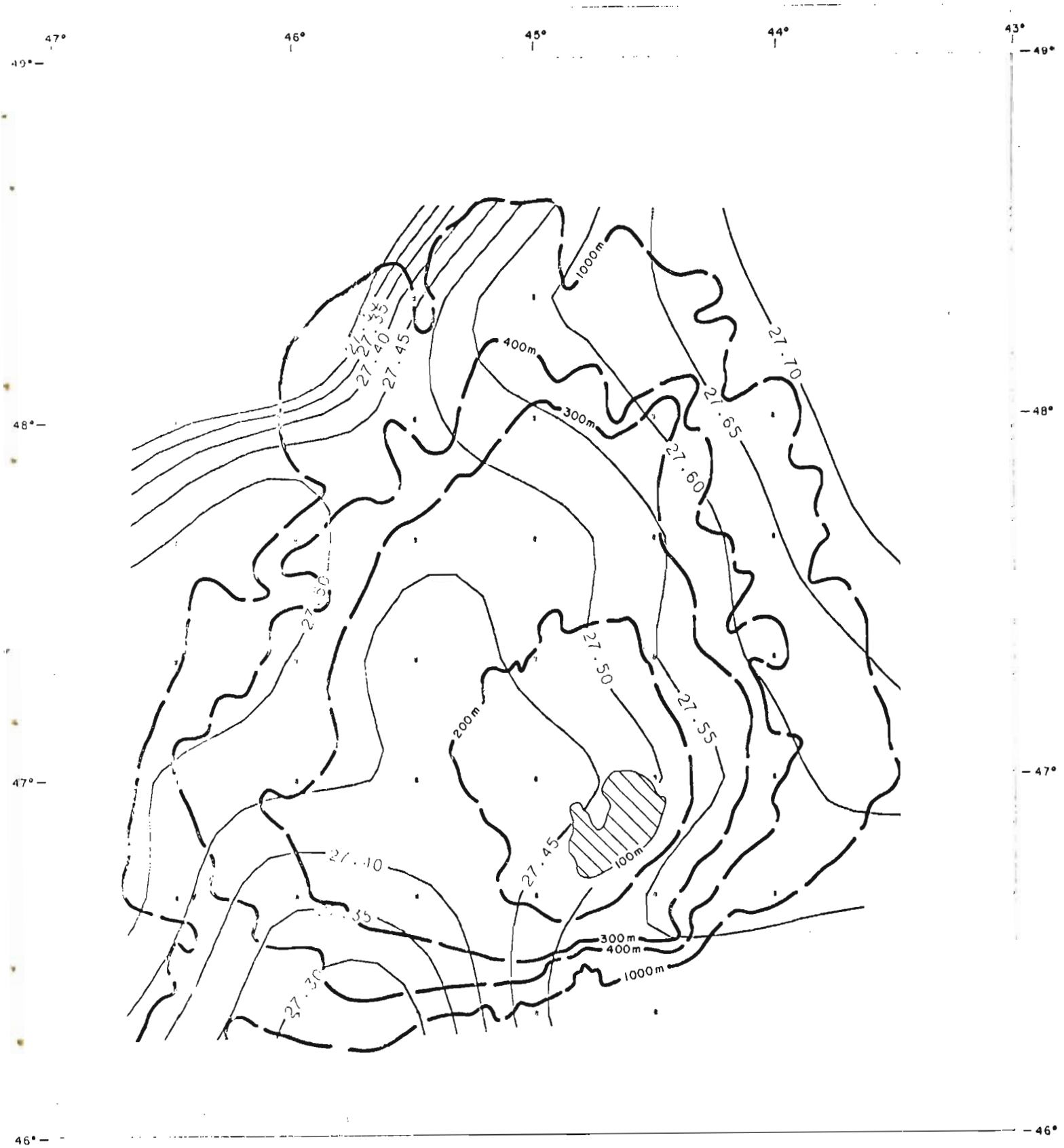

Fig. 119. Density contours at 125 meters - ZAGREB 04 (July 1980).

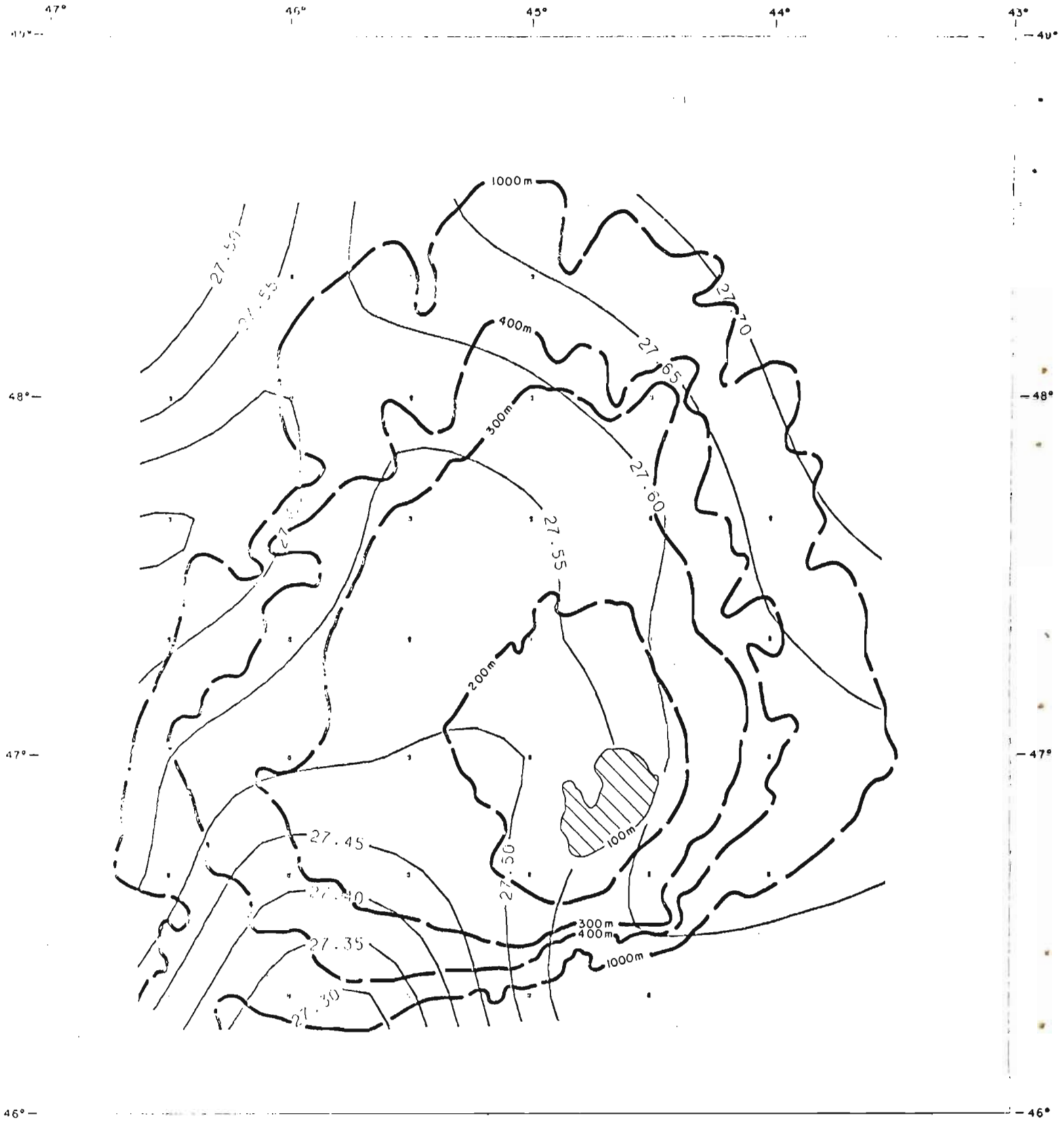

Fig. 120. Density contours at 150 meters - ZAGREB 04 (July 1980).

Fig. 121. Density contours at 175 meters - ZAGREB 04 (July 1980).

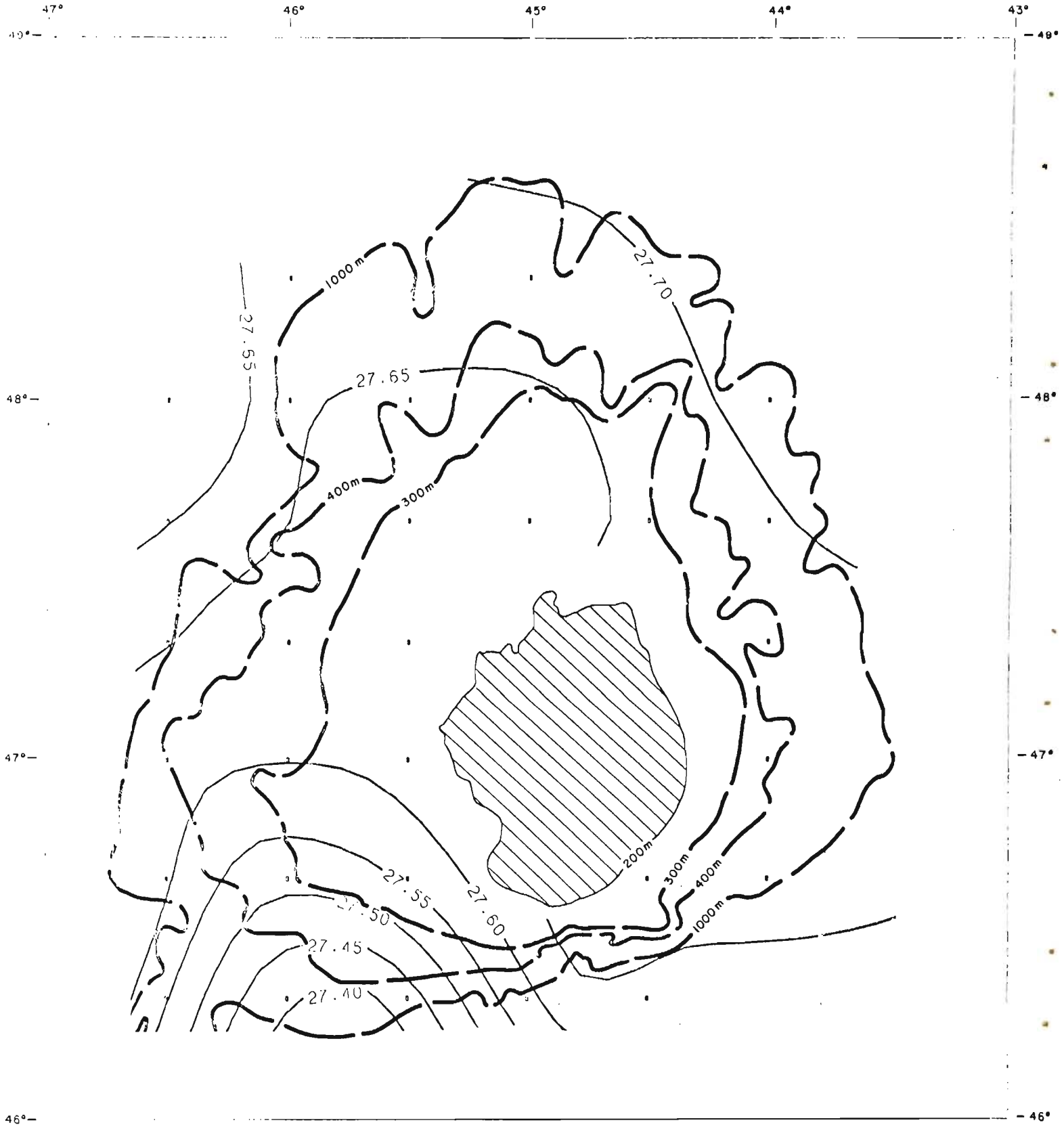

Fig. 122. Density contours at 200 meters - ZAGREB 04 (July 1980).

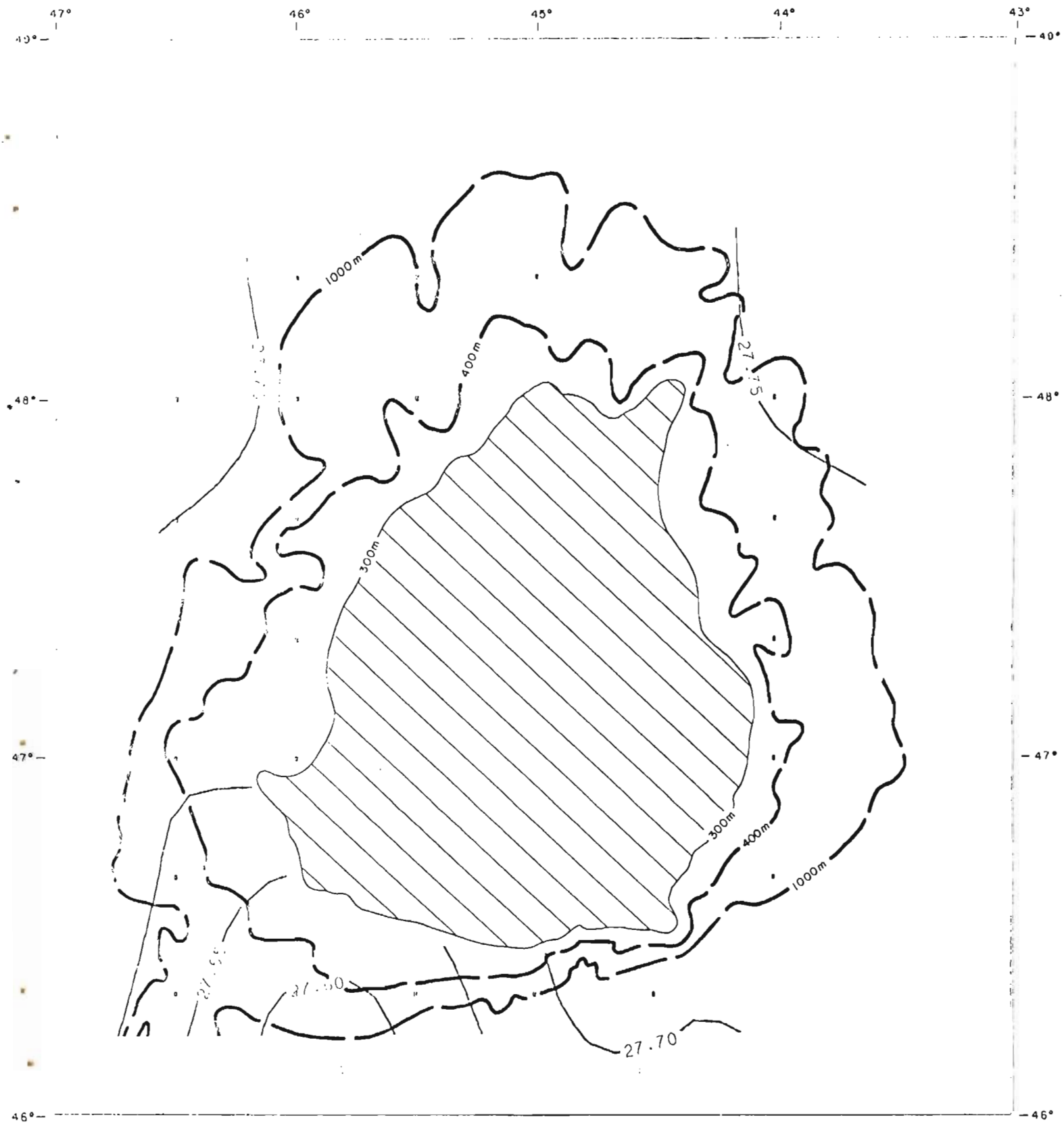

Fig. 123. Density contours at 300 meters - ZAGREB 04 (July 1980).

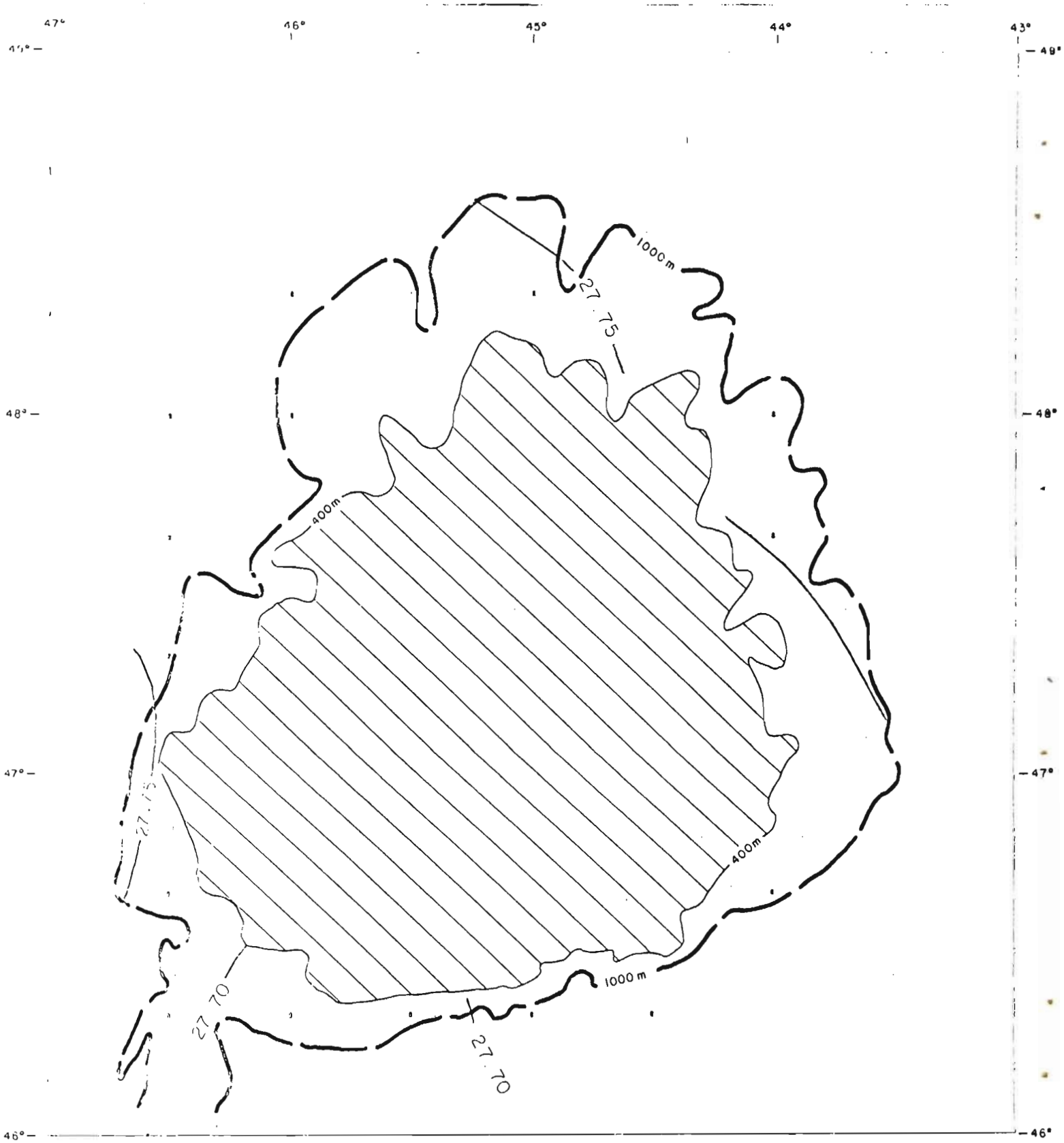

Fig. 124. Density contours at 400 meters - ZAGREB 04 (July 1980).

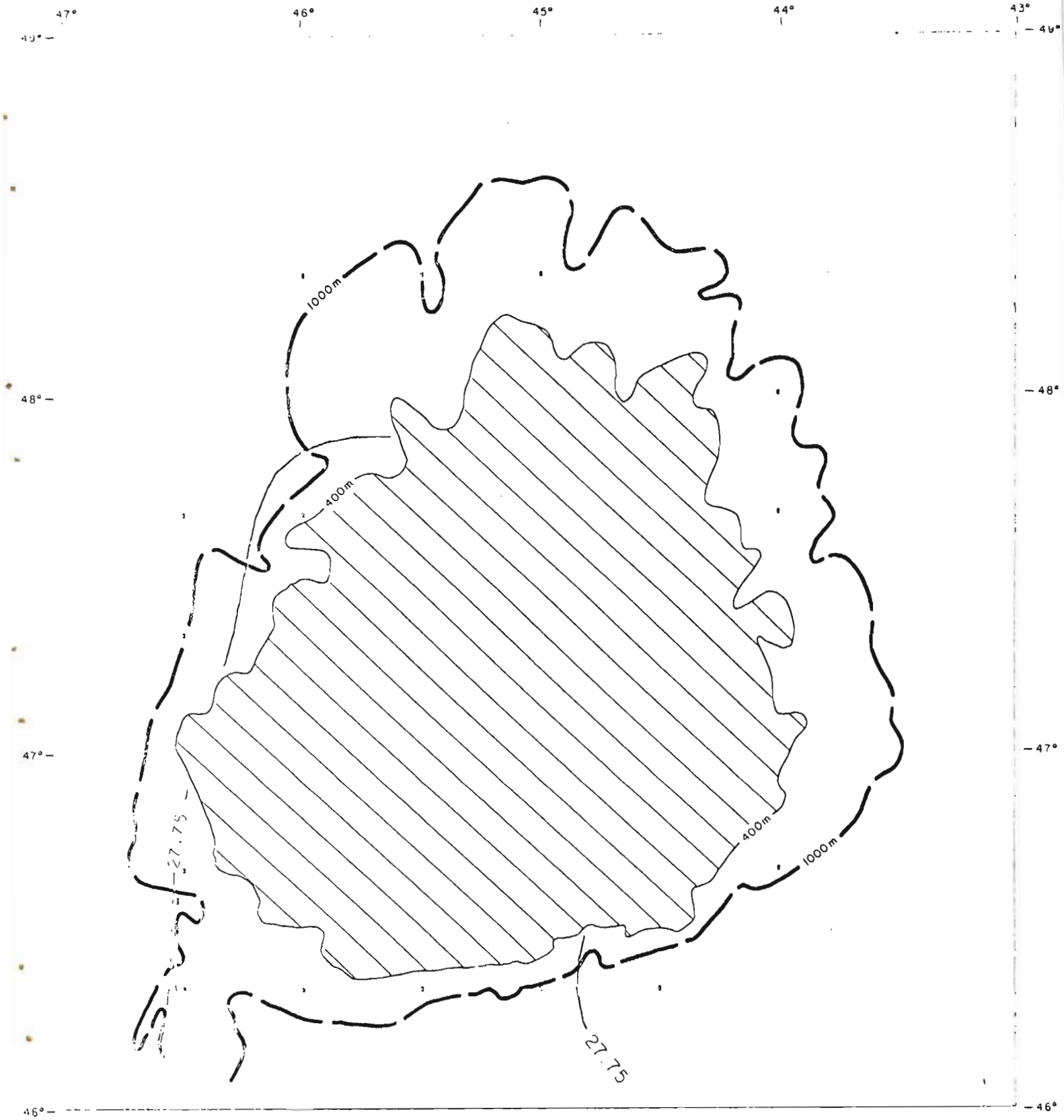

Fig. 125. Density contours at 500 meters - ZAGREB 04 (July 1980).

APPENDIX I: OCEANOGRAPHIC DATA FROM 'FLEMISH CAP PLANKTON GRID' STATIONS OCCUPIED DURING 06-13 APRIL 1980

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4630W	1	0.24	33.75	27.11
		10	0.24	33.75	27.11
		20	0.17	33.75	27.11
		30	-0.03	33.76	27.13
		50	0.54	34.12	27.39
		75	1.40	34.37	27.54
		100	1.72	34.55	27.66
		125	2.05	34.66	27.71
		150	2.22	34.72	27.75
		175	2.26	34.77	27.79
		200	2.50	34.83	27.81
		300	2.81	34.91	27.86
		400	3.55	35.03	27.88
		500	3.57	35.06	27.90
4820N	4600W	1	0.04	33.23	26.70
		10	0.00	33.31	26.76
		20	0.71	33.84	27.15
		30	0.94	34.04	27.30
		50	1.53	34.25	27.43
		75	1.53	34.31	27.48
		100	2.07	34.45	27.55
		125	2.31	34.54	27.60
		150	2.41	34.58	27.62
		175	2.76	34.65	27.65
		200	2.88	34.70	27.68
		300	3.43	34.75	27.67
		400	3.51	34.79	27.69
		500	3.58	34.83	27.72
4820N	4530W	1	3.57	34.14	27.16
		10	3.47	34.15	27.18
		20	3.45	34.15	27.19
		30	3.41	34.18	27.21
		50	3.13	34.50	27.50
		75	2.84	34.65	27.64
		100	2.77	34.68	27.67
		125	3.23	34.77	27.70
		150	3.28	34.81	27.73

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4530W	175	3.40	34.84	27.74
		200	3.62	34.88	27.75
		300	3.55	34.94	27.81
		400	3.42	34.96	27.83
		500	3.33	34.97	27.85
4820N	4500W	1	3.69	34.32	27.30
		10	3.57	34.33	27.32
		20	3.41	34.34	27.34
		30	3.36	34.34	27.35
		50	3.13	34.47	27.48
		75	2.93	34.55	27.55
		100	2.88	34.62	27.61
		125	3.02	34.67	27.64
		150	3.08	34.71	27.66
		175	3.11	34.75	27.69
		200	3.43	34.82	27.72
		300	3.49	34.90	27.78
		400	3.51	34.93	27.80
		500	3.33	34.94	27.83
4820N	4430W	1	2.36	33.97	27.14
		10	2.36	34.00	27.16
		20	2.37	34.01	27.17
		30	2.49	34.06	27.21
		50	3.09	34.38	27.40
		75	3.13	34.50	27.50
		100	2.92	34.59	27.59
		125	2.68	34.61	27.63
		150	3.01	34.68	27.65
		175	2.98	34.69	27.66
		200	3.07	34.71	27.67
		300	3.55	34.81	27.71
		400	3.59	34.84	27.72
		500	3.50	34.85	27.74

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4400W	1	1.94	34.03	27.22
		10	1.96	34.03	27.22
		20	2.06	34.10	27.27
		30	2.31	34.38	27.48
		50	2.80	34.64	27.64
		75	2.55	34.74	27.74
		100	2.75	34.81	27.78
		125	2.81	34.83	27.79
		150	2.92	34.85	27.80
		175	2.86	34.85	27.80
		200	3.00	34.88	27.81
		300	3.39	34.95	27.83
		400	3.58	35.01	27.86
		495	3.53	35.02	27.87
4800N	4630W	1	-0.50	33.05	26.58
		10	-0.50	33.05	26.58
		20	-0.51	33.06	26.59
		30	0.29	33.66	27.03
		50	0.21	33.77	27.13
		75	0.63	34.13	27.39
		100	1.81	34.44	27.56
		125	2.03	34.51	27.60
		150	2.07	34.57	27.64
		175	2.33	34.63	27.67
		200	2.38	34.67	27.70
		300	2.94	34.84	27.78
		400	3.53	34.95	27.81
		500	3.44	34.95	27.82
4800N	4600W	1	2.04	33.82	27.05
		10	2.09	33.88	27.09
		20	2.84	34.07	27.18
		30	3.19	34.15	27.21
		50	2.97	34.42	27.45
		75	2.75	34.58	27.59
		100	2.80	34.63	27.63
		125	2.93	34.66	27.64
		150	2.99	34.69	27.66

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4800N	4600W	175	3.21	34.76	27.69
		200	3.20	34.78	27.71
		300	3.56	34.88	27.75
		400	3.56	34.90	27.77
		495	3.49	34.91	27.79
4800N	4530W	1	3.60	34.02	27.07
		10	3.43	34.02	27.09
		20	3.39	34.04	27.10
		30	3.37	34.04	27.11
		50	3.36	34.05	27.12
		75	3.32	34.08	27.14
		100	2.97	34.29	27.35
		125	2.97	34.44	27.47
		150	3.29	34.60	27.56
		175	3.77	34.77	27.65
		200	3.90	34.84	27.69
		300	3.49	34.86	27.75
		350	3.57	34.92	27.79
4800N	4500W	1	3.72	34.07	27.09
		10	3.49	34.06	27.12
		20	3.47	34.09	27.14
		30	3.47	34.16	27.19
		50	2.93	34.32	27.37
		75	2.90	34.54	27.55
		100	2.76	34.56	27.58
		125	2.79	34.59	27.60
		150	3.04	34.67	27.64
		175	3.26	34.73	27.66
		200	3.45	34.73	27.65
		275	3.75	34.88	27.74
4800N	4430W	1	3.58	34.14	27.16
		10	3.59	34.16	27.18
		20	3.59	34.14	27.17

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4800N	4430W	30	3.59	34.14	27.16
		50	3.59	34.16	27.18
		75	3.09	34.29	27.33
		100	3.03	34.46	27.48
		125	3.23	34.62	27.58
		150	2.91	34.60	27.60
		175	2.99	34.64	27.62
		200	3.45	34.75	27.66
		300	3.59	34.87	27.74
		400	3.43	34.89	27.78
		425	3.41	34.91	27.80
4800N	4400W	1	2.06	34.07	27.25
		10	2.08	34.08	27.25
		20	2.43	34.18	27.30
		30	2.52	34.25	27.35
		50	2.02	34.44	27.54
		75	2.38	34.69	27.71
		100	2.56	34.74	27.74
		125	2.69	34.76	27.75
		150	2.86	34.81	27.76
		175	3.10	34.86	27.79
		200	3.28	34.89	27.79
		300	3.62	34.97	27.83
		400	3.63	35.01	27.86
		500	3.56	35.01	27.86
4740N	4630W	1	0.26	33.40	26.83
		10	0.26	33.42	26.84
		20	0.28	33.51	26.91
		30	0.61	33.80	27.13
		50	0.83	34.22	27.45
		75	1.21	34.41	27.58
		100	2.22	34.58	27.64
		125	2.66	34.70	27.70
		150	2.81	34.75	27.72
		175	3.03	34.80	27.75
		200	3.16	34.83	27.76
		300	3.49	34.91	27.79

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4630W	400	3.64	34.96	27.81
		500	3.65	34.98	27.83
4740N	4600W	1	2.29	33.89	27.08
		10	2.30	33.89	27.09
		20	2.30	33.89	27.09
		30	3.05	34.11	27.20
		50	2.70	34.32	27.39
		75	2.43	34.39	27.47
		100	2.81	34.64	27.64
		125	3.04	34.68	27.65
		150	3.15	34.74	27.68
		175	3.03	34.75	27.71
		200	2.89	34.75	27.72
		300	3.61	34.90	27.77
		400	3.55	34.92	27.79
		500	3.49	34.94	27.82
4740N	4530W	1	3.54	34.08	27.12
		10	3.49	34.09	27.14
		20	3.42	34.10	27.15
		30	3.41	34.11	27.16
		50	3.38	34.15	27.19
		75	3.26	34.21	27.25
		100	2.86	34.40	27.44
		125	3.32	34.60	27.56
		150	3.28	34.63	27.59
		175	3.52	34.76	27.67
		200	3.55	34.75	27.66
		250	3.76	34.94	27.78
4740N	4500W	1	3.78	34.12	27.13
		10	3.67	34.13	27.15
		20	3.54	34.13	27.16
		30	3.52	34.15	27.18
		50	3.47	34.17	27.20

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4500W	75	2.97	34.42	27.45
		100	3.20	34.57	27.55
		125	3.54	34.71	27.62
		150	3.67	34.75	27.65
		175	3.76	34.81	27.68
		200	3.84	34.86	27.72
		225	3.82	34.90	27.75
4740N	4430W	1	3.75	34.14	27.15
		10	3.74	34.15	27.16
		20	3.74	34.15	27.16
		30	3.75	34.15	27.16
		50	3.67	34.15	27.17
		75	3.44	34.17	27.21
		100	3.07	34.32	27.36
		125	3.06	34.45	27.46
		150	3.39	34.57	27.53
		175	3.25	34.60	27.57
		200	3.39	34.68	27.61
		245	3.80	34.85	27.71
4740N	4400W	1	3.54	34.38	27.36
		10	3.47	34.38	27.37
		20	3.46	34.38	27.37
		30	3.47	34.38	27.37
		50	3.34	34.51	27.48
		75	3.17	34.68	27.63
		100	3.02	34.71	27.67
		125	3.07	34.75	27.70
		150	3.41	34.83	27.73
		175	3.64	34.89	27.76
		200	3.72	34.91	27.77
		300	3.51	34.96	27.82
		400	3.45	34.97	27.84
		500	3.42	34.99	27.86

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4630W	1	2.35		
		10	2.68	33.93	27.08
		20	2.65	33.93	27.09
		30	2.82	33.99	27.12
		50	2.64	34.21	27.31
		75	3.28	34.47	27.46
		100	3.10	34.52	27.52
		125	2.83	34.54	27.55
		150	2.55	34.55	27.59
		175	2.87	34.62	27.61
		200	2.84	34.64	27.63
		300	3.48	34.76	27.67
		400	3.58	34.82	27.70
		500	3.47	34.82	27.72
4720N	4600W	1	3.38	33.99	27.07
		10	3.38	33.99	27.07
		20	3.38	34.00	27.07
		30	3.38	34.04	27.10
		50	3.34	34.19	27.23
		75	2.87	34.44	27.47
		100	3.20	34.56	27.54
		125	3.64	34.68	27.59
		150	3.66	34.78	27.67
		175	3.85	34.84	27.70
		200	3.85	34.88	27.73
		300	3.53	34.96	27.82
		325	3.52	34.94	27.81
4720N	4530W	1	3.44	34.01	27.08
		10	3.44	34.01	27.08
		20	3.40	34.02	27.09
		30	3.38	34.03	27.10
		50	3.37	34.04	27.10
		75	3.27	34.13	27.19
		100	2.87	34.29	27.36
		125	3.13	34.45	27.46
		150	3.74	34.66	27.56
		175	3.86	34.77	27.64

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4530W	200	3.88	34.79	27.65
		235	3.65	34.85	27.72
4720N	4500W	1	3.90	34.07	27.08
		10	3.41	34.07	27.13
		20	3.38	34.09	27.15
		30	3.38	34.11	27.16
		50	3.40	34.16	27.20
		75	3.33	34.23	27.26
		100	3.06	34.36	27.39
		125	3.38	34.77	27.69
		150	3.70	35.00	27.84
		175	3.73	35.04	27.86
4720N	4430W	1	3.77	34.02	27.05
		10	3.78	34.03	27.06
		20	3.76	34.03	27.06
		30	3.76	34.02	27.05
		50	3.54	34.04	27.09
		75	3.32	34.13	27.18
		100	3.37	34.37	27.37
		125	3.76	34.58	27.50
		150	3.87	34.63	27.52
		175	3.96	34.70	27.58
		190	3.96	34.72	27.59
4720N	4400W	1	3.83	34.54	27.46
		10	3.72	34.54	27.47
		20	3.68	34.54	27.48
		30	3.60	34.55	27.49
		50	3.47	34.57	27.52
		75	3.26	34.60	27.56
		100	3.14	34.63	27.60
		125	3.10	34.75	27.70
		150	3.38	34.83	27.74
		175	3.71	34.90	27.76

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4400W	200	3.68	34.93	27.78
		300	3.63	34.95	27.80
		375	3.52	34.99	27.85
4700N	4630W	1	3.71	34.28	27.26
		10	3.71	34.28	27.26
		20	3.70	34.28	27.27
		30	3.71	34.28	27.27
		50	3.61	34.30	27.29
		75	2.20	34.62	27.68
		100	2.14	34.83	27.85
		125	3.93	35.15	27.94
		150	4.65	35.30	27.98
		175	4.90	35.39	28.01
		200	4.56	35.37	28.04
		300	3.84	35.33	28.09
		340	3.54	35.34	28.13
4700N	4600W	1	3.55	33.86	26.95
		10	3.54	33.86	26.95
		20	3.55	33.86	26.95
		30	3.54	33.86	26.95
		50	3.54	33.86	26.95
		75	3.07	33.99	27.09
		100	3.69	34.40	27.36
		125	3.53	34.51	27.47
		150	3.90	34.69	27.57
		175	3.94	34.77	27.63
		200	3.93	34.81	27.66
		295	3.56	34.88	27.75
4700N	4530W	1	3.50	33.99	27.06
		10	3.50	34.01	27.07
		20	3.49	34.02	27.08
		30	3.48	34.03	27.09
		50	3.47	34.04	27.10

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4530W	75	3.44	34.03	27.09
		100	2.92	34.18	27.26
		125	3.45	34.34	27.34
		150	3.40	34.46	27.44
		175	3.77	34.66	27.56
		200	3.84	34.78	27.65
		220	3.92	34.81	27.66
4700N	4500W	1	4.01	34.24	27.20
		10	3.96	34.23	27.20
		20	3.56	34.22	27.23
		30	3.52	34.23	27.24
		50	3.47	34.26	27.27
		75	3.27	34.34	27.35
		100	3.12	34.51	27.50
		125	3.23	34.65	27.61
		140	3.23	34.66	27.61
4700N	4430W	1	3.69	34.02	27.06
		10	3.68	34.02	27.06
		20	3.68	34.01	27.06
		30	3.68	34.01	27.06
		50	3.65	34.03	27.07
		75	3.67	34.12	27.14
		100	2.99	34.25	27.31
		125	3.65	34.51	27.45
4700N	4400W	1	3.90	34.52	27.44
		10	3.87	34.56	27.48
		20	3.83	34.61	27.51
		30	3.75	34.66	27.56
		50	3.42	34.72	27.65
		75	3.34	34.75	27.67
		100	2.97	34.79	27.75
		125	3.00	34.84	27.78
		150	3.11	34.85	27.78

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4400W	175	3.58	34.91	27.78
		200	3.68	35.03	27.87
		300	3.58	35.10	27.93
		400	3.48	35.14	27.97
4640N	4630W	1	2.90	34.21	27.28
		10	2.90	34.21	27.28
		20	2.85	34.21	27.29
		30	2.65	34.26	27.35
		50	2.81	34.74	27.72
		75	3.51	34.95	27.82
		100	3.92	35.11	27.90
		125	3.41	35.07	27.92
		150	3.39	35.08	27.94
		175	3.13	35.08	27.96
		200		35.23	
		300	3.67	35.22	28.02
		400	3.52	35.24	28.05
		500	3.50	35.27	28.07
4640N	4600W	1	3.43	33.76	26.88
		10	3.41	33.75	26.87
		20	3.42	33.76	26.88
		30	3.43	33.76	26.88
		50	2.82	33.84	27.00
		75	3.56	34.17	27.19
		100	4.19	34.46	27.36
		125	4.11	34.53	27.42
		150	3.77	34.64	27.55
		175	3.65	34.64	27.56
		200	3.76	34.69	27.59
		300	3.70	34.82	27.69
		320	3.62	34.83	27.71
4640N	4530W	1	3.66	33.93	26.99
		10	3.63	33.93	26.99

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4530W	20	3.57	33.97	27.03
		30	3.53	34.00	27.06
		50	3.50	34.02	27.08
		75	3.47	34.04	27.10
		100	3.06	34.24	27.29
		125	3.27	34.36	27.37
		150	3.68	34.65	27.57
		175	3.78	34.74	27.63
		200	3.84	34.76	27.63
4640N	4500W	1	4.16	34.14	27.11
		10	4.16	34.14	27.11
		20	3.77	34.18	27.18
		30	3.65	34.17	27.18
		50	3.58	34.21	27.22
		75	3.56	34.23	27.24
		100	3.31	34.30	27.32
		125	3.18	34.46	27.46
		150	3.32	34.59	27.55
		175	3.45	34.76	27.67
4640N	4430W	1	4.74	33.85	26.82
		10	4.73	33.86	26.82
		20	4.70	33.87	26.84
		30	4.23	33.98	26.97
		50	3.80	34.15	27.15
		75	4.02	34.31	27.26
		100	3.36	34.42	27.41
		125	3.28	34.50	27.49
		150	3.25	34.56	27.53
		175	3.58	34.66	27.58
		200	3.72	34.74	27.63
4640N	4400W	1	4.70	34.03	26.96
		10	4.41	34.11	27.06
		20	3.82	34.27	27.25

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4400W	30	3.61	34.34	27.32
		50	3.46	34.51	27.47
		75	3.11	34.59	27.57
		100	2.98	34.66	27.64
		125	3.12	34.72	27.67
		150	3.43	34.79	27.70
		175	5.00	35.10	27.78
		200	5.11	35.11	27.77
		300	4.41	35.09	27.84
		400	3.58	35.00	27.85
4620N	4630W	1	3.38	34.26	27.28
		10	3.38	34.26	27.29
		20	3.26	34.30	27.32
		30	2.97	34.32	27.37
		50	2.60	34.32	27.40
		75	2.52	34.73	27.74
		100	2.02	34.83	27.85
		125	2.47	34.95	27.91
		150	3.08	35.08	27.96
		175	2.82	35.09	27.99
		200	2.98	35.12	28.01
		300	4.05	35.35	28.08
		400	3.84	35.38	28.13
		500	3.73	35.44	28.19
4620N	4600W	1	3.74	33.95	27.00
		10	3.73	33.96	27.01
		20	3.73	33.97	27.01
		30	3.72	33.97	27.01
		50	3.45	34.03	27.09
		75	3.58	34.24	27.25
		100	3.53	34.35	27.34
		125	3.60	34.53	27.48
		150	4.11	34.76	27.61
		175	3.90	34.96	27.78
		200	3.79	35.00	27.83
		300	3.66	35.11	27.93
		400	3.51	35.14	27.97

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4600W	495	3.38	35.20	28.03
4620N	4530W	1	4.20	33.79	26.83
		10	4.19	33.81	26.84
		20	4.14	33.82	26.86
		30	4.09	33.83	26.87
		50	3.76	33.96	27.01
		75	3.04	34.16	27.23
		100	3.02	34.24	27.30
		125	3.14	34.36	27.38
		150	3.39	34.47	27.45
		175	3.33	34.73	27.66
		200	3.37	34.77	27.69
		300	3.86	34.83	27.69
		400	3.52	34.85	27.74
		500	3.43	34.87	27.76
4620N	4500W	1	4.85	34.06	26.97
		10	4.84	34.06	26.97
		20	4.06	34.10	27.08
		30	3.96	34.15	27.14
		50	3.64	34.23	27.23
		75	3.35	34.48	27.46
		100	3.65	34.61	27.53
		125	4.24	34.80	27.63
		150	4.35	34.89	27.69
		175	4.30	35.02	27.74
		200	5.06	35.09	27.76
		300	4.69	35.12	27.83
		400	3.82	35.05	27.87
		500	3.45	35.04	27.90
4620N	4430W	1	5.62	33.76	26.64
		10	5.63	33.76	26.64
		20	4.48	33.86	26.85
		30	4.46	33.87	26.86

CRUISE: GADUS 35
DATES : 06-13 APRIL 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4430W	50	3.89	34.02	27.04
		75	3.64	34.23	27.23
		100	5.83	34.63	27.30
		125	6.14	34.78	27.38
		150	5.55	34.81	27.48
		175	5.21	34.79	27.51
		200	5.51	34.87	27.53
		300	4.95	34.96	27.67
		400	4.35	34.96	27.74
		500	3.65	34.89	27.76
4620N	4400W	1	5.07	33.45	26.46
		10	4.83	33.52	26.55
		20	3.94	33.69	26.77
		30	3.93	33.74	26.82
		50	3.31	33.85	26.96
		75	7.68	34.79	27.18
		100	7.22	34.91	27.34
		125	6.75	34.86	27.36
		150	6.21	34.86	27.44
		175	6.26	34.93	27.48
		200	5.70	34.89	27.52
		300	4.85	34.94	27.67
		400	4.91	35.04	27.74
		495	4.73	35.07	27.78

APPENDIX 2: OCEANOGRAPHIC DATA FROM 'FLEMISH CAP PLANKTON GRID' STATIONS OCCUPIED DURING 20-26 MAY 1980

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4630W	1	4.90	34.14	27.03
		10	4.84	34.13	27.02
		20	3.45	34.19	27.22
		30	3.48	34.36	27.35
		50	2.44	34.52	27.57
		75	2.64	34.59	27.61
		100	3.06	34.70	27.66
		125	3.03	34.72	27.68
		150	3.12	34.74	27.69
		175	3.16	34.76	27.70
		200	3.12	34.76	27.70
		300	3.13	34.78	27.72
		400	3.27	34.81	27.73
		500	3.10	34.80	27.74
4820N	4600W	1	4.47	34.01	26.98
		10	4.48	34.01	26.97
		20	4.45	34.04	27.00
		30	3.66	34.14	27.16
		50	2.52	34.40	27.47
		75	2.15	34.46	27.55
		100	2.65	34.59	27.61
		125	2.83	34.63	27.63
		150	2.96	34.67	27.65
		175	3.00	34.68	27.65
		200	2.95	34.69	27.66
		300	3.20	34.77	27.70
		400	3.31	34.81	27.73
		500	3.20	34.82	27.74
4820N	4530W	1	5.64	33.65	26.55
		10	5.64	33.65	26.56
		20	5.64	33.66	26.56
		30	5.59	33.68	26.59
		50	3.12	34.27	27.32
		75	3.06	34.42	27.44
		100	2.72	34.52	27.55
		125	2.73	34.57	27.59
		150	2.88	34.63	27.62

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4530W	175	2.91	34.64	27.63
		200	2.98	34.67	27.65
		300	3.54	34.79	27.68
		400	3.52	34.82	27.71
		500	3.48	34.83	27.72
4820N	4500W	1	5.34	33.57	26.53
		10	5.33	33.58	26.53
		20	5.27	33.59	26.54
		30	2.10	33.92	27.12
		50	2.33	34.26	27.38
		75	3.03	34.47	27.48
		100	3.09	34.54	27.54
		125	3.06	34.60	27.58
		150	3.08	34.60	27.58
		175	3.05	34.65	27.62
		200	3.43	34.72	27.64
		300	3.59	34.80	27.69
		400	3.47	34.81	27.71
		500	3.43	34.83	27.73
4820N	4430W	1	5.29	34.19	27.02
		10	5.30	34.18	27.01
		20	5.30	34.18	27.01
		30	5.02	34.22	27.08
		50	2.64	34.42	27.48
		75	2.86	34.56	27.57
		100	2.73	34.59	27.61
		125	2.88	34.63	27.63
		150	2.99	34.68	27.65
		175	2.98	34.70	27.67
		200	3.06	34.71	27.67
		300	3.30	34.77	27.70
		400	3.56	34.83	27.72
		500	3.57	34.85	27.73

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4400W	1	5.26	34.26	27.08
		10	5.30	34.25	27.07
		20	5.04	34.29	27.13
		30	3.97	34.37	27.31
		50	3.04	34.56	27.55
		75	2.85	34.62	27.61
		100	2.85	34.64	27.64
		125	2.91	34.67	27.65
		150	3.16	34.72	27.67
		175	3.30	34.75	27.68
		200	3.31	34.76	27.68
		300	3.35	34.79	27.70
		400	3.49	34.82	27.71
		495	3.50	34.83	27.73
4800N	4630W	1	3.41	33.85	26.96
		10	3.42	33.86	26.96
		20	3.74	33.92	26.98
		30	3.62	33.98	27.04
		50	1.43	34.23	27.42
		75	1.93	34.39	27.51
		100	2.33	34.50	27.57
		125	2.62	34.57	27.59
		150	2.76	34.59	27.60
		175	2.86	34.60	27.60
		200	2.89	34.61	27.61
		300	3.04	34.68	27.65
		400	3.14	34.74	27.69
		500	3.34	34.79	27.71
4800N	4600W	1	5.36	33.72	26.65
		10	5.36	33.73	26.65
		20	5.26	33.73	26.66
		30	4.95	34.17	27.04
		50	2.63	34.36	27.43
		75	3.00	34.54	27.54
		100	2.81	34.58	27.59
		125	2.96	34.65	27.63
		150	2.95	34.67	27.65

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4800N	4600W	175	3.06	34.70	27.66
		200	3.10	34.73	27.68
		300	3.54	34.82	27.71
		400	3.50	34.84	27.73
		495	3.38	34.85	27.75
4800N	4530W	1	5.19		
		10	4.97	33.61	26.60
		20	4.92	33.62	26.62
		30	4.91	33.63	26.62
		50	1.75	34.05	27.26
		75	1.87	34.30	27.44
		100	2.10	34.40	27.51
		125	2.42	34.43	27.50
		150	3.25	34.62	27.58
		175	3.38	34.68	27.61
		200	3.48	34.72	27.63
		300	3.64	34.81	27.70
		350	3.64	34.83	27.71
4800N	4500W	1	6.07	33.82	26.63
		10	6.07	33.86	26.66
		20	6.05	33.87	26.68
		30	5.93	33.86	26.68
		50	4.63	33.94	26.90
		75	3.38	34.10	27.16
		100	3.05	34.23	27.29
		125	3.12	34.40	27.42
		150	3.18	34.51	27.50
		175	3.44	34.60	27.55
		200	3.74	34.68	27.58
		290	3.62	34.82	27.70
4800N	4430W	1	5.52	33.71	26.61
		10	5.54	33.79	26.67
		20	5.46	33.80	26.70

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4800N	4430W	30	5.20	33.83	26.75
		50	1.98	34.01	27.20
		75	2.72	34.38	27.44
		100	2.64	34.51	27.55
		125	3.03	34.62	27.60
		150	3.21	34.68	27.63
		175	3.59	34.75	27.65
		200	3.68	34.80	27.68
		300	3.49	34.83	27.73
		400	3.44	34.85	27.75
		425	3.44	34.85	27.75
4800N	4400W	1	6.49	34.28	26.94
		10	6.36	34.30	26.97
		20	5.43	34.50	27.25
		30	4.40	34.55	27.41
		50	2.87	34.53	27.55
		75	2.82	34.59	27.59
		100	2.75	34.62	27.63
		125	2.80	34.65	27.65
		150	2.89	34.70	27.68
		175	2.78	34.69	27.68
		200	2.90	34.71	27.68
		300	3.22	34.80	27.72
		400	3.29	34.83	27.75
		500	3.29	34.83	27.74
4740N	4630W	1	5.28	33.87	26.77
		10	5.28	33.87	26.77
		20	5.27	33.87	26.77
		30	5.17	33.89	26.80
		50	3.55	34.35	27.34
		75	2.86	34.54	27.55
		100	2.71	34.57	27.59
		125	2.69	34.62	27.63
		150	2.91	34.67	27.65
		175	2.99	34.71	27.68
		200	2.93	34.71	27.69
		300	3.23	34.78	27.71

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4630W	400	3.37	34.82	27.73
		500	3.38	34.83	27.74
4740N	4600W	1	4.94	33.74	26.71
		10	4.95	33.75	26.71
		20	4.67	33.92	26.88
		30	4.59	33.94	26.90
		50	2.98	34.40	27.43
		75	2.62	34.49	27.54
		100	2.96	34.60	27.59
		125	2.65	34.60	27.62
		150	2.85	34.65	27.64
		175	2.91	34.68	27.66
		200	3.04	34.71	27.67
		300	3.21	34.77	27.70
		400	3.48	34.83	27.72
		495	3.49	34.85	27.74
4740N	4530W	1	6.11	33.72	26.55
		10	6.13	33.75	26.57
		20	6.12	33.76	26.58
		30	5.96	33.79	26.62
		50	3.68	33.90	26.96
		75	1.52	34.00	27.23
		100	3.30	34.38	27.39
		125	3.40	34.51	27.48
		150	3.60	34.61	27.54
		175	3.90	34.72	27.59
		200	3.90	34.76	27.63
		250	3.76	34.82	27.69
4740N	4500W	1	6.03	33.89	26.70
		10	6.04	33.89	26.70
		20	5.87	33.88	26.71
		30	5.85	33.90	26.72
		50	3.89	33.93	26.97

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4500W	75	3.11	34.19	27.25
		100	3.11	34.39	27.41
		125	3.55	34.49	27.45
		150	3.38	34.58	27.53
		175	3.73	34.68	27.58
		200	3.85	34.72	27.60
		225	3.80	34.77	27.65
4740N	4430W	1	6.99	33.83	26.65
		10	6.00	33.83	26.65
		20	5.99	33.83	26.65
		30	5.95	33.85	26.67
		50	4.63	33.94	26.90
		75	3.24	34.10	27.17
		100	2.98	34.34	27.35
		125	3.10	34.48	27.48
		150	3.35	34.58	27.54
		175	3.57	34.65	27.57
		200	3.74	34.71	27.61
		250	3.79	34.79	27.66
4740N	4400W	1	5.76	33.92	26.75
		10	5.69	33.90	26.74
		20	5.31	33.94	26.82
		30	5.01	34.15	27.02
		50	4.20	34.16	27.12
		75	2.88	34.34	27.39
		100	2.81	34.45	27.49
		125	2.68	34.53	27.56
		150	2.84	34.61	27.61
		175	3.16	34.66	27.62
		200	3.30	34.73	27.66
		300	3.35	34.79	27.71
		400	3.23	34.80	27.73
		495	3.15	34.81	27.74

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4630W	1	4.60	33.75	26.75
		10	4.60	33.75	26.75
		20	4.57	33.77	26.77
		30	4.53	34.03	26.98
		50	1.71	34.28	27.41
		75	2.00	34.39	27.50
		100	2.27	34.47	27.55
		125	2.39	34.51	27.57
		150	2.50	34.56	27.60
		175	2.66	34.60	27.62
		200	2.76	34.63	27.63
		300	3.00	34.71	27.67
		400	3.70	34.85	27.72
		500	3.49	34.86	27.75
4720N	4600W	1	5.02	33.54	26.54
		10	4.95	33.53	26.54
		20	4.92	33.52	26.54
		30	3.69	33.69	26.80
		50	2.38	33.96	27.13
		75	2.97	34.26	27.32
		100	1.36	34.23	27.42
		125	3.08	34.51	27.51
		150	3.34	34.64	27.59
		175	3.29	34.68	27.63
		200	3.66	34.77	27.66
		300	3.62	34.85	27.73
		325	3.55	34.86	27.74
4720N	4530W	1	4.56	33.32	26.42
		10	4.53	33.33	26.43
		20	4.58	33.34	26.43
		30	5.37	33.59	26.54
		50	2.81	33.86	27.01
		75	3.14	34.13	27.20
		100	2.92	34.36	27.40
		125	3.02	34.54	27.54
		150	3.24	34.70	27.64
		175	3.36	34.79	27.70

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4530W	200	3.53	34.88	27.76
		245	3.37	34.95	27.83
4720N	4500W	1	6.26	33.82	26.61
		10	6.12	33.84	26.64
		20	5.93	33.84	26.67
		30	5.71	33.85	26.70
		50	3.52	33.99	27.05
		75	3.10	34.21	27.27
		100	3.37	34.37	27.37
		125	3.44	34.47	27.44
		150	3.53	34.52	27.48
		175	3.73	34.59	27.51
4720N	4430W	1	5.77	33.80	26.65
		10	5.77	33.80	26.66
		20	5.77	33.80	26.66
		30	5.77	33.80	26.66
		50	5.23	33.87	26.77
		75	3.97	34.02	27.03
		100	3.43	34.13	27.18
		125	3.02	34.30	27.35
		150	3.08	34.44	27.46
		175	3.84	34.63	27.54
4720N	4400W	1	6.02	34.02	26.80
		10	5.99	34.02	26.81
		20	5.57	34.06	26.89
		30	5.29	34.09	26.94
		50	3.14	34.23	27.28
		75	3.02	34.37	27.40
		100	2.92	34.47	27.49
		125	2.62	34.52	27.55
		150	3.21	34.61	27.58
		175	3.38	34.68	27.61
		200	3.55	34.72	27.63

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4400W	300	3.56	34.81	27.70
		375	3.49	34.82	27.72
4700N	4630W	1	5.10	33.51	26.50
		10	5.11	33.50	26.50
		20	5.11	33.50	26.50
		30	5.04	33.53	26.53
		50	2.83	33.94	27.08
		75	1.71	34.16	27.34
		100	2.22	34.29	27.41
		125	2.90	34.44	27.47
		150	3.41	34.61	27.56
		175	3.37	34.66	27.60
		200	3.52	34.72	27.63
		300	3.70	34.85	27.72
		350	3.56	34.86	27.74
4700N	4600W	1	6.10	33.61	26.47
		10	5.96	33.62	26.49
		20	5.94	33.63	26.50
		30	5.84	33.63	26.51
		50	5.69	33.63	26.54
		75	3.72	33.97	27.02
		100	3.05	34.15	27.23
		125	3.26	34.36	27.37
		150	3.65	34.52	27.46
		175	3.51	34.62	27.55
		200	3.61	34.69	27.60
		275	3.59	34.88	27.75
4700N	4530W	1	5.71	33.82	26.68
		10	5.71	33.82	26.68
		20	5.72	33.83	26.68
		30	5.73	33.83	26.68
		50	4.28	33.90	26.91
		75	3.30	34.13	27.18

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4530W	100	3.28	34.30	27.32
		125	3.05	34.45	27.46
		150	3.26	34.60	27.56
		175	3.50	34.74	27.66
		200	3.60	34.83	27.71
		245	3.59	34.87	27.74
4700N	4500W	1	6.30	33.88	26.66
		10	6.28	33.93	26.69
		20	6.02	33.95	26.74
		30	5.95	33.95	26.75
		50	4.25	34.08	27.05
		75	3.58	34.17	27.19
		100	3.38	34.30	27.31
		125	3.37	34.38	27.38
		140	3.38	34.38	27.38
4700N	4430W	1	5.62	33.83	26.69
		10	5.63	33.82	26.69
		20	5.62	33.82	26.69
		30	5.53	33.84	26.72
		50	4.34	33.96	26.95
		75	3.71	34.08	27.10
		100	3.01	34.29	27.34
		125	3.58	34.51	27.46
4700N	4400W	1	6.08	34.01	26.79
		10	6.09	34.02	26.79
		20	5.40	34.04	26.89
		30	5.15	34.02	26.91
		50	3.20	34.29	27.32
		75	3.14	34.42	27.43
		100	3.29	34.55	27.52
		125	3.16	34.57	27.55
		150	3.02	34.58	27.57
		175	3.28	34.63	27.59

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4400W	200	3.03	34.65	27.63
		300	3.32	34.82	27.73
		395	3.45	34.84	27.73
4640N	4630W	1	5.06	33.51	26.51
		10	5.01	33.49	26.50
		20	4.07	33.42	26.55
		30	3.79	33.49	26.63
		50	2.21	34.07	27.23
		75	2.24	34.29	27.41
		100	2.87	34.49	27.51
		125	3.82	34.64	27.54
		150	3.91	34.75	27.62
		175	3.82	34.75	27.63
		200	3.73	34.76	27.65
		300	3.66	34.85	27.72
		400	3.51	34.85	27.74
		500	3.45	34.87	27.76
4640N	4600W	1	6.57	33.63	26.42
		10	6.50	33.66	26.45
		20	6.30	33.66	26.48
		30	6.25	33.66	26.49
		50	4.23	33.77	26.81
		75	3.56	34.18	27.20
		100	3.15	34.24	27.29
		125	3.60	34.45	27.41
		150	3.53	34.55	27.50
		175	3.72	34.68	27.59
		200	4.10	34.80	27.64
		300	3.74	34.93	27.78
		325	3.68	34.95	27.80
4640N	4530W	1	5.95	33.82	26.65
		10	5.92	33.90	26.71
		20	5.91	33.90	26.72

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4530W	30	5.56	33.95	26.80
		50	4.30	34.07	27.04
		75	3.38	34.22	27.25
		100	3.33	34.26	27.29
		125	3.11	34.42	27.43
		150	3.25	34.54	27.52
		175	3.35	34.69	27.63
		200	3.43	34.78	27.69
		225	3.56	34.85	27.73
4640N	4500W	1	6.28	33.92	26.68
		10	6.12	33.92	26.70
		20	5.73	33.92	26.76
		30	5.72	33.92	26.76
		50	4.59	33.98	26.93
		75	3.36	34.13	27.18
		100	3.19	34.34	27.36
		125	3.20	34.41	27.42
		150	3.69	34.61	27.53
4640N	4430W	1	5.71	33.87	26.72
		10	5.67	33.88	26.73
		20	5.40	33.91	26.79
		30	3.91	34.04	27.06
		50	3.02	34.19	27.26
		75	3.13	34.36	27.39
		100	3.01	34.47	27.49
		125	3.71	34.66	27.57
		150	3.69	34.70	27.60
		175	3.74	34.74	27.63
		200	3.79	34.79	27.66
		225	3.79	34.79	27.66
4640N	4400W	1	6.85	34.14	26.78
		10	6.58	34.13	26.81
		20	6.34	34.13	26.84

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4400W	30	5.83	34.16	26.94
		50	4.80	34.22	27.10
		75	3.26	34.38	27.39
		100	3.06	34.54	27.54
		125	3.11	34.62	27.60
		150	3.08	34.67	27.63
		175	3.11	34.70	27.65
		200	3.15	34.71	27.66
		300	3.88	34.85	27.70
		400	3.91	34.90	27.74
		500	3.63	34.87	27.74
4620N	4630W	1	5.39	33.54	26.50
		10	5.37	33.56	26.51
		20	5.29	33.60	26.56
		30	4.73	33.68	26.68
		50	2.01	34.24	27.38
		75	2.44	34.39	27.47
		100	3.07	34.52	27.52
		125	2.85	34.57	27.58
		150	3.21	34.65	27.61
		175	3.50	34.72	27.63
		200	3.54	34.75	27.66
		300	3.58	34.82	27.71
		400	3.56	34.85	27.74
		500	3.86	34.91	27.75
4620N	4600W	1	6.82	33.71	26.45
		10	6.63	33.74	26.50
		20	6.06	33.76	26.59
		30	6.00	33.78	26.61
		50	5.48	33.83	26.72
		75	3.99	34.15	27.13
		100	3.83	34.33	27.29
		125	4.20	34.4[illegible]	27.37
		150	4.59	34.68	27.49
		175	4.41	34.71	27.53
		200	3.51	34.65	27.58
		300	3.92	34.85	27.70

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4600W	400	3.59	34.90	27.77
		500	3.35	34.93	27.82
4620N	4530W	1	5.90	33.85	26.68
		10	5.78	33.90	26.73
		20	5.78	33.89	26.73
		30	5.28	33.92	26.81
		50	3.46	34.05	27.11
		75	3.05	34.27	27.32
		100	3.23	34.50	27.49
		125	2.96	34.58	27.58
		150	2.85	34.66	27.65
		175	2.81	34.68	27.67
		200	3.00	34.76	27.72
		300	3.29	34.90	27.80
		400	3.28	34.93	27.82
		495	3.22	34.95	27.84
4620N	4500W	1	6.63	34.11	26.79
		10	6.52	34.13	26.82
		20	6.13	34.13	26.87
		30	5.69	34.28	27.04
		50	4.04	34.44	27.36
		75	3.77	34.61	27.52
		100	3.59	34.67	27.59
		125	3.48	34.68	27.61
		150	3.55	34.71	27.63
		175	3.61	34.71	27.65
		200	3.59	34.76	27.66
		300	3.73	34.83	27.70
		400	3.60	34.84	27.72
		500	3.57	34.86	27.75
4620N	4430W	1	6.44	33.93	26.67
		10	6.38	33.92	26.68
		20	6.30	33.92	26.68

CRUISE: GADUS 37
DATES : 20-26 MAY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4430W	30	5.37	34.06	26.91
		50	3.99	34.19	27.16
		75	3.91	34.49	27.41
		100	3.81	34.55	27.47
		125	3.62	34.61	27.53
		150	3.48	34.65	27.59
		175	3.30	34.69	27.63
		200	3.28	34.70	27.64
		300	3.34	34.76	27.68
		400	3.43	34.79	27.70
		500	3.47	34.82	27.71
4620N	4400W	1	6.86	34.13	26.77
		10	6.59	34.12	26.80
		20	6.49	34.12	26.82
		30	5.95	34.14	26.90
		50	5.14	34.21	27.05
		75	4.13	34.37	27.29
		100	4.05	34.49	27.40
		125	3.77	34.52	27.45
		150	4.08	34.65	27.52
		175	3.75	34.65	27.56
		200	3.64	34.67	27.59
		300	3.60	34.75	27.65
		400	3.60	34.80	27.69
		500	3.72	34.85	27.71

APPENDIX 3: OCEANOGRAPHIC DATA FROM 'FLEMISH CAP PLANKTON GRID' STATIONS OCCUPIED DURING 22-28 JULY 1980

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4600W	1	7.37	32.51	25.43
		10	7.35	32.52	25.44
		20	0.19	33.09	26.58
		30	-1.14	33.25	26.76
		50	-0.59	33.59	27.02
		75	0.13	33.85	27.20
		100	1.01	34.11	27.35
		125	1.57	34.29	27.46
		150	2.04	34.40	27.51
		175	2.35	34.50	27.57
		200	2.82	34.63	27.63
		300	3.16	34.74	27.68
		400	3.30	34.78	27.70
		500	3.24	34.79	27.72
4820N	4530W	1	8.63	32.61	25.33
		10	8.62	32.62	25.34
		20	7.37	33.00	25.81
		30	3.45	34.07	27.12
		50	2.67	34.30	27.38
		75	3.28	34.51	27.50
		100	3.20	34.62	27.58
		125	3.46	34.67	27.60
		150	3.59	34.74	27.64
		175	3.54	34.74	27.65
		200	3.27	34.74	27.68
		300	3.33	34.79	27.71
		400	3.52	34.84	27.73
		500	3.55	34.87	27.75
4820N	4500W	1	9.23	32.71	25.31
		10	9.10	32.77	25.38
		20	8.58	32.96	25.61
		30	6.00	33.07	26.06
		50	2.52	34.22	27.33
		75	2.76	34.46	27.50
		100	2.60	34.53	27.57
		125	2.77	34.59	27.60
		150	2.89	34.63	27.62

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4820N	4500W	175	3.01	34.67	27.64
		200	3.08	34.69	27.65
		300	3.59	34.80	27.69
		400	3.54	34.82	27.71
		500	3.51	34.84	27.73
4800N	4630W	1	8.76	32.35	25.10
		10	8.69	32.35	25.12
		20	8.08	32.34	25.20
		30	-1.05	33.07	26.61
		50	-1.19	33.45	26.93
		75	-0.66	33.73	27.14
		100	1.01	34.12	27.36
		125	1.49	34.25	27.43
		150	1.92	34.38	27.50
		175	2.36	34.50	27.56
		200	2.59	34.57	27.60
		300	2.87	34.65	27.64
		400	3.21	34.76	27.70
		425	3.19	34.77	27.71
4800N	4600W	1	8.46	32.51	25.28
		10	8.45	32.51	25.27
		20	8.27	32.52	25.31
		30	5.90	33.19	26.16
		50	1.46	33.85	27.12
		75	3.03	34.36	27.39
		100	2.92	34.47	27.49
		150	2.76	34.58	27.59
		175	2.98	34.62	27.61
		200	3.20	34.68	27.63
		300	3.43	34.76	27.68
		400	3.41	34.80	27.71
		440	3.38	34.80	27.71

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	CENSITY
4800N	4530W	1	10.90	33.16	25.38
		10	10.89	33.16	25.38
		20	10.76	33.28	25.50
		30	6.84	33.74	26.47
		50	3.98	34.01	27.02
		75	3.09	34.12	27.20
		100	3.33	34.34	27.35
		125	3.62	34.48	27.43
		150	3.35	34.53	27.50
		175	3.79	34.66	27.56
		200	3.77	34.71	27.60
		300	3.74	34.83	27.70
		350	3.65	34.83	27.71
4800N	4500W	1	8.73	32.57	25.28
		10	8.56	32.60	25.33
		20	7.86	32.86	25.64
		30	5.25	33.43	26.43
		50	3.70	33.99	27.03
		75	3.27	34.27	27.30
		100	3.75	34.46	27.41
		125	3.99	34.59	27.48
		150	3.72	34.61	27.53
		175	3.27	34.61	27.57
		200	3.45	34.64	27.57
		300	3.74	34.81	27.68
4800N	4430W	1	9.09	32.72	25.35
		10	8.91	32.83	25.46
		20	8.49	32.95	25.61
		30	6.71	33.36	26.19
		50	2.63	34.10	27.22
		75	2.84	34.39	27.43
		100	2.77	34.49	27.52
		125	3.02	34.58	27.57
		150	3.04	34.60	27.58
		175	3.43	34.70	27.62
		200	3.50	34.72	27.63
		300	3.52	34.79	27.69

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4800N	4430W	400	3.55	34.81	27.71
		450	3.56	34.82	27.71
4800N	4400W	1	9.62	33.36	25.75
		10	9.10	33.42	25.89
		20	8.89	33.79	26.21
		30	6.13	34.12	26.86
		50	3.30	34.21	27.25
		75	2.43	34.45	27.52
		100	2.75	34.59	27.60
		125	3.09	34.65	27.62
		150	3.10	34.69	27.65
		175	3.18	34.71	27.66
		200	3.23	34.72	27.66
		300	3.34	34.78	27.70
		400	3.24	34.80	27.72
		500	3.20	34.80	27.73
4740N	4630W	1	9.10	32.55	25.21
		10	8.23	32.53	25.33
		20	8.11	32.54	25.35
		30	5.49	33.12	26.15
		50	1.07	33.88	27.16
		75	0.89	34.17	27.41
		100	1.53	34.33	27.49
		125	1.96	34.43	27.54
		150	3.17	34.62	27.59
		175	2.82	34.63	27.63
		200	2.86	34.66	27.65
		300	3.08	34.76	27.71
		400	3.33	34.83	27.74
		500	3.31	34.84	27.75
4740N	4600W	1	10.89	33.06	25.31
		10	10.85	33.07	25.32
		20	10.67	33.05	25.34

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4600W	30	5.79	33.46	26.39
		50	3.41	34.11	27.16
		75	2.43	34.33	27.42
		100	3.02	34.48	27.49
		125	3.76	34.65	27.55
		150	3.87	34.71	27.59
		175	3.63	34.70	27.60
		200	3.81	34.75	27.63
		300	3.73	34.81	27.68
		400	3.54	34.81	27.70
		500	3.55	34.82	27.71
4740N	4530W	1	10.83	33.27	25.48
		10	10.83	33.27	25.48
		20	10.77	33.27	25.49
		30	10.19	33.33	25.64
		50	5.45	33.90	26.77
		75	4.09	34.09	27.08
		100	2.57	34.21	27.31
		125	3.23	34.39	27.40
		150	3.74	34.55	27.48
		175	3.19	34.53	27.52
		200	3.85	34.70	27.59
		250	3.85	34.78	27.65
4740N	4500W	1	10.69	33.15	25.41
		10	10.54	33.22	25.49
		20	10.31	33.39	25.66
		30	7.26	33.64	26.33
		50	4.42	33.96	26.93
		75	3.42	34.16	27.20
		100	3.38	34.31	27.32
		125	2.54	34.34	27.44
		150	3.31	34.53	27.50
		175	3.75	34.67	27.57
		200	3.53	34.68	27.60
		235	3.79	34.77	27.65

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4740N	4430W	1	10.40	32.79	25.18
		10	9.31	33.97	25.28
		20	5.52	33.95	26.80
		30	4.60	33.87	26.84
		50	3.39	34.01	27.08
		75	3.40	34.27	27.29
		100	3.52	34.42	27.40
		125	3.50	34.50	27.46
		150	3.78	34.61	27.52
		175	3.73	34.66	27.57
		200	3.81	34.72	27.60
		235	3.81	34.79	27.66
4740N	4400W	1	9.71	33.02	25.48
		10	9.15	33.01	25.56
		20	7.83	33.40	26.06
		30	5.52	33.79	26.67
		50	2.90	34.36	27.41
		75	2.85	34.52	27.54
		100	2.82	34.58	27.59
		125	3.14	34.66	27.63
		150	3.05	34.67	27.64
		175	3.06	34.69	27.66
		200	3.10	34.70	27.66
		300	3.55	34.80	27.69
		400	3.51	34.81	27.71
		500	3.44	34.82	27.73
4720N	4630W	1	8.76	32.49	25.22
		10	8.43	32.50	25.27
		20	8.23	32.50	25.30
		30	1.85	33.01	26.42
		50	-0.47	33.71	27.11
		75	1.86	34.16	27.33
		100	2.53	34.40	27.47
		125	2.28	34.46	27.54
		150	2.57	34.53	27.57
		175	2.52	34.55	27.59
		200	2.79	34.63	27.63

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4630W	300	3.21	34.74	27.68
		400	3.35	34.79	27.70
		500	3.35	34.79	27.71
4720N	4600W	1	10.58	32.80	25.16
		10	10.32	32.83	25.23
		20	6.05	33.43	26.33
		30	4.32	33.74	26.77
		50	4.03	34.09	27.08
		75	3.81	34.32	27.29
		100	4.87	34.63	27.42
		125	5.44	34.77	27.46
		150	4.66	34.73	27.52
		175	5.03	34.84	27.56
		200	5.04	34.88	27.60
		300	3.96	34.84	27.68
		325	3.74	34.81	27.68
4720N	4530W	1	10.82	33.23	25.45
		10	10.81	33.25	25.47
		20	10.84	33.31	25.51
		30	10.48	33.35	25.60
		50	6.04	33.79	26.61
		75	3.80	34.00	27.03
		100	3.41	34.21	27.24
		125	3.46	34.38	27.37
		150	3.56	34.54	27.48
		175	3.68	34.62	27.54
		200	3.93	34.73	27.60
		250	3.87	34.78	27.65
4720N	4500W	1	10.52	33.12	25.42
		10	10.52	33.12	25.42
		20	10.05	33.41	25.73
		30	8.06	33.89	26.42
		50	4.77	33.93	26.88

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4720N	4500W	75	3.47	34.11	27.15
		100	3.48	34.31	27.31
		125	3.14	34.43	27.44
		150	3.62	34.57	27.50
		175	3.85	34.71	27.60
4720N	4430W	1	10.77	32.99	25.27
		10	9.46	32.93	25.45
		20	9.13	32.92	25.49
		30	4.89	33.84	26.79
		50	3.12	34.14	27.21
		75	3.07	34.40	27.42
		100	2.90	34.48	27.50
		125	3.22	34.58	27.55
		150	3.36	34.65	27.59
		175	3.86	34.74	27.62
		200	3.84	34.78	27.65
4720N	4400W	1	9.53	32.80	25.33
		10	9.11	32.82	25.42
		20	6.81	33.07	25.95
		30	3.08	33.85	26.99
		50	2.52	34.22	27.33
		75	2.54	34.39	27.46
		100	3.12	34.54	27.53
		125	3.09	34.59	27.57
		150	3.02	34.63	27.61
		175	3.28	34.68	27.63
		200	3.42	34.72	27.65
		300	3.63	34.80	27.69
		395	3.57	34.82	27.71
4700N	4630W	1	10.77	32.64	25.00
		10	10.44	32.67	25.08
		20	8.58	33.41	25.96
		30	5.12	33.81	26.74

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4630W	50	3.87	34.11	27.11
		75	3.95	34.29	27.25
		100	4.15	34.43	27.34
		125	4.01	34.49	27.40
		150	4.12	34.60	27.48
		175	4.16	34.66	27.52
		200	3.24	34.58	27.55
		300	3.67	34.77	27.66
		350	3.58	34.81	27.70
4700N	4600W	1	10.90	32.76	25.07
		10	10.41	32.76	25.16
		20	10.18	33.76	25.97
		30	6.30	33.72	26.52
		50	4.02	33.97	26.99
		75	3.45	34.23	27.25
		100	4.74	34.56	27.38
		125	5.37	34.74	27.45
		150	5.42	34.80	27.49
		175	5.04	34.79	27.53
		200	4.81	34.83	27.58
		300	3.65	34.82	27.70
4700N	4530W	1	10.66	32.81	25.15
		10	10.39	32.80	25.19
		20	10.02	32.80	25.25
		30	6.56	33.50	26.32
		50	3.90	33.92	26.96
		75	3.35	34.13	27.18
		100	3.82	34.38	27.34
		125	3.81	34.51	27.44
		150	4.90	34.71	27.48
		175	4.67	34.76	27.54
		200	4.91	34.85	27.59
		245	4.10	34.76	27.61

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4700N	4500W	1	11.79	33.62	25.57
		10	11.80	33.62	25.57
		20	11.79	33.61	25.57
		30	10.98	33.73	25.81
		50	6.03	33.95	26.74
		75	3.80	34.02	27.05
		100	3.26	34.28	27.31
		125	3.26	34.34	27.36
		150	3.34	34.44	27.43
4700N	4430W	1	10.20	33.04	25.41
		10	10.03	33.11	25.50
		20	7.87	33.47	26.11
		30	5.75	33.85	26.70
		50	4.01	33.98	27.00
		75	3.24	34.18	27.23
		100	3.16	34.32	27.35
		125	3.37	34.41	27.40
4700N	4400W	1	9.51	32.82	25.36
		10	9.38	32.83	25.39
		20	8.55	32.99	25.63
		30	5.20	33.73	26.67
		50	2.20	34.16	27.30
		75	2.84	34.37	27.42
		100	2.98	34.48	27.49
		125	3.15	34.57	27.55
		150	3.30	34.64	27.59
		175	3.43	34.70	27.63
		200	3.51	34.73	27.64
		300	3.58	34.80	27.69
		385	3.55	34.82	27.71
4640N	4630W	1	10.40	32.67	25.09
		10	10.07	32.68	25.15
		20	7.06	32.96	25.82

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4630W	30	4.46	33.55	26.88
		50	1.82	33.79	27.04
		75	2.84	34.18	27.26
		100	2.16	34.28	27.40
		125	2.47	34.39	27.47
		150	2.87	34.52	27.54
		175	2.96	34.57	27.57
		200	3.00	34.63	27.61
		300	3.79	34.80	27.67
		400	3.85	34.86	27.71
		500	3.70	34.84	27.71
4640N	4600W	1	10.84	32.60	24.96
		10	10.74	32.59	24.97
		20	8.92	33.31	25.83
		30	7.30	33.74	26.41
		50	9.20	34.87	27.00
		75	6.14	34.53	27.18
		100	6.42	34.56	27.17
		125	5.20	34.49	27.27
		150	5.95	34.69	27.34
		175	5.37	34.68	27.40
		200	5.07	34.70	27.45
		300	4.45	34.80	27.60
		335	4.27	34.85	27.74
4640N	4530W	1	10.43	32.81	25.19
		10	10.40	32.82	25.21
		20	9.94	32.92	25.36
		30	7.10	33.70	26.40
		50	5.56	34.11	26.93
		75	5.66	34.38	27.13
		100	5.64	34.51	27.23
		125	5.85	34.71	27.36
		150	5.41	34.71	27.42
		175	4.68	34.70	27.49
		200	3.47	34.58	27.53
		225	3.66	34.68	27.59

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4640N	4500W	1	11.34	33.39	25.48
		10	11.33	33.39	25.49
		20	10.87	33.33	25.52
		30	6.94	33.63	26.37
		50	4.24	33.98	26.97
		75	3.23	34.15	27.21
		100	3.27	34.32	27.34
		125	3.37	34.41	27.40
		150	3.53	34.52	27.47
		175	3.75	34.66	27.56
4640N	4430W	1	9.98	32.95	25.38
		10	9.89	32.94	25.38
		20	9.30	33.00	25.53
		30	6.93	33.23	26.13
		50	2.51	34.00	27.15
		75	2.59	34.35	27.42
		100	3.08	34.54	27.53
		125	3.30	34.66	27.61
		150	3.52	34.73	27.64
		175	3.63	34.78	27.67
		200	3.67	34.80	27.68
		225	3.75	34.81	27.68
4640N	4400W	1	10.07	33.09	25.47
		10	9.88	33.09	25.50
		20	9.69	33.07	25.52
		30	6.85	33.56	26.33
		50	4.05	34.22	27.19
		75	2.83	34.41	27.45
		100	2.86	34.52	27.53
		125	2.98	34.58	27.57
		150	2.97	34.63	27.62
		175	3.10	34.69	27.65
		200	3.19	34.71	27.66
		300	3.44	34.79	27.69
		400	3.49	34.81	27.71
		500	3.48	34.82	27.72

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4630W	1	10.23	32.52	25.00
		10	10.08	32.53	25.03
		20	7.09	33.47	26.22
		30	5.38	33.79	26.70
		50	5.39	34.13	26.96
		75	4.80	34.30	27.17
		100	5.20	34.52	27.29
		125	5.06	34.60	27.37
		150	4.70	34.61	27.42
		175	4.52	34.65	27.48
		200	4.77	34.78	27.55
		300	4.32	34.85	27.65
		400	4.59	34.94	27.69
		500	3.89	34.88	27.72
4620N	4600W	1	14.90	33.31	24.71
		10	14.66	33.38	24.82
		20	10.36	33.24	25.54
		30	6.47	33.47	26.30
		50	7.90	34.65	27.04
		75	7.66	34.64	27.07
		100	8.17	34.88	27.17
		125	8.91	35.12	27.25
		150	8.60	35.08	27.26
		175	7.94	35.00	27.30
		200	6.49	34.79	27.35
		300	5.03	34.79	27.53
		400	5.49	34.98	27.62
		500	4.35	34.87	27.66
4620N	4530W	1	14.23	33.33	24.87
		10	14.23	33.32	24.87
		20	12.55	34.16	25.85
		30	12.41	35.19	26.67
		50	13.00	35.66	26.92
		75	12.08	35.56	27.03
		100	10.55	35.26	27.08
		125	8.34	34.90	27.17
		150	8.25	34.94	27.21

CRUISE: ZAGREB 04
DATES : 22-28 JULY 1980

LATITUDE	LONGITUDE	DEPTH	TEMPERATURE	SALINITY	DENSITY
4620N	4530W	175	8.07	35.05	27.32
		200	7.20	34.87	27.31
		300	6.00	34.98	27.56
		400	4.96	34.92	27.64
		500	5.00	34.99	27.69
4620N	4500W	1	10.36	32.98	25.34
		10	10.35	32.98	25.34
		20	10.08	33.05	25.44
		30	7.43	33.38	26.11
		50	3.87	33.80	26.87
		75	2.97	34.11	27.20
		100	2.87	34.45	27.48
		125	3.20	34.58	27.55
		150	3.48	34.67	27.60
		175	3.56	34.71	27.62
		200	3.58	34.73	27.63
		300	3.55	34.78	27.68
		400	3.56	34.80	27.70
		500	3.51	34.82	27.71
4620N	4430W	1	10.53	33.08	25.39
		10	10.49	33.08	25.39
		20	9.68	33.56	25.90
		30	7.18	33.93	26.57
		50	5.71	34.33	27.08
		75	5.91	34.63	27.29
		100	5.94	34.76	27.39
		125	5.69	34.79	27.44
		150	5.89	34.91	27.51
		175	6.00	34.91	27.51
		200	5.96	35.00	27.58
		300	4.75	34.92	27.66
		400	3.60	34.80	27.69
		500	3.33	34.79	27.71