

A GUIDE TO SIGHTINGS OF FEEDING BOWHEAD WHALES (*Balaena mysticetus*) IN THE EASTERN ALASKAN BEAUFORT SEA

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July 1985

Prepared for: U.S. Department of the Interior, Minerals Management Service,
Alaska OCS Region, Anchorage, Alaska 99510

Prepared by: SEACO, Inc., 2845-D Nimitz Blvd. San Diego, California 92106

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INTRODUCTION

Bowhead whales (Balaena mysticetus) migrate across the Alaskan Beaufort Sea each autumn, stopping occasionally to feed. Although feeding whales have been seen at various locations across the entire Alaskan Beaufort Sea, they have been found most frequently in waters between eastern Harrison Bay (approx. 151° W) and the U.S./Canadian border. Feeding whales have been seen in shallower water, larger groups, and generally closer to shore than non-feeding whales, although the distribution of all whales overlapped. Feeding whales generally swim slower (approx. 1 km/h) than non-feeding whales (approx. 4 km/h), sometimes remaining in an area over a period of days.

This guide presents plots of feeding whale sightings gathered during August and September between 1979 and 1984. Only whales that were within approximately three degrees of longitude of proposed 1985 drilling operations were plotted. Feeding whales were the only animals plotted due to their propensity for shallow nearshore water and habit of remaining in an area over longer periods than migrating whales, thus industrial operations may be more likely to impact them. A summary of all bowhead sightings, abundance estimates and behaviors may be referenced in Ljungblad et al., 1985a and 1985b.¹⁾

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- 1) Ljungblad, D.K., Moore, S.E., Clarke, J.T., Van Schoik, D.R. and Bennett, J.D. 1985a. Aerial surveys of endangered whales in the northern Bering, eastern Chukchi and Alaskan Beaufort Seas, 1984; with a six year review 1979-1984. NOSC TR 1046, 385 pp.
- Ljungblad, D.K., Moore, S.E., and Clarke, J.T. 1985b. Assessment of bowhead whale (Balaena mysticetus) feeding patterns in the Alaskan Beaufort and northeastern Chukchi Sea via aerial surveys, Fall 1979-1984. Int. Whal. Commn. SC/37/PS1, 19 pp.

METHODS

Maps were generated using a series of computer programs consisting of BASIC subroutines implemented on a microcomputer connected to a printer/plotter. Each point on the maps represents a sighting of one or more whales. A general map of the area depicting the approximate locations of 1985 drilling operations is provided (Figure 1) to orient the reader to the daily plots provided for each site. A listing of plotted locations, including the date and number of bowheads seen, precedes each series of maps. In four instances, whale positions fell outside the boundaries of the daily plots. The 3-degree-longitude boundaries were chosen to maximize the number of locations plotted; locations not plotted are indicated by an asterisk on the summary tables.

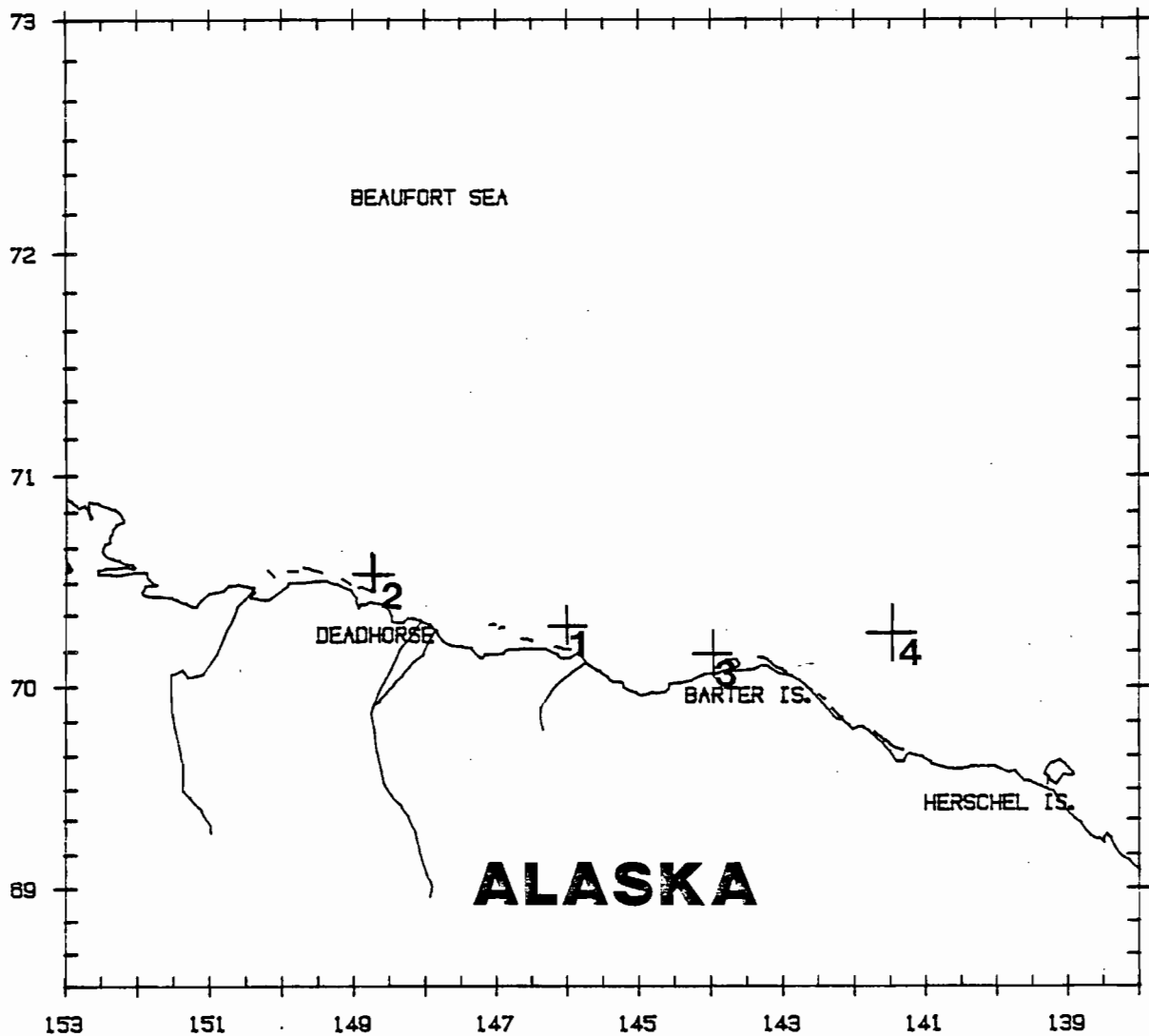


Figure 1. Approximate locations of 1985 drilling operations.

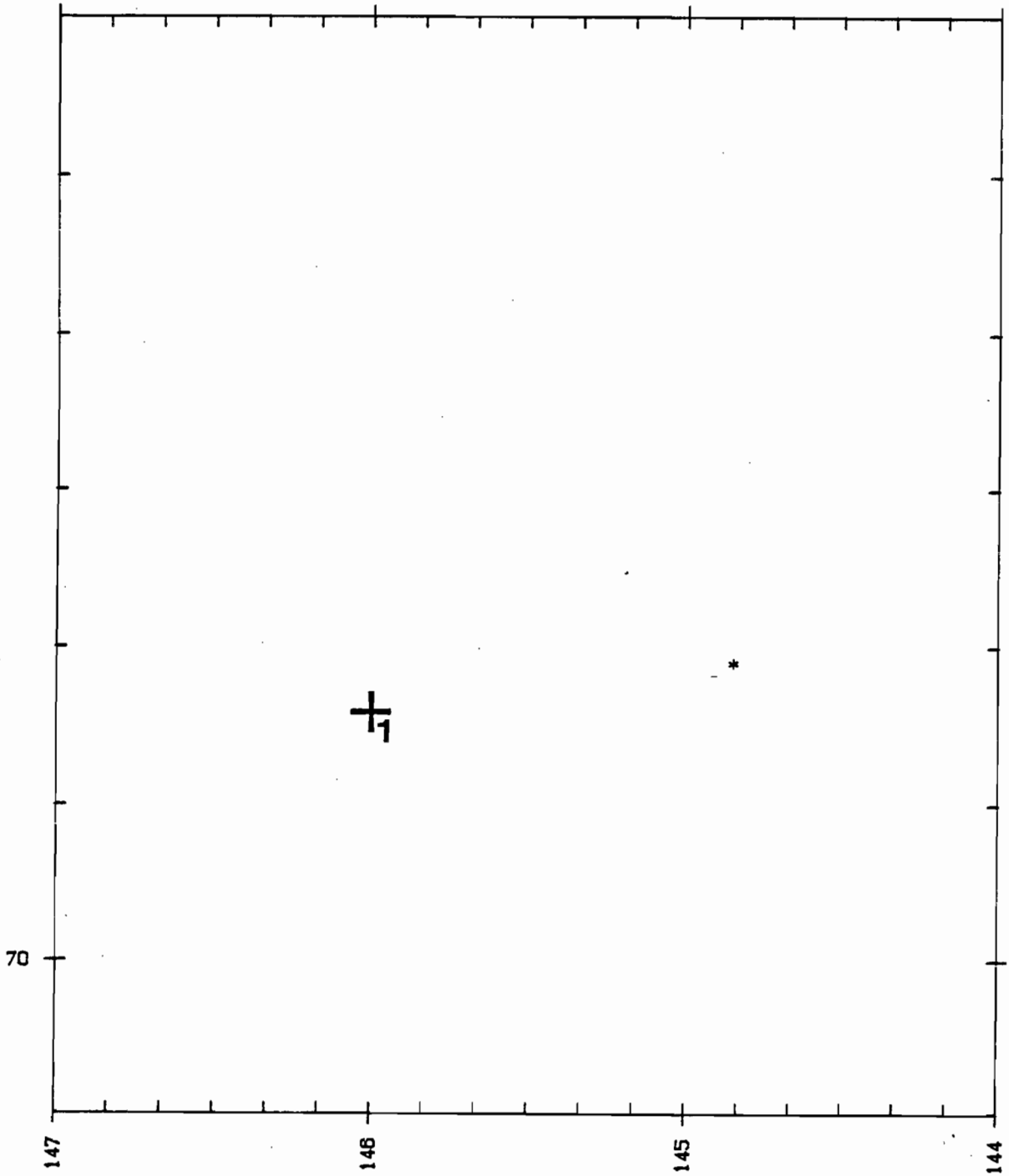
- 1 = Hammerhead
- 2 = Sandpiper
- 3 = ~~Ø.~~ Prospect (Erik)
- 4 = Belcher Pt.

DATA SUMMARY

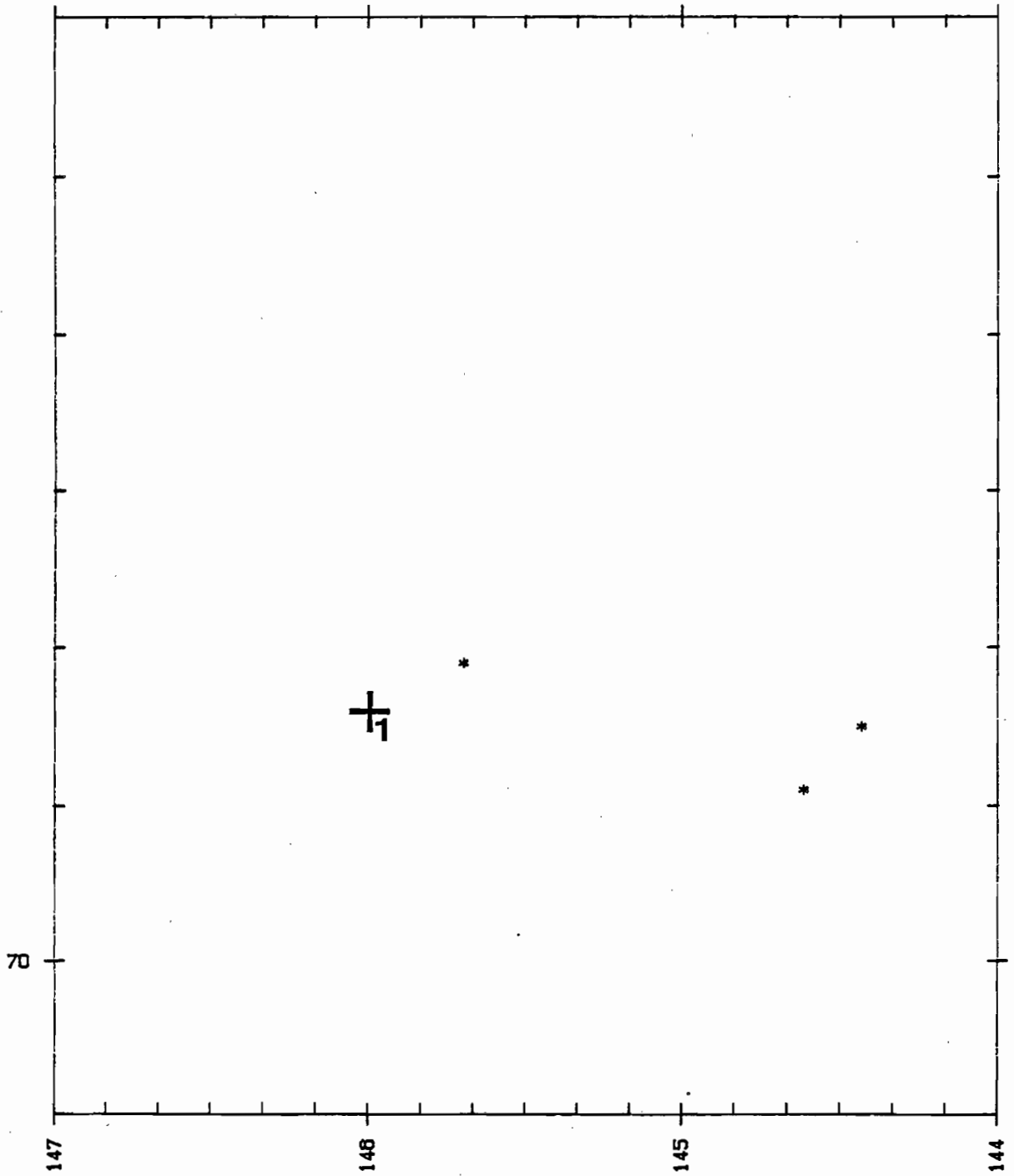
Table 1. Summary of sightings of feeding bowhead whales near the Hammerhead (70°16', 146°00') site.

No. Whales	Location		Date	Map No.
15	7019.0	14451.0	9-13-84	1
18	7011.0	14437.0	9-14-82	
1	7015.0	14426.0	9-14-84	2
1	7019.0	14542.0	9-14-84	
9	7014.0	14430.0	9-15-82	
2	7021.3	14424.2	9-15-82	
1	7021.9	14435.7	9-15-82	3
1	7022.0	14450.1	9-15-82	
1	7024.9	14426.8	9-15-82	
10	7040.8	14647.7	9-24-82	4
1	7033.5	14604.1	9-24-82	
2	7022.4	14526.2	9-28-81	
1	7021.7	14527.2	9-28-81	
2	7021.7	14528.8	9-28-81	
2	7021.8	14526.7	9-28-81	
1	7022.6	14528.5	9-28-81	5
1	7022.0	14531.9	9-28-81	
3	7025.5	14621.0	9-28-82	
3	7025.5	14614.0	9-28-82	
20	7015.5	14444.0	9-28-82	
10	7014.0	14609.0	9-29-83	6

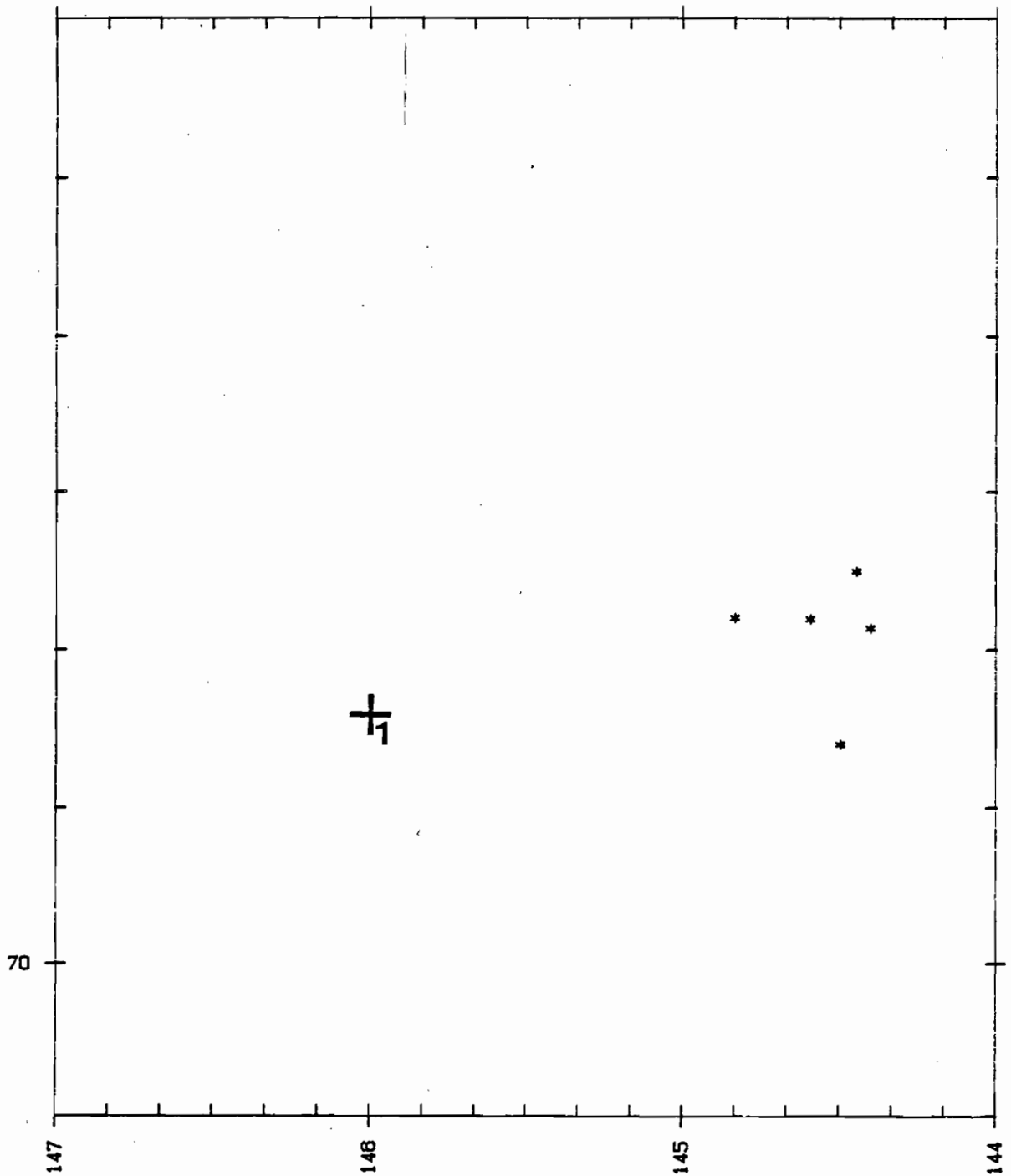
Map No. 1: 13 SEPTEMBER



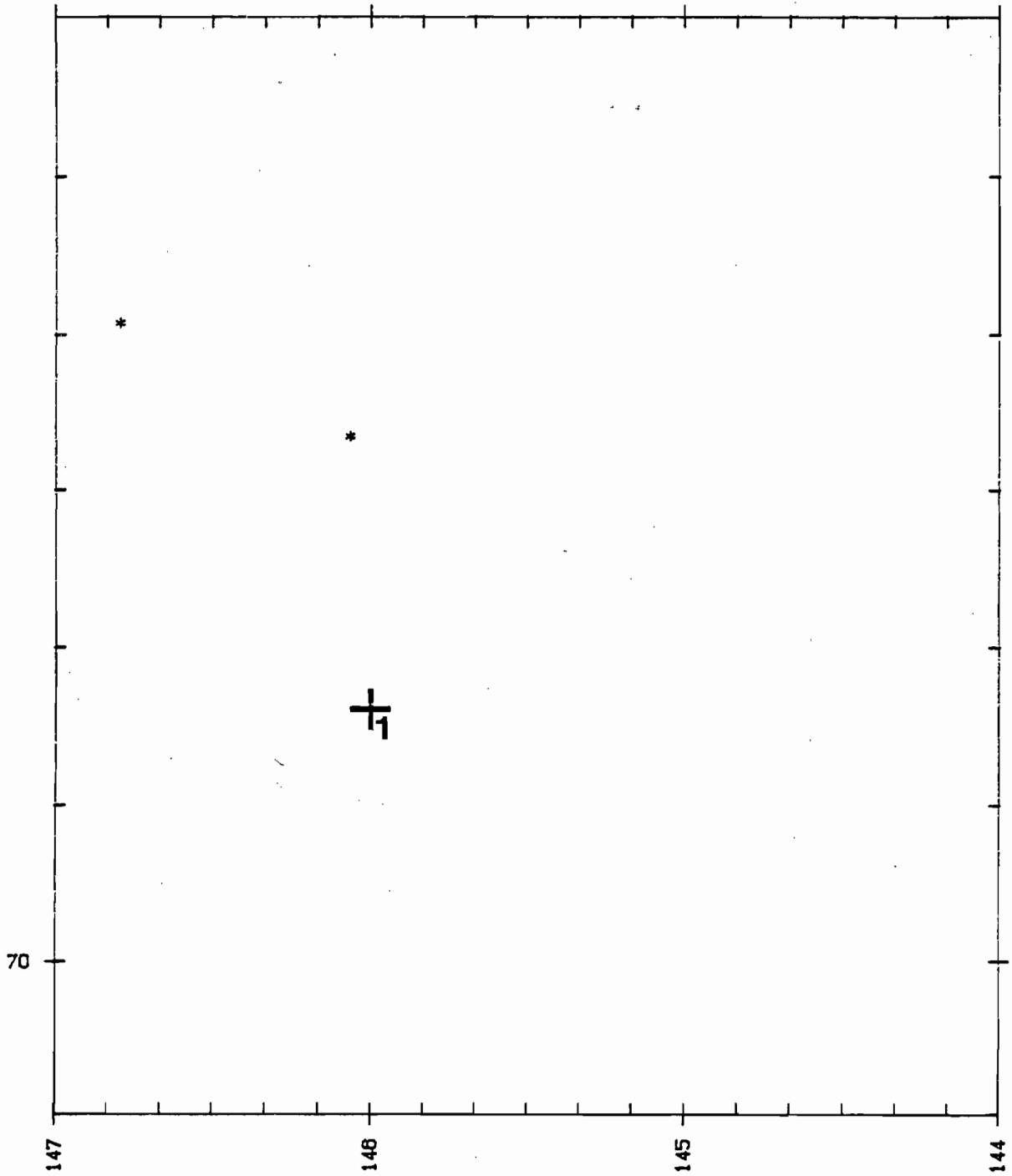
Map No. 2: 14 SEPTEMBER



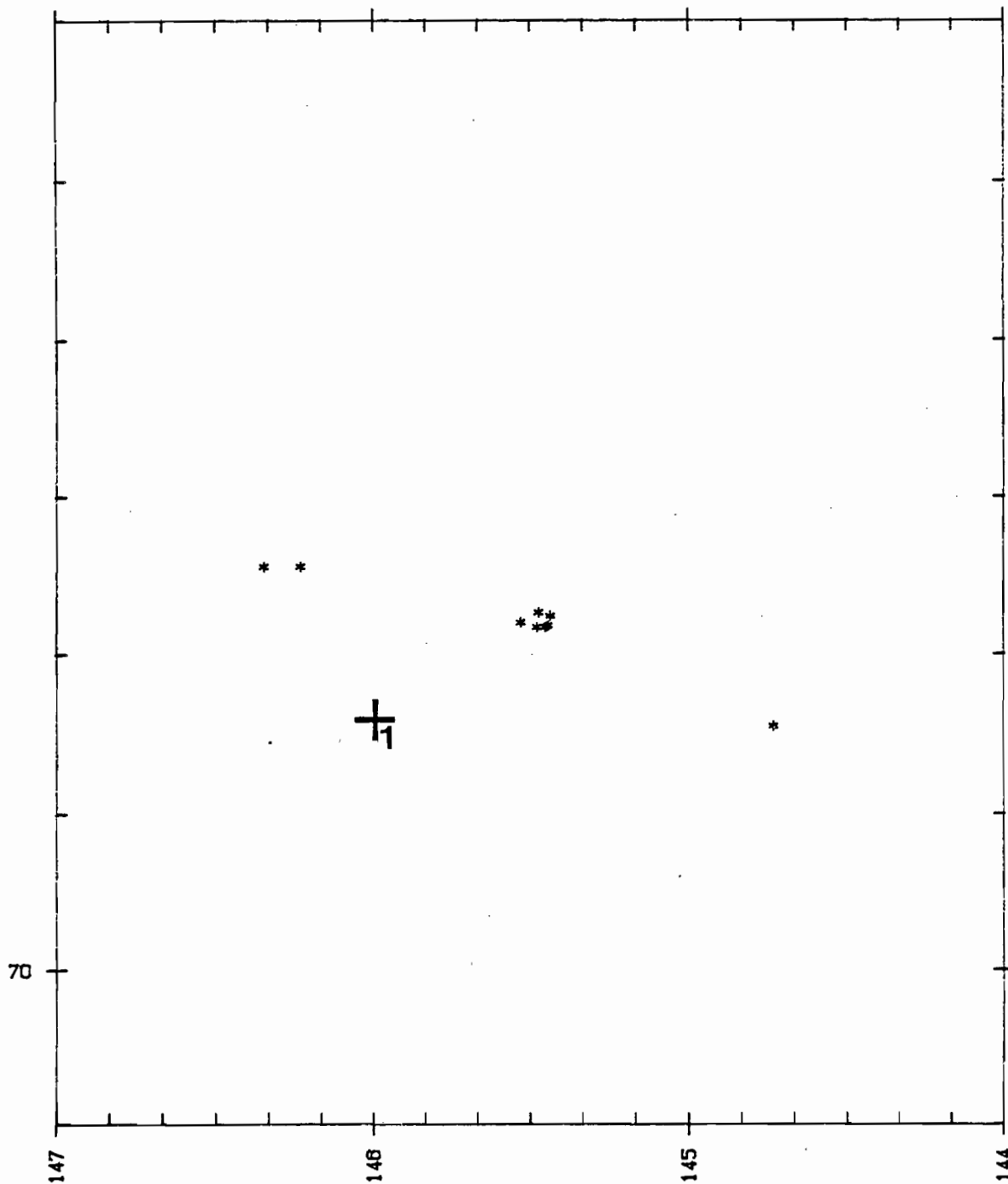
Map No. 3: 15 SEPTEMBER



Map No. 4: 24 SEPTEMBER



Map No. 5: 28 SEPTEMBER



Map No. 6: 29 SEPTEMBER

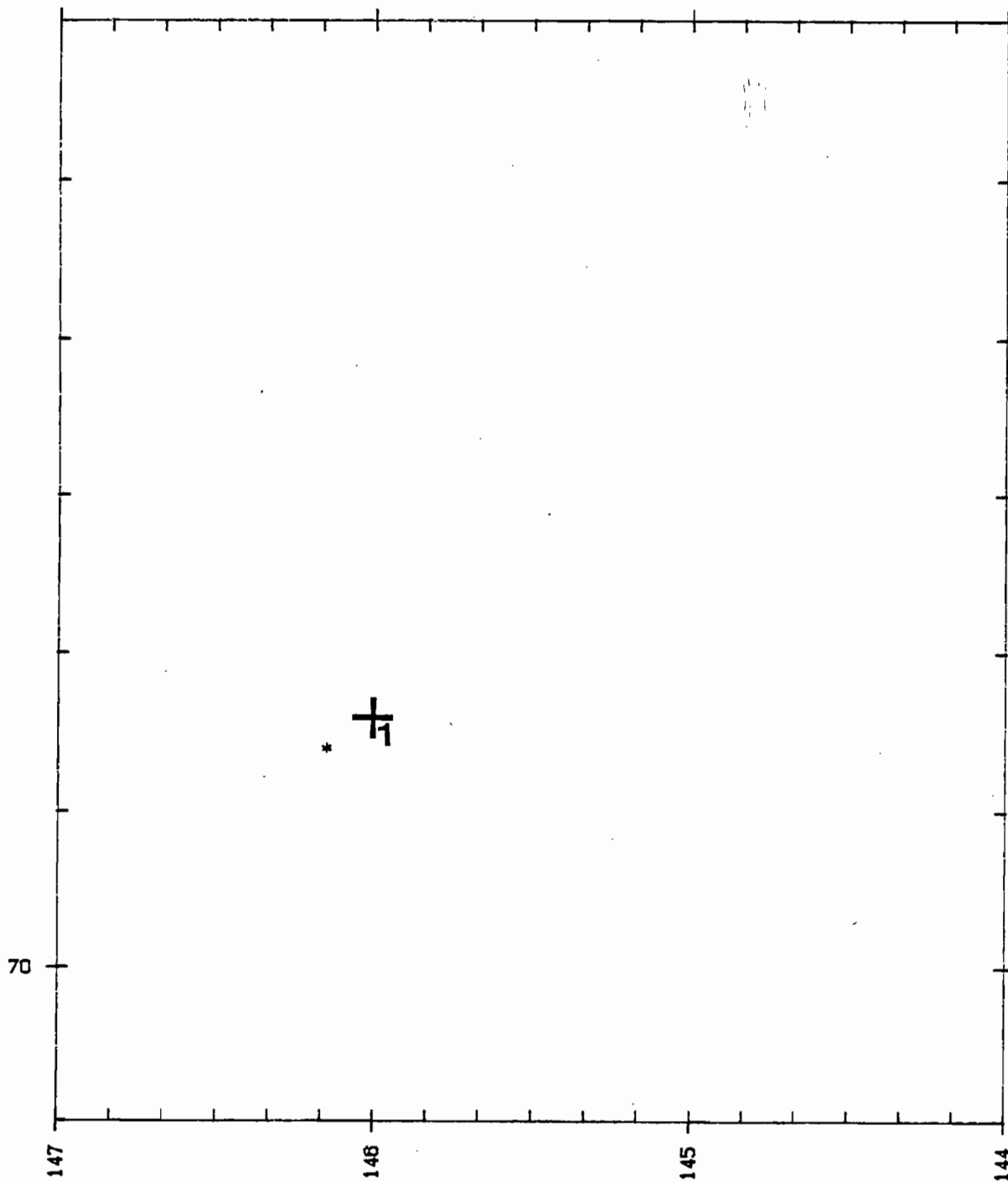
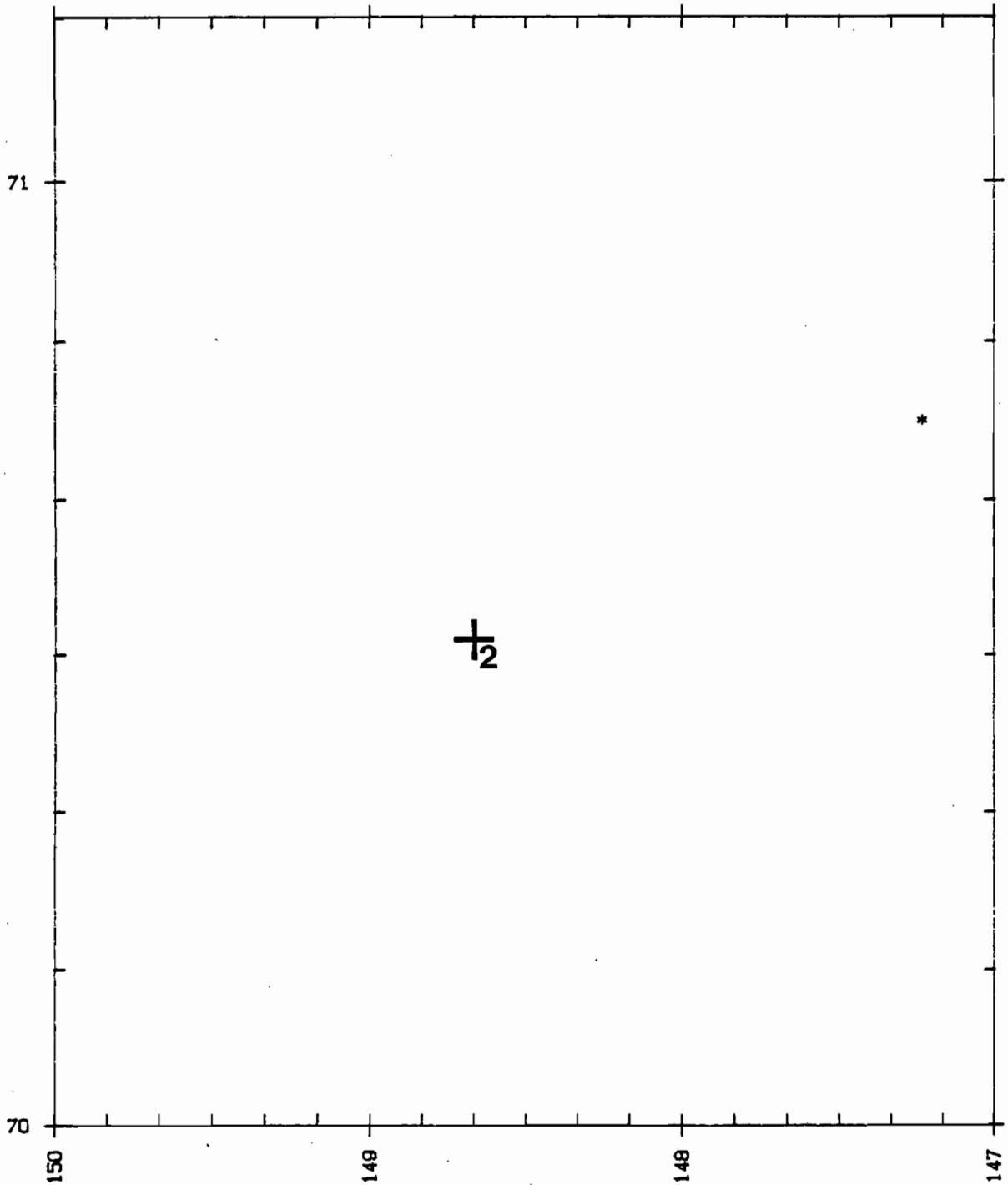


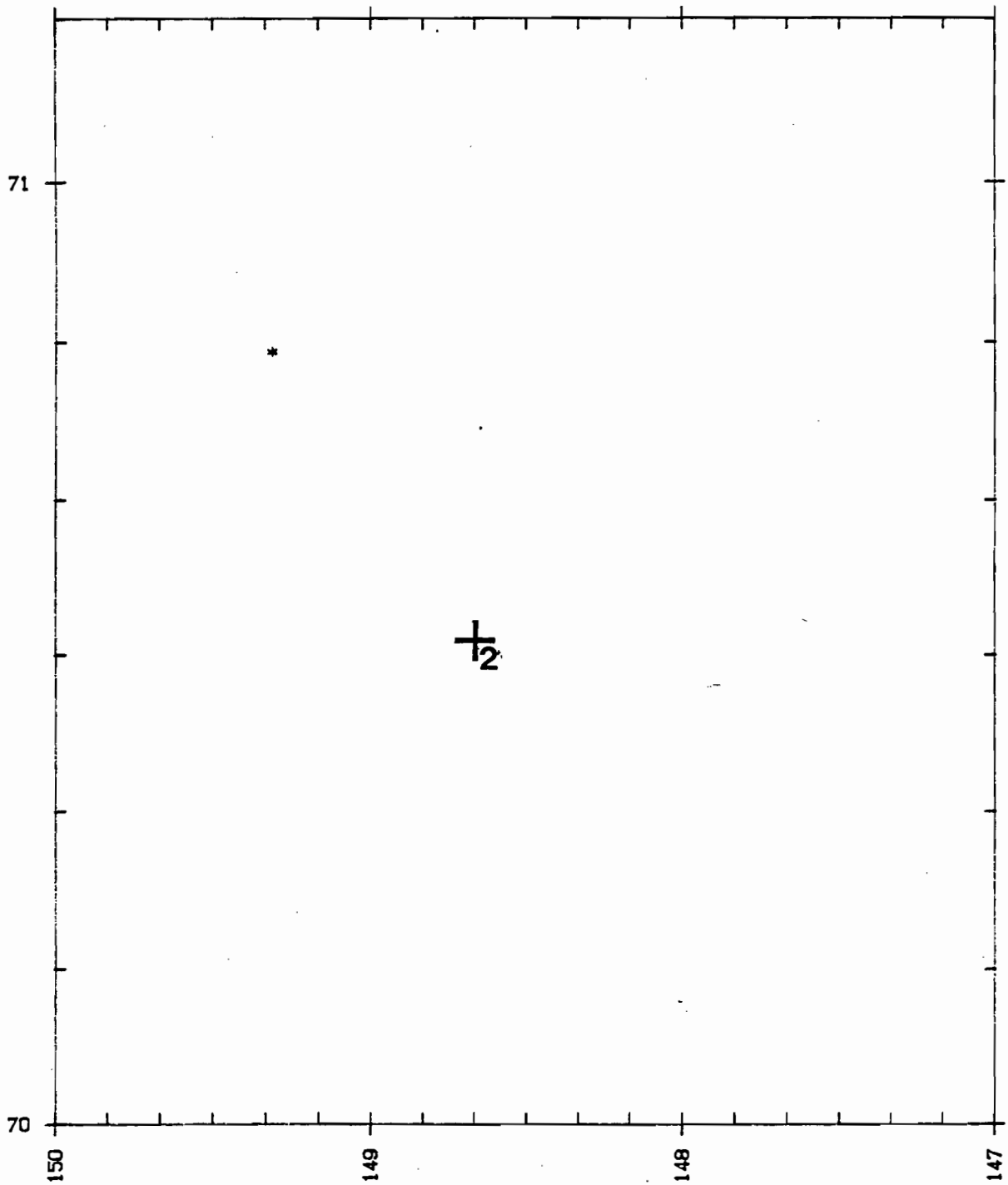
Table 2. Summary of sightings of feeding bowhead whales near the Sandpiper (70°31', 148°40') site. (*Not plotted; off map)

No. Whales	Location		Date	Map No.
3	7045.0	14714.0	9-21-84	7
6	7049.4	14918.7	9-23-82	8
2	7052.0	14909.8	9-24-82	
4	7041.2	14737.0	9-24-82	9
10	7040.8	14647.7*	9-24-82	
6	7050.0	14917.0	9-25-82	
2	7049.9	14915.3	9-25-82	10
16	7048.4	14913.2	9-25-82	

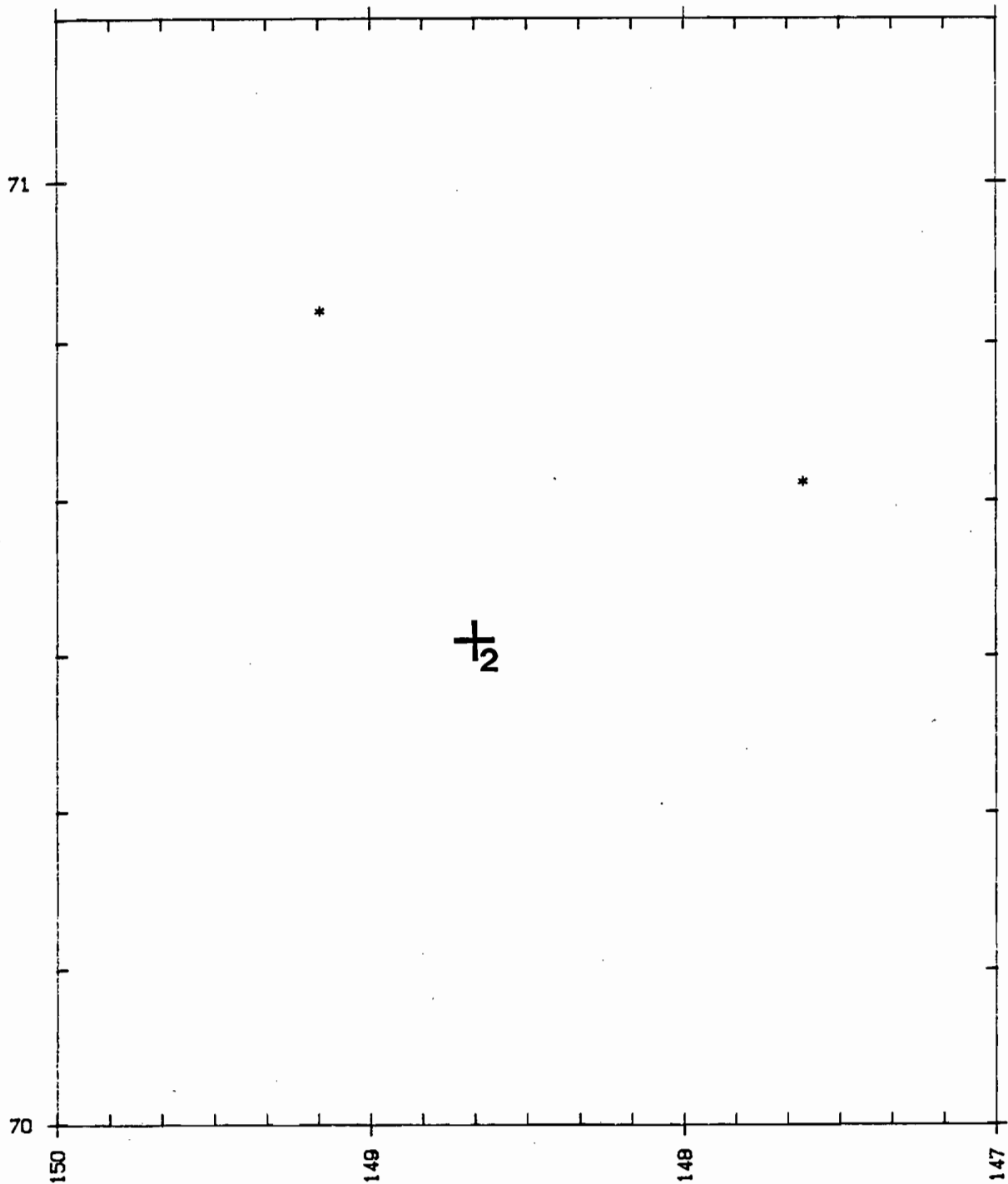
Map No. 7: 21 SEPTEMBER



Map No. 8: 23 SEPTEMBER



Map No. 9: 24 SEPTEMBER



Map No. 10: 25 SEPTEMBER

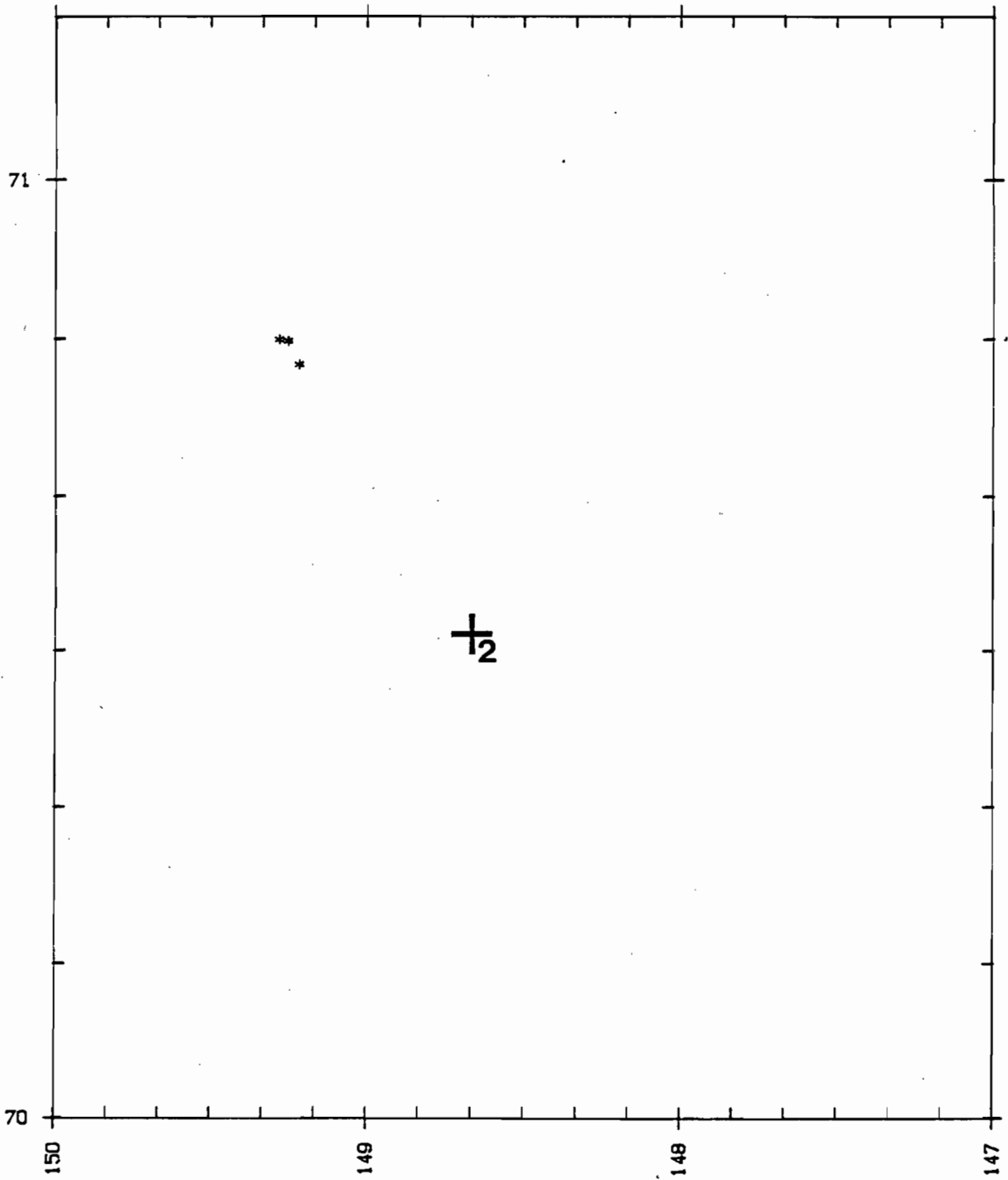
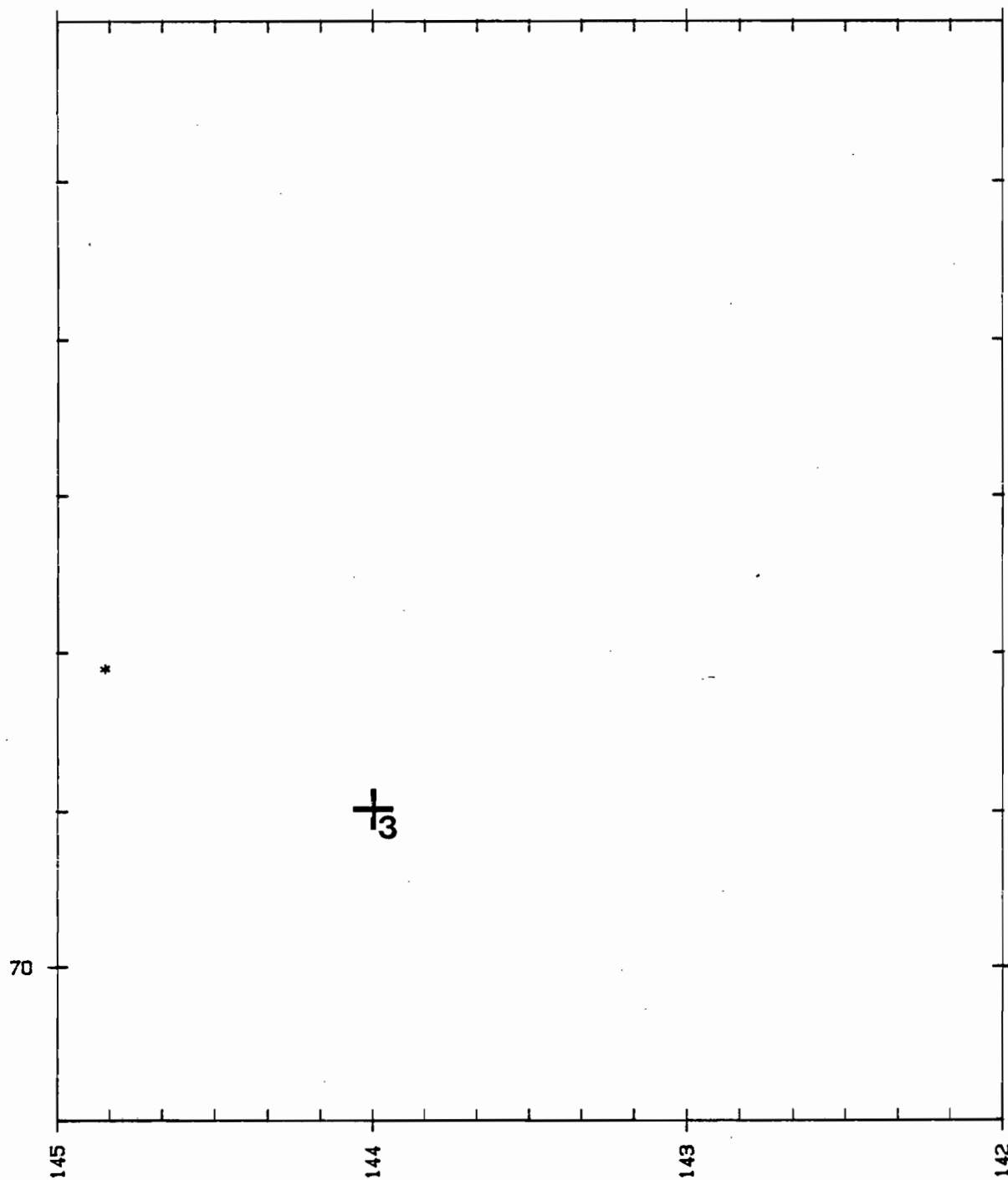


Table 3. Summary of sightings of feeding bowhead whales near the D. Prospect (70°10', 144°00') site. (*Not plotted; off map)

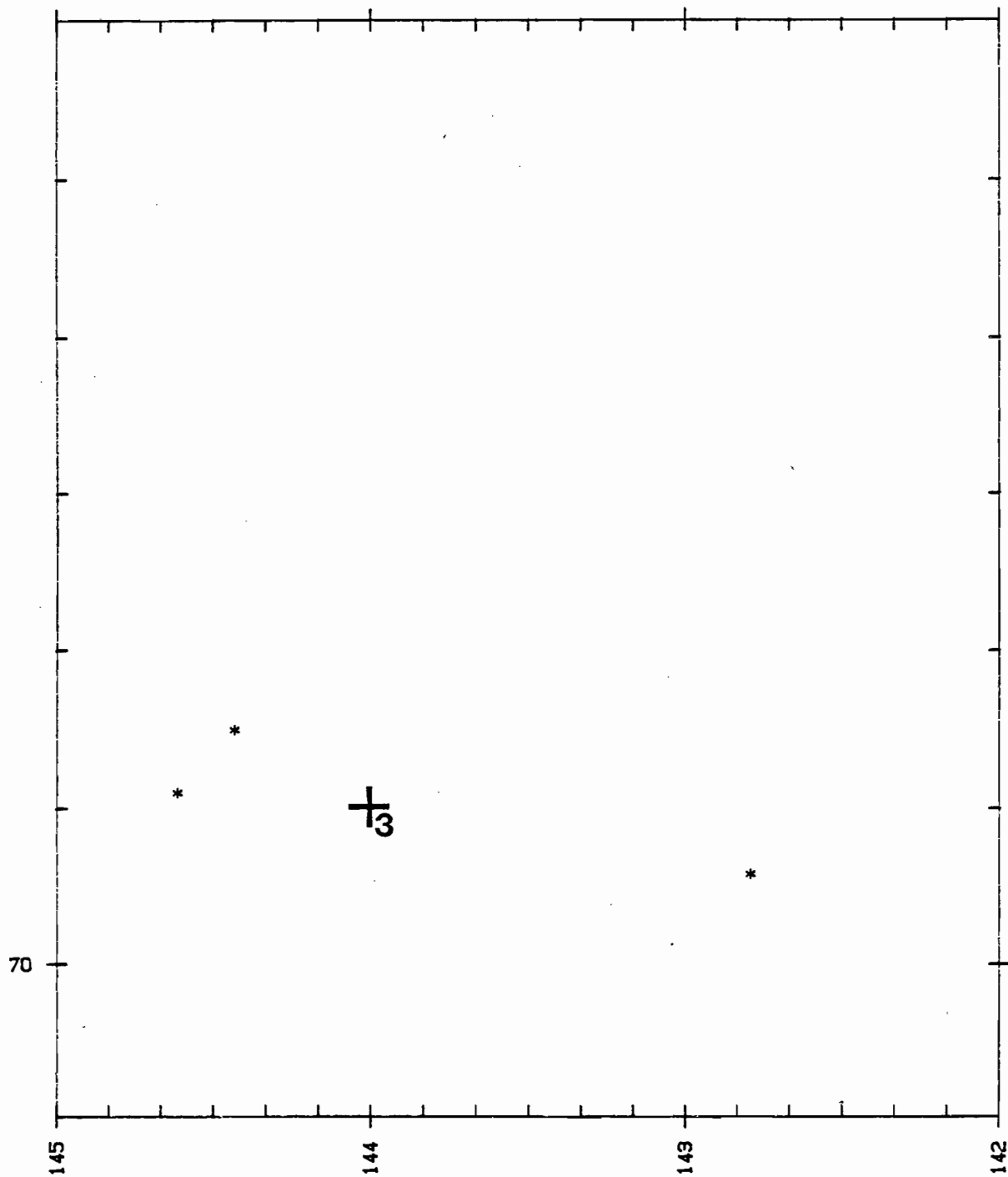
No. Whales	Location		Date	Map No.
15	7019.0	14451.0	9-13-84	11
1	6952.8	14125.8*	9-14-80	
2	7005.8	14247.6	9-14-80	12
18	7011.0	14437.0	9-14-82	
1	7015.0	14426.0	9-14-84	
9	7014.0	14430.0	9-15-82	
3	7000.1	14117.6*	9-15-82	
2	7001.5	14106.3*	9-15-82	
2	7021.3	14424.2	9-15-82	13
1	7021.9	14435.7	9-15-82	
1	7022.0	14450.1	9-15-82	
1	7024.9	14426.8	9-15-82	
3	7007.9	14152.6	9-20-81	
2	7008.4	14206.3	9-20-81	
1	7006.3	14157.4	9-20-81	
1	7004.9	14152.6	9-20-81	14
4	7007.1	14152.9	9-20-81	
1	7007.0	14148.6	9-20-81	
1	7005.9	14152.4	9-20-81	
1	7003.6	14242.0	9-21-80	15
1	7002.1	14236.5	9-21-80	
5	6956.2	14152.5	9-24-79	
5	6956.4	14149.9	9-24-79	
3	6955.6	14152.0	9-24-79	
3	7011.2	14215.3	9-24-82	16
4	7008.5	14159.6	9-24-82	
5	7004.1	14128.6	9-24-82	
10	6948.0	14113.4	9-24-82	
2	6949.8	14118.4	9-26-79	
9	6945.0	14111.2	9-26-79	
2	6947.5	14107.8	9-26-79	
4	6944.3	14102.4	9-26-79	
3	6944.3	14104.2	9-26-79	
2	6946.8	14108.5	9-26-79	
1	6943.0	14102.1	9-26-79	17
2	6947.7	14112.5	9-26-79	
2	6949.0	14121.8	9-26-79	
6	7002.0	14234.0	9-26-83	
7	7029.0	14330.0	9-26-84	
28	7028.0	14314.0	9-26-84	
15	7029.0	14305.0	9-26-84	

No. Whales	Location		Date	Map No.
20	7015.5	14444.0	9-28-82	18
10	7011.0	14323.0	9-28-83	
8	7011.0	14324.0	9-29-83	19

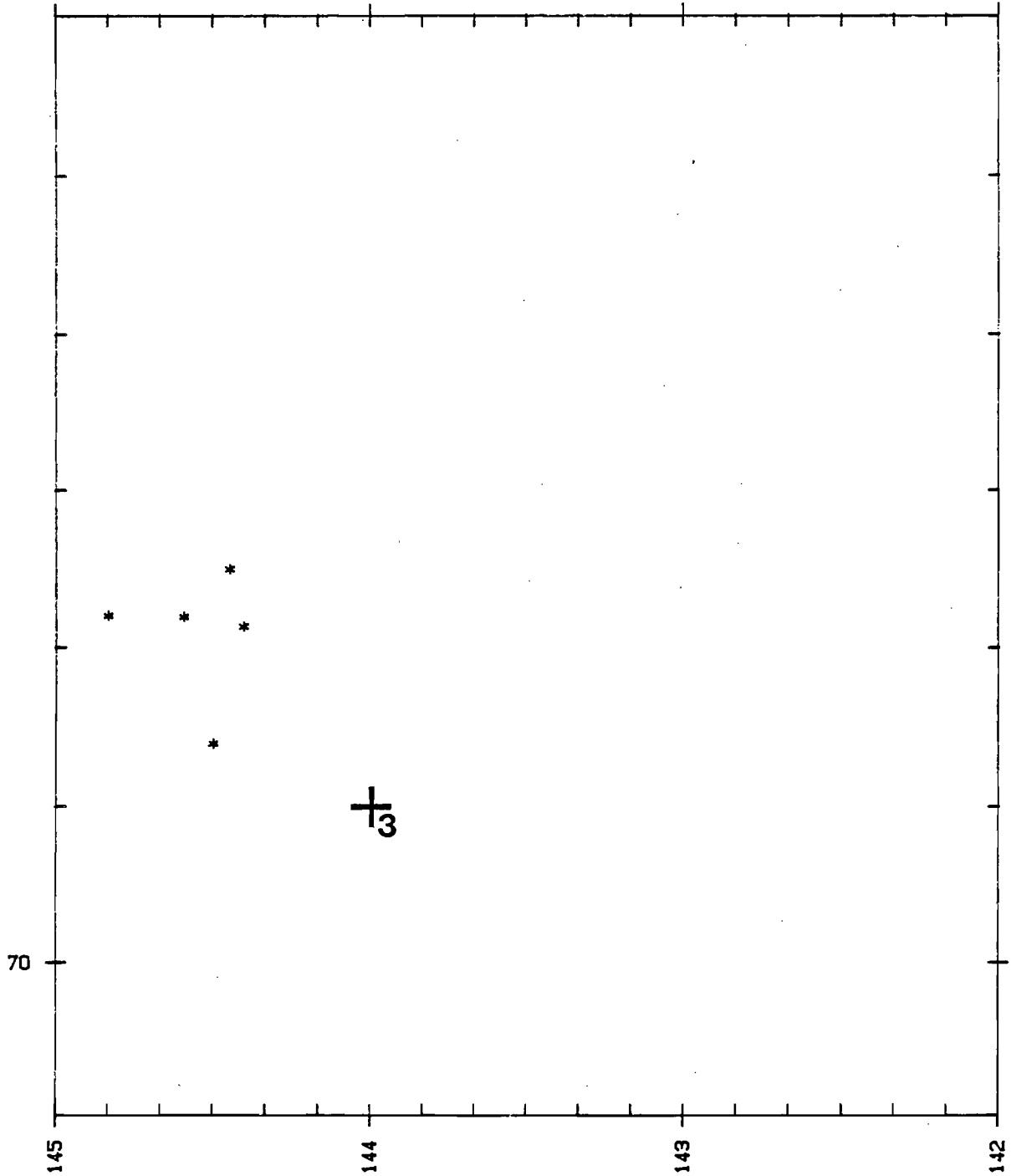
Map No. 11: 13 SEPTEMBER



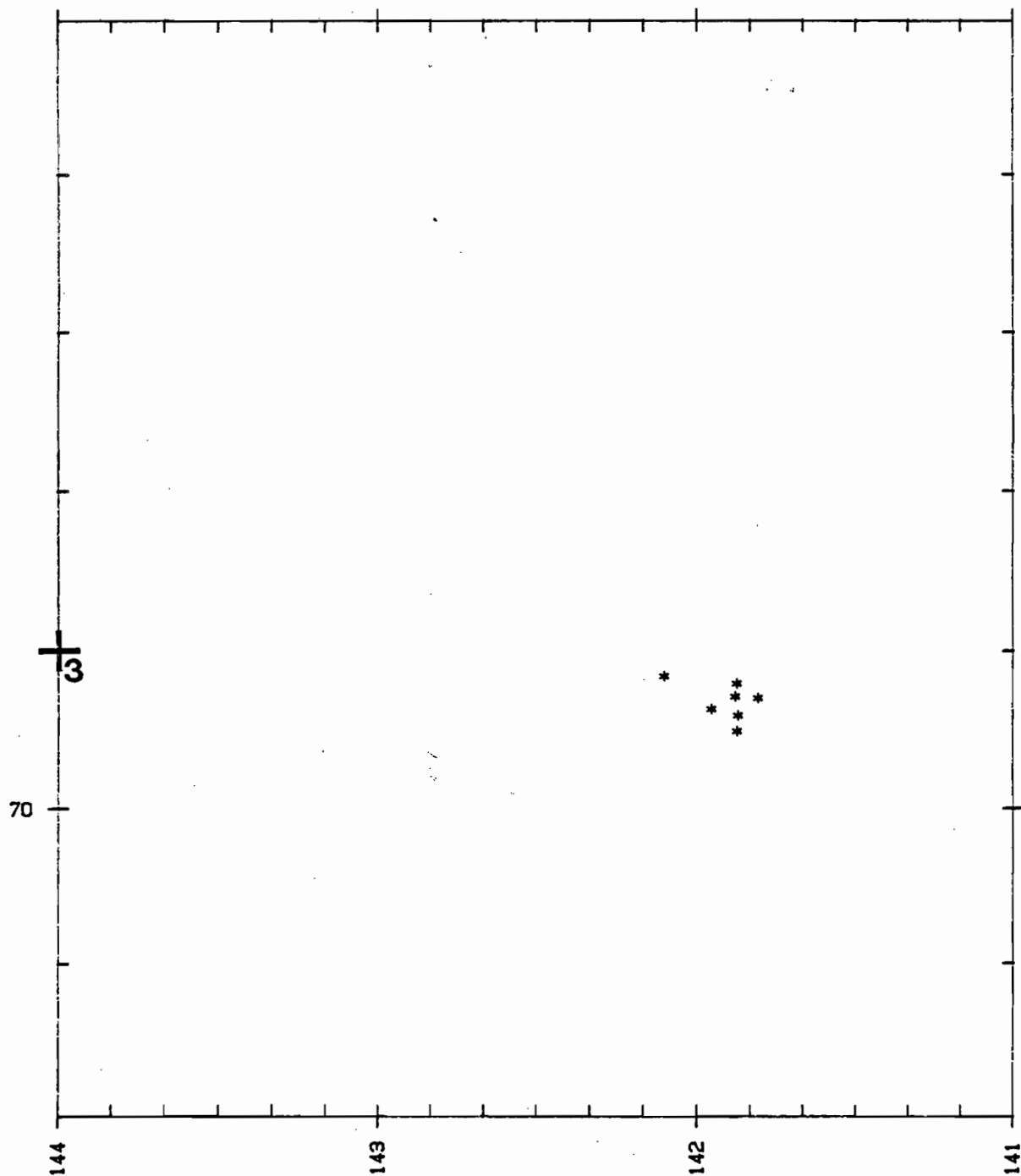
Map No. 12: 14 SEPTEMBER



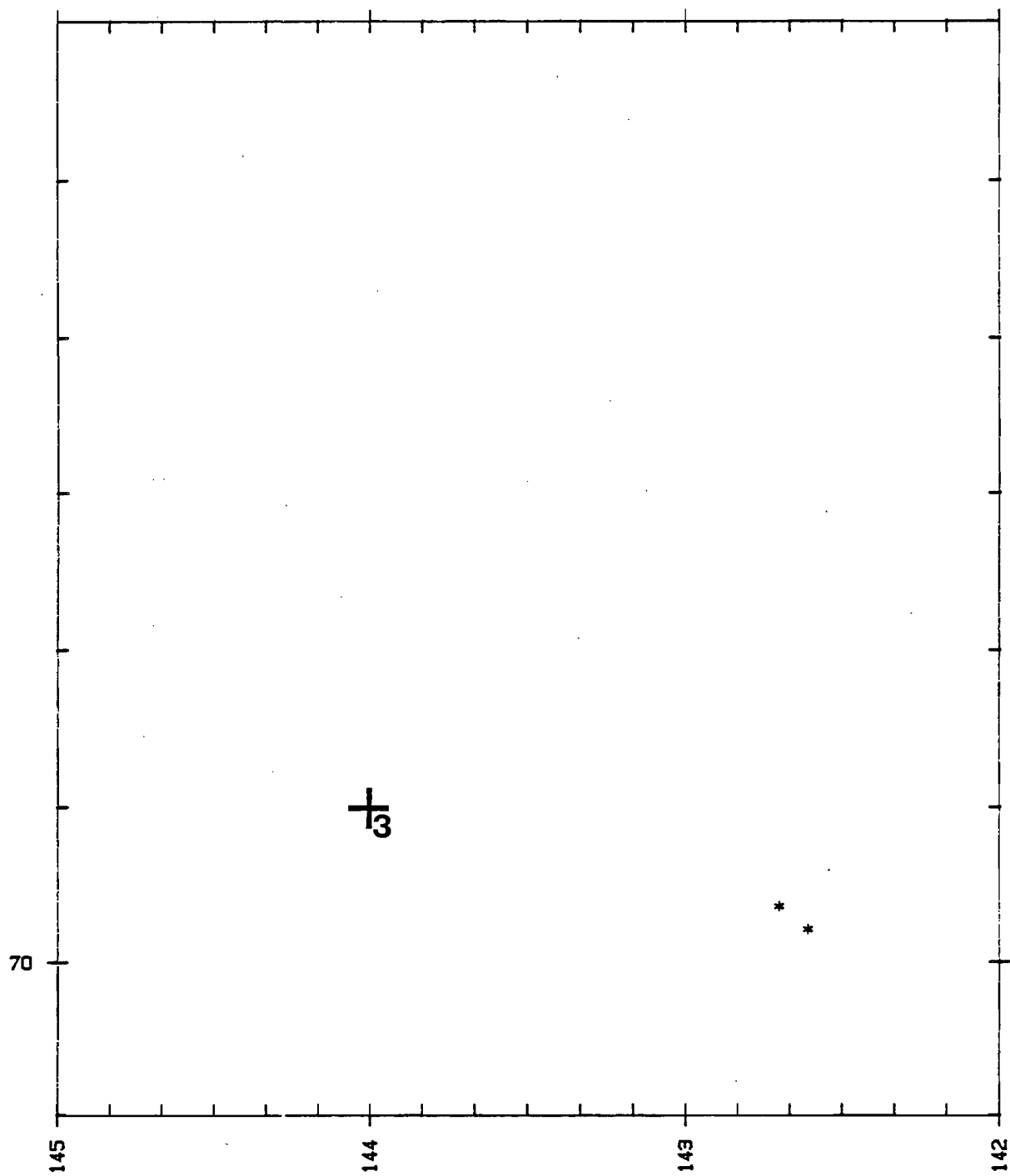
Map No. 13: 15 SEPTEMBER



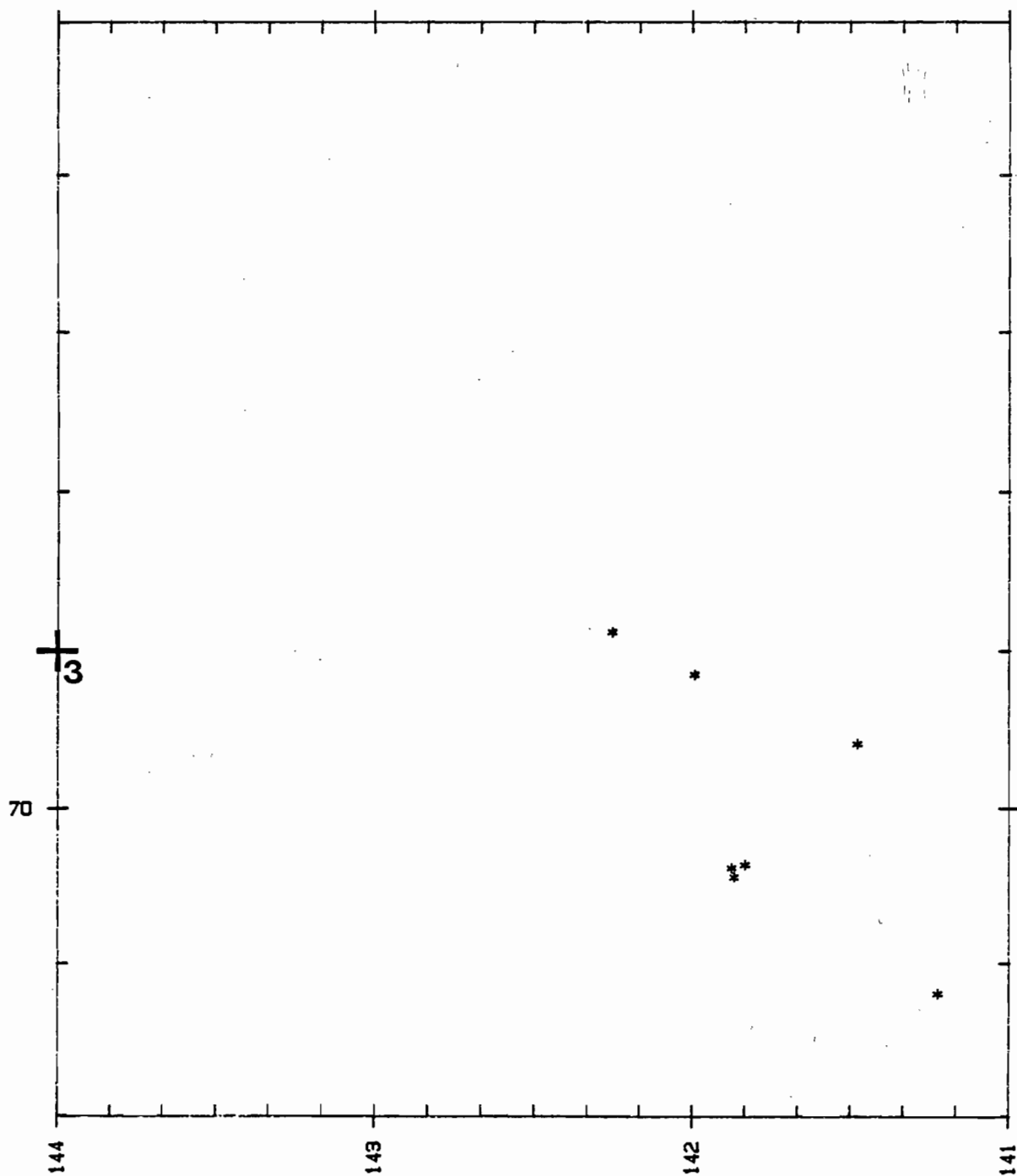
Map No. 14: 20 SEPTEMBER



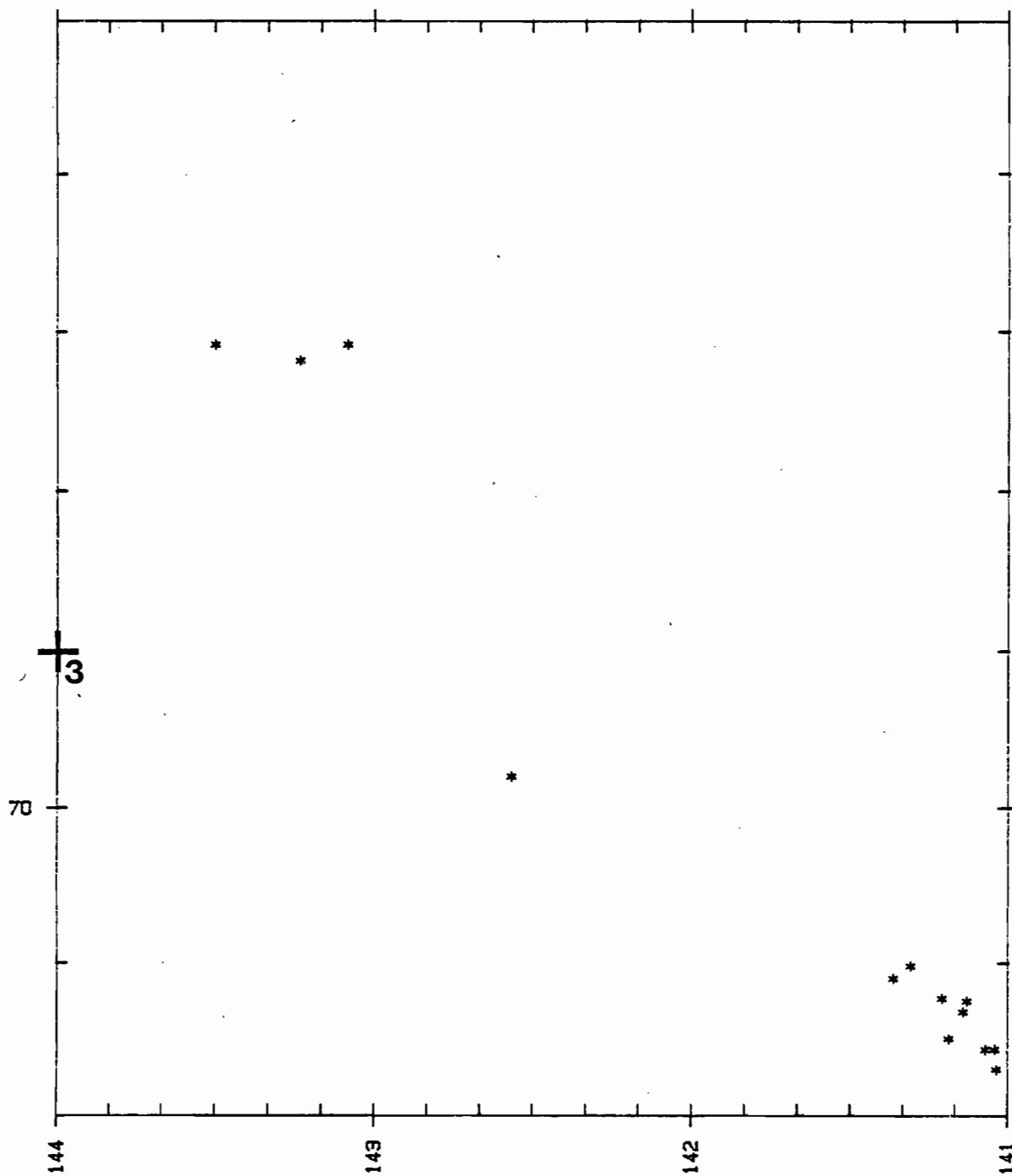
Map No. 15: 21 SEPTEMBER



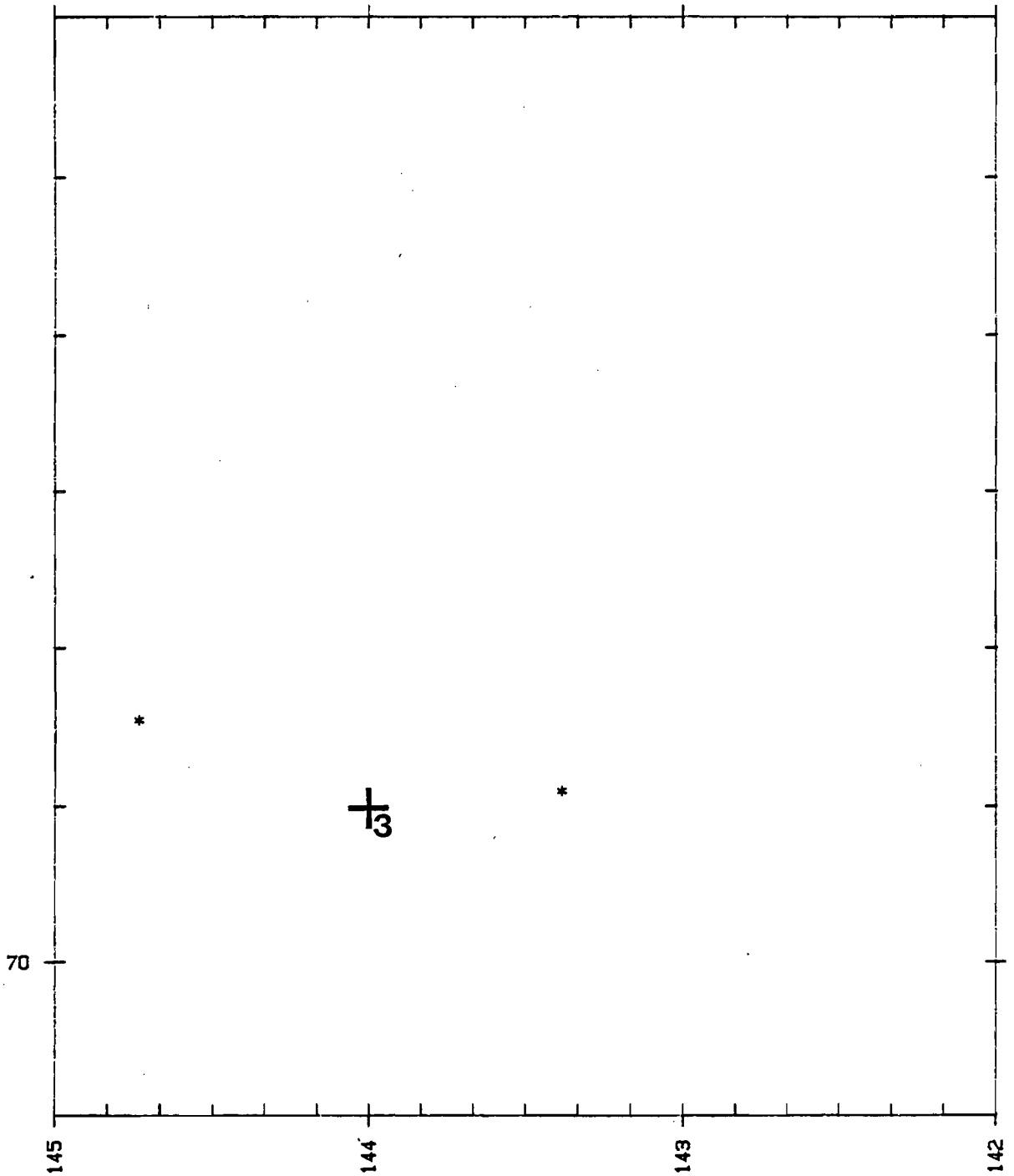
Map No. 16: 24 SEPTEMBER



Map No. 17: 26 SEPTEMBER



Map No. 18: 28 SEPTEMBER



Map No. 19: 29 SEPTEMBER

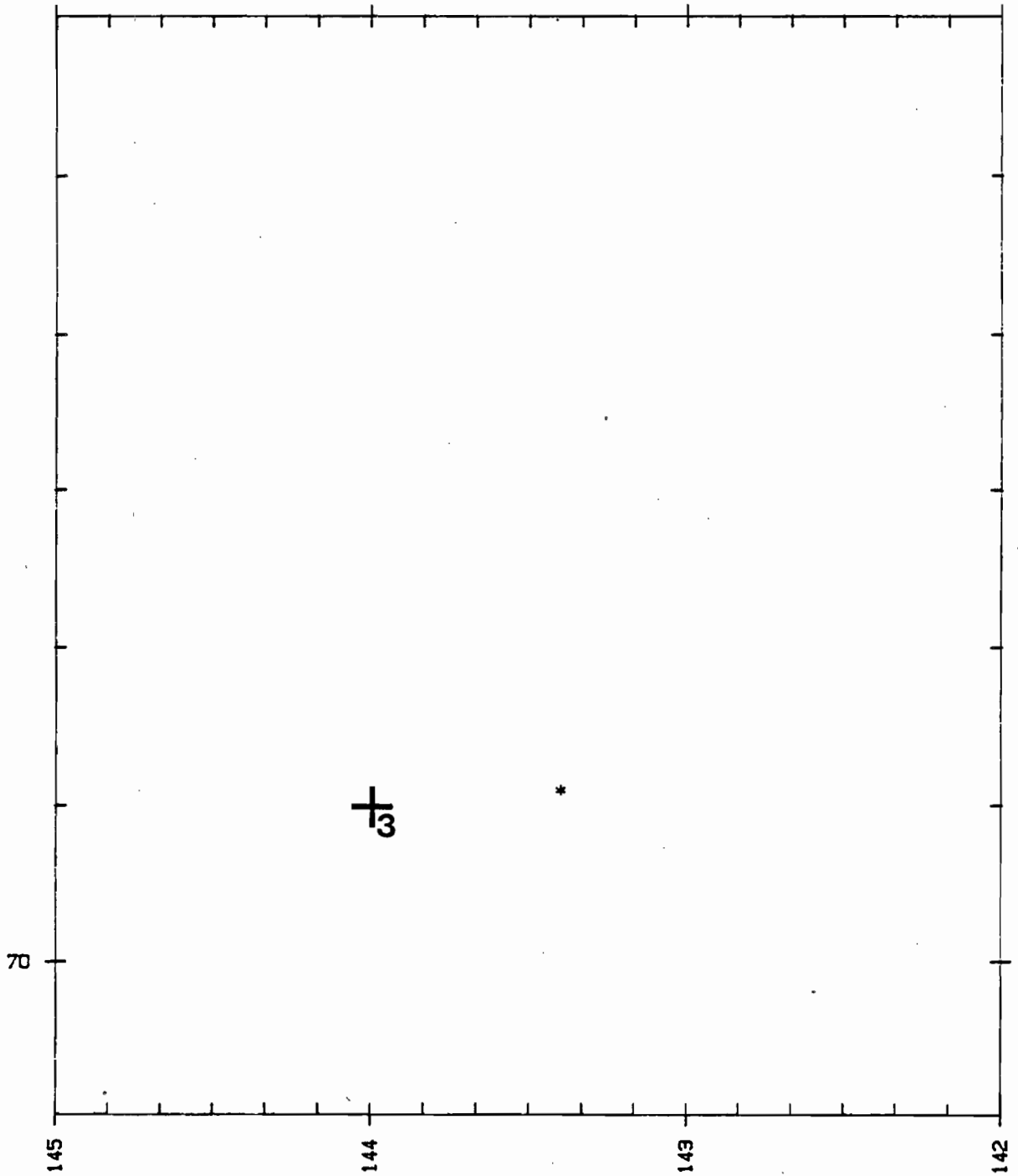
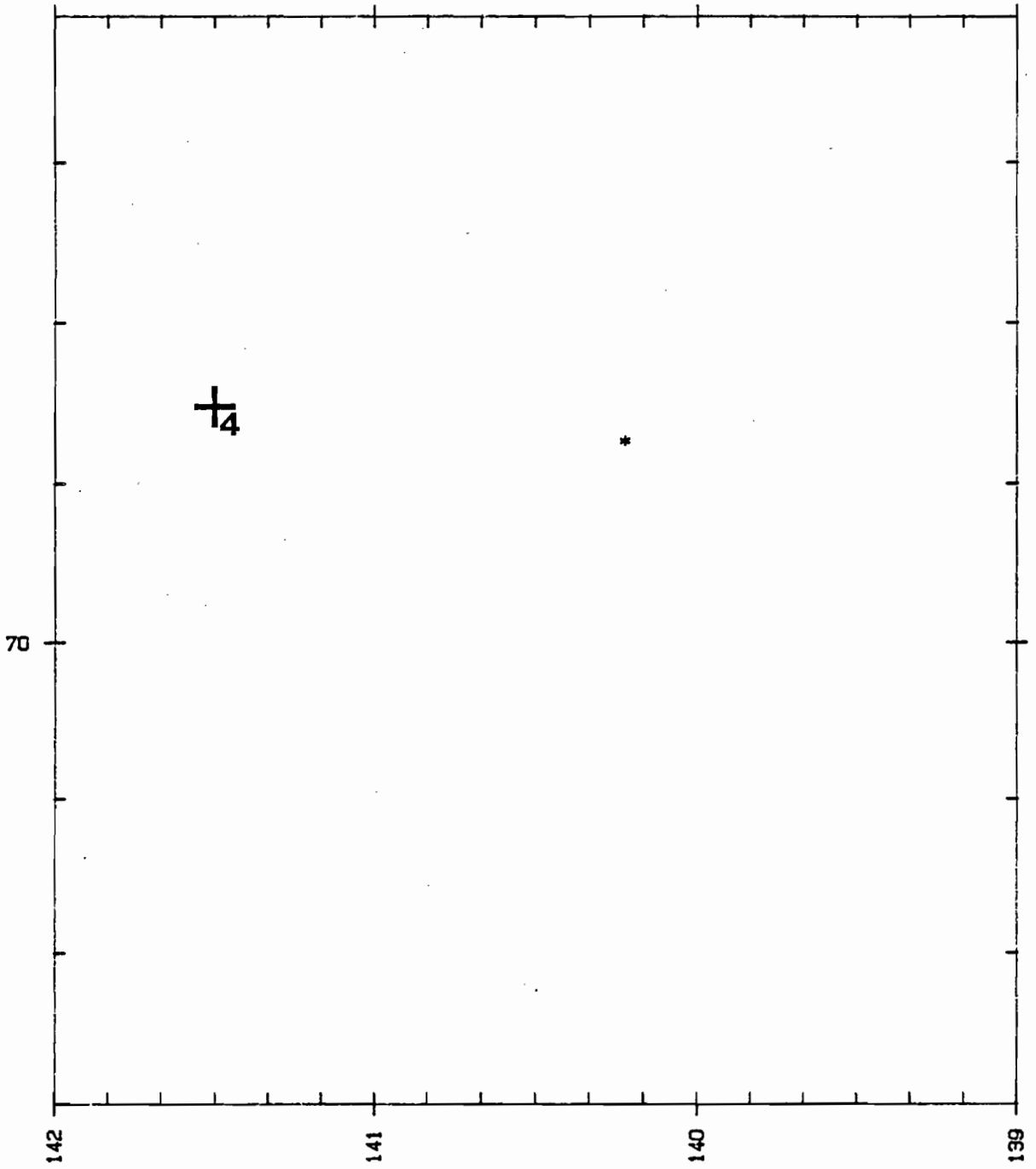


Table 4. Summary of sightings of feeding bowhead whales near the Belcher Pt. (70°15', 141°30') site.

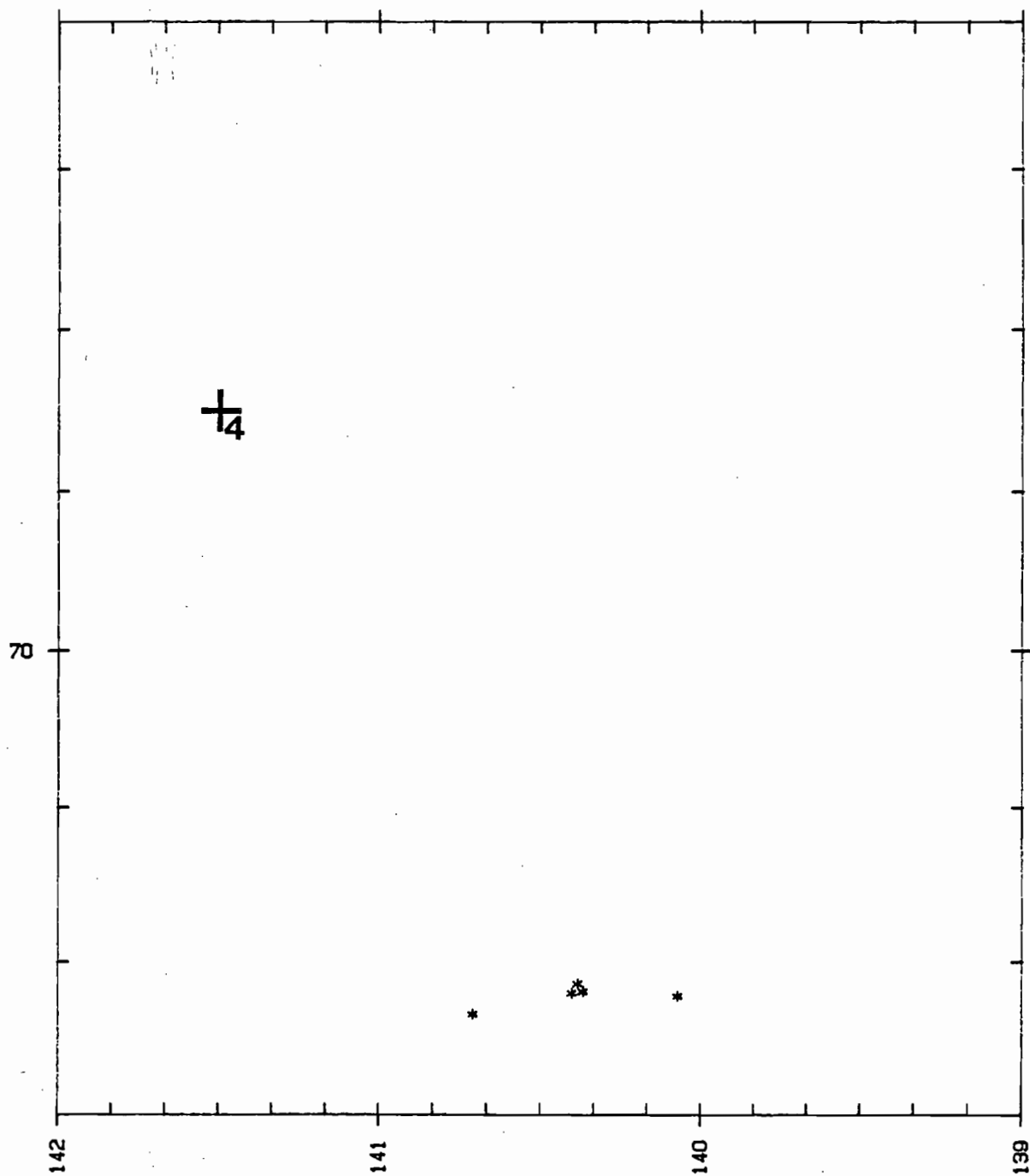
No. Whales	Location		Date	Map No.
4	7012.7	14013.5	8-9-83	20
1	6936.6	14042.5	8-16-84	
1	6937.8	14004.3	8-16-84	
3	6938.1	14022.1	8-16-84	21
2	6938.0	14024.2	8-16-84	
1	6938.6	14023.1	8-16-84	
15	6935.6	14022.7	8-17-84	22
1	6950.2	14055.9	9-12-81	
2	6950.9	14059.0	9-12-81	
4	6949.3	14055.4	9-12-81	23
1	6949.6	14056.2	9-12-81	
1	6952.8	14125.8	9-14-80	24
3	7000.1	14117.6	9-15-82	
2	7001.5	14106.3	9-15-82	
7	6950.0	14008.6	9-15-82	25
6	6956.9	13955.6	9-15-82	
5	6959.8	14014.9	9-16-82	
12	6951.7	14004.2	9-16-82	26
3	7007.9	14152.6	9-20-81	
2	7008.4	14206.3	9-20-81	
1	7006.3	14157.4	9-20-81	
1	7004.9	14152.6	9-20-81	27
4	7007.1	14152.9	9-20-81	
1	7007.0	14148.6	9-20-81	
1	7005.9	14152.4	9-20-81	
5	6956.2	14152.5	9-24-79	
5	6956.4	14149.9	9-24-79	
3	6955.6	14152.0	9-24-79	
3	7011.2	14215.3	9-24-82	
4	7008.5	14159.6	9-24-82	28
5	7004.1	14128.6	9-24-82	
3	6956.2	14053.3	9-24-82	
8	6947.1	14045.6	9-24-82	
10	6948.0	14113.4	9-24-82	

No. Whales	Location		Date	Map No.
2	6949.8	14118.4	9-26-79	
9	6945.0	14111.2	9-26-79	
2	6947.5	14107.8	9-26-79	
4	6944.3	14102.4	9-26-79	
2	6942.0	14058.7	9-26-79	
3	6944.3	14104.2	9-26-79	29
2	6946.8	14108.5	9-26-79	
1	6943.0	14102.1	9-26-79	
1	6941.9	14057.9	9-26-79	
2	6947.7	14112.5	9-26-79	
2	6949.0	14121.8	9-26-79	

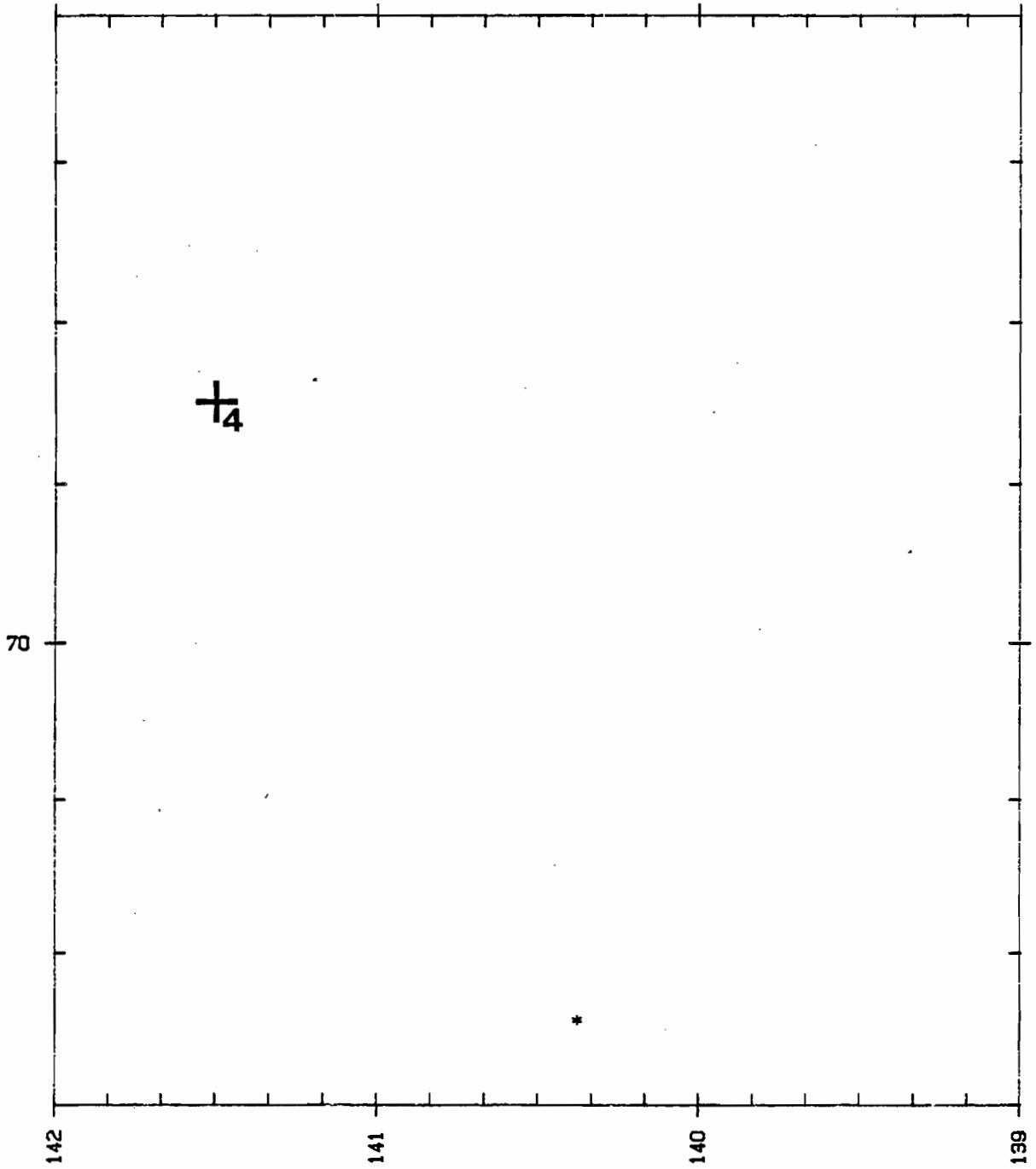
Map No. 20: 9 AUGUST



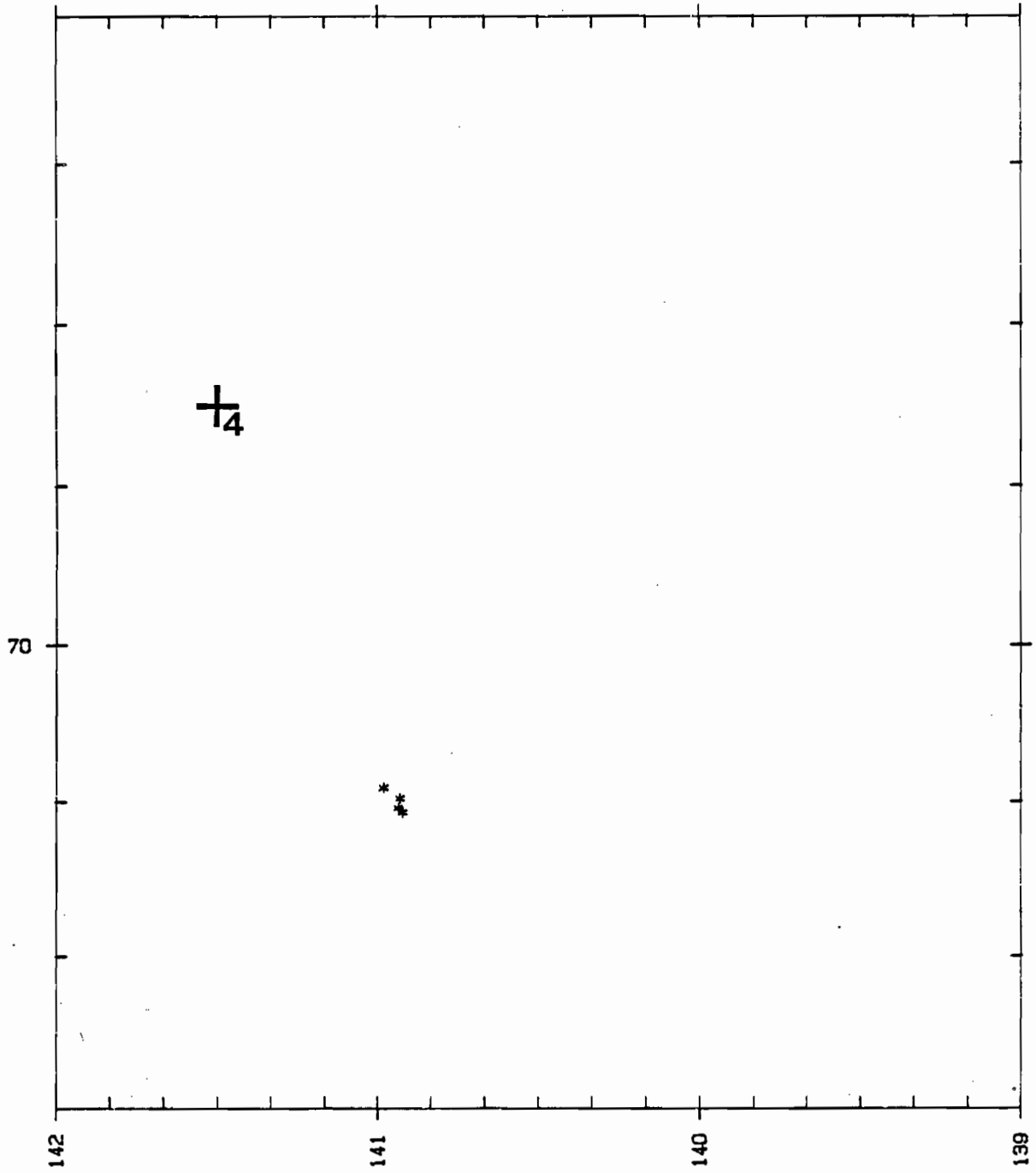
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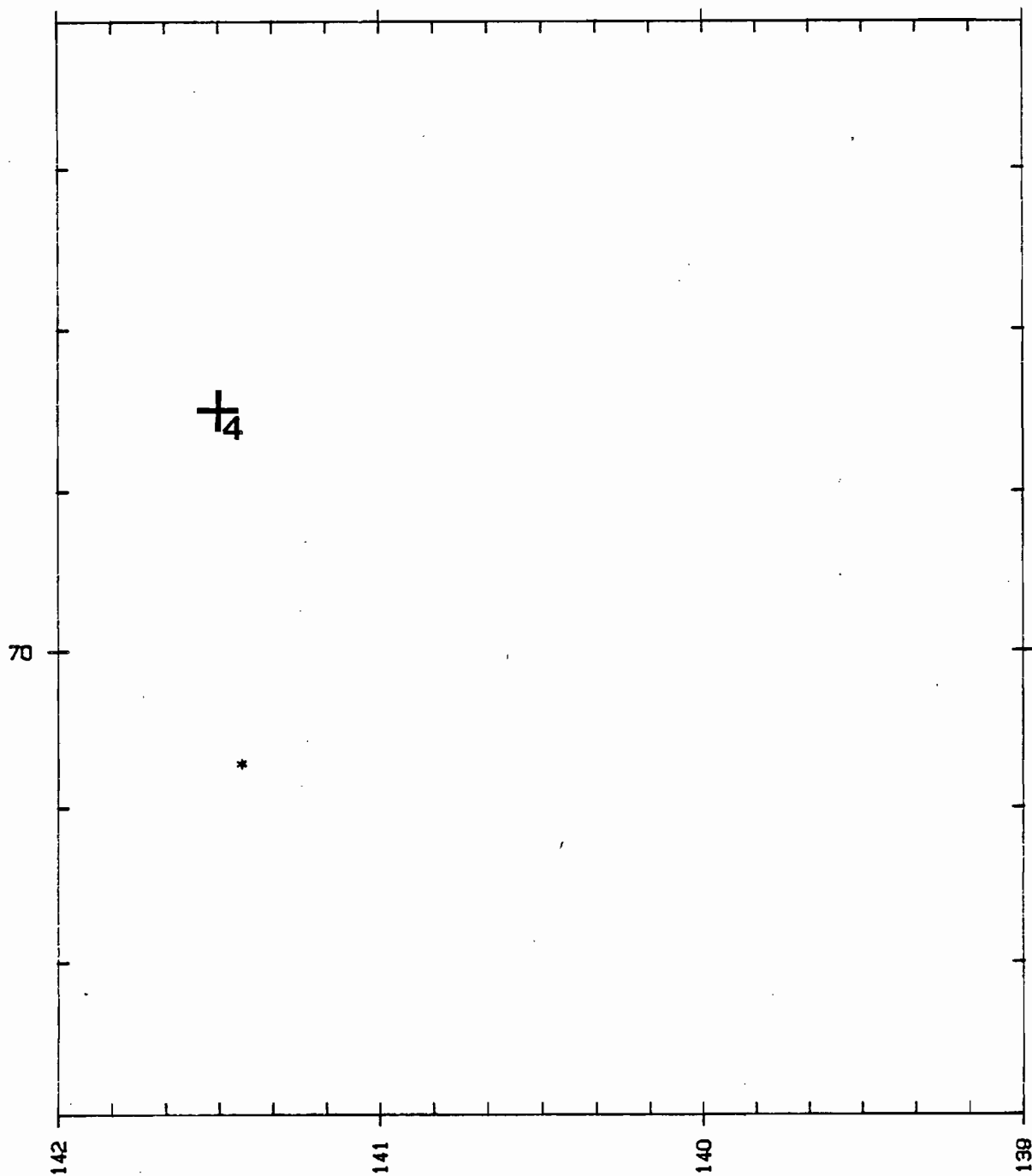
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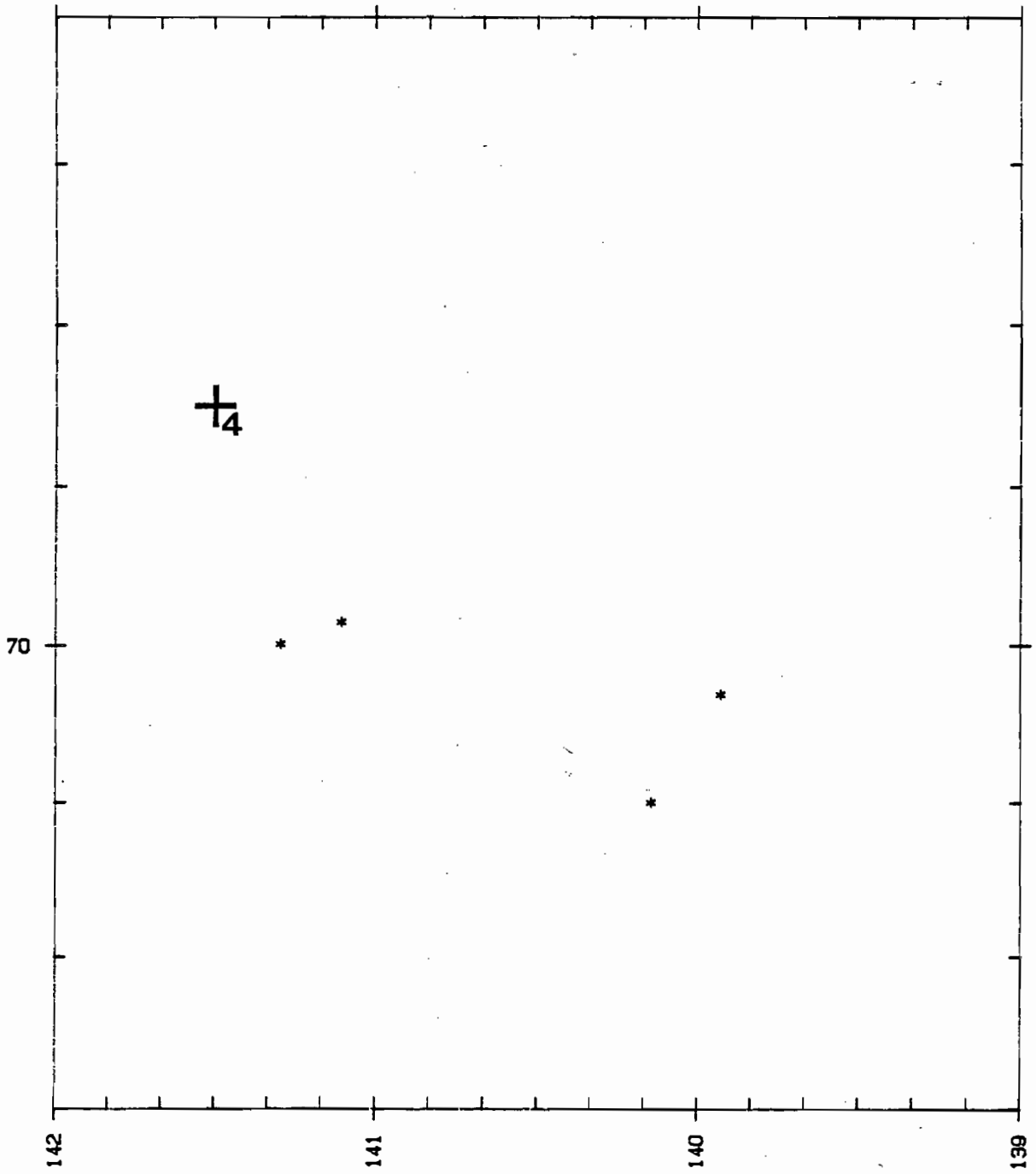
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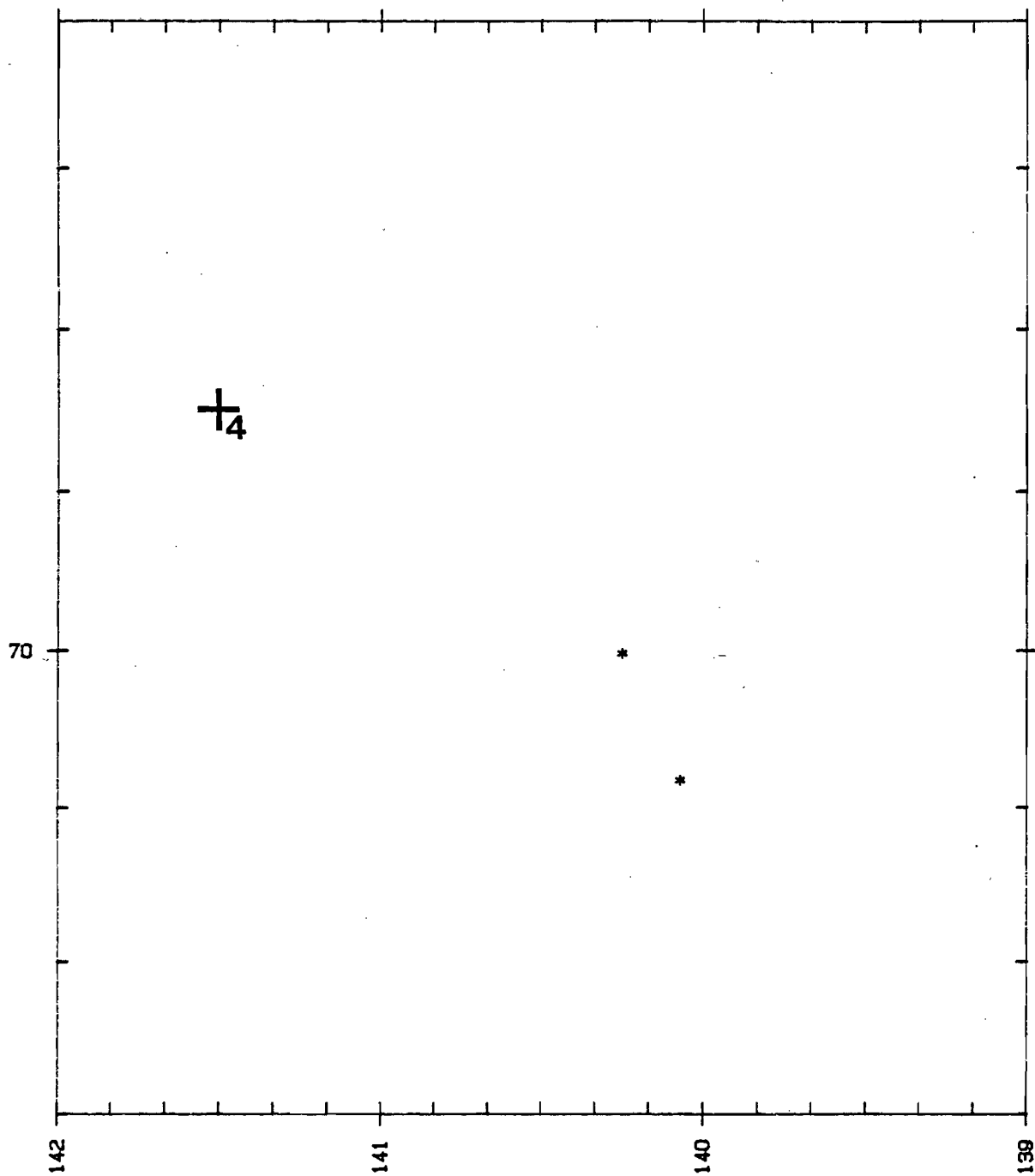
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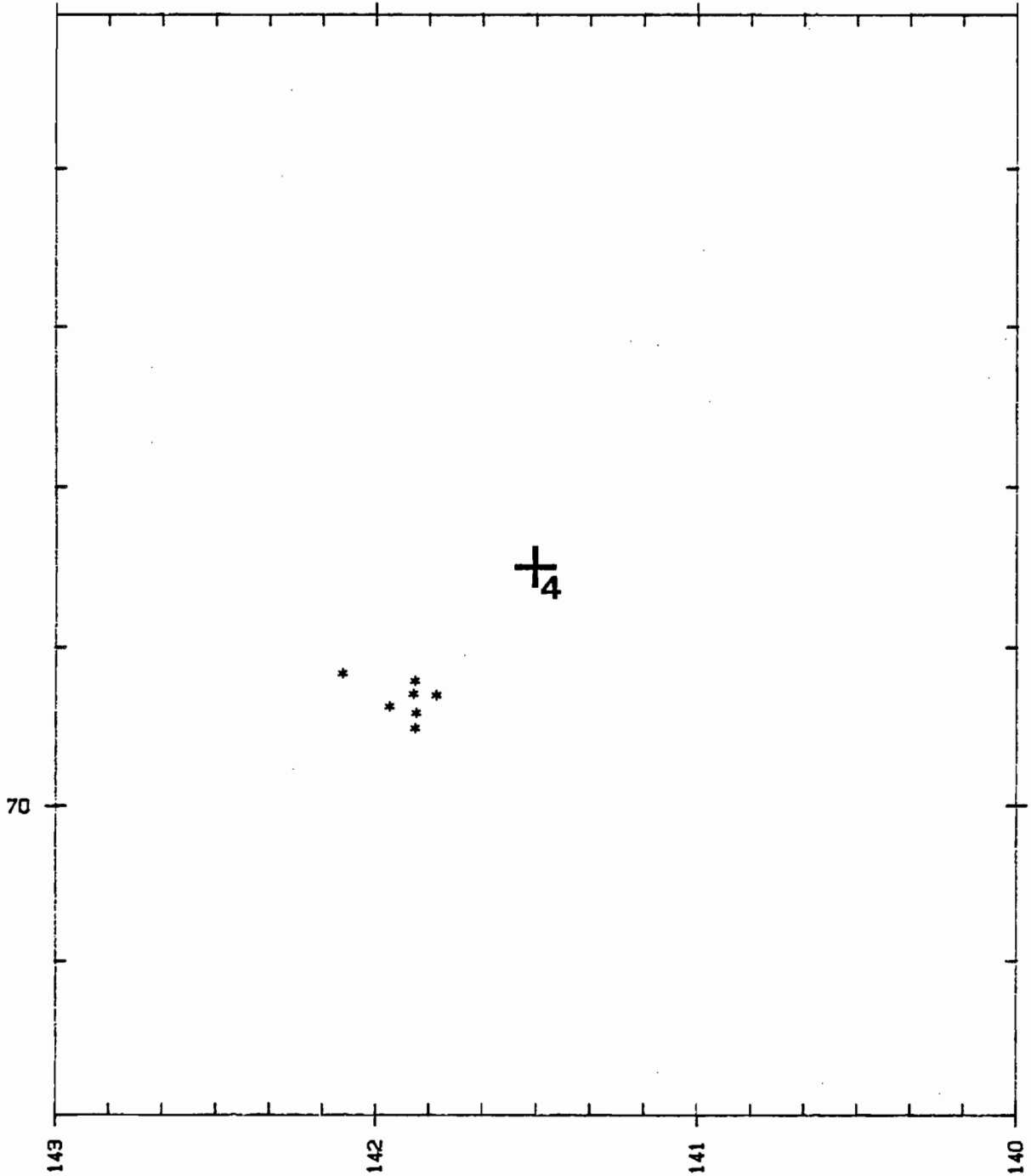
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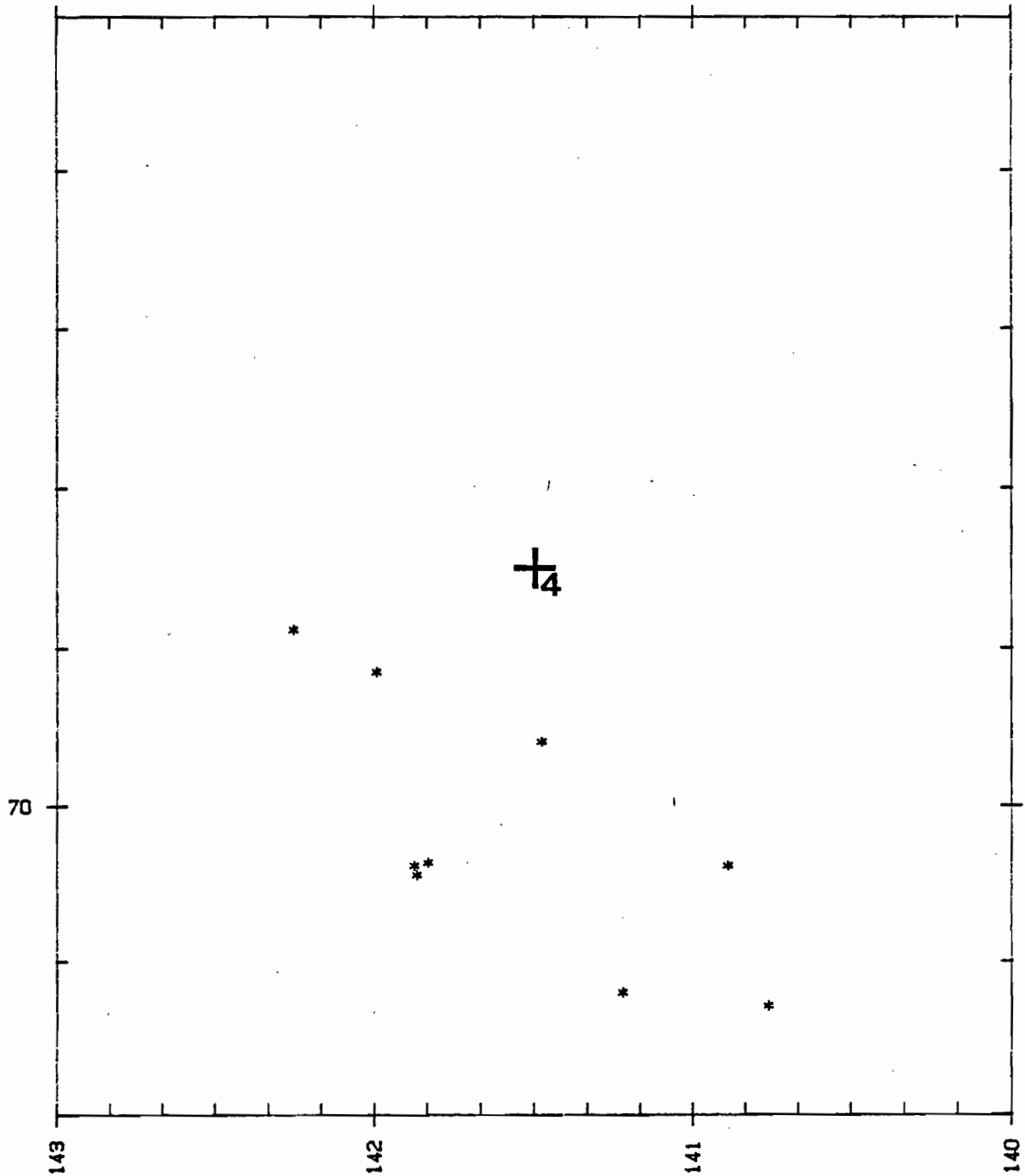
Map No. 26: 16 SEPTEMBER



Map No. 27: 20 SEPTEMBER



Map No. 28: 24 SEPTEMBER



Map No. 29: 26 SEPTEMBER

