

AD-A086 299

FLEET WEATHER FACILITY SUITLAND MD
ANTARCTIC ICE CHARTS, 1977-1978. (U)
1978

F/6 8/12

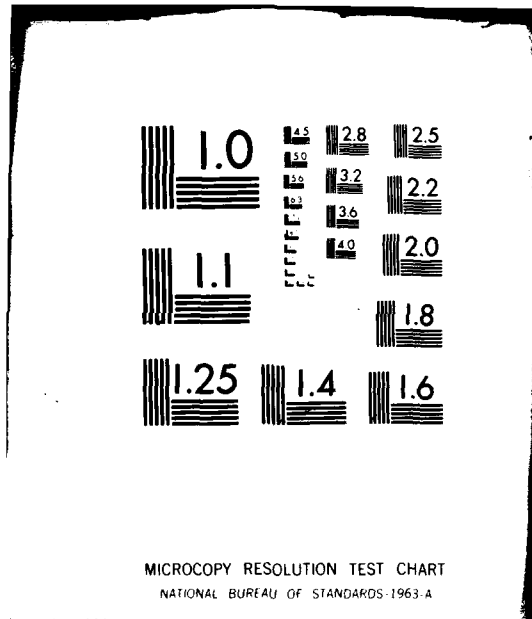
UNCLASSIFIED

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1 of 3

AD-A086 299

A large, empty grid with approximately 15 columns and 15 rows, occupying the majority of the page. The grid lines are thin and light gray, and the interior of the grid is mostly black, suggesting it was either redacted or is a scan of a dark surface.



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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ANTARCTIC ICE CHARTS

1977-1978.



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AD AD 86299

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

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FOREWARD

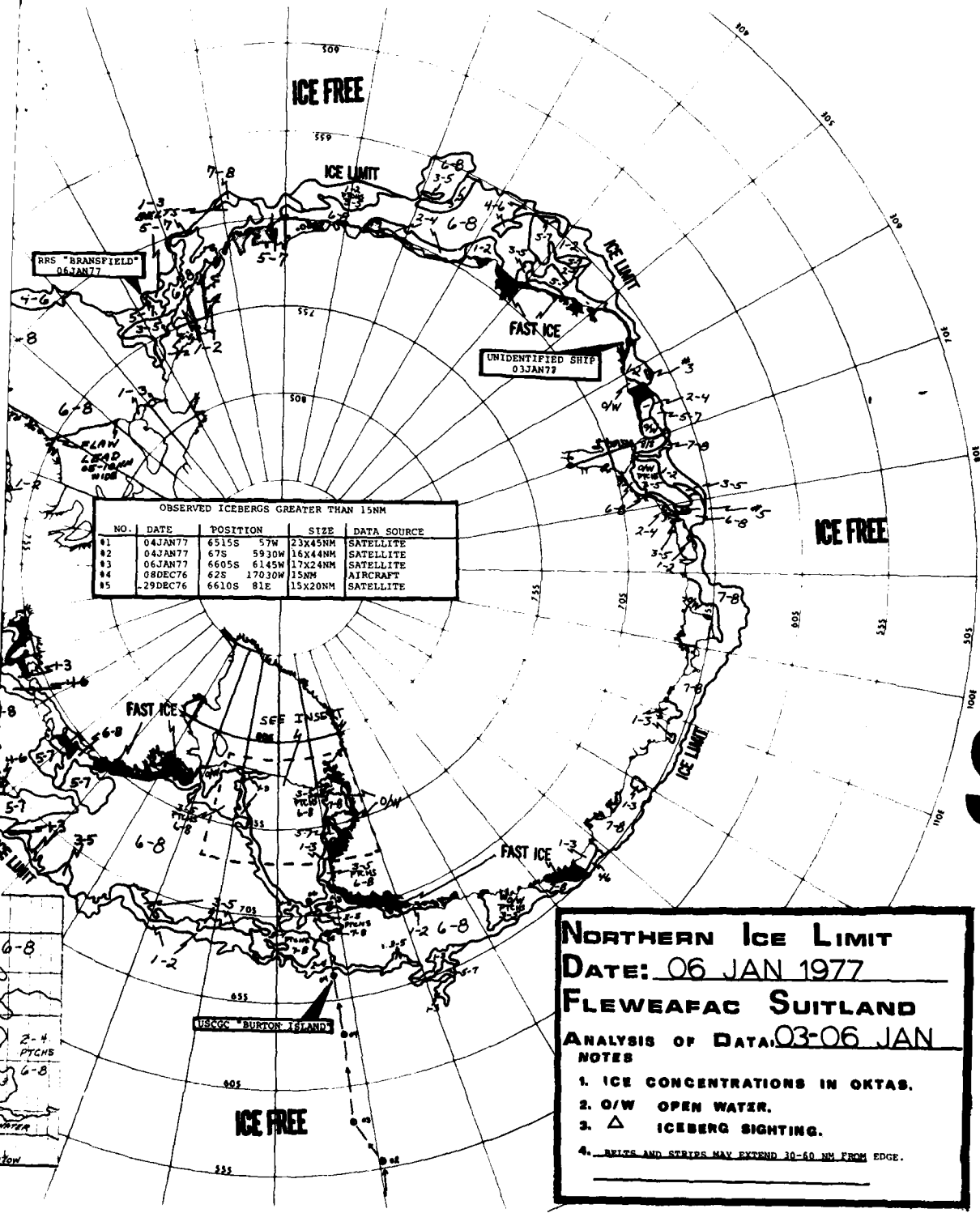
The U. S. Navy has a long and colorful history of polar exploration and currently is an active participant in the growing national activity in the Arctic and Antarctic. The strategic importance and increased demand for the natural resources of these areas has resulted in a greater requirement for environmental information.

Until a few years ago, reliable sea ice information in the polar regions was based on a relatively few shore station and ship reports augmented by limited aerial reconnaissance data. These data were further restricted to the relatively small areas observed primarily during the ship operating season. The principal aim of this publication is to provide operators and researchers with historical weekly hemispheric analyses of sea ice conditions derived principally from satellite imagery supplemented by conventional observations.

The advent of high resolution satellite imagery combined with the ground truth of conventional observations has in recent years provided description of the polar ice fields on a semi-synoptic scale. Since 1970, the Fleet Weather Facility at Suitland, Maryland has prepared operational analyses and forecasts of its conditions in the Arctic and Antarctic for the Department of Defense and various other users. The results of these efforts are contained herein.

The charts were constructed by Navy ice analysts under operational time constraints from satellite imagery and conventional data. Reanalysis with late data was not normally attempted; rather the current analysis was prepared incorporating this to the extent possible. The analysis was compared with available climatology in an attempt to eliminate gross errors. Scanning radiometer imagery, visual and infrared, from the National Oceanic and Atmospheric Administration (NOAA) satellites and microwave radiometer data from the NIMBUS V research satellite were the primary data sources. Limited use of the Earth Resources LANDSAT and Defense Meteorological Satellite Program (DMSP) imagery as well as conventional observations were utilized. The 19.35 GHz microwave radiometer with 25 kilometer (KM) resolution aboard NIMBUS V provided an ice edge and limited ice pack conditions. This was the basic data source during the polar night and over areas dominated by persistent cloud cover. During the seasons with adequate light, visual data from the Very High Resolution Radiometer (VHRR) with 1 KM resolution and the 4 KM resolution data from the Scanning Radiometer aboard NOAA satellites were utilized. Infrared radiometer data was of limited value primarily due to seasonally small water-ice temperature differences.

The user of this publication is cautioned that the information presented reflects an initial effort prepared for operational use and should require his application accordingly. Comments regarding any aspects of the analysis were appreciated.



OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
#1	04JAN77	6515S 57W	23X45NM	SATELLITE
#2	04JAN77	67S 5930W	16X44NM	SATELLITE
#3	06JAN77	6605S 6145W	17X24NM	SATELLITE
#4	08DEC76	62S 17030W	15NM	AIRCRAFT
#5	29DEC76	6610S 81E	15X20NM	SATELLITE

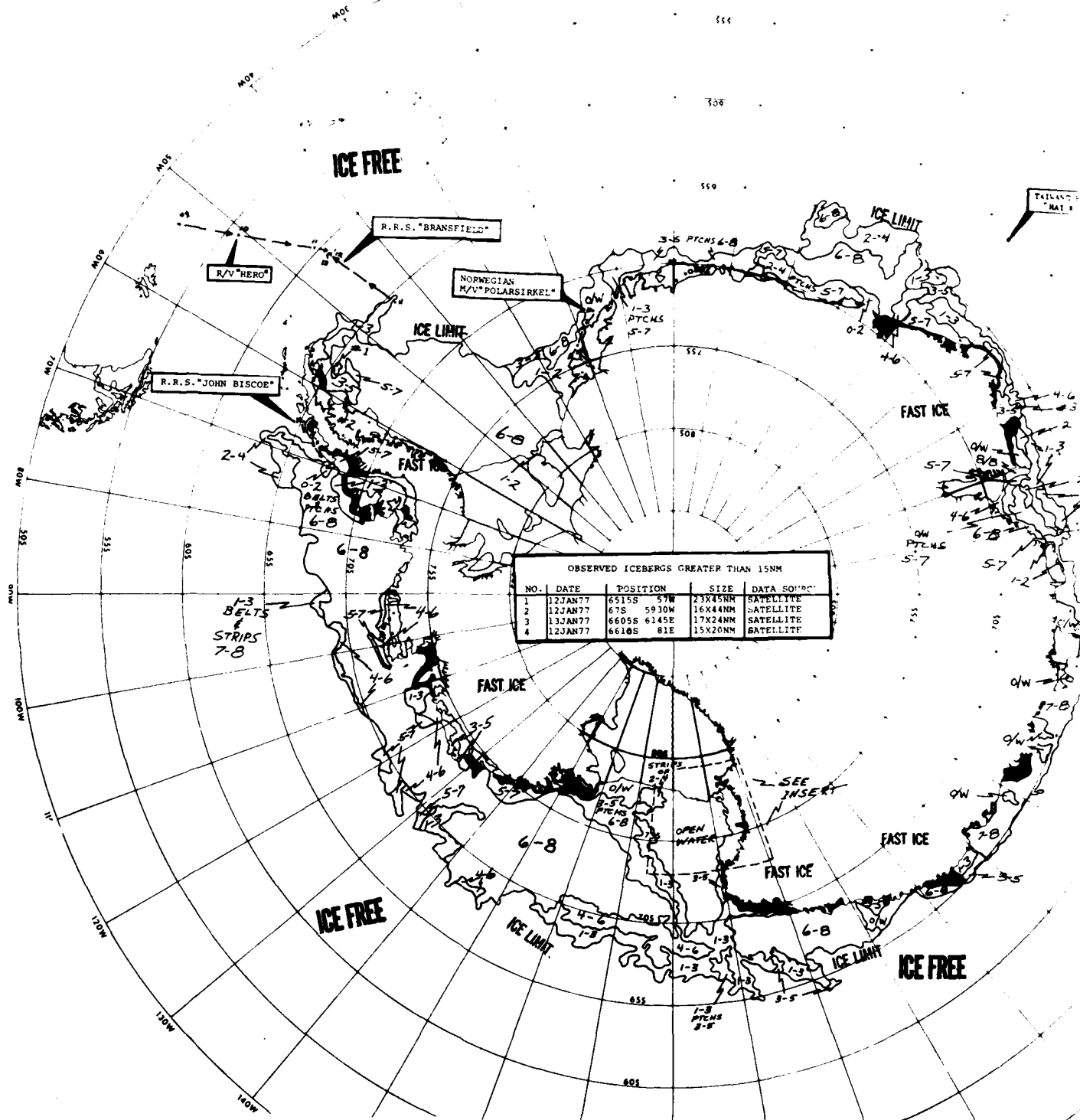
NORTHERN ICE LIMIT
DATE: 06 JAN 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 03-06 JAN
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BRITS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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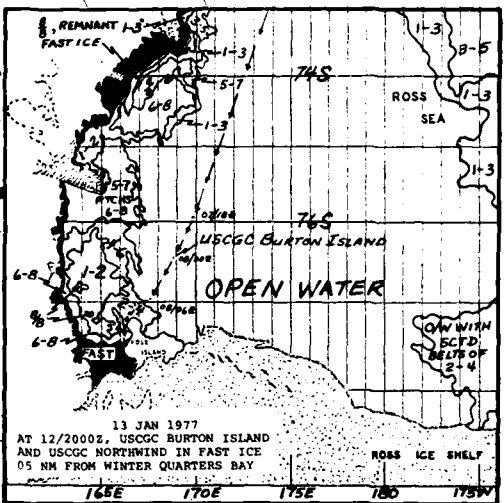
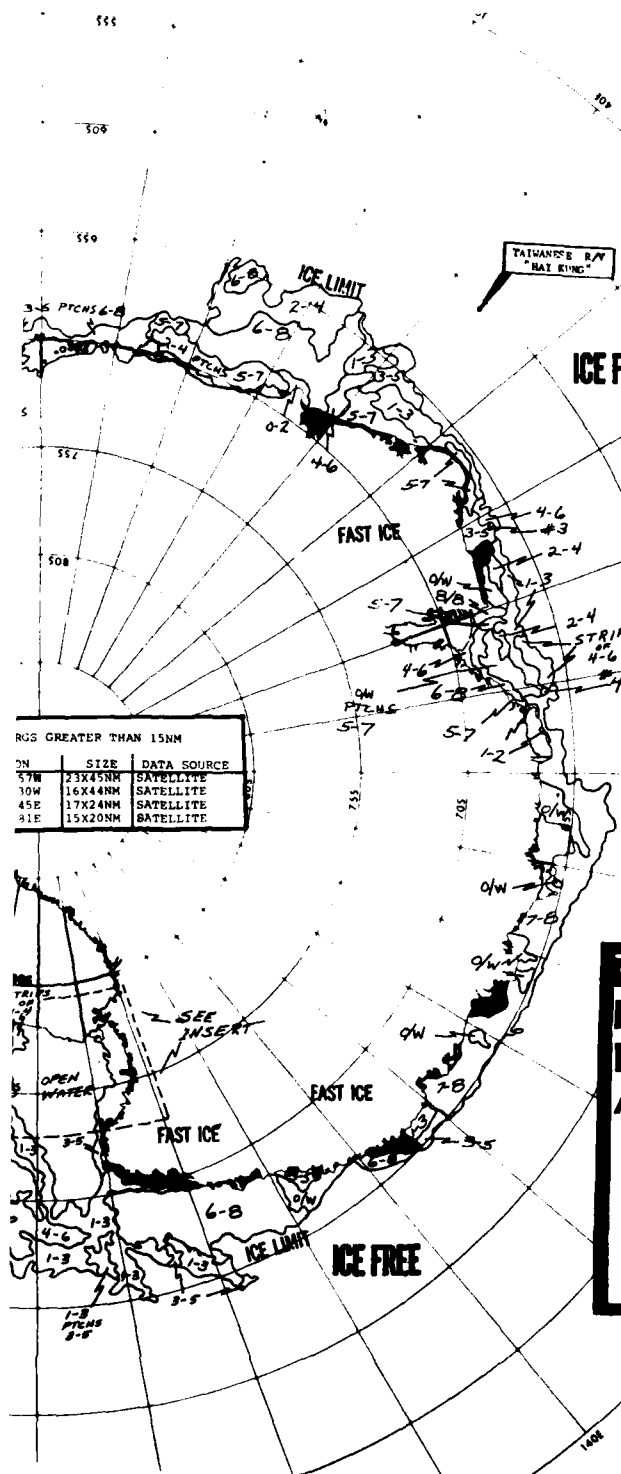
DISTRIBUTION STATEMENT A
 Approved for public release;
 Distribution Unlimited

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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	12JAN77	6515S 57W	23X45NM	SATELLITE
2	12JAN77	67S 5930W	16X44NM	SATELLITE
3	13JAN77	6605S 6145E	17X24NM	SATELLITE
4	12JAN77	6618S 81E	15X20NM	SATELLITE



RGs GREATER THAN 15NM

DN	SIZE	DATA SOURCE
57W	23X45NM	SATELLITE
30W	16X44NM	SATELLITE
45E	17X24NM	SATELLITE
81E	15X20NM	SATELLITE

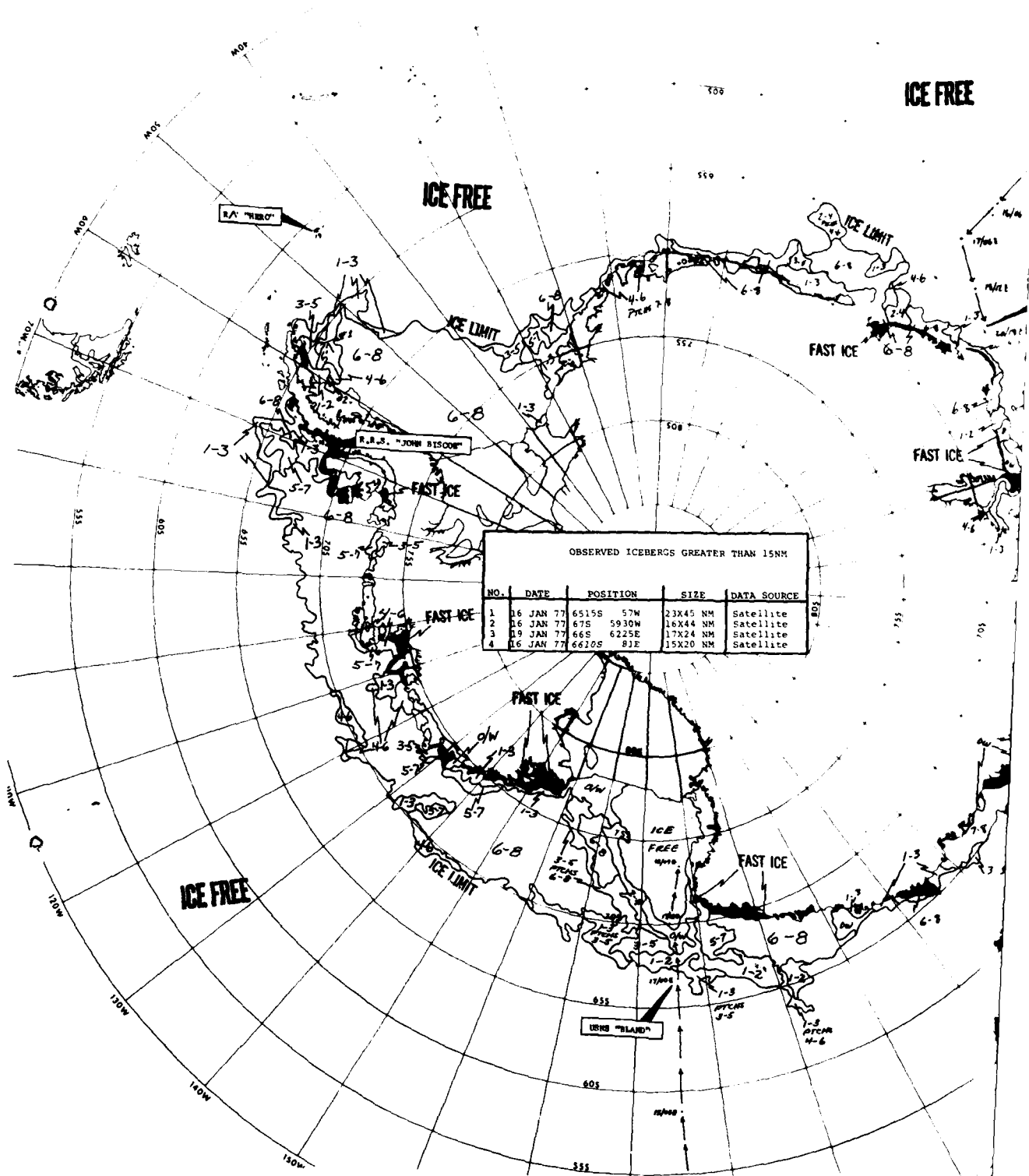
NORTHERN ICE LIMIT
DATE: 13 JAN 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 10-13 JAN

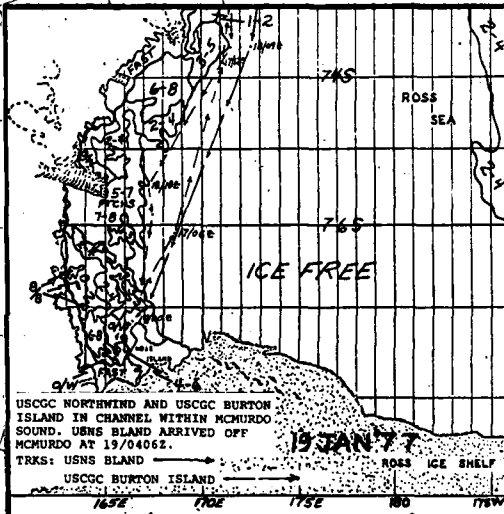
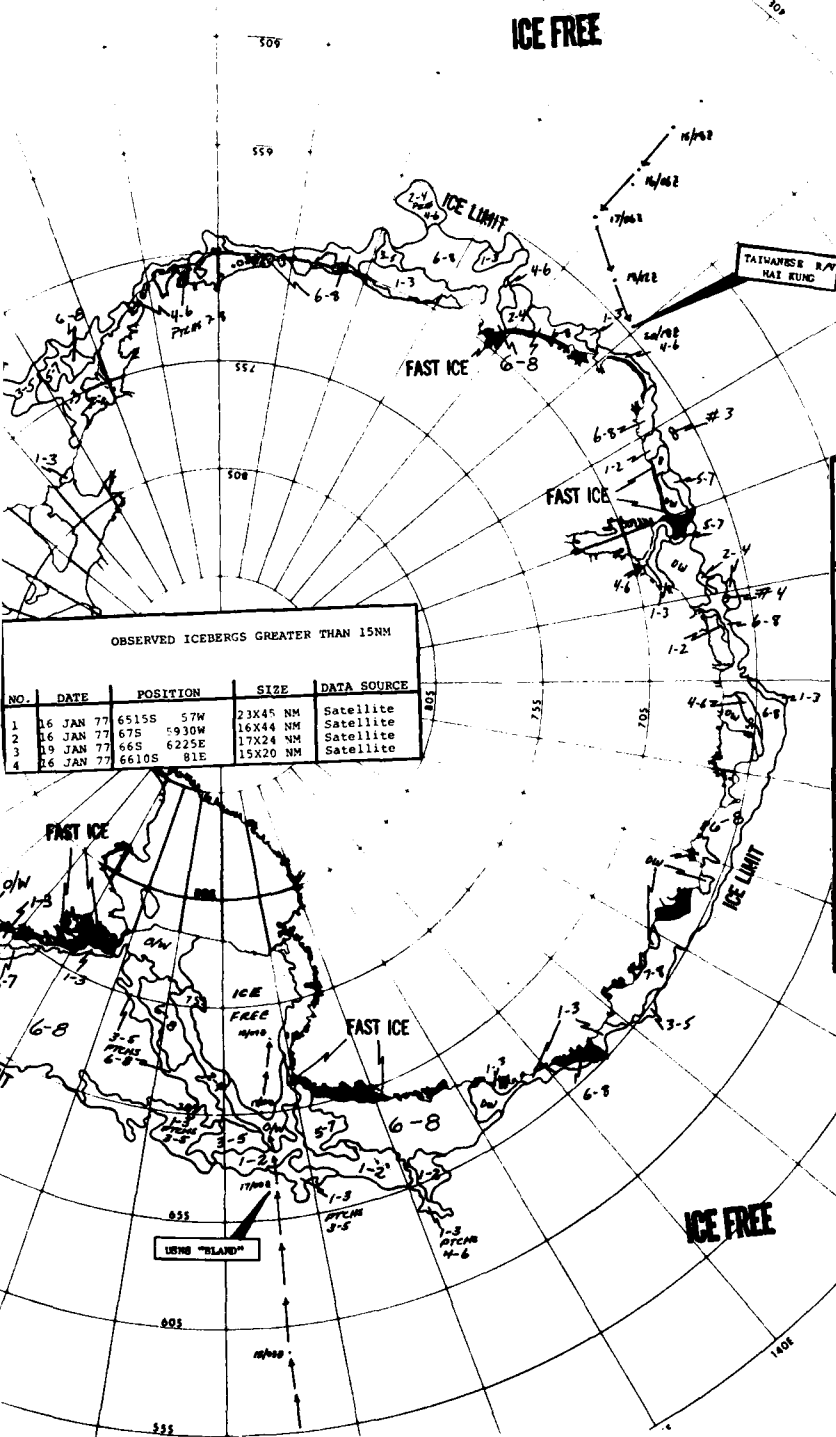
NOTES

1. ICE CONCENTRATIONS IN OKTAS
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	16 JAN 77	6515S 57W	23X45 NM	Satellite
2	16 JAN 77	675 5930W	16X44 NM	Satellite
3	19 JAN 77	66S 6225E	17X24 NM	Satellite
4	16 JAN 77	6610S 81E	15X20 NM	Satellite

NORTHERN ICE LIMIT
DATE: 20 JAN 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 17-20 JAN
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

Accession For

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Classification

By *on file*

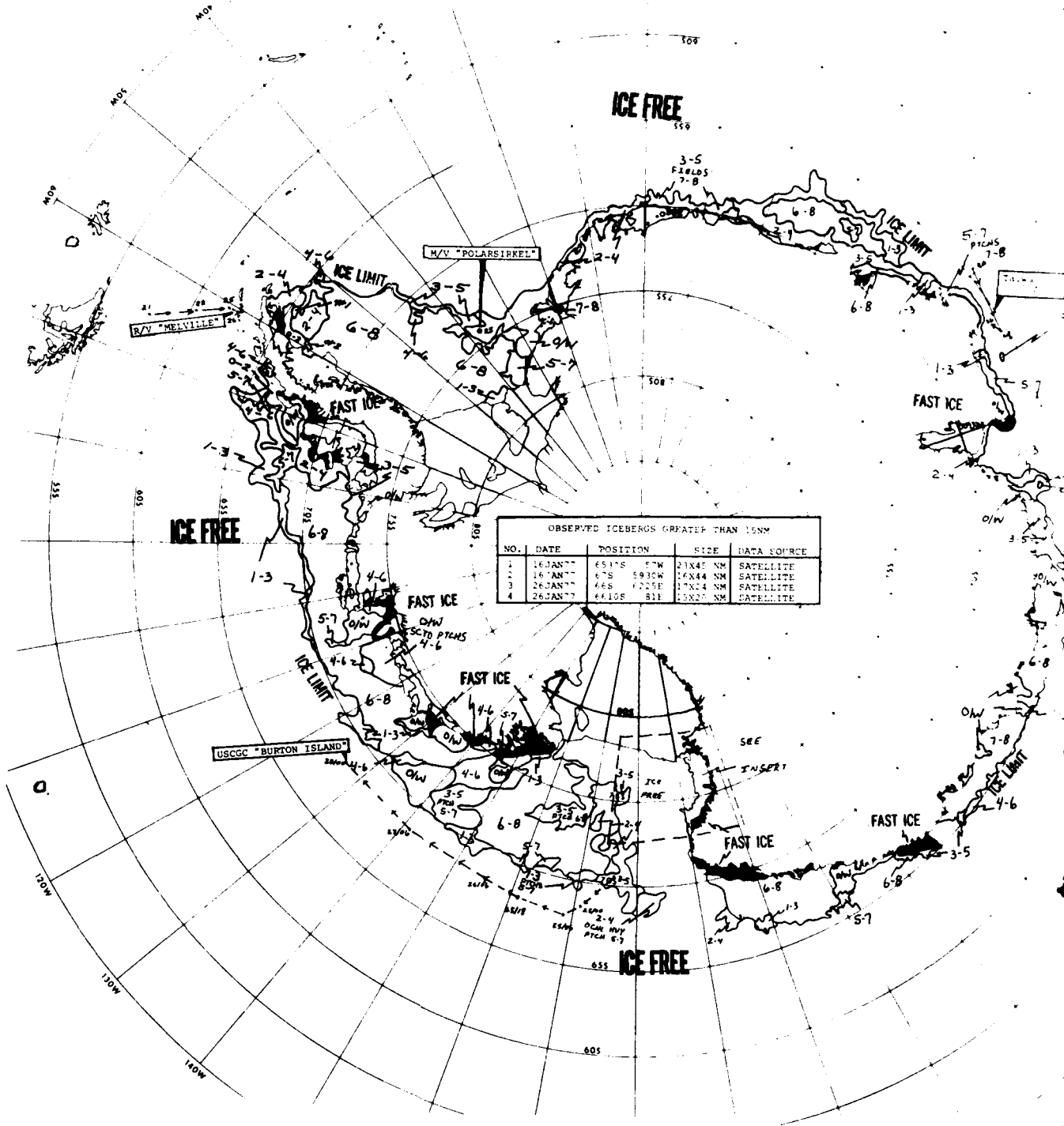
Distribution/

Availability Codes

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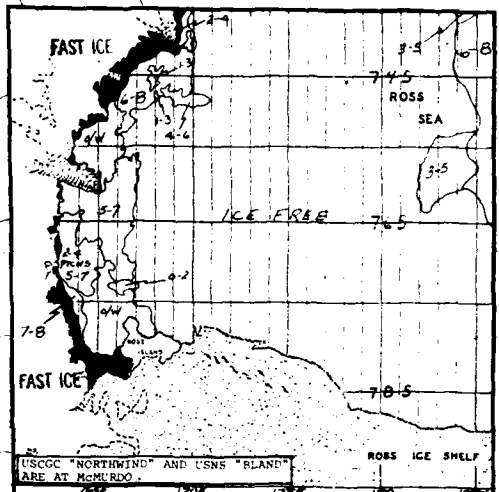
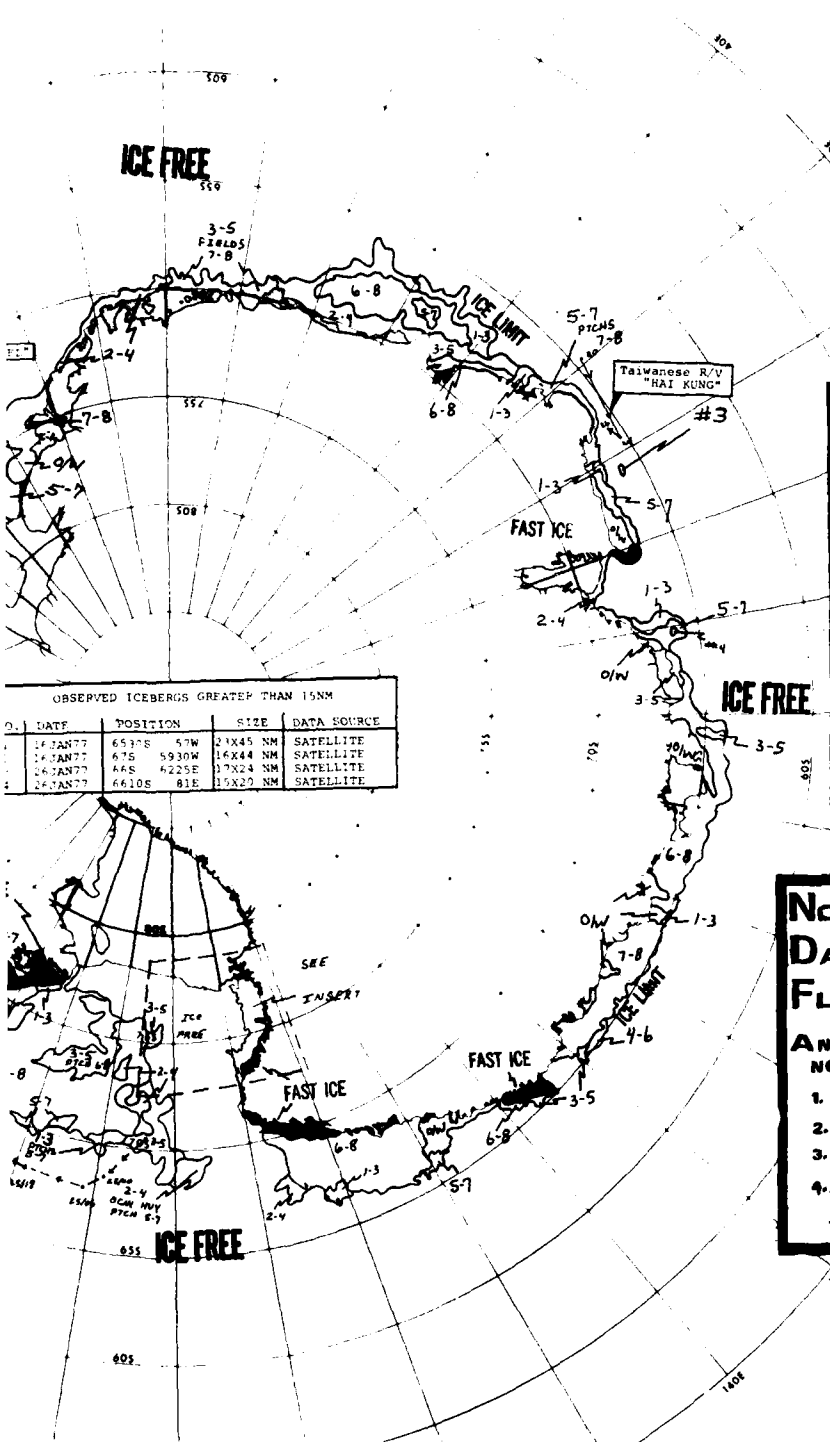
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OBSERVED ICEBERGS GREATER THAN 10NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	16JAN77	65°15' S 6°W	21x45 NM	SATELLITE
2	16JAN77	67°S 59°30'W	16x44 NM	SATELLITE
3	26JAN77	66°S 122°50' E	17x24 NM	SATELLITE
4	26JAN77	66°10' S 81° E	15x27 NM	SATELLITE

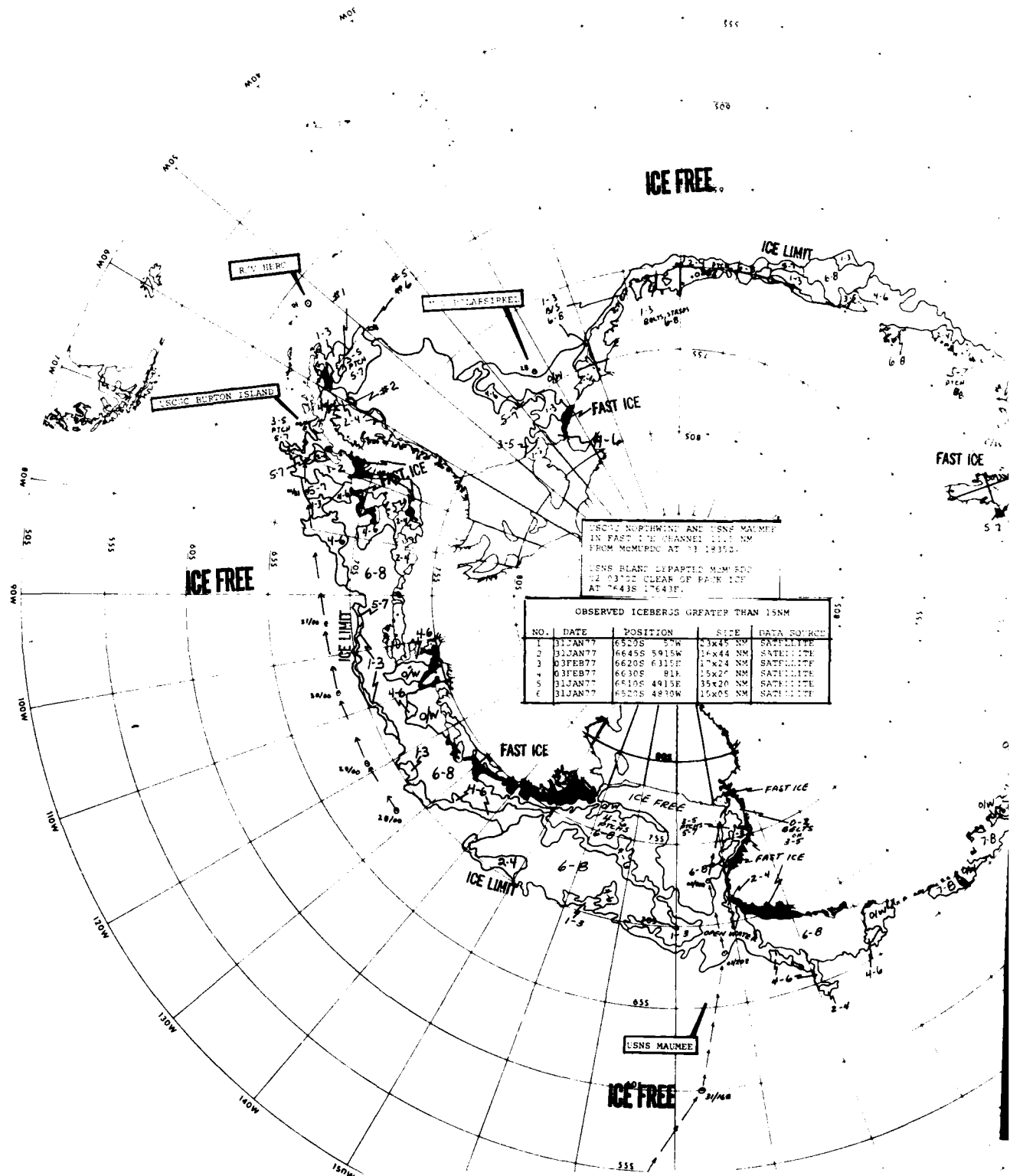


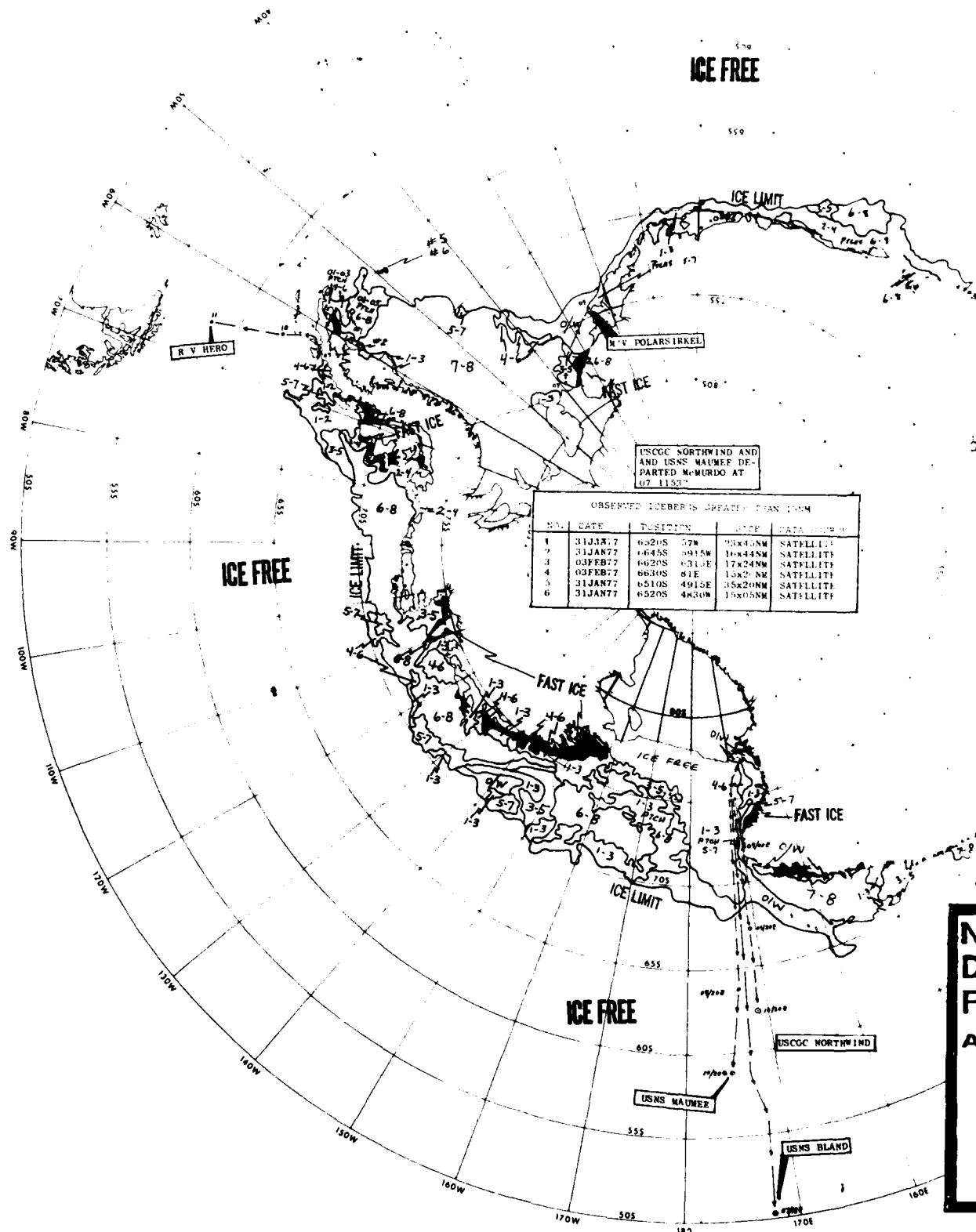
OBSERVED ICEBERGS GREATER THAN 15NM

DATE	POSITION	SIZE	DATA SOURCE
14 JAN 77	6537S 57W	21X45 NM	SATELLITE
14 JAN 77	675 5930W	14X44 NM	SATELLITE
24 JAN 77	66S 4225E	17X24 NM	SATELLITE
24 JAN 77	6610S 81E	15X20 NM	SATELLITE

NORTHERN ICE LIMIT
DATE: 27 JAN 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 24-27 JAN
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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ICE FREE

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USCGC NORTHWIND AND
USNS MAUMEE DE-
PARTED MURRDO AT
07 1153Z

OBSERVED ICEBERGS CREATED FROM DATA

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	31 JAN 77	6520S 57W	25x40NM	SATELLITE
2	31 JAN 77	6445S 5915W	16x44NM	SATELLITE
3	03 FEB 77	6420S 6310E	17x24NM	SATELLITE
4	03 FEB 77	6630S 61E	15x22NM	SATELLITE
5	31 JAN 77	6510S 4915E	35x20NM	SATELLITE
6	31 JAN 77	6520S 4830W	15x05NM	SATELLITE

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USCGC NORTHWIND AND
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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	31JAN 77	6520S 57W	33x45NM	SATELLITE
2	31JAN 77	6455S 5915W	16x44NM	SATELLITE
3	03FEB 77	6620S 6315E	17x24NM	SATELLITE
4	03FEB 77	6630S 81E	15x20NM	SATELLITE
5	31JAN 77	6510S 4915E	35x20NM	SATELLITE
6	31JAN 77	6520S 4830W	15x05NM	SATELLITE

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FAST ICE

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FAST ICE

ICE FREE

USCGC NORTHWIND

USNS MAUMEE

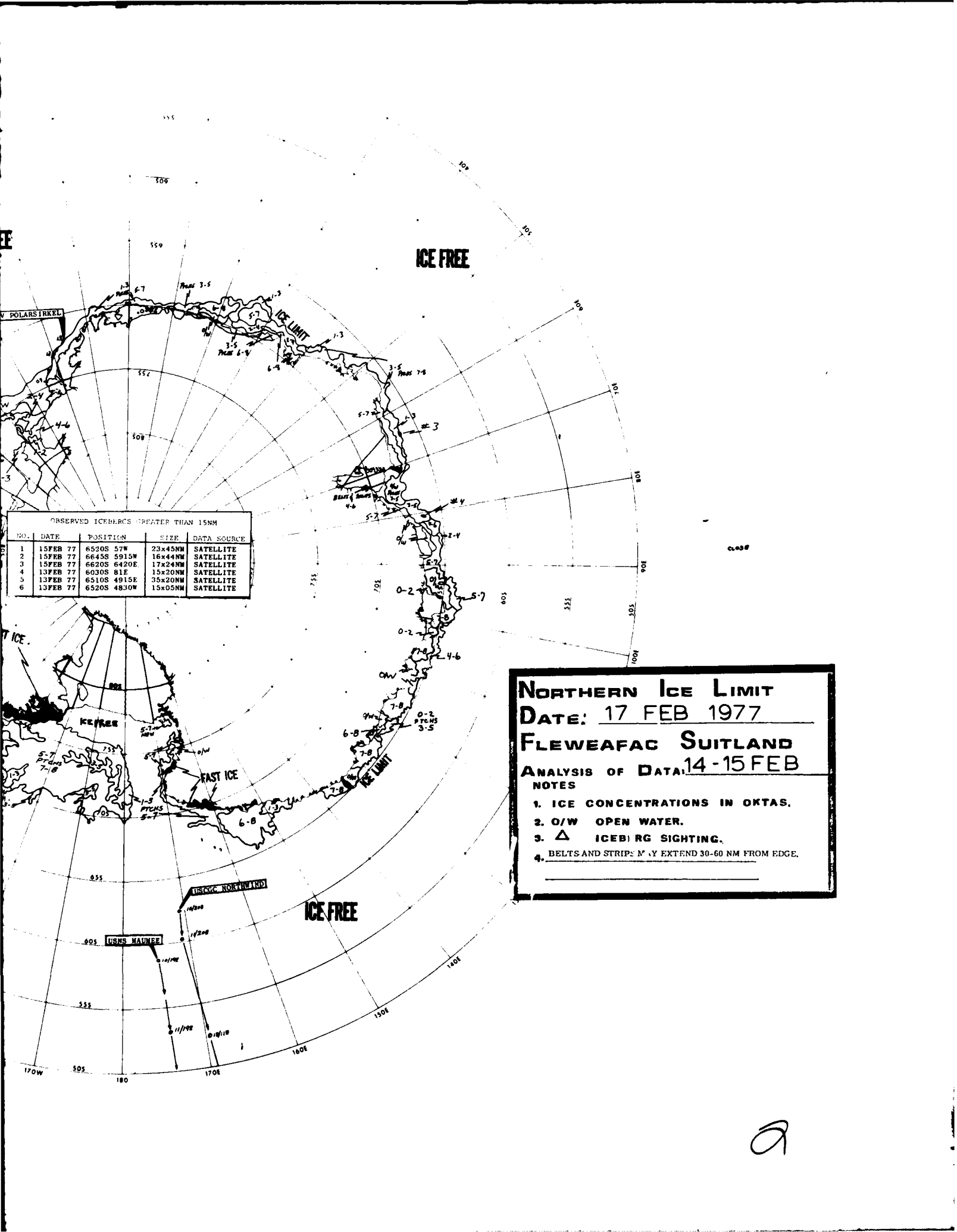
USNS ISLAND

NORTHERN ICE LIMIT
DATE: 10 FEB 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 07-10 FEB

NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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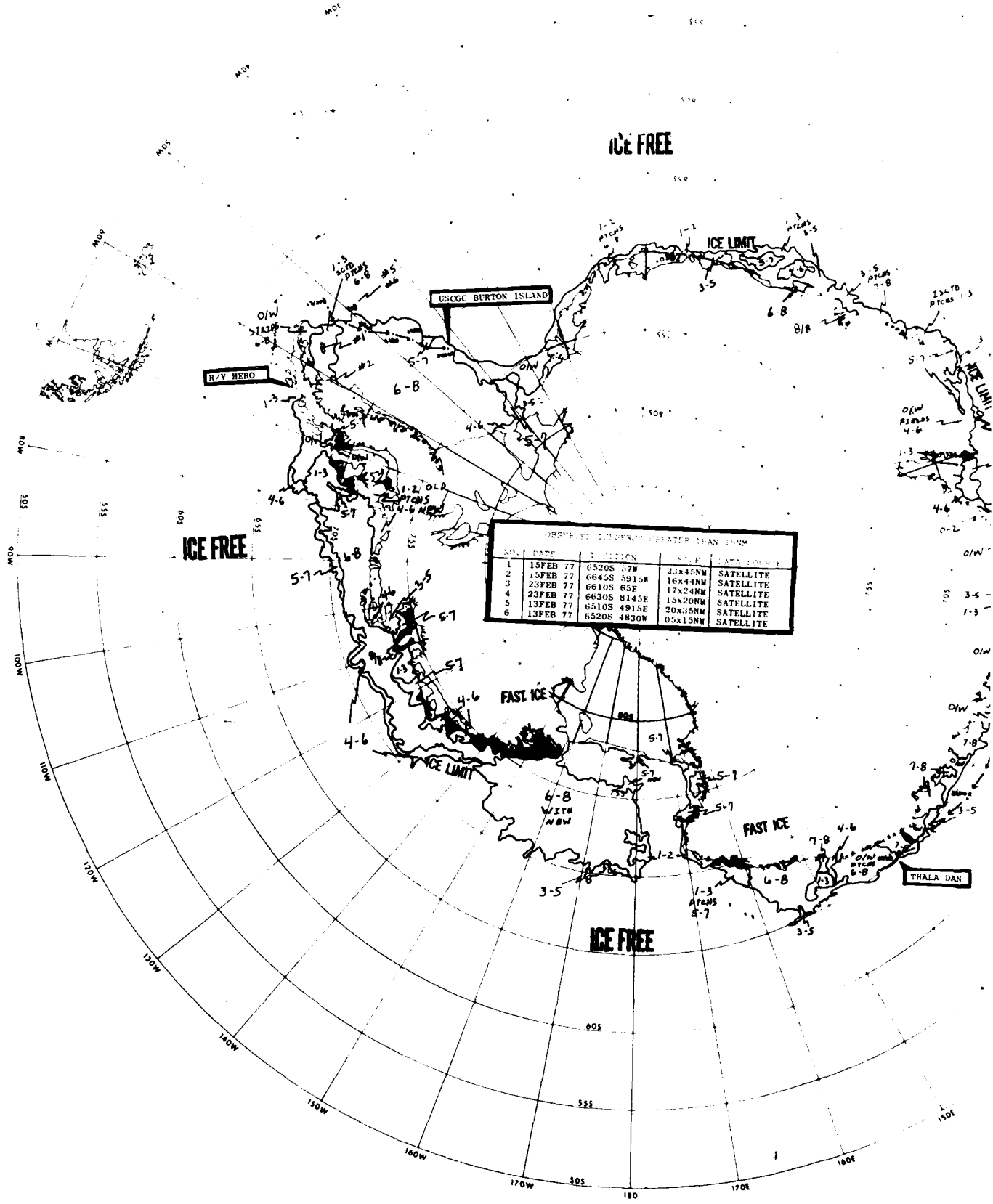
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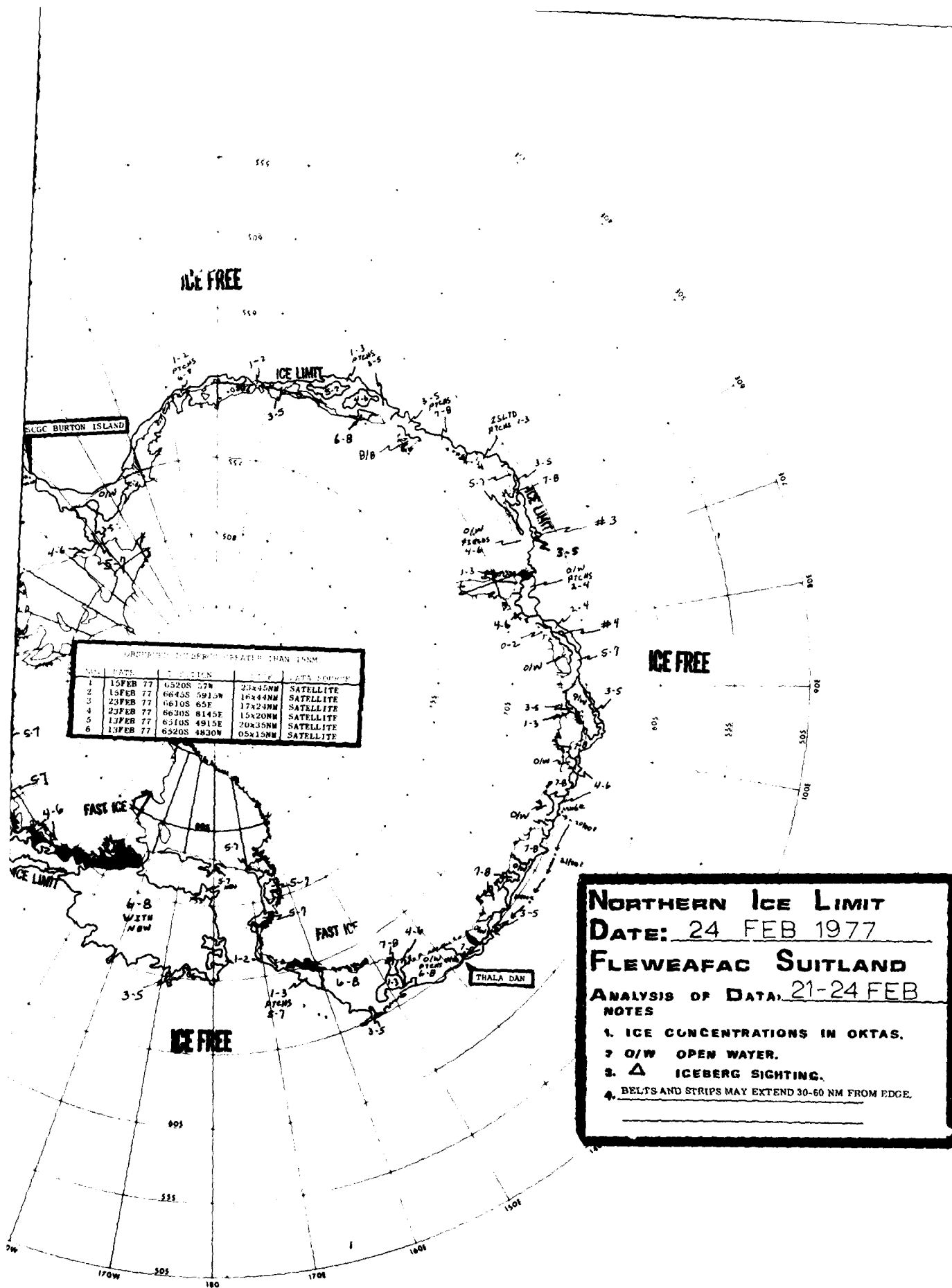
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	15FEB 77	6520S 57W	23x45NM	SATELLITE
2	15FEB 77	6645S 5915W	16x44NM	SATELLITE
3	15FEB 77	6620S 6420E	17x24NM	SATELLITE
4	13FEB 77	6030S 81E	15x20NM	SATELLITE
5	13FEB 77	6510S 4915E	35x20NM	SATELLITE
6	13FEB 77	6520S 4830W	15x05NM	SATELLITE

NORTHERN ICE LIMIT
DATE: 17 FEB 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 14-15 FEB
NOTES

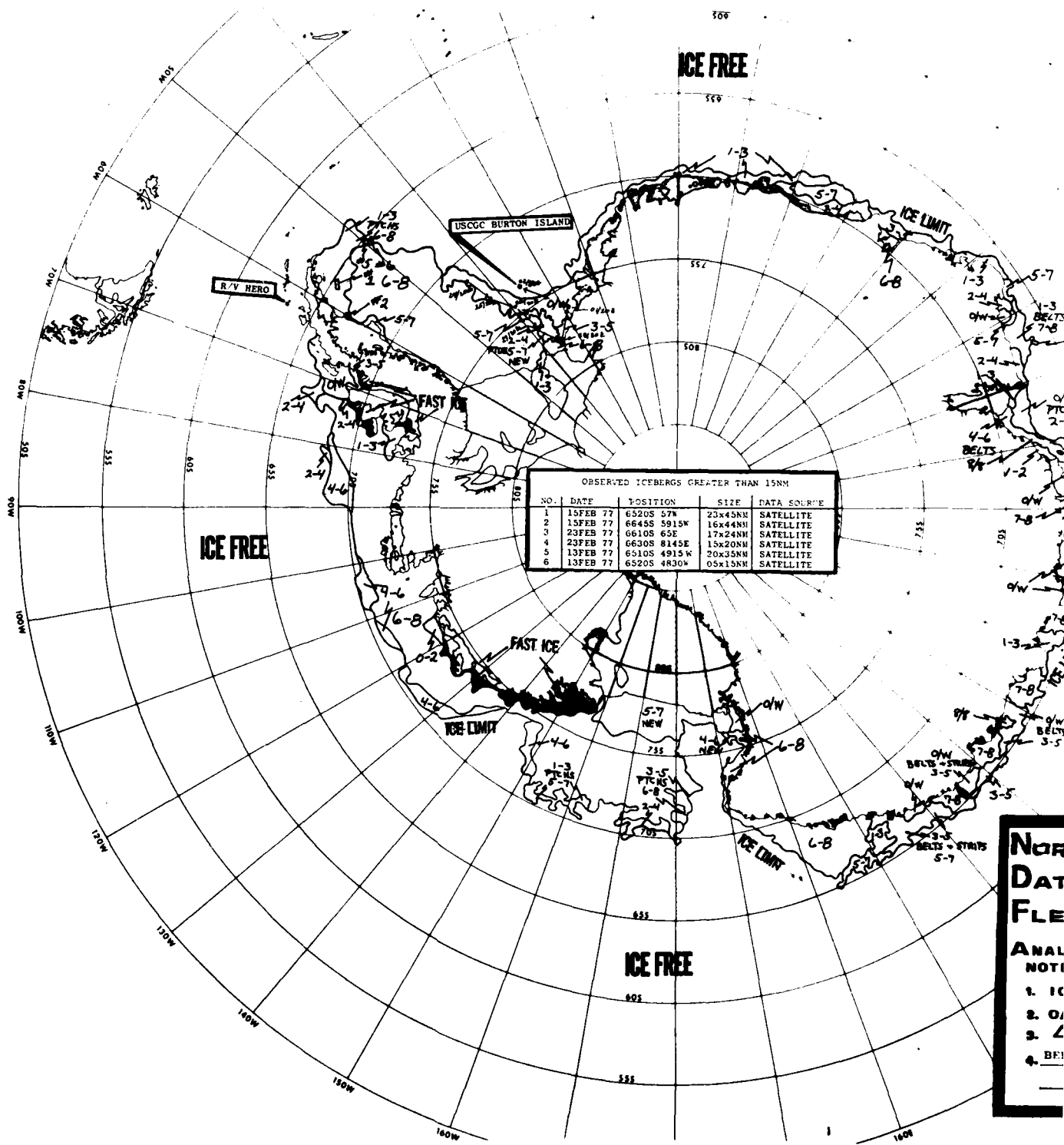
1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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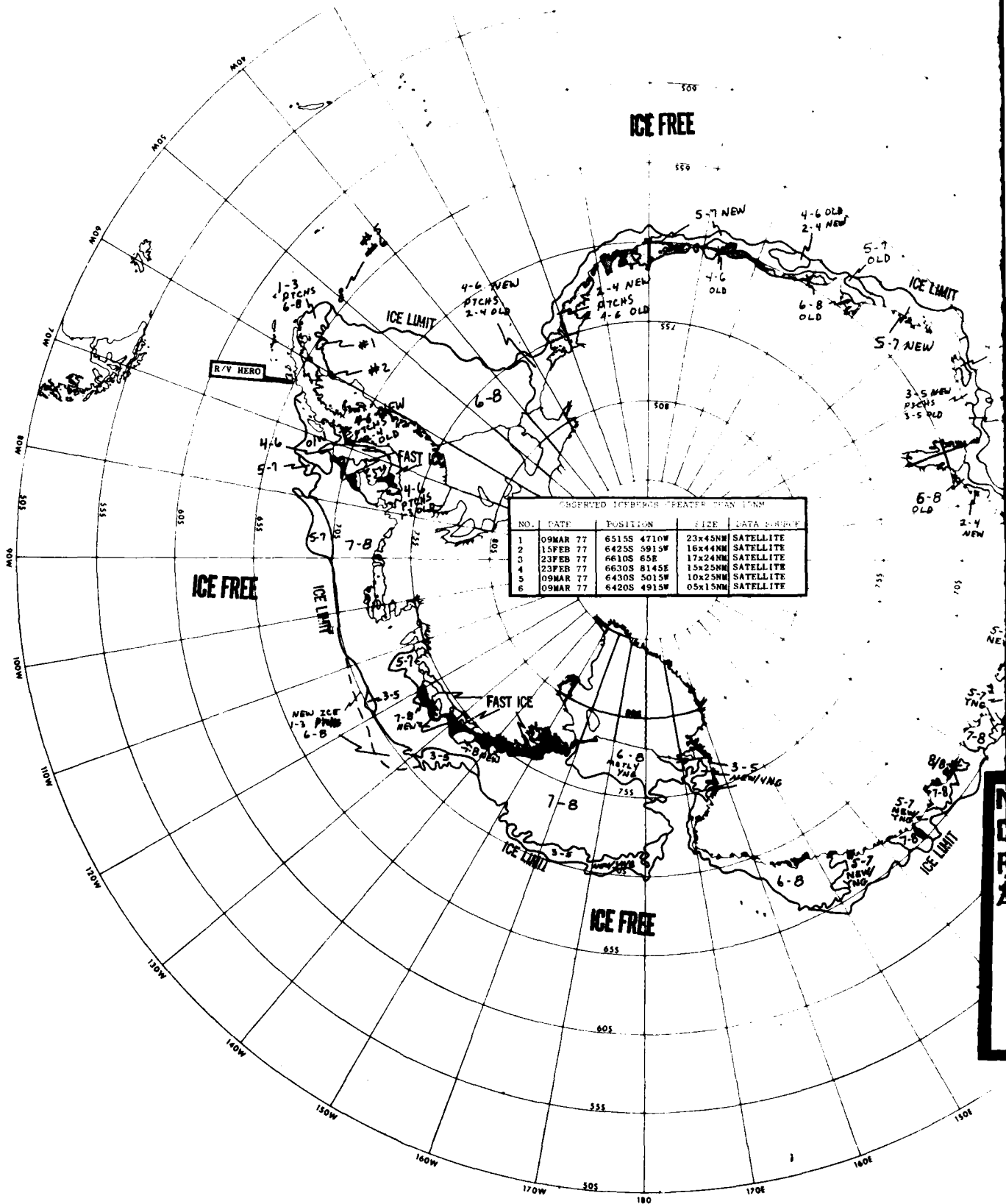
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OBSERVED ICEBERGS GREATER THAN 15NM

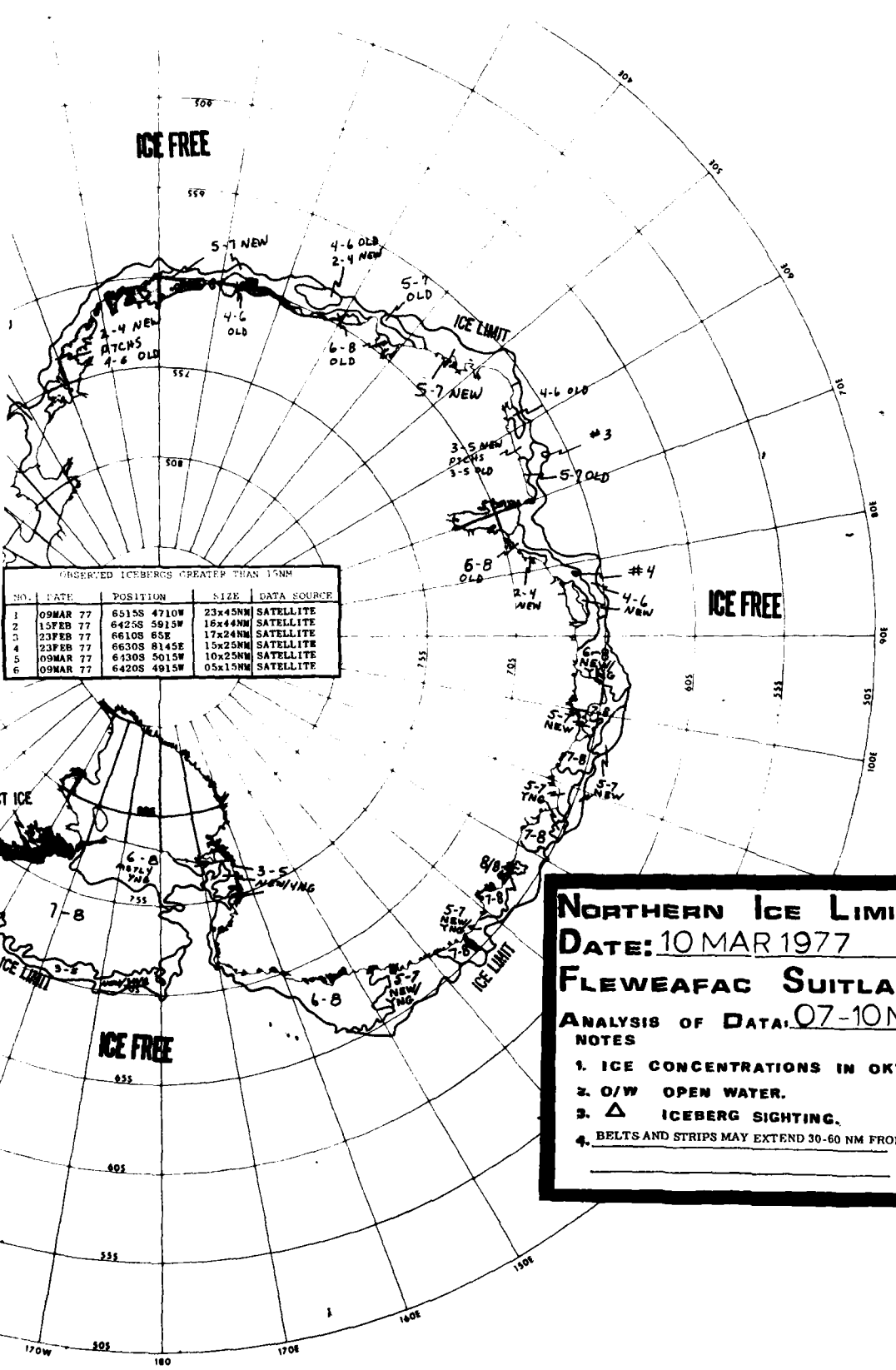
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	15FEB 77	6520S 57W	23x45NM	SATELLITE
2	15FEB 77	6645S 5915W	16x44NM	SATELLITE
3	23FEB 77	6610S 65E	17x24NM	SATELLITE
4	23FEB 77	6630S 8145E	15x20NM	SATELLITE
5	13FEB 77	6510S 4915W	20x35NM	SATELLITE
6	13FEB 77	6520S 4830W	05x15NM	SATELLITE

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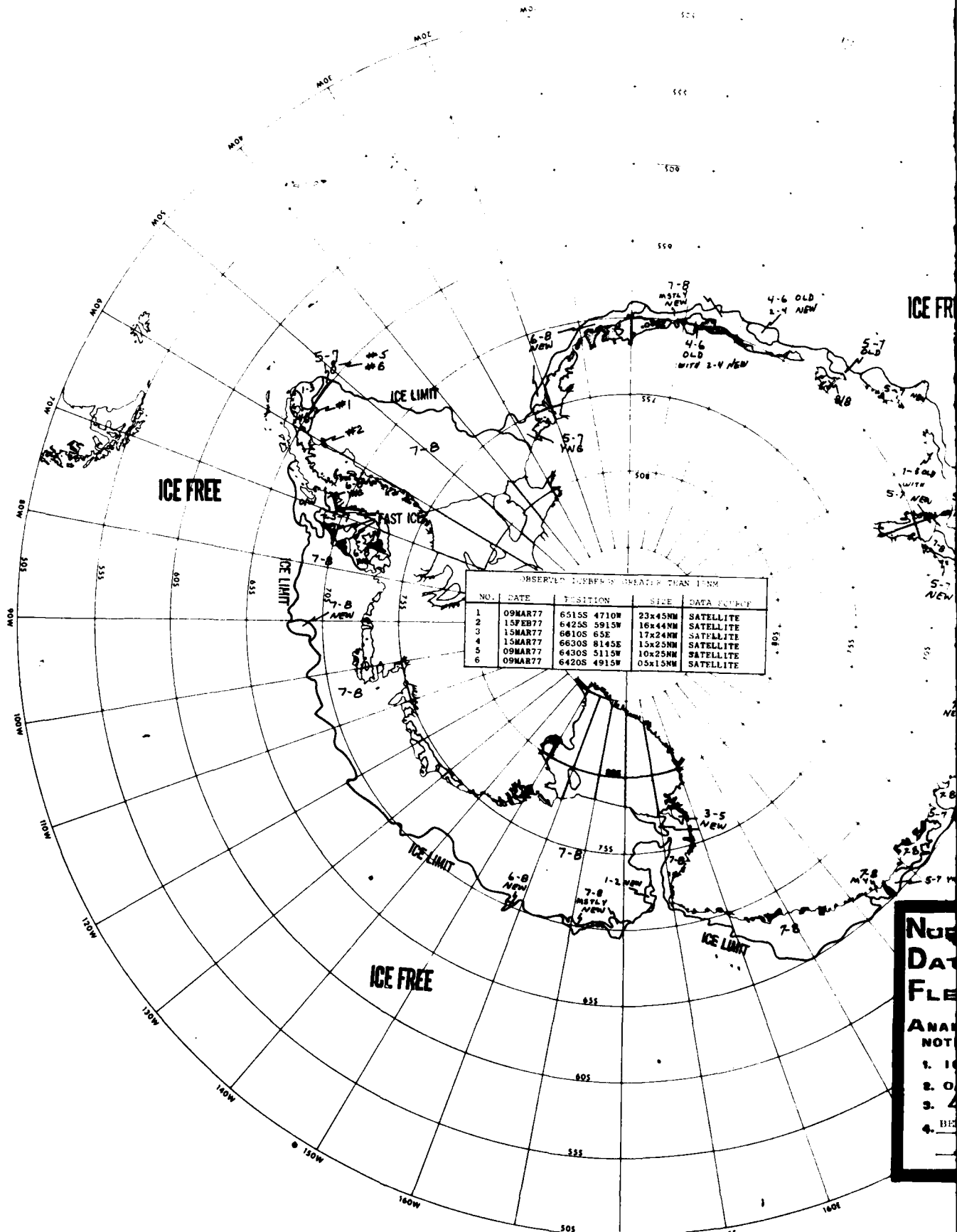
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	09MAR 77	6515S 4710W	23x45NM	SATELLITE
2	15FEB 77	6425S 5915W	16x44NM	SATELLITE
3	23FEB 77	6610S 65E	17x24NM	SATELLITE
4	23FEB 77	6630S 8145E	15x25NM	SATELLITE
5	09MAR 77	6130S 5015W	10x25NM	SATELLITE
6	09MAR 77	6420S 4915W	05x15NM	SATELLITE

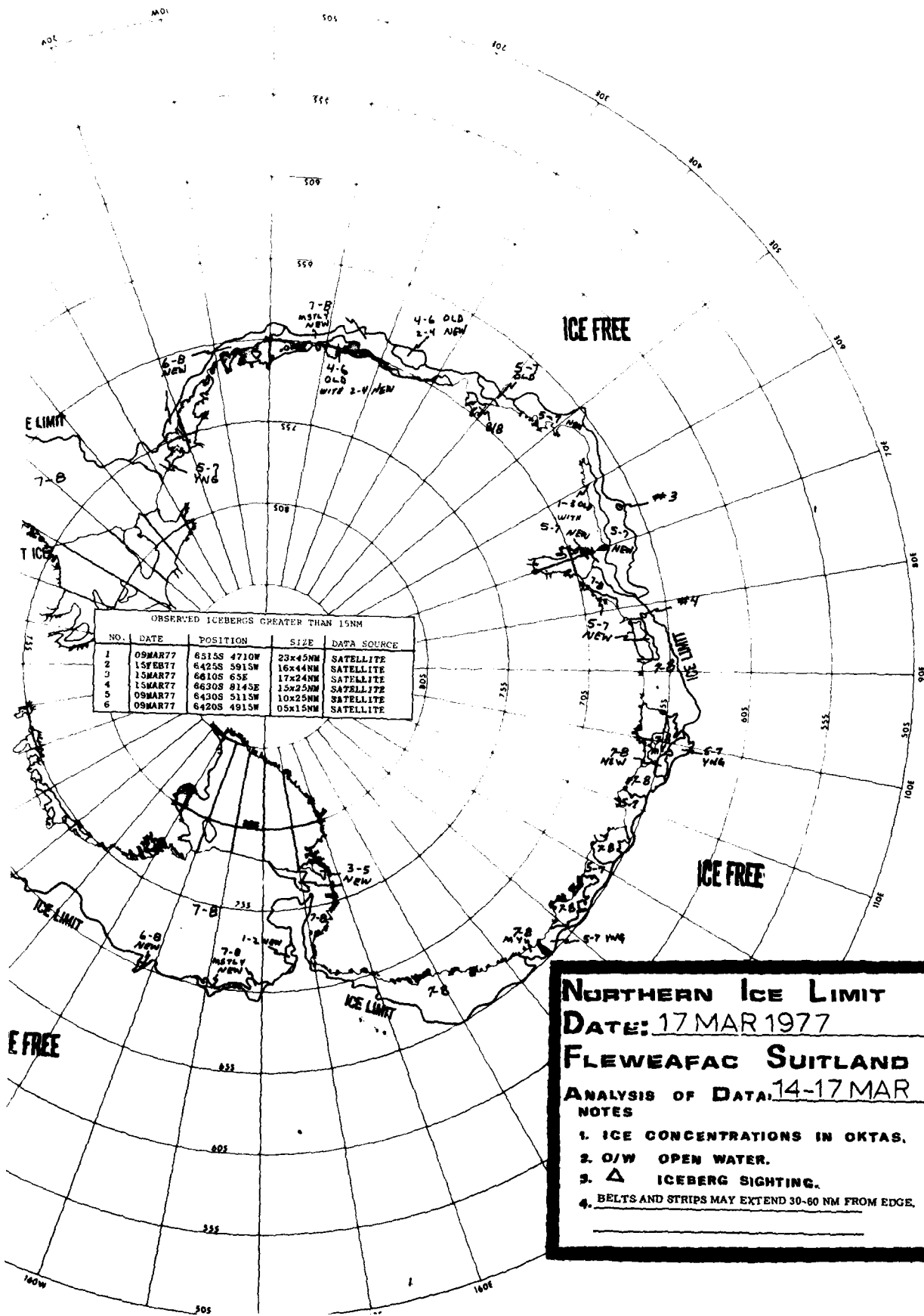
NORTHERN Ice Limit
DATE: 10 MAR 1977
FLEWEAFAC SUTLAND
ANALYSIS OF DATA: 07-10 MAR
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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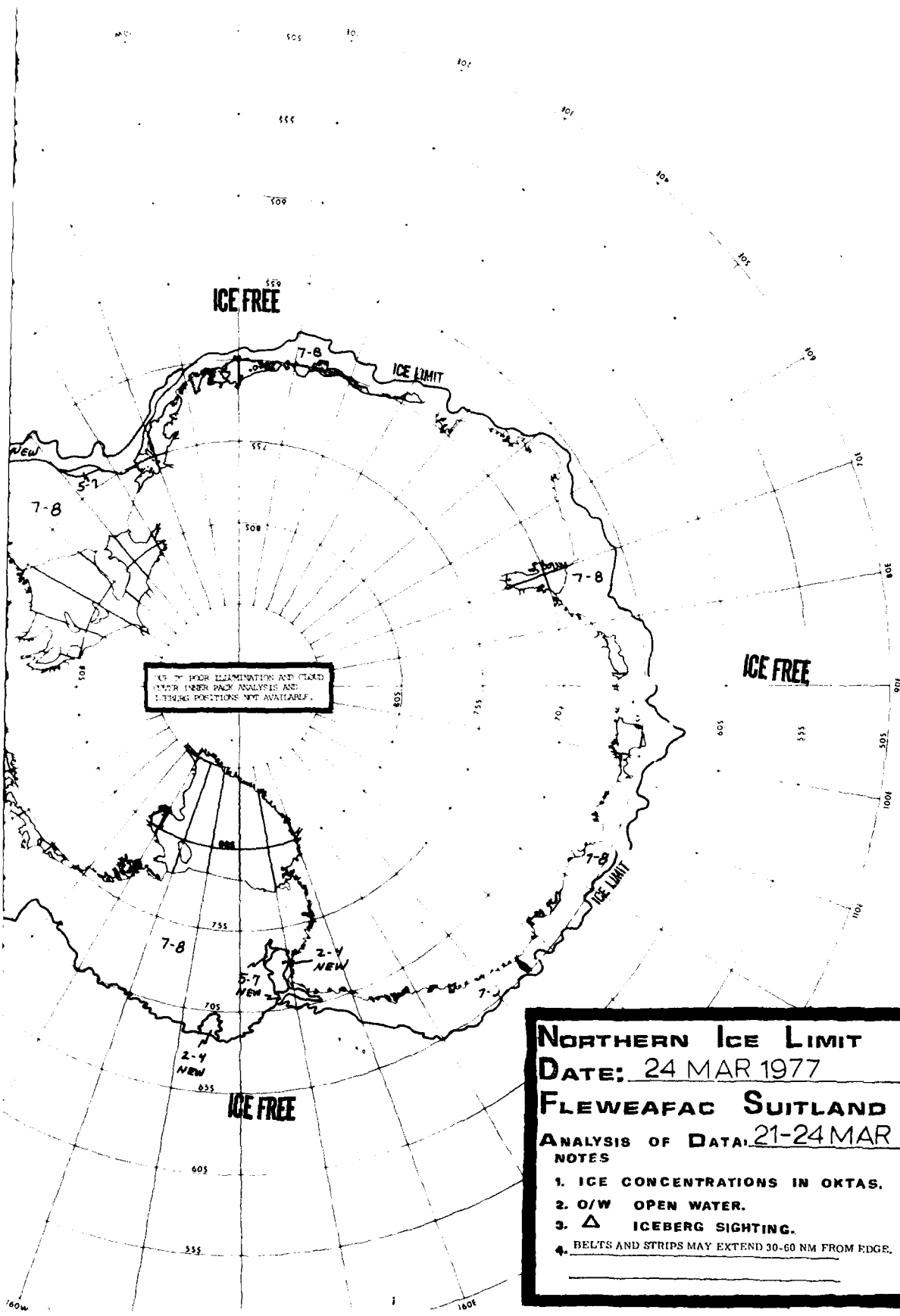
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NORTHERN ICE LIMIT
DATE: 17 MAR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 14-17 MAR
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

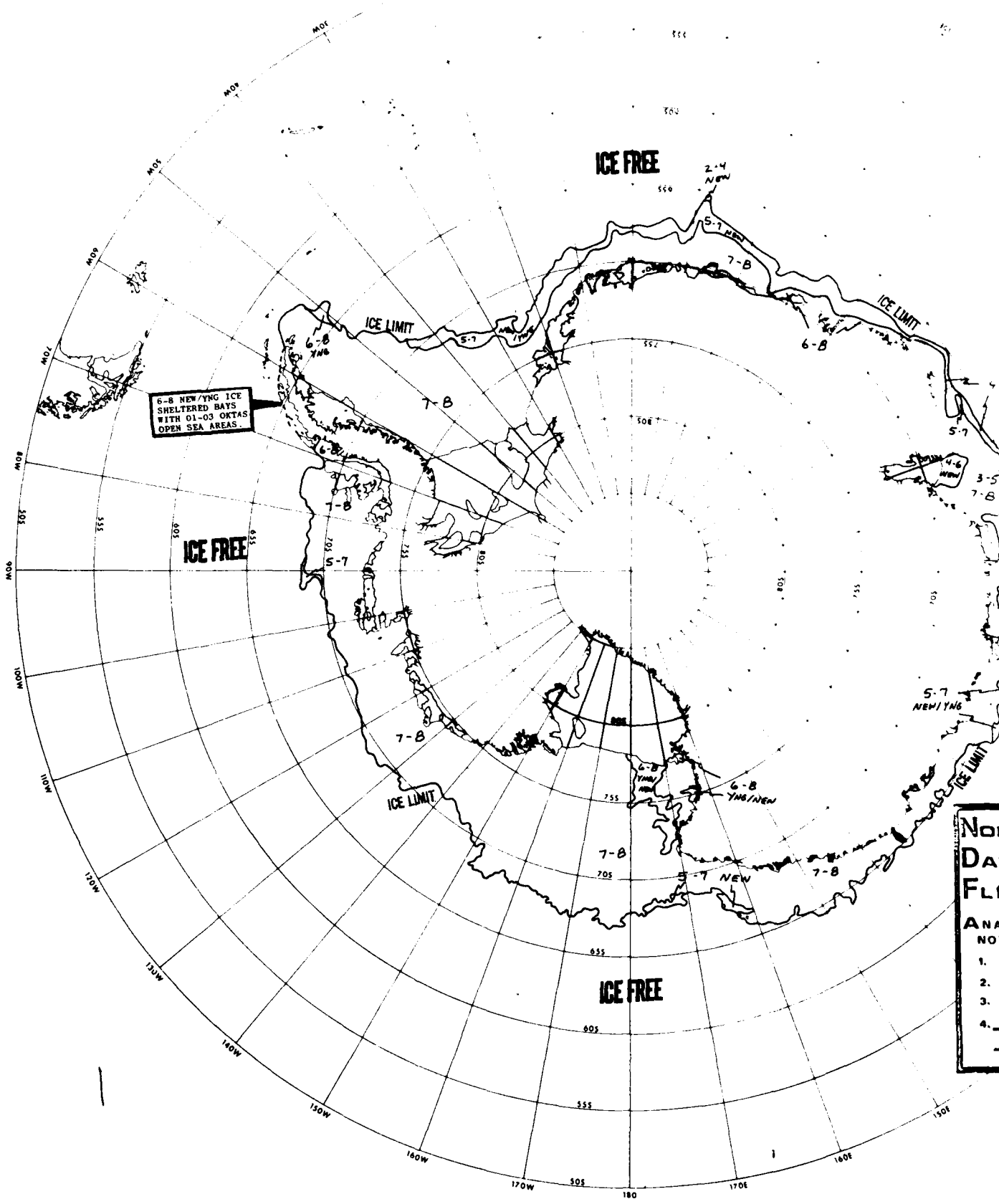
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DUE TO POOR ILLUMINATION AND CLOUD
 COVER INNER PACK ANALYSIS AND
 DETAILED POSITIONS NOT AVAILABLE.

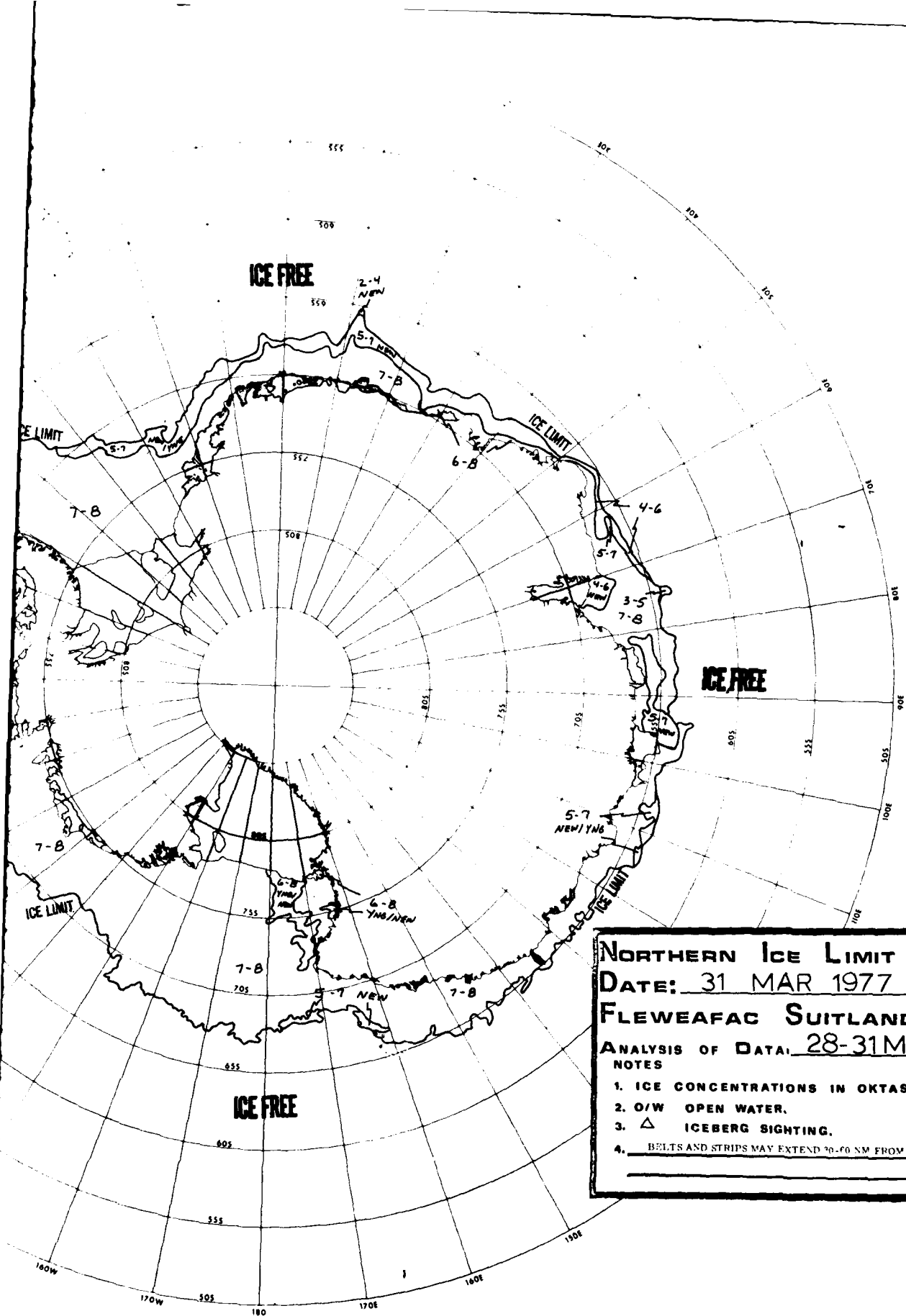
NORTHERN ICE LIMIT
DATE: 24 MAR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 21-24 MAR
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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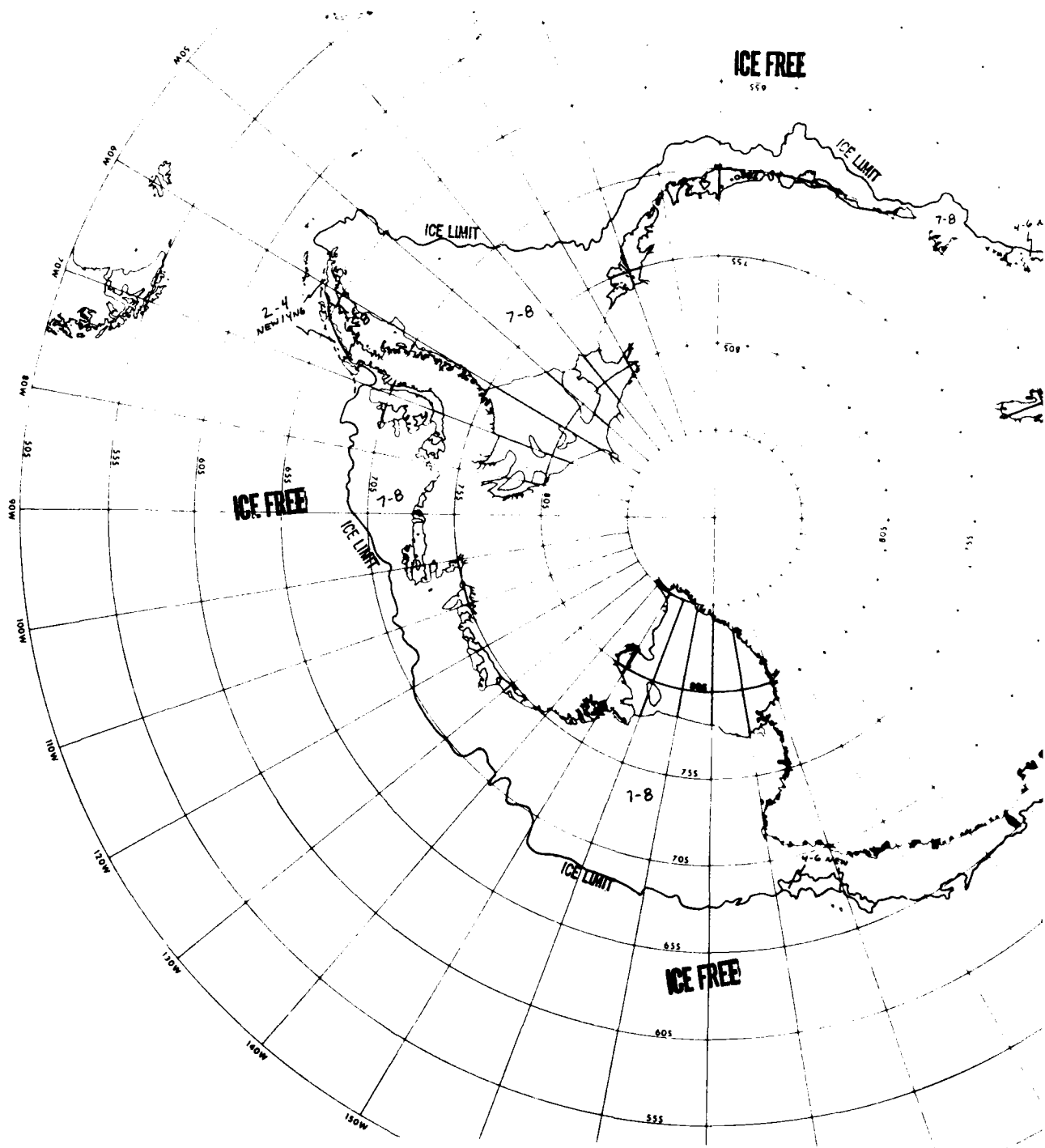


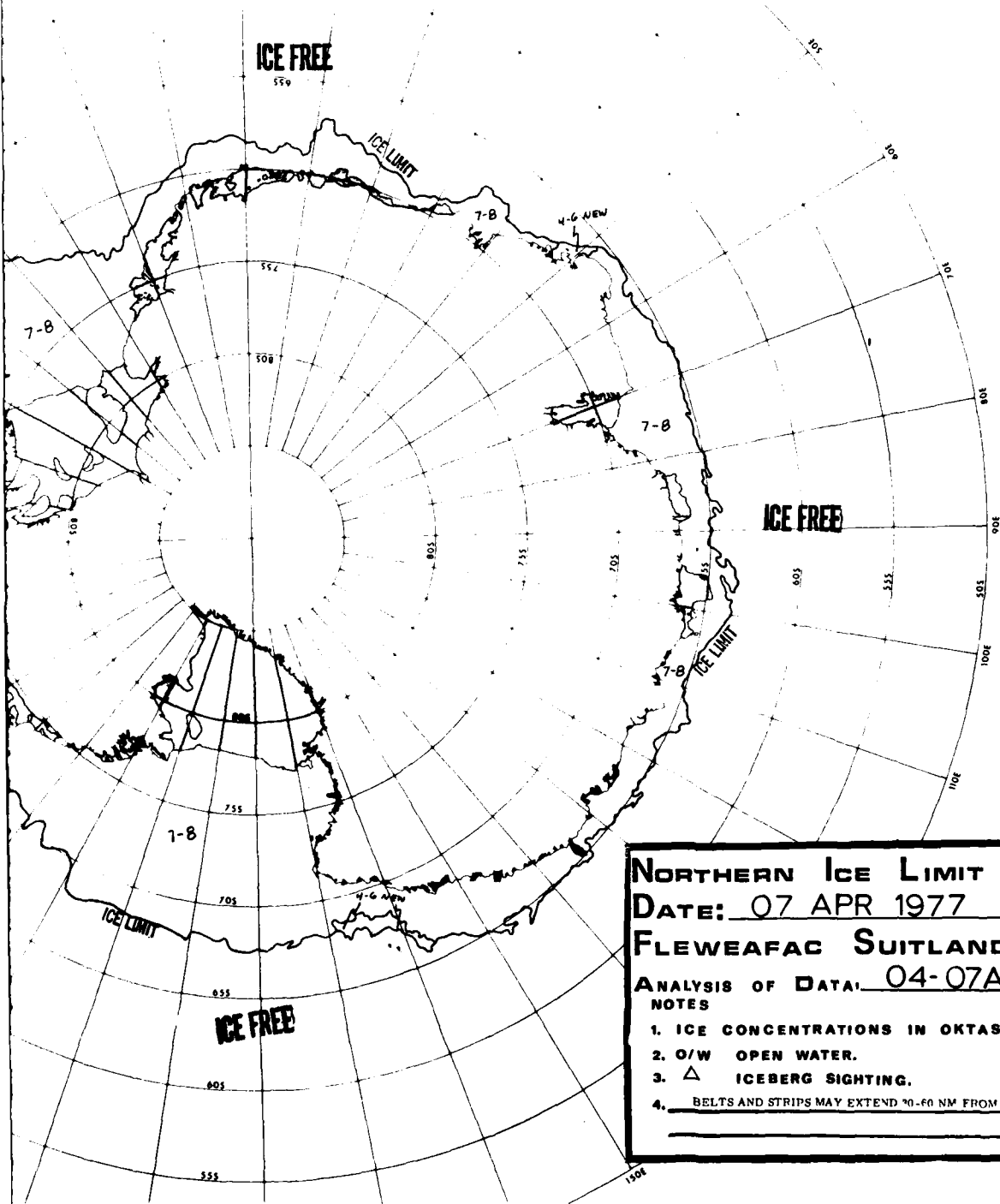
NORTHERN ICE LIMIT
DATE: 31 MAR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 28-31 MAR
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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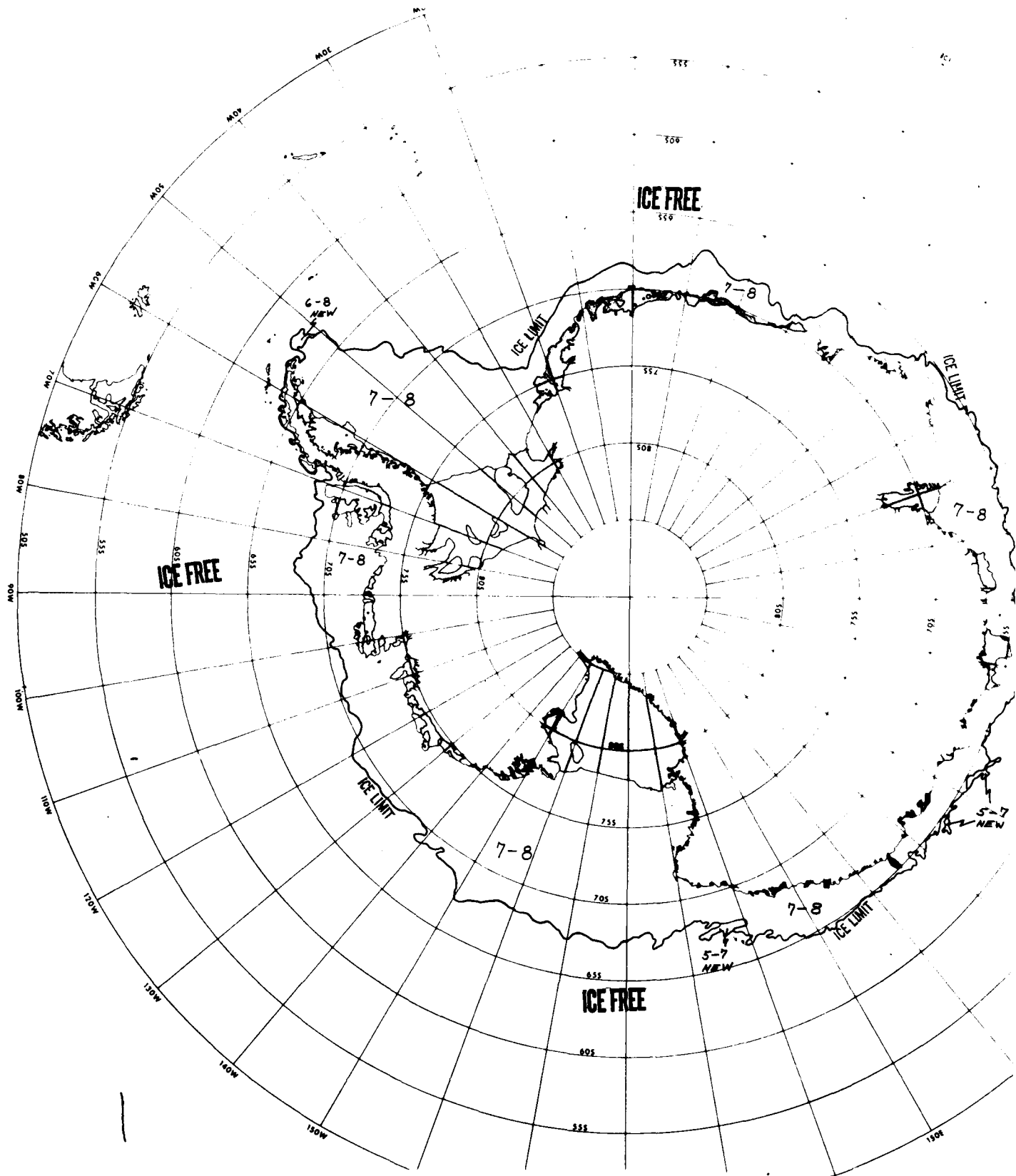
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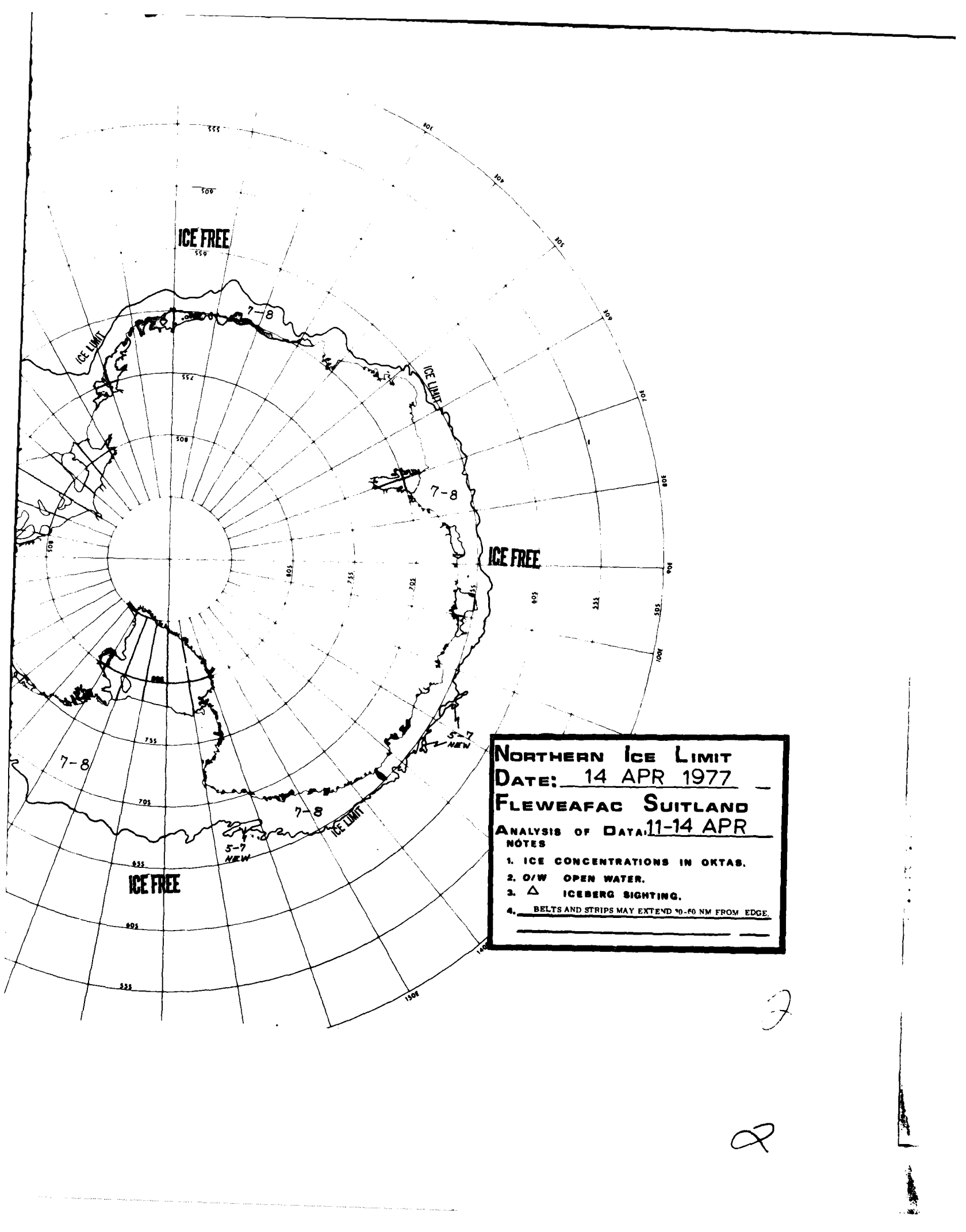




NORTHERN ICE LIMIT
DATE: 07 APR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 04-07APR
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. \triangle ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 20-60 NM FROM EDGE.

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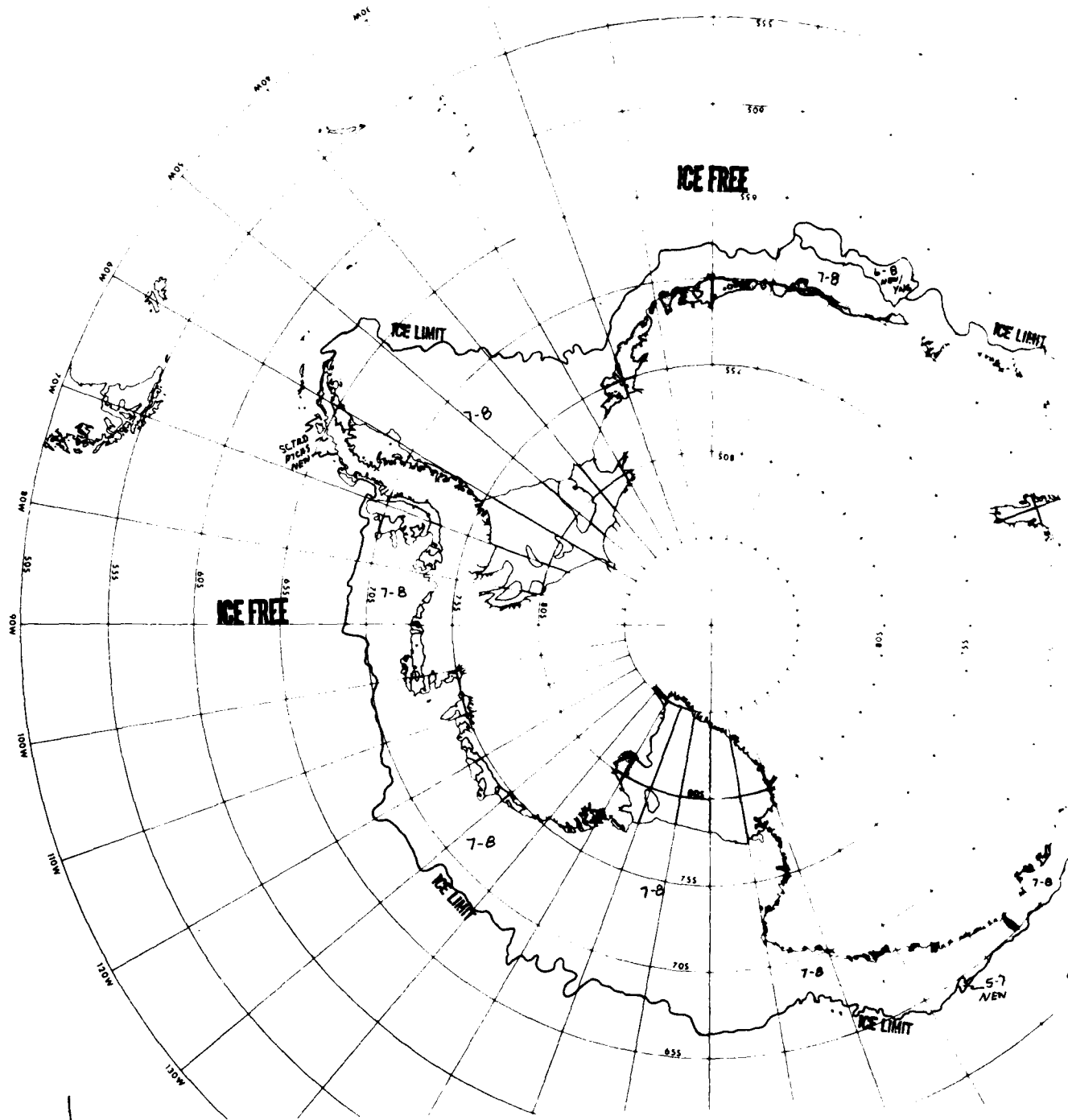
NORTHERN ICE LIMIT
DATE: 14 APR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 11-14 APR

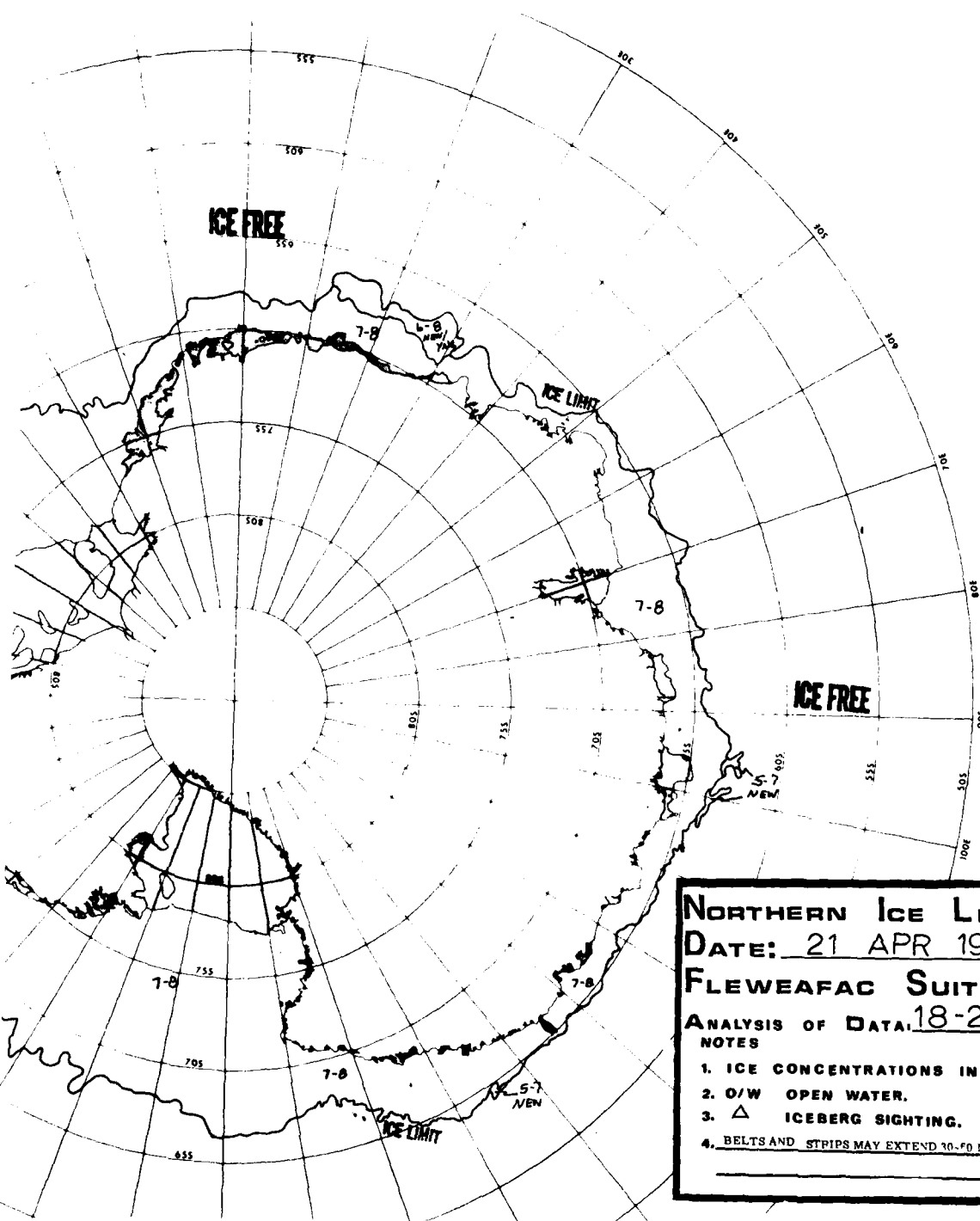
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

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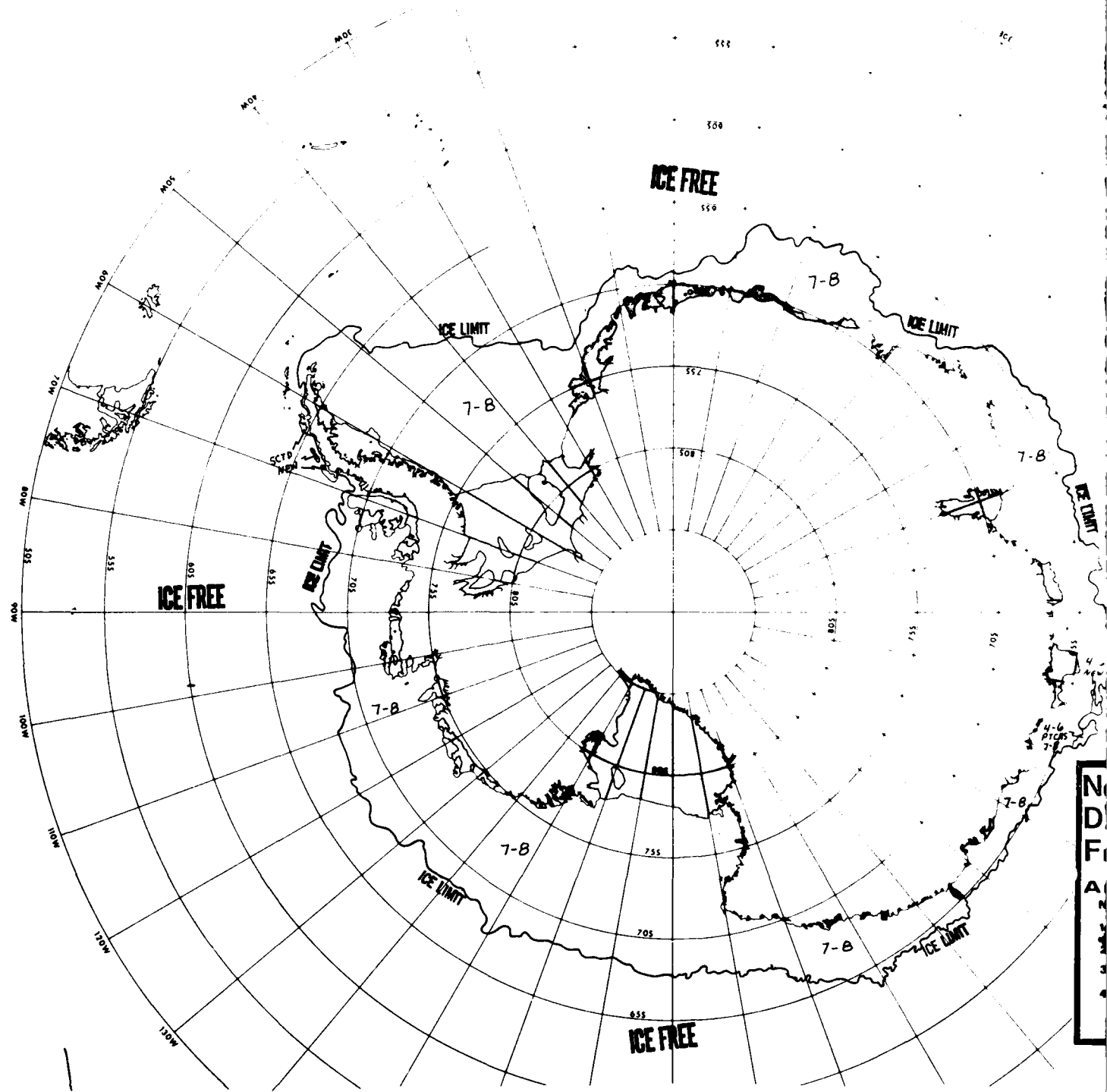


NORTHERN ICE LIMIT
DATE: 21 APR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 18-21 APR
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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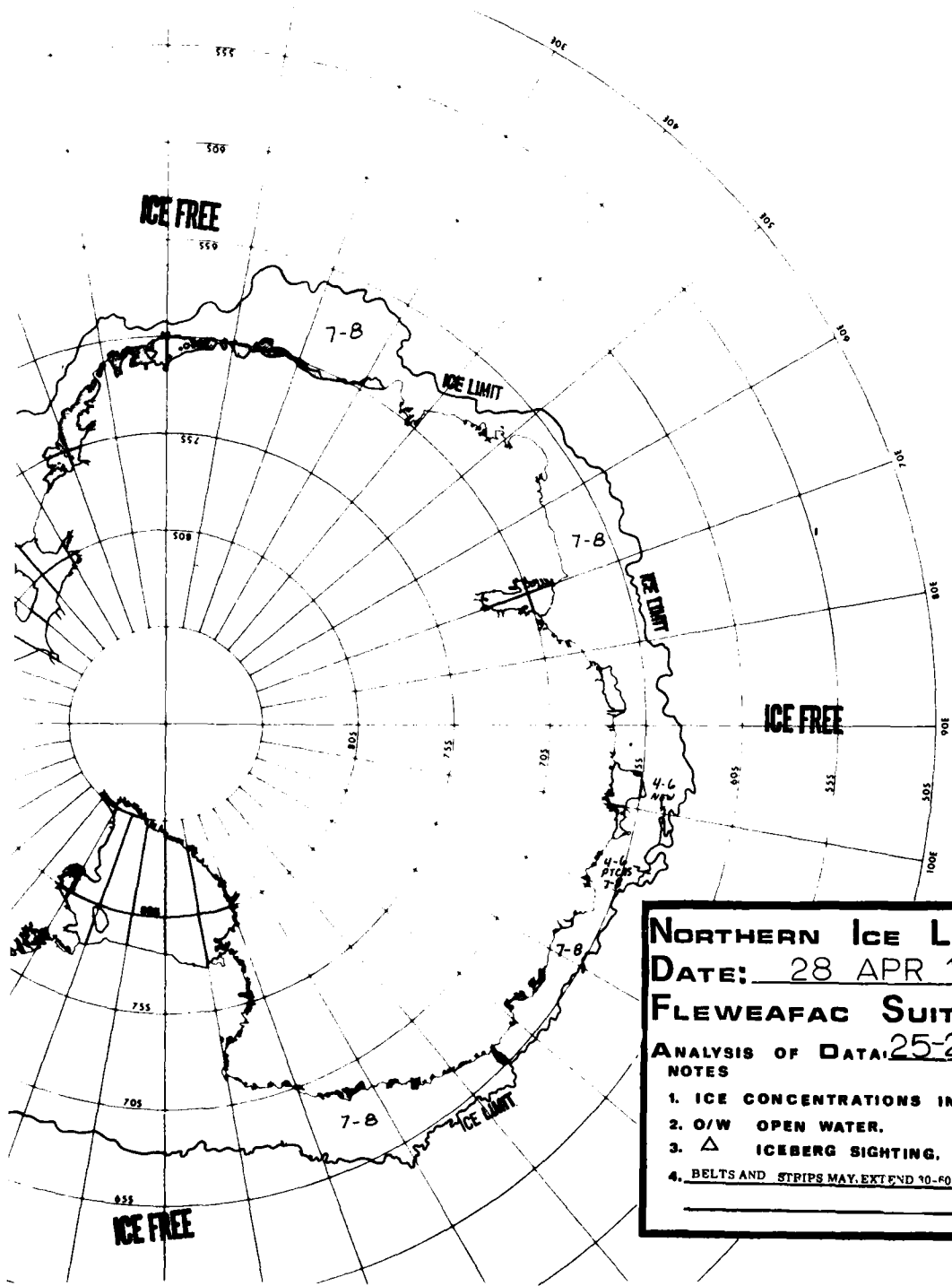
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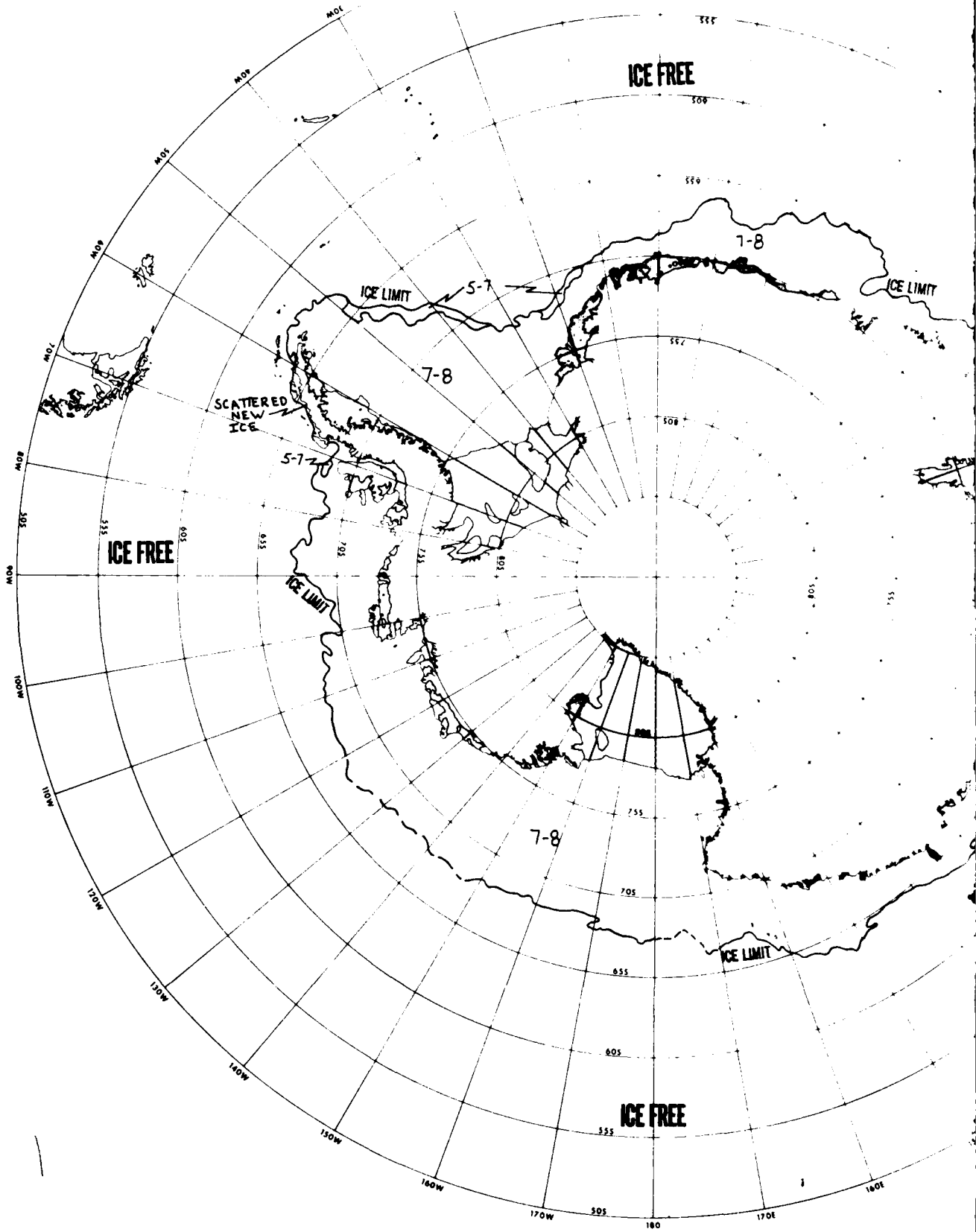


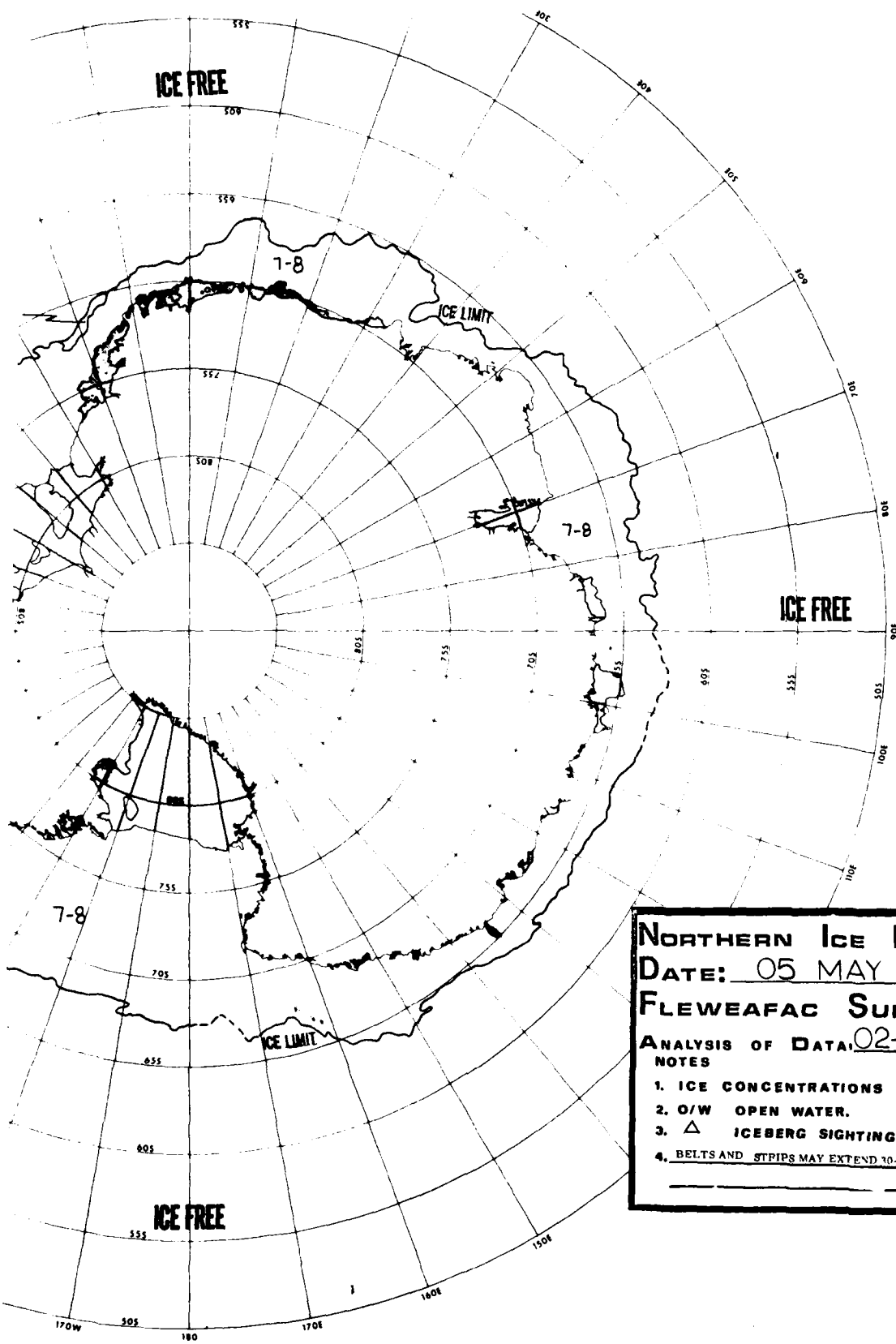
NORTHERN ICE LIMIT
DATE: 28 APR 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 25-28 APR

NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 10-50 NM FROM EDGE.

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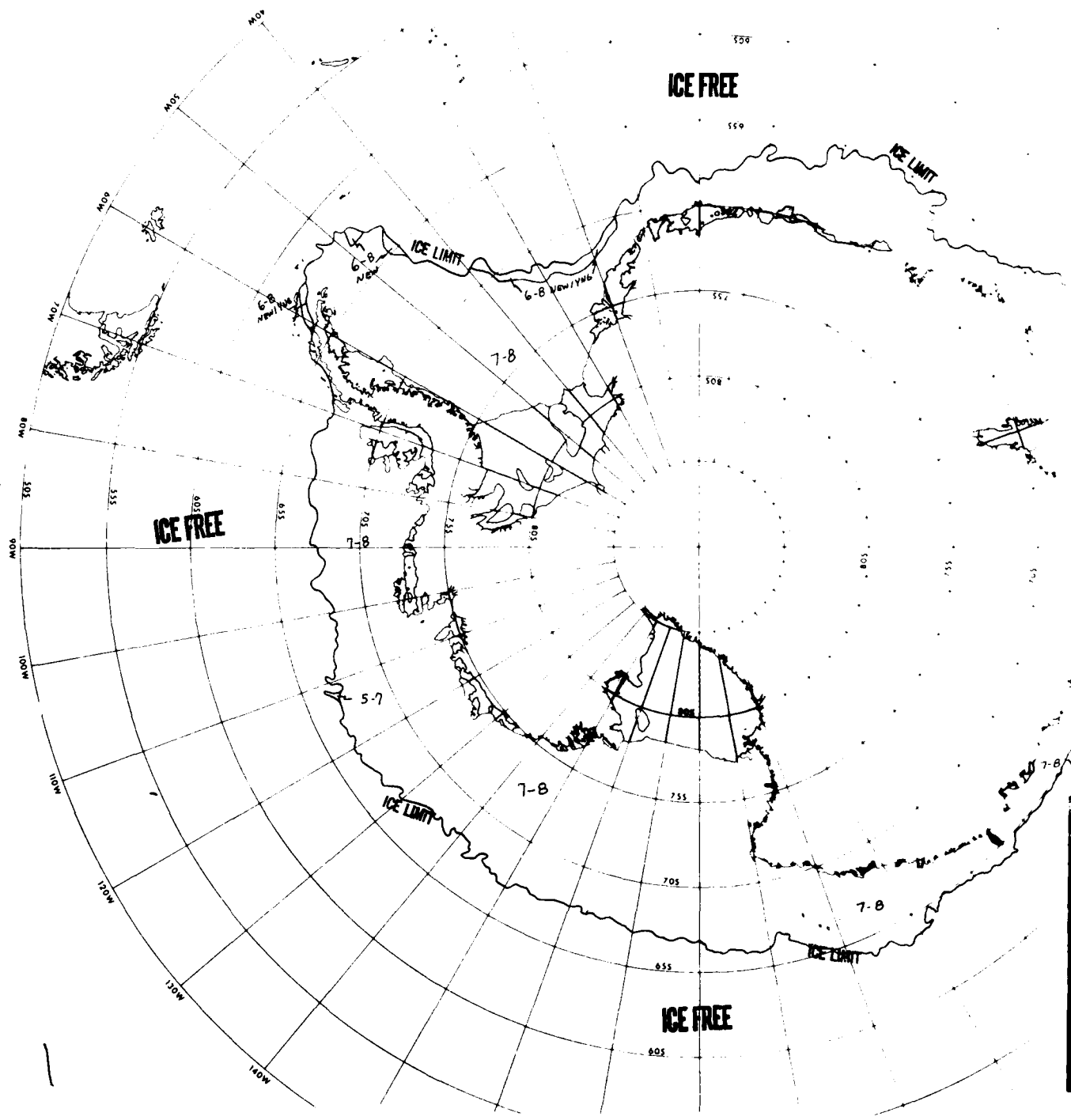


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FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 02-05 MAY

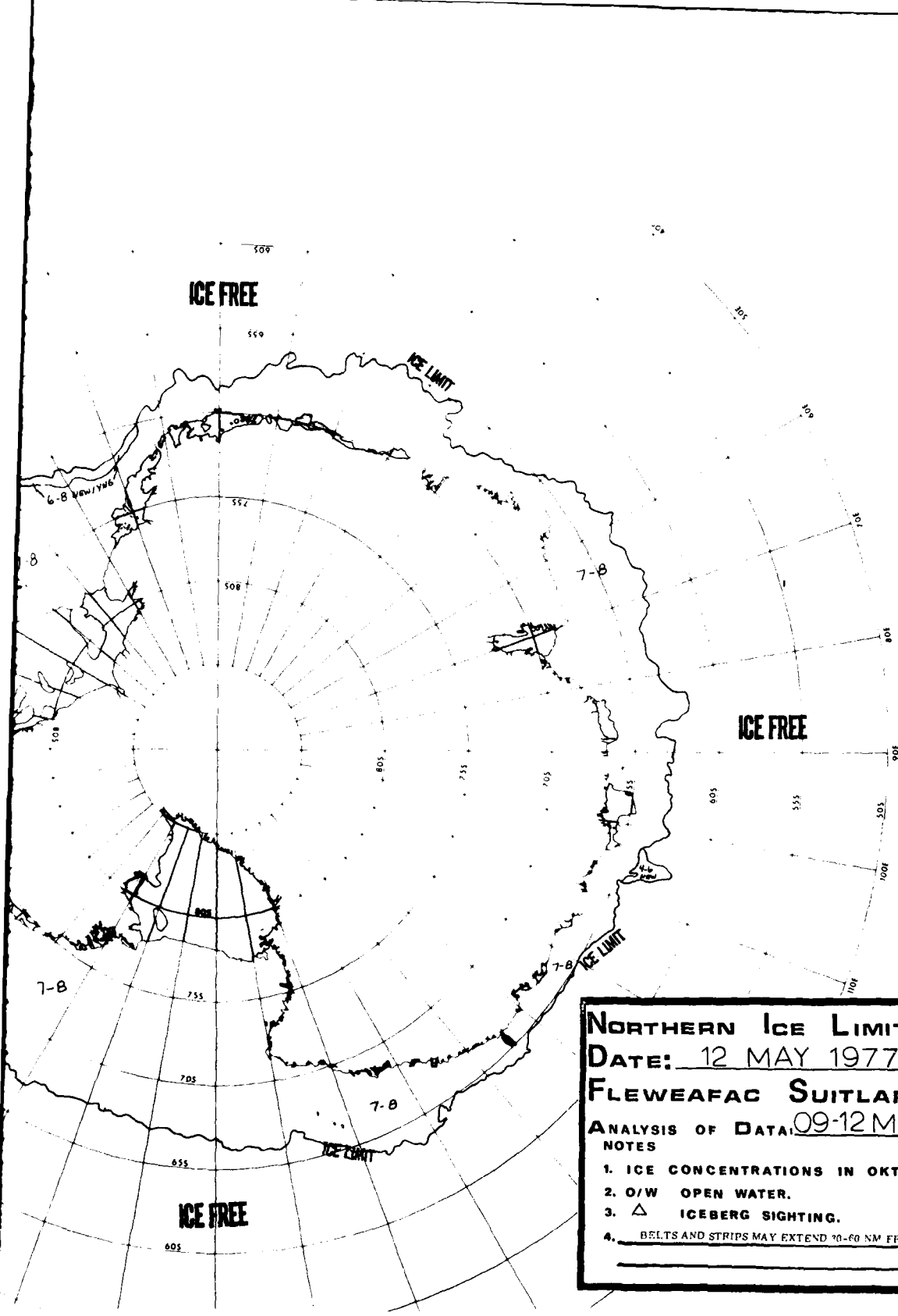
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 10-50 NM FROM EDGE.

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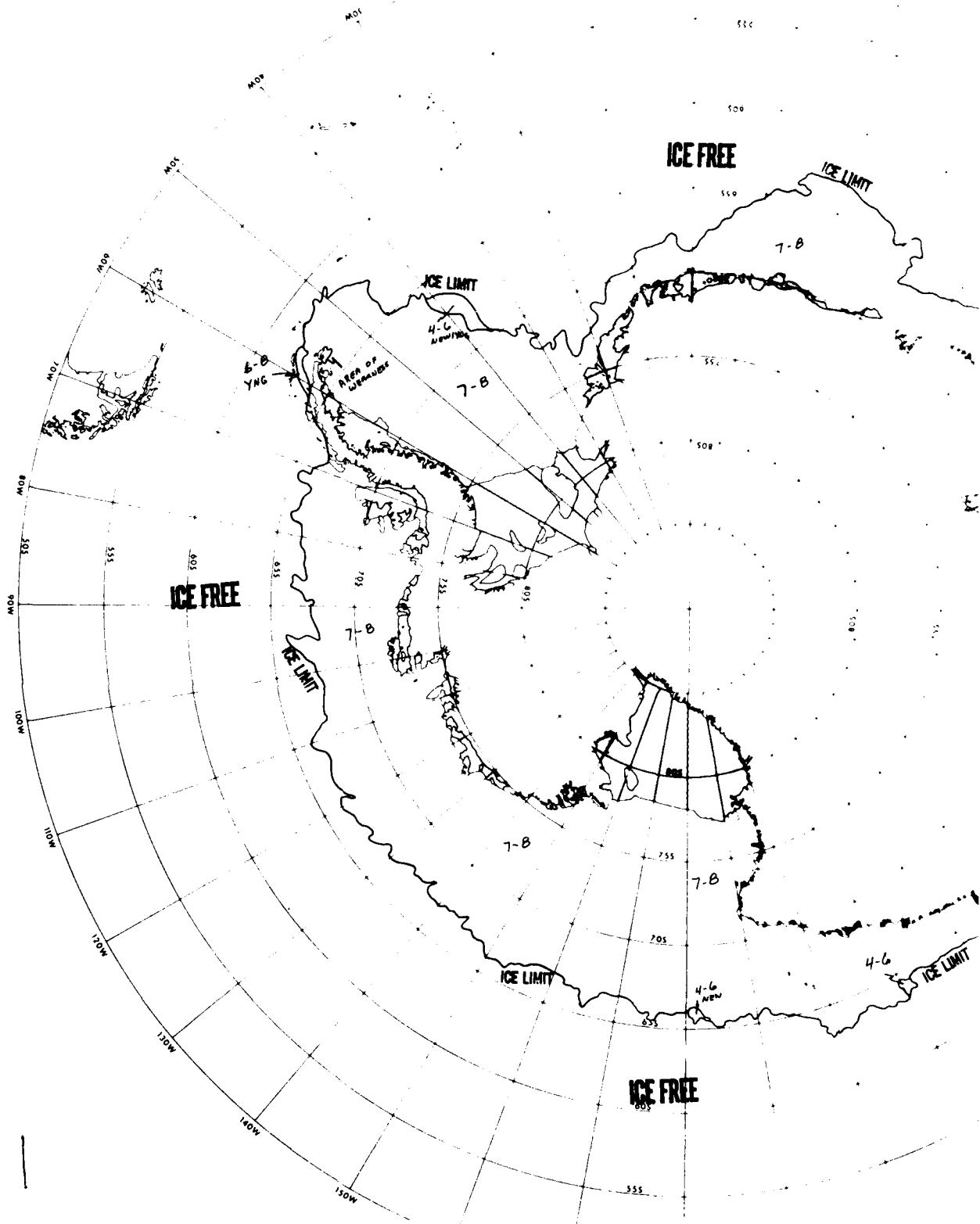


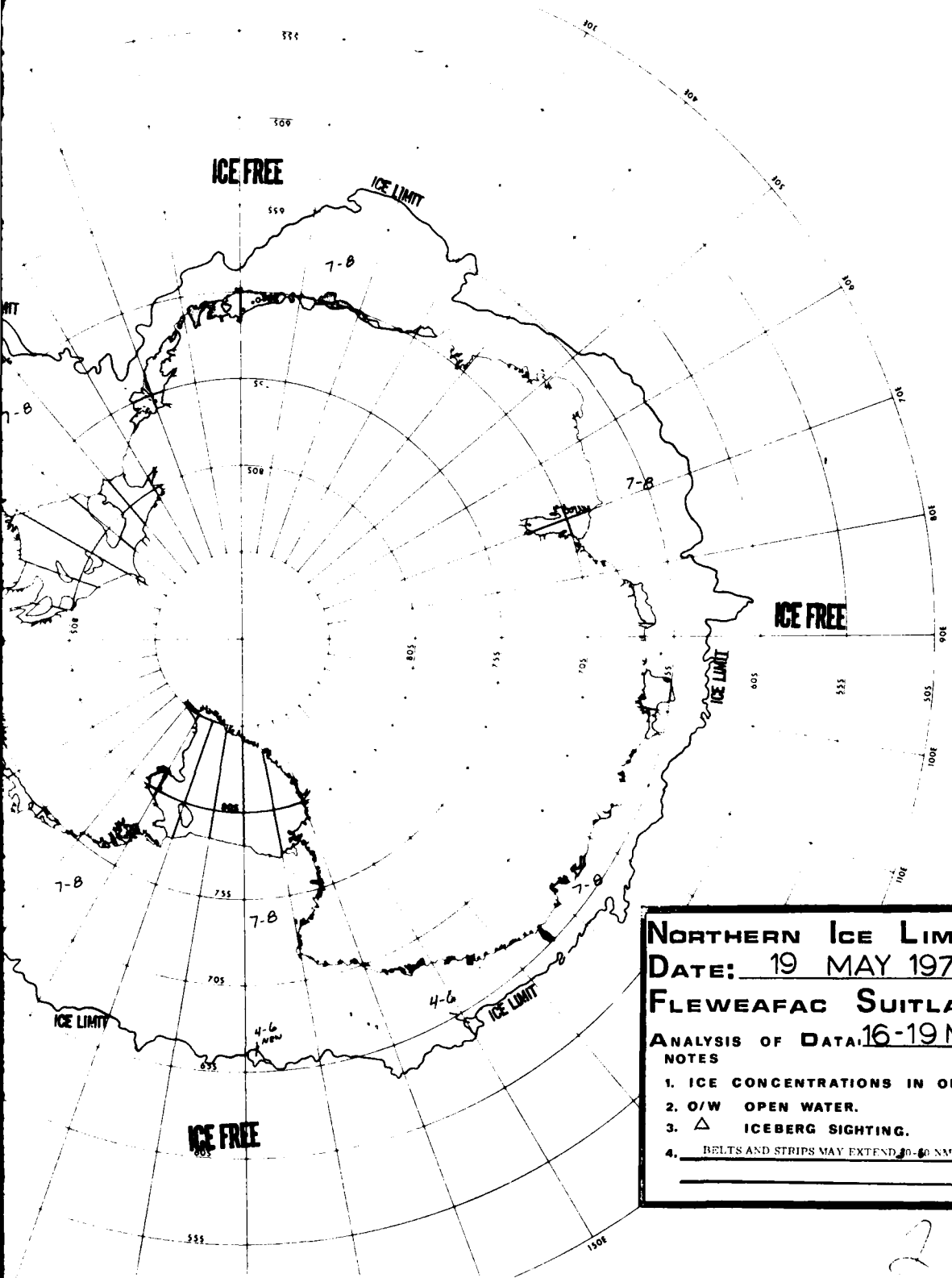
1



NORTHERN ICE LIMIT
DATE: 12 MAY 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 09-12 MAY
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

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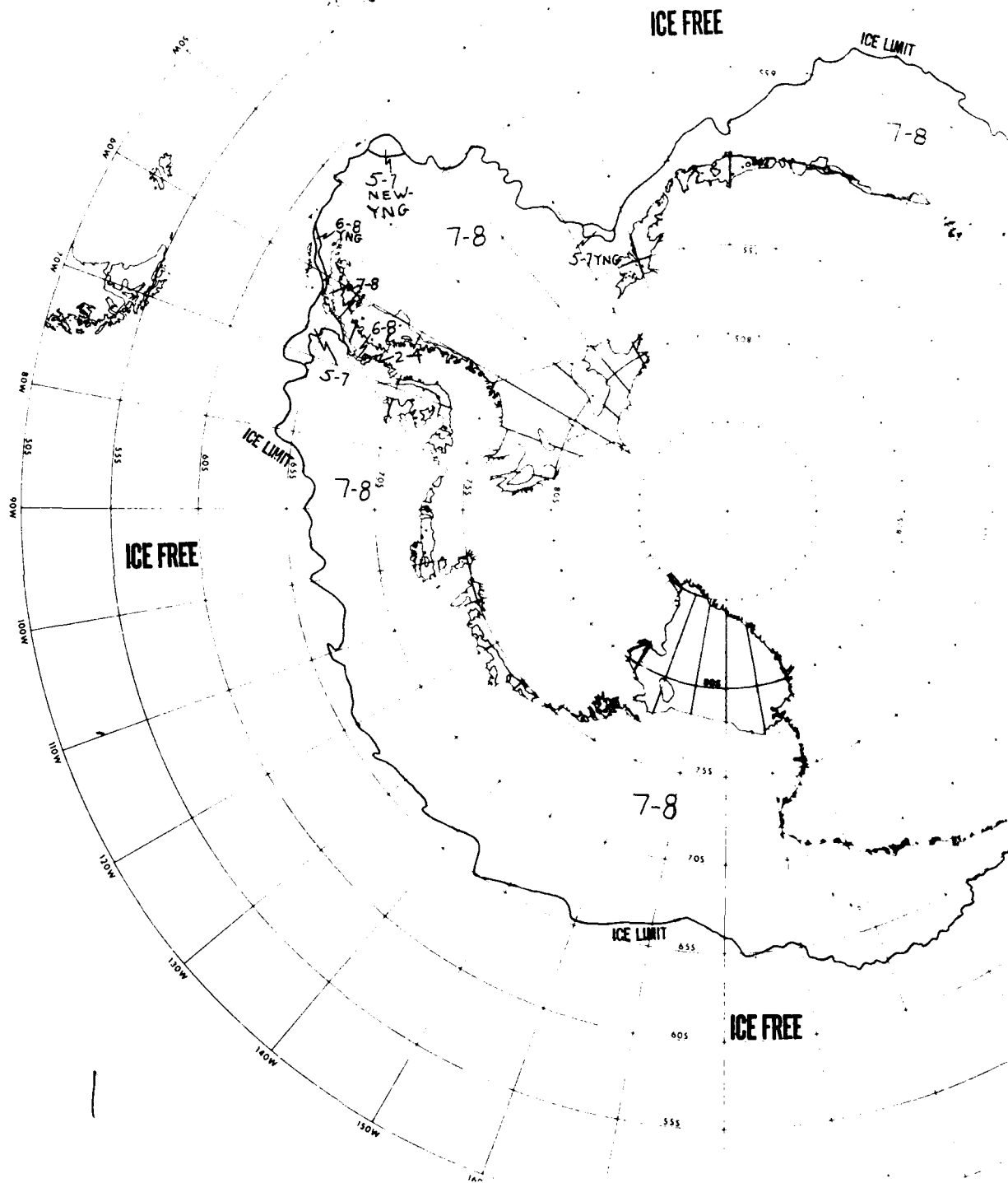
NORTHERN ICE LIMIT
DATE: 19 MAY 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 16-19 MAY

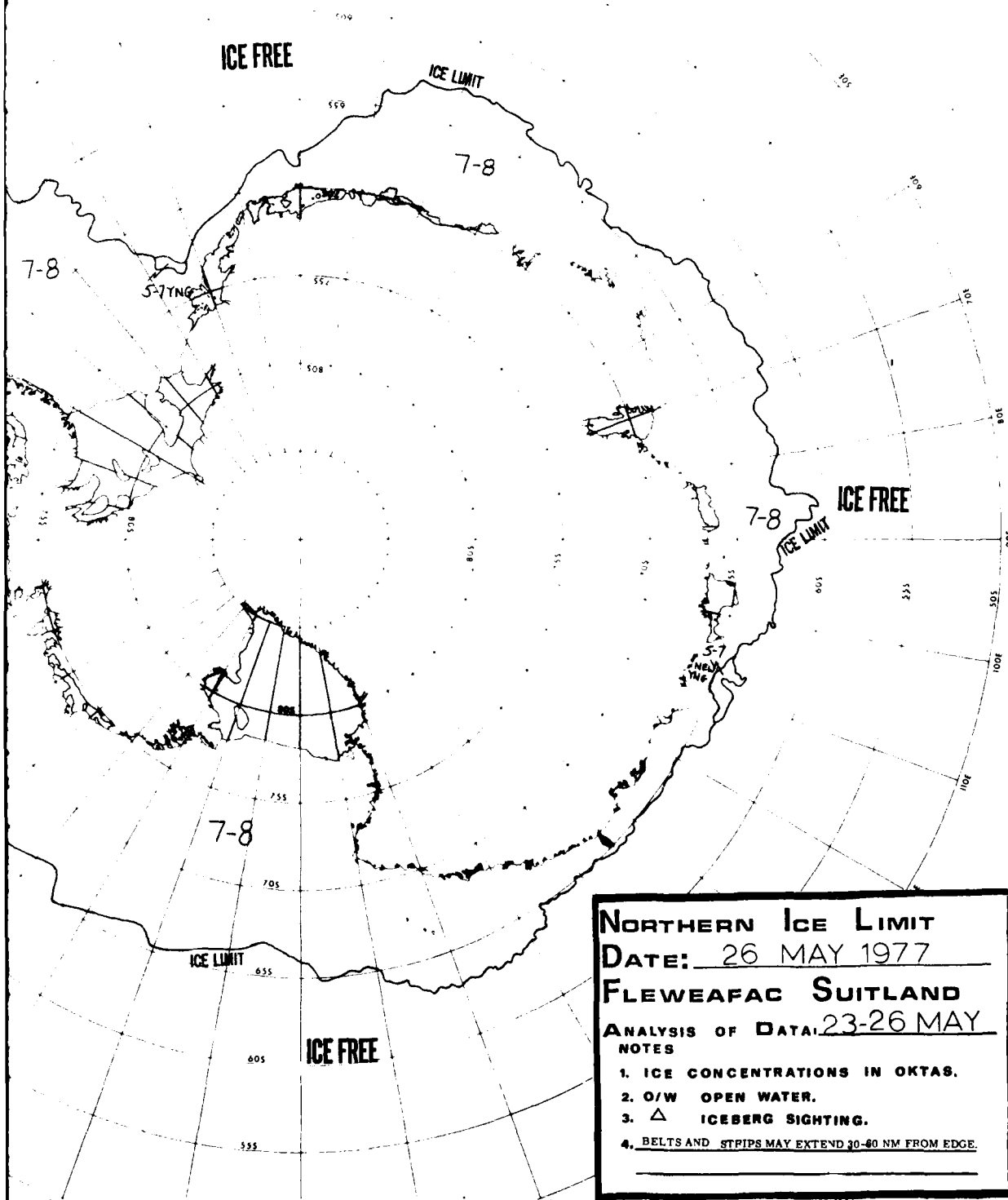
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

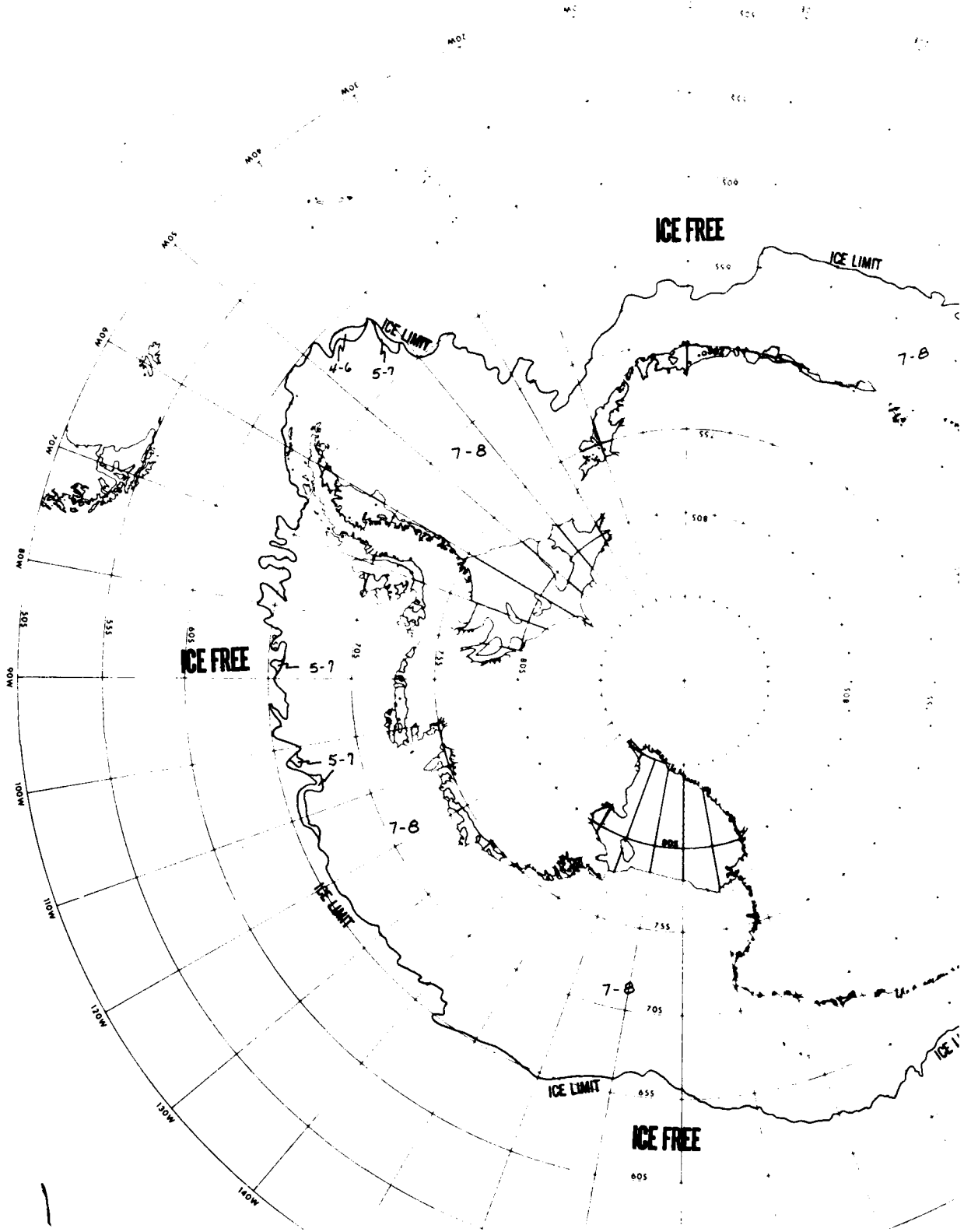
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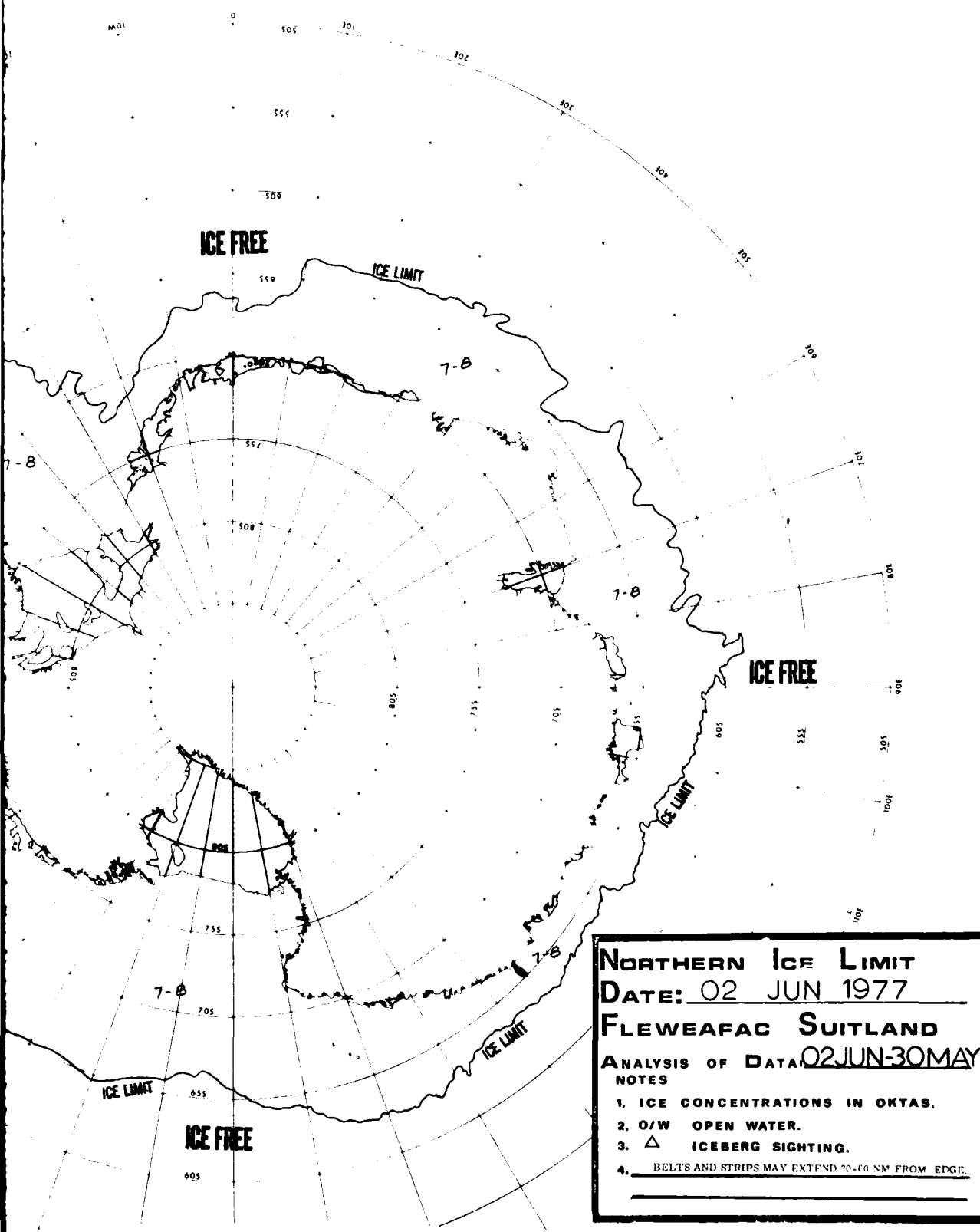
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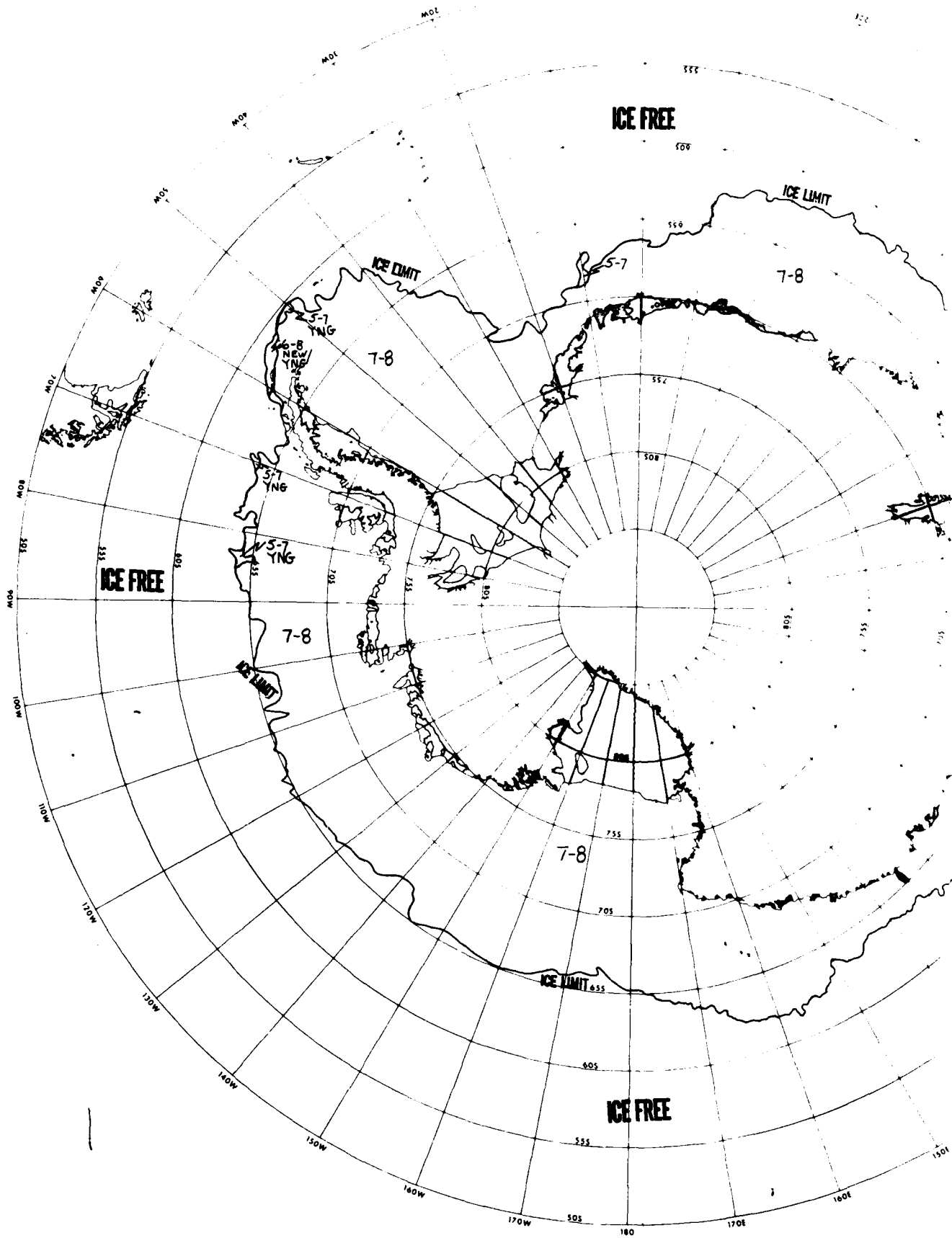
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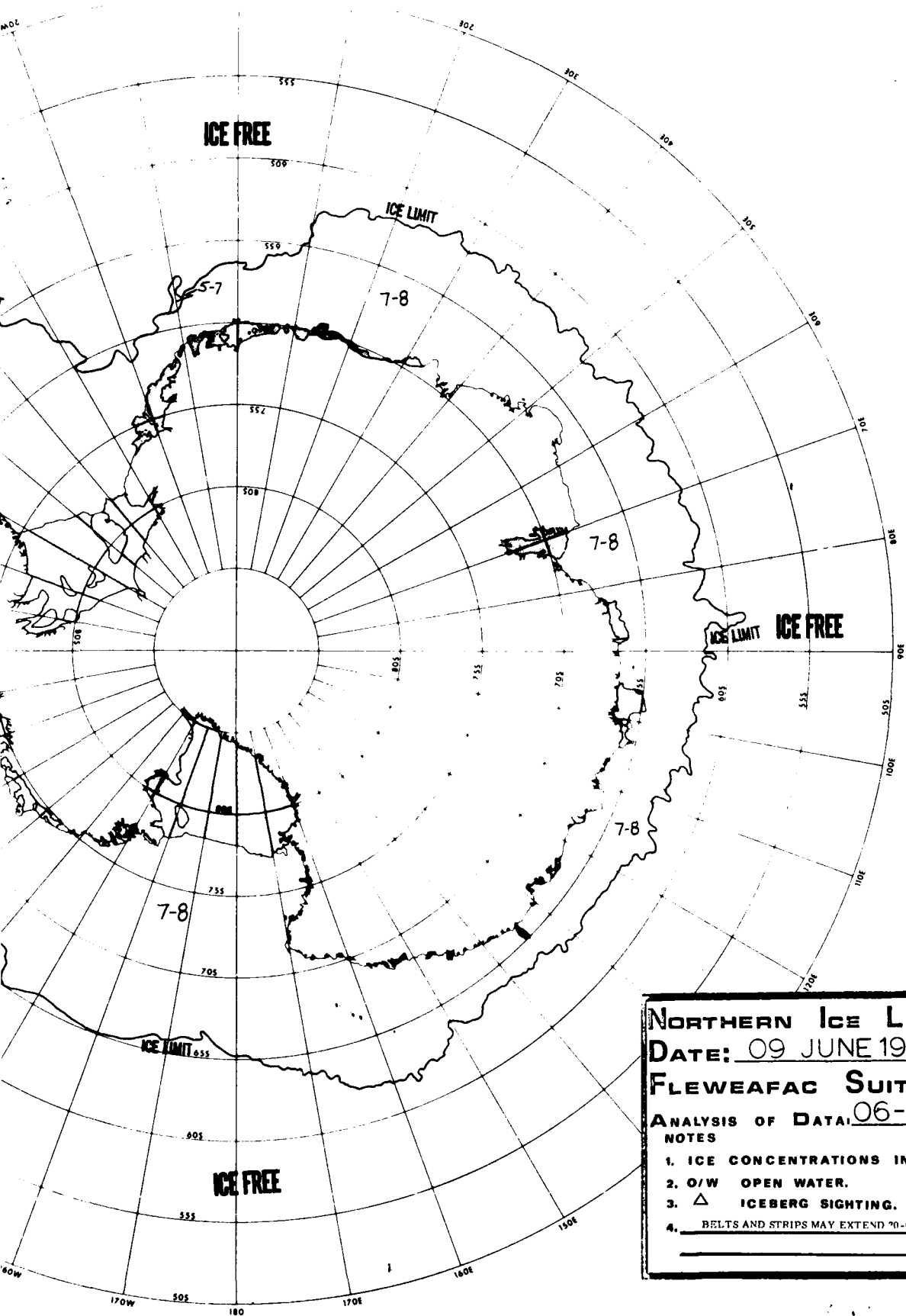




NORTHERN ICE LIMIT
DATE: 02 JUN 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 02JUN-30MAY
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

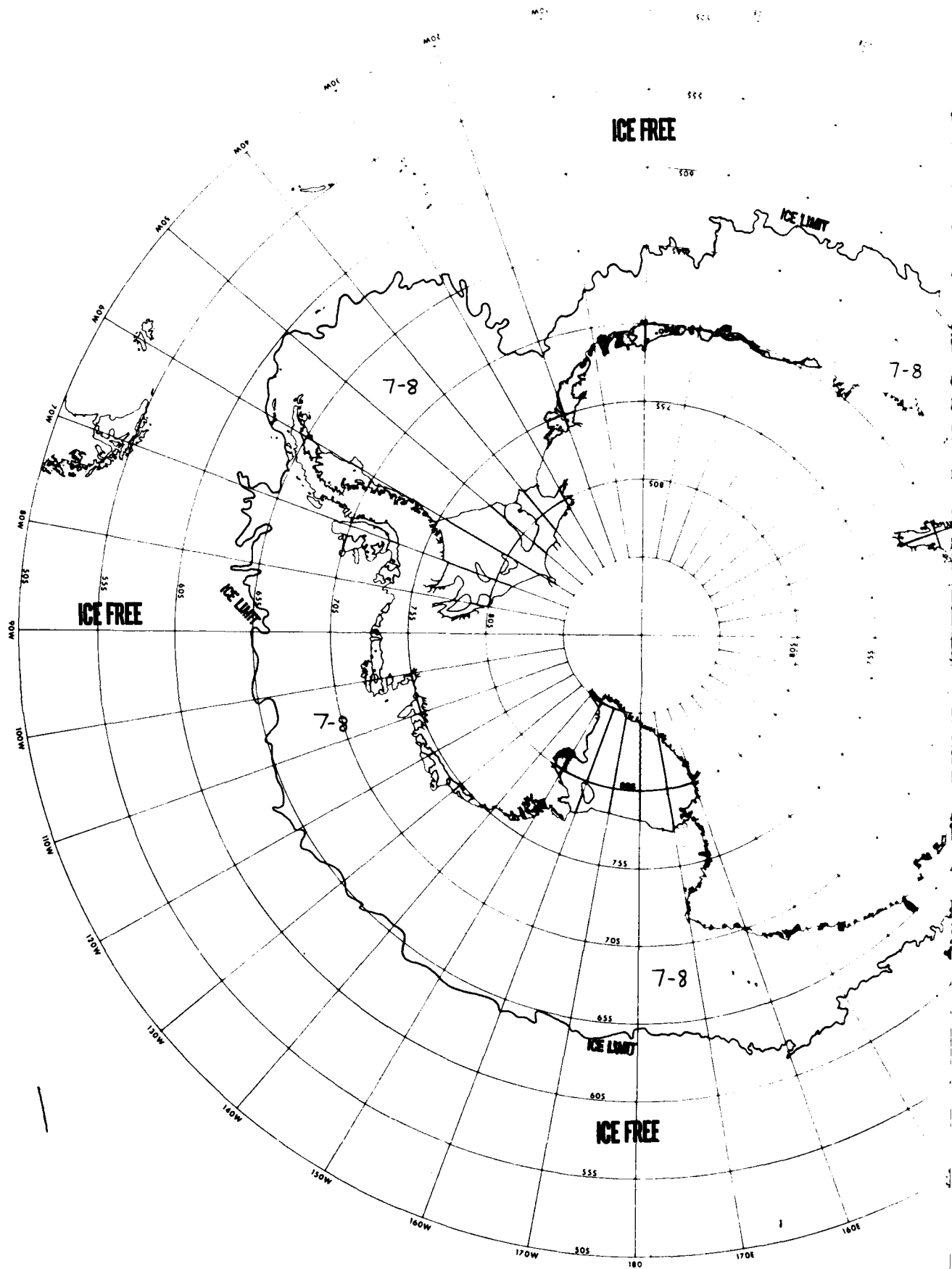
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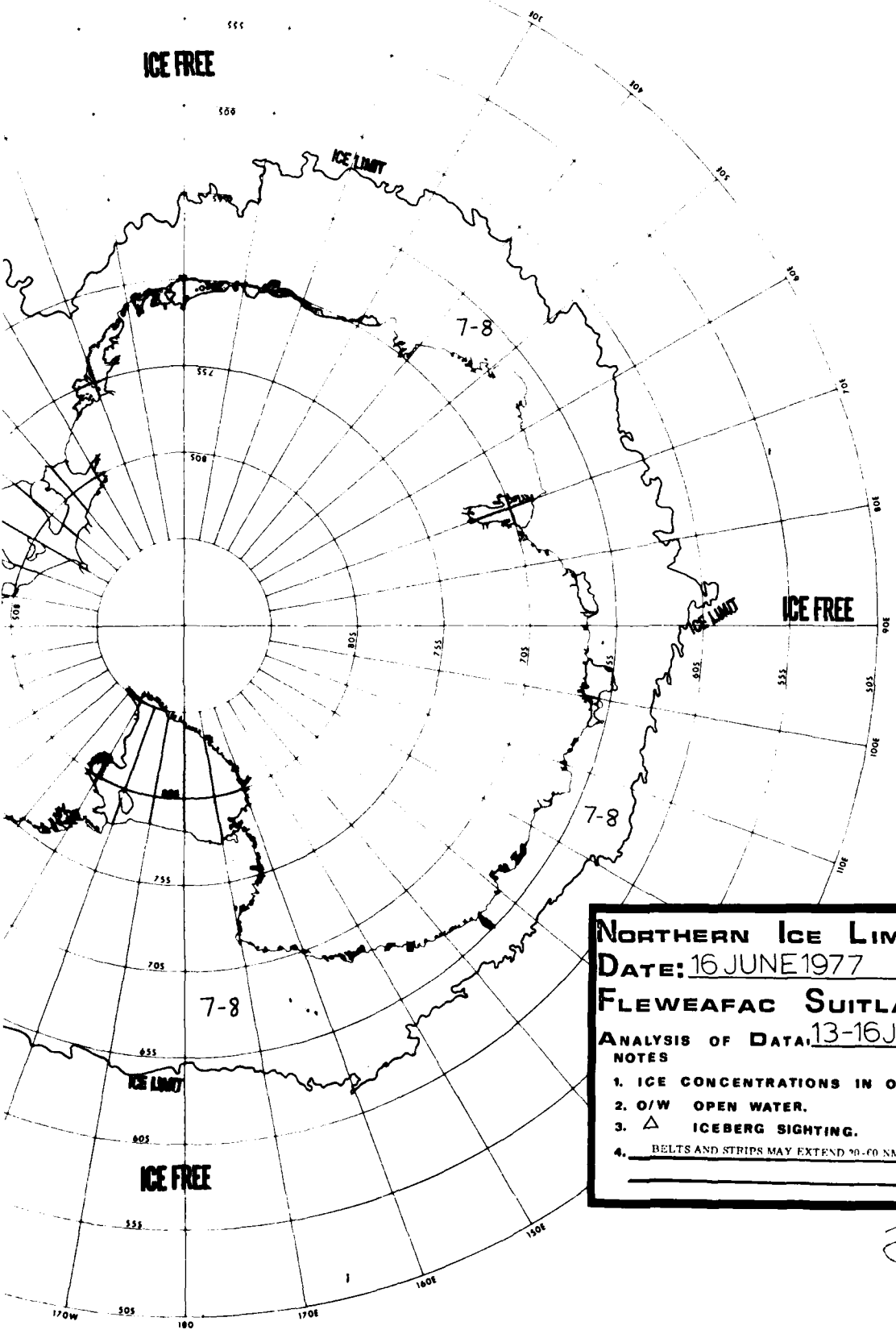


NORTHERN ICE LIMIT
DATE: 09 JUNE 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 06-09 JUNE
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 70-100 NM FROM EDGE.

2



ICE FREE

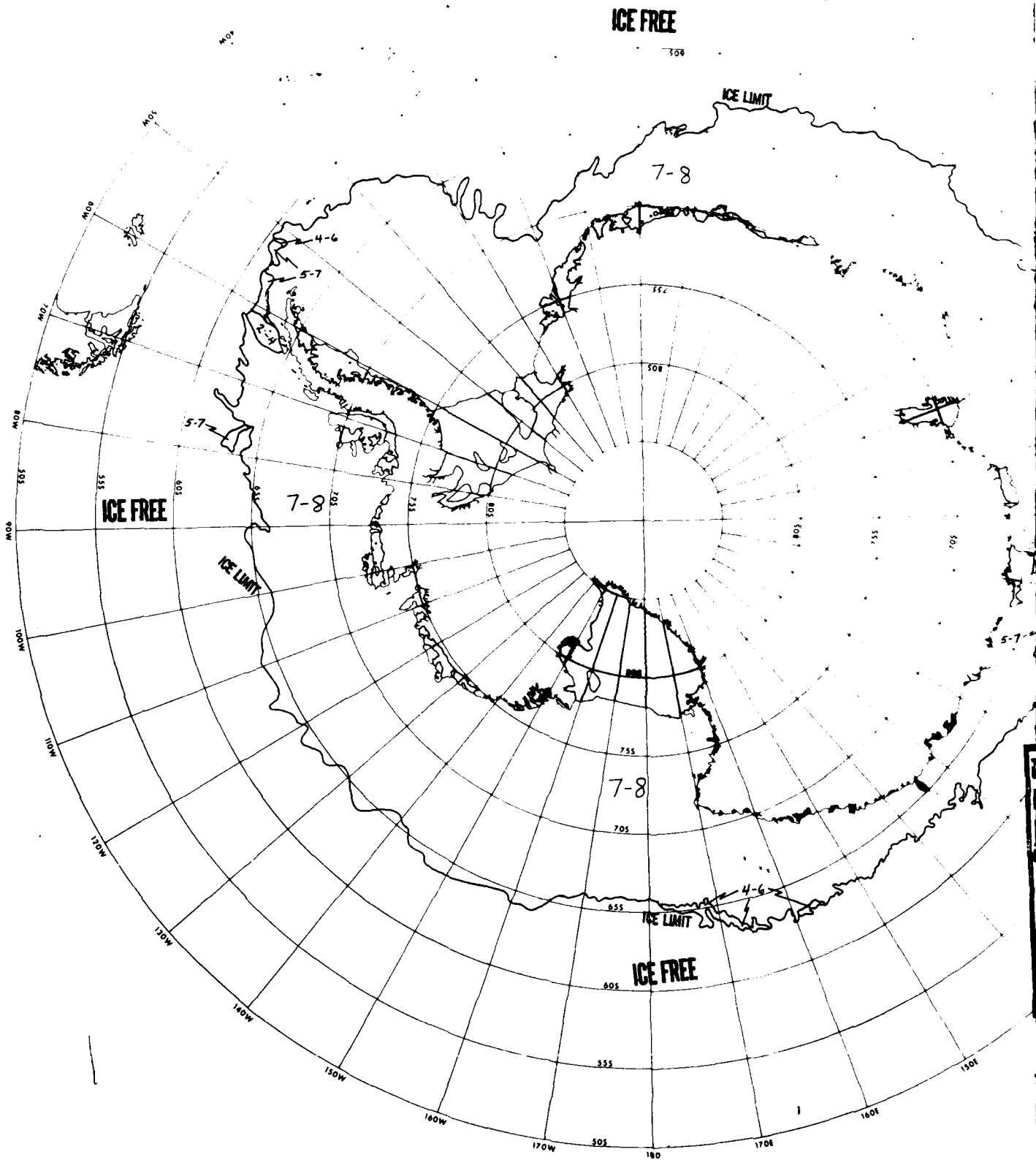


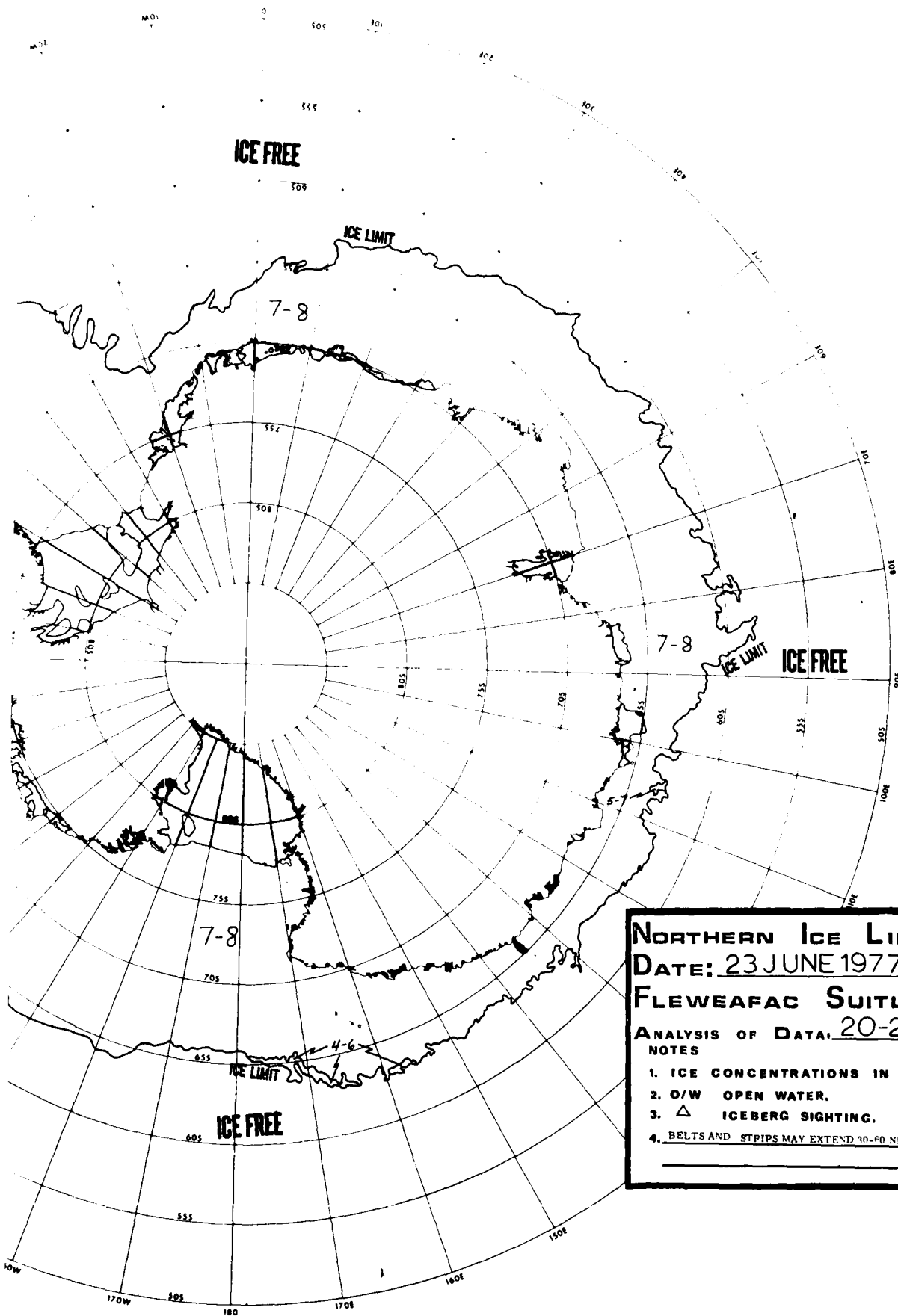
NORTHERN ICE LIMIT
DATE: 16 JUNE 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 13-16 JUNE
NOTES
1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 90-60 NM FROM EDGE.

2

2

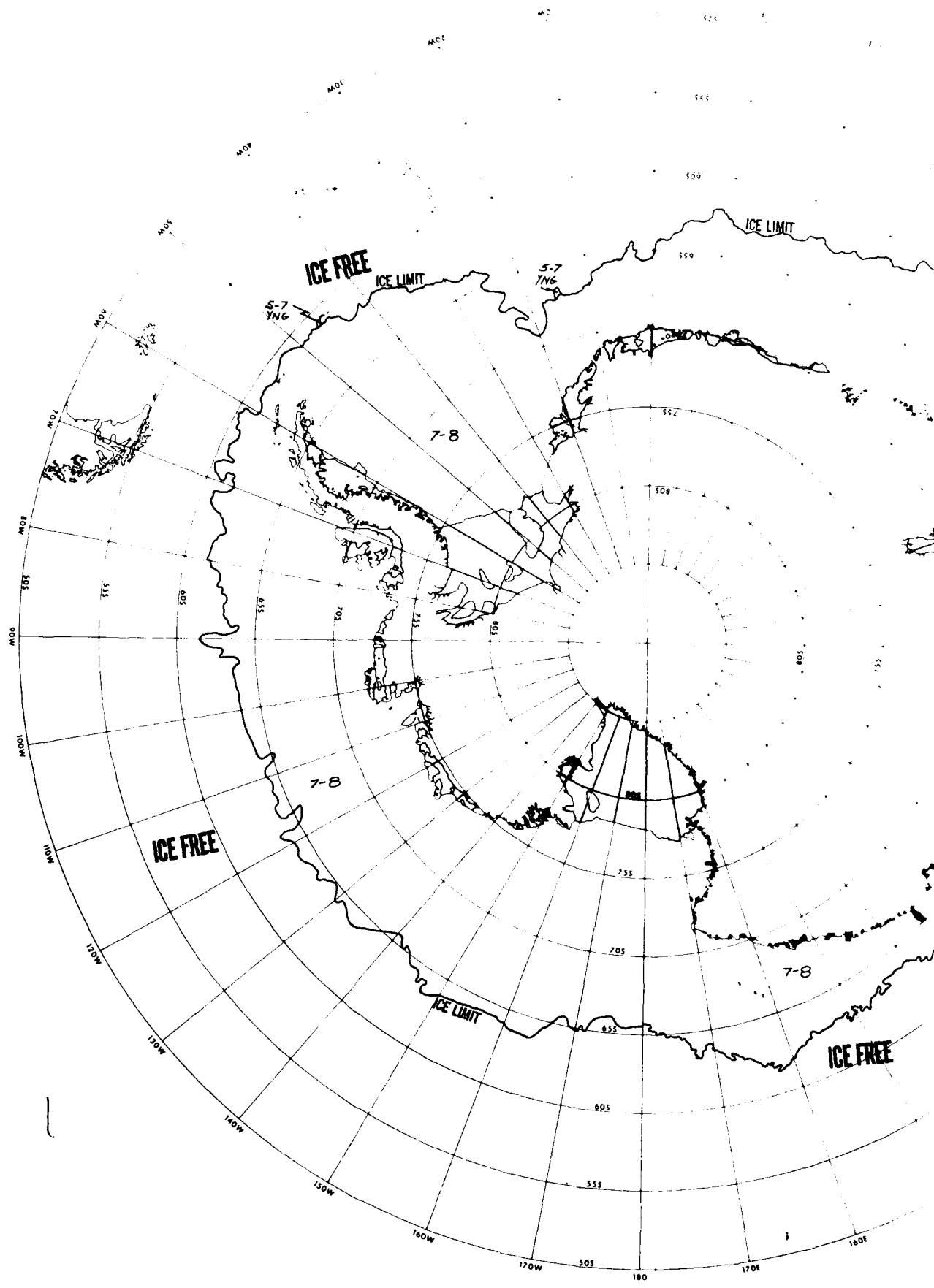
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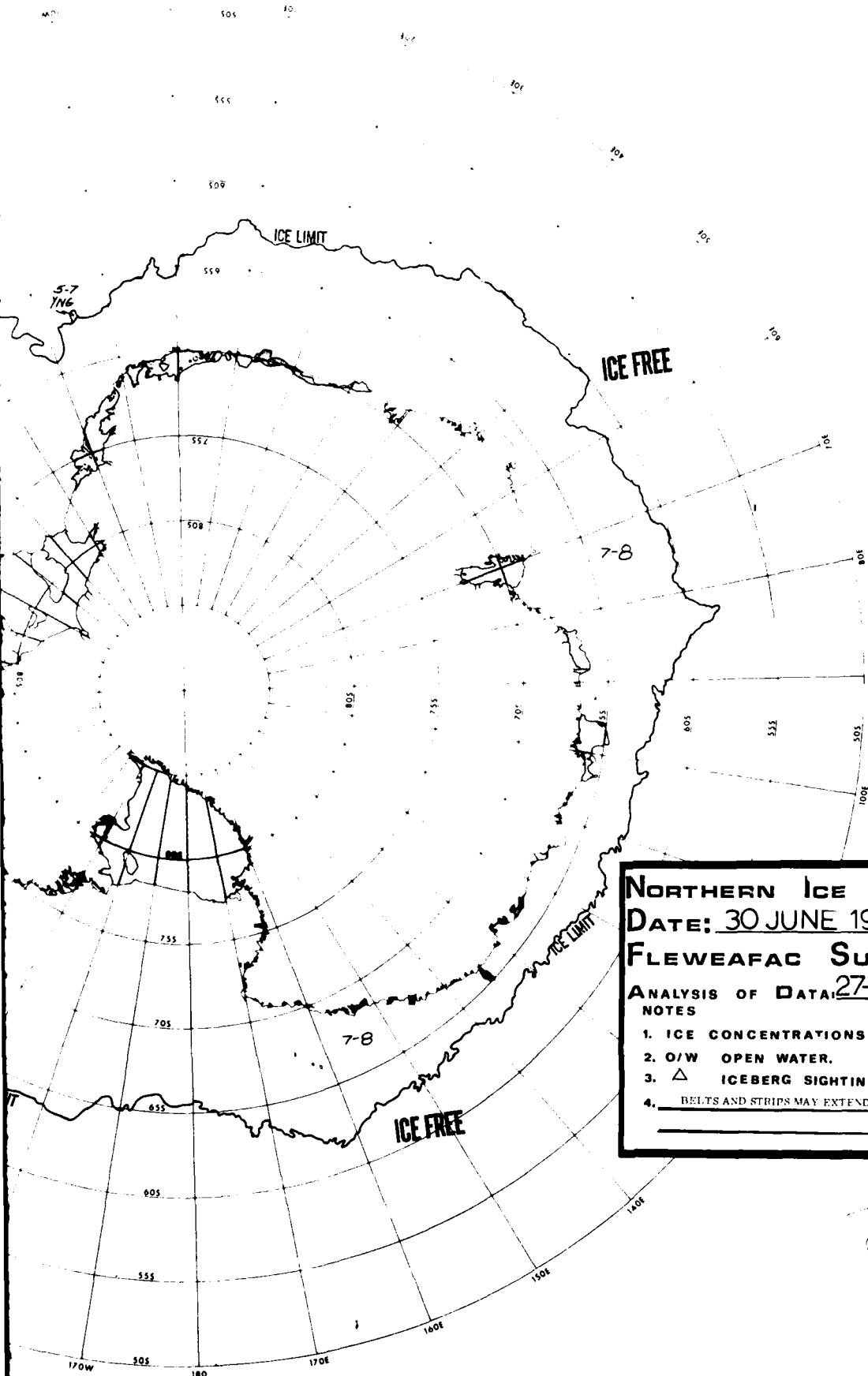




NORTHERN ICE LIMIT
DATE: 23 JUNE 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 20-23 JUNE
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

2



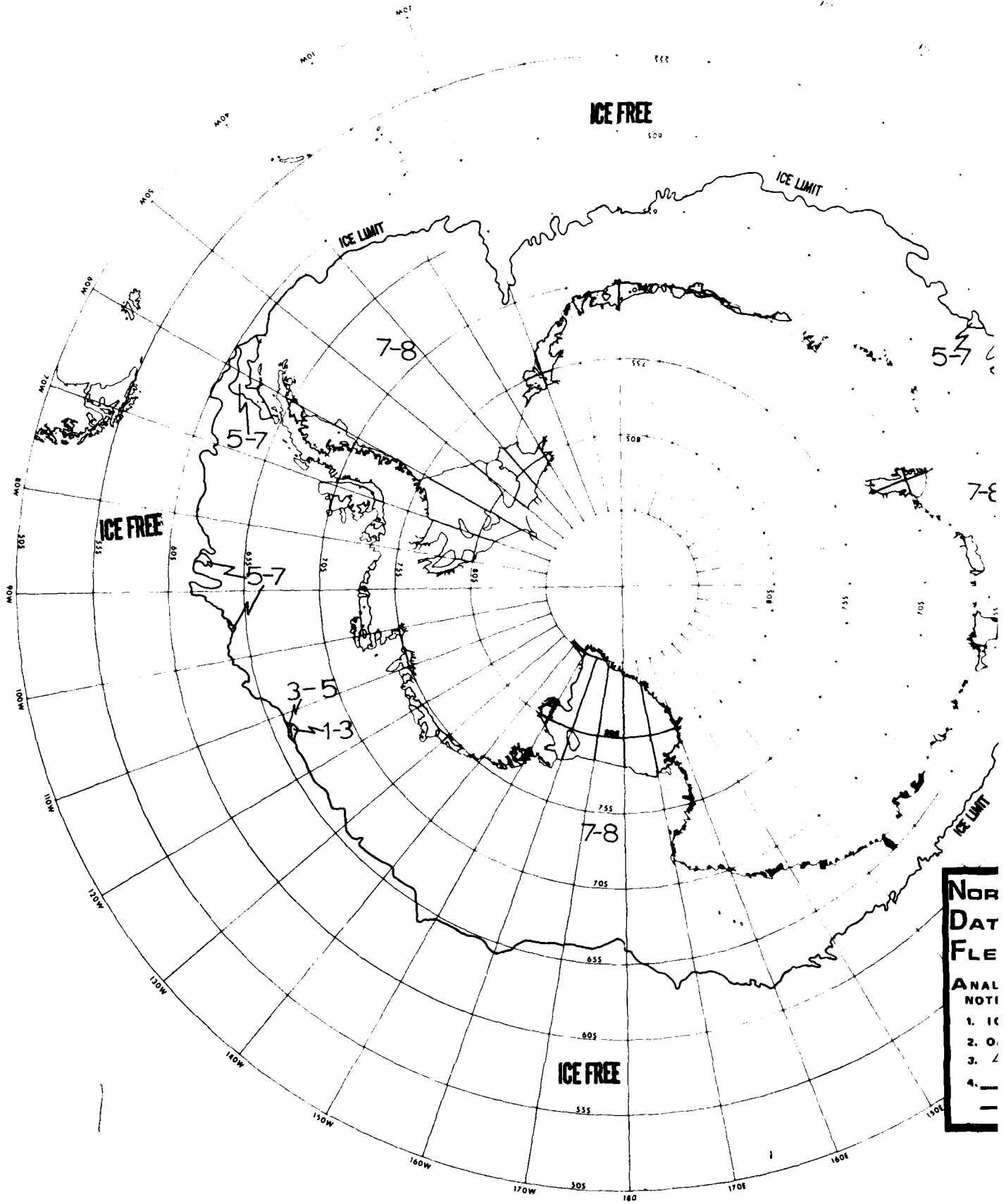


NORTHERN ICE LIMIT
DATE: 30 JUNE 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 27-30 JUNE

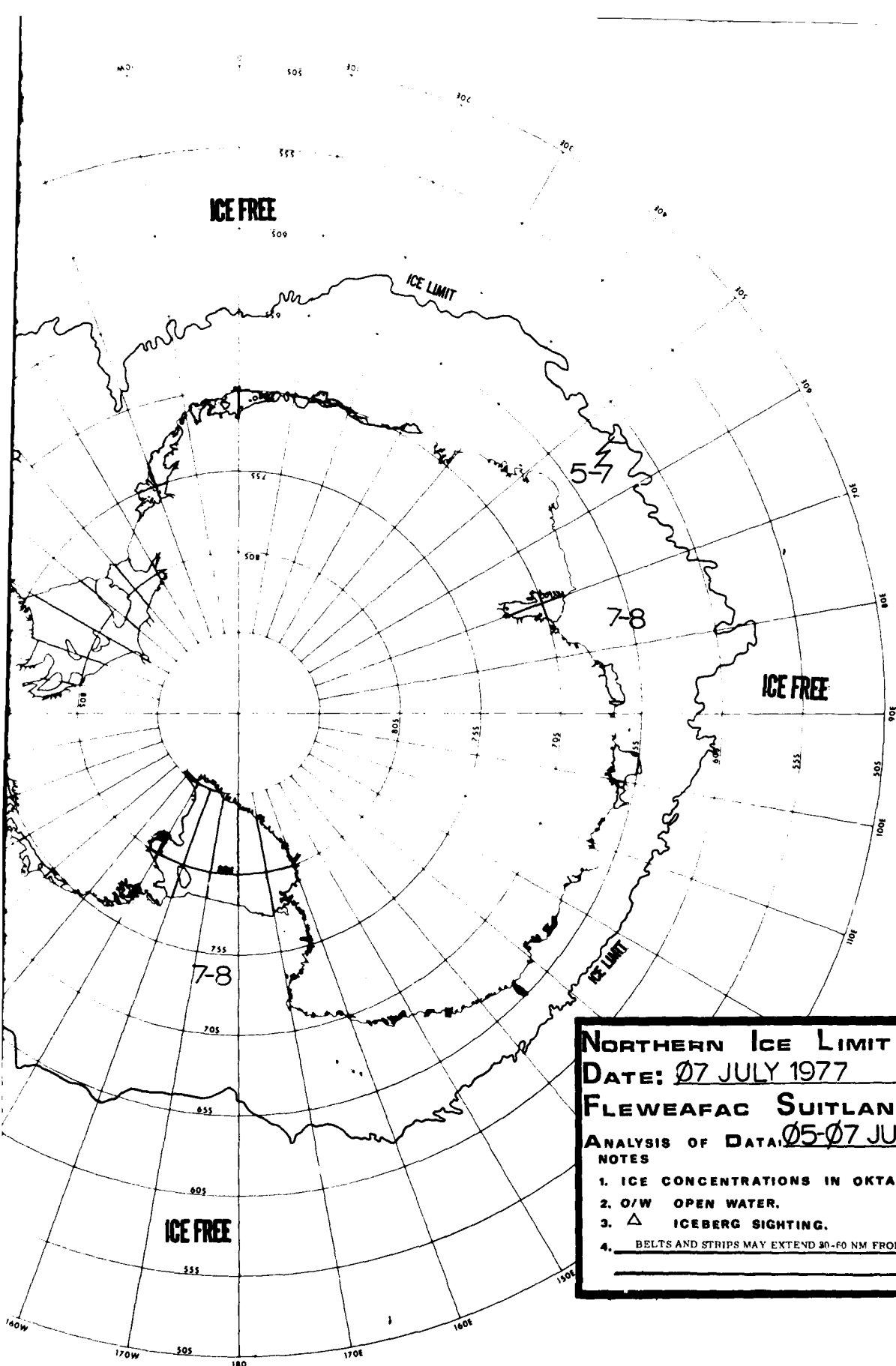
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2

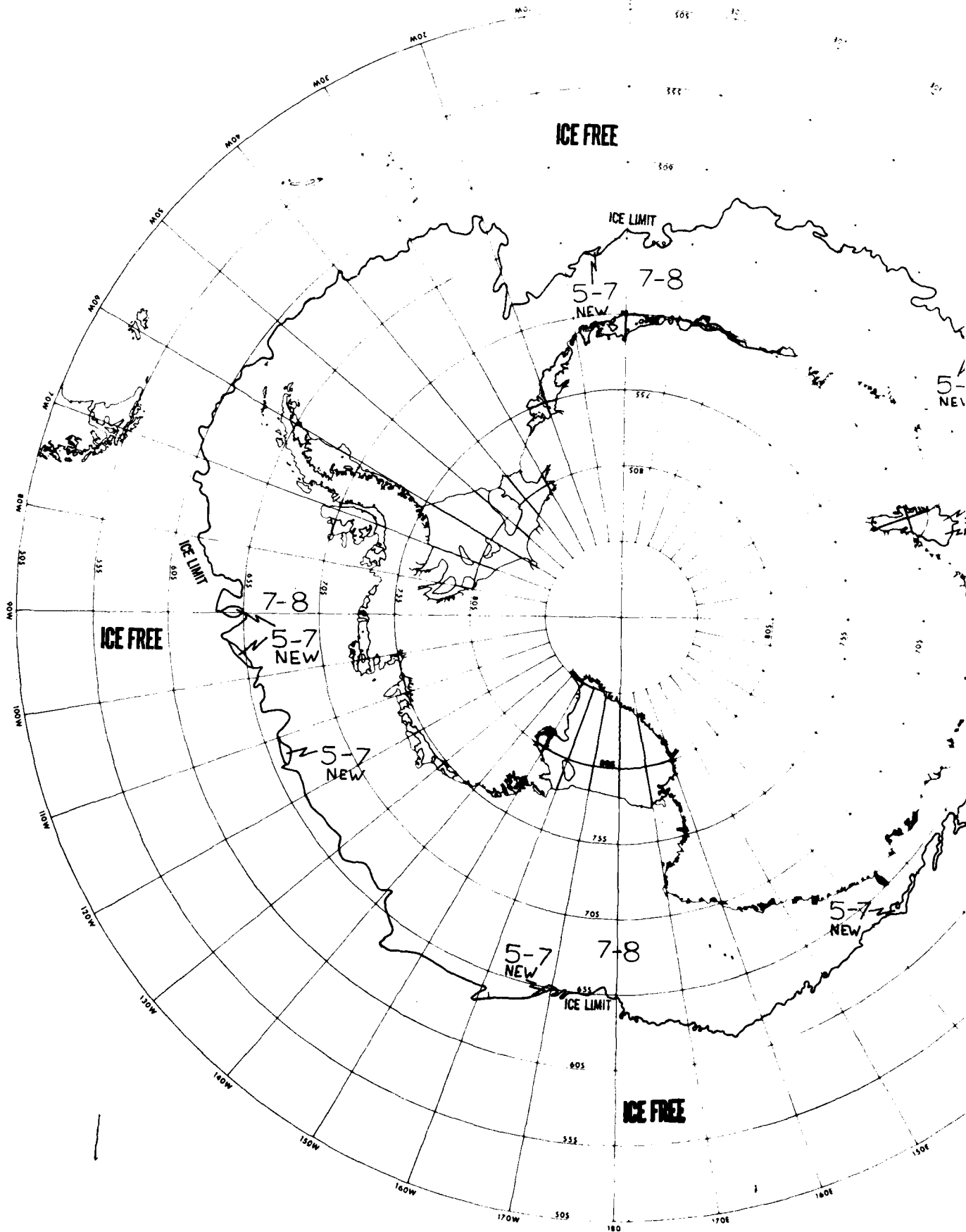


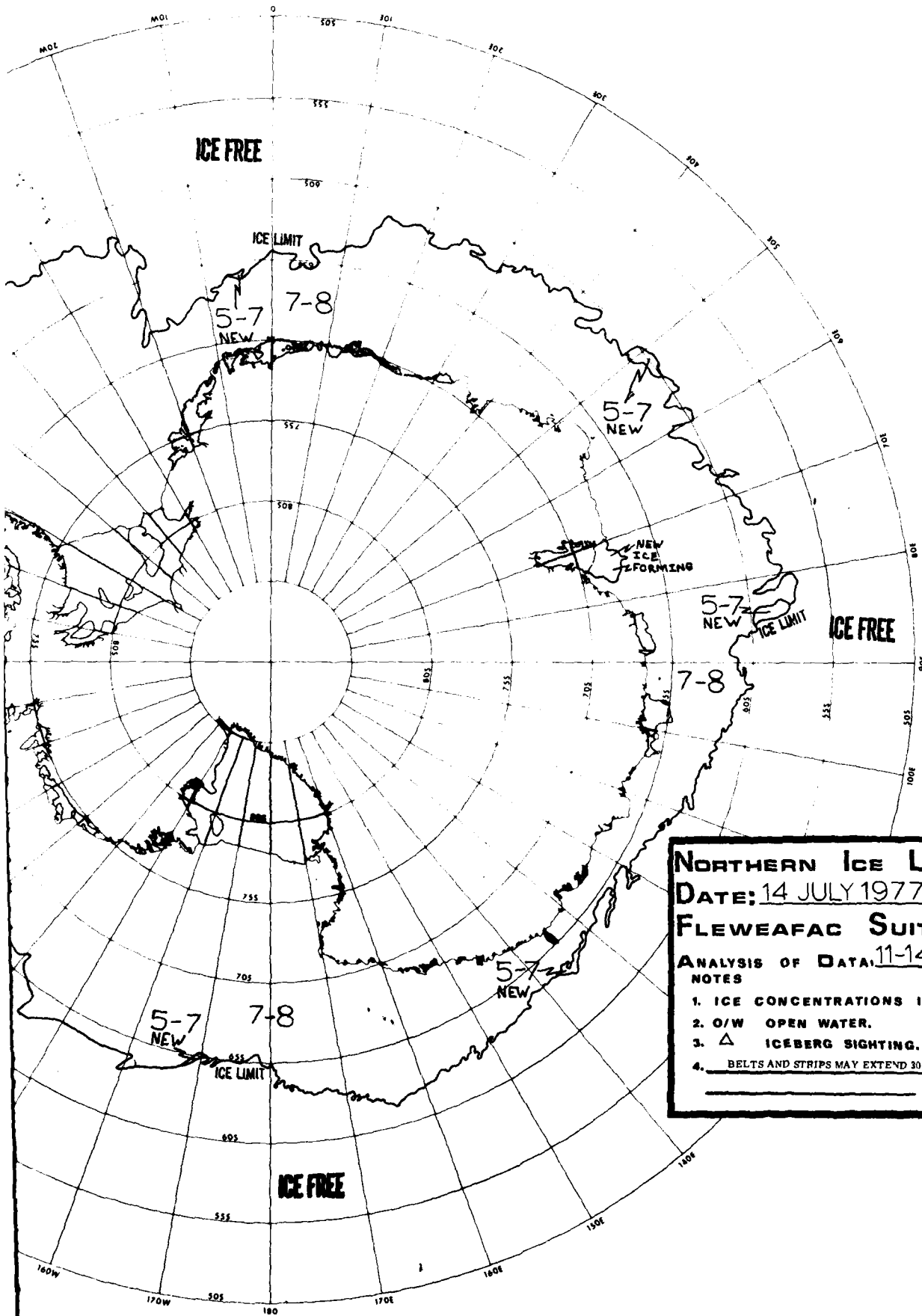
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NORTHERN ICE LIMIT
DATE: 07 JULY 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 05-07 JULY
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2
 2





NORTHERN ICE LIMIT
DATE: 14 JULY 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 11-14 JULY

NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2

ICE FREE

ICE FREE

ICE LIMIT

5-7
New

7-8

6-8

7
New

5-7
New

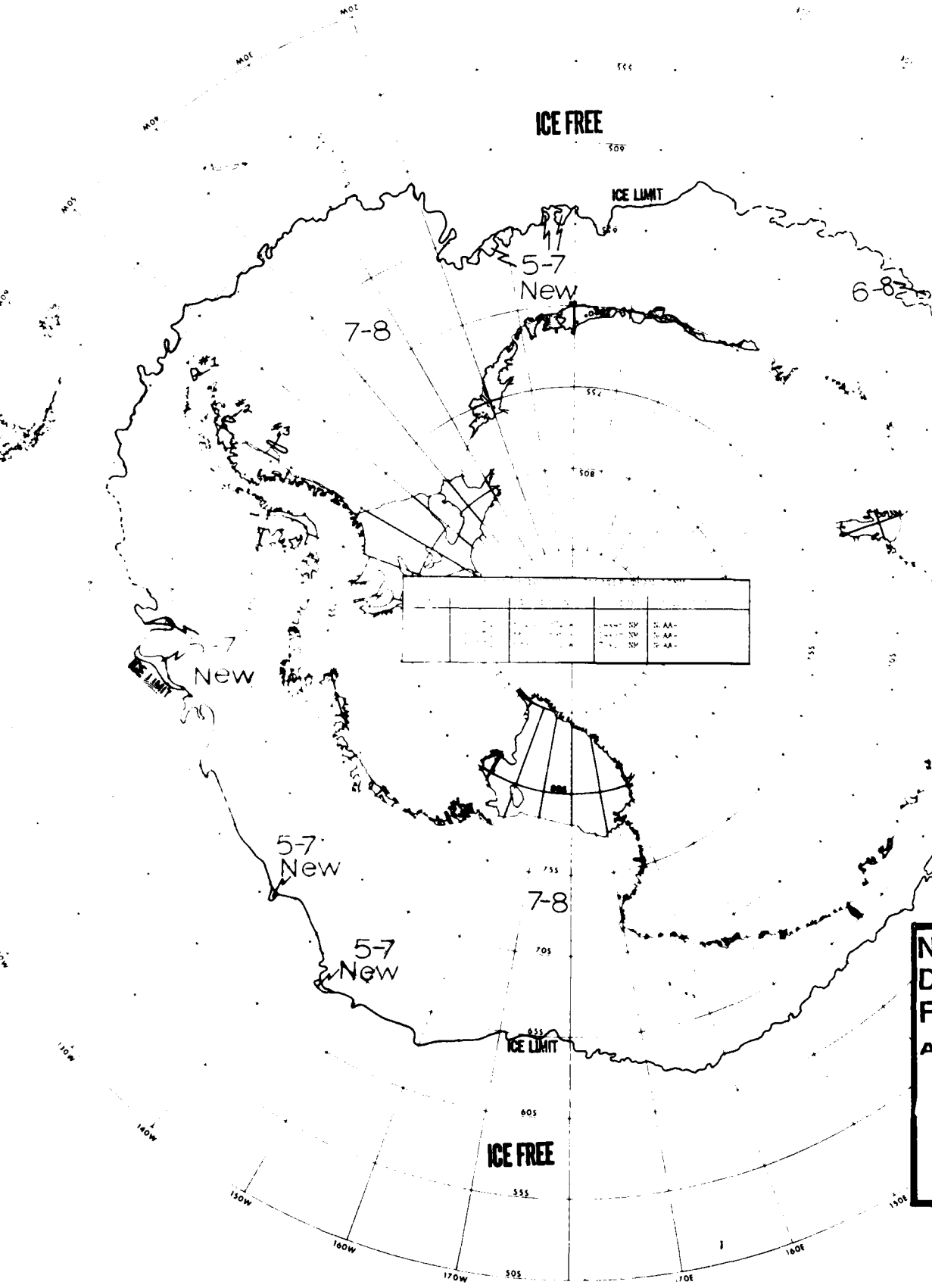
5-7
New

7-8

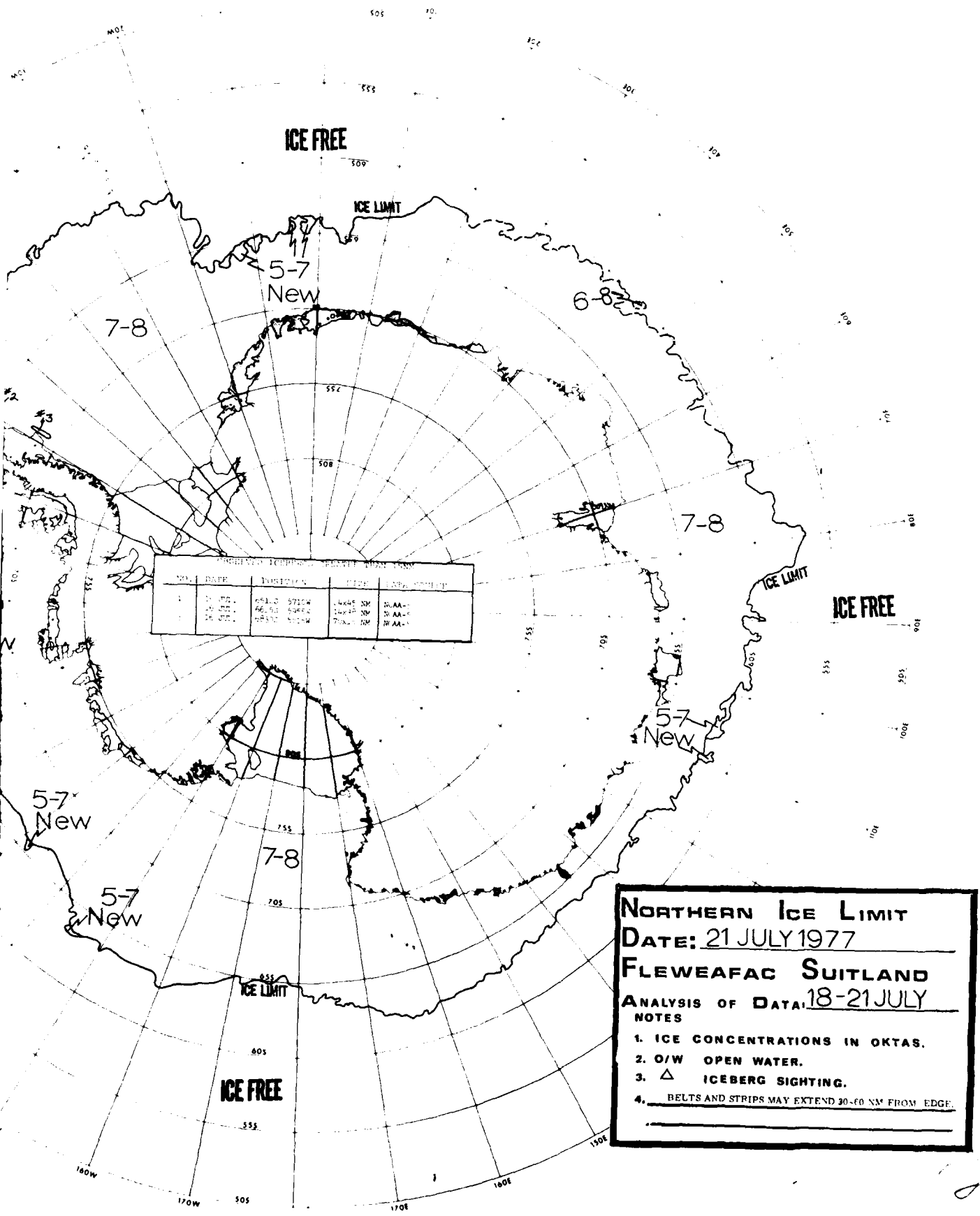
ICE LIMIT

ICE FREE

120E
120W



1

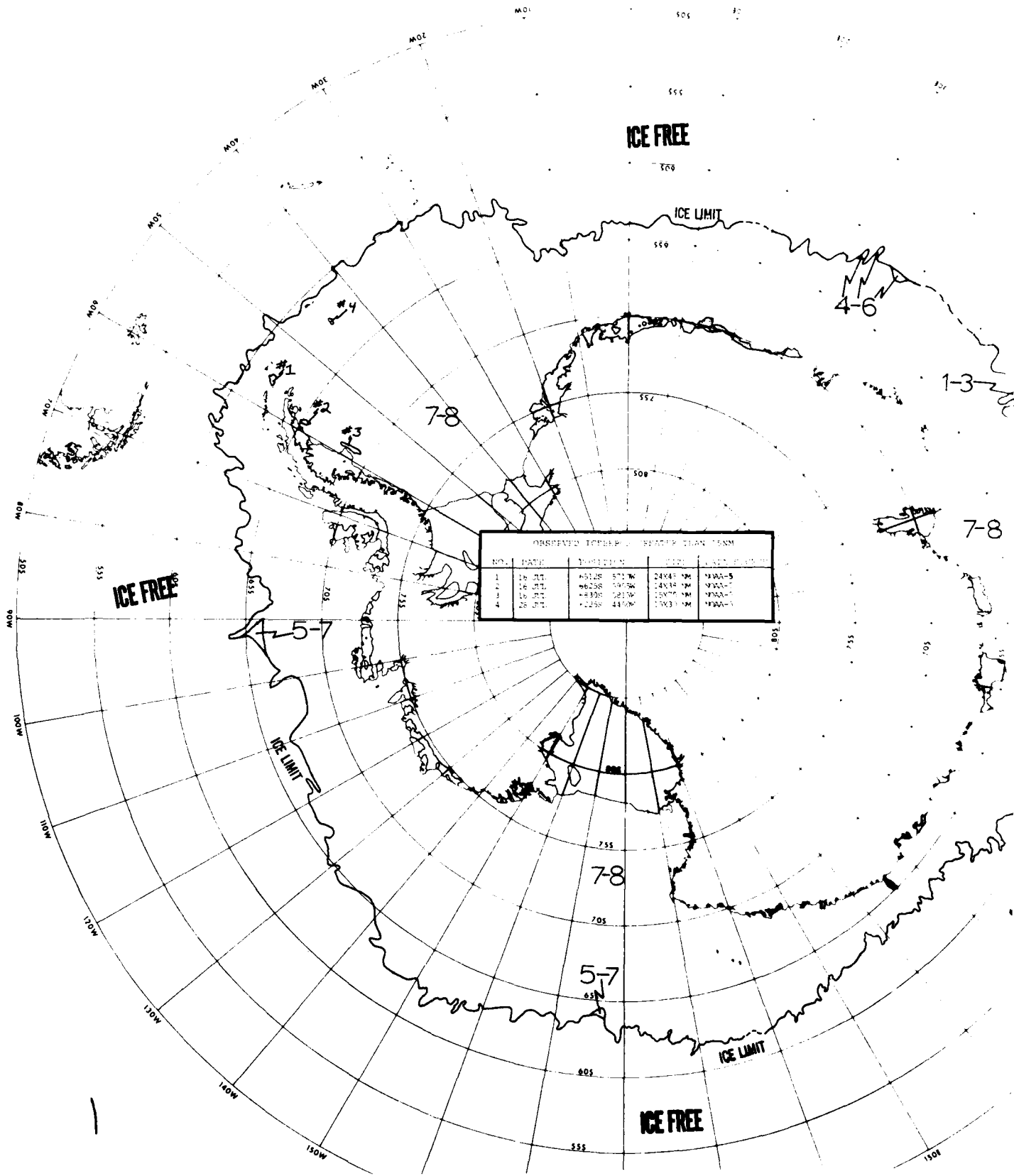


NO.	DATE	DIRECTION	SIZE	NO. COMPANY
1	21 JUL	051.0 5710W	4x45 NM	20 AA-
2	21 JUL	06.50 5048E	10x45 NM	20 AA-
3	21 JUL	0850 5050W	70x25 NM	20 AA-

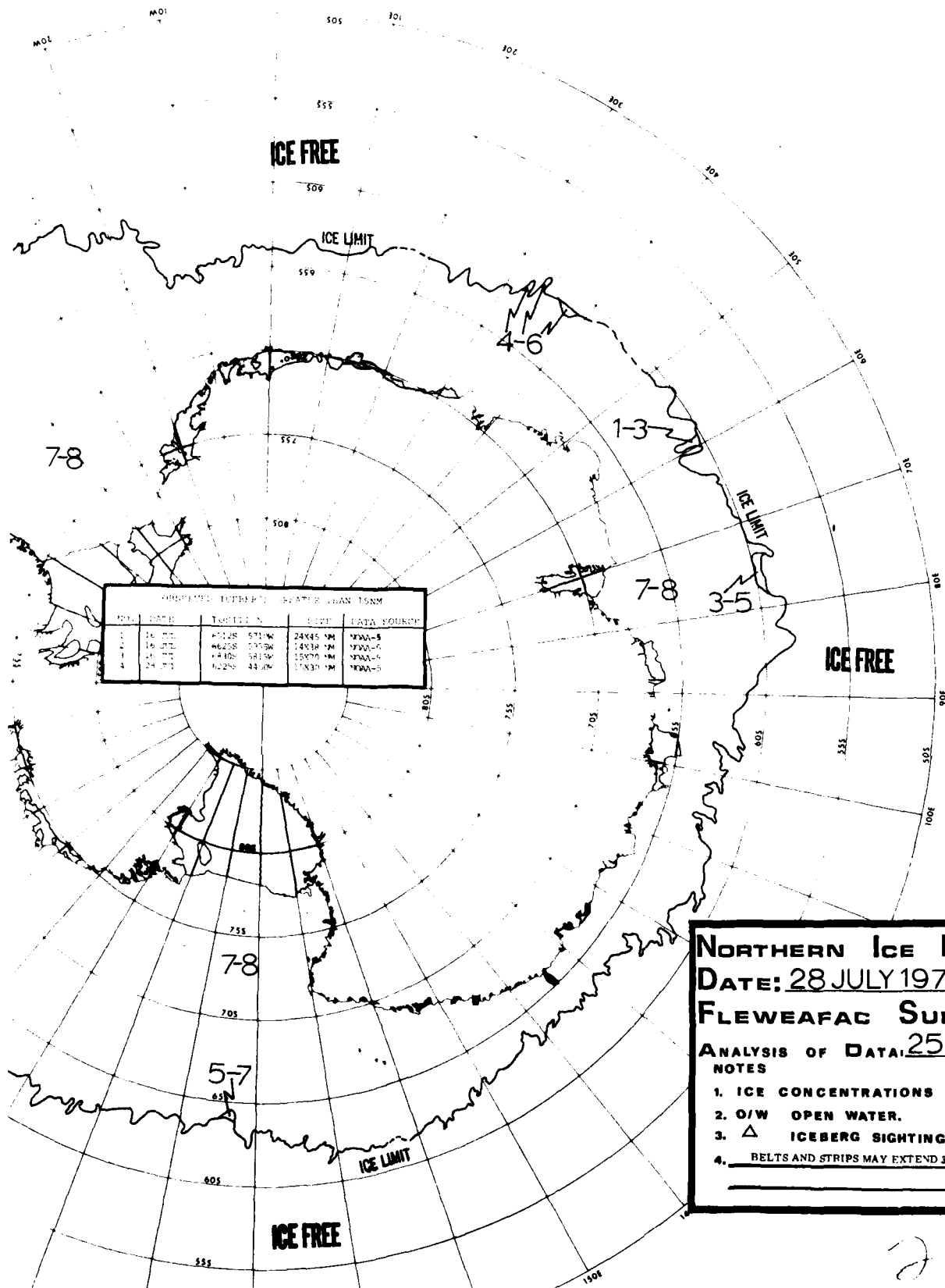
NORTHERN ICE LIMIT
DATE: 21 JULY 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 18-21 JULY
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2



OBSERVED ICEBERG SIGHTING DATA FROM				
NO.	DATE	LONGITUDE	LATITUDE	NAME
1	16 JUL	43120° W	74° N	7300-5
2	16 JUL	46250° W	74° N	7300-7
3	16 JUL	44300° W	74° N	7300-1
4	26 JUL	42550° W	74° N	7300-3



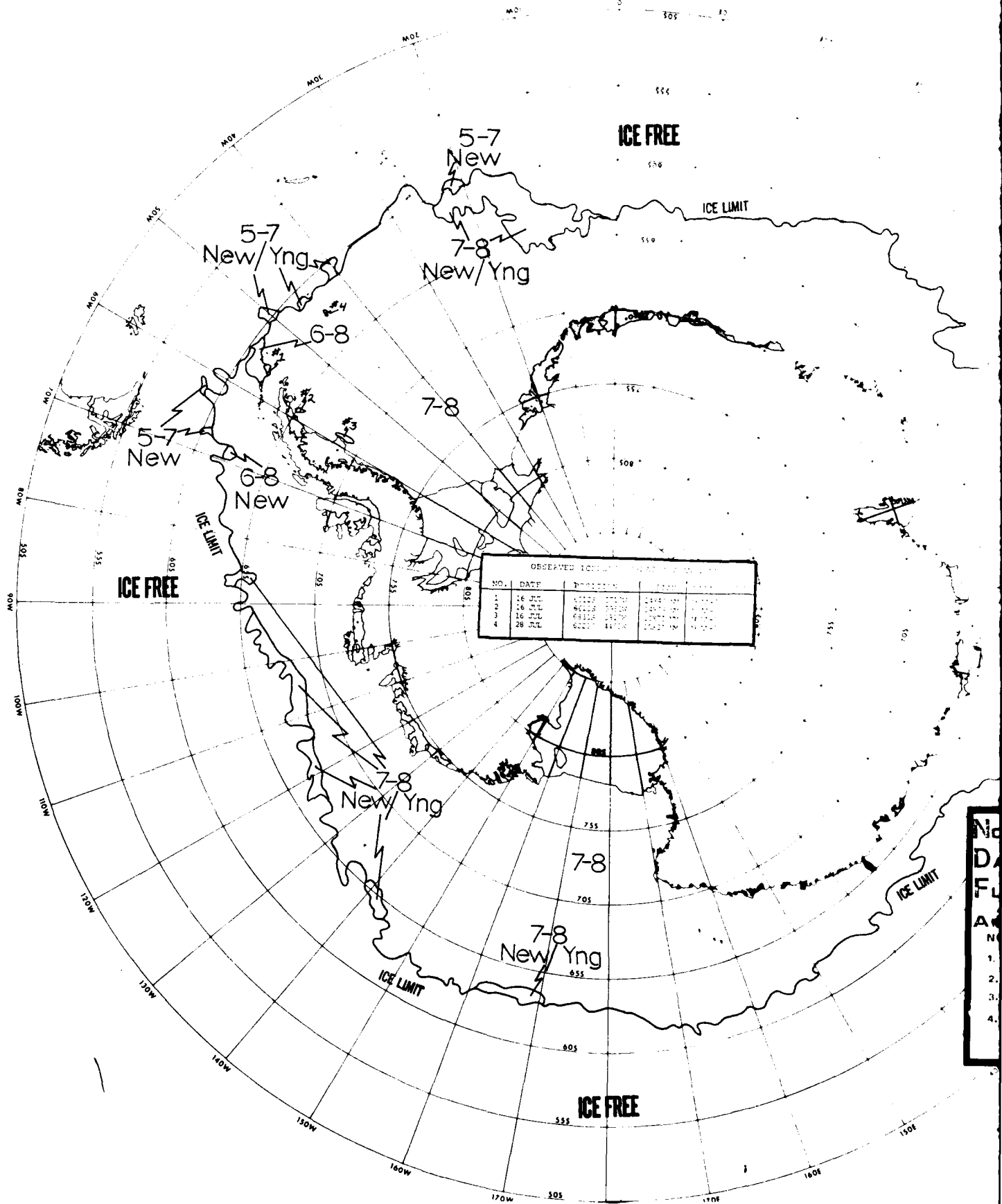
NORTHERN ICE LIMIT
DATE: 28 JULY 1977
FLEWEAFAC SUTLAND
ANALYSIS OF DATA: 25-28 JULY

NOTES

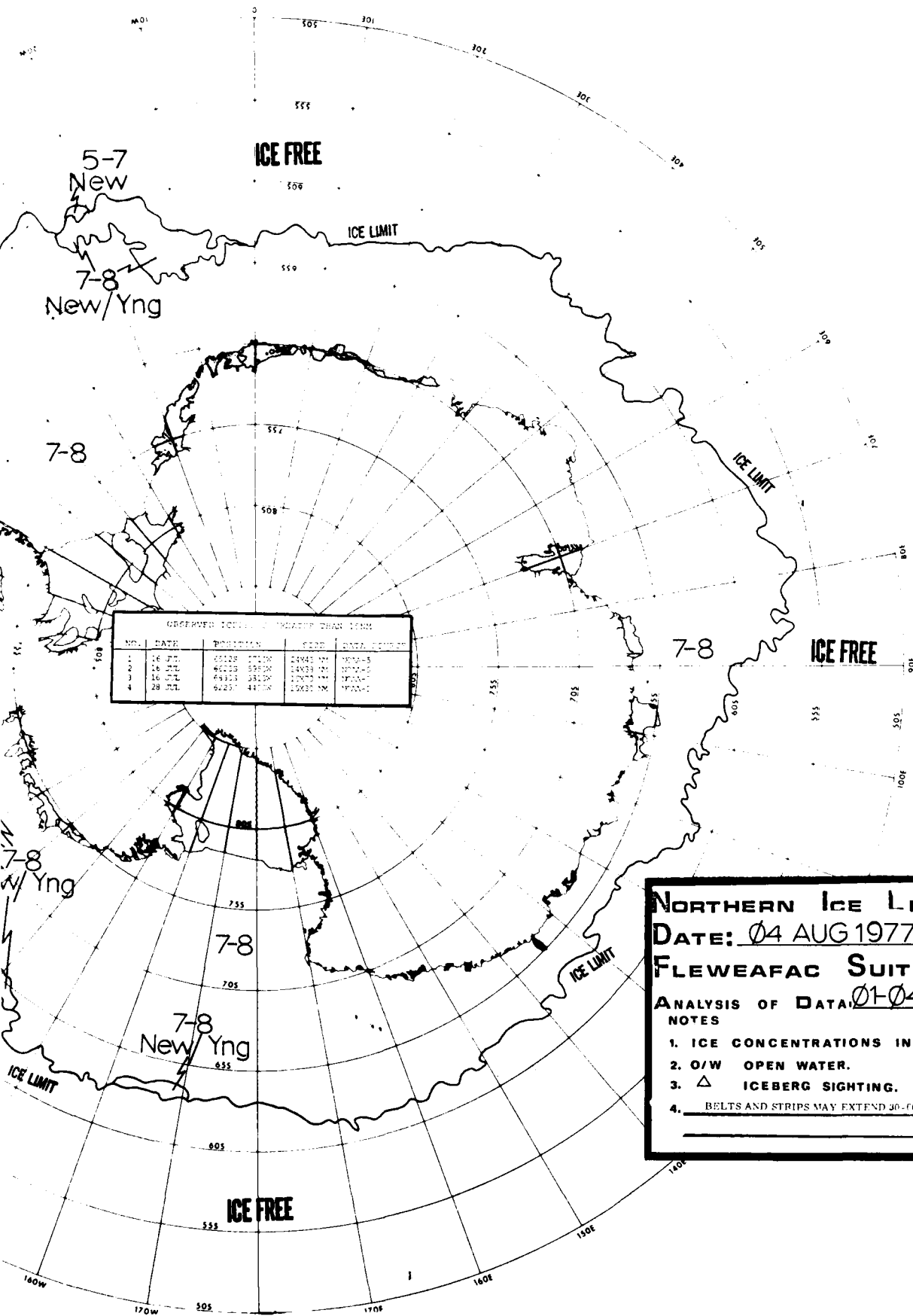
1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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OBSERVED ICE CONCENTRATIONS GREATER THAN 10%
NO. DATE POSITION SPEED DATA

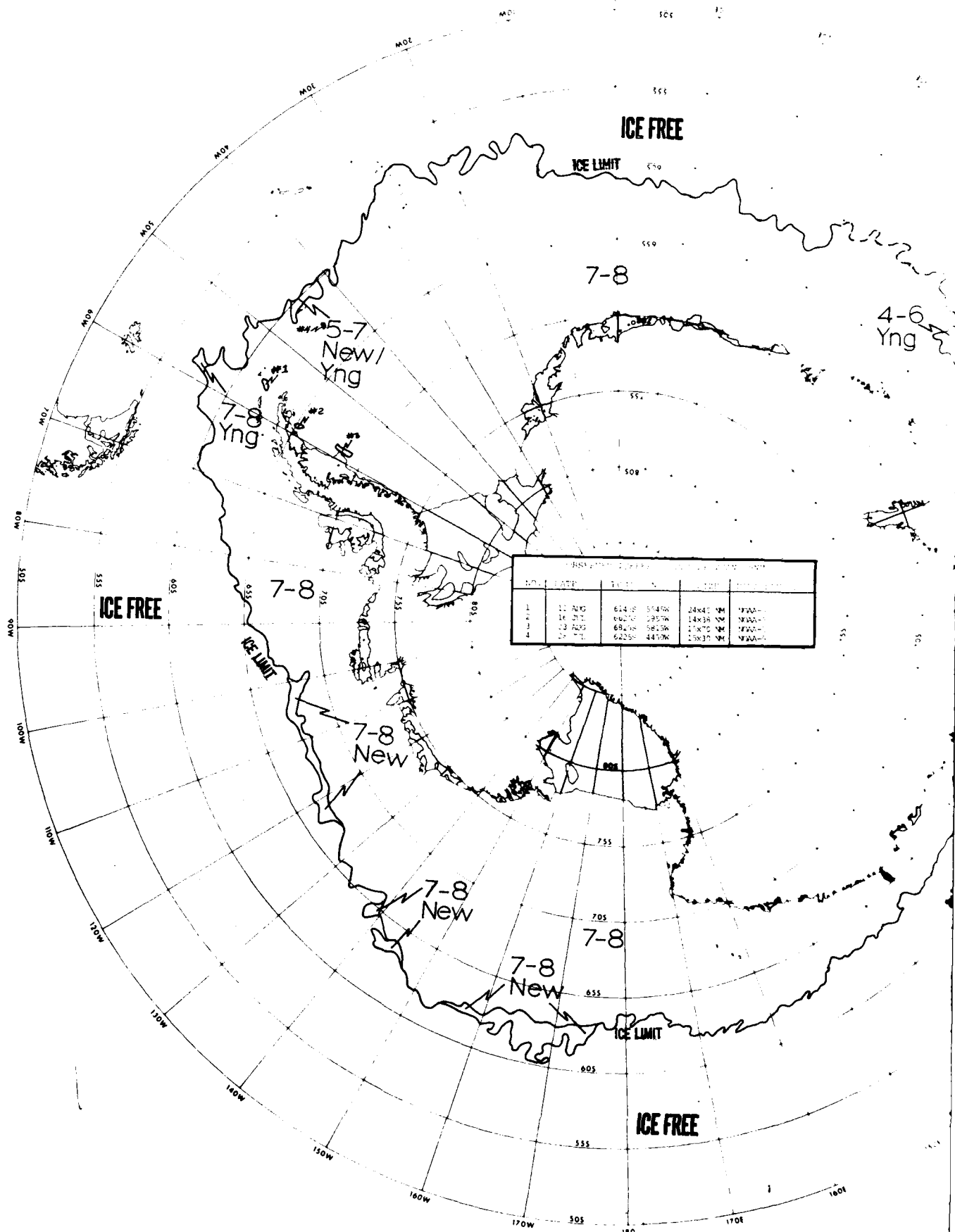
NO.	DATE	POSITION	SPEED	DATA
1	16 JUL	65°22'S 171°10'W	24940 NM	1000-5
2	16 JUL	65°22'S 171°10'W	14033 NM	1000-0
3	16 JUL	64°55'S 168°30'W	17073 NM	1000-0
4	28 JUL	62°25'S 147°10'W	15030 NM	1000-0

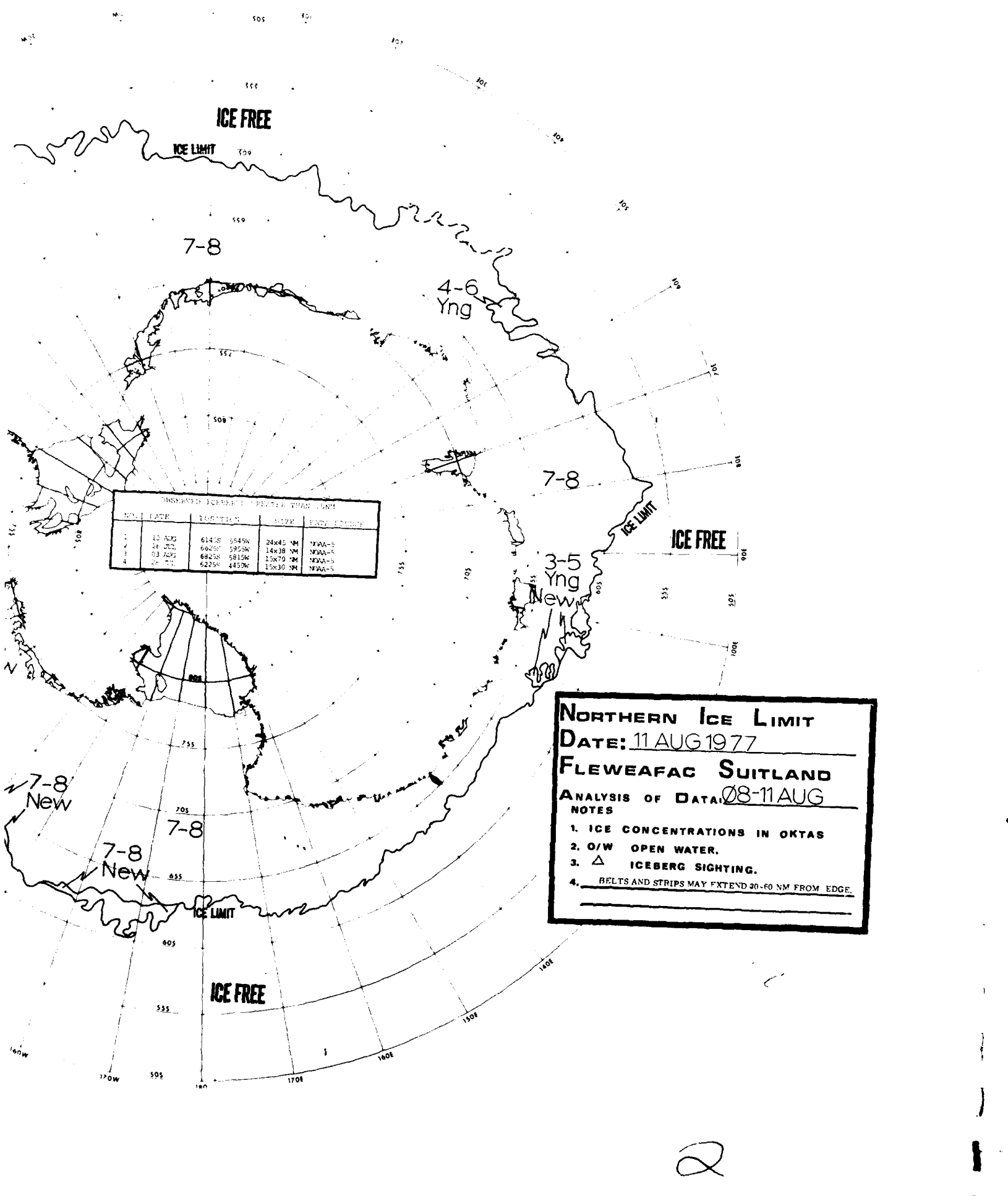
NORTHERN ICE LIMIT
DATE: 04 AUG 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 01-04 AUG
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

10

2





ICEBERG SIGHTINGS GREATER THAN 1 NM

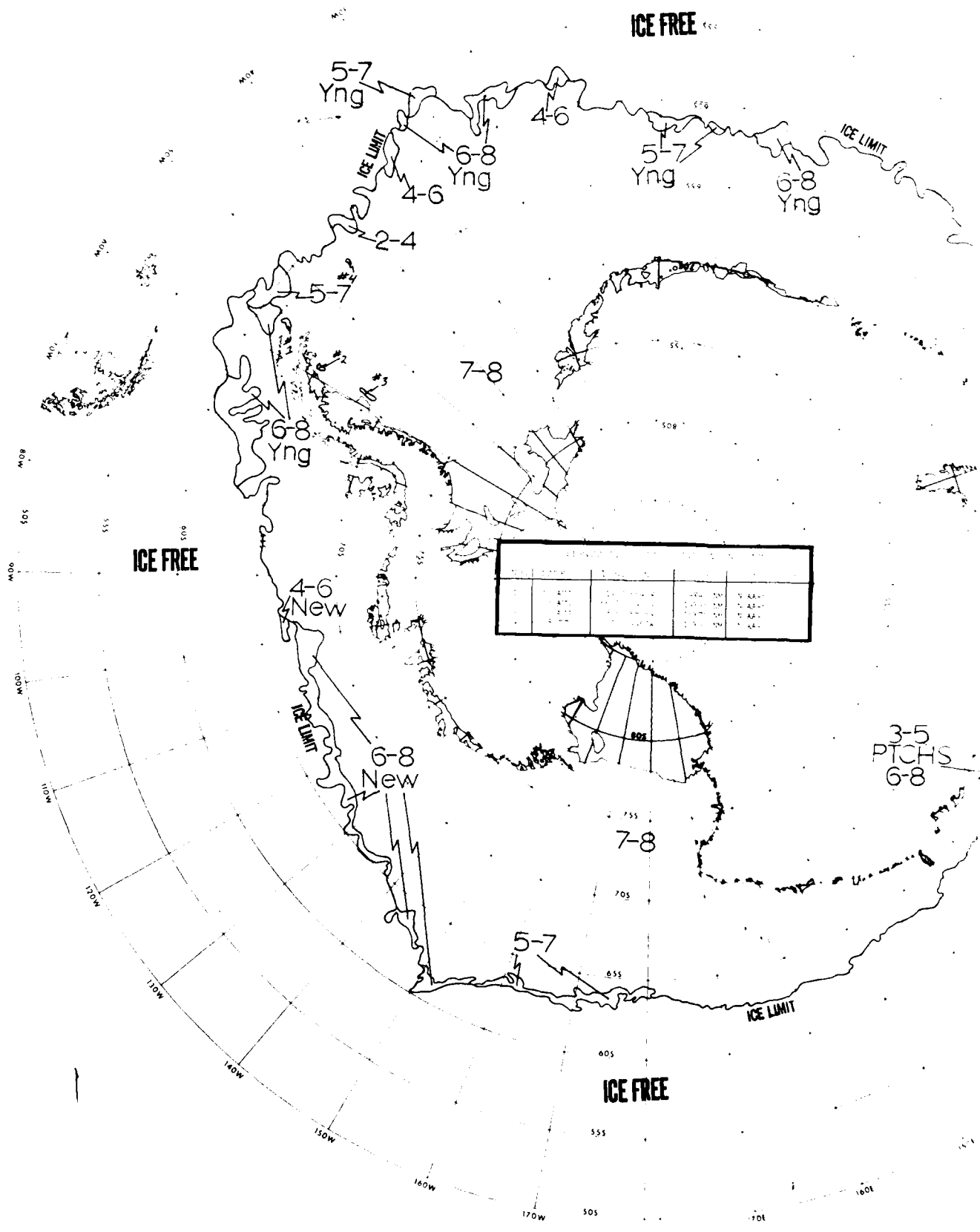
NO.	DATE	LOCATION	SIZE	BODY NUMBER
1	15 AUG	614.55 554.5N	24x45 NM	NWAA-5
2	24 JUL	606.25 595.5N	14x38 NM	NWAA-5
3	03 AUG	682.58 581.0N	15x19 NM	NWAA-5
4	26 JUL	622.56 445.0N	15x30 NM	NWAA-5

NORTHERN ICE LIMIT
DATE: 11 AUG 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 08-11 AUG

NOTES

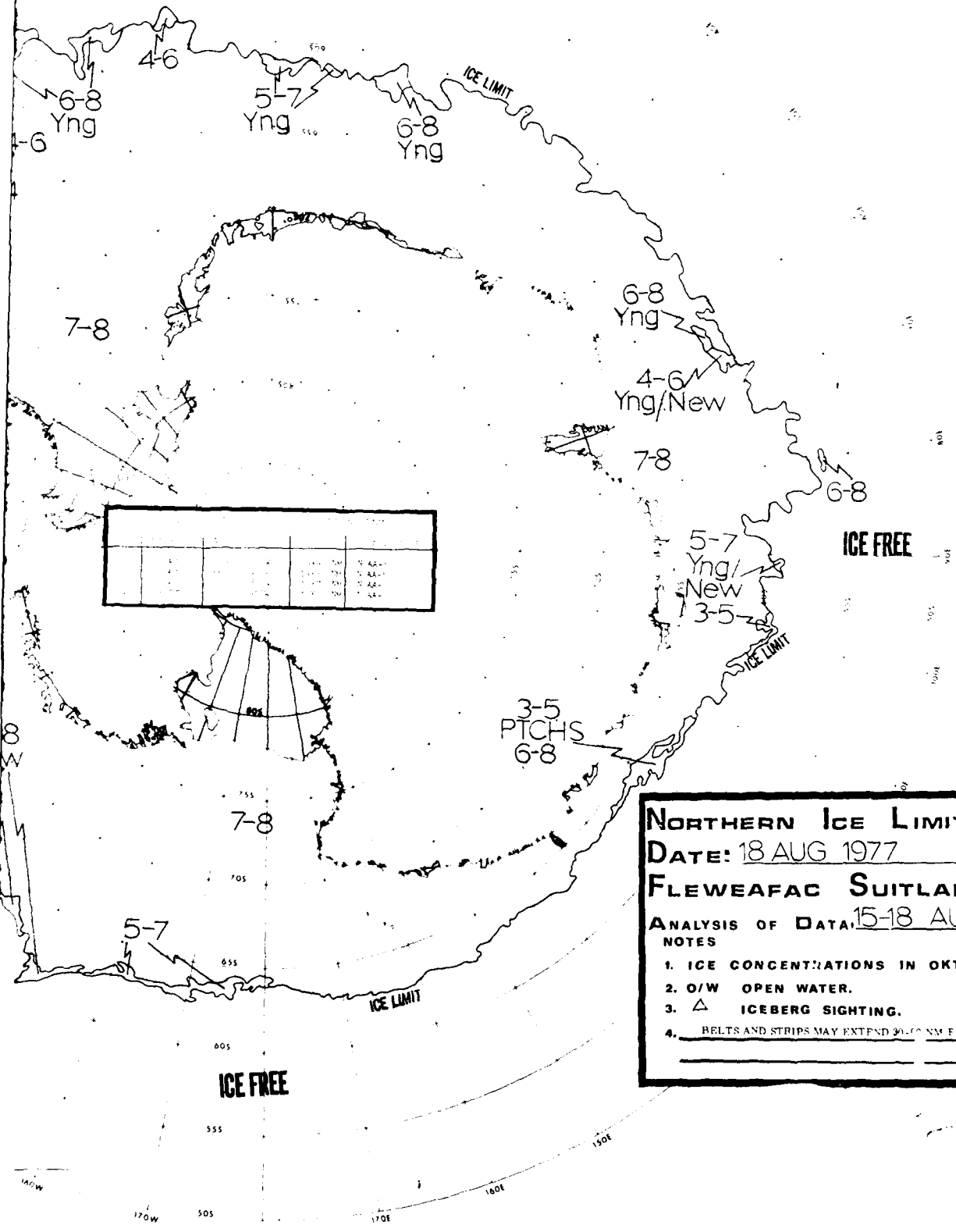
1. ICE CONCENTRATIONS IN OKTAS
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2



Age Class	Area (sq. miles)	Volume (cu. miles)	Thickness (feet)	Weight (million tons)
5-7 Yng	1,200	1,200	10	12,000
6-8 Yng	1,500	1,500	10	15,000
4-6 New	1,000	1,000	10	10,000
6-8 New	1,200	1,200	10	12,000
7-8	1,800	1,800	10	18,000
3-5 PTCHS 6-8	1,000	1,000	10	10,000

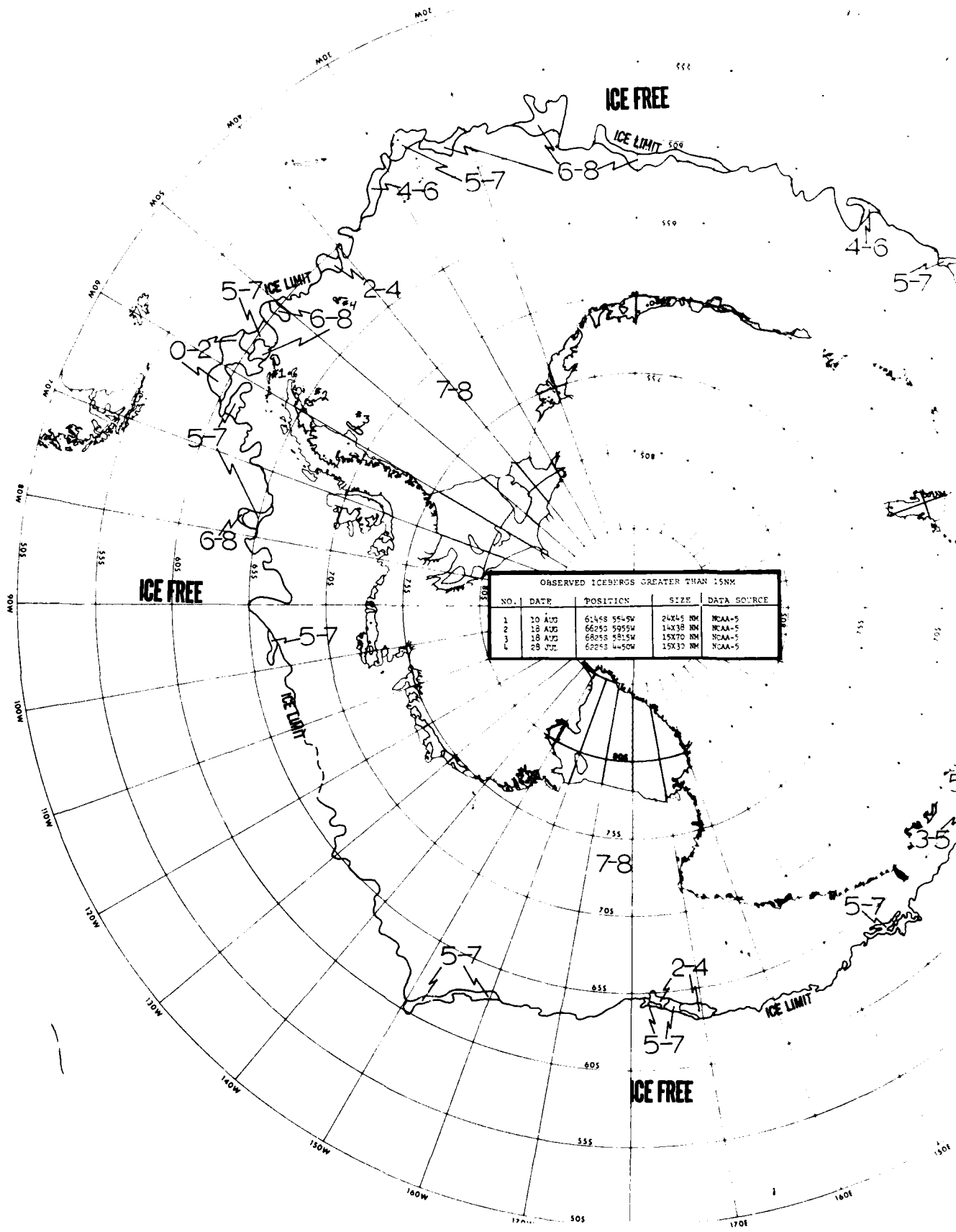
ICE FREE



DATE	TIME	LOCATION	ICE CONCENTRATION	ICEBERG SIGHTING	REMARKS
15 AUG	0600	68°N 175°W	6-8	△	YNG
15 AUG	0700	68°N 178°W	5-7		YNG
15 AUG	0800	68°N 181°W	4-6		
15 AUG	0900	68°N 184°W	7-8		
15 AUG	1000	68°N 187°W	6-8		YNG
15 AUG	1100	68°N 190°W	4-6		YNG/NEW
15 AUG	1200	68°N 193°W	7-8		
15 AUG	1300	68°N 196°W	6-8		
15 AUG	1400	68°N 199°W	5-7		YNG/NEW
15 AUG	1500	68°N 202°W	3-5		
15 AUG	1600	68°N 205°W	3-5		PTCHS
15 AUG	1700	68°N 208°W	6-8		
15 AUG	1800	68°N 211°W	7-8		
15 AUG	1900	68°N 214°W	5-7		

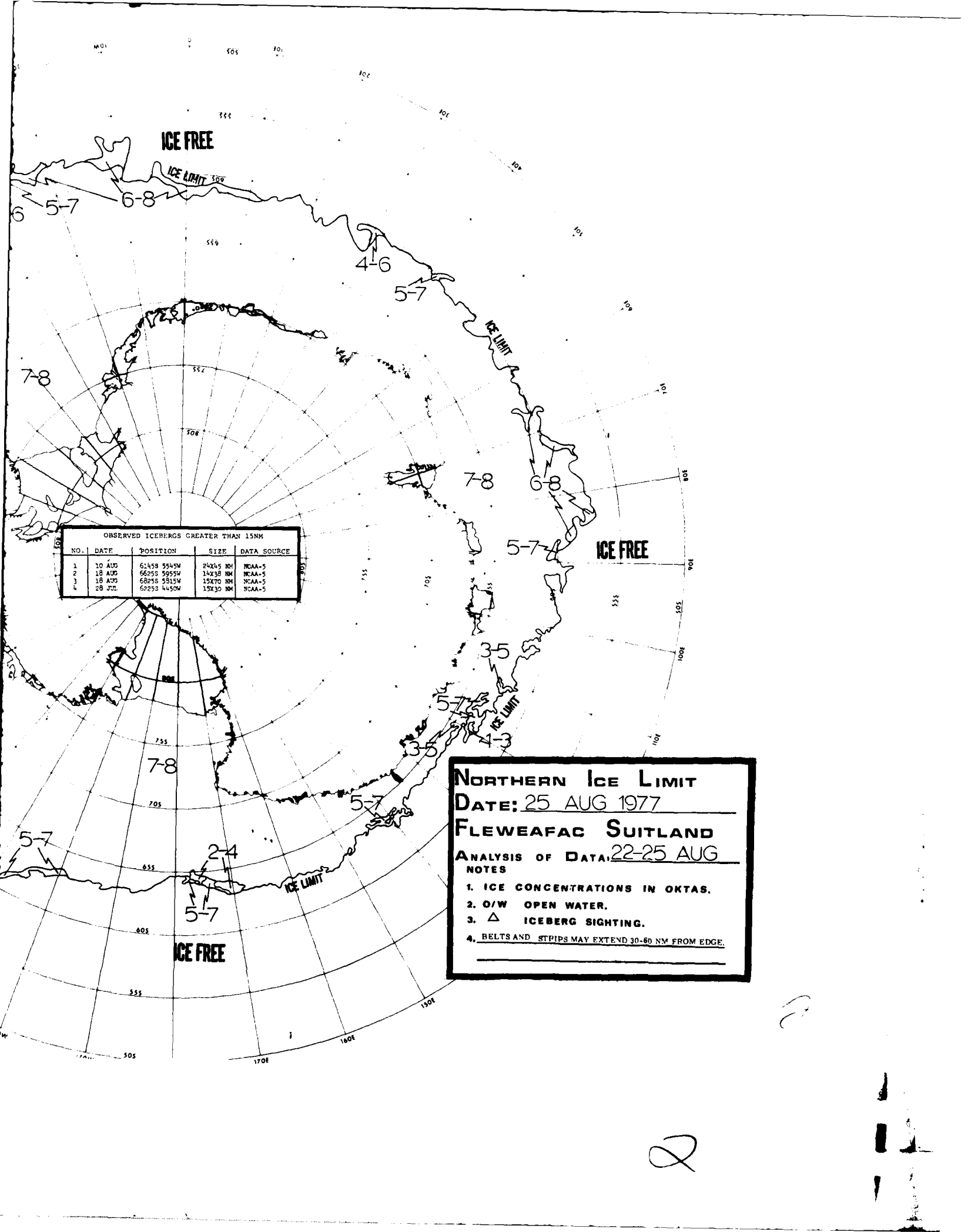
NORTHERN ICE LIMIT
DATE: 18 AUG 1977
FLEUVEAFAC SUITLAND
ANALYSIS OF DATA: 15-18 AUG
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. △ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2



OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	20 AUG	61458 5549W	24X5 NM	NCAA-5
2	18 AUG	66255 5955W	14X38 NM	NCAA-5
3	18 AUG	68253 5815W	15X70 NM	NCAA-5
4	28 JUE	62253 4450W	15X30 NM	NCAA-5



ICE FREE

ICE LIMIT 300

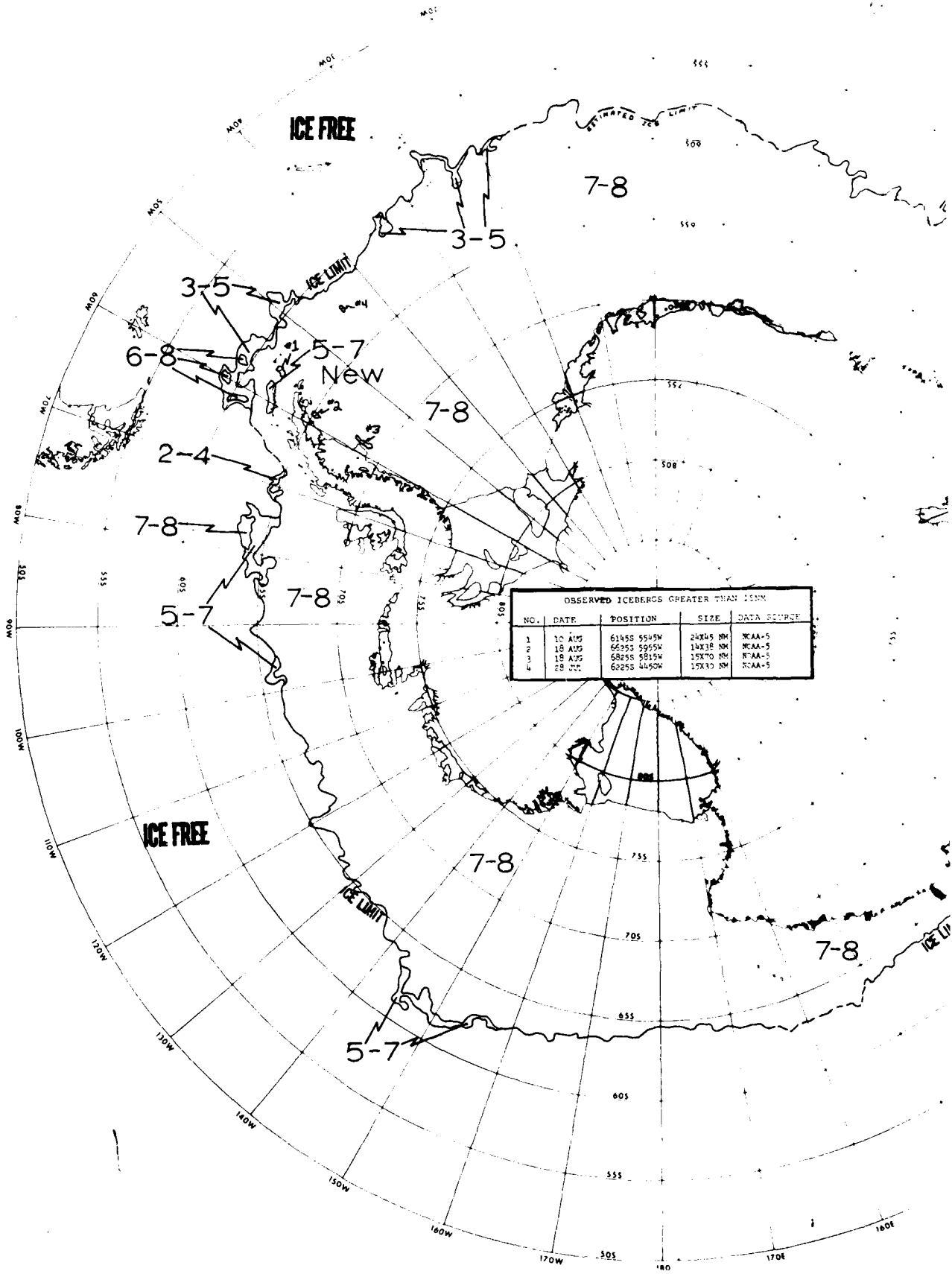
ICE FREE

ICE FREE

OBSERVED ICEBERGS GREATER THAN 15NM				
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	10 AUG	61458 9545W	24x45 NM	NCAA-5
2	18 AUG	66255 9955W	14x38 NM	NCAA-5
3	18 AUG	68255 9815W	15x70 NM	NCAA-5
4	28 JUL	62255 4450W	15x30 NM	NCAA-5

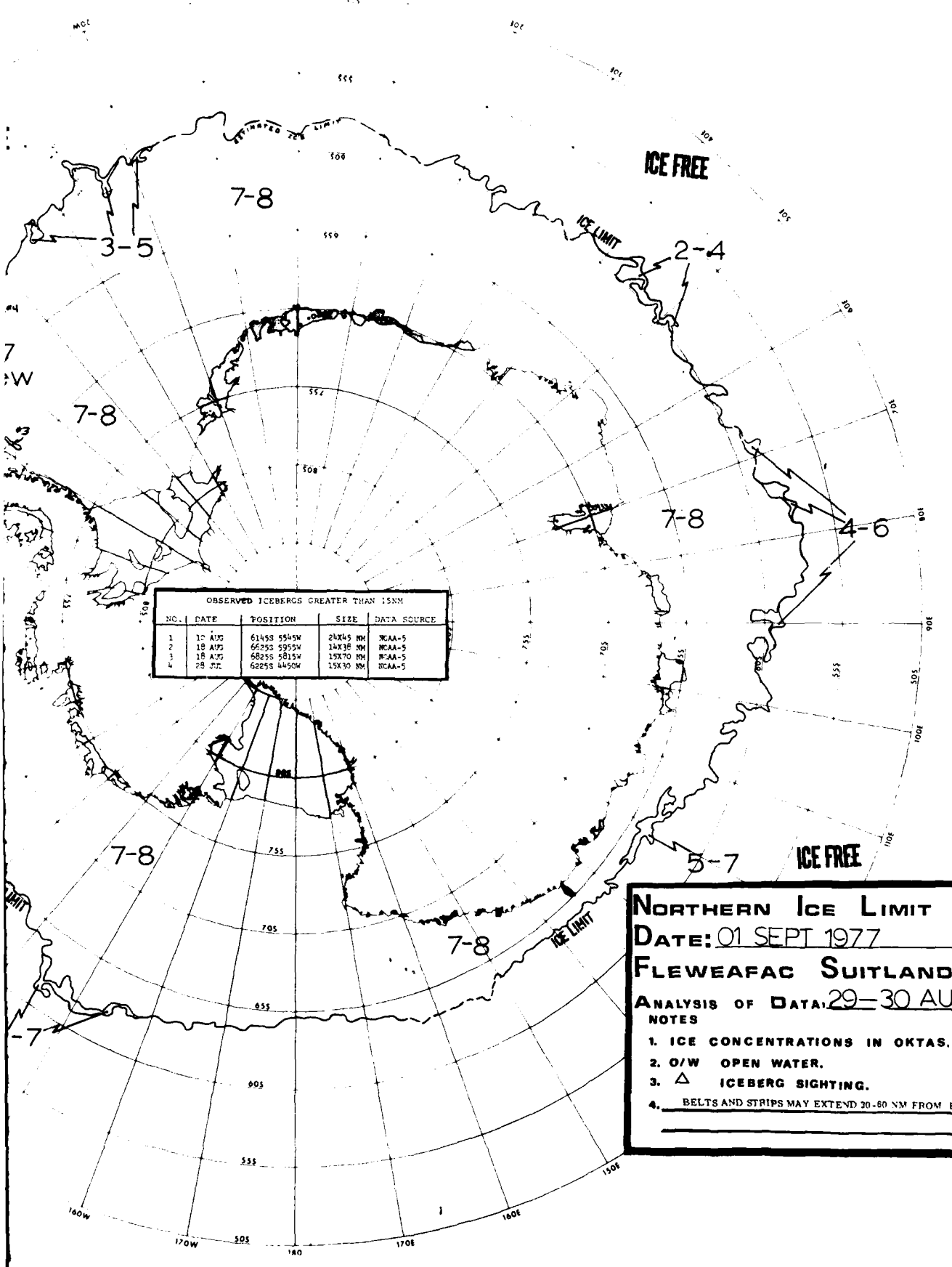
NORTHERN ICE LIMIT
DATE: 25 AUG 1977
FLEWEAFAC SUTLAND
ANALYSIS OF DATA: 22-25 AUG
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

2



OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	10 AUG	6145S 9545W	24X45 NM	NCAA-5
2	18 AUG	6625S 9955W	14X38 NM	NCAA-5
3	18 AUG	6825S 9815W	15X70 NM	NCAA-5
4	28 JUL	6225S 4450W	15X13 NM	NCAA-5

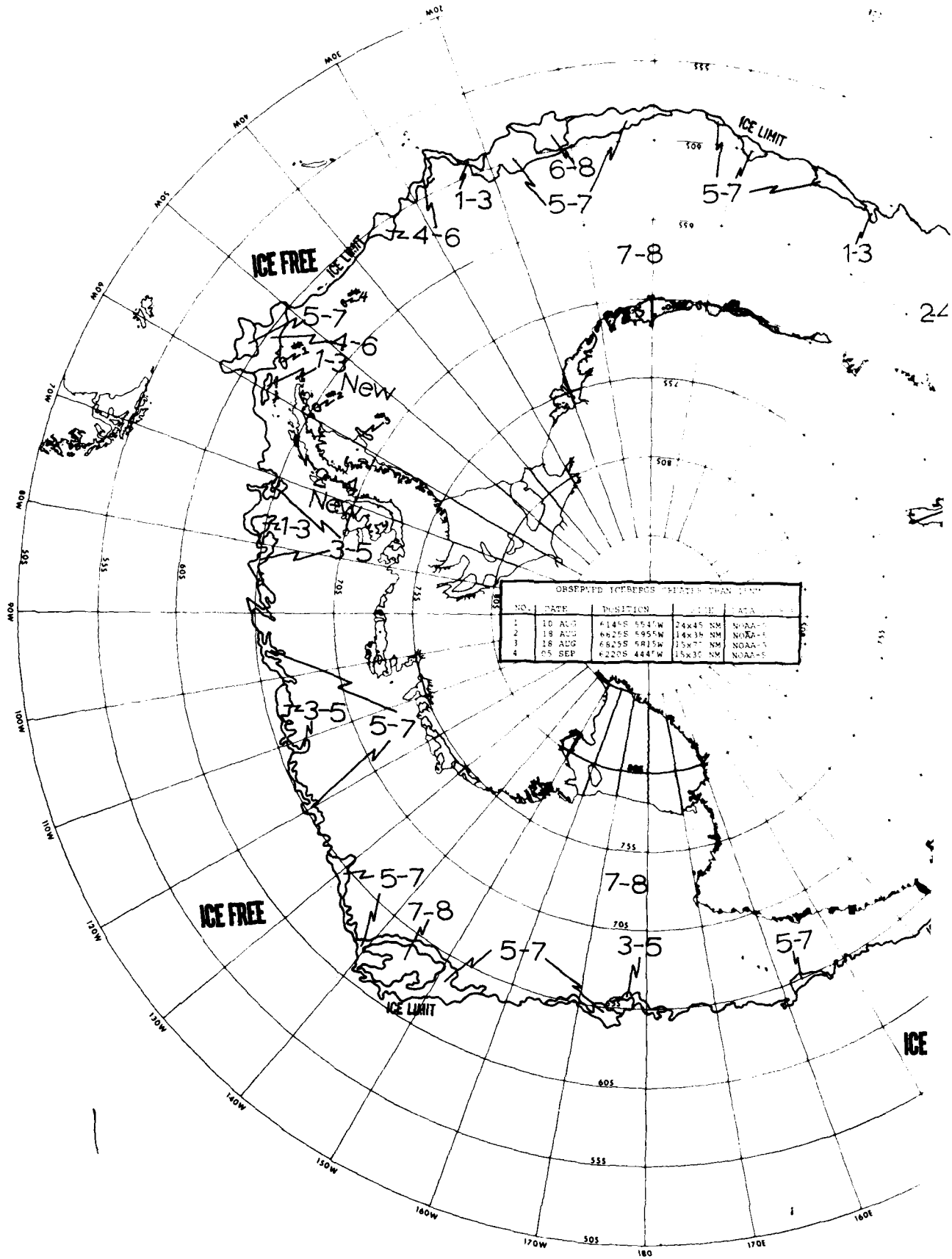


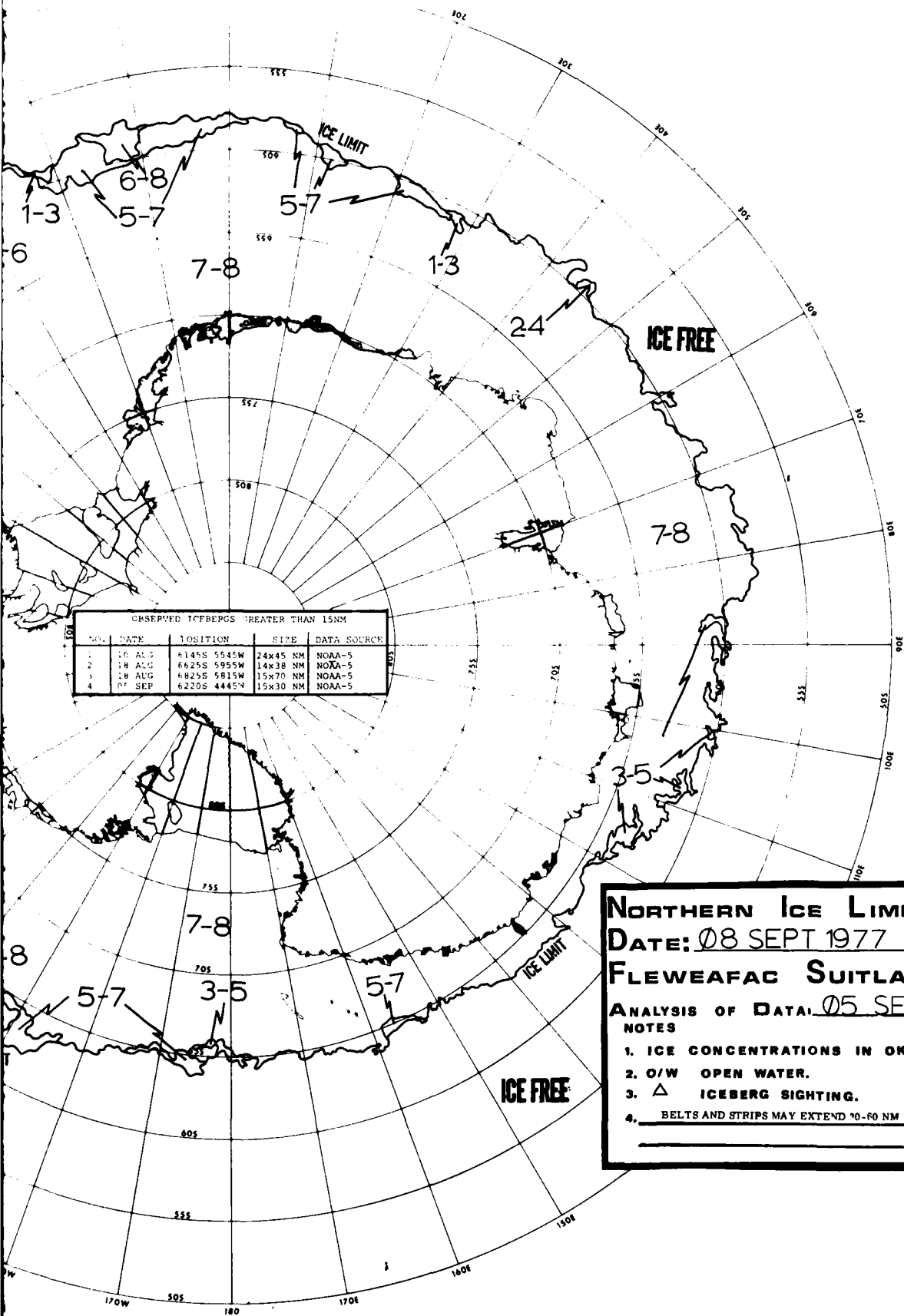
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	10 AUG	6145S 5545W	24X45 NM	NCAA-5
2	18 AUG	6625S 5955W	14X38 NM	NCAA-5
3	18 AUG	6825S 5815W	15X70 NM	NCAA-5
4	28 JUL	6225S 4450W	15X30 NM	NCAA-5

NORTHERN ICE LIMIT
DATE: 01 SEPT 1977
FLEWEAFAC SUTLAND
ANALYSIS OF DATA: 29-30 AUG
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

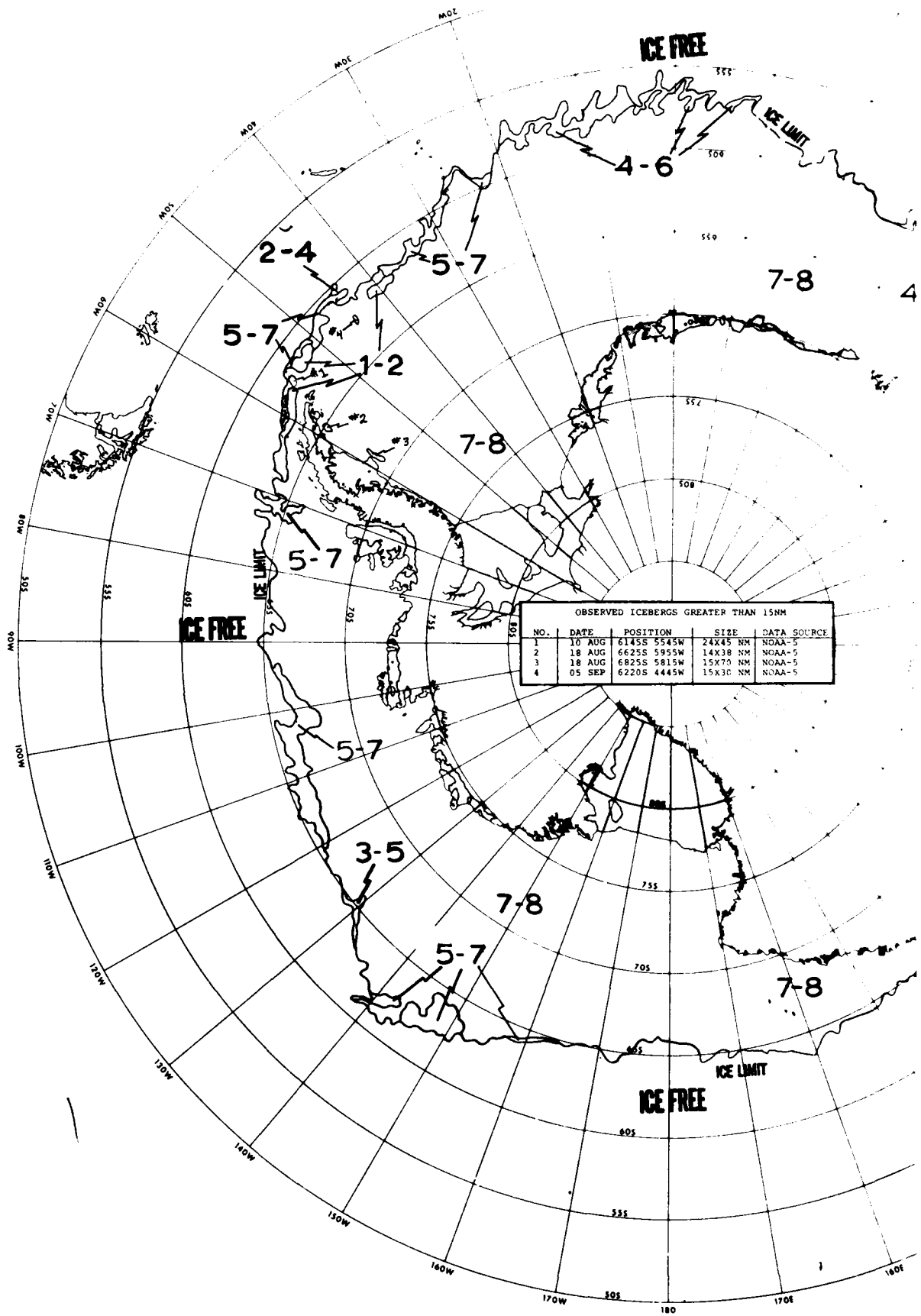
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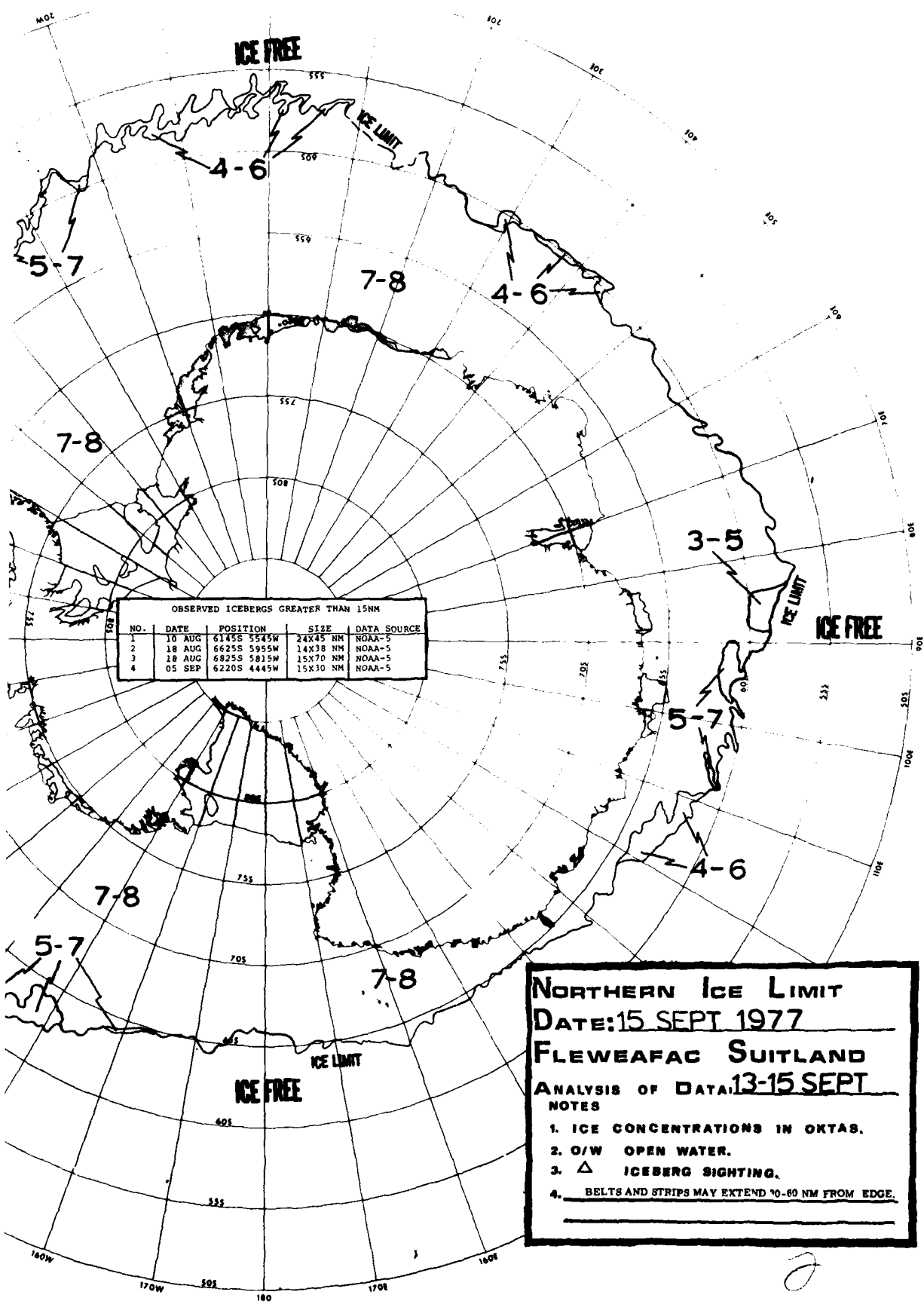




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OBSERVED ICEBERGS GREATER THAN 15NM

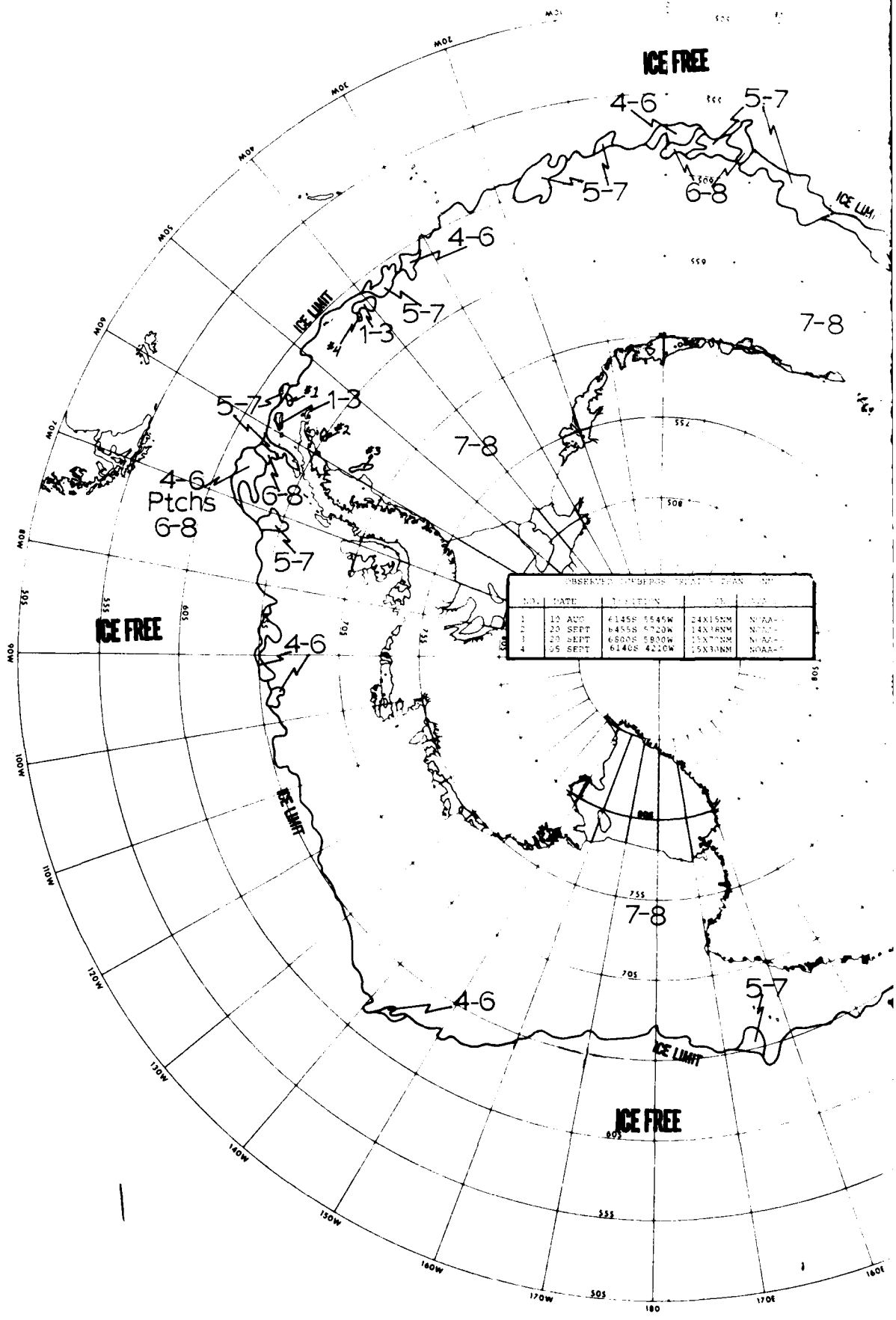
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	10 AUG	6145S 5545W	24X45 NM	NOAA-5
2	18 AUG	6625S 5955W	14X38 NM	NOAA-5
3	18 AUG	6825S 5815W	15X70 NM	NOAA-5
4	05 SEP	6220S 4445W	15X30 NM	NOAA-5

NORTHERN ICE LIMIT
DATE: 15 SEPT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 13-15 SEPT
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

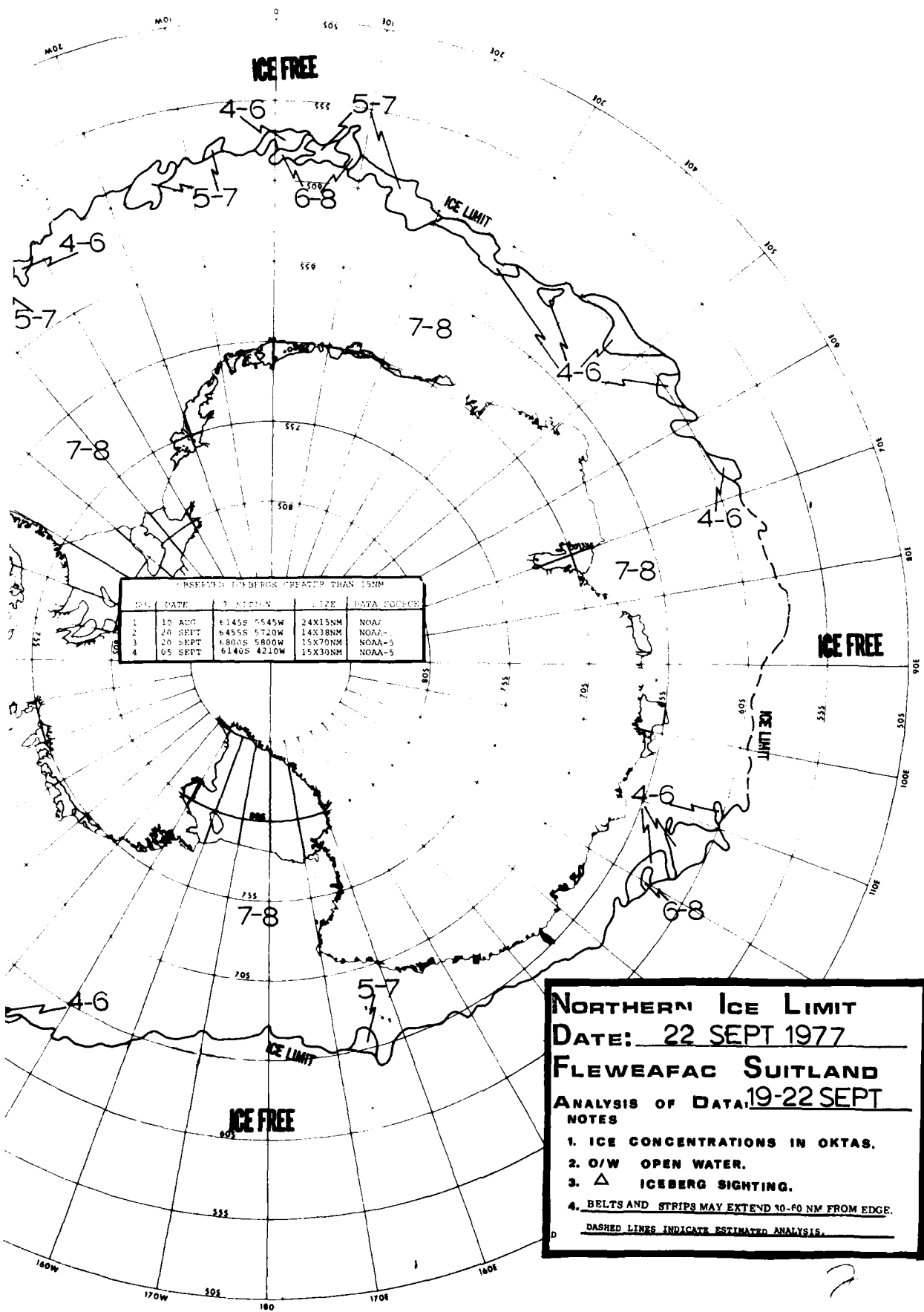
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OBSERVED TEMPERATURES IN THE ARCTIC OCEAN

NO.	DATE	LONGITUDE	LATITUDE	TEMP.	DEPTH
1	10 AUG	61°45' E 54°5' W	24X15' N	NOAA-1	
2	20 SEPT	64°55' E 72°0' W	14X18' N	NOAA-1	
3	20 SEPT	65°00' E 80°0' W	15X17' N	NOAA-1	
4	25 SEPT	61°40' E 42°20' W	15X31' N	NOAA-1	

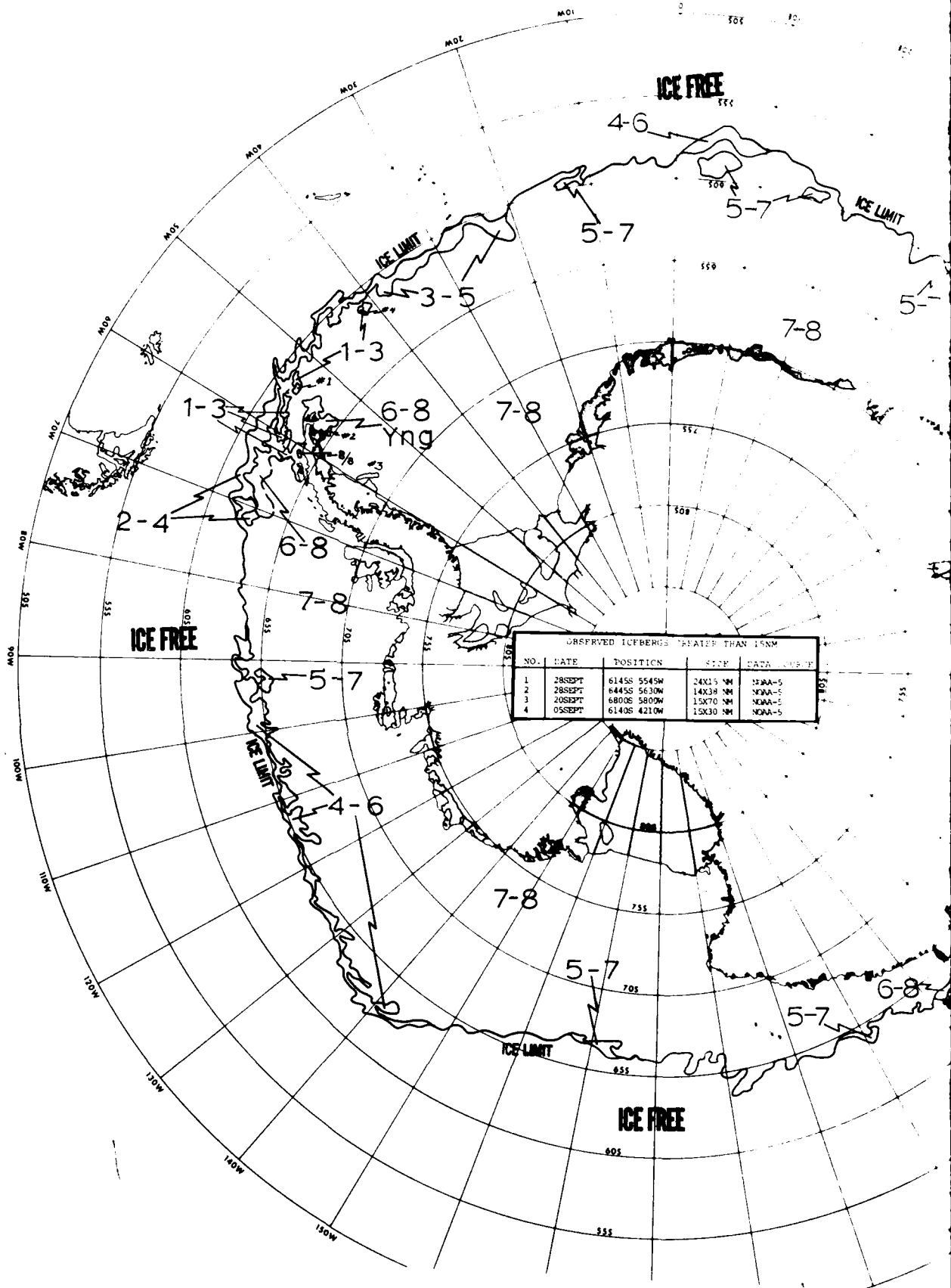


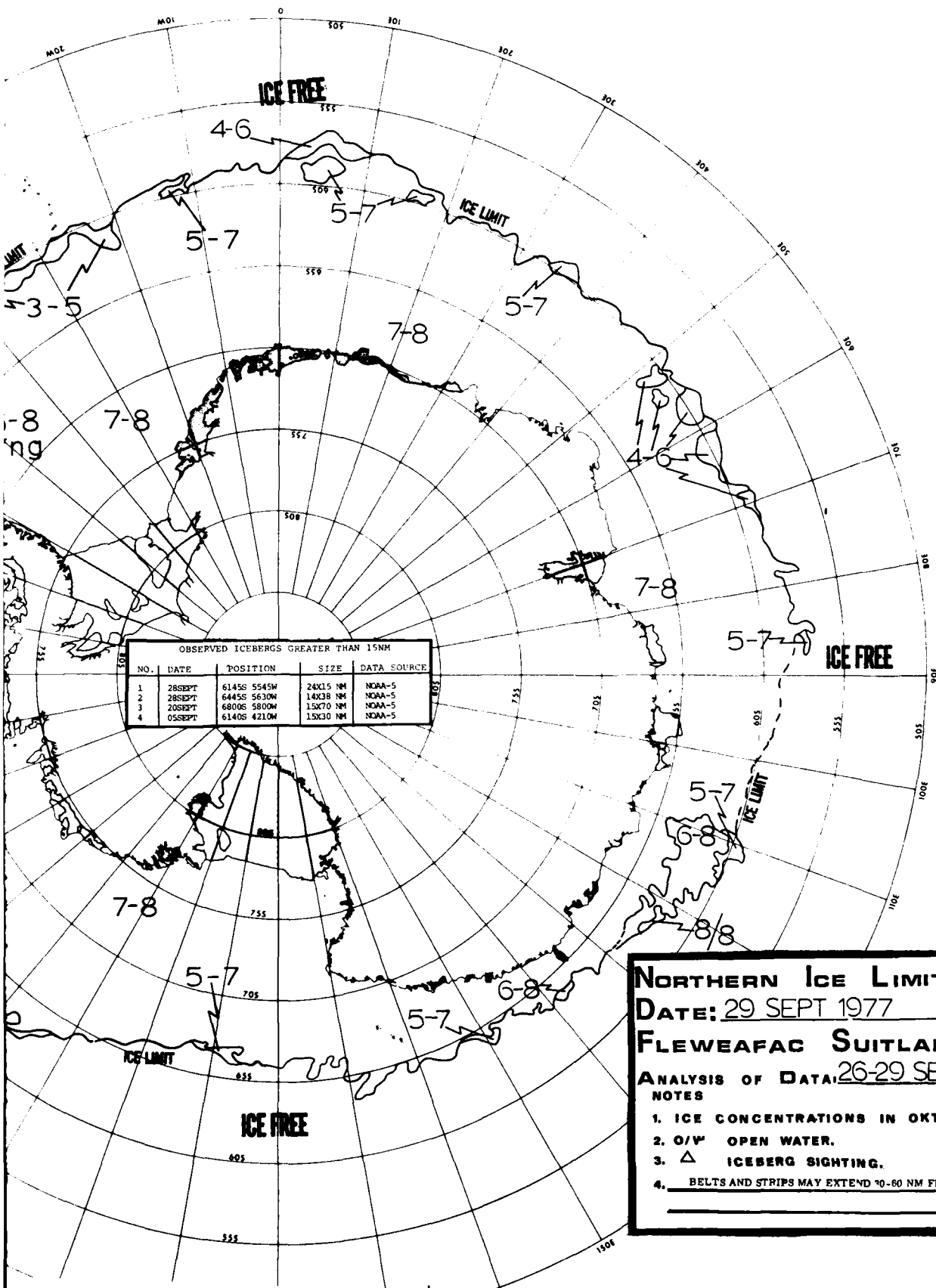
ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	10 AUG	6145E 5545W	24X15NM	NOAA
2	20 SEPT	6455E 5720W	14X38NM	NOAA-5
3	20 SEPT	6800E 5800W	15X70NM	NOAA-5
4	05 SEPT	6140E 4210W	15X30NM	NOAA-5

NORTHERN ICE LIMIT
DATE: 22 SEPT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 19-22 SEPT
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.
 DASHED LINES INDICATE ESTIMATED ANALYSIS.

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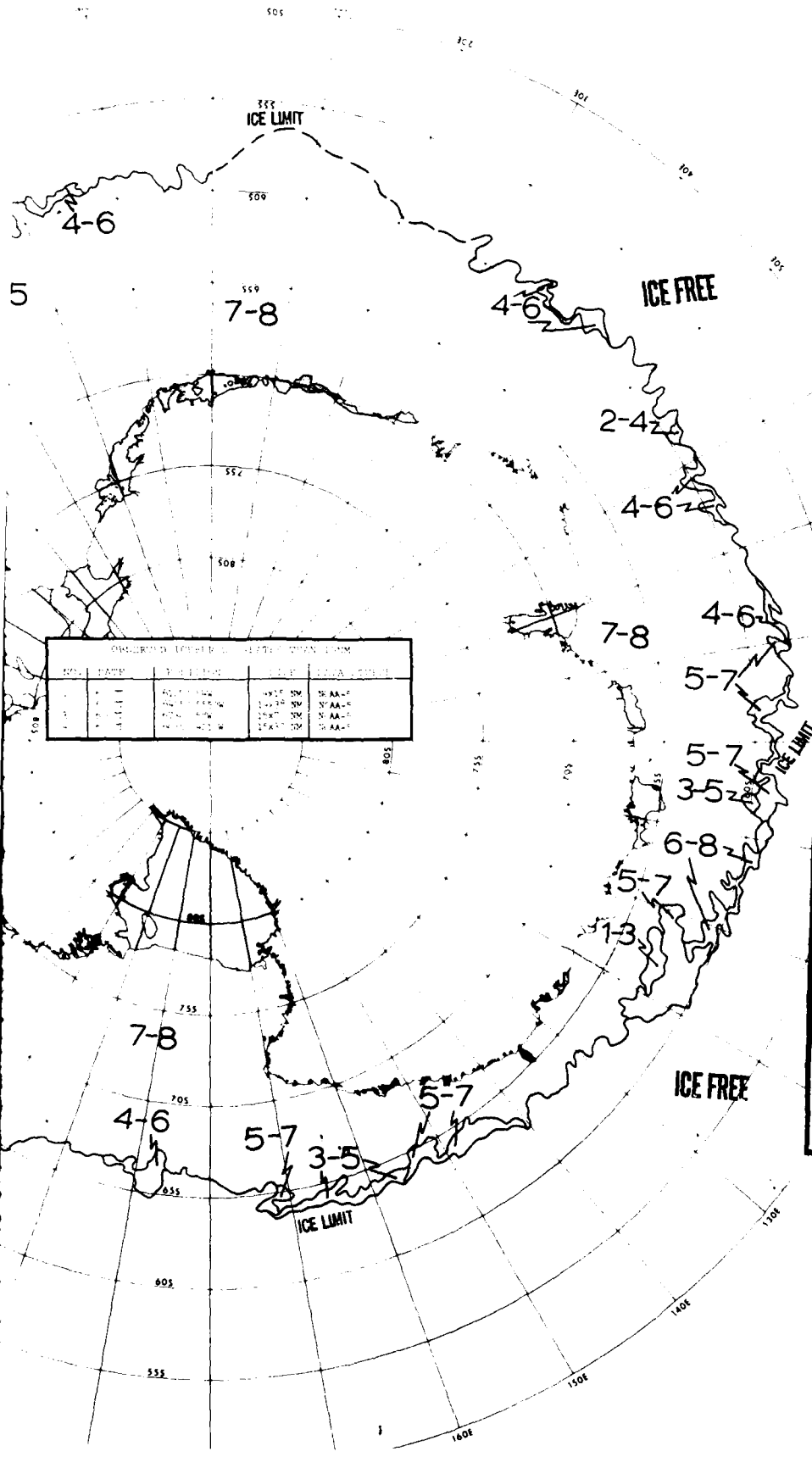




NORTHERN ICE LIMIT
DATE: 29 SEPT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 26-29 SEPT
NOTES

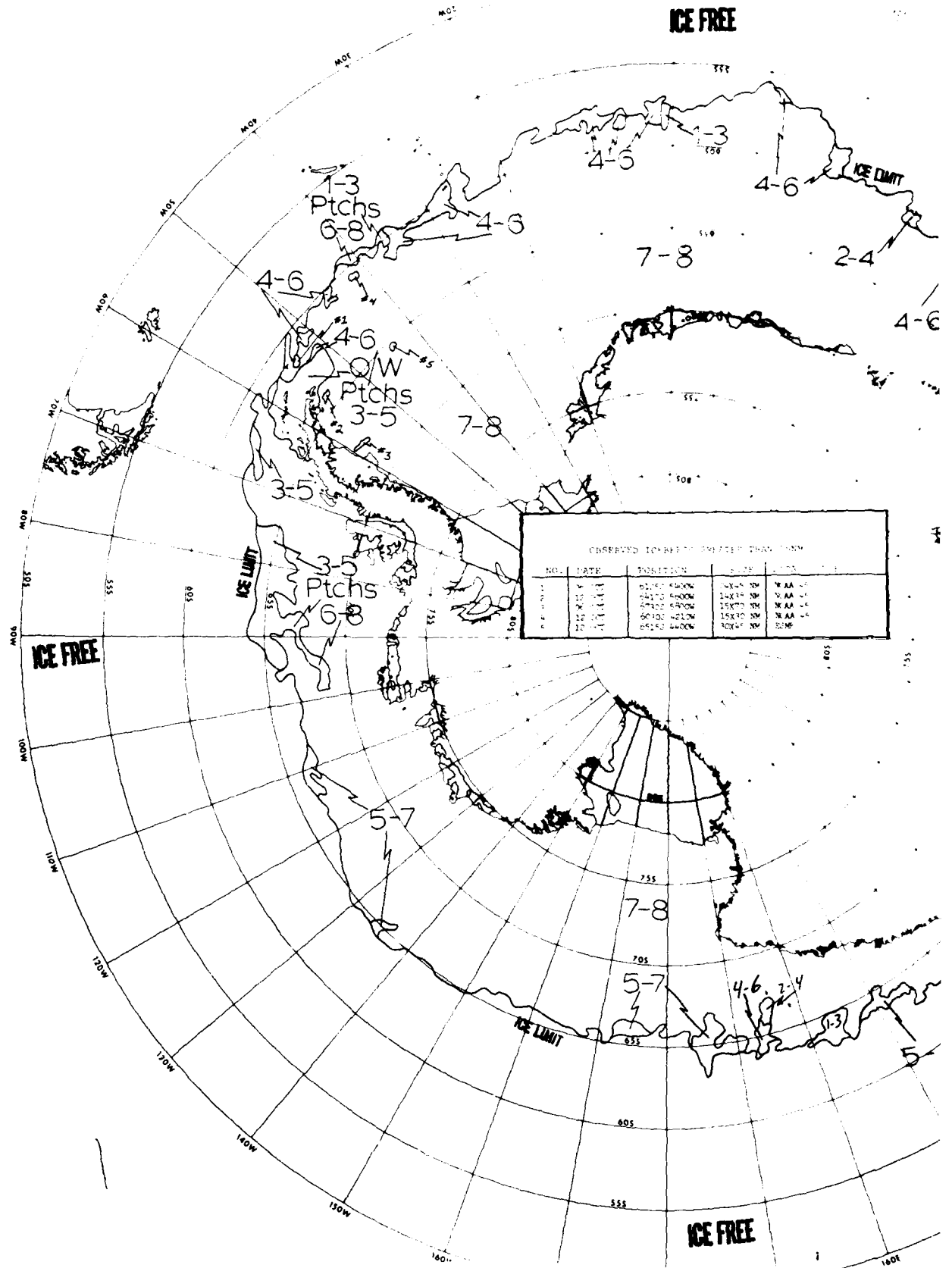
1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 40-60 NM FROM EDGE.

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NORTHERN Ice LIMIT
DATE: 06 OCT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA 03-06 OCT
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

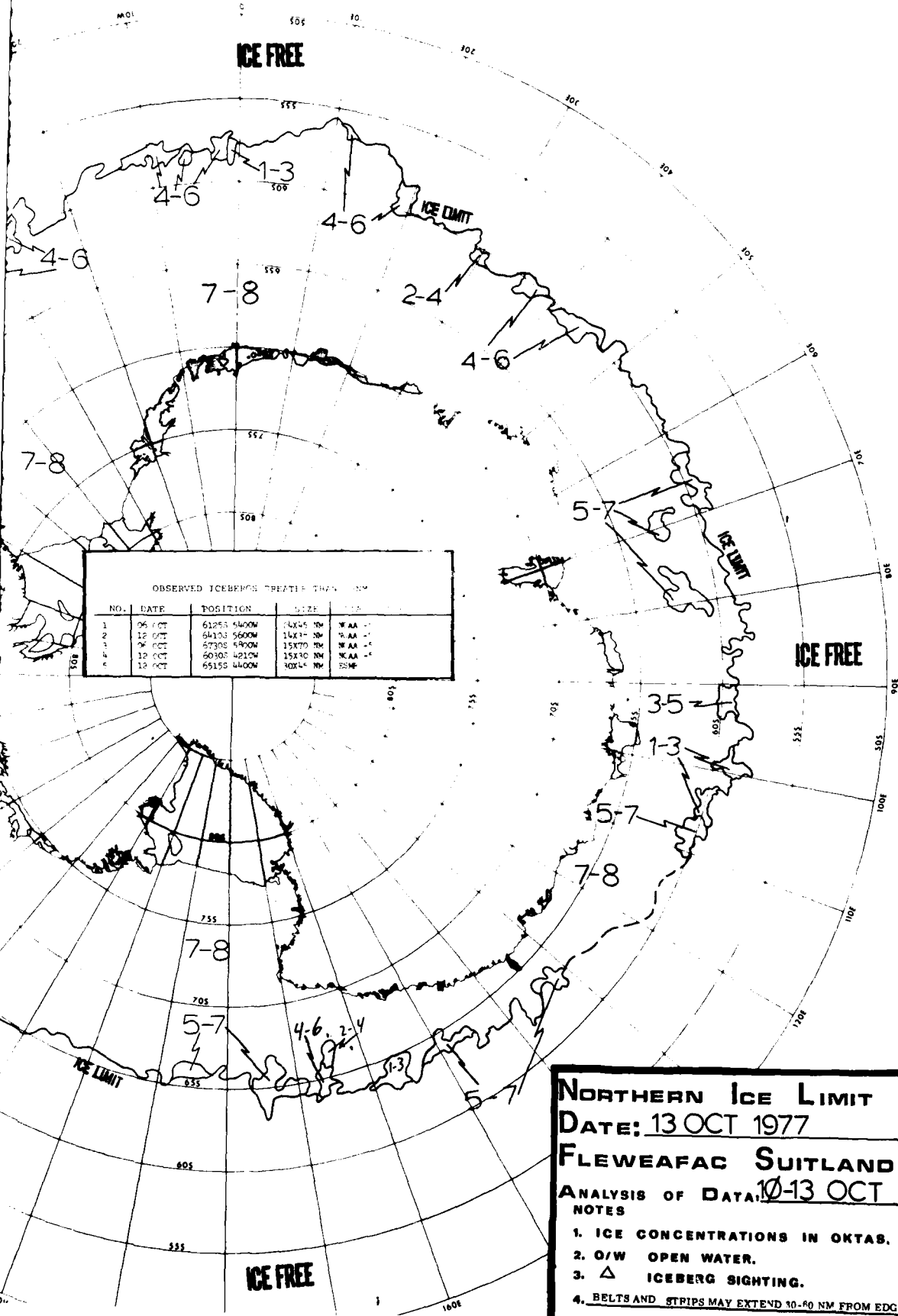
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OBSERVED ICE LIMITS

NO.	DATE	POSITION	ICE TYPE	ICE CODE
1	11/11/54	61°10' N 140°00' W	4-5	WAA-4
2	11/11/54	61°10' N 140°00' W	4-5	WAA-4
3	11/11/54	61°10' N 140°00' W	4-5	WAA-4
4	11/11/54	61°10' N 140°00' W	4-5	WAA-4
5	11/11/54	61°10' N 140°00' W	4-5	WAA-4

ICE FREE

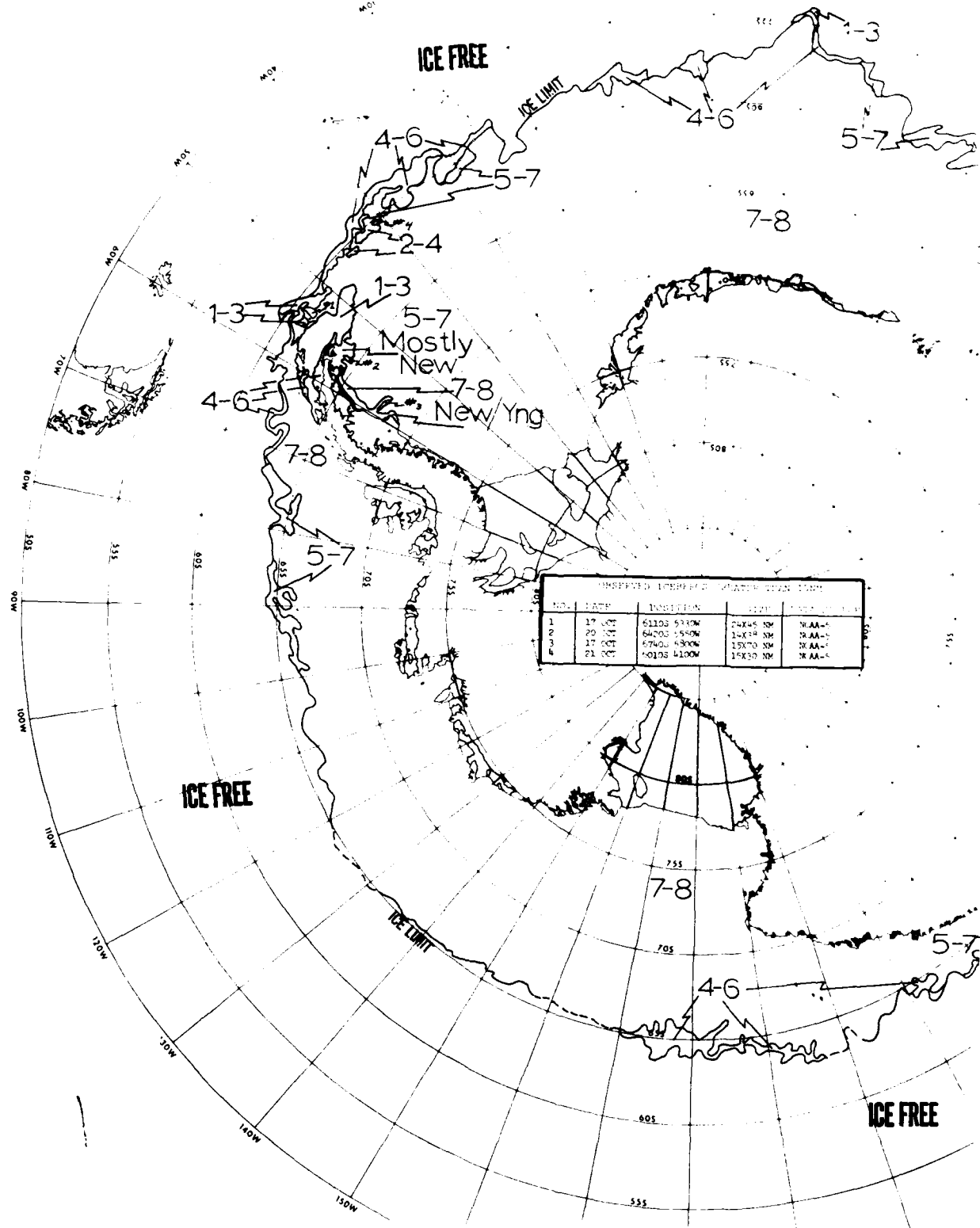


OBSERVED ICEBERG TREATIES

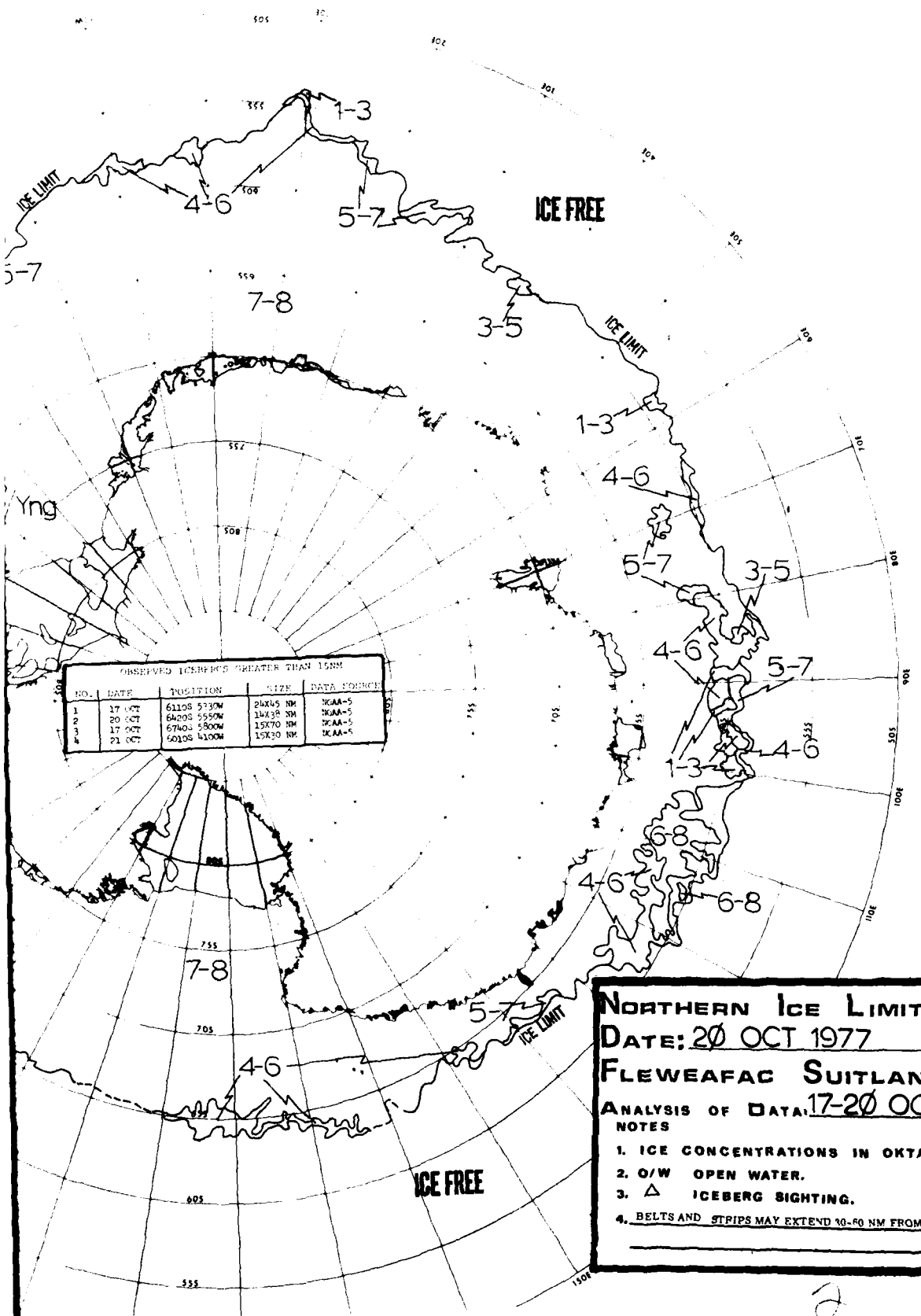
NO.	DATE	POSITION	SIZE	TYPE
1	06 OCT	61253 5400W	24x55 NM	WAA
2	12 OCT	64133 5600W	14x17 NM	WAA
3	06 OCT	57375 5900W	15x70 NM	WAA
4	12 OCT	60305 4210W	15x30 NM	WAA
5	12 OCT	65155 4400W	30x55 NM	ESNE

NORTHERN ICE LIMIT
DATE: 13 OCT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 10-13 OCT
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

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UNRECORDED TRACKS				
NO.	DATE	POSITION	DEPTH	REMARKS
1	17 OCT	6110S 5310W	24005 NM	18 AA-5
2	20 OCT	6420S 5500W	14018 NM	18 AA-5
3	17 OCT	6740S 4900W	15070 NM	18 AA-5
4	21 OCT	7010S 4100W	15050 NM	18 AA-5



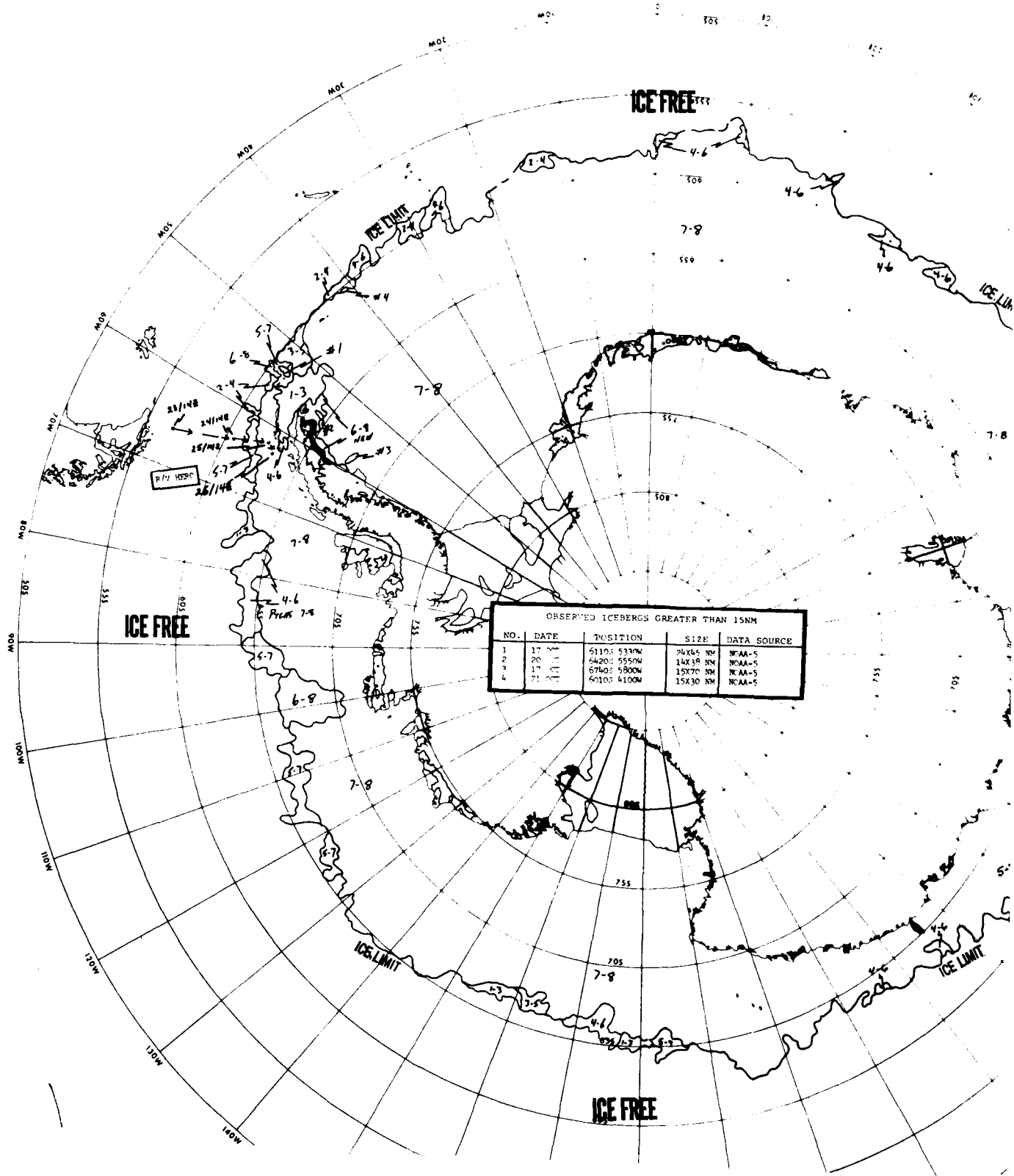
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 OCT	6110S 5730W	24X45 NM	IKAA-5
2	20 OCT	6420S 5950W	14X38 NM	IKAA-5
3	17 OCT	6740S 5800W	15X70 NM	IKAA-5
4	21 OCT	6010S 4100W	15X30 NM	IKAA-5

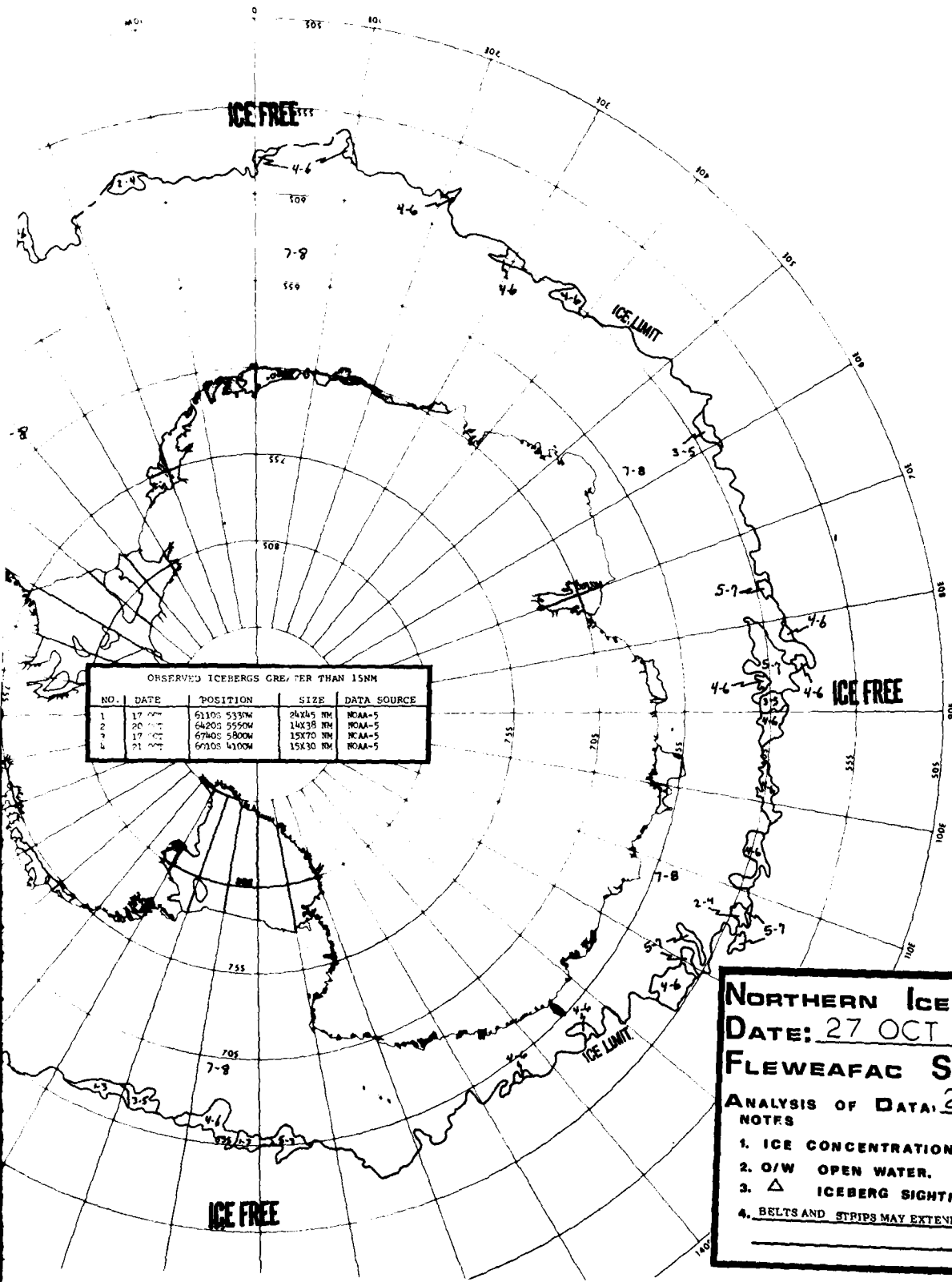
NORTHERN ICE LIMIT
DATE: 20 OCT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 17-20 OCT
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

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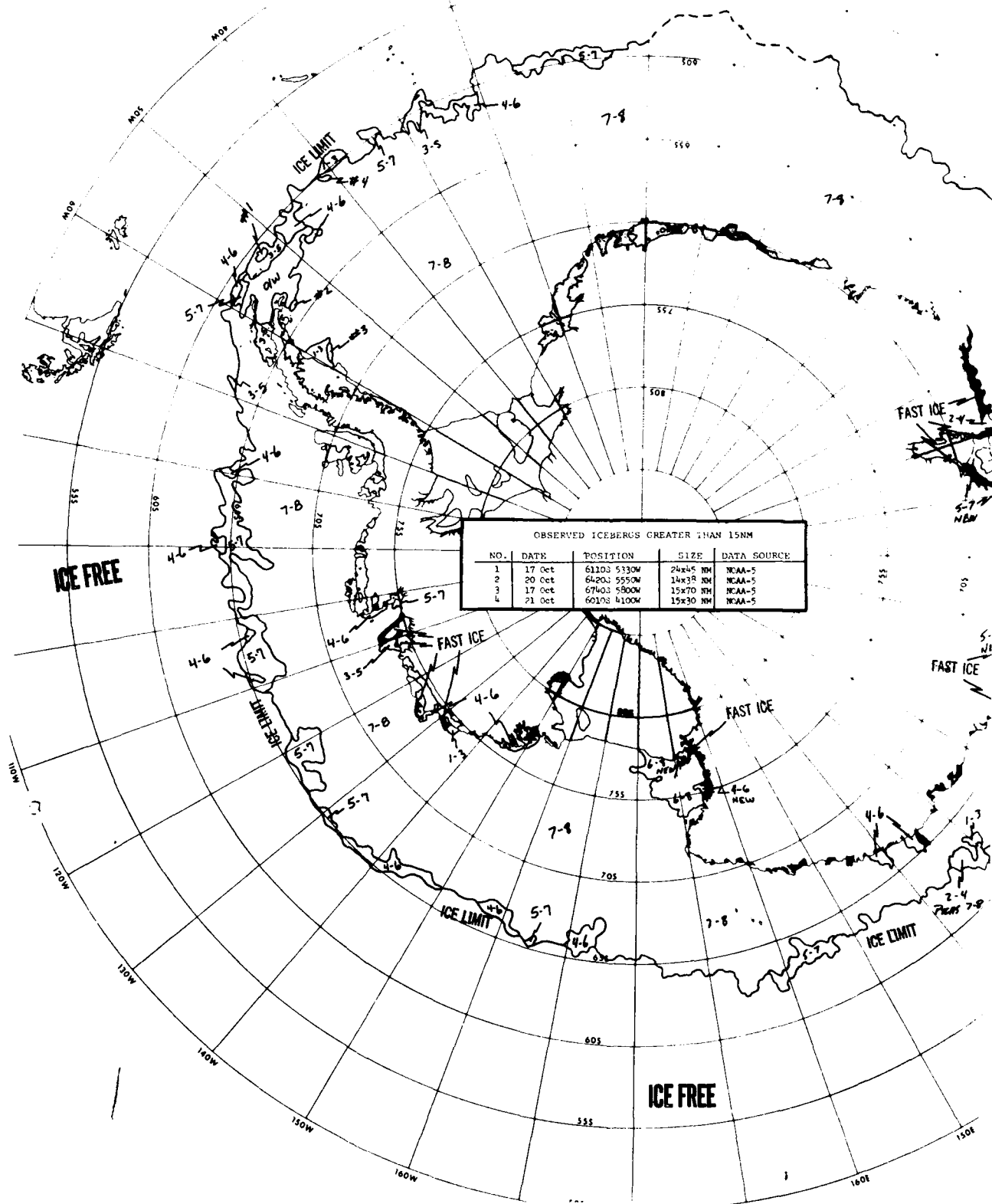
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 OCT	6110S 5330W	24x25 NM	NOAA-5
2	20 OCT	6420S 5550W	14x38 NM	NOAA-5
3	17 OCT	6740S 5800W	15x70 NM	NOAA-5
4	21 OCT	6710S 4100W	15x30 NM	NOAA-5

NORTHERN ICE LIMIT
DATE: 27 OCT 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 24-27 OCT
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-50 NM FROM EDGE.

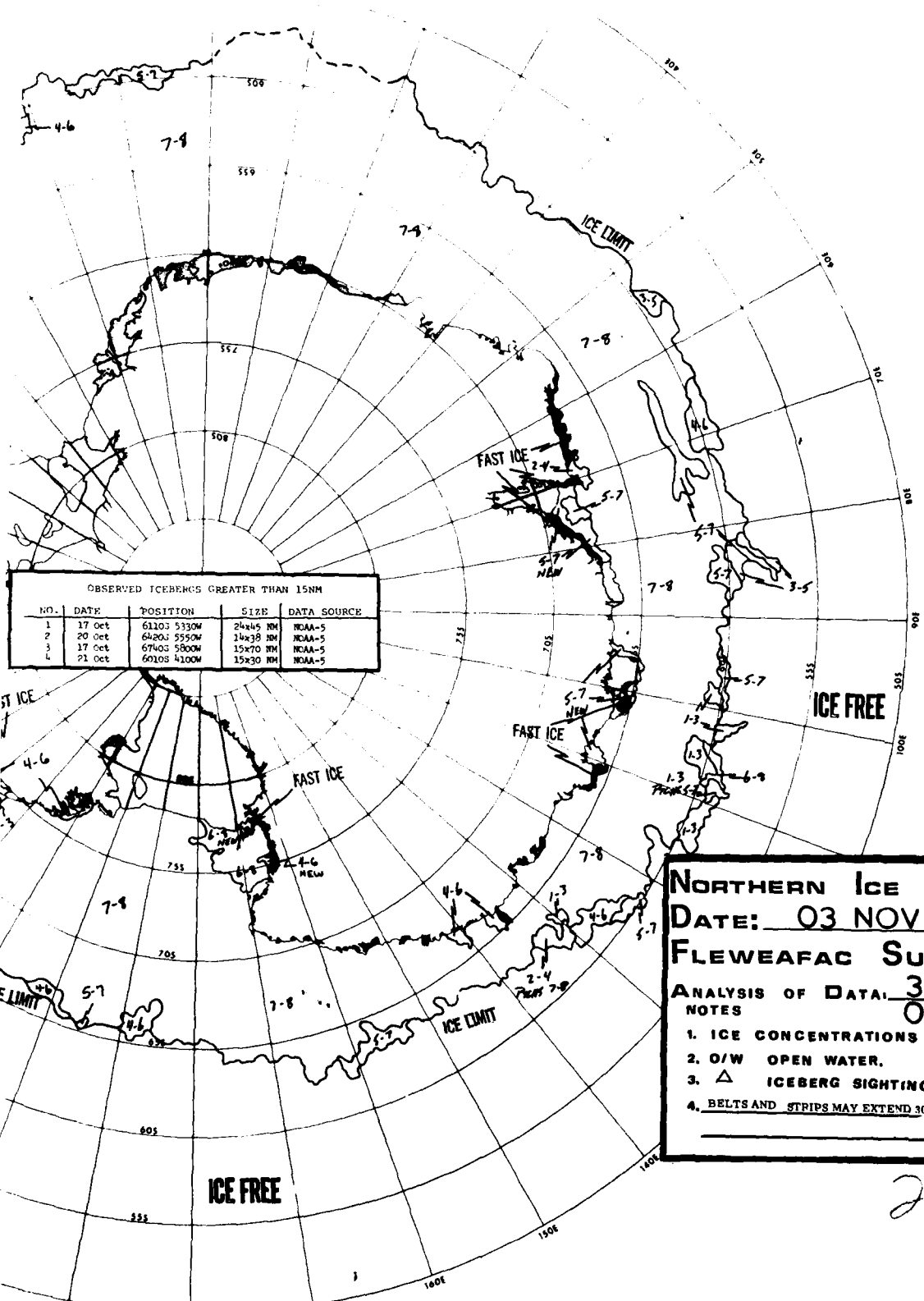
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OBSERVED ICEBERG GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 Oct	61203 5330W	24x45 NM	NCAA-5
2	20 Oct	64203 5550W	14x38 NM	NCAA-5
3	17 Oct	67403 5800W	15x70 NM	NCAA-5
4	21 Oct	60103 6100W	15x30 NM	NCAA-5



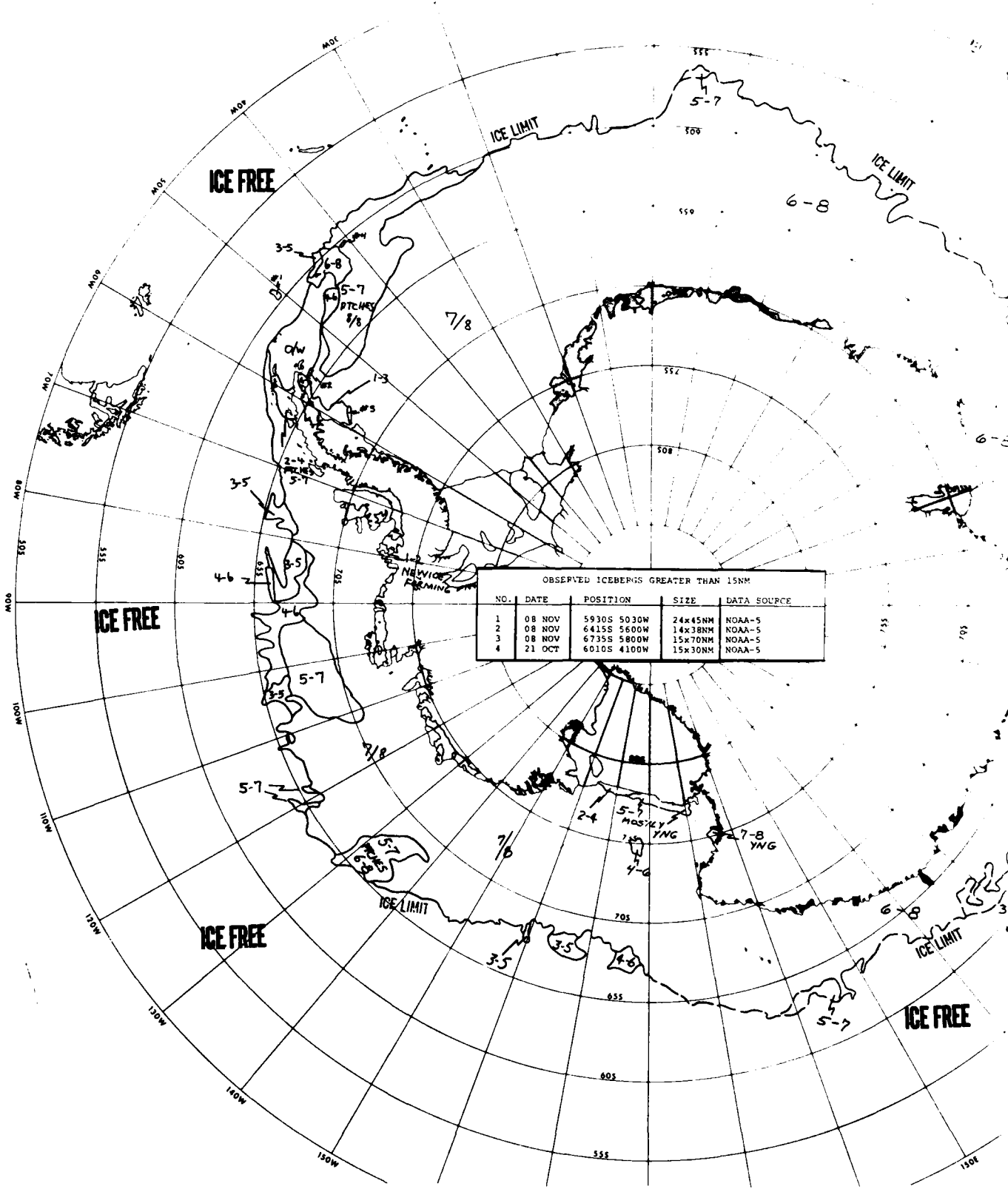
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 Oct	6120S 5330W	24x45 NM	NOAA-5
2	20 Oct	6420S 5550W	14x38 NM	NOAA-5
3	17 Oct	6740S 5800W	19x70 NM	NOAA-5
4	21 Oct	6020S 4200W	15x30 NM	NOAA-5

NORTHERN ICE LIMIT
DATE: 03 NOV 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 31 OCT - 03 NOV
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

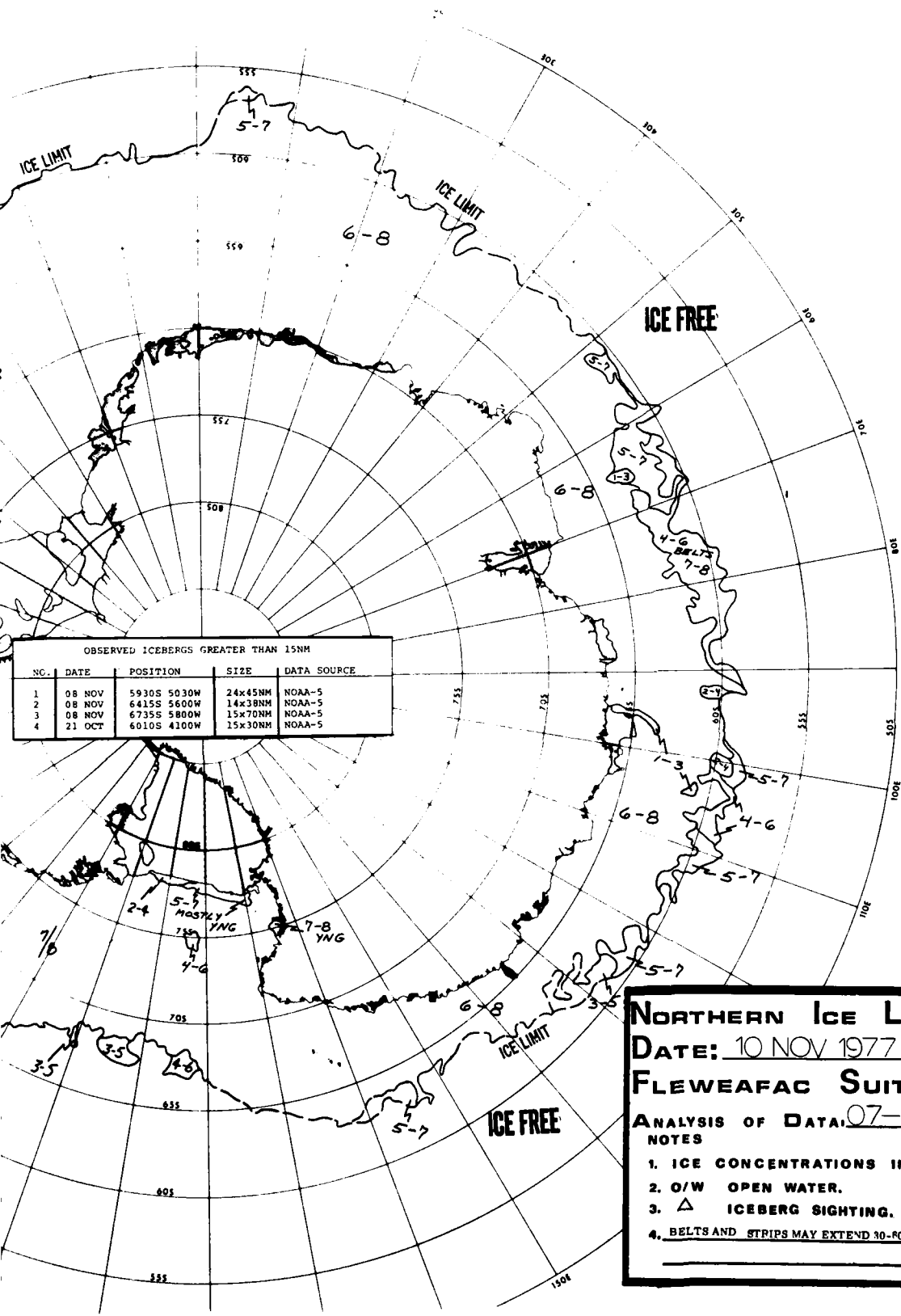
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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	08 NOV	5930S 5030W	24x45NM	NOAA-5
2	08 NOV	6415S 5600W	14x38NM	NOAA-5
3	08 NOV	6735S 5800W	15x70NM	NOAA-5
4	21 OCT	6010S 4100W	15x30NM	NOAA-5



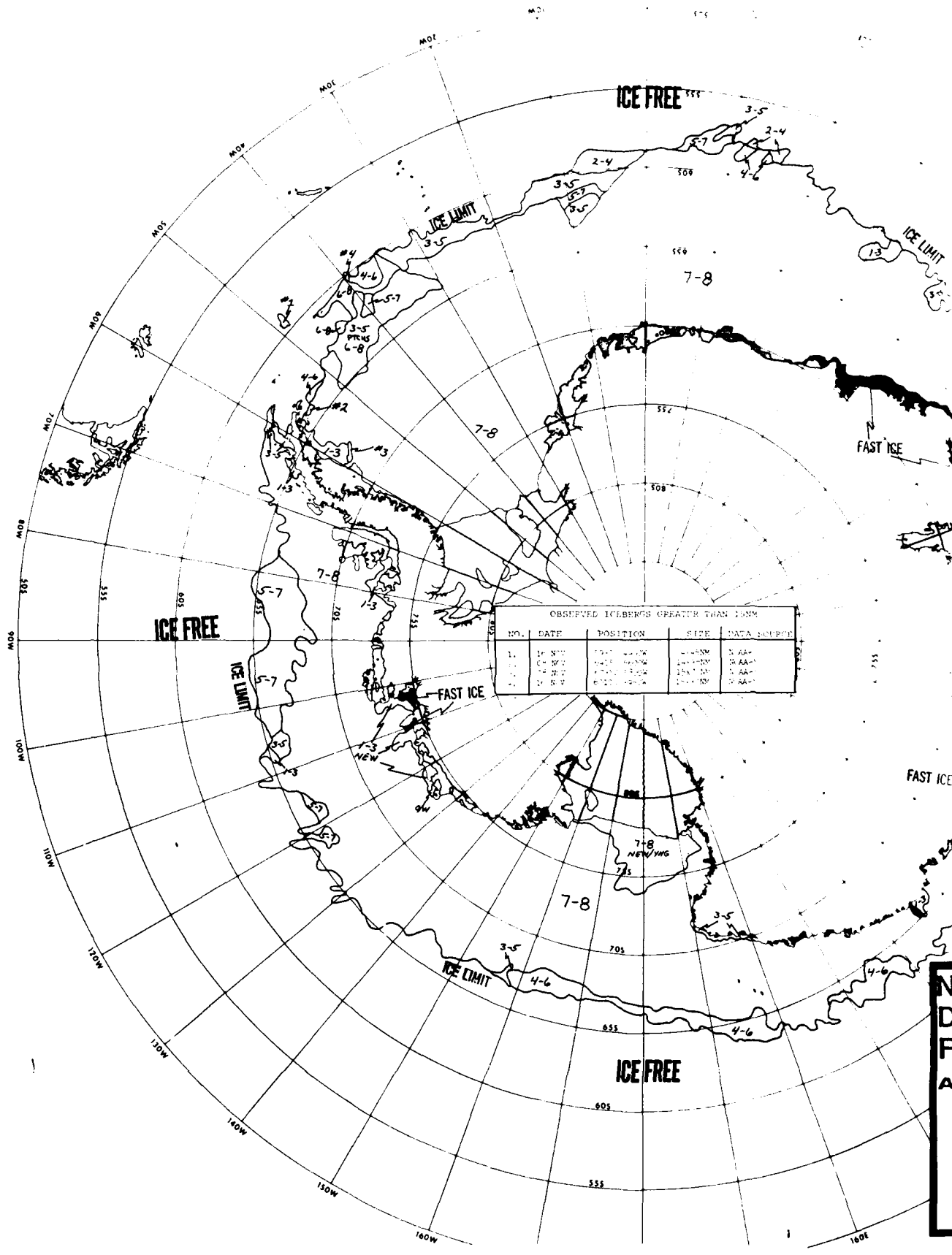
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	08 NOV	5930S 5030W	24x45NM	NOAA-5
2	08 NOV	6415S 5600W	14x38NM	NOAA-5
3	08 NOV	6735S 5800W	15x70NM	NOAA-5
4	21 OCT	6010S 4100W	15x30NM	NOAA-5

NORTHERN Ice LIMIT
DATE: 10 NOV 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 07-10 NOV
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICEBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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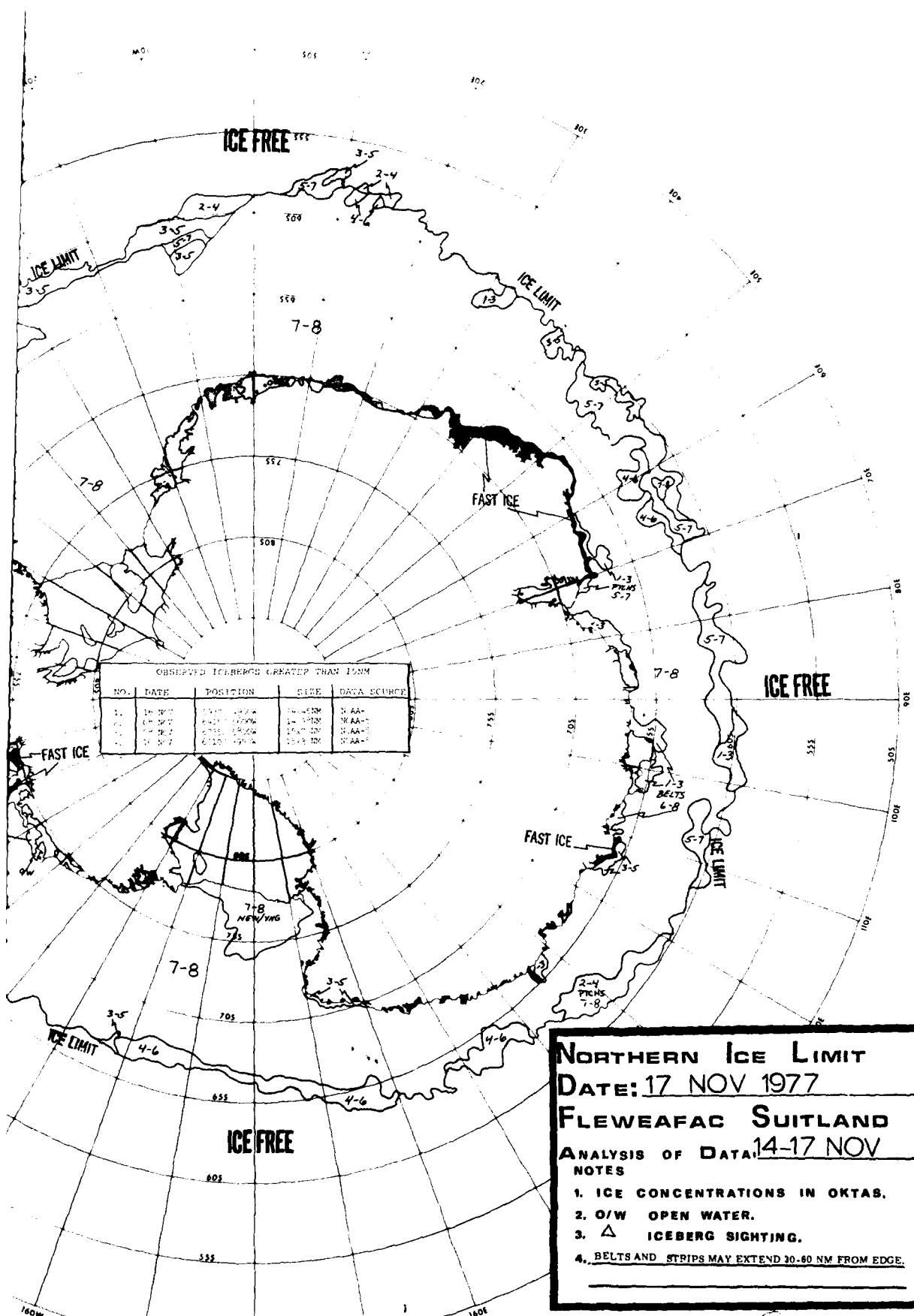
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OBSERVED ICEBERGS GREATER THAN 500M

NO.	DATE	POSITION	SIZE	DATA SOURCE
1.	17 SEP	70°N 142°W	1000 x 500	W. AAR
2.	18 SEP	70°N 142°W	1000 x 500	W. AAR
3.	21 SEP	67°N 152°W	1000 x 500	W. AAR
4.	21 SEP	67°N 152°W	1000 x 500	W. AAR

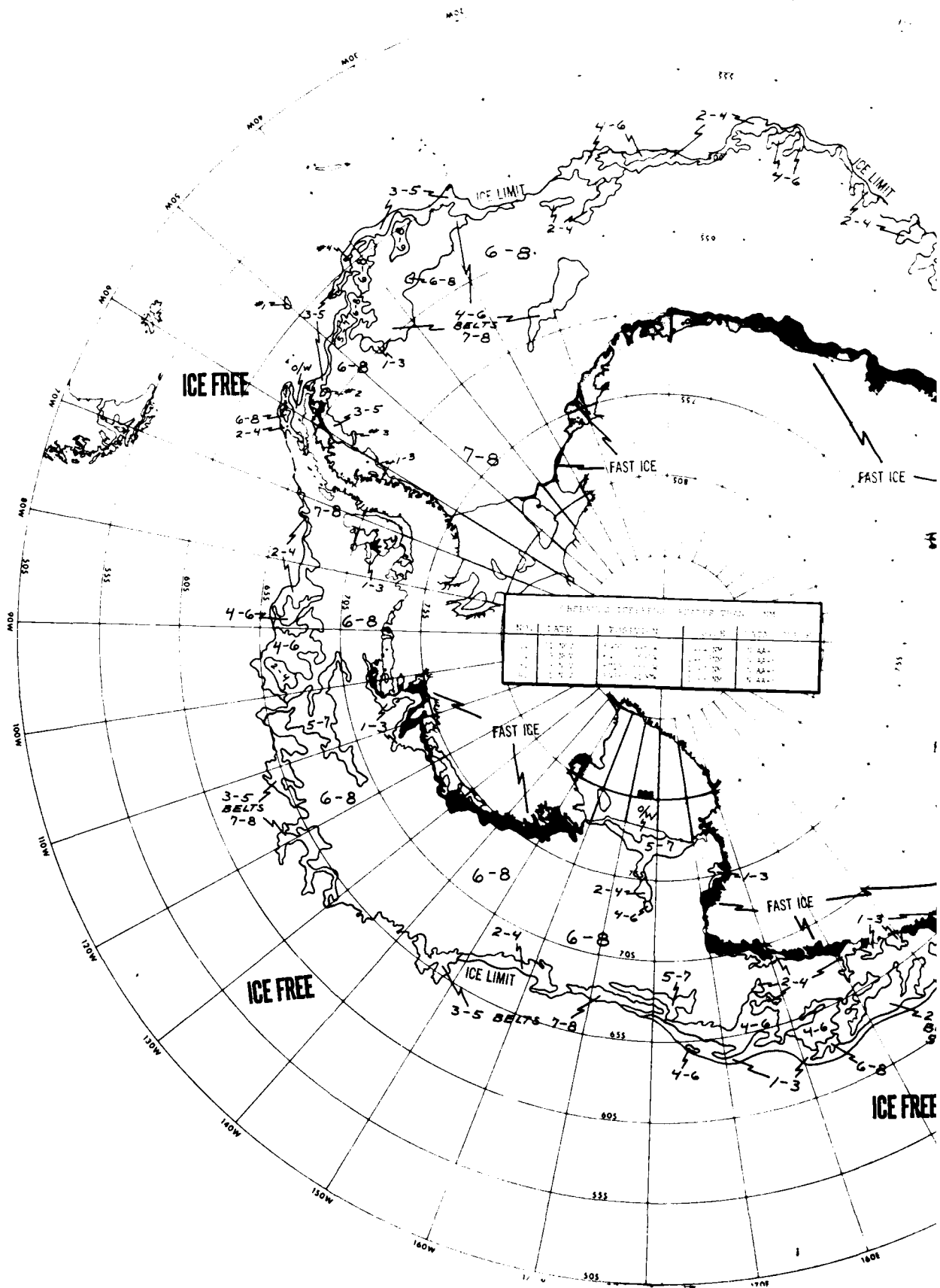
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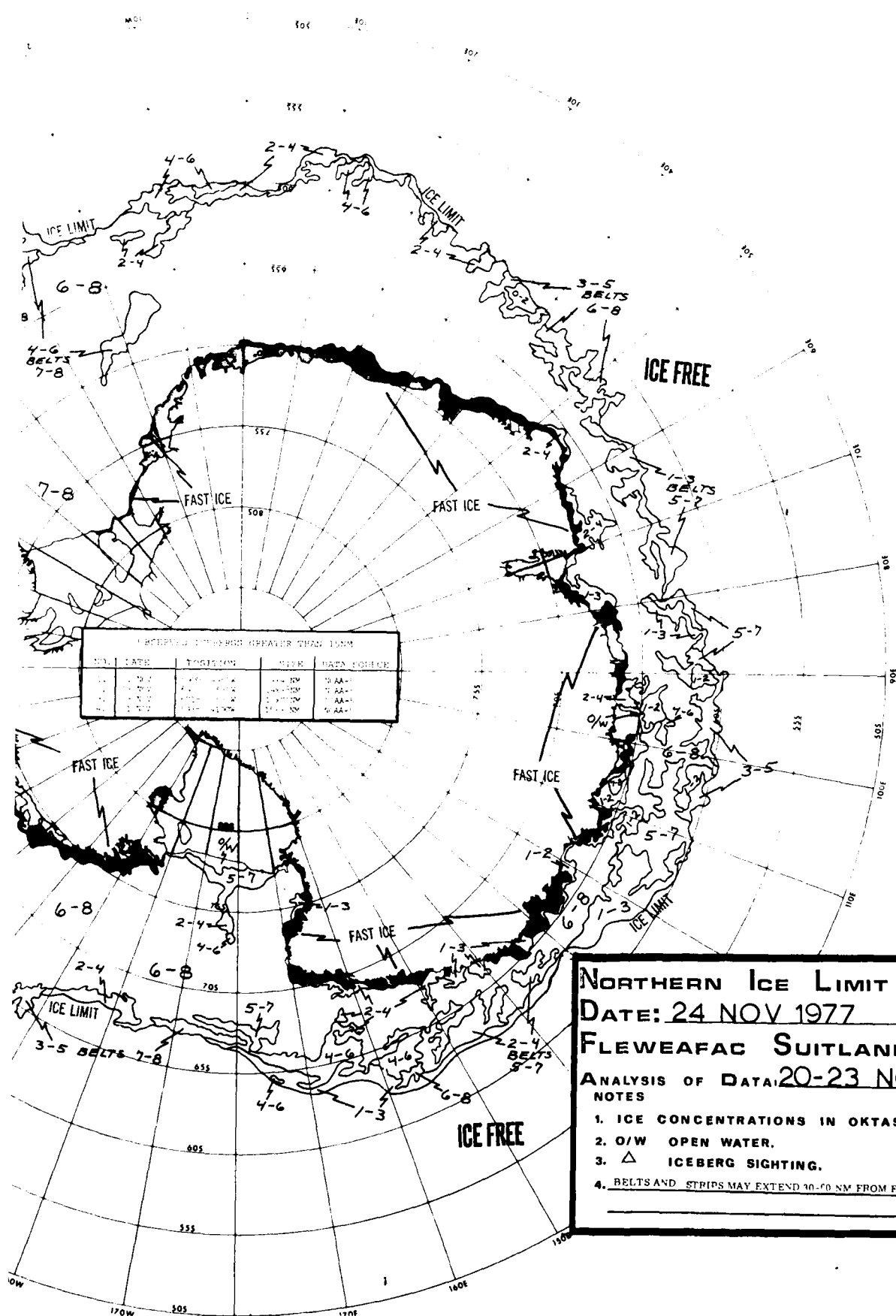


NORTHERN ICE LIMIT
DATE: 17 NOV 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 14-17 NOV
NOTES

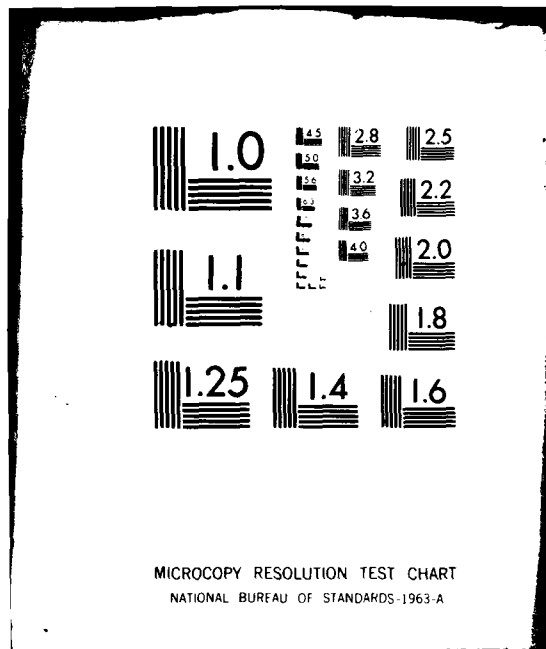
1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

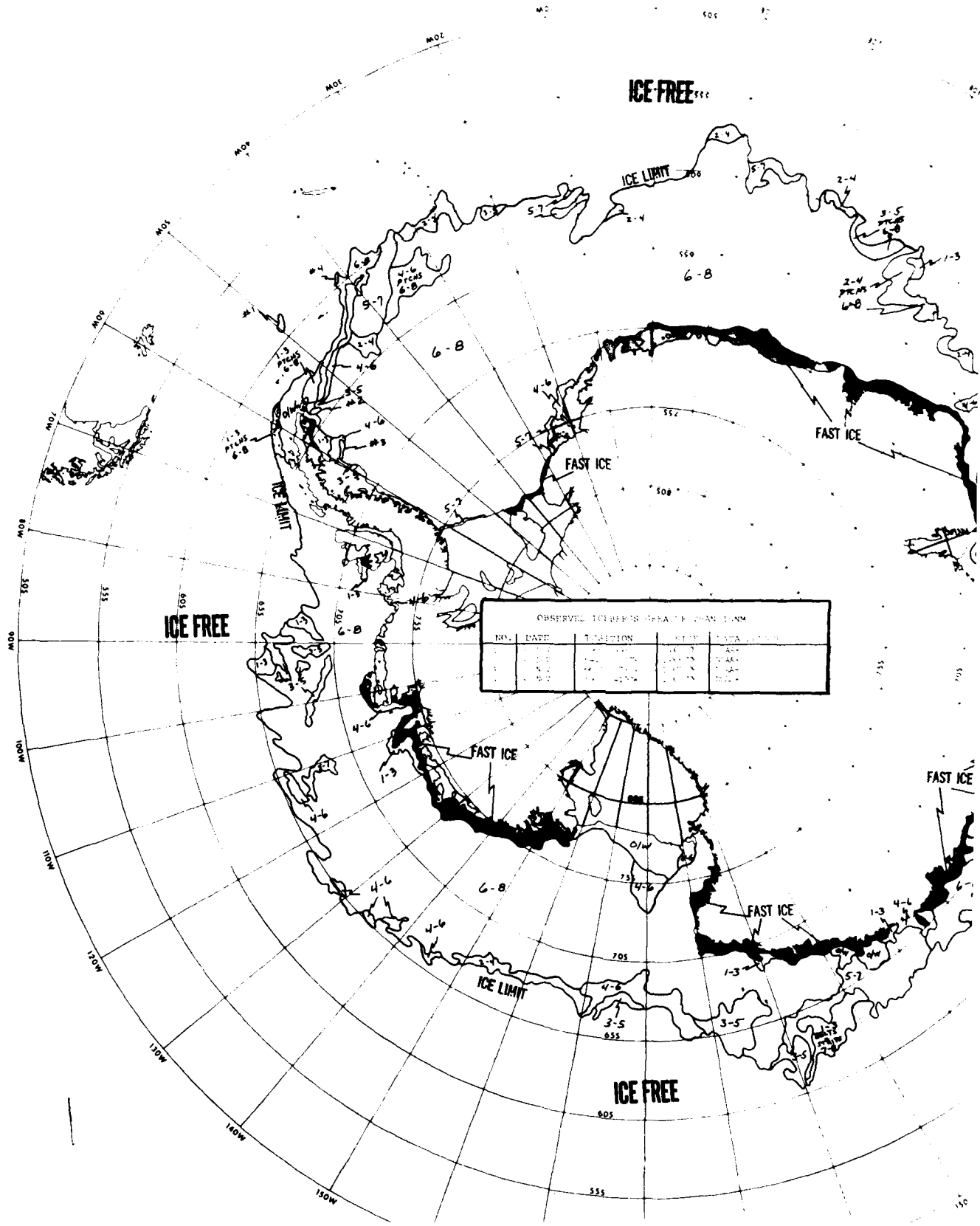
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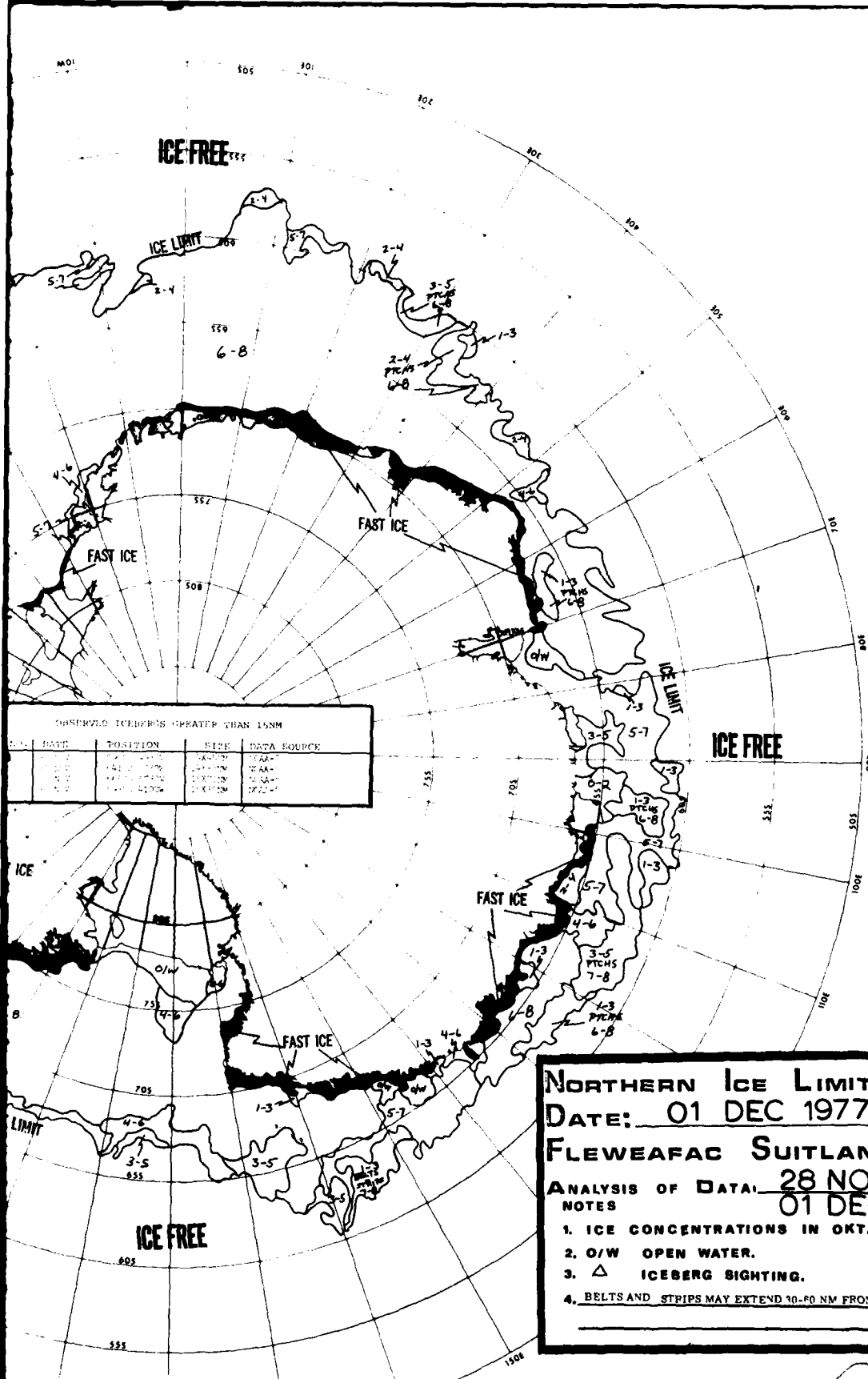
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OBSERVED ICEBERG DATA

NO.	DATE	LOCATION	SIZE	DIRECTION
1	10/10	75°N 150°W	1000	SW
2	10/11	75°N 150°W	1000	SW
3	10/12	75°N 150°W	1000	SW
4	10/13	75°N 150°W	1000	SW
5	10/14	75°N 150°W	1000	SW
6	10/15	75°N 150°W	1000	SW
7	10/16	75°N 150°W	1000	SW
8	10/17	75°N 150°W	1000	SW
9	10/18	75°N 150°W	1000	SW
10	10/19	75°N 150°W	1000	SW



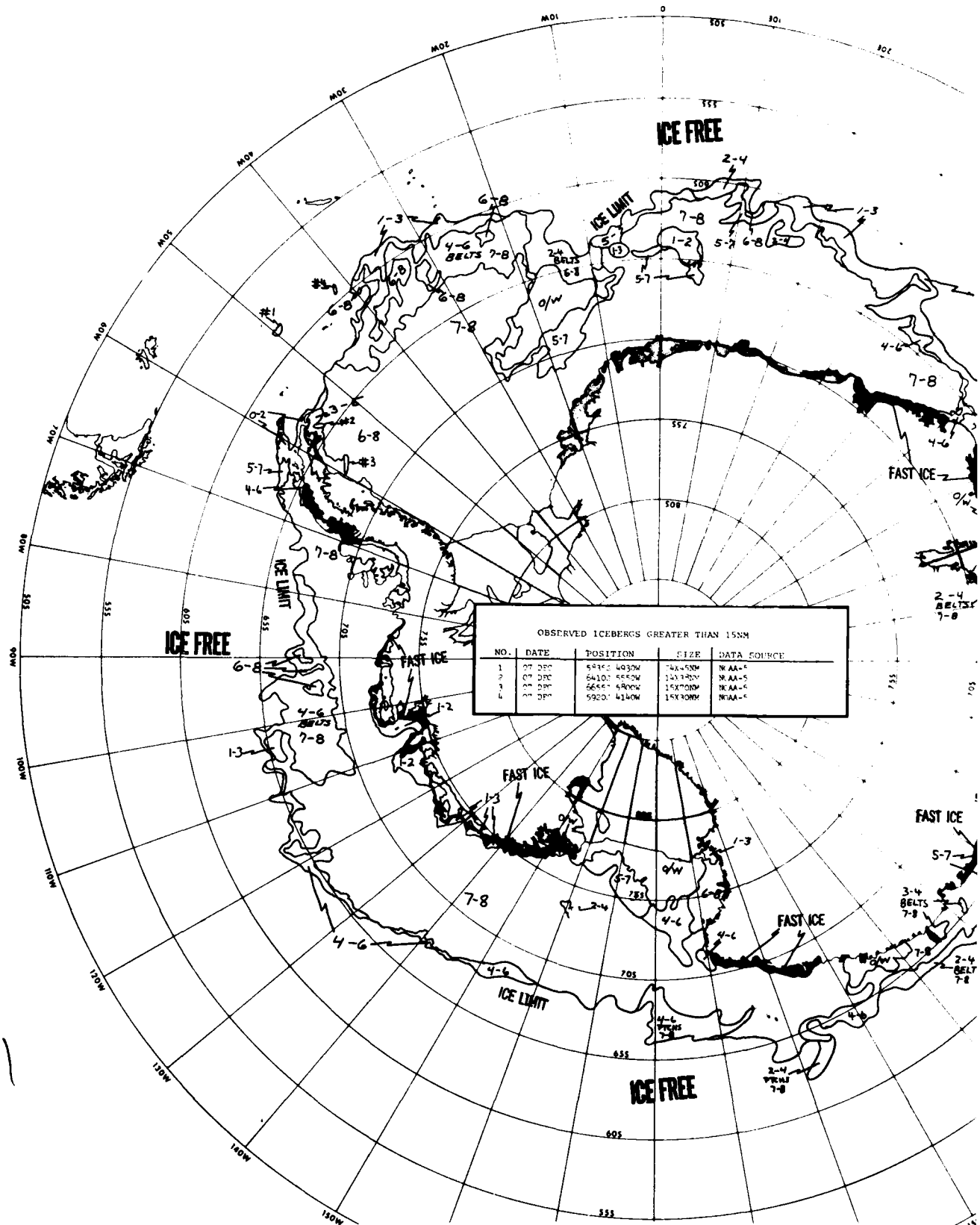
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	28 NOV 77	70°S 100°E	1000m	WAA
2	28 NOV 77	70°S 100°E	1000m	WAA
3	28 NOV 77	70°S 100°E	1000m	WAA
4	28 NOV 77	70°S 100°E	1000m	WAA
5	28 NOV 77	70°S 100°E	1000m	WAA
6	28 NOV 77	70°S 100°E	1000m	WAA
7	28 NOV 77	70°S 100°E	1000m	WAA
8	28 NOV 77	70°S 100°E	1000m	WAA

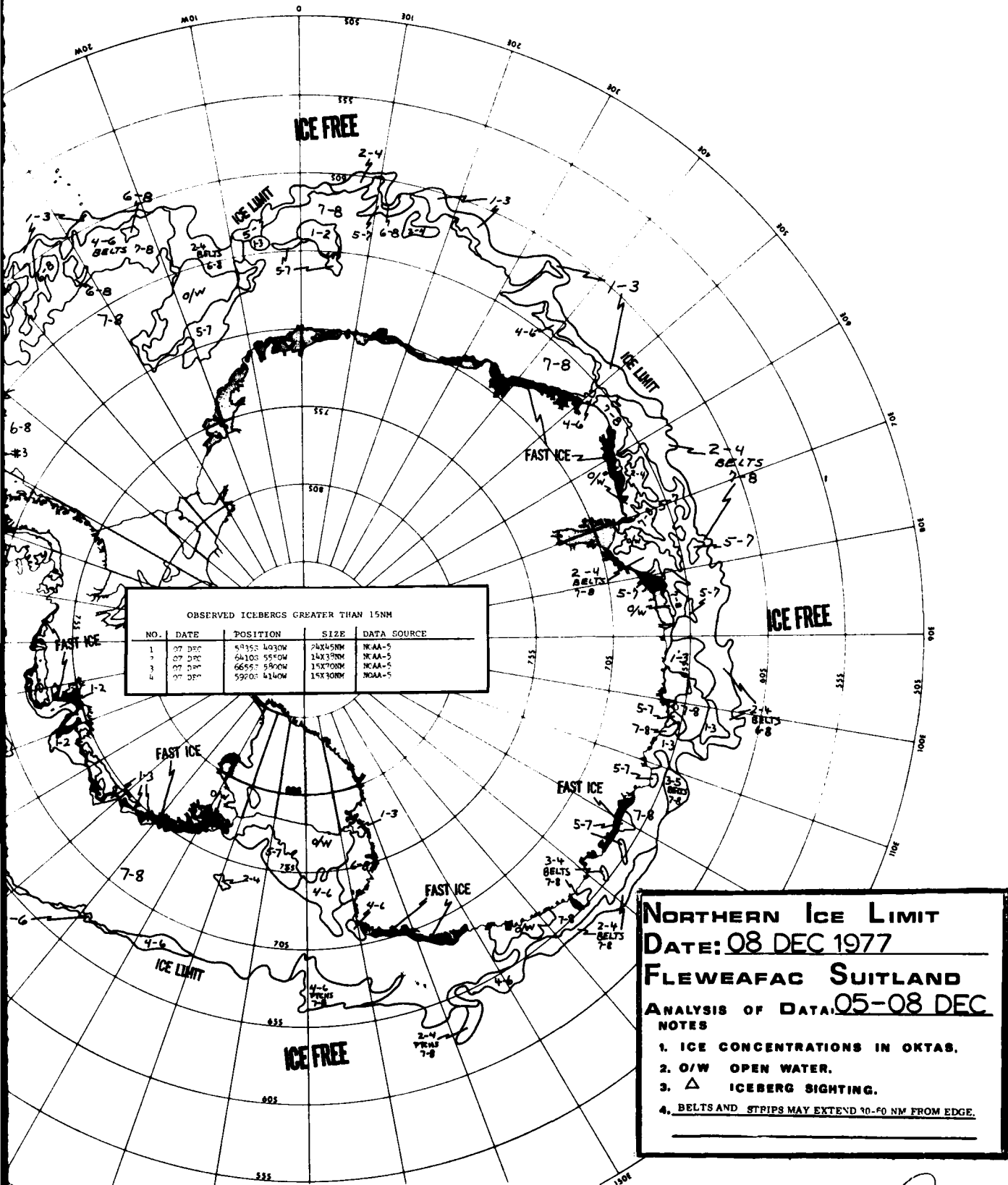
NORTHERN Ice Limit
DATE: 01 DEC 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 28 NOV - 01 DEC
NOTES
 1. ICE CONCENTRATIONS IN OKTAS.
 2. O/W OPEN WATER.
 3. Δ ICESBERG SIGHTING.
 4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	07 DEC	59°55' 4030W	24X45NM	NCAA-5
2	07 DEC	64°10' 55°0W	14X38NM	NCAA-5
3	07 DEC	66°55' 58°0W	15X70NM	NCAA-5
4	07 DEC	59°05' 61°0W	15X30NM	NCAA-5

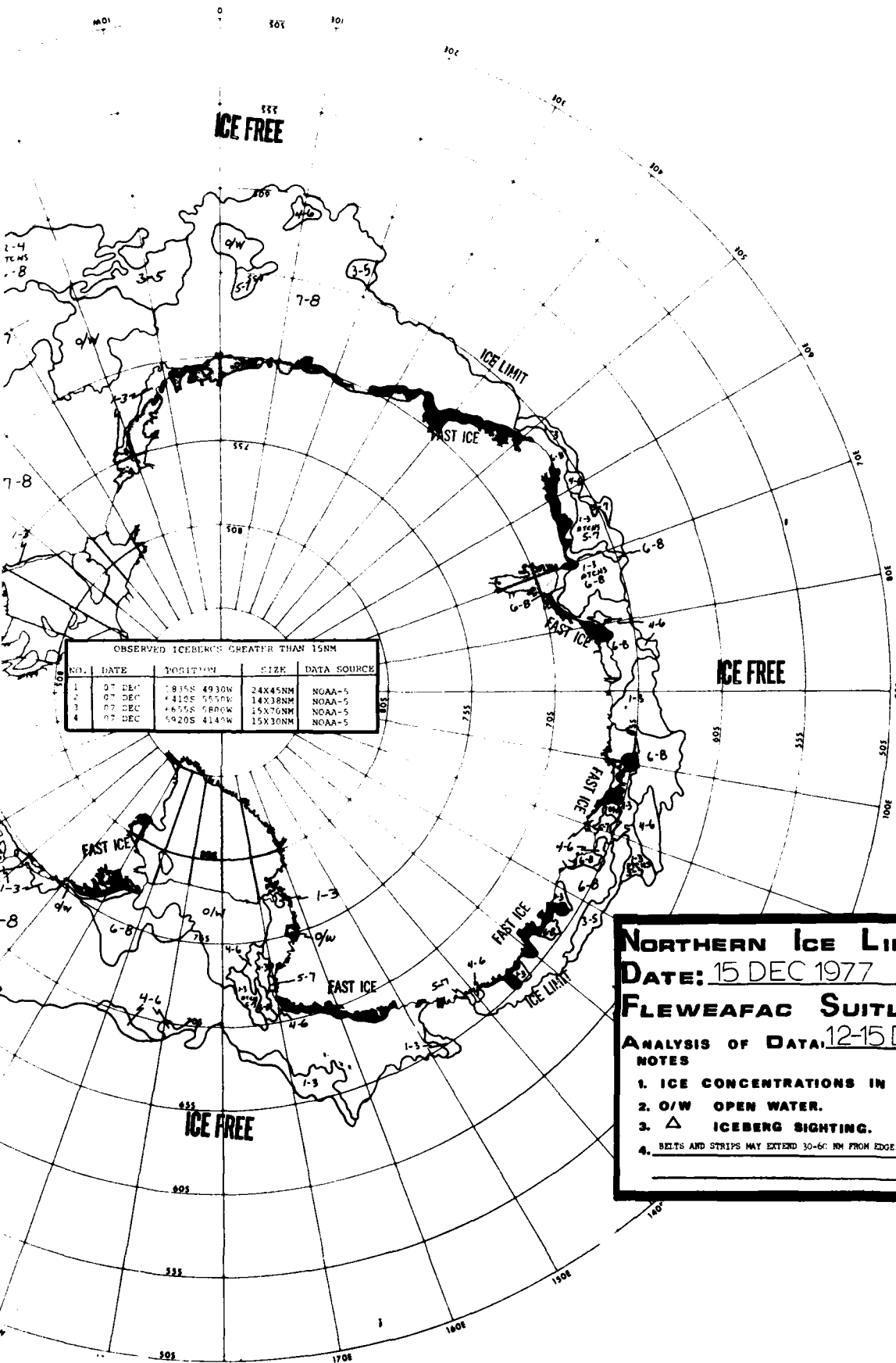
NORTHERN Ice Limit
DATE: 08 DEC 1977

FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 05-08 DEC
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 10-60 NM FROM EDGE.

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OBSERVED ICEBERGS GREATER THAN 15NM

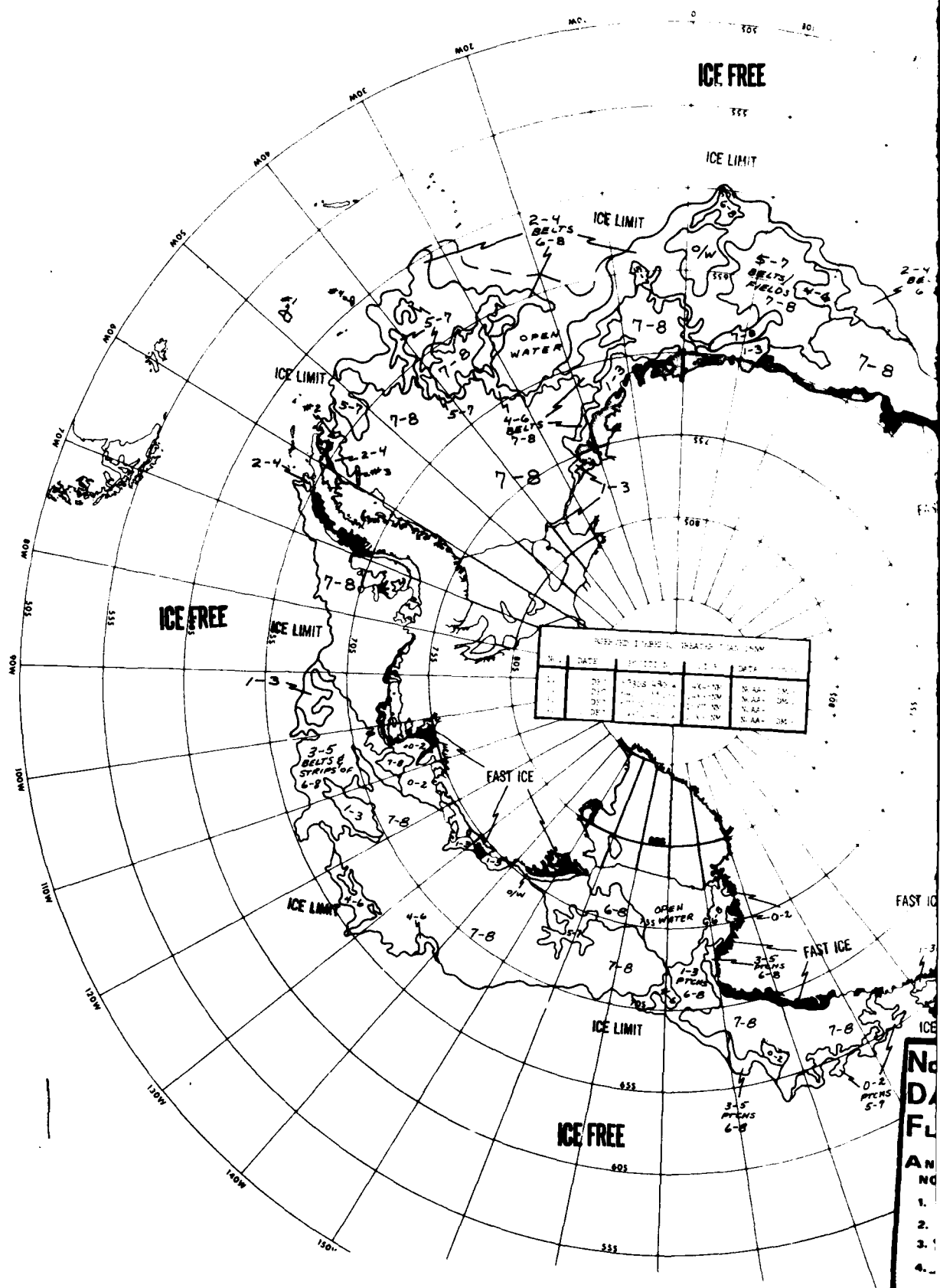
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	07 DEC	1815S 4930W	24X45NM	NOAA-5
2	07 DEC	410S 5550W	14X38NM	NOAA-5
3	07 DEC	655S 5800W	15X70NM	NOAA-5
4	07 DEC	5920S 4147W	15X30NM	NOAA-5

NORTHERN ICE LIMIT
DATE: 15 DEC 1977
FLEWEAFAC SUITLAND
ANALYSIS OF DATA: 12-15 DEC

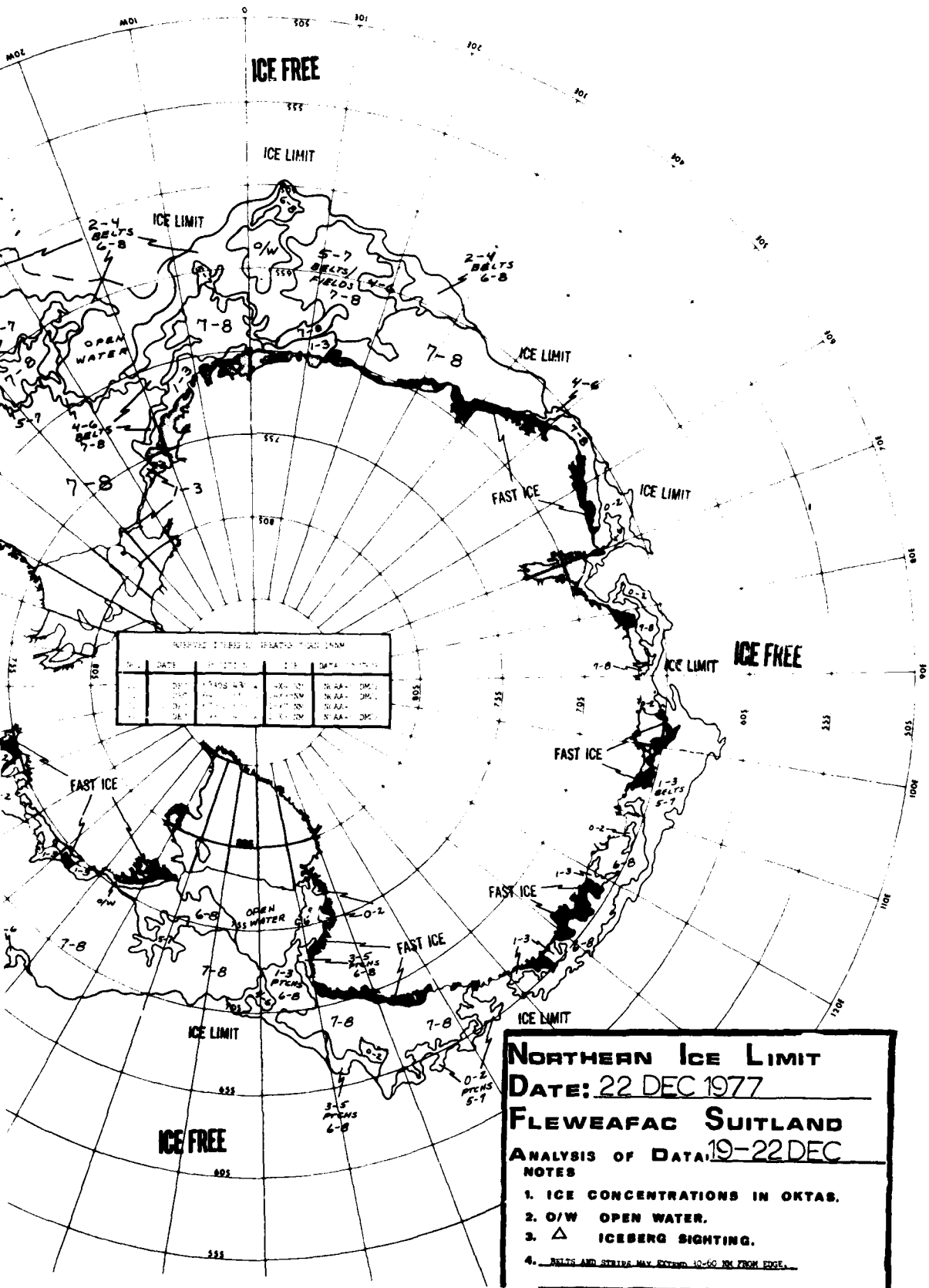
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60 NM FROM EDGE.

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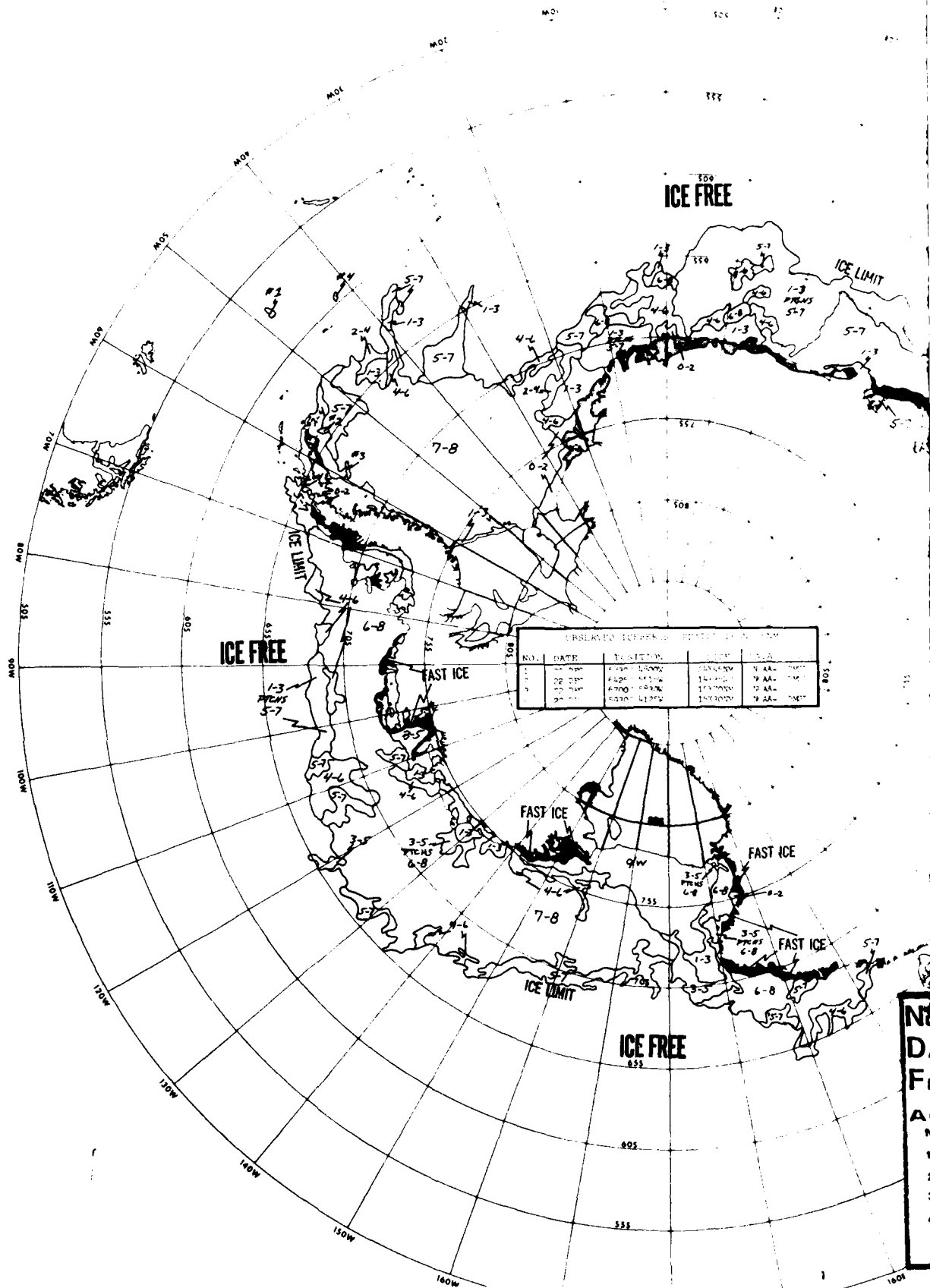


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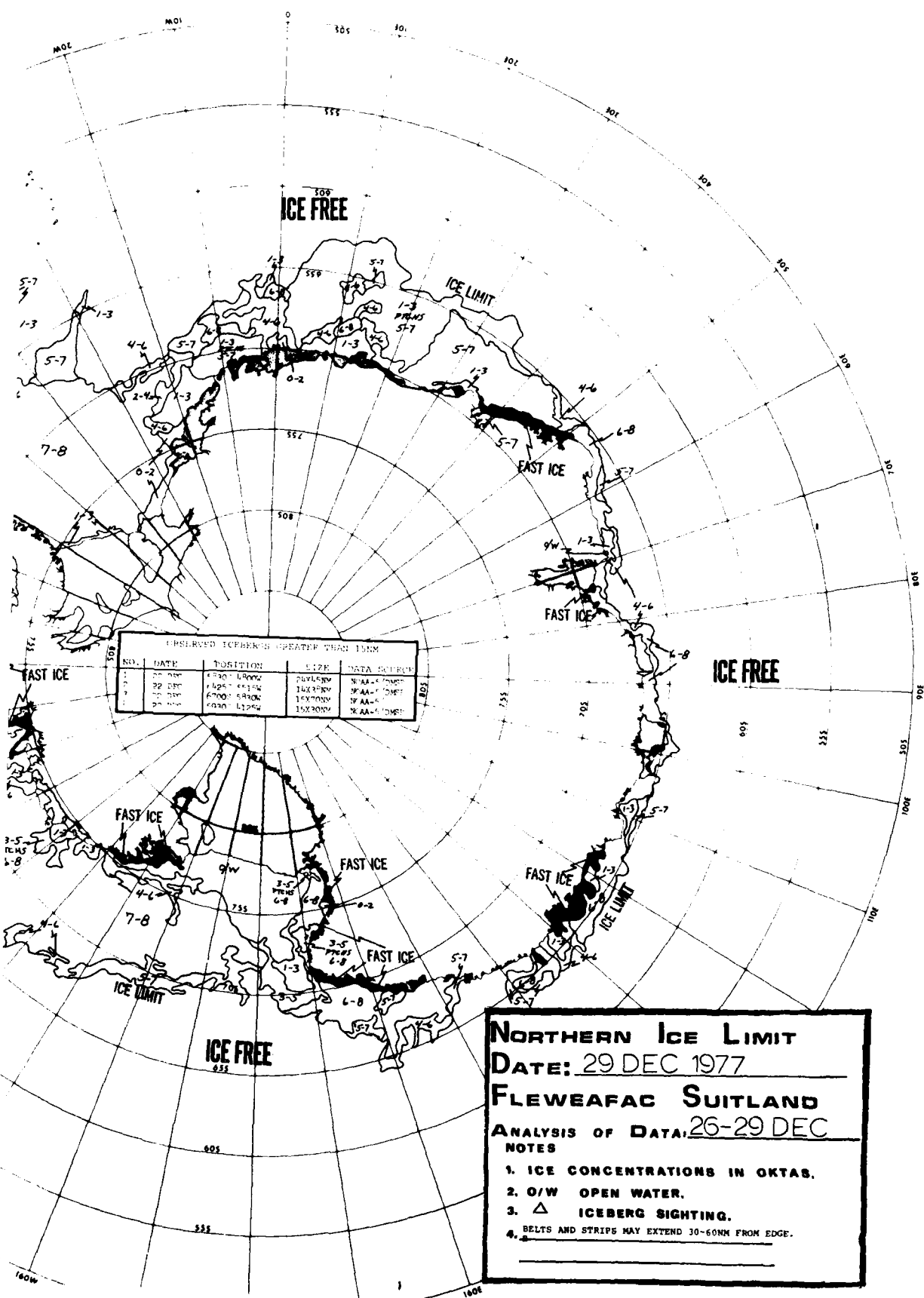


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OBSERVED ICEBERGS GREATER THAN 100M

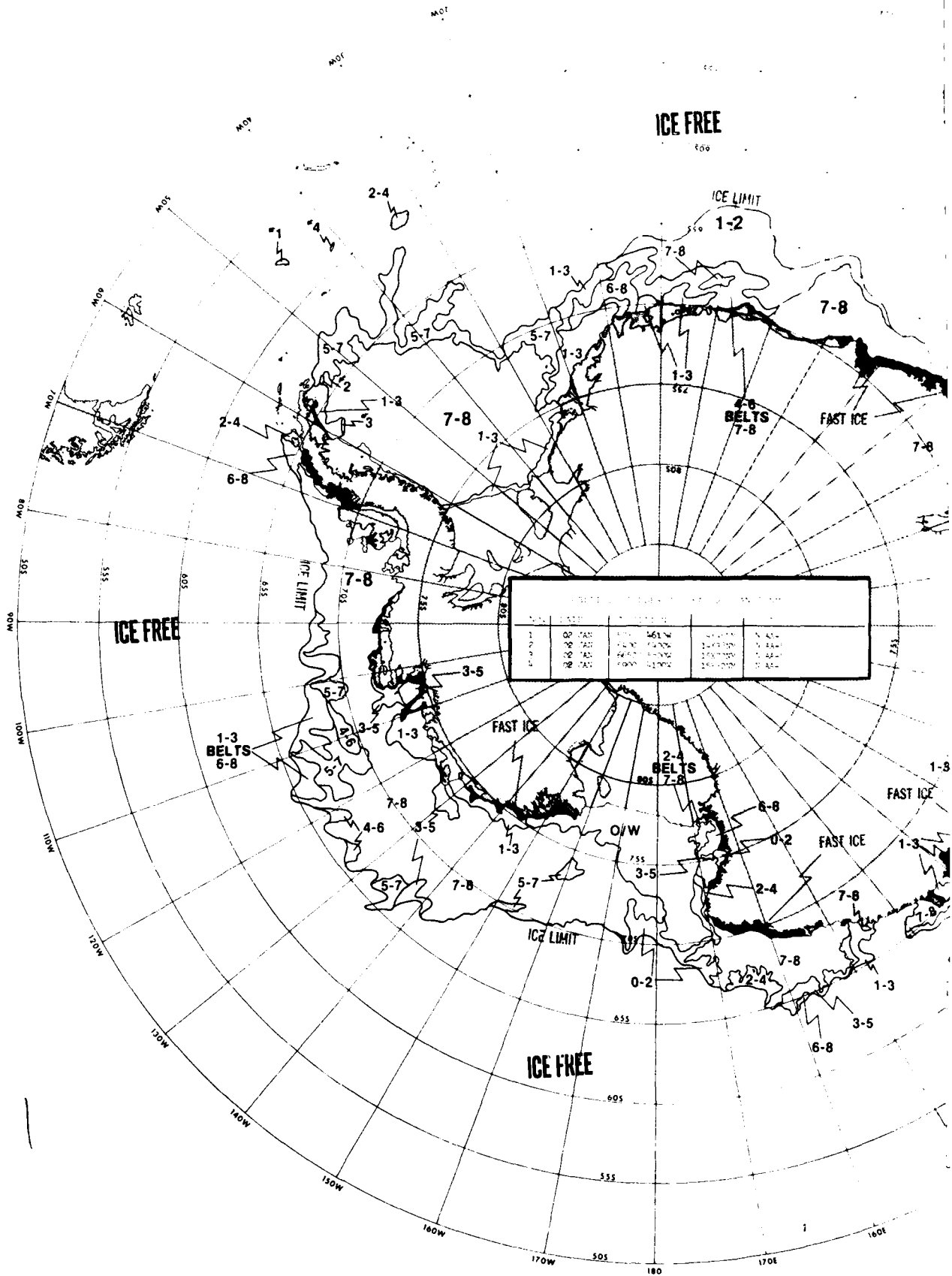
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	29 DEC	6730° 14900'	200x150M	% AA-4 TOMS
2	29 DEC	6725° 14910'	140x100M	% AA-4 TOMS
3	29 DEC	6700° 14900'	160x100M	% AA-4 TOMS
4	29 DEC	6650° 14900'	160x100M	% AA-4 TOMS

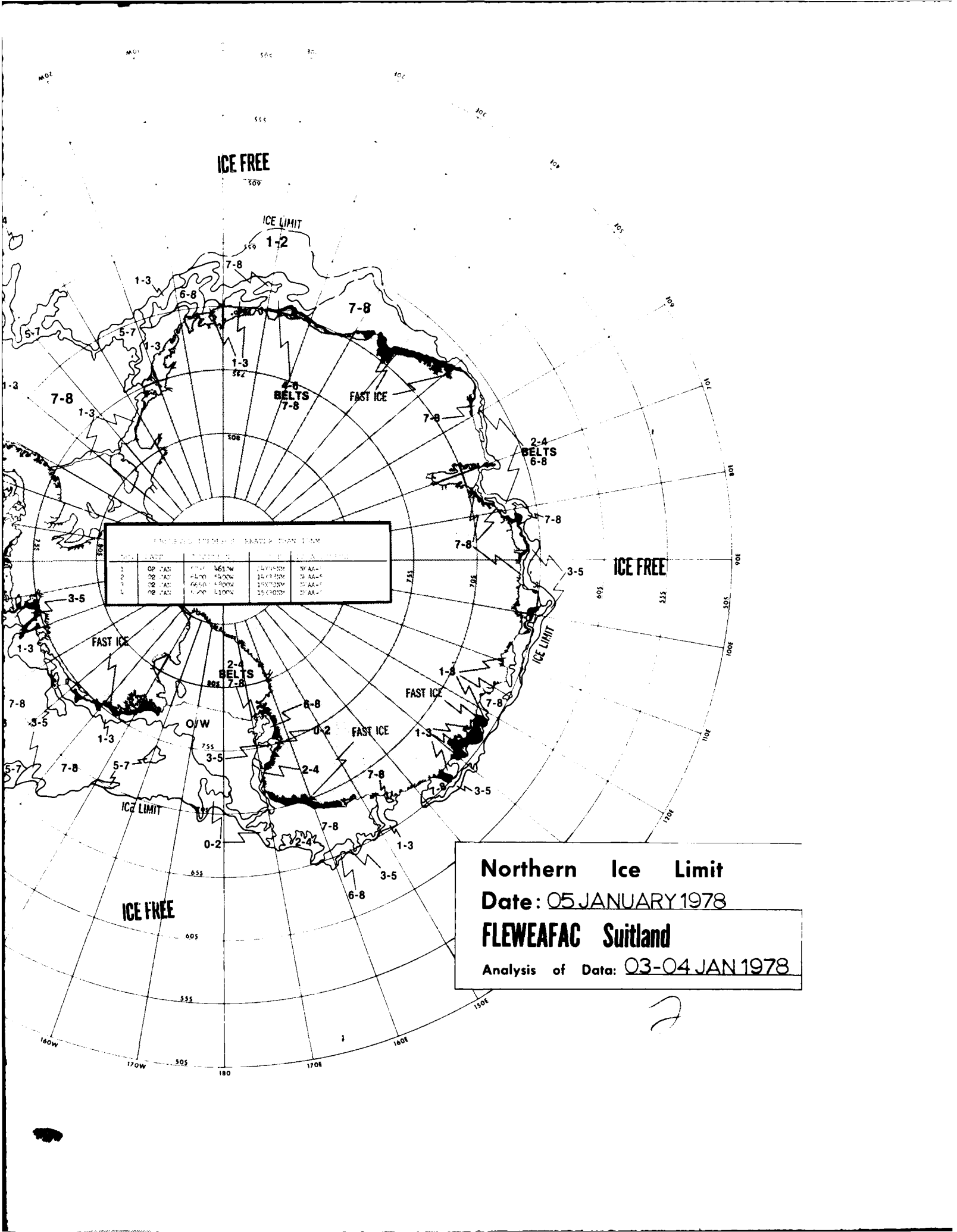
NORTHERN ICE LIMIT
DATE: 29 DEC 1977
FLEWEAFAC SUTLAND
ANALYSIS OF DATA: 26-29 DEC
NOTES

1. ICE CONCENTRATIONS IN OKTAS.
2. O/W OPEN WATER.
3. Δ ICEBERG SIGHTING.
4. BELTS AND STRIPS MAY EXTEND 30-60NM FROM EDGE.

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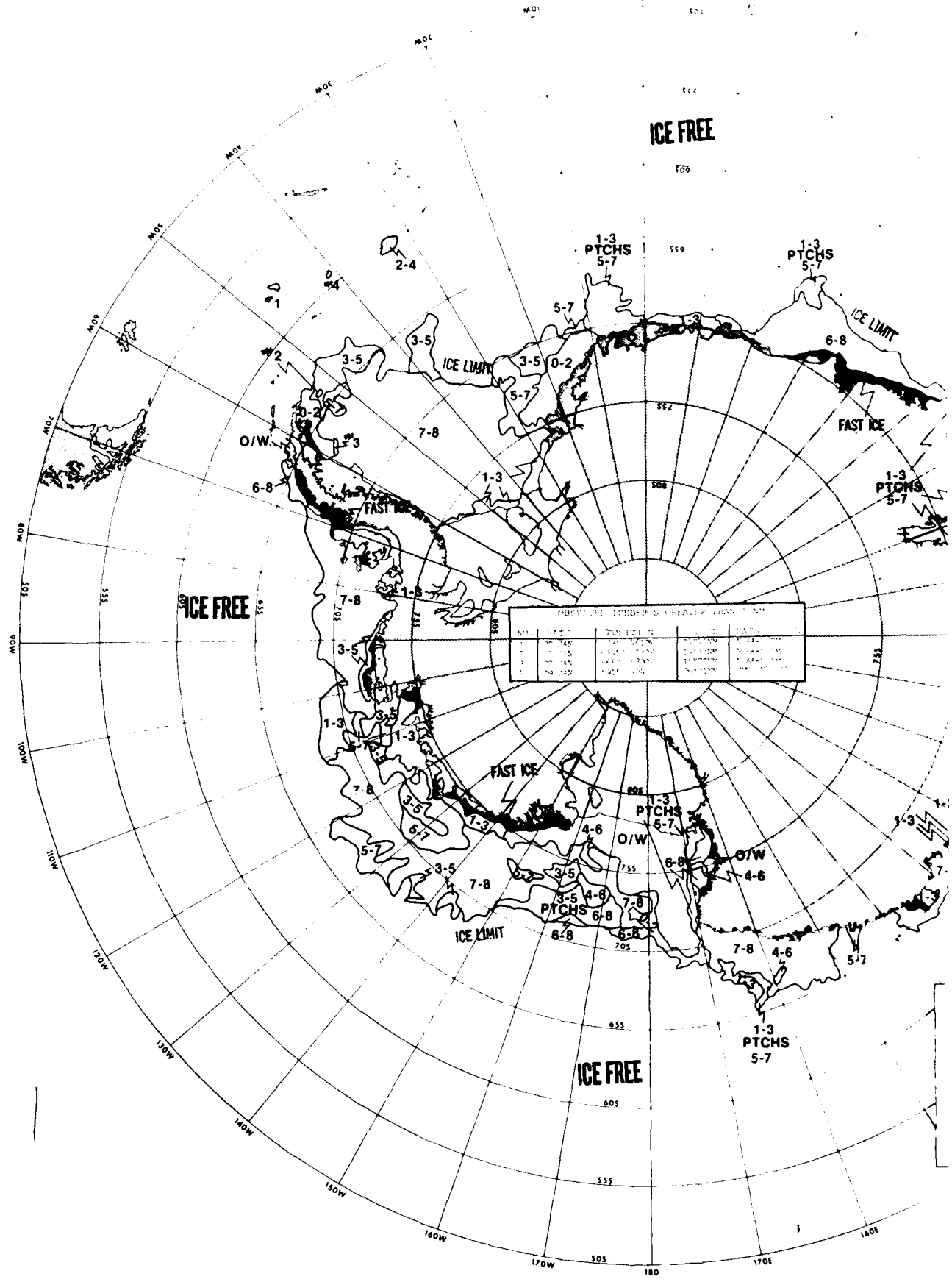


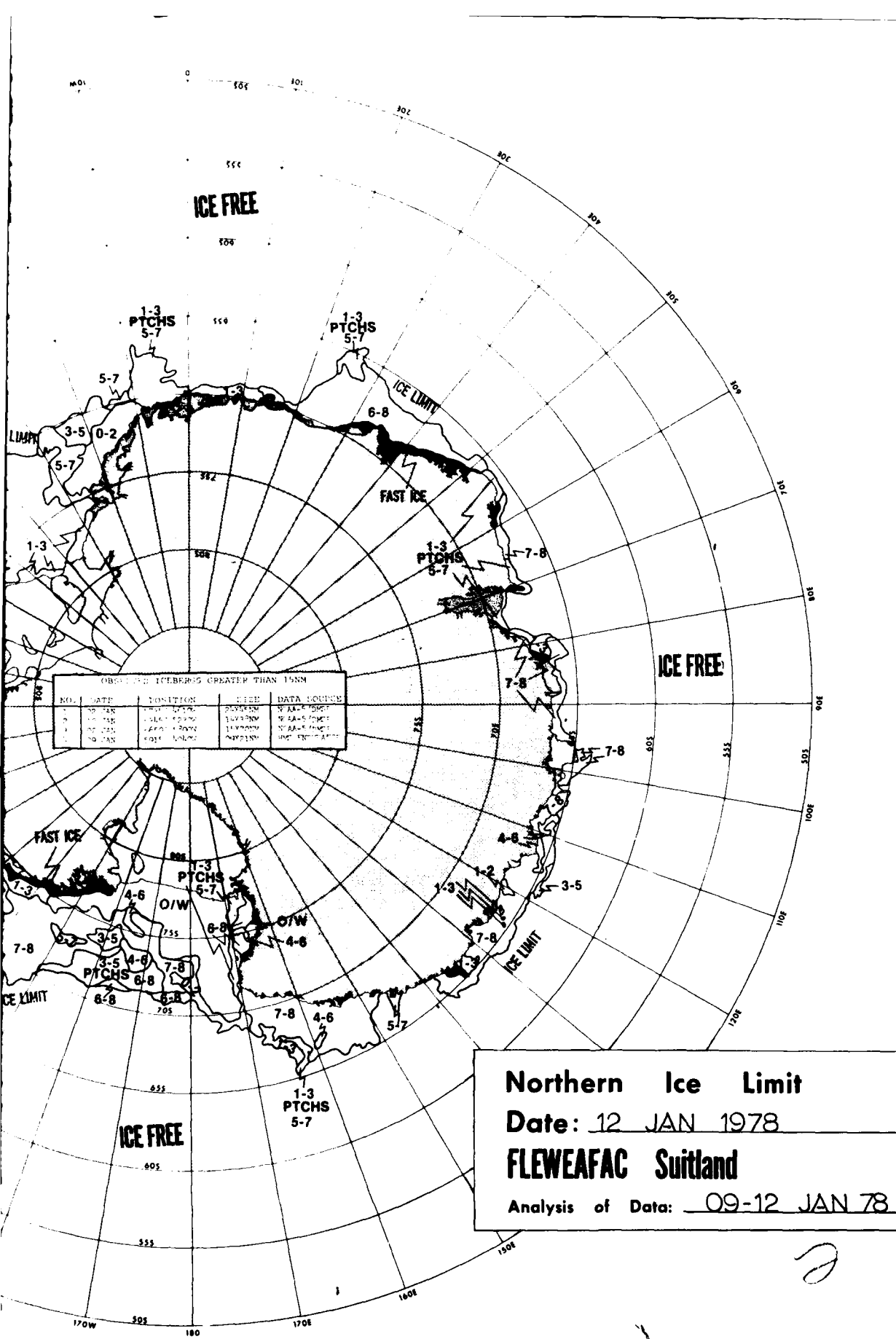
STATIONS WITH DEPTH BEHAVIOR DATA

STATION	DATE	DEPTH (M)	TEMPERATURE (C)	ICE TYPE
01	03 JAN	1551M	14.930M	10 AA-1
02	03 JAN	1500M	14.930M	10 AA-1
03	03 JAN	1500M	15.030M	10 AA-1

Northern Ice Limit
Date: 05 JANUARY 1978
FLEWEAFAC Suitland
 Analysis of Data: 03-04 JAN 1978

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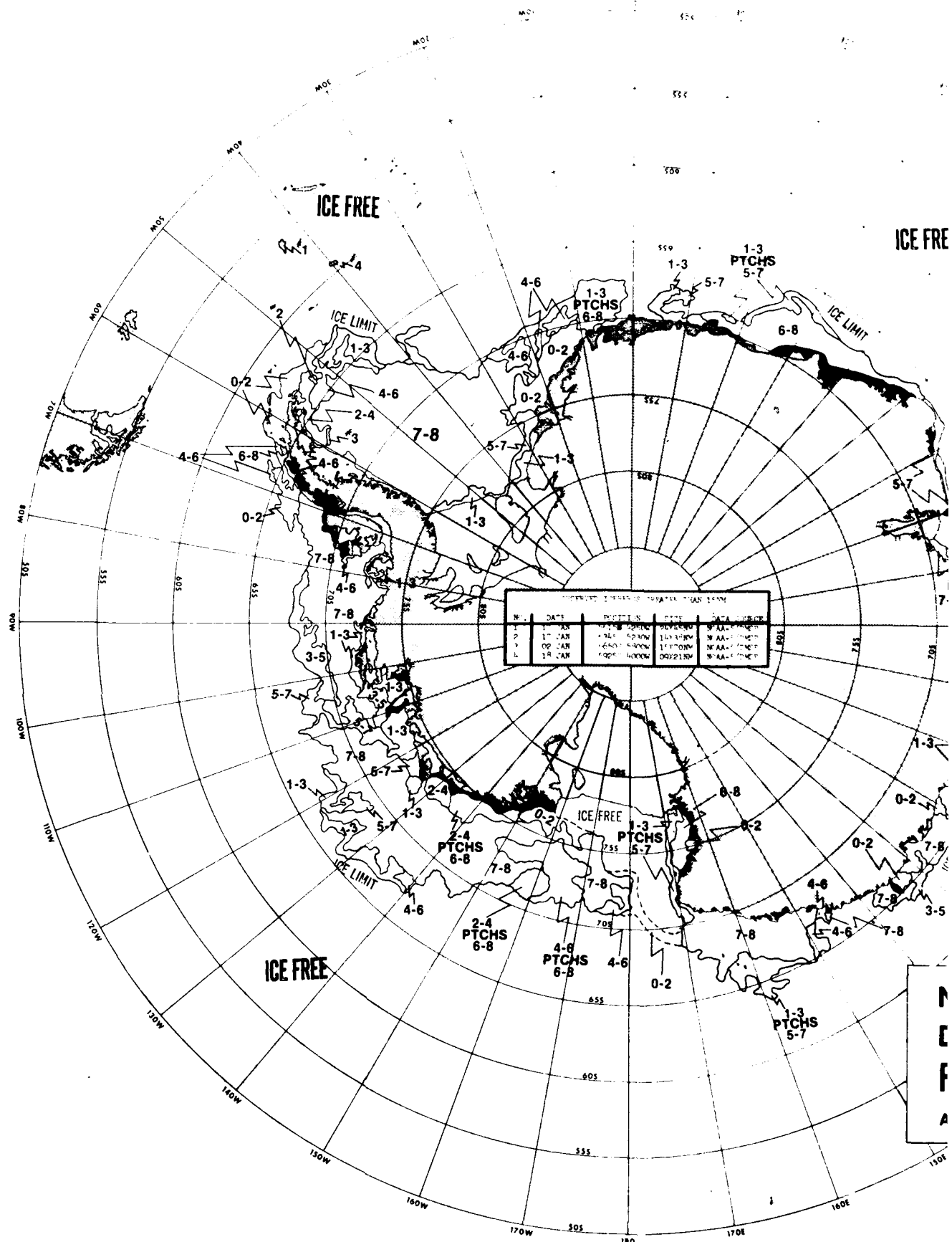
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	NO. 148	148°E 70°S	10000M	NEAAS FOMCE
2	NO. 149	148°E 70°S	10000M	NEAAS FOMCE
3	NO. 150	148°E 70°S	10000M	NEAAS FOMCE
4	NO. 151	148°E 70°S	10000M	NEAAS FOMCE

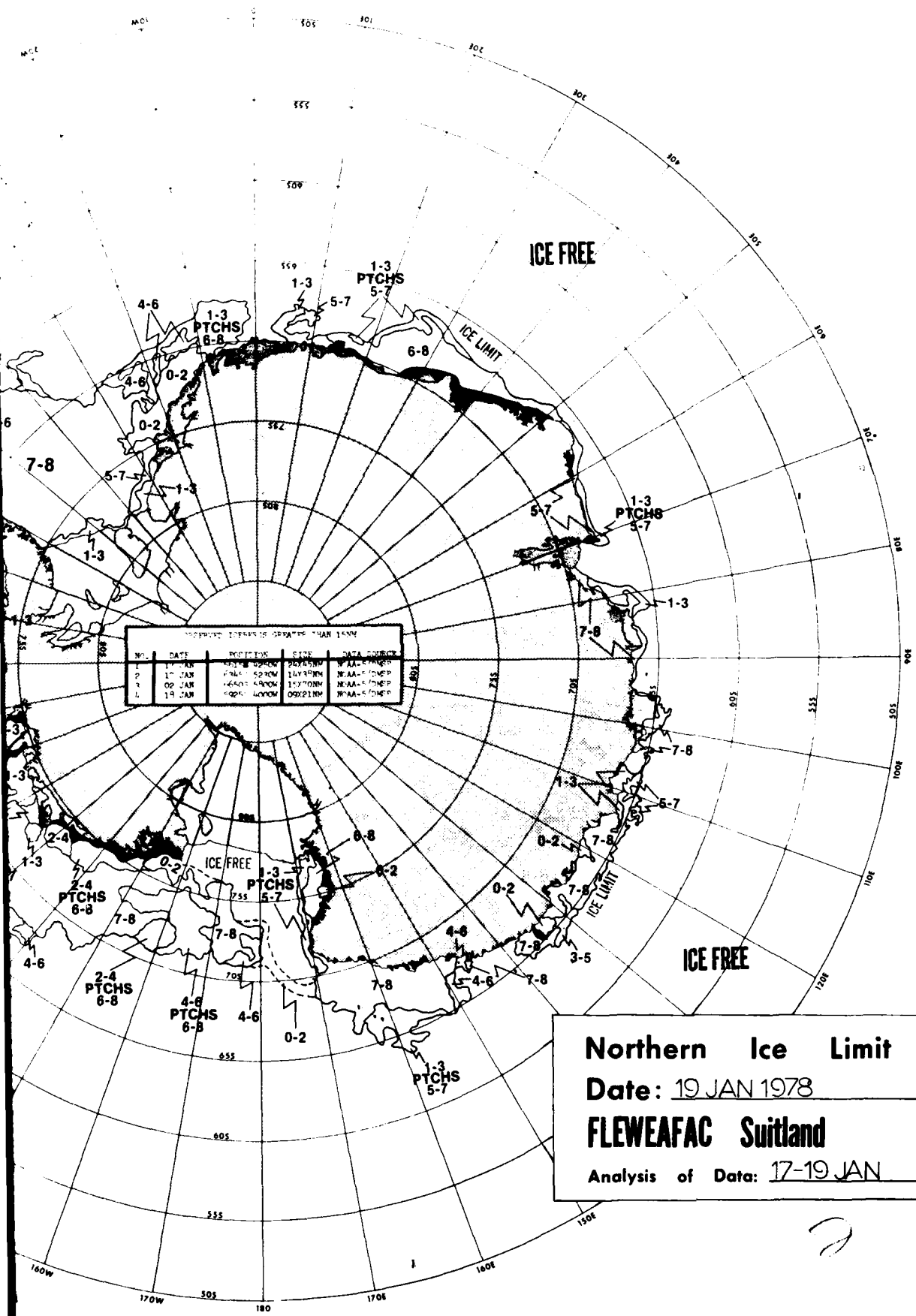
Northern Ice Limit
Date: 12 JAN 1978
FLEWEAFAC Suitland
Analysis of Data: 09-12 JAN 78

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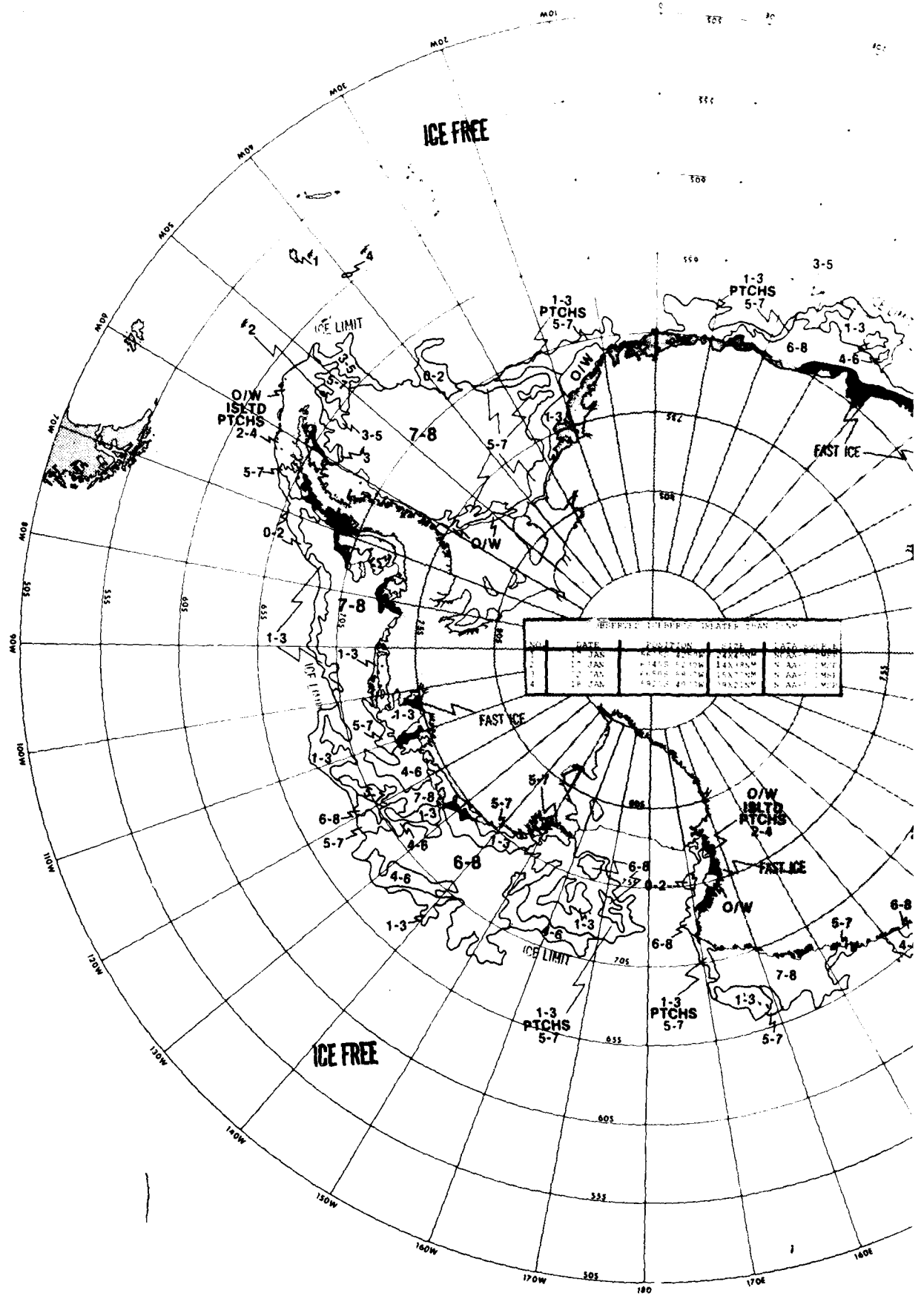
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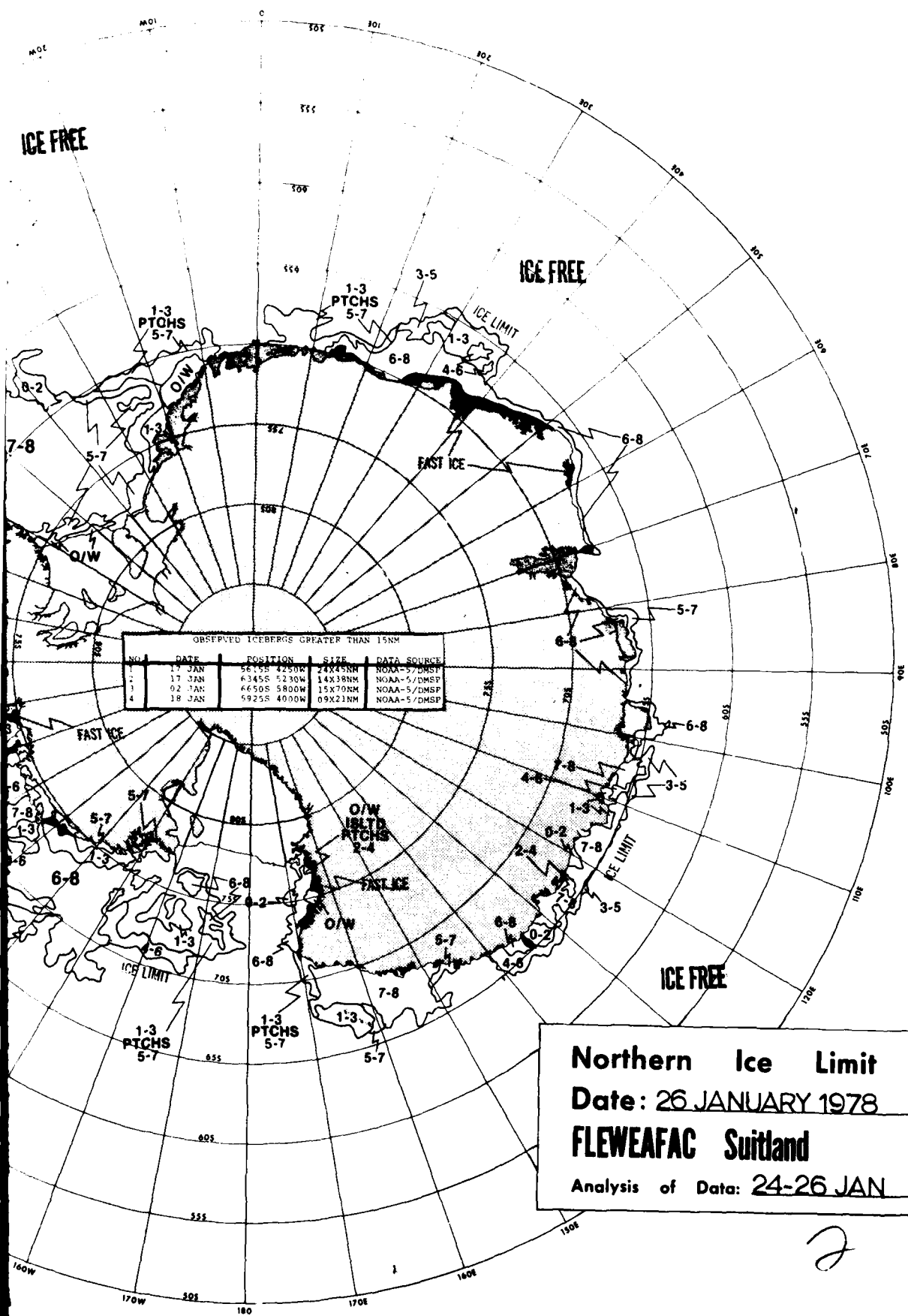


NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 JAN	45°S 152°W	90X150M	WFAA-570MP
2	17 JAN	45°S 152°W	115X150M	WFAA-570MP
3	02 JAN	46°S 149°W	157X100M	WFAA-570MP
4	19 JAN	40°S 140°W	105X210M	WFAA-570MP

Northern Ice Limit
Date: 19 JAN 1978
FLEWEAFAC Suitland
Analysis of Data: 17-19 JAN

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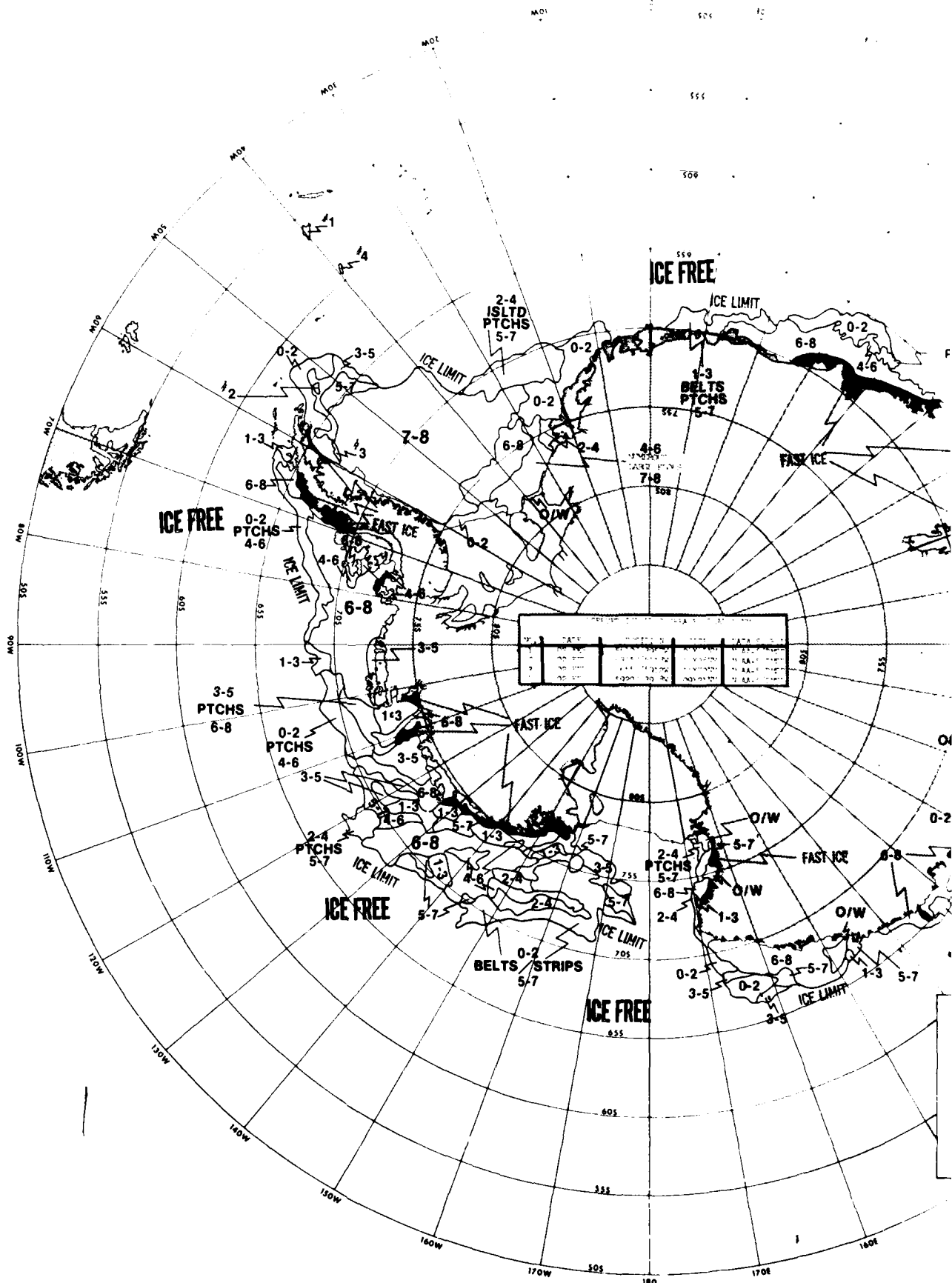
OBSERVED ICEBERGS GREATER THAN 15NM

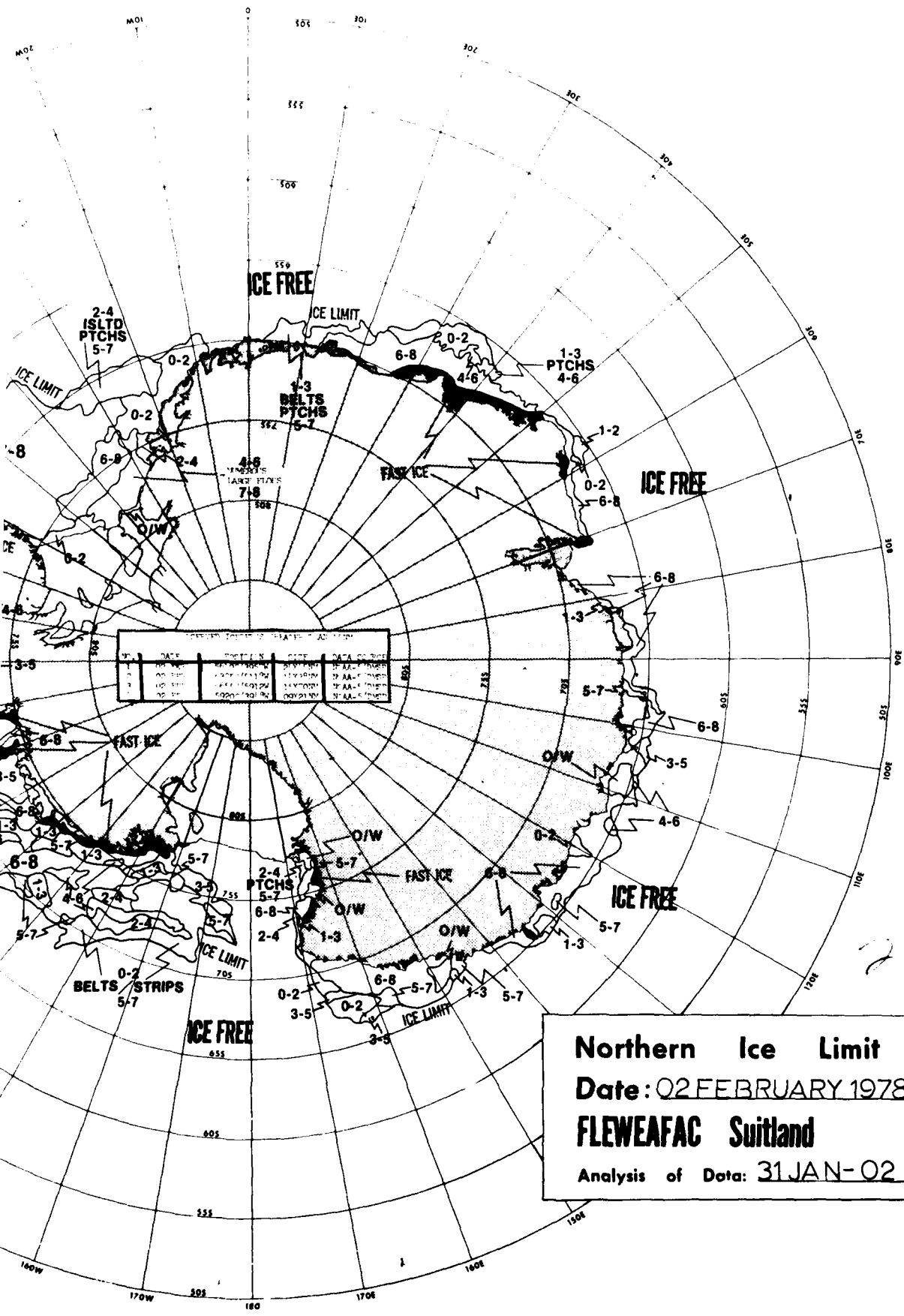
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	17 JAN	56°55' 4250W	24X45NM	NOAA-5/DMSF
2	17 JAN	63°45S 5230W	14X38NM	NOAA-5/DMSF
3	02 JAN	46°05S 5800W	15X70NM	NOAA-5/DMSF
4	18 JAN	5925S 4000W	09X21NM	NOAA-5/DMSF

Northern Ice Limit
Date: 26 JANUARY 1978
FLEWEAFAC Suitland
 Analysis of Data: 24-26 JAN

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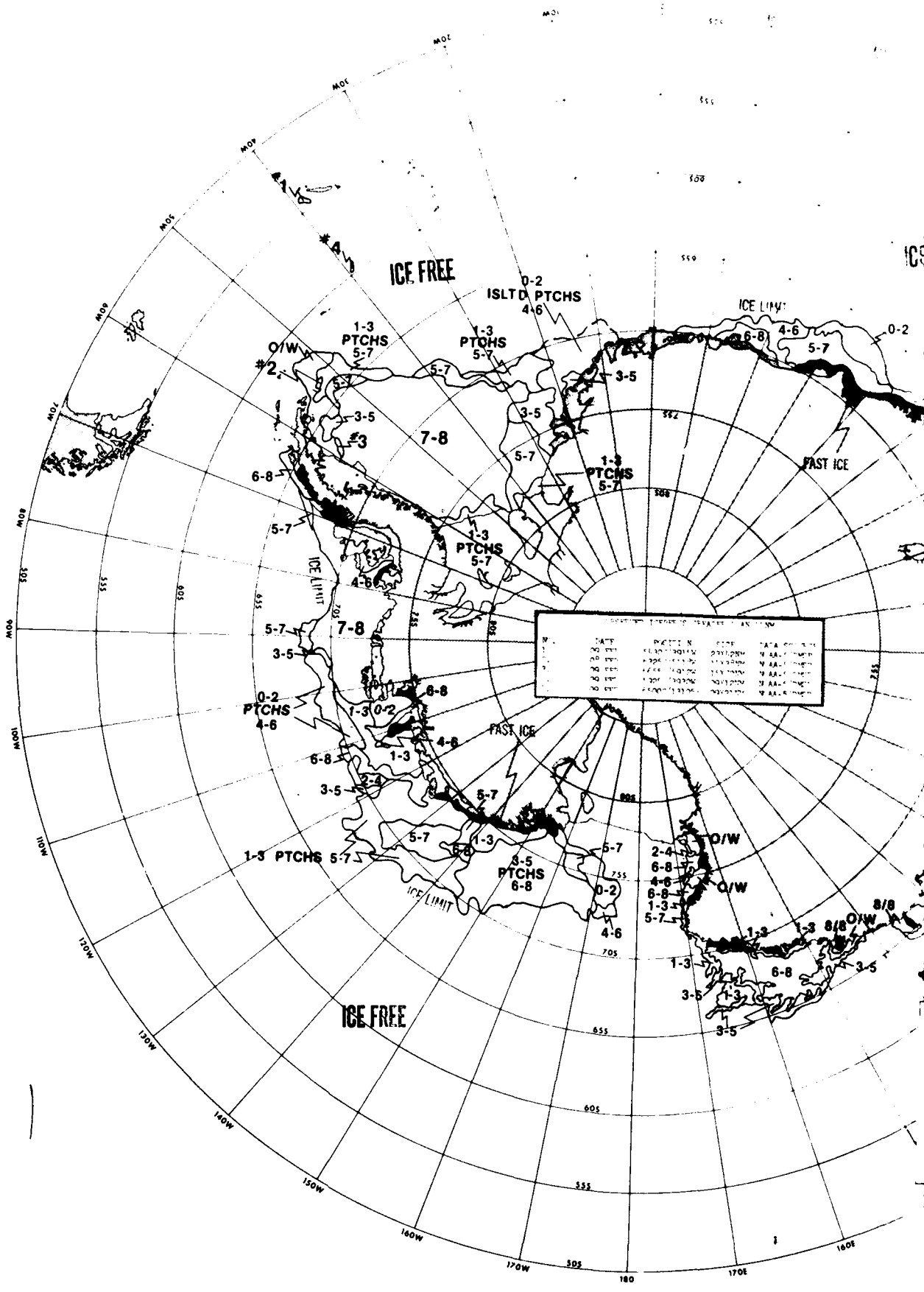
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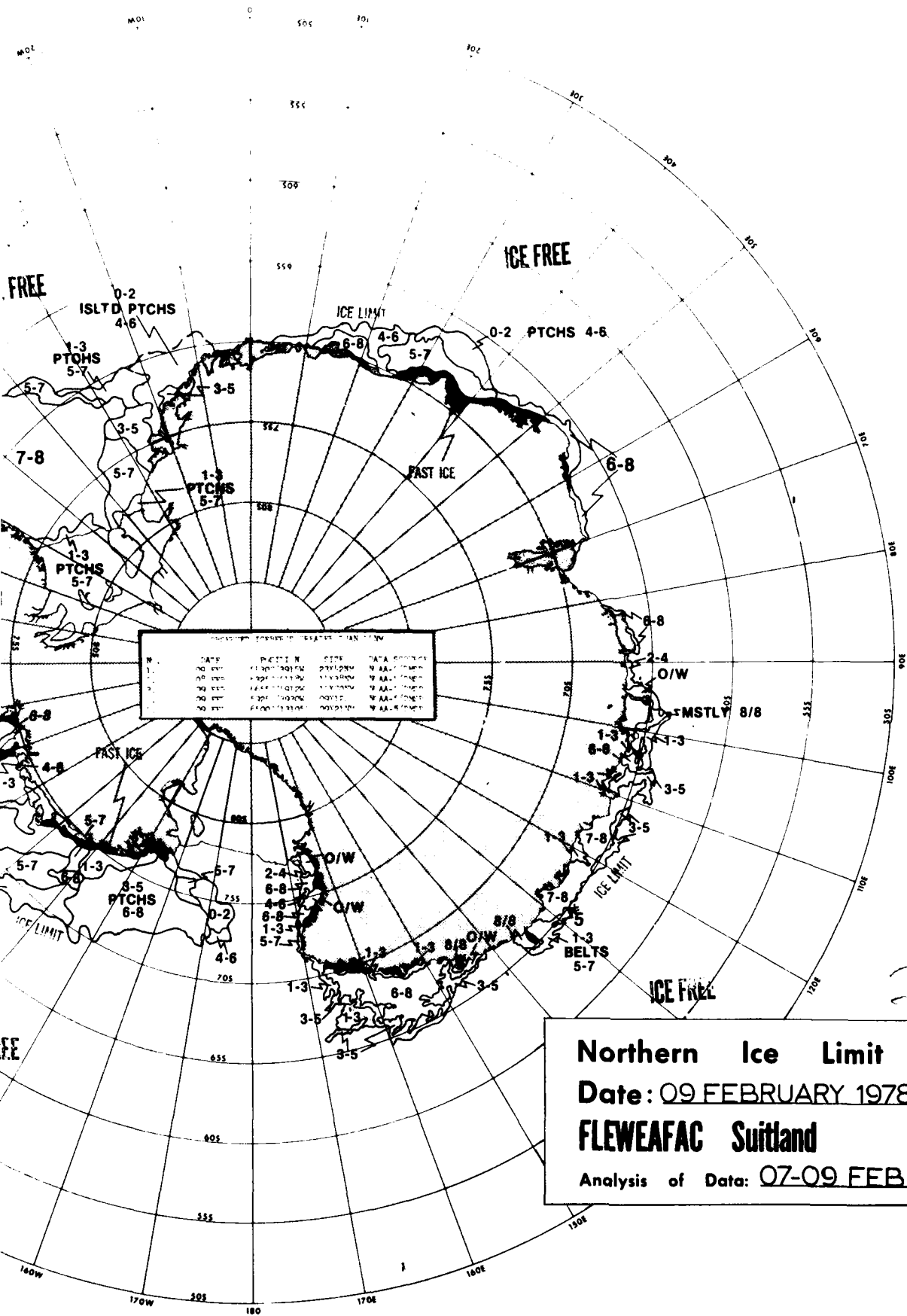




Northern Ice Limit
Date: 02 FEBRUARY 1978
FLEWEAFAC Suitland
Analysis of Data: 31 JAN - 02 FEB

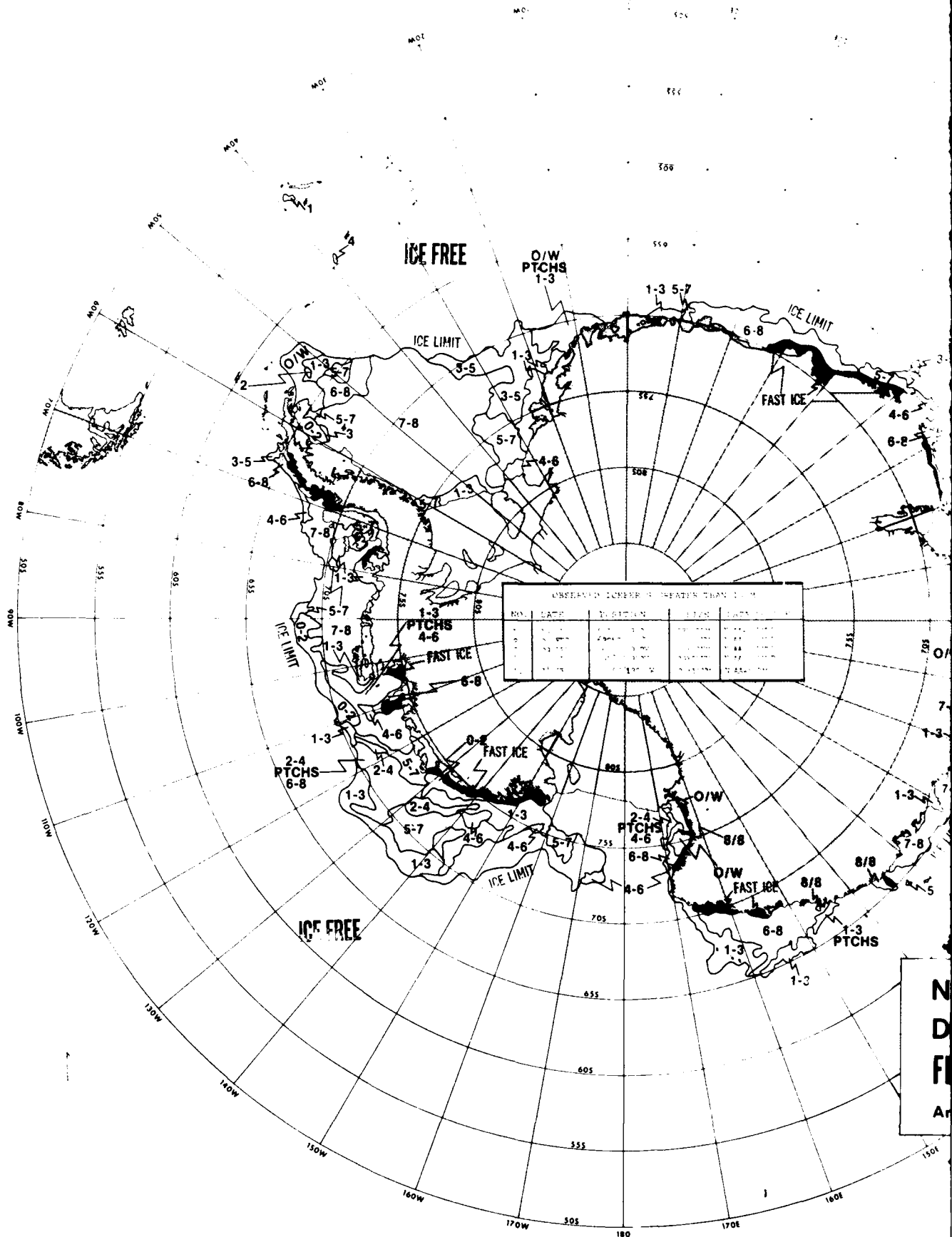
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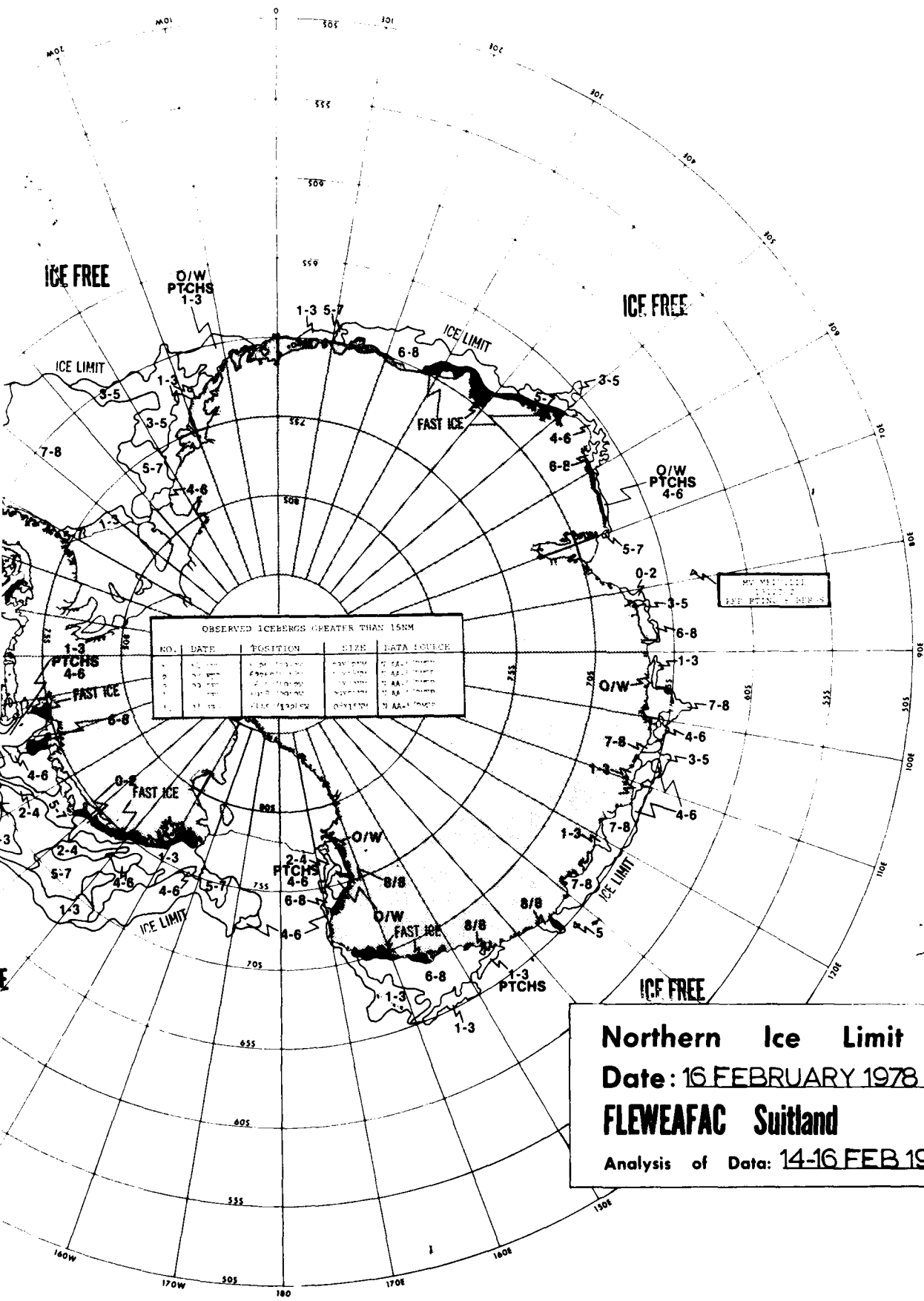


DATE	PROJECT	CODE	DATA SOURCE
09 FEB 78	FLEWEAFAC	0-2	NOAA
09 FEB 78	FLEWEAFAC	1-3	NOAA
09 FEB 78	FLEWEAFAC	3-5	NOAA
09 FEB 78	FLEWEAFAC	4-6	NOAA
09 FEB 78	FLEWEAFAC	5-7	NOAA
09 FEB 78	FLEWEAFAC	6-8	NOAA
09 FEB 78	FLEWEAFAC	7-8	NOAA
09 FEB 78	FLEWEAFAC	8-8	NOAA

Northern Ice Limit
Date: 09 FEBRUARY 1978
FLEWEAFAC Suttland
Analysis of Data: 07-09 FEB 1978



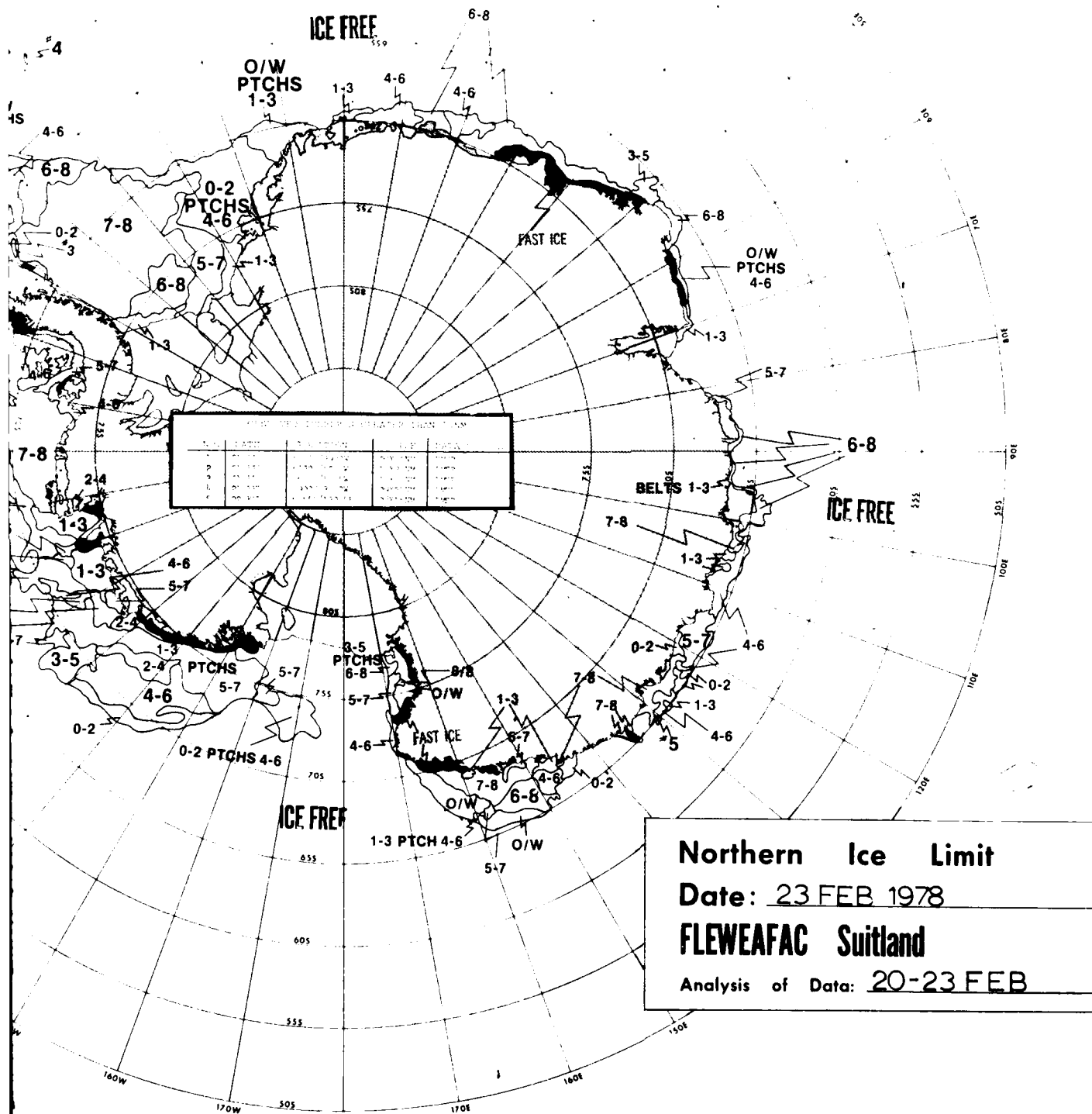
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OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	14 FEB	75°N 175°W	1000M	0521
2	14 FEB	75°N 175°W	1000M	0521
3	14 FEB	75°N 175°W	1000M	0521
4	14 FEB	75°N 175°W	1000M	0521
5	14 FEB	75°N 175°W	1000M	0521
6	14 FEB	75°N 175°W	1000M	0521
7	14 FEB	75°N 175°W	1000M	0521
8	14 FEB	75°N 175°W	1000M	0521

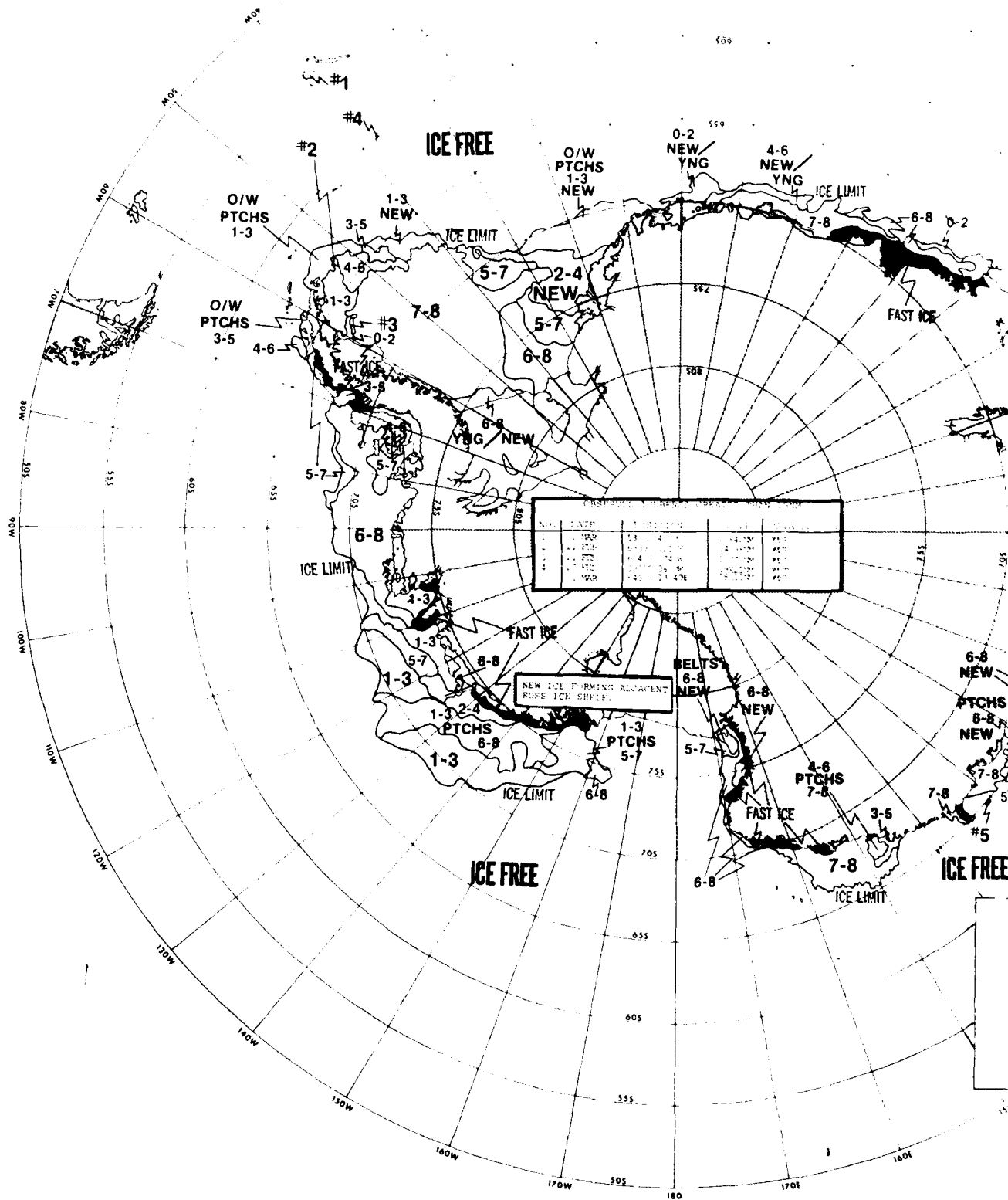
Northern Ice Limit
Date: 16 FEBRUARY 1978
FLEWEAFAC Suitland
 Analysis of Data: 14-16 FEB 1978

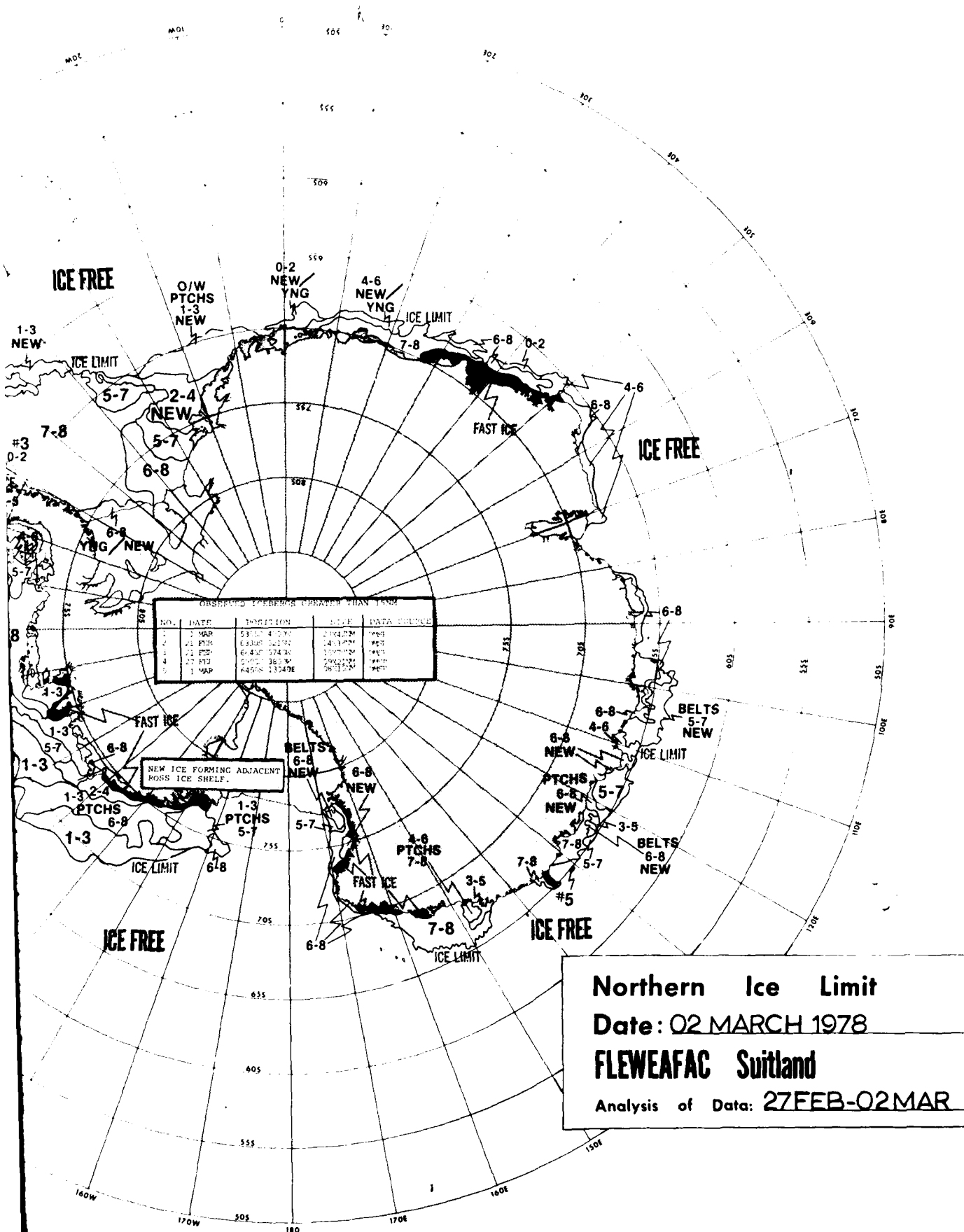


DATE	TIME	LATITUDE	LONGITUDE	ICE TYPE	DATA
20 FEB 1978	0000	80°N	150°W	FAST ICE	4-6
20 FEB 1978	0100	78°N	155°W	FAST ICE	4-6
20 FEB 1978	0200	76°N	160°W	FAST ICE	4-6
20 FEB 1978	0300	74°N	165°W	FAST ICE	4-6
20 FEB 1978	0400	72°N	170°W	FAST ICE	4-6
20 FEB 1978	0500	70°N	175°W	FAST ICE	4-6
20 FEB 1978	0600	68°N	180°W	FAST ICE	4-6
20 FEB 1978	0700	66°N	185°W	FAST ICE	4-6
20 FEB 1978	0800	64°N	190°W	FAST ICE	4-6
20 FEB 1978	0900	62°N	195°W	FAST ICE	4-6
20 FEB 1978	1000	60°N	200°W	FAST ICE	4-6
20 FEB 1978	1100	58°N	205°W	FAST ICE	4-6
20 FEB 1978	1200	56°N	210°W	FAST ICE	4-6
20 FEB 1978	1300	54°N	215°W	FAST ICE	4-6
20 FEB 1978	1400	52°N	220°W	FAST ICE	4-6
20 FEB 1978	1500	50°N	225°W	FAST ICE	4-6
20 FEB 1978	1600	48°N	230°W	FAST ICE	4-6
20 FEB 1978	1700	46°N	235°W	FAST ICE	4-6
20 FEB 1978	1800	44°N	240°W	FAST ICE	4-6
20 FEB 1978	1900	42°N	245°W	FAST ICE	4-6
20 FEB 1978	2000	40°N	250°W	FAST ICE	4-6
20 FEB 1978	2100	38°N	255°W	FAST ICE	4-6
20 FEB 1978	2200	36°N	260°W	FAST ICE	4-6
20 FEB 1978	2300	34°N	265°W	FAST ICE	4-6
20 FEB 1978	2400	32°N	270°W	FAST ICE	4-6
20 FEB 1978	2500	30°N	275°W	FAST ICE	4-6
20 FEB 1978	2600	28°N	280°W	FAST ICE	4-6
20 FEB 1978	2700	26°N	285°W	FAST ICE	4-6
20 FEB 1978	2800	24°N	290°W	FAST ICE	4-6
20 FEB 1978	2900	22°N	295°W	FAST ICE	4-6
20 FEB 1978	3000	20°N	300°W	FAST ICE	4-6
20 FEB 1978	3100	18°N	305°W	FAST ICE	4-6
20 FEB 1978	3200	16°N	310°W	FAST ICE	4-6
20 FEB 1978	3300	14°N	315°W	FAST ICE	4-6
20 FEB 1978	3400	12°N	320°W	FAST ICE	4-6
20 FEB 1978	3500	10°N	325°W	FAST ICE	4-6
20 FEB 1978	3600	8°N	330°W	FAST ICE	4-6
20 FEB 1978	3700	6°N	335°W	FAST ICE	4-6
20 FEB 1978	3800	4°N	340°W	FAST ICE	4-6
20 FEB 1978	3900	2°N	345°W	FAST ICE	4-6
20 FEB 1978	4000	0°N	350°W	FAST ICE	4-6

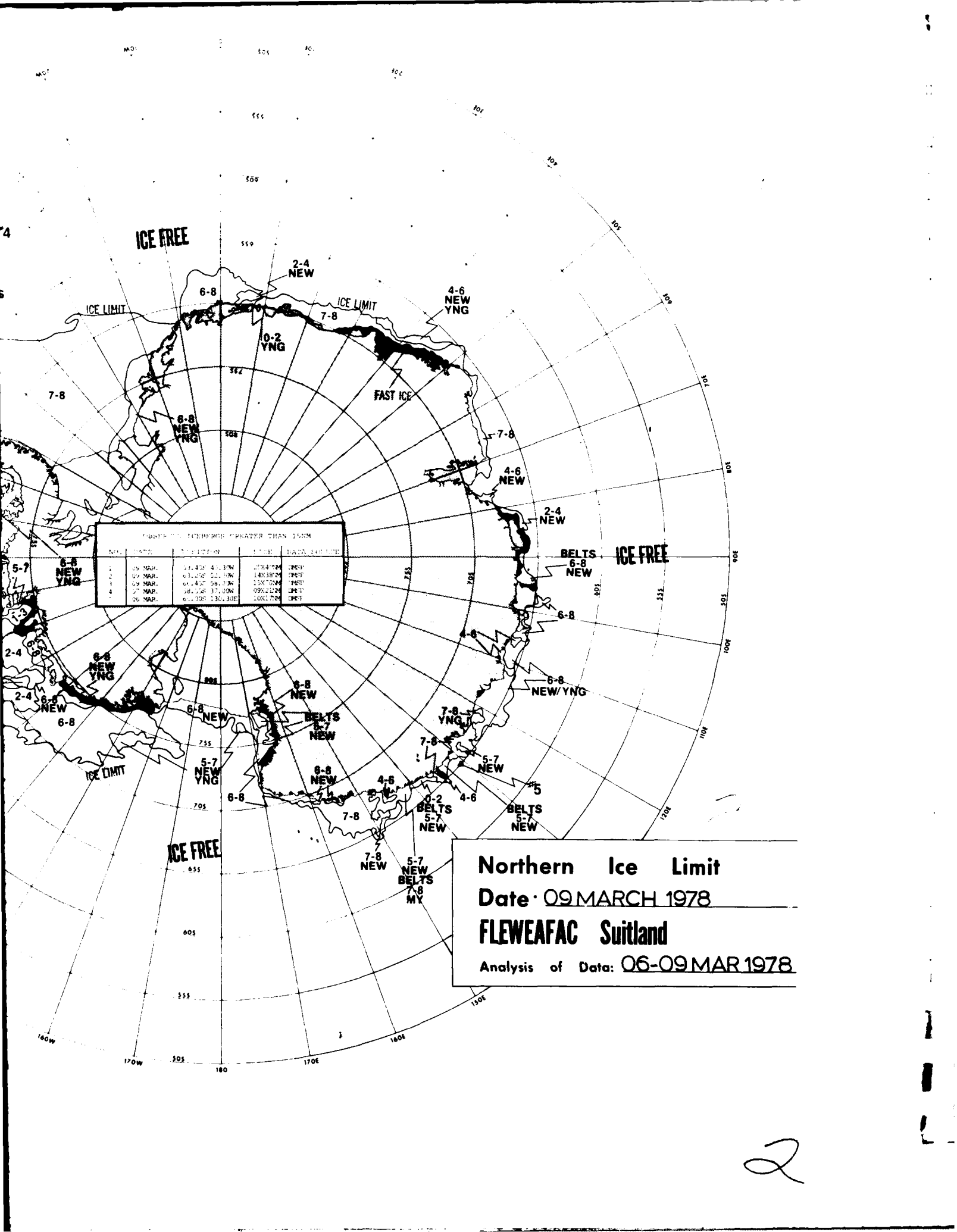
Northern Ice Limit
Date: 23 FEB 1978
FLEWEAFAC Suitland
 Analysis of Data: 20-23 FEB

2





2

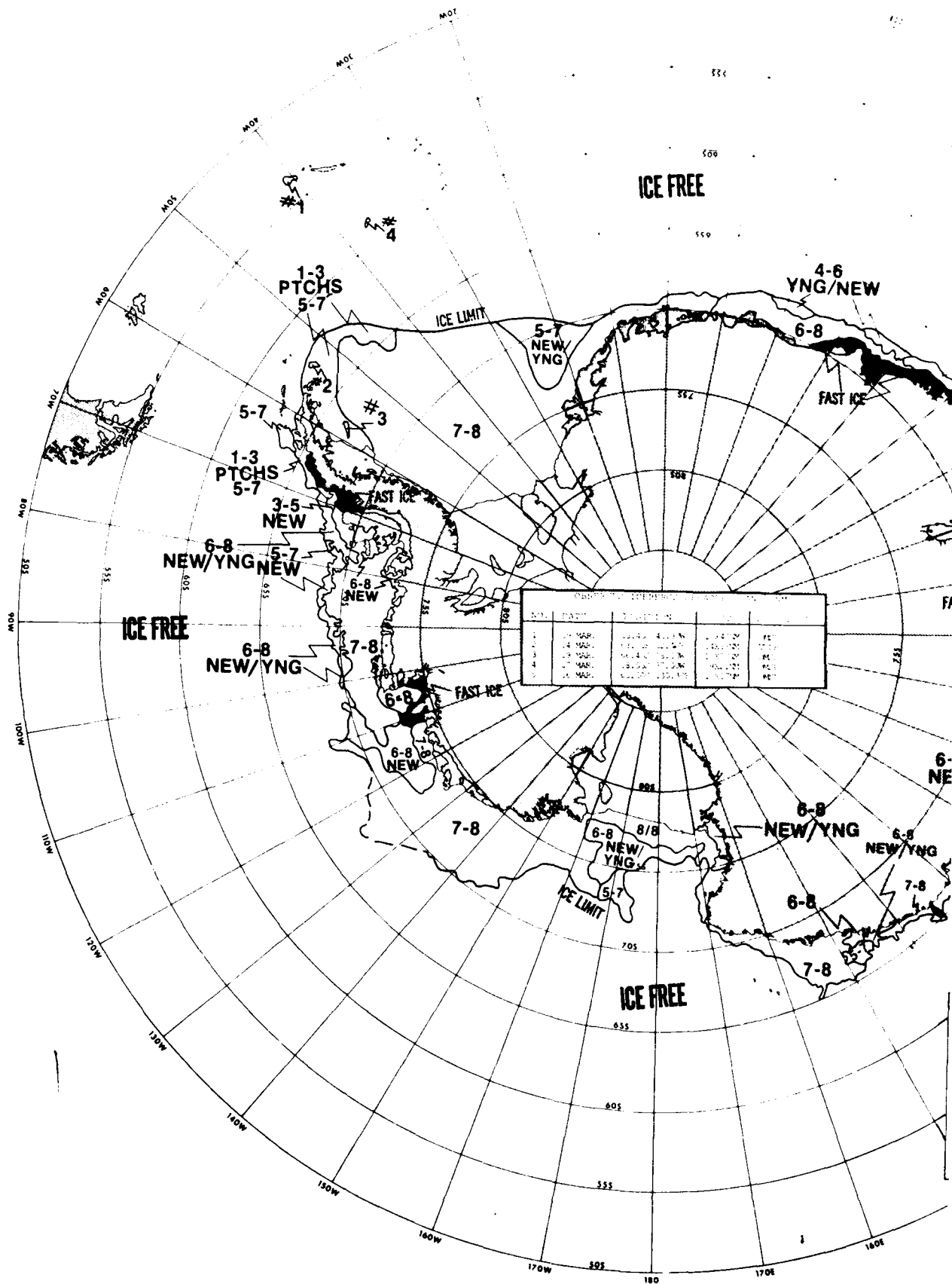


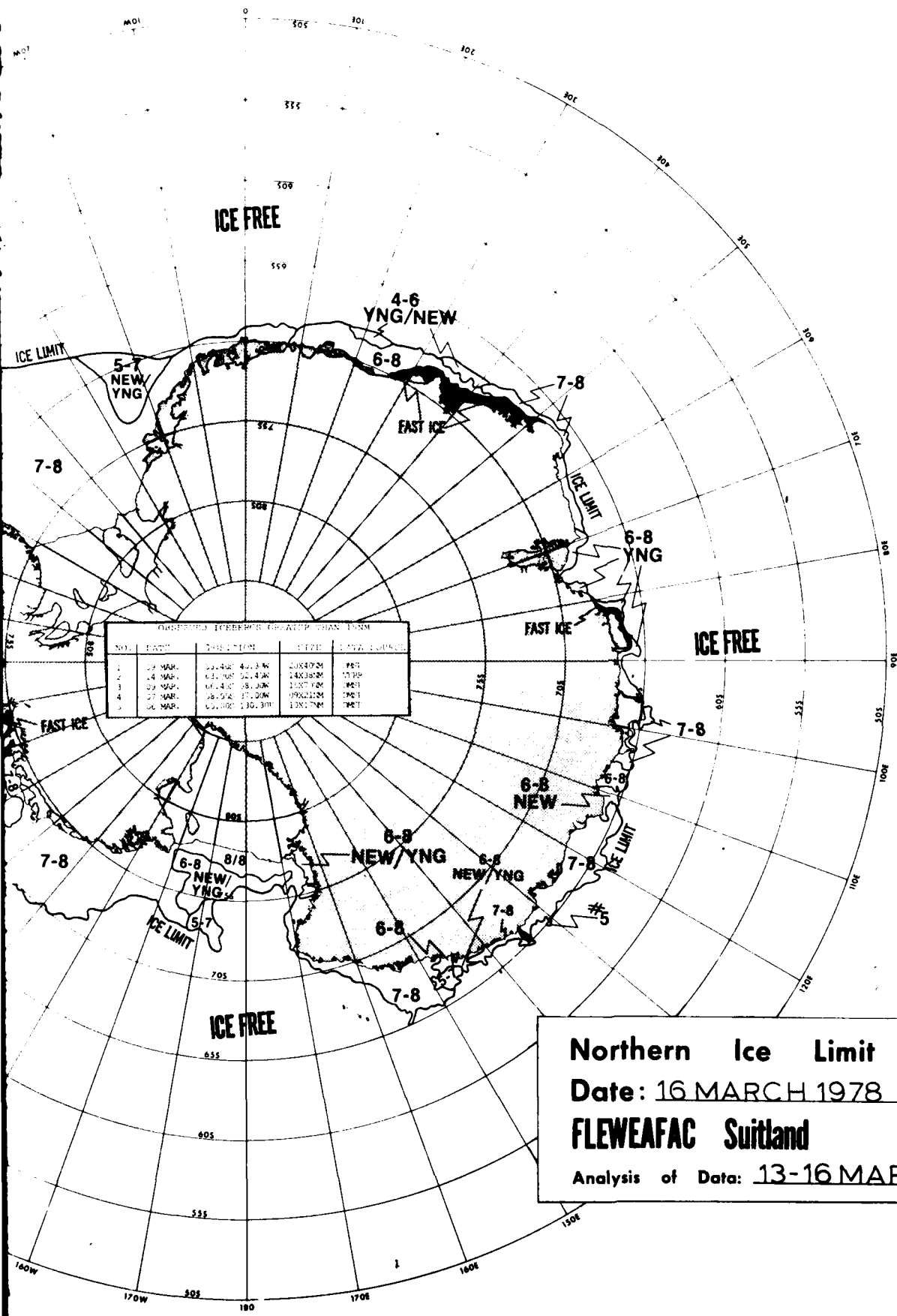
NUMBER OF ICEBERGS GREATER THAN 100M

NO. OF DAYS	DATE	AREA (SQ. NM)	NO. OF ICEBERGS	PER SQ. NM	DATA SOURCE
1	09 MAR.	51,420	41,374	0.799	IMR-7
2	09 MAR.	61,295	22,176	0.362	IMR-7
3	09 MAR.	61,437	58,334	0.949	IMR-7
4	07 MAR.	58,228	37,006	0.635	IMR-7
4	06 MAR.	61,308	130,308	2.125	IMR-7

Northern Ice Limit
Date: 09 MARCH 1978
FLEWEAFAC Suitland
 Analysis of Data: 06-09 MAR 1978

2



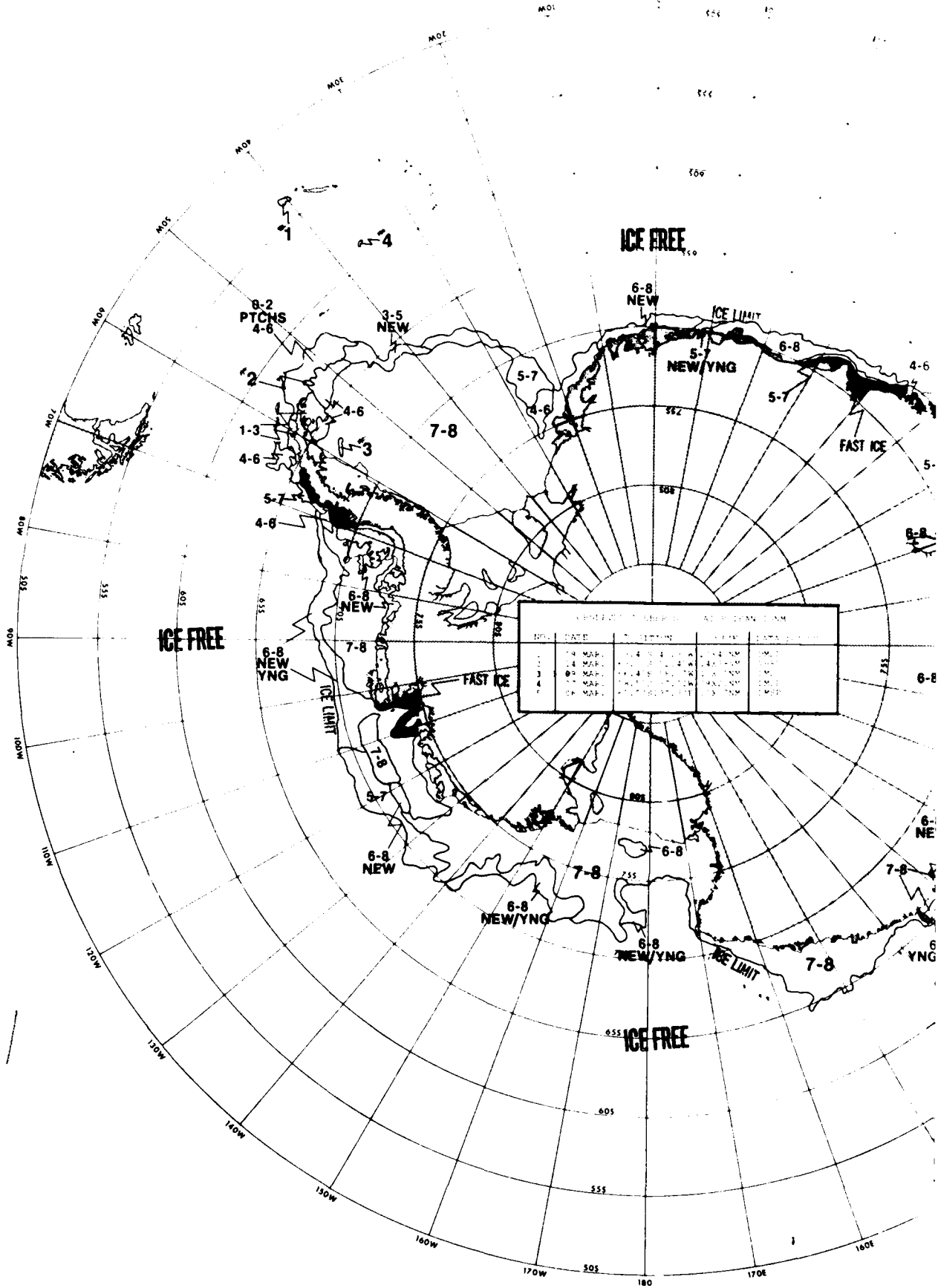


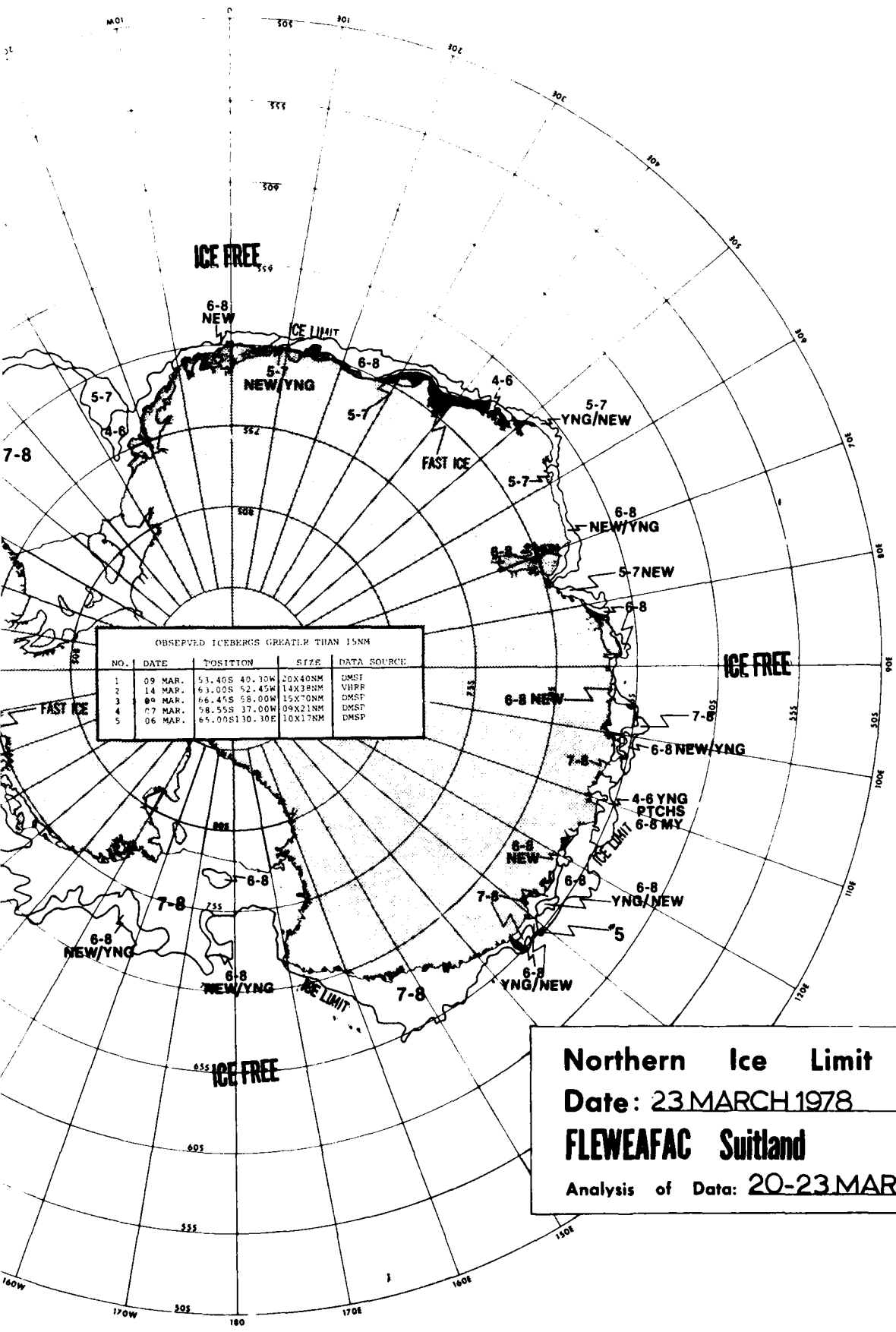
STATISTICAL DATA FOR ICE LIMIT

NO.	DATE	AREA (SQ KM)	PERIMETER (KM)	VOLUME (CUM M)	ICE TYPE
1	13 MAR	22,442	421.3	2,043,024	#61
2	14 MAR	22,104	421.4	1,433,824	#62
3	15 MAR	22,442	421.3	1,027,824	#63
4	16 MAR	22,572	421.0	992,124	#64
5	16 MAR	22,442	421.3	1,282,724	#65

Northern Ice Limit
Date: 16 MARCH 1978
FLEWEAFAC Suitland
 Analysis of Data: 13-16 MAR 78

2





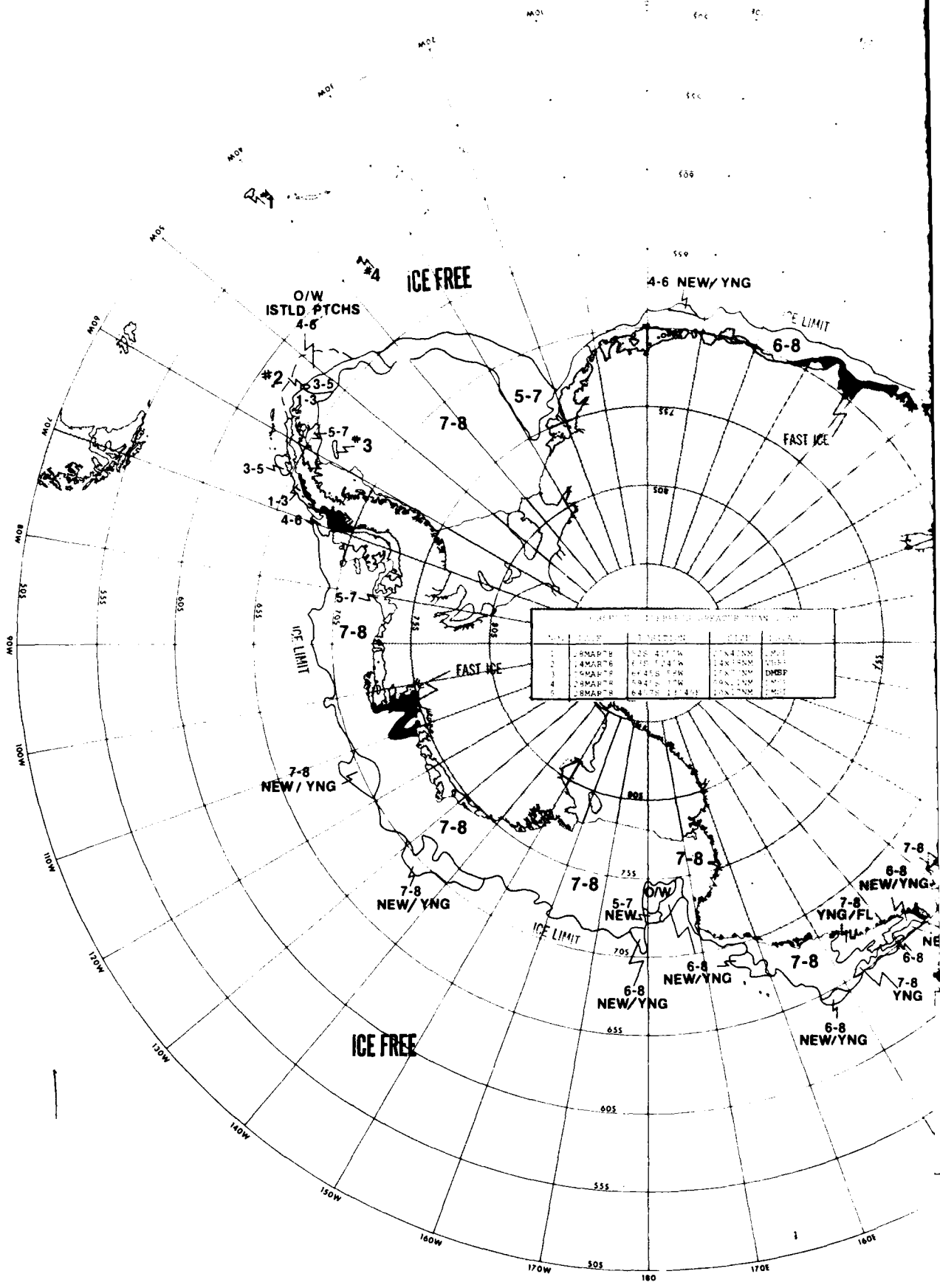
OBSERVED ICEBERGS GREATER THAN 15NM

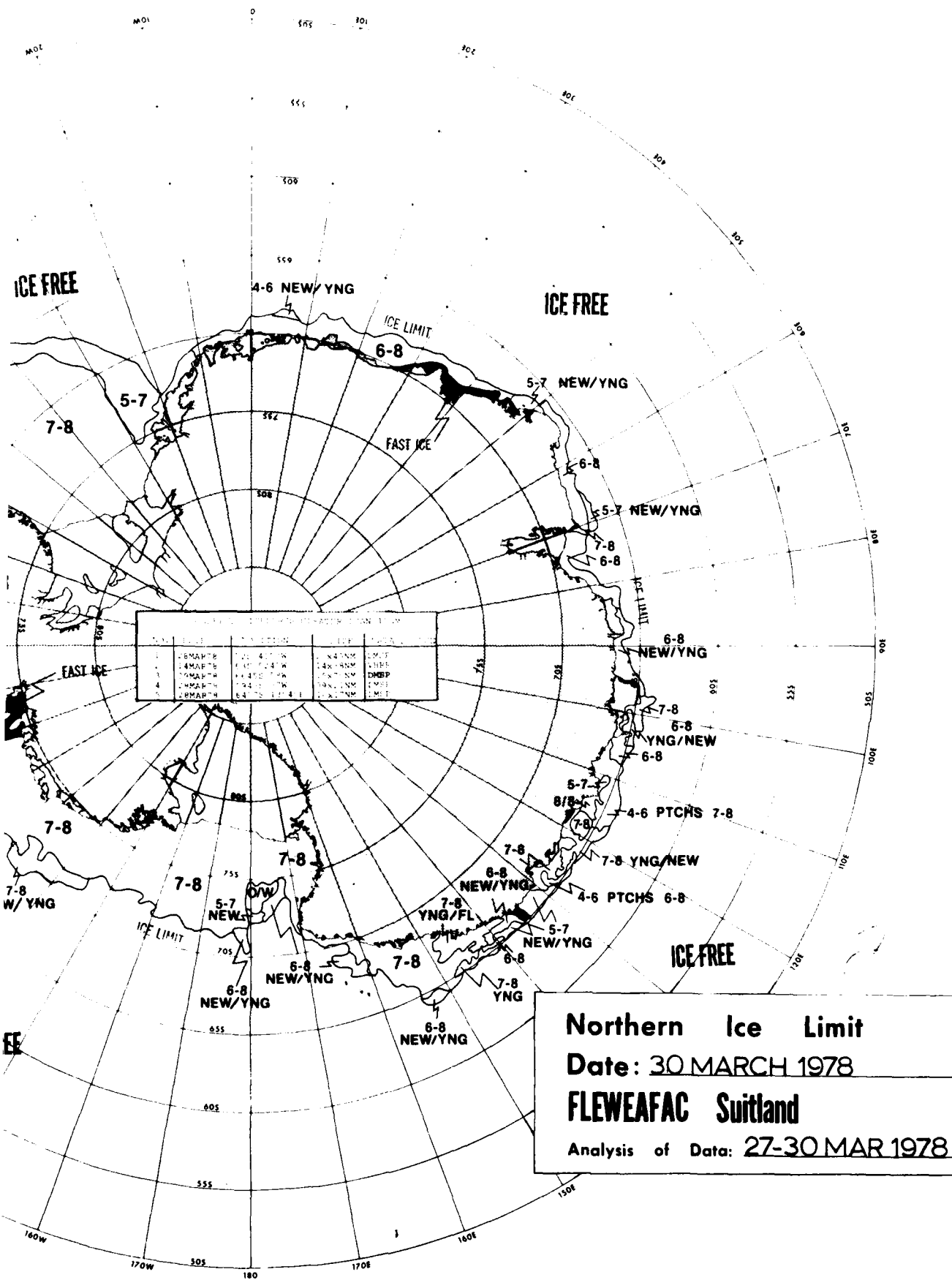
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	09 MAR.	53.40S 40.10W	10X40NM	DMSP
2	14 MAR.	63.00S 52.45W	14X38NM	VHRR
3	04 MAR.	66.45S 58.00W	15X20NM	DMSP
4	07 MAR.	58.55S 37.00W	09X21NM	DMSP
5	06 MAR.	65.00S 130.30E	10X17NM	DMSP

Northern Ice Limit
Date: 23 MARCH 1978
FLEWEAFAC Suitland
 Analysis of Data: 20-23 MAR 1978

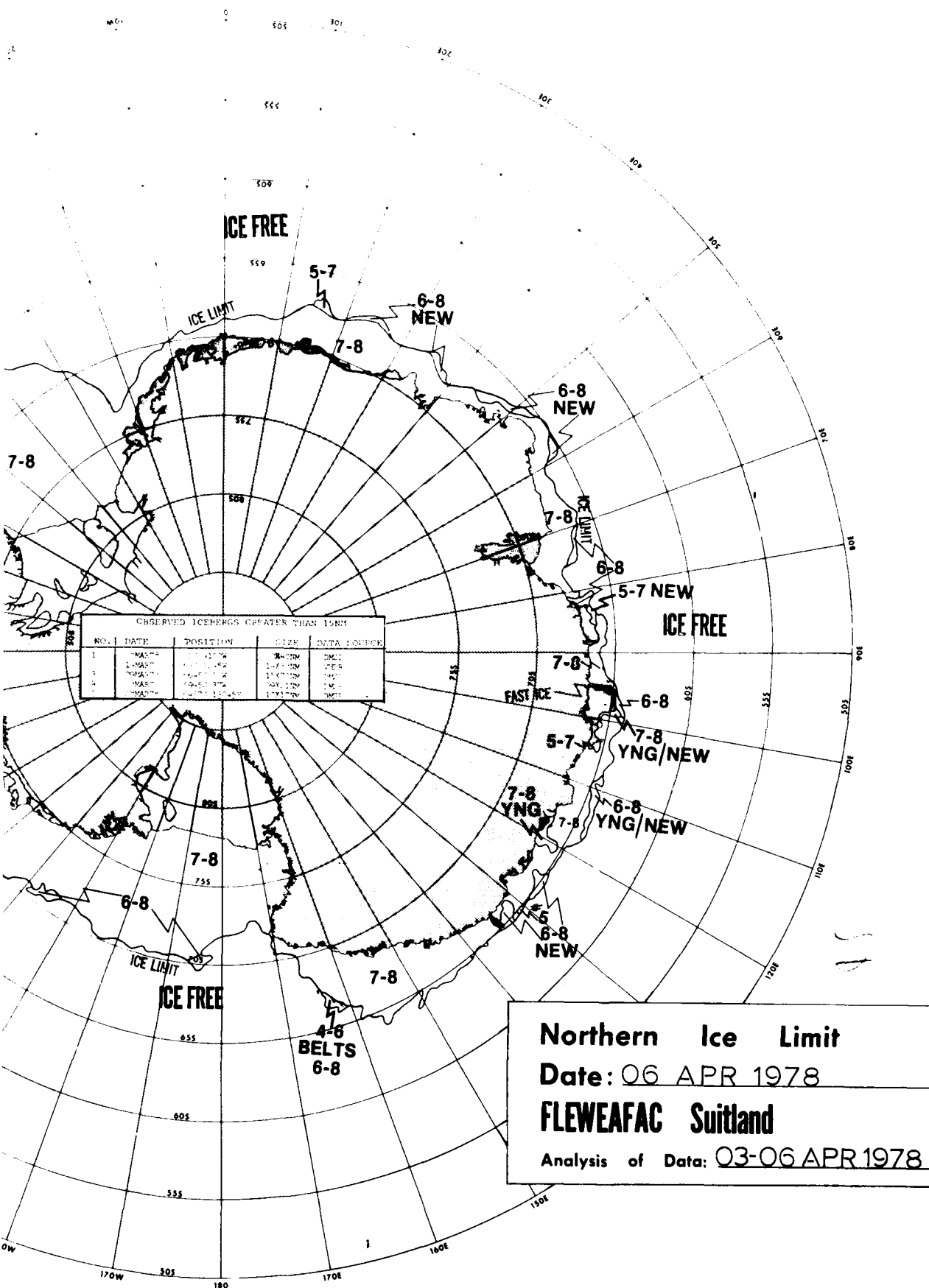
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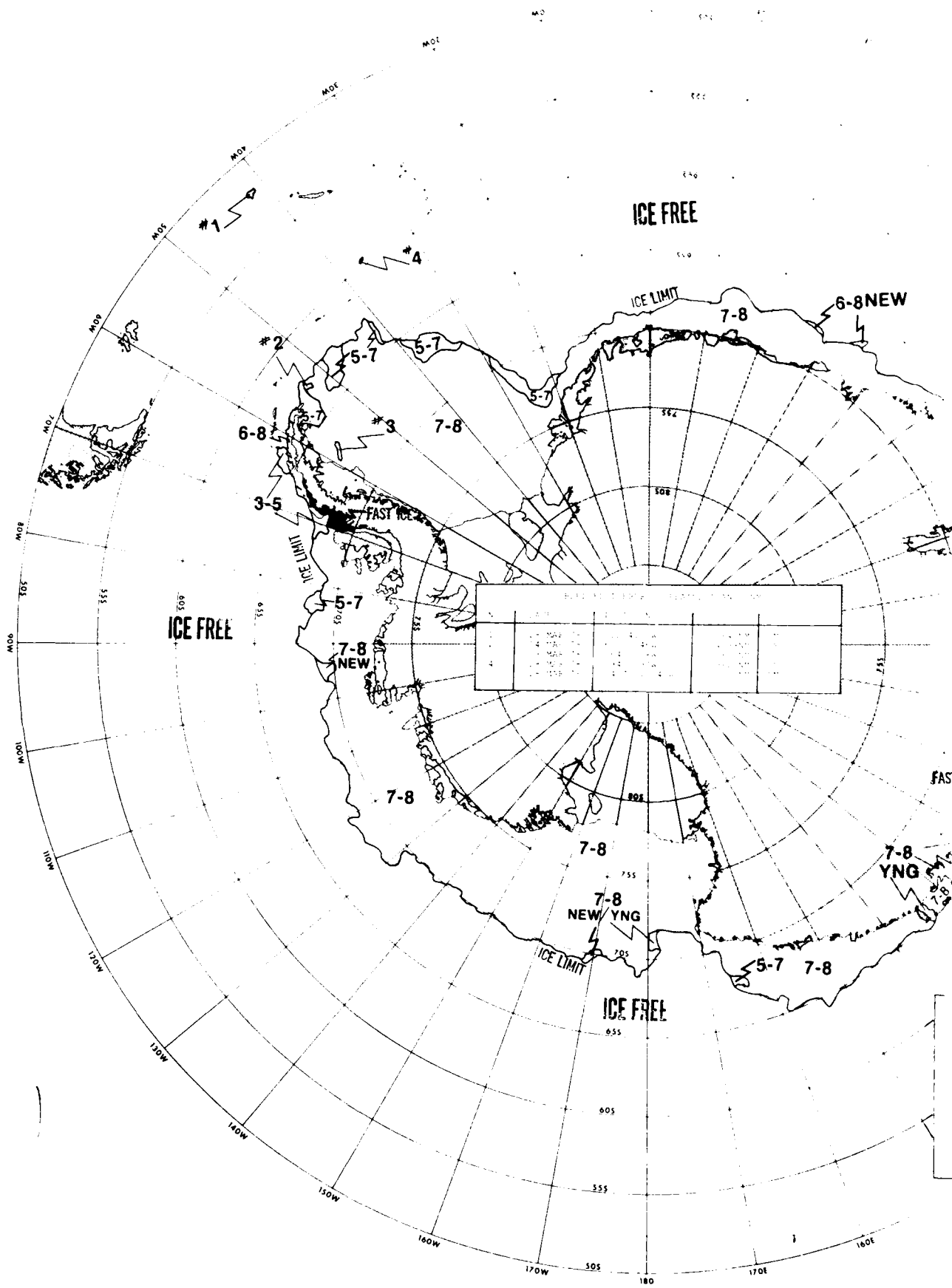


OBSERVED ICEBERGS GREATER THAN 15NM

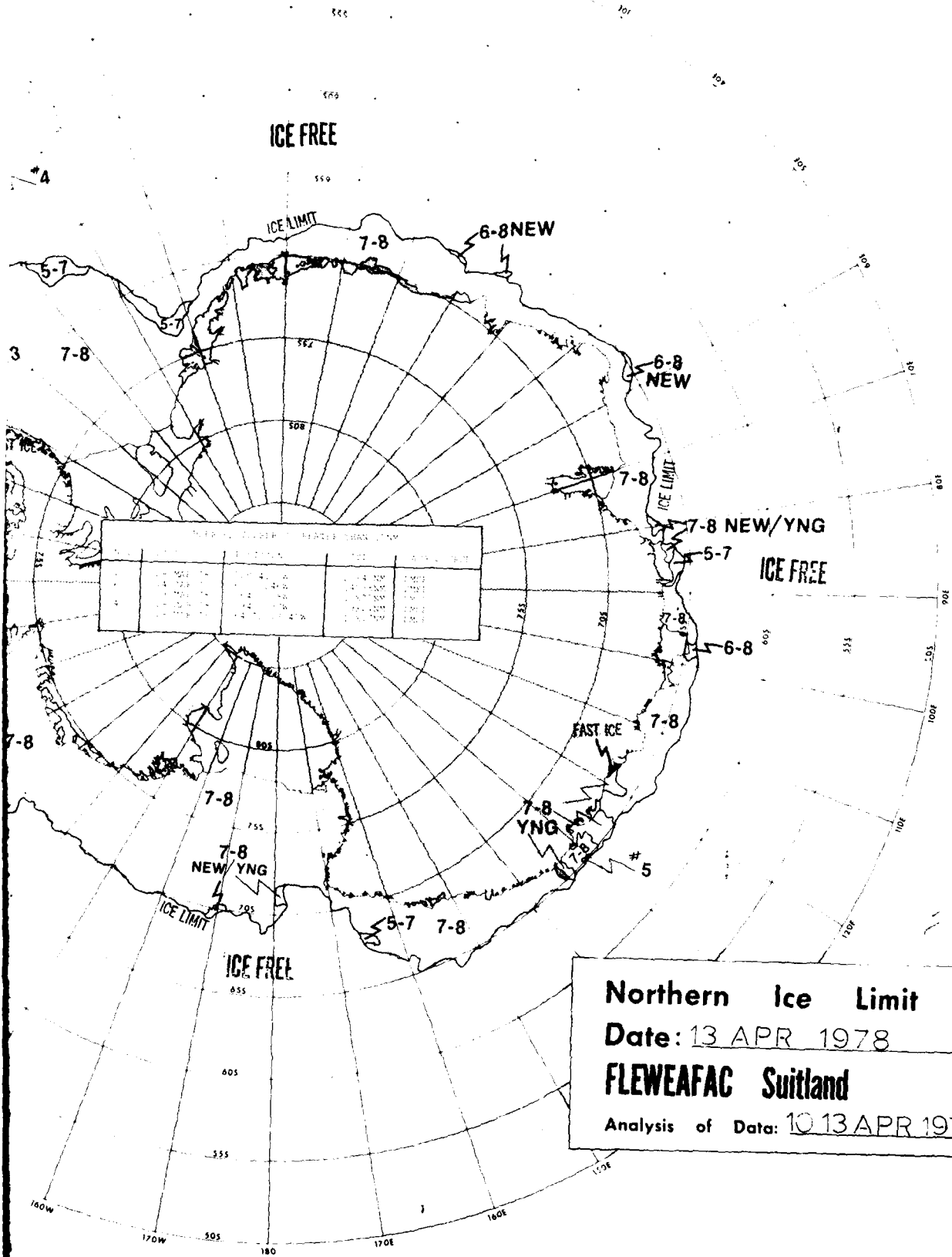
NO.	DATE	POSITION	SIZE	DATA SOURCE
1	1-MAR-78	75°N 175°W	100x100	DMC
2	1-MAR-78	75°N 175°W	100x100	DMC
3	1-MAR-78	75°N 175°W	100x100	DMC
4	1-MAR-78	75°N 175°W	100x100	DMC
5	1-MAR-78	75°N 175°W	100x100	DMC

Northern Ice Limit
Date: 06 APR 1978
FLEWEAFAC Suitland
 Analysis of Data: 03-06 APR 1978

2

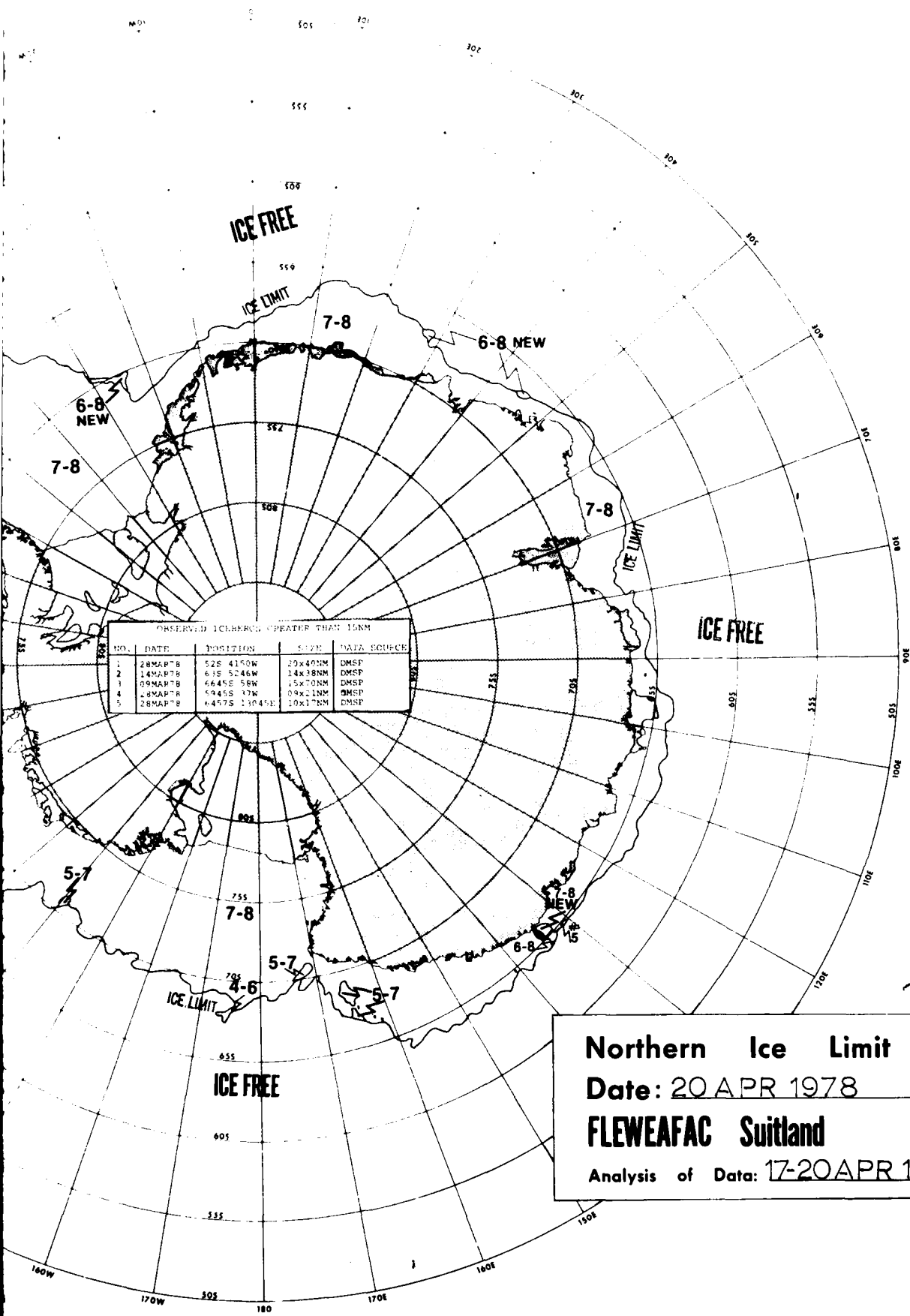


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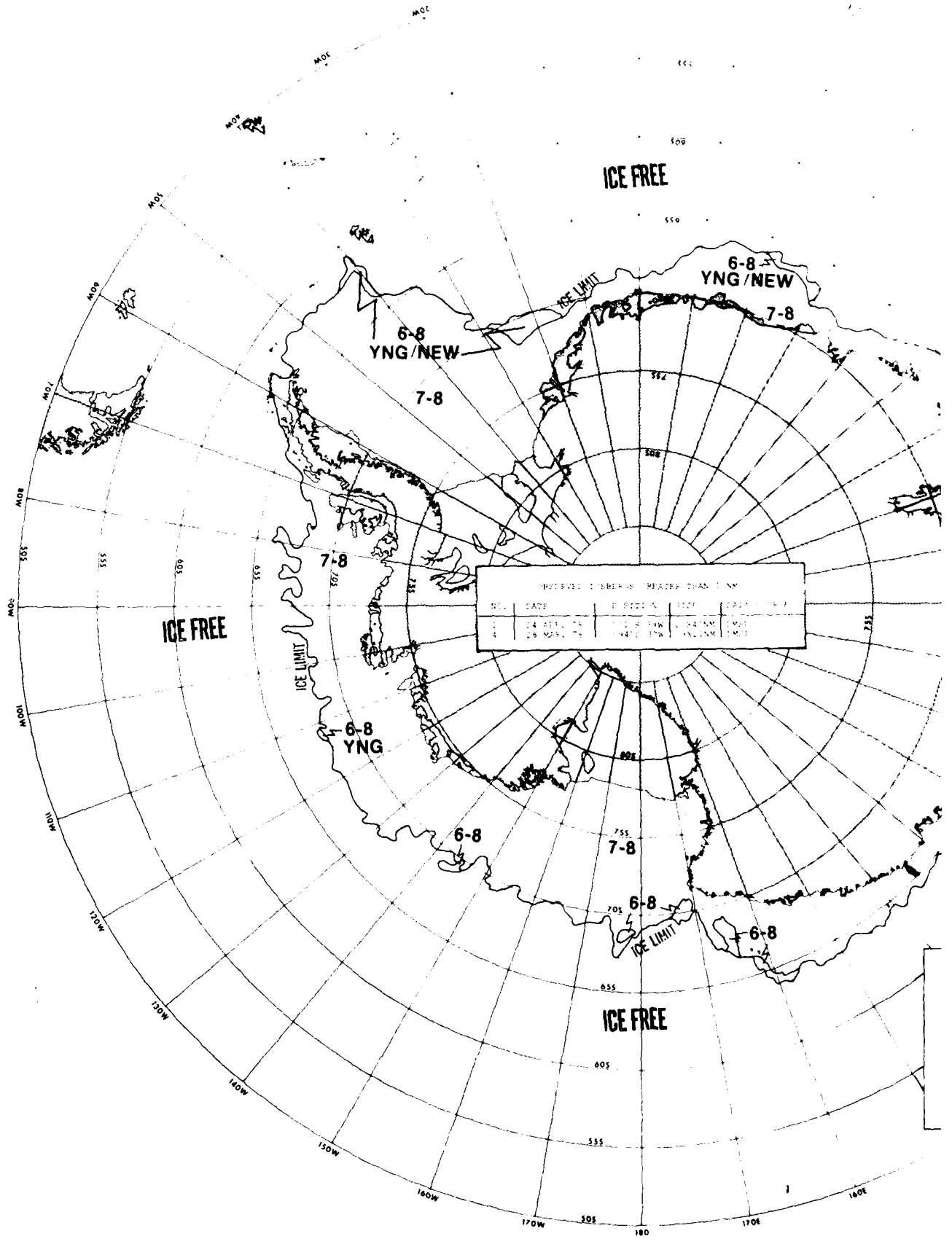
STATION	ICE TYPE	ICE THICKNESS (M)	ICE AREA (SQ KM)	ICE VOLUME (CUBIC KM)
1	7-8	1.5	100	150
2	7-8	1.5	100	150
3	7-8	1.5	100	150
4	7-8	1.5	100	150
5	7-8	1.5	100	150
6	7-8	1.5	100	150
7	7-8	1.5	100	150
8	7-8	1.5	100	150
9	7-8	1.5	100	150
10	7-8	1.5	100	150
11	7-8	1.5	100	150
12	7-8	1.5	100	150
13	7-8	1.5	100	150
14	7-8	1.5	100	150
15	7-8	1.5	100	150
16	7-8	1.5	100	150
17	7-8	1.5	100	150
18	7-8	1.5	100	150
19	7-8	1.5	100	150
20	7-8	1.5	100	150
21	7-8	1.5	100	150
22	7-8	1.5	100	150
23	7-8	1.5	100	150
24	7-8	1.5	100	150
25	7-8	1.5	100	150
26	7-8	1.5	100	150
27	7-8	1.5	100	150
28	7-8	1.5	100	150
29	7-8	1.5	100	150
30	7-8	1.5	100	150
31	7-8	1.5	100	150
32	7-8	1.5	100	150
33	7-8	1.5	100	150
34	7-8	1.5	100	150
35	7-8	1.5	100	150
36	7-8	1.5	100	150
37	7-8	1.5	100	150
38	7-8	1.5	100	150
39	7-8	1.5	100	150
40	7-8	1.5	100	150
41	7-8	1.5	100	150
42	7-8	1.5	100	150
43	7-8	1.5	100	150
44	7-8	1.5	100	150
45	7-8	1.5	100	150
46	7-8	1.5	100	150
47	7-8	1.5	100	150
48	7-8	1.5	100	150
49	7-8	1.5	100	150
50	7-8	1.5	100	150
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55	7-8	1.5	100	150
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59	7-8	1.5	100	150
60	7-8	1.5	100	150
61	7-8	1.5	100	150
62	7-8	1.5	100	150
63	7-8	1.5	100	150
64	7-8	1.5	100	150
65	7-8	1.5	100	150
66	7-8	1.5	100	150
67	7-8	1.5	100	150
68	7-8	1.5	100	150
69	7-8	1.5	100	150
70	7-8	1.5	100	150
71	7-8	1.5	100	150
72	7-8	1.5	100	150
73	7-8	1.5	100	150
74	7-8	1.5	100	150
75	7-8	1.5	100	150
76	7-8	1.5	100	150
77	7-8	1.5	100	150
78	7-8	1.5	100	150
79	7-8	1.5	100	150
80	7-8	1.5	100	150
81	7-8	1.5	100	150
82	7-8	1.5	100	150
83	7-8	1.5	100	150
84	7-8	1.5	100	150
85	7-8	1.5	100	150
86	7-8	1.5	100	150
87	7-8	1.5	100	150
88	7-8	1.5	100	150
89	7-8	1.5	100	150
90	7-8	1.5	100	150

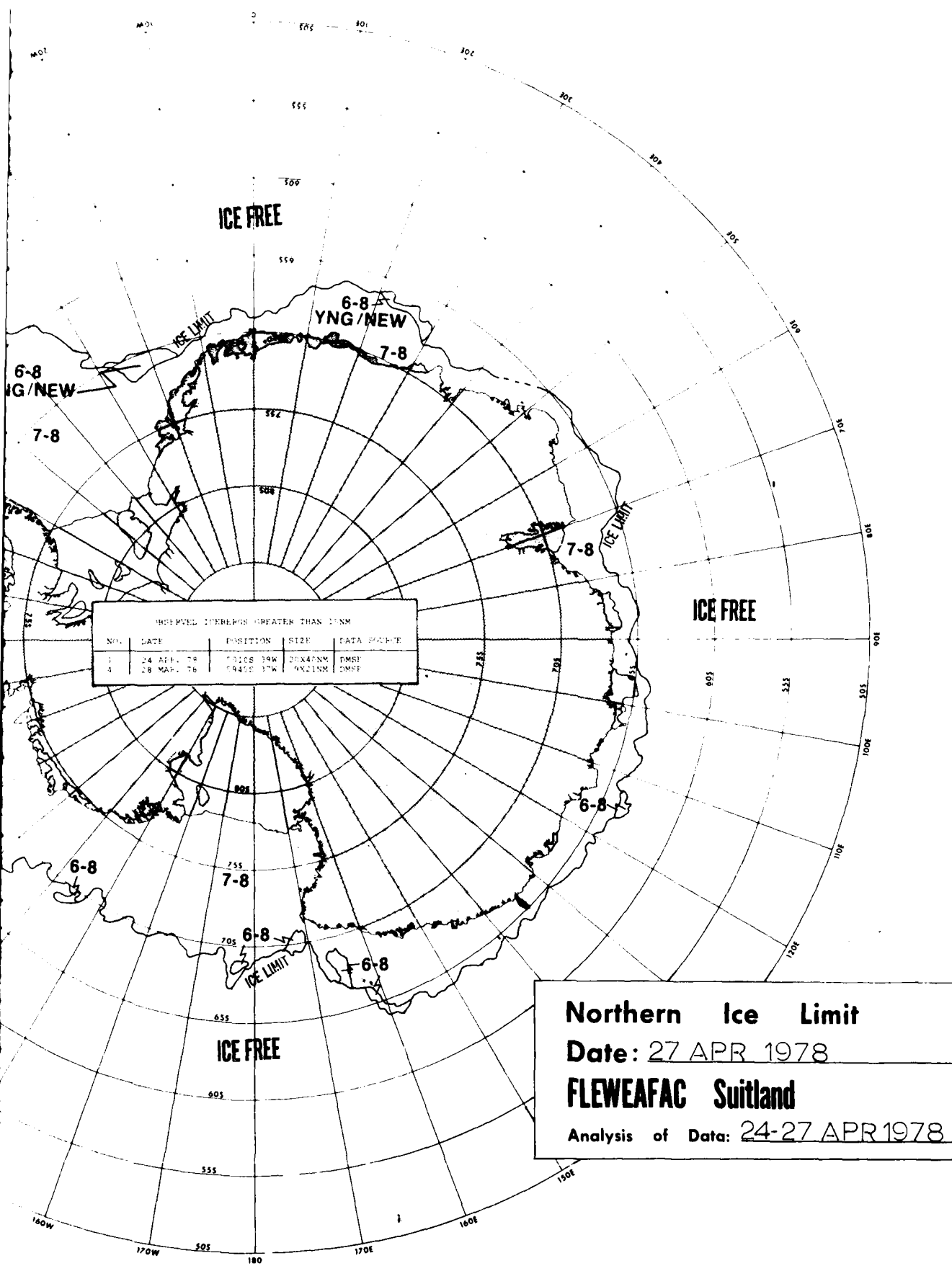
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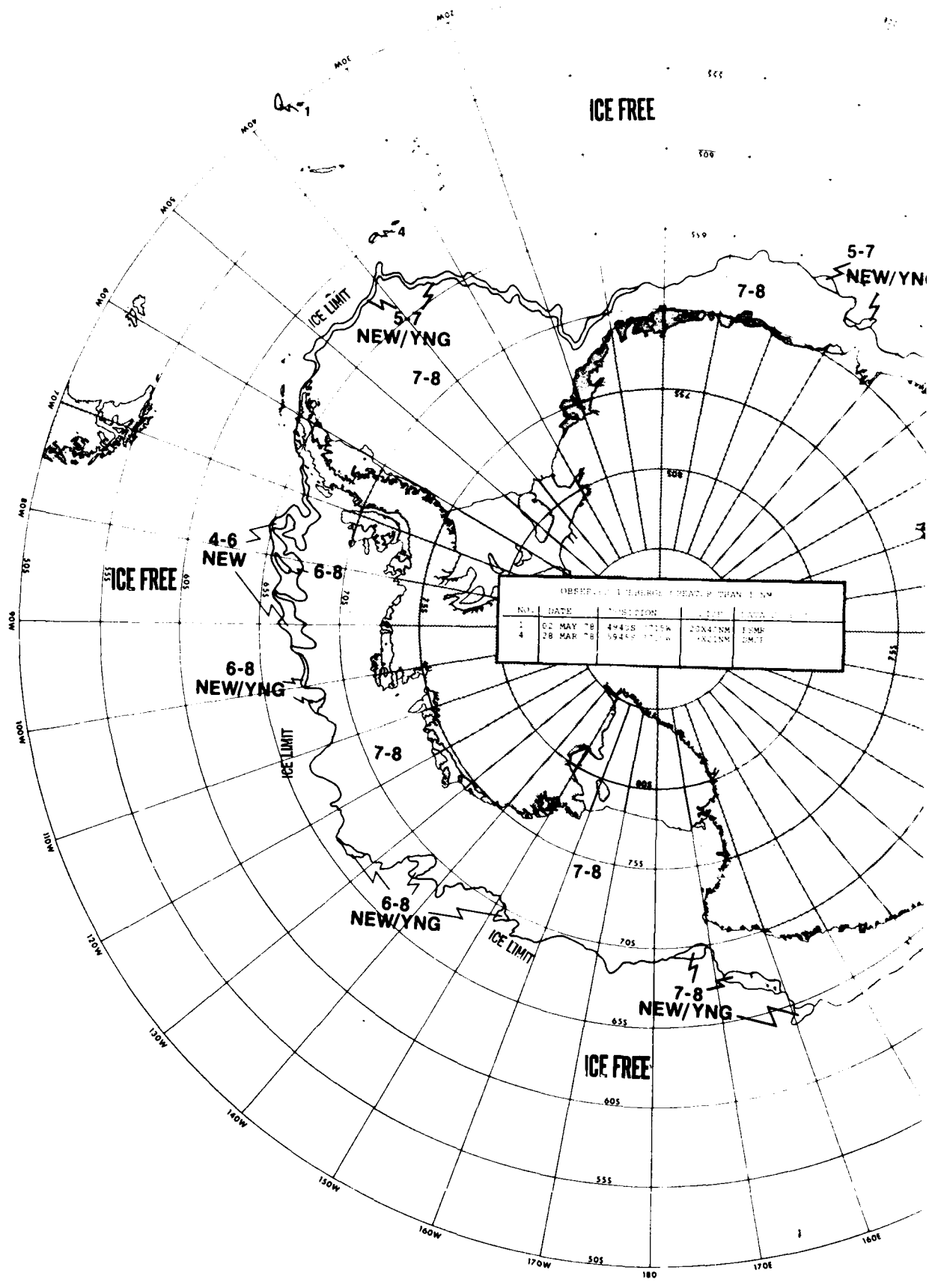
Northern Ice Limit
Date: 20 APR 1978
FLEWEAFAC Suitland
 Analysis of Data: 17-20 APR 1978

2



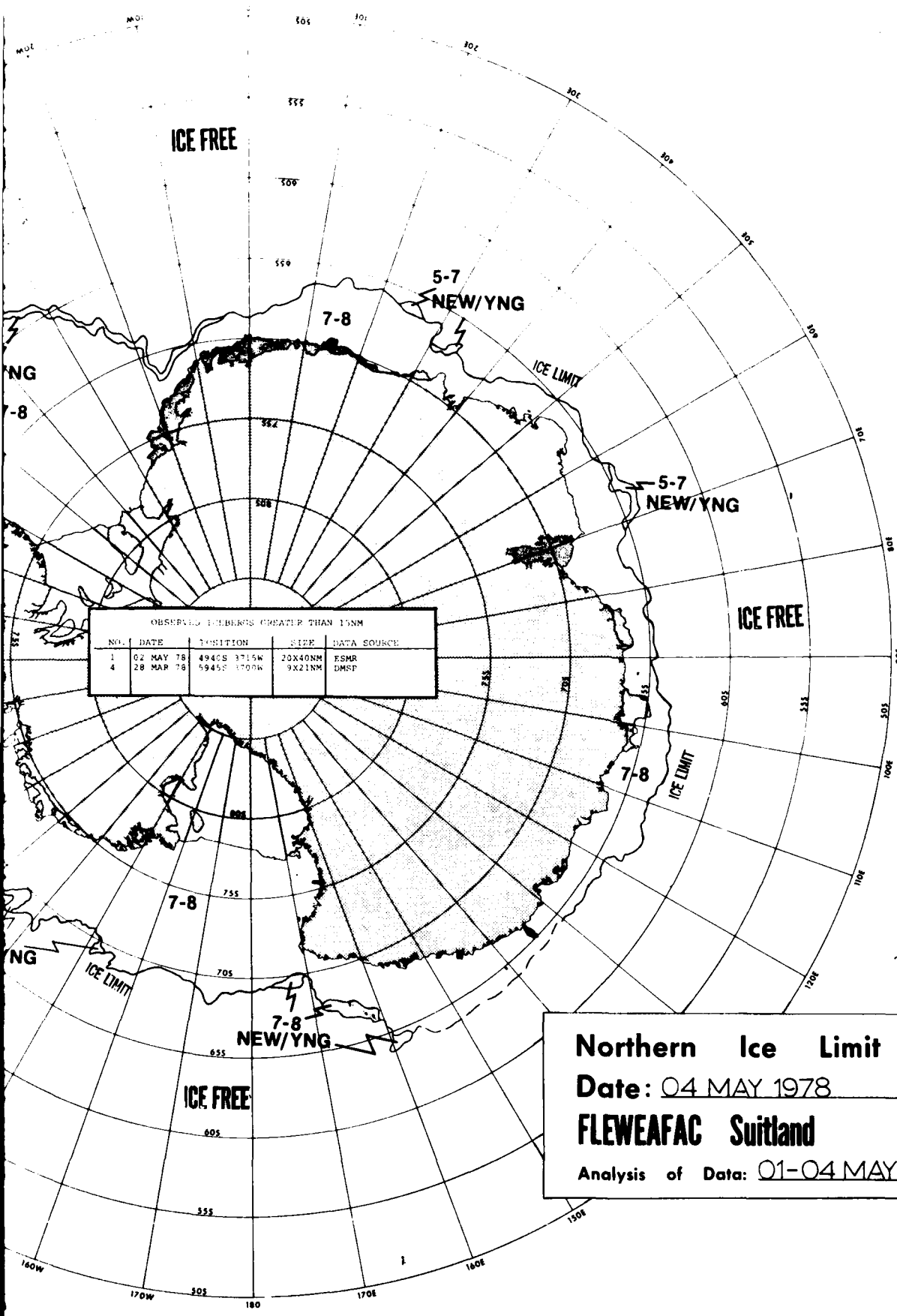


Q



OBSERVED ICE THICKNESS GREATER THAN 1 CM

NO.	DATE	POSITION	ICE	THICKNESS
1	02 MAY 78	4942S 175W	20X41NM	FORM
4	28 MAR 78	5944S 172W	1X21NM	DMUT



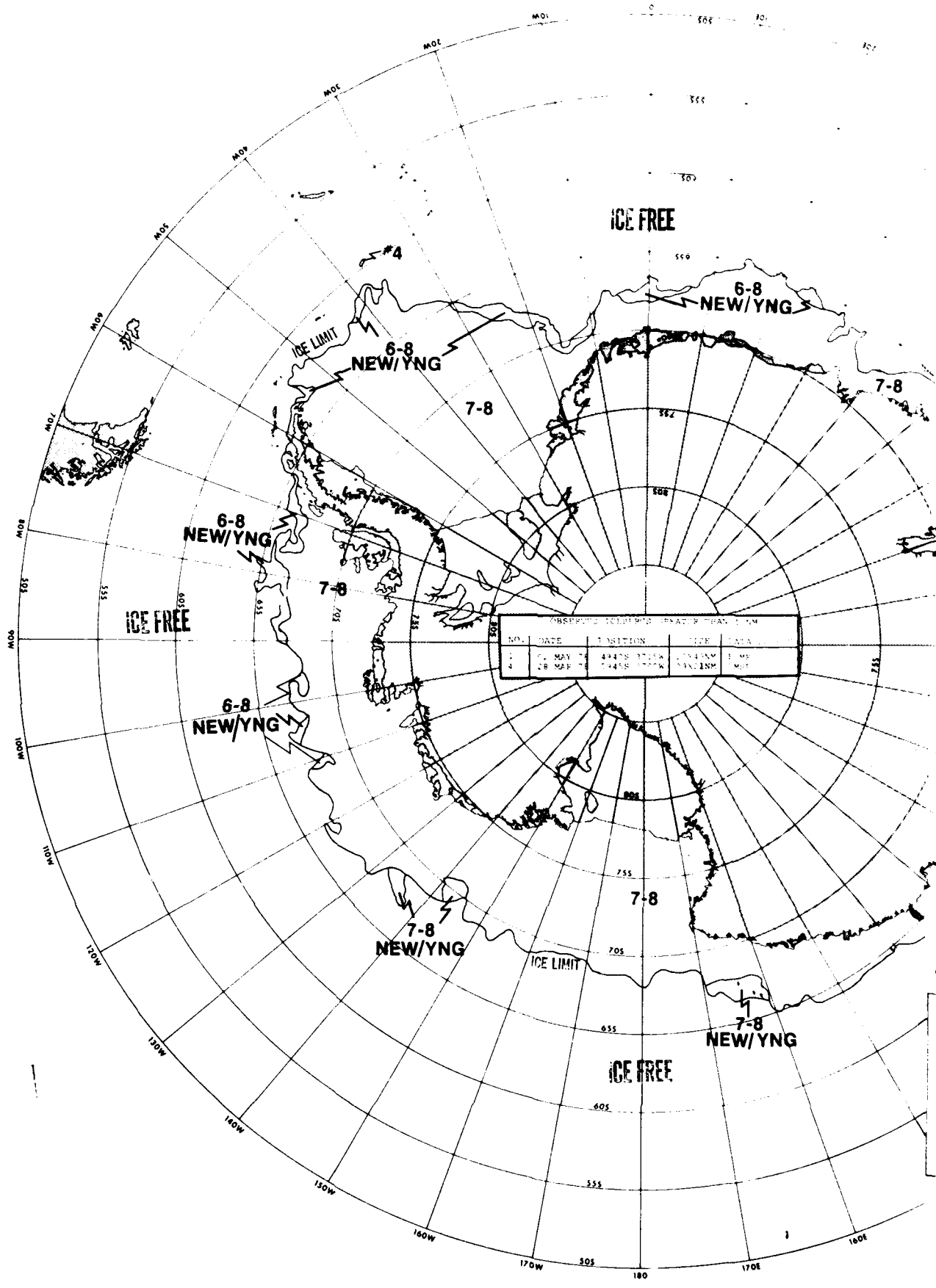
OBSERVED ICEBERGS GREATER THAN 15NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1	02 MAY 78	4940S 3715W	20X40NM	ESMR
4	28 MAR 78	5945S 1700W	9X21NM	DMSF

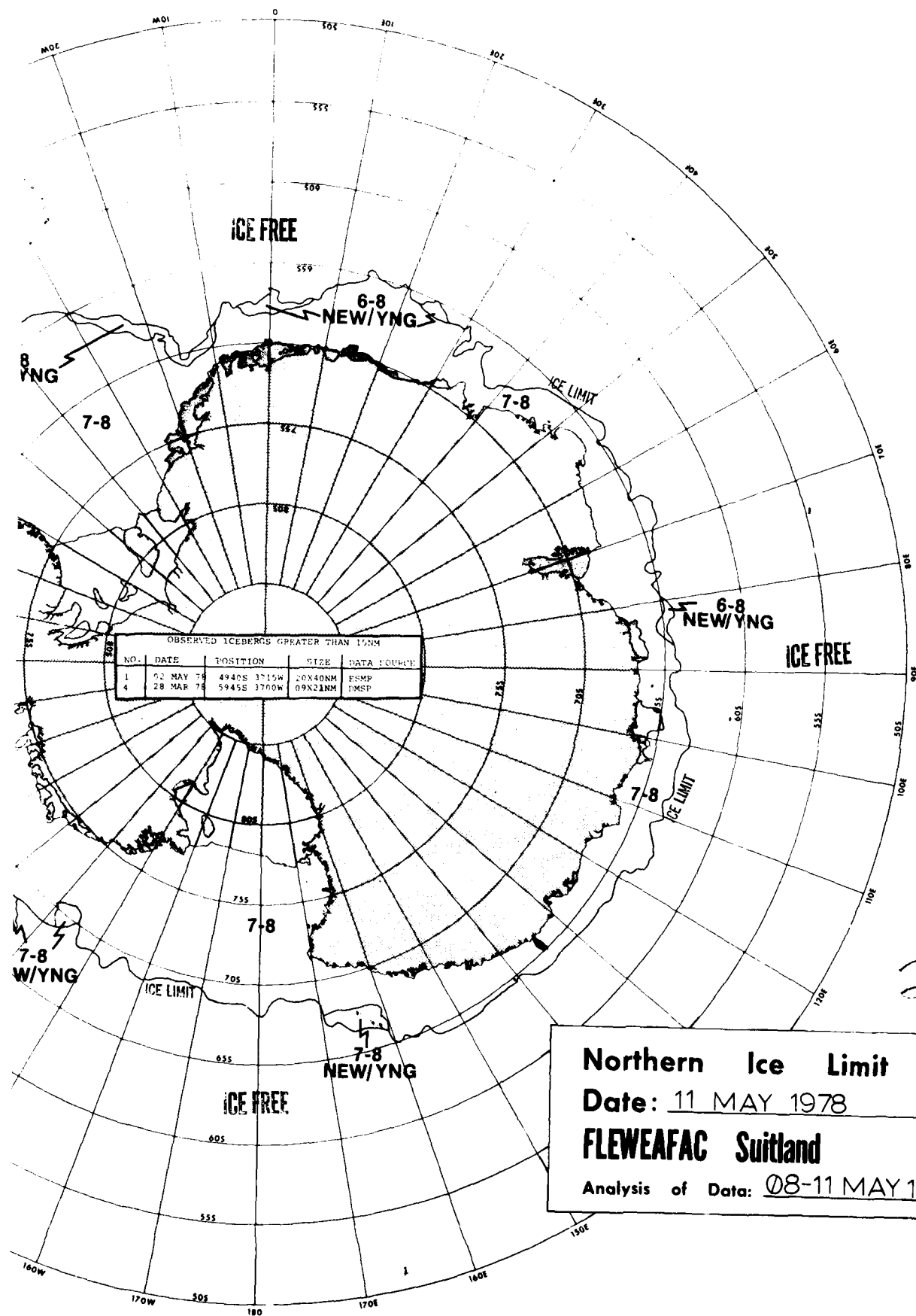
Northern Ice Limit
Date: 04 MAY 1978
FLEWEAFAC Suitland
 Analysis of Data: 01-04 MAY 1978

2

2



1
2
3
4



Northern Ice Limit

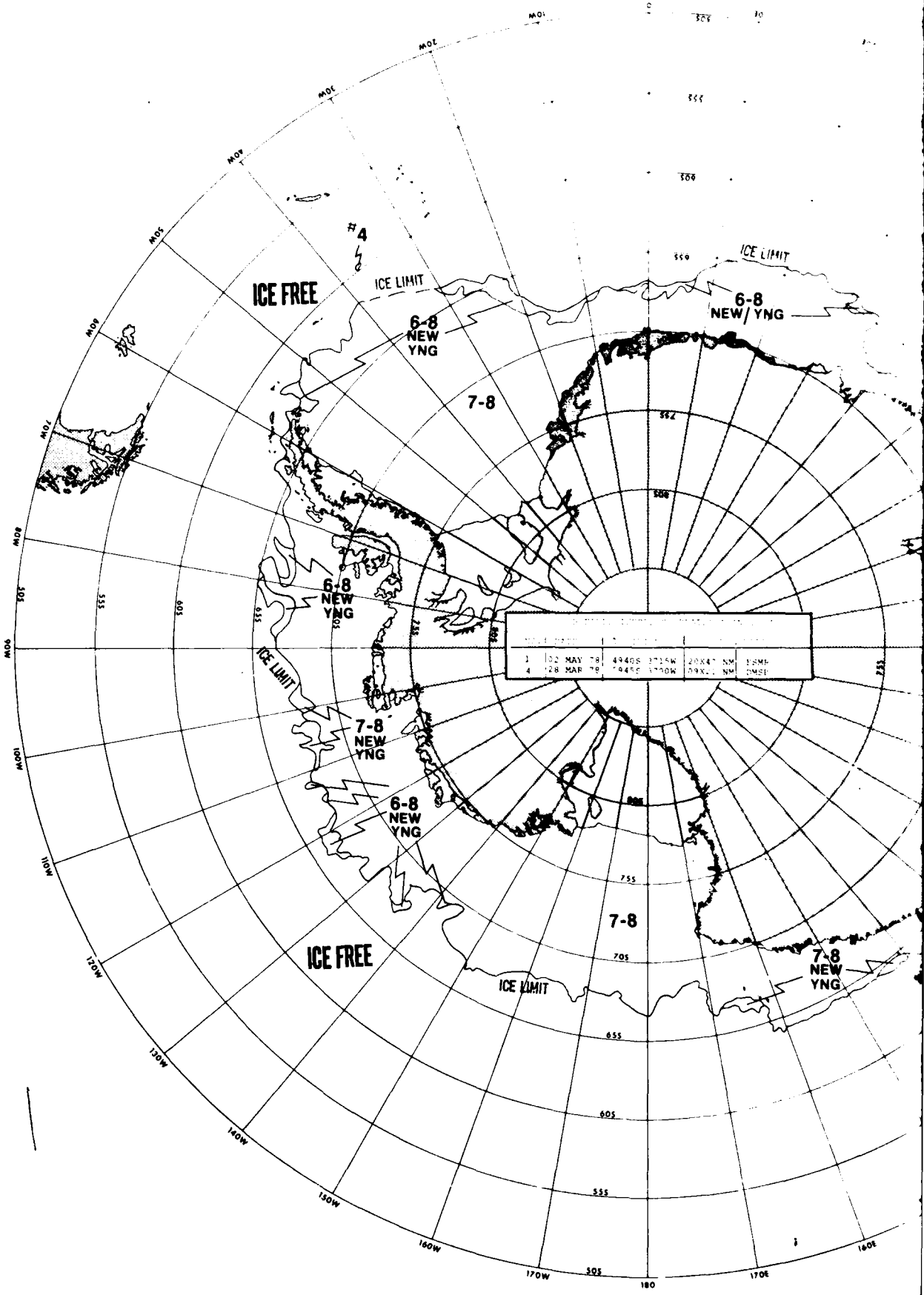
Date: 11 MAY 1978

FLEWEAFAC Suitland

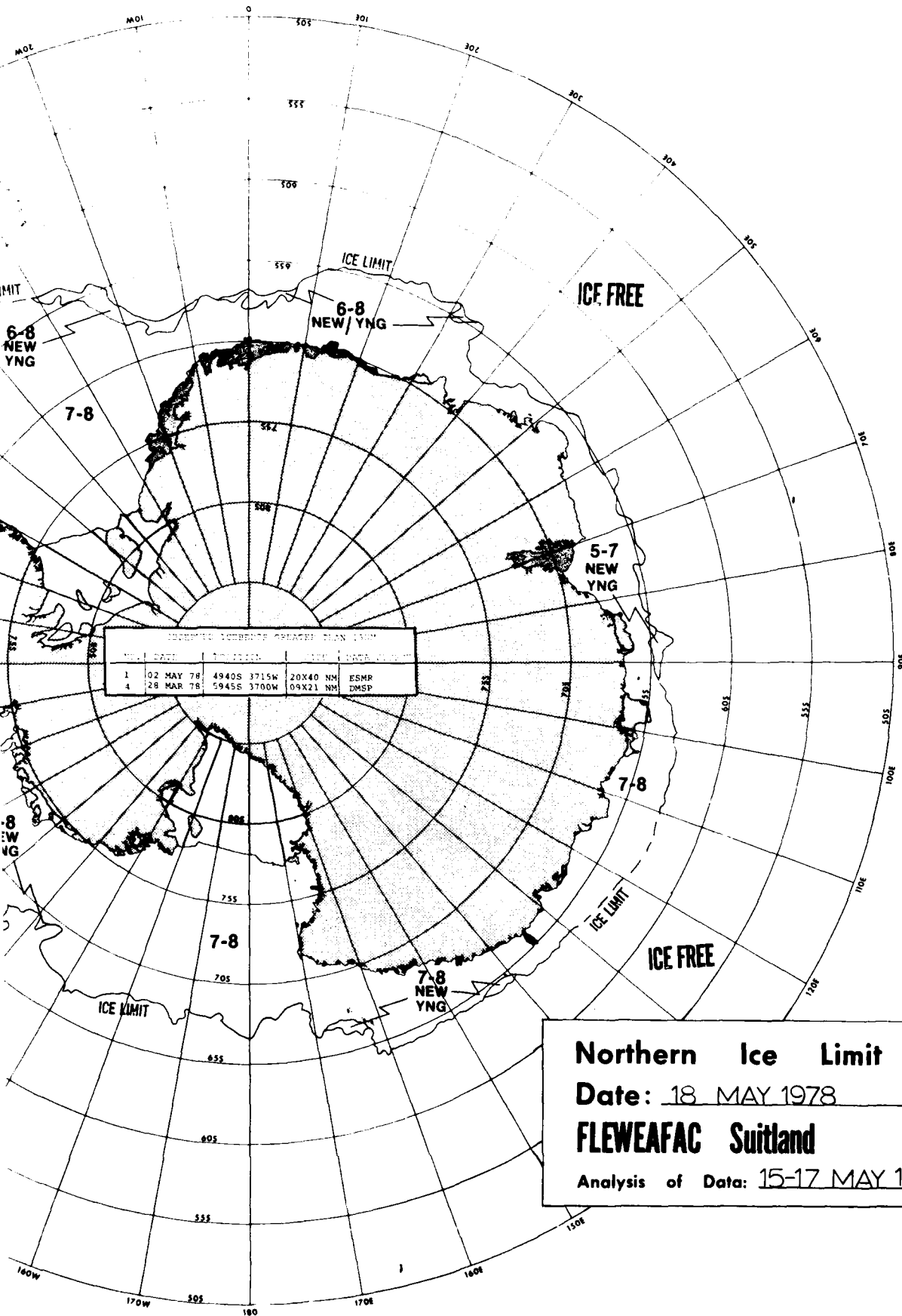
Analysis of Data: 08-11 MAY 1978

2

2

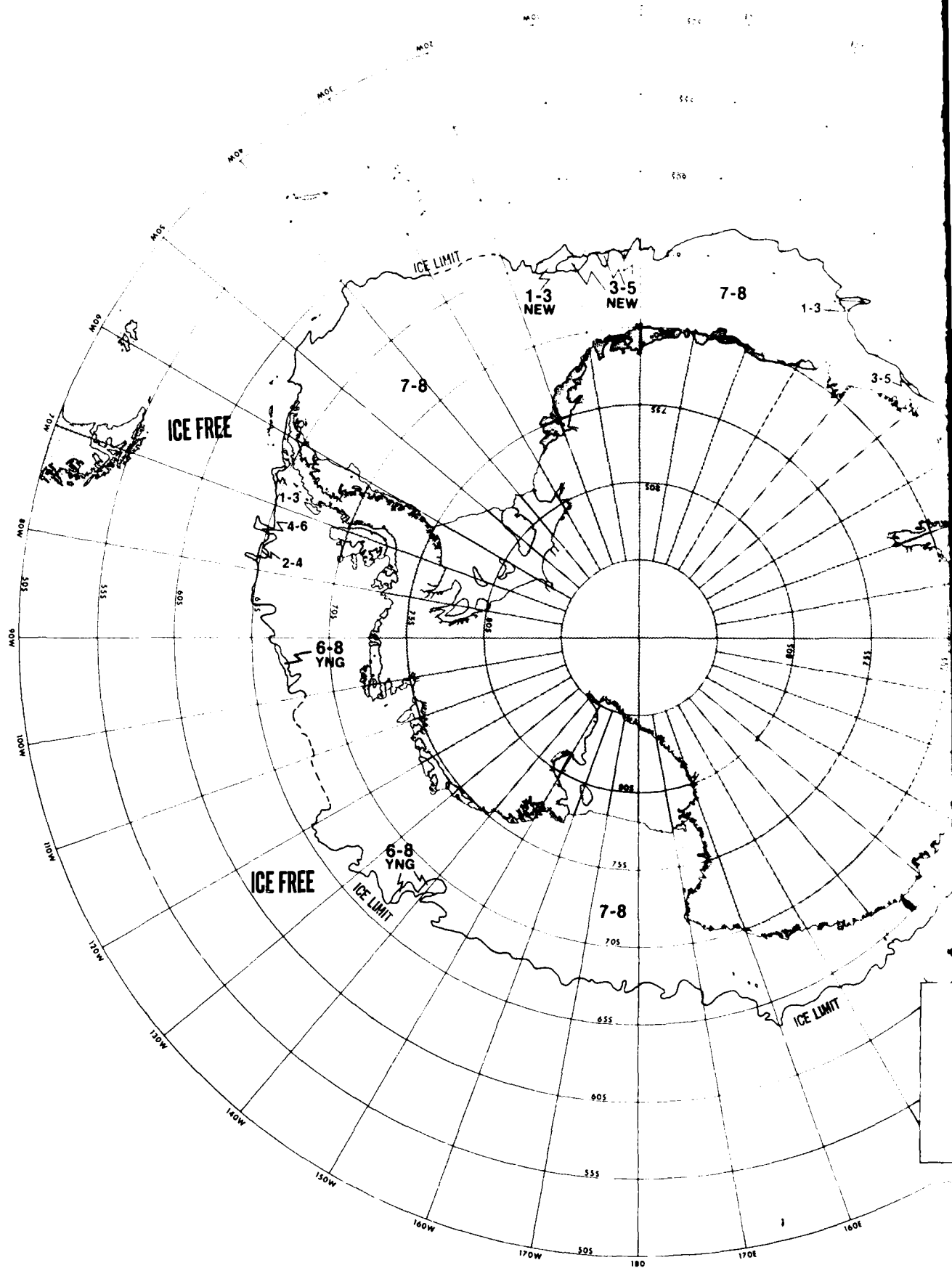


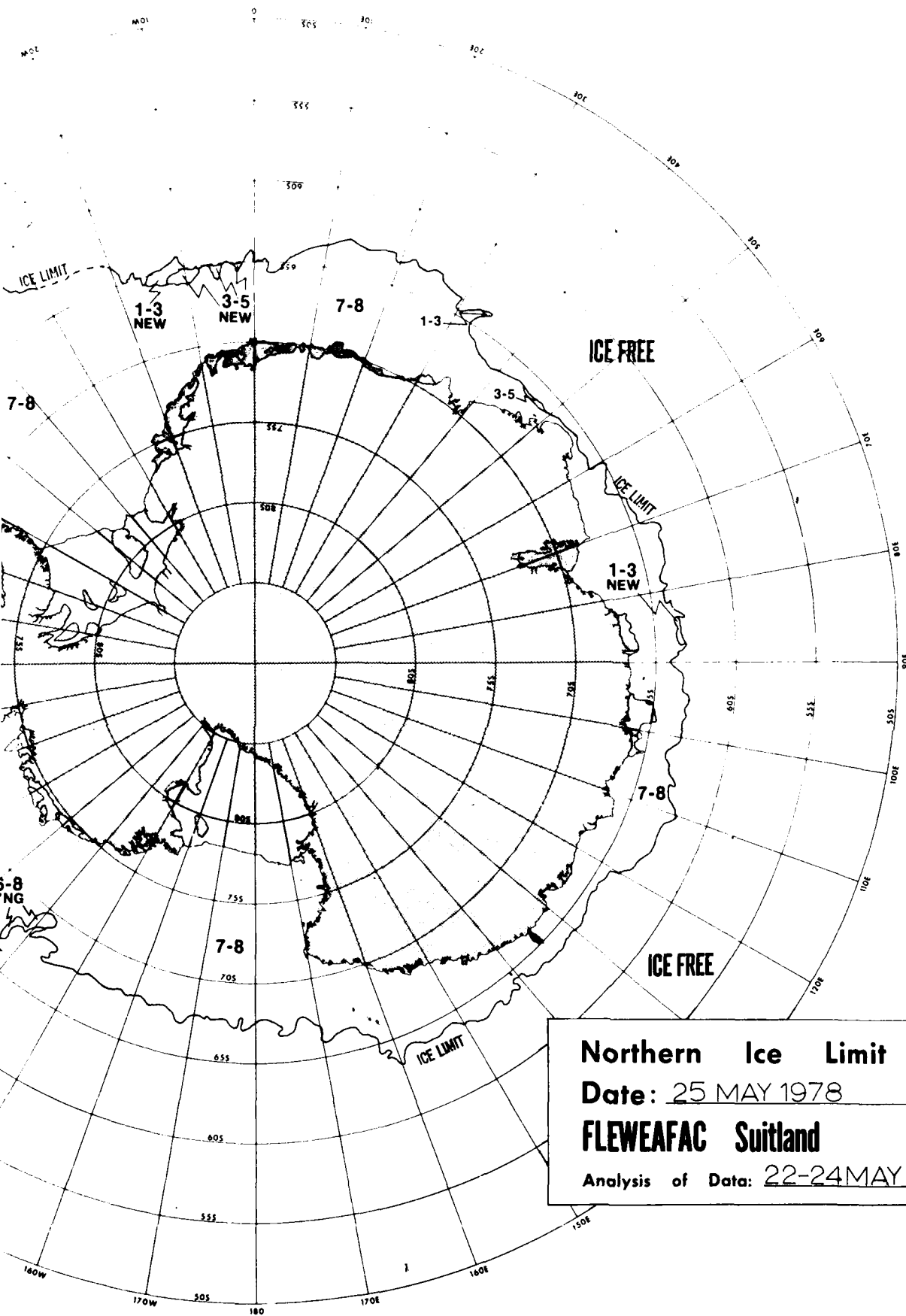
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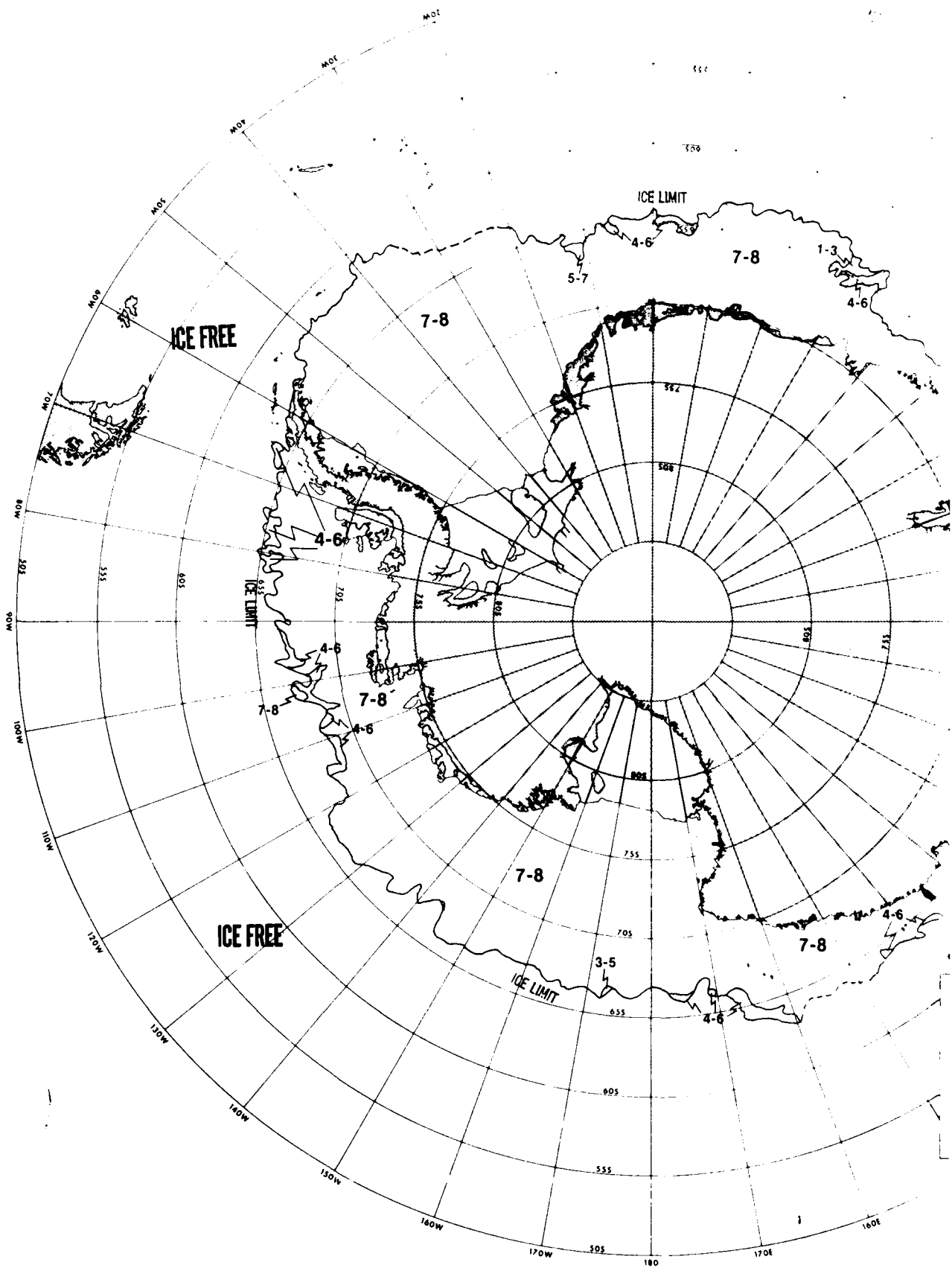
Northern Ice Limit
 Date: 18 MAY 1978
FLEWEAFAC Suitland
 Analysis of Data: 15-17 MAY 1978

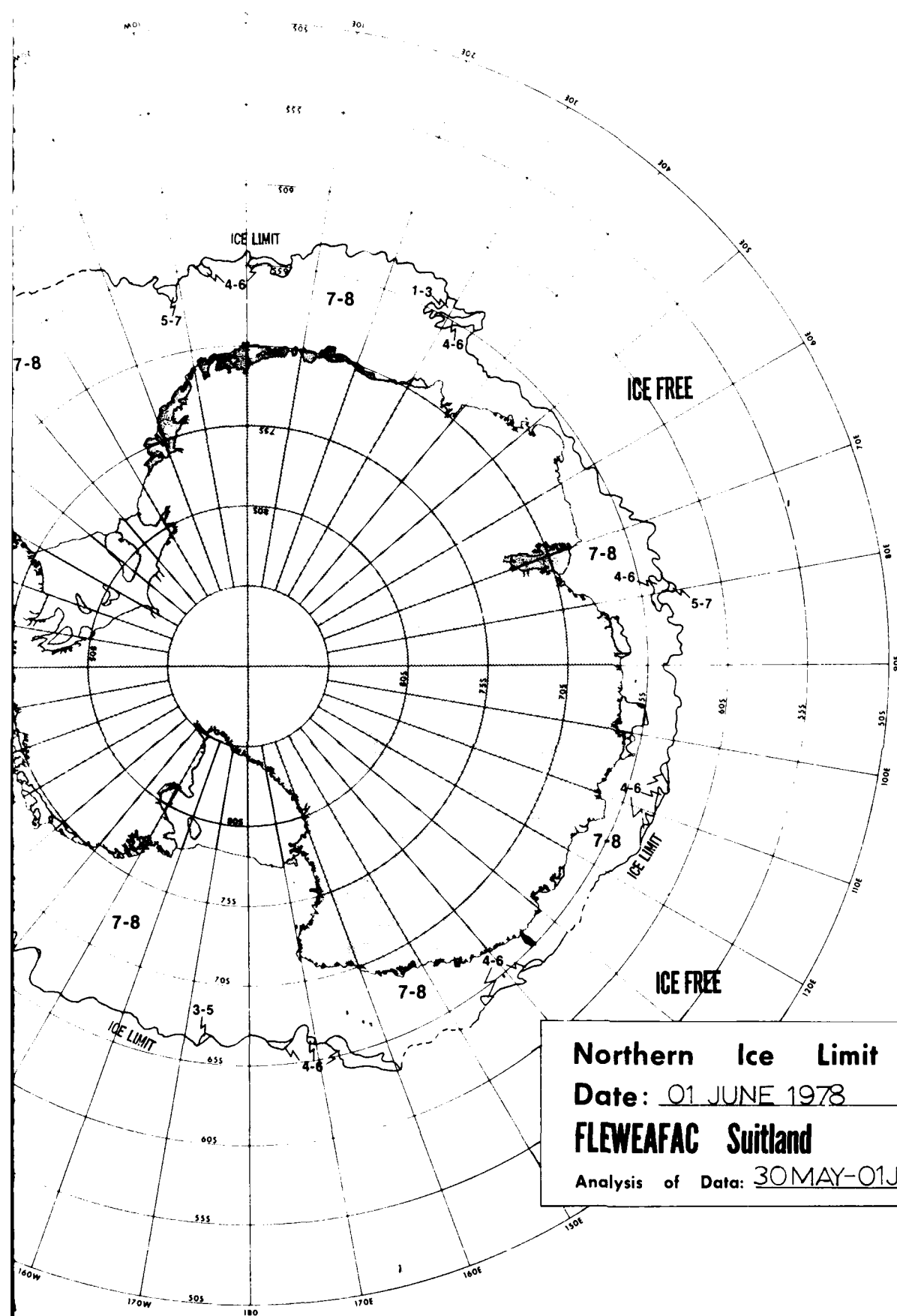
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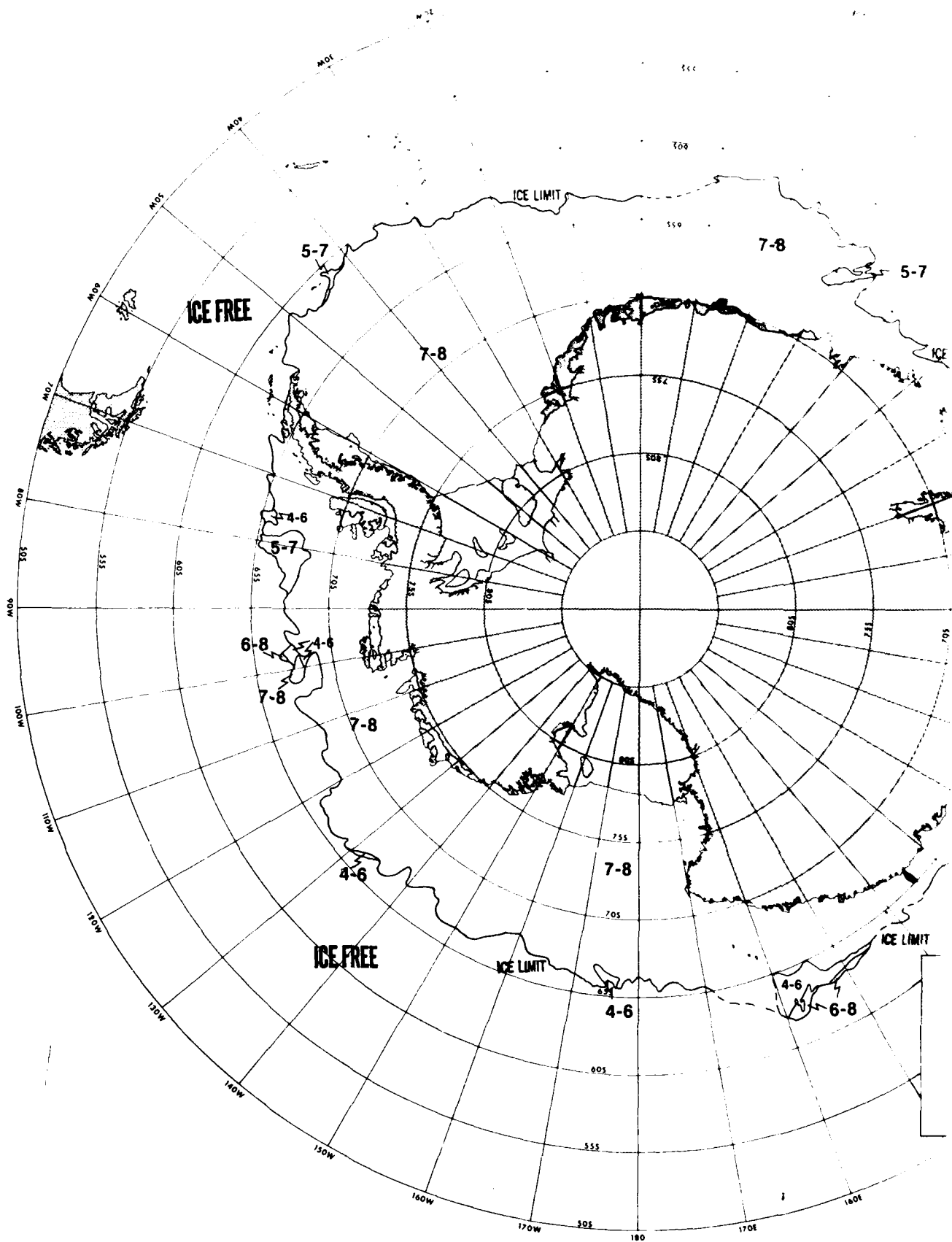
Northern Ice Limit
Date: 25 MAY 1978
FLEWEAFAC Suitland
Analysis of Data: 22-24 MAY 1978

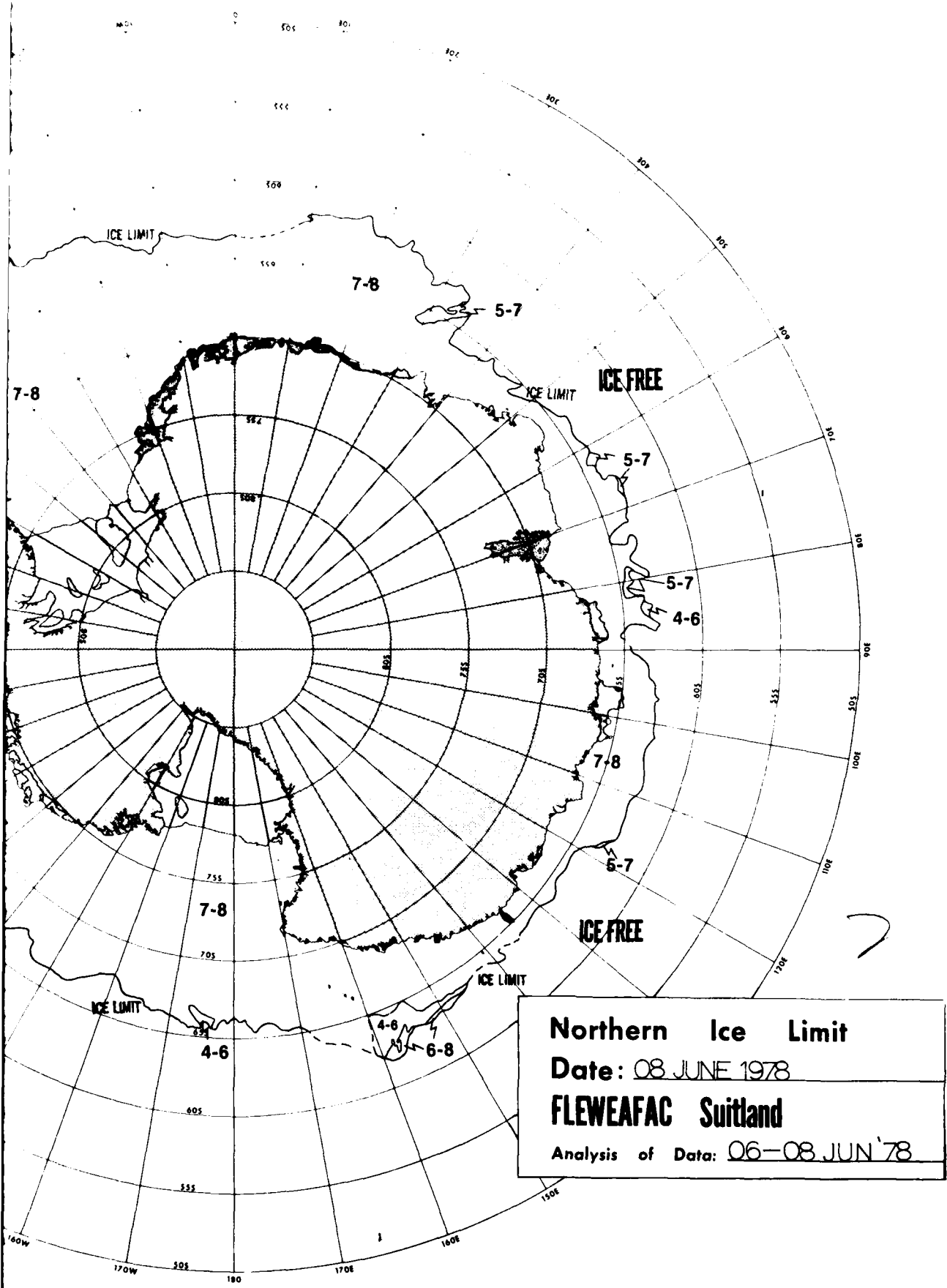




Northern Ice Limit
Date: 01 JUNE 1978
FLEWEAFAC Suitland
Analysis of Data: 30 MAY-01 JUN '78

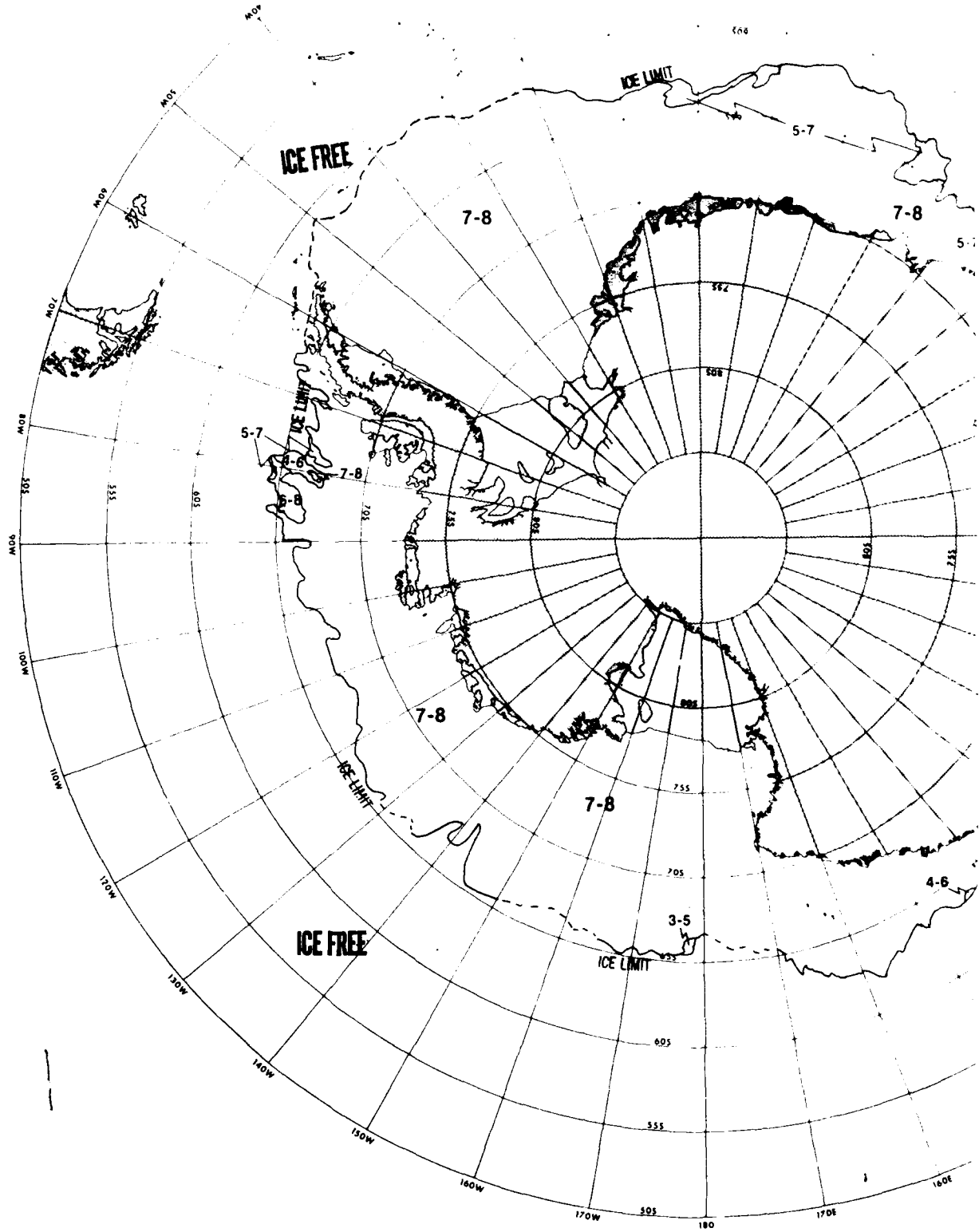
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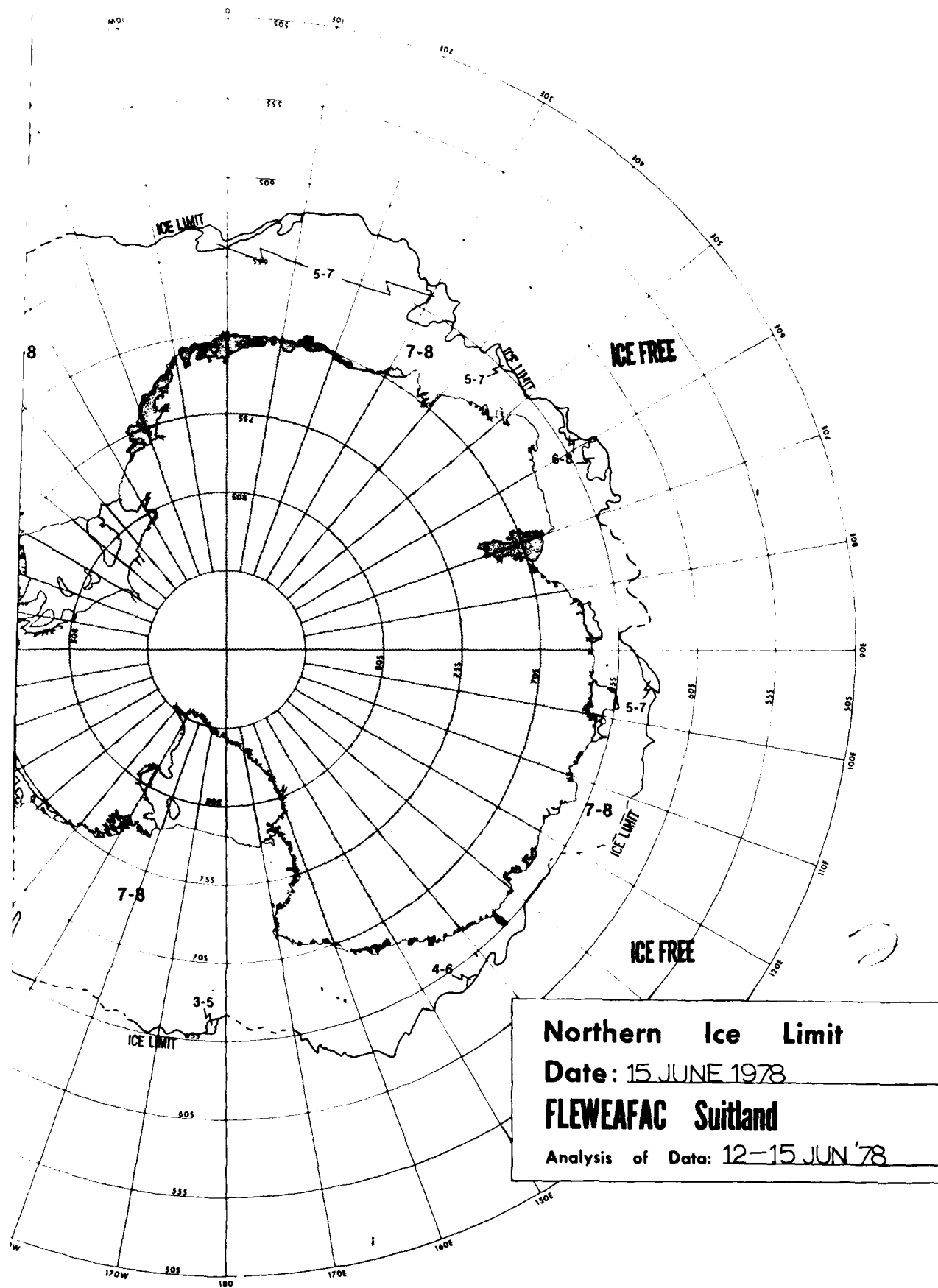




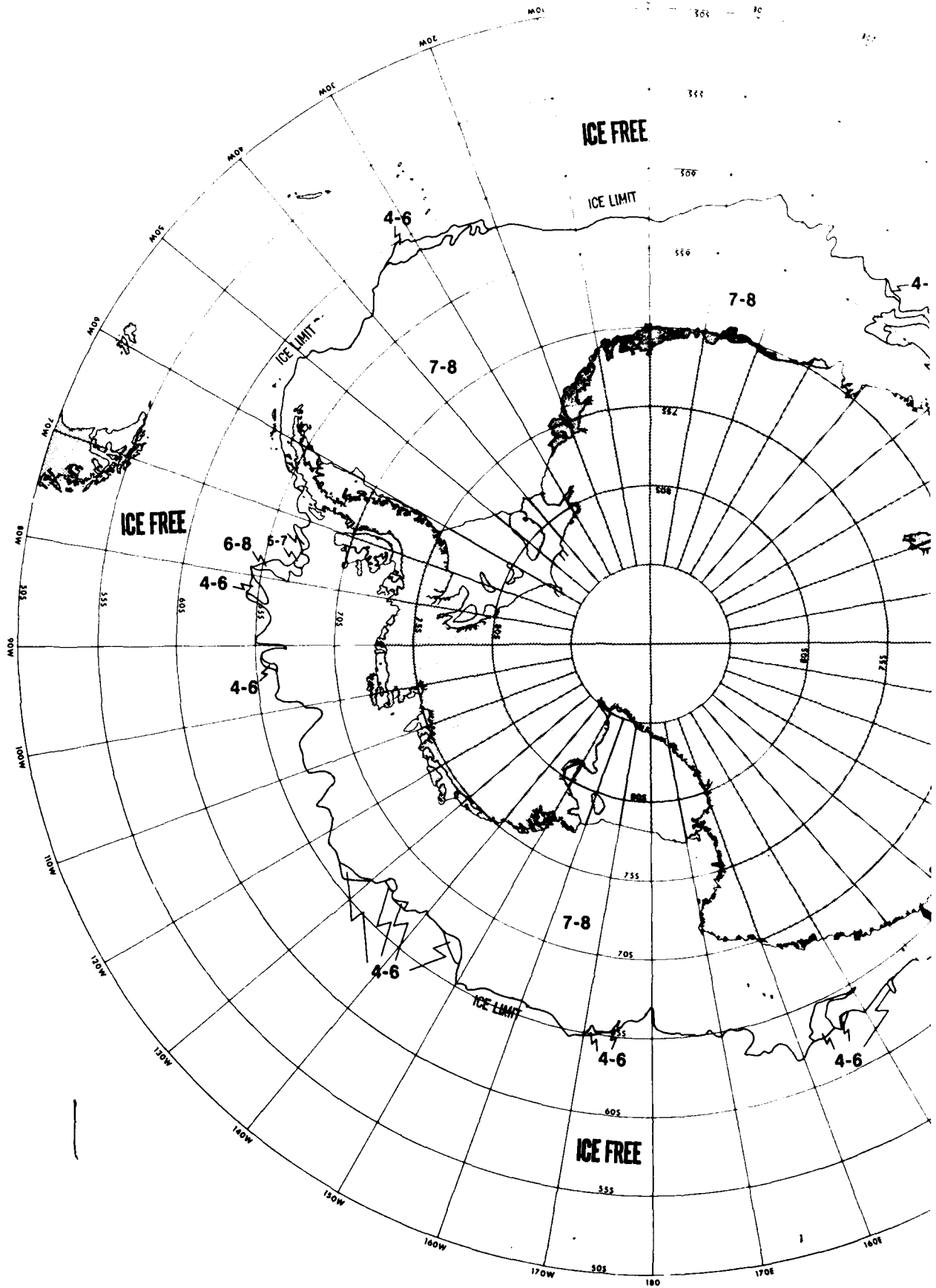
<p>Northern Ice Limit Date: 08 JUNE 1978</p>
<p>FLEWEAFAC Svalbard Analysis of Data: 06-08 JUN '78</p>

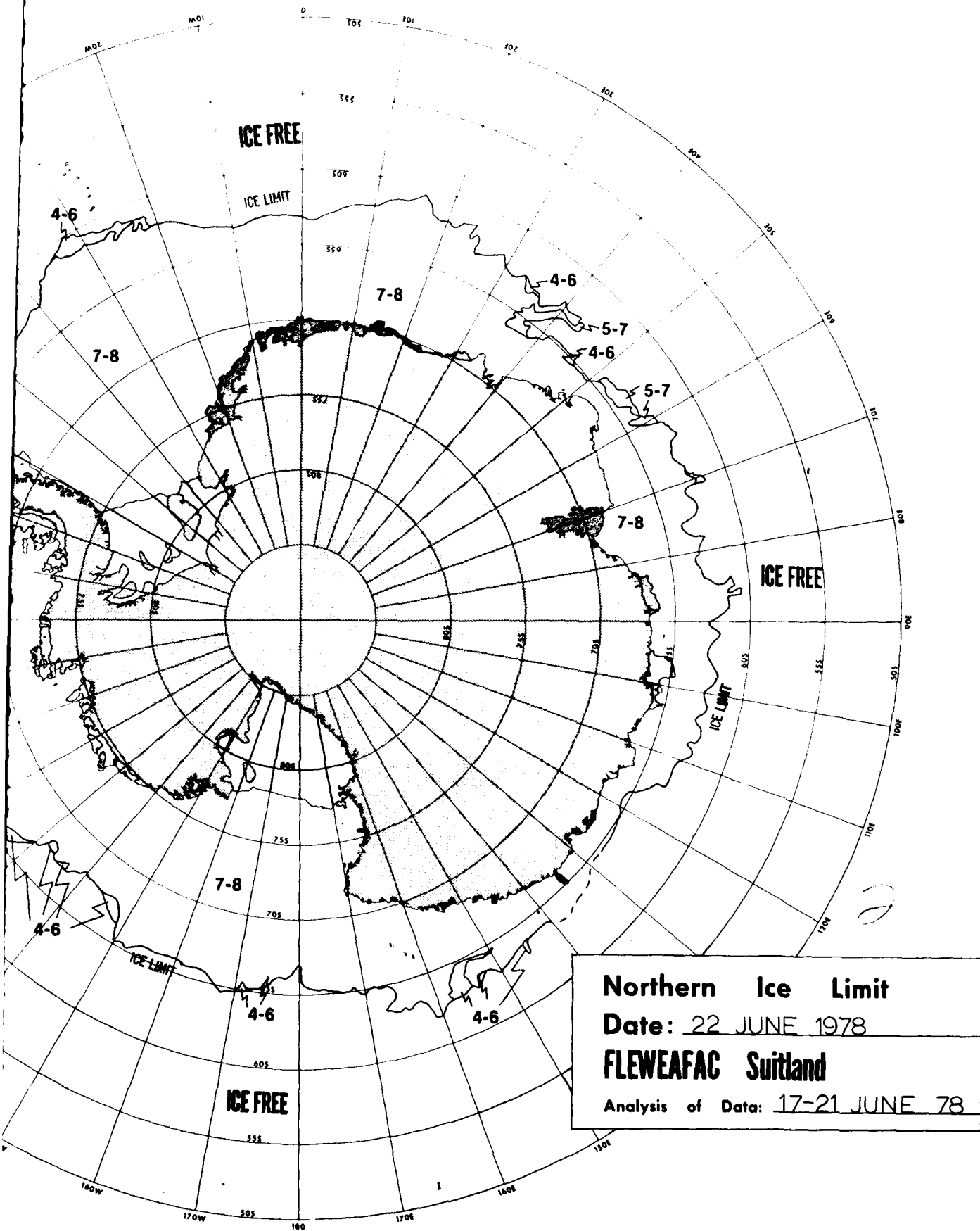
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2





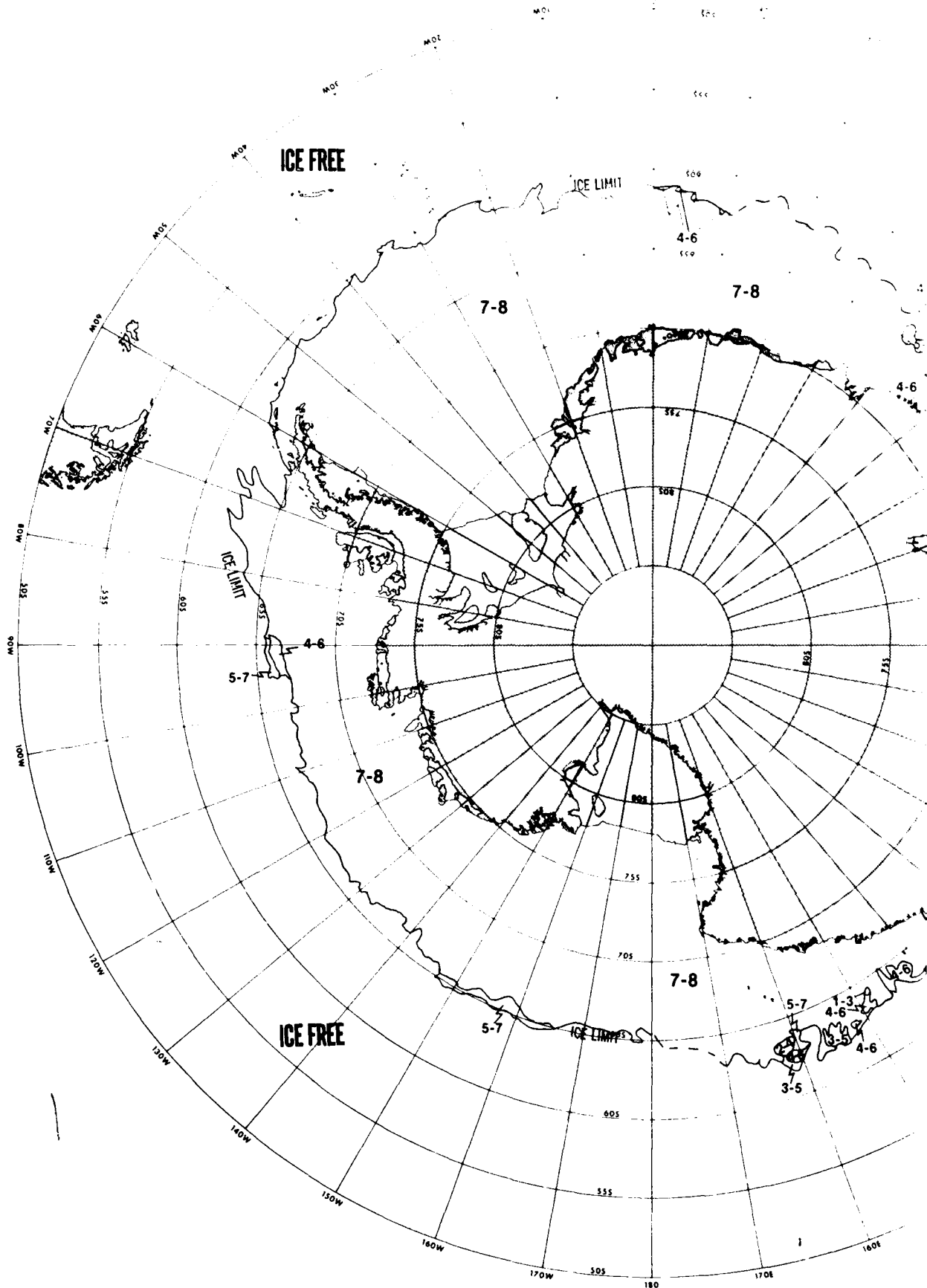
Northern Ice Limit

Date: 22 JUNE 1978

FLEWEAFAC Suitland

Analysis of Data: 17-21 JUNE 78

2



ICE FREE

ICE LIMIT

7-8

7-8

ICE LIMIT

ICE FREE

ICE LIMIT

7-8

7-8

5-7

4-6

5-7

3-5

5-7

4-6

4-6

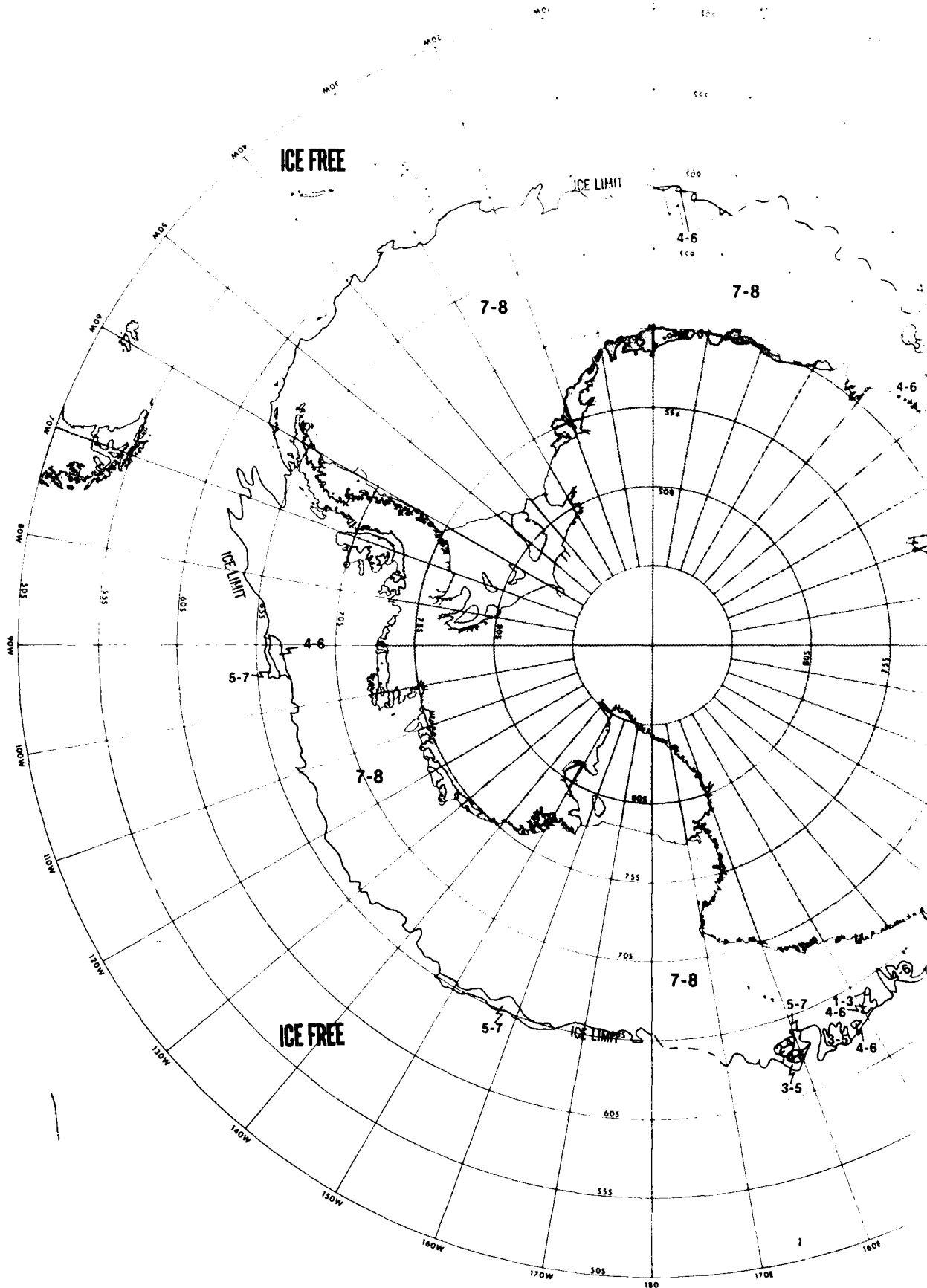
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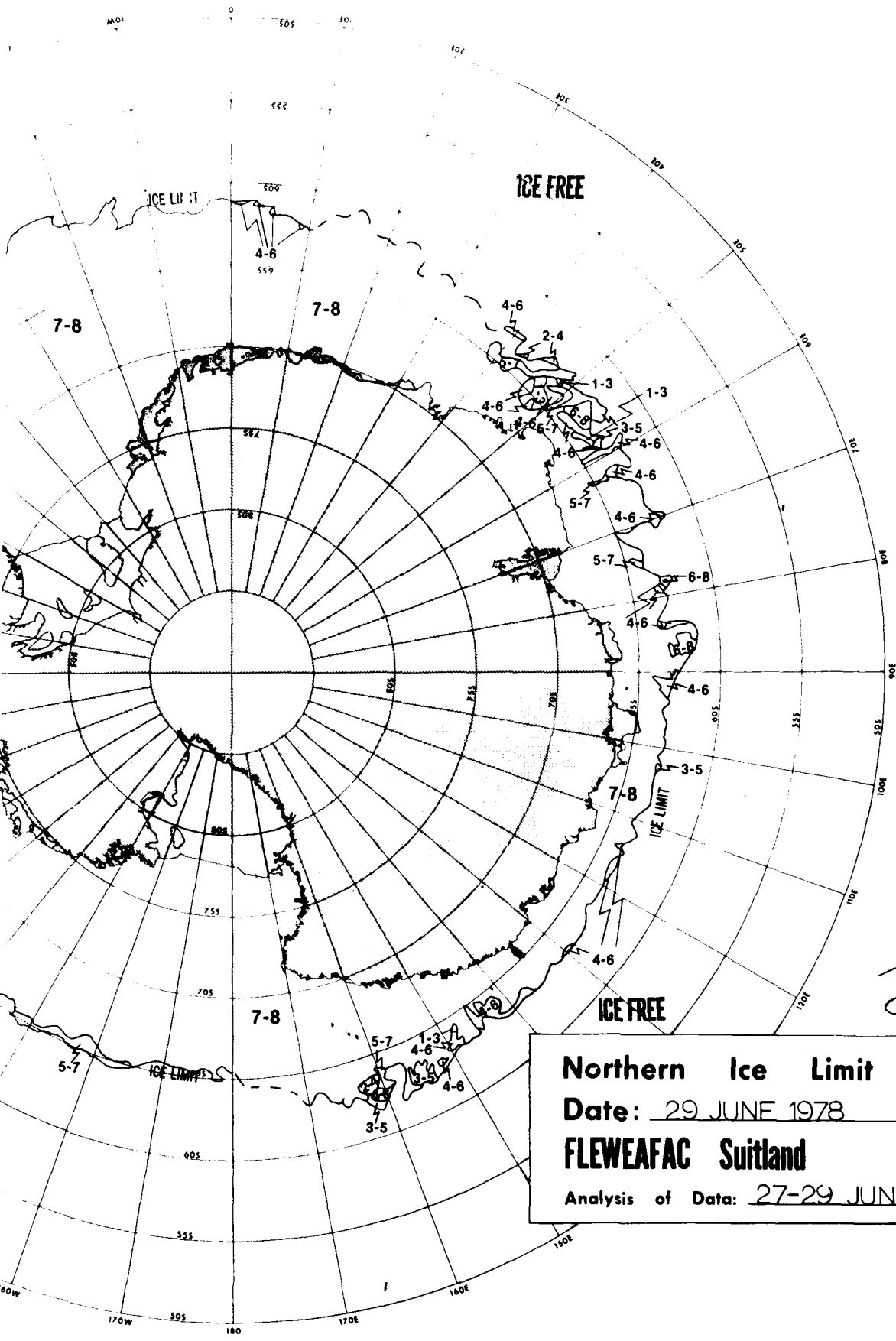
4-6

4-6

4-6

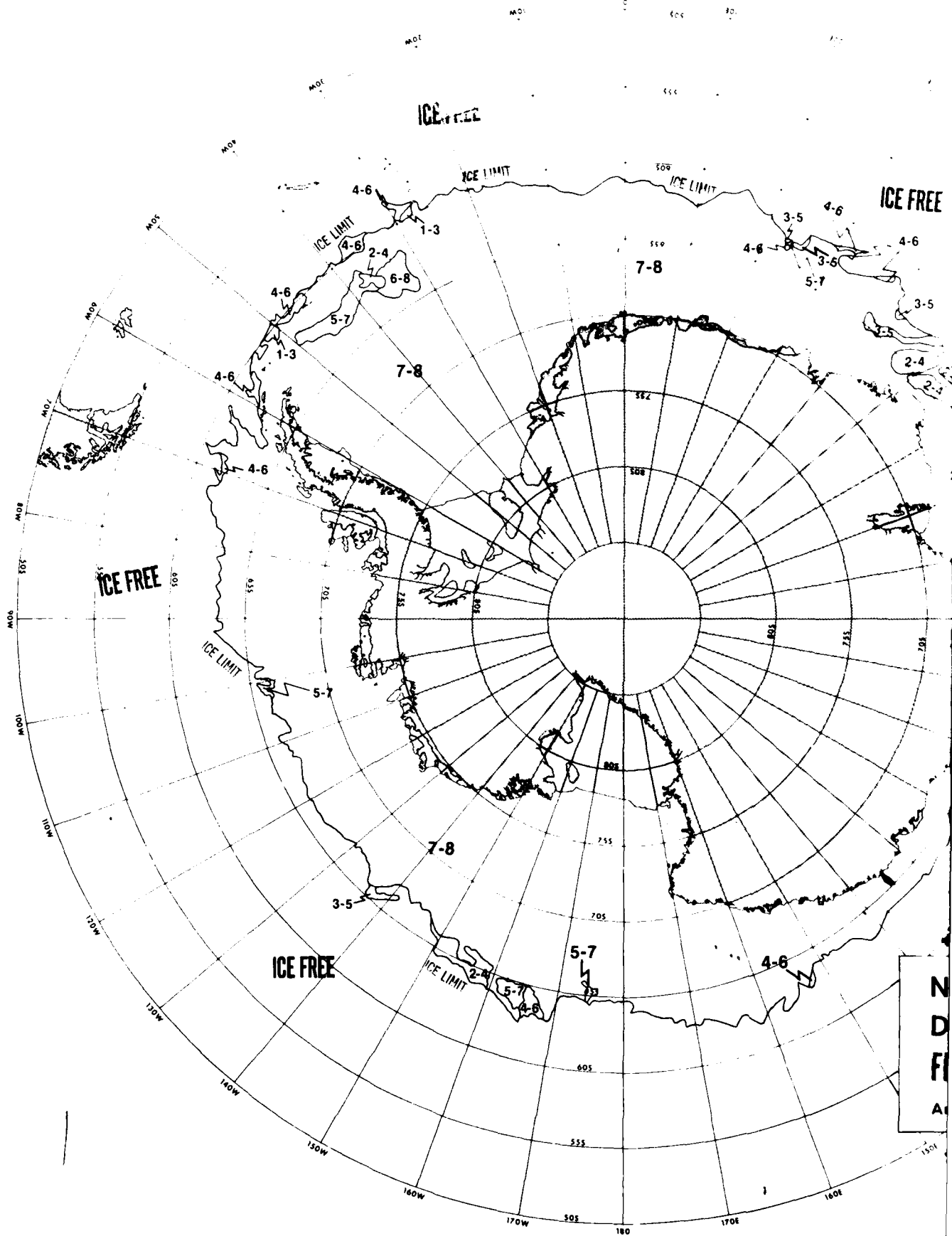
4-6

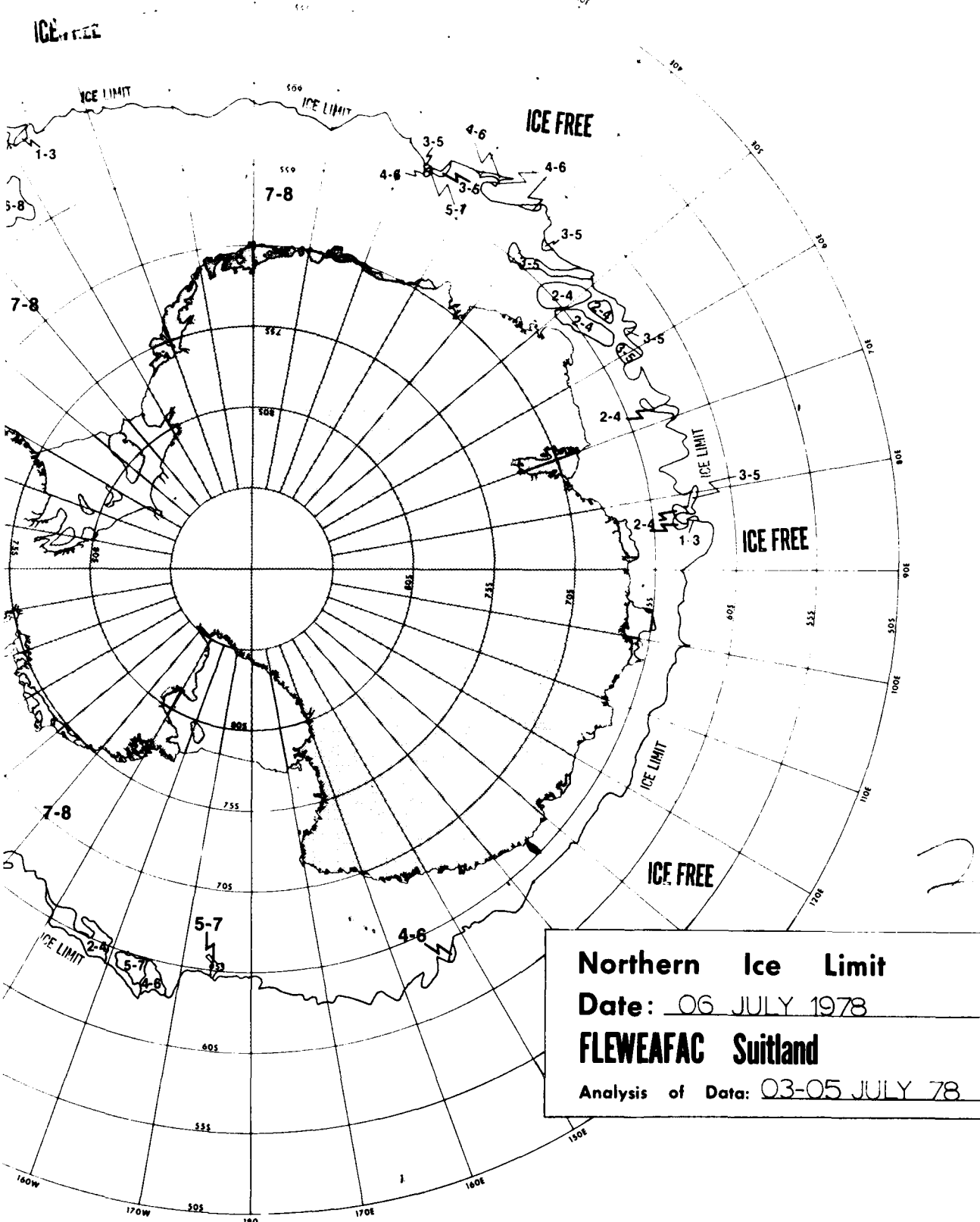




<p>Northern Ice Limit Date: <u>29 JUNE 1978</u></p>
<p>FLEWEAFAC Suitland Analysis of Data: <u>27-29 JUN 78</u></p>

2

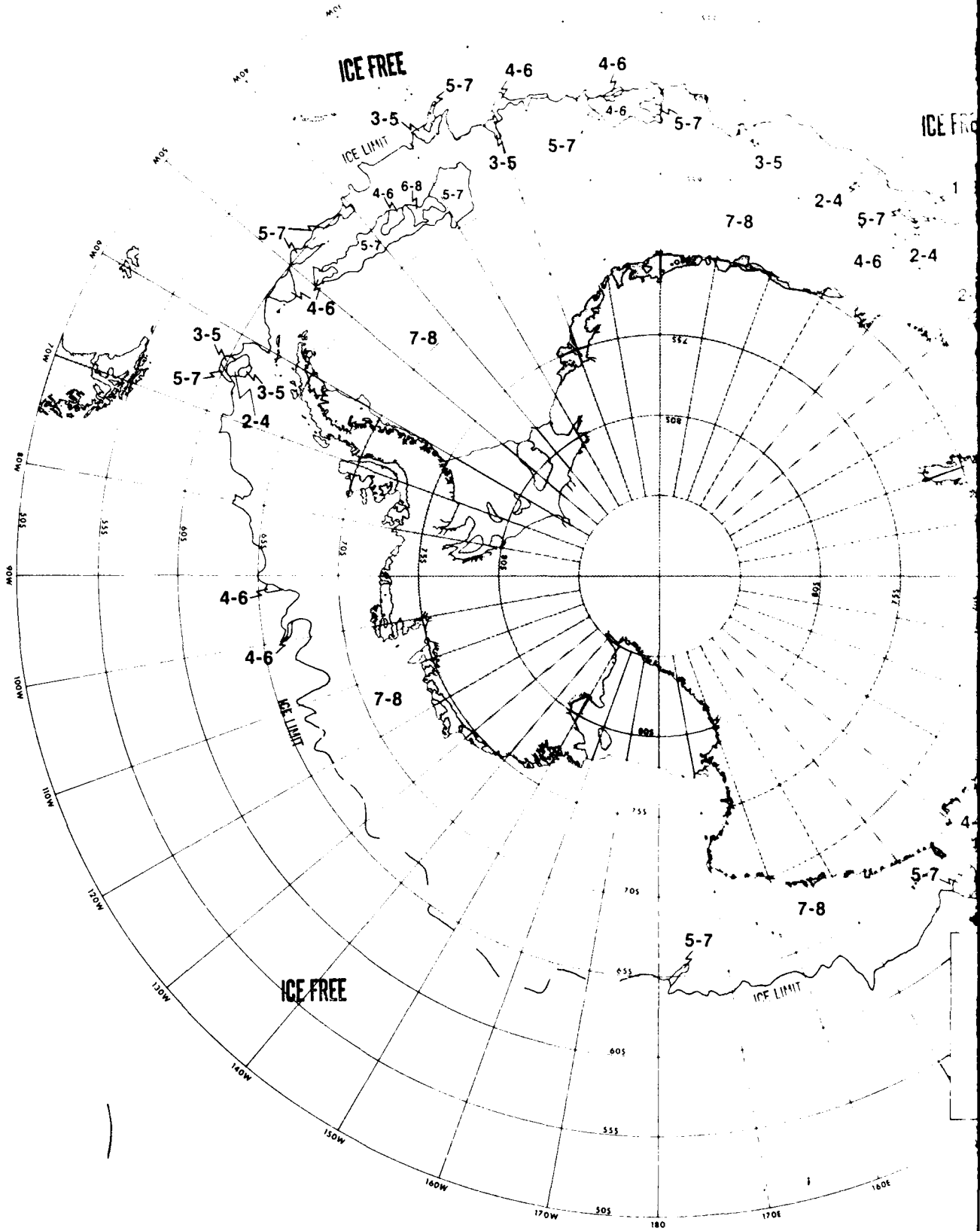


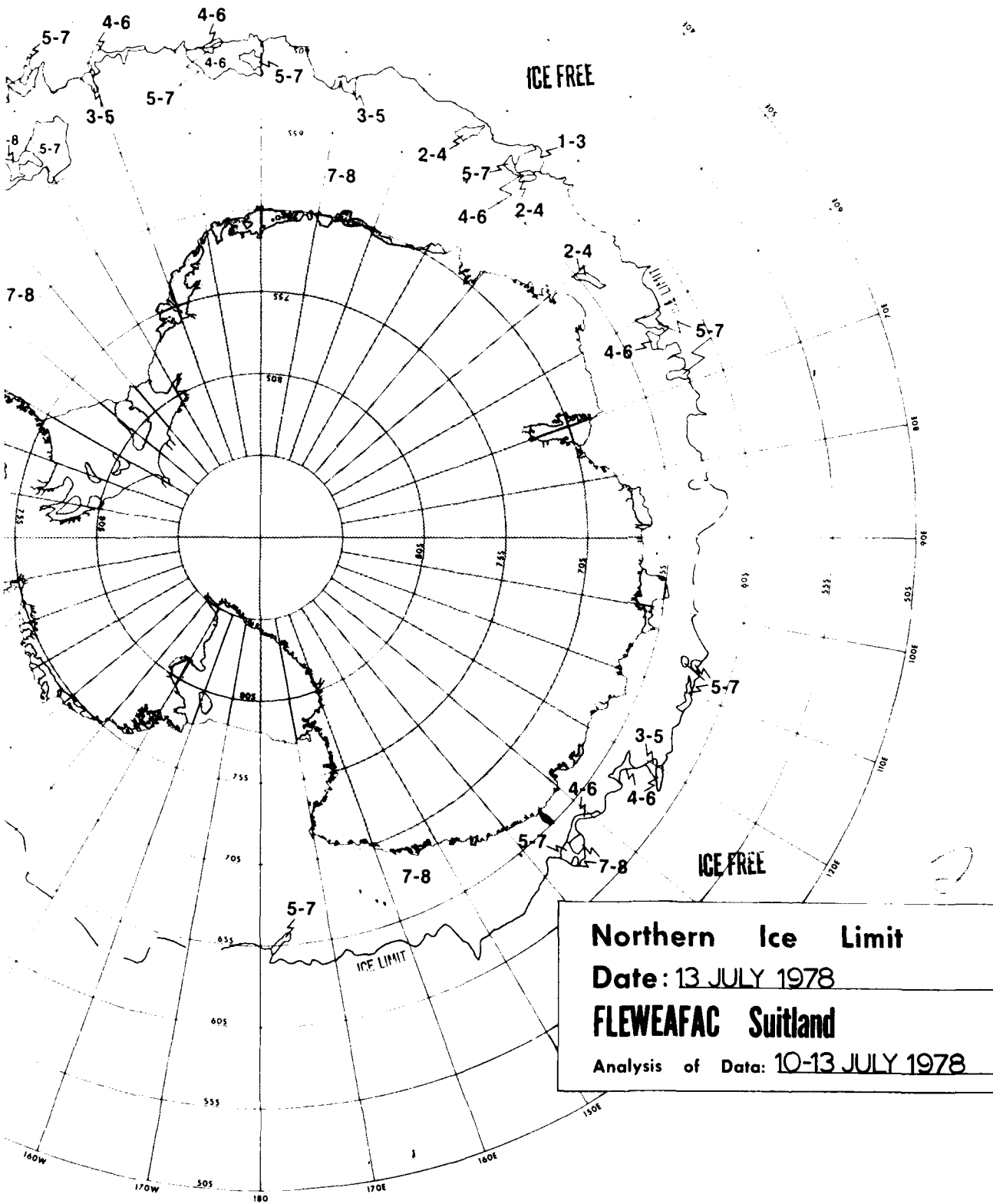


Northern Ice Limit
Date: 06 JULY 1978
FLEWEAFAC Suitland
Analysis of Data: 03-05 JULY 78

2

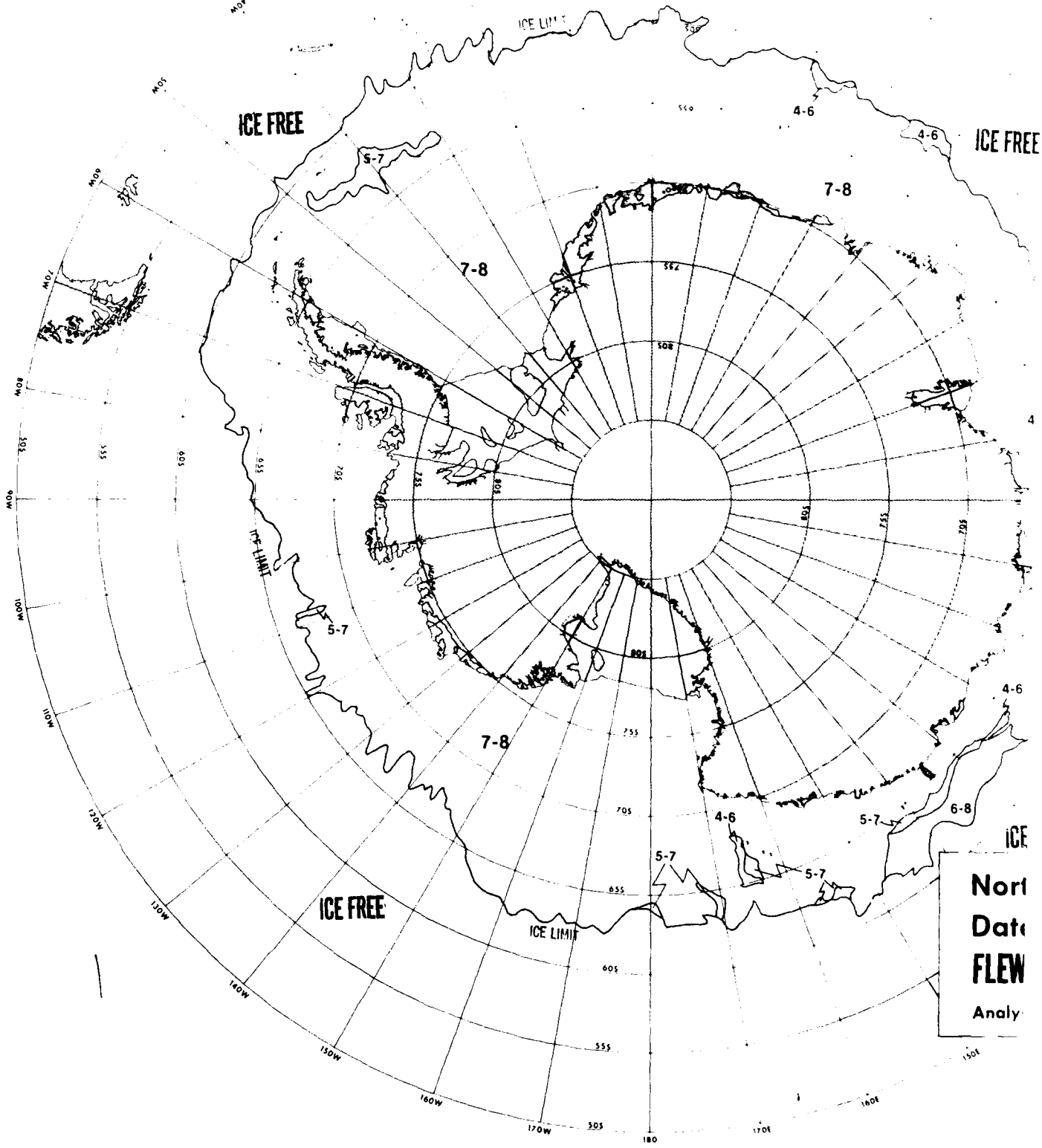
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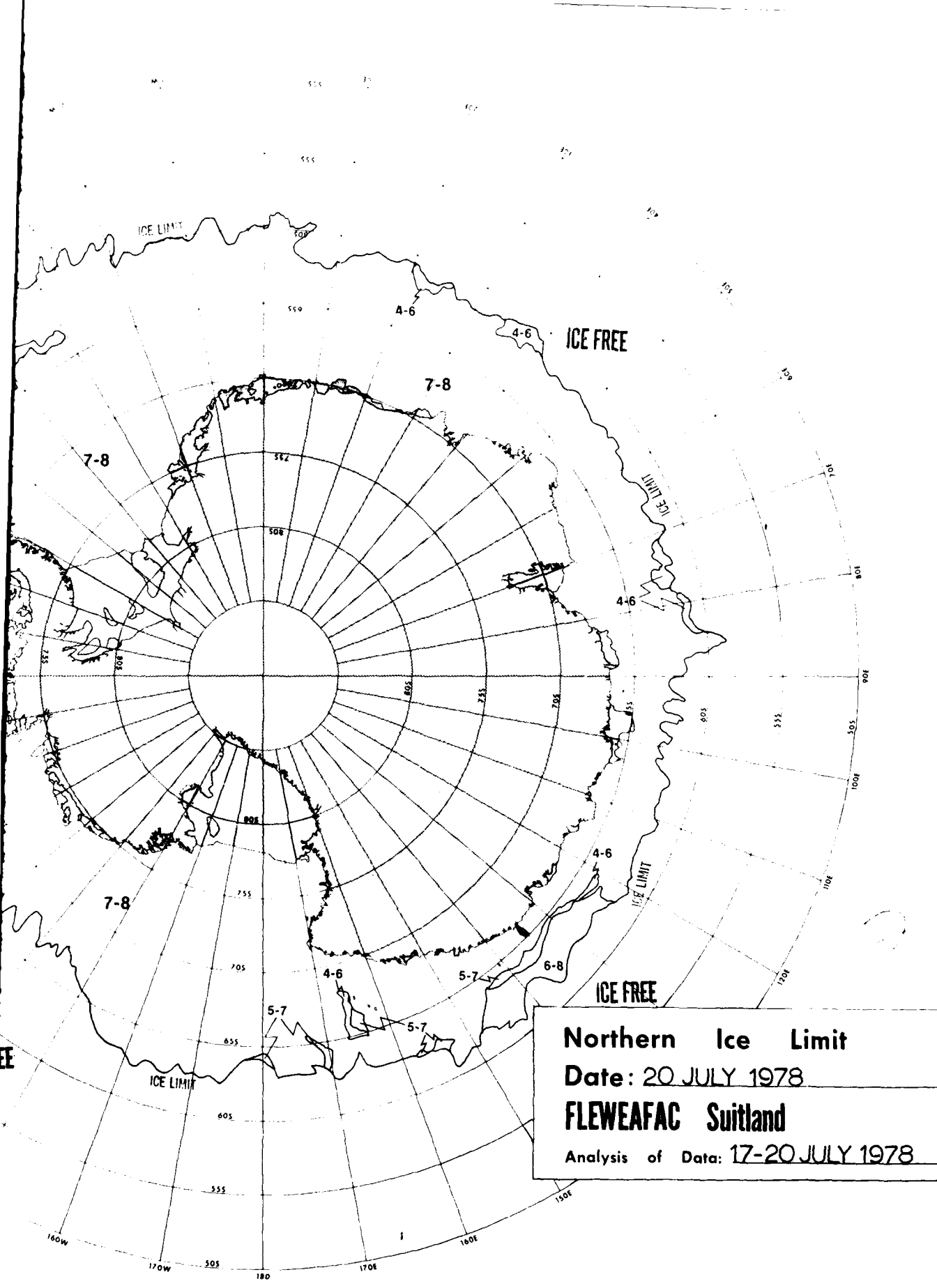




Northern Ice Limit
Date: 13 JULY 1978
FLEWEAFAC Suitland
Analysis of Data: 10-13 JULY 1978

2



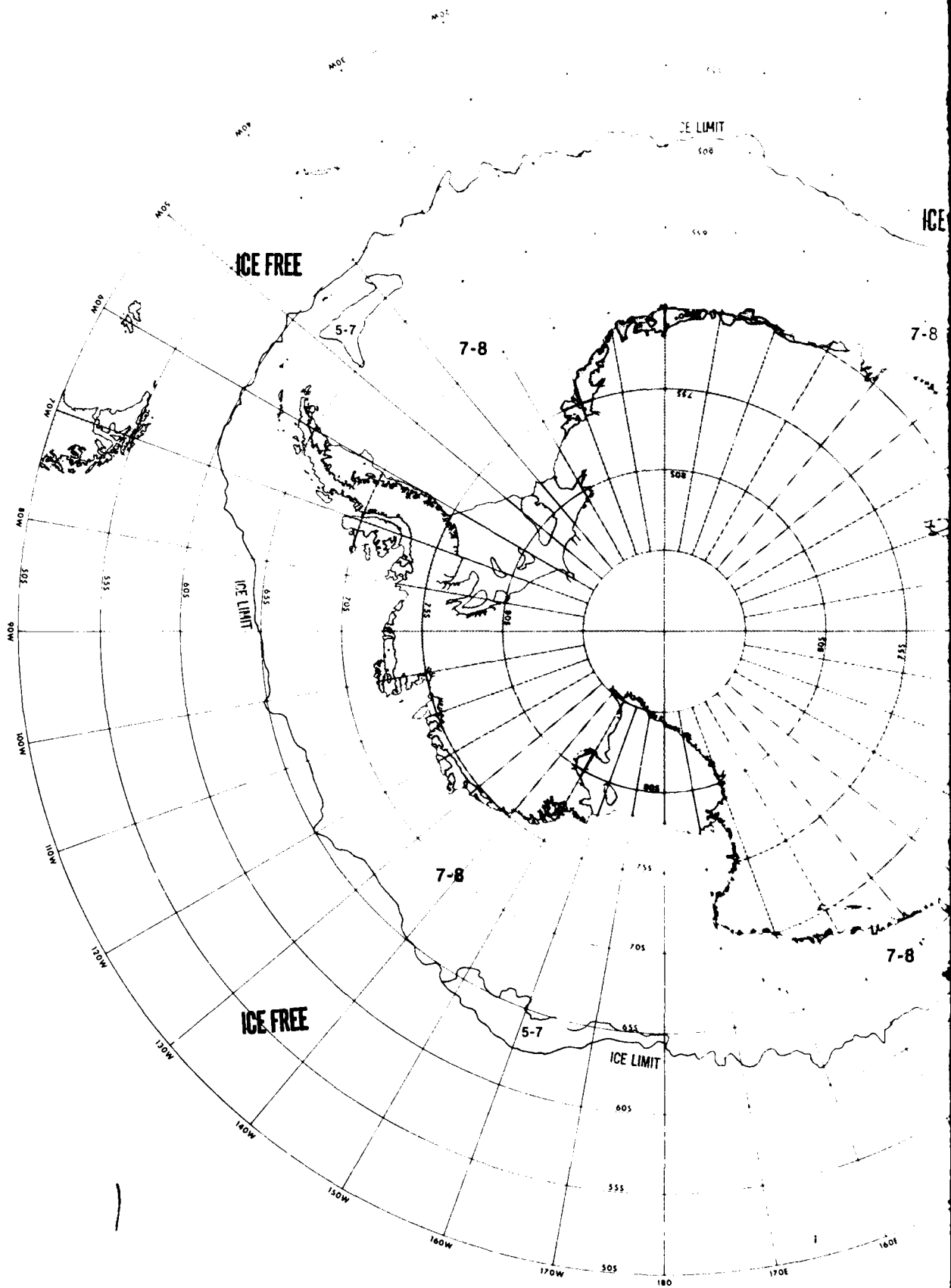


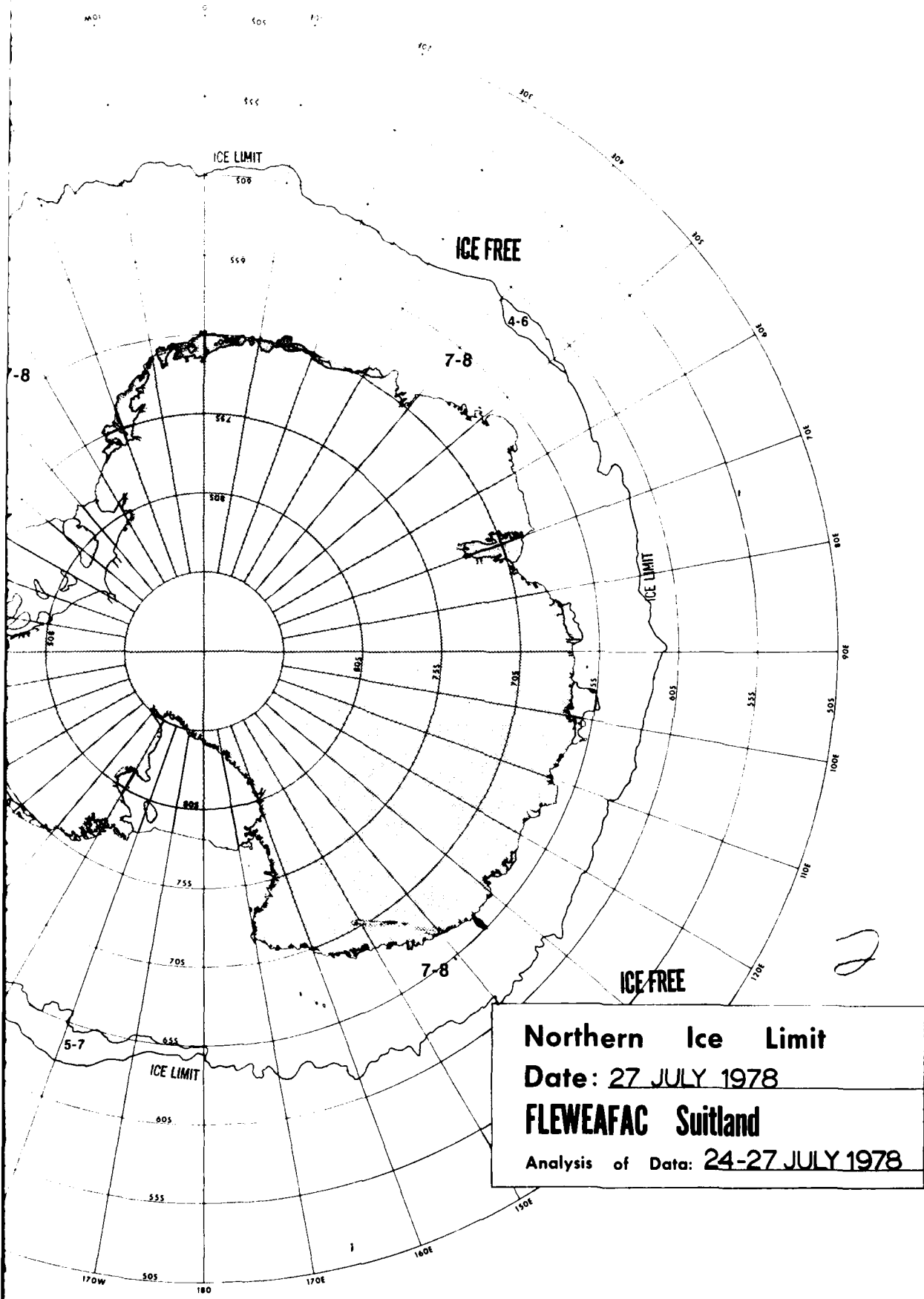
Northern Ice Limit

Date: 20 JULY 1978

FLEWEAFAC Suitland

Analysis of Data: 17-20 JULY 1978



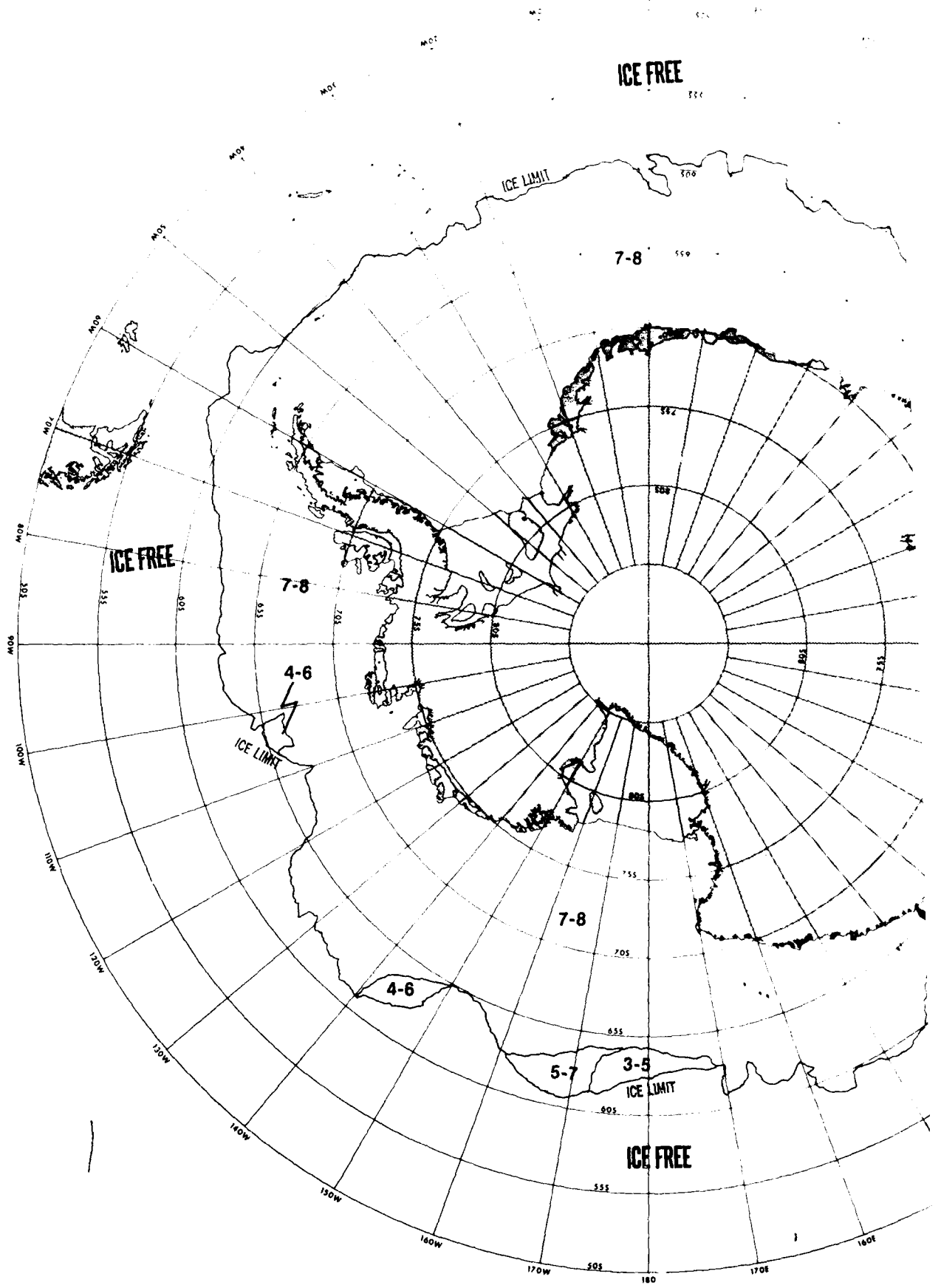


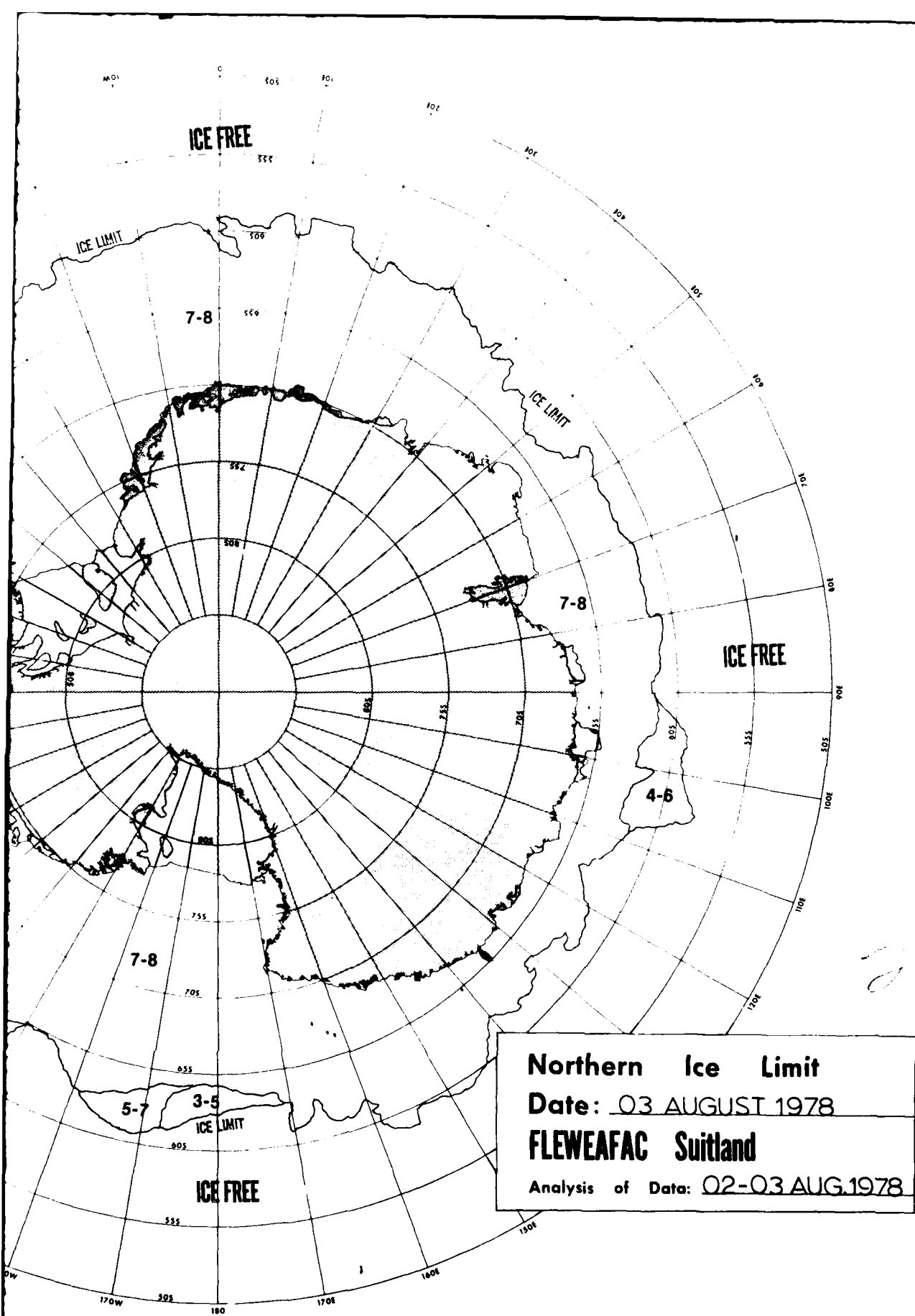
Northern Ice Limit

Date: 27 JULY 1978

FLEWEAFAC Suitland

Analysis of Data: 24-27 JULY 1978





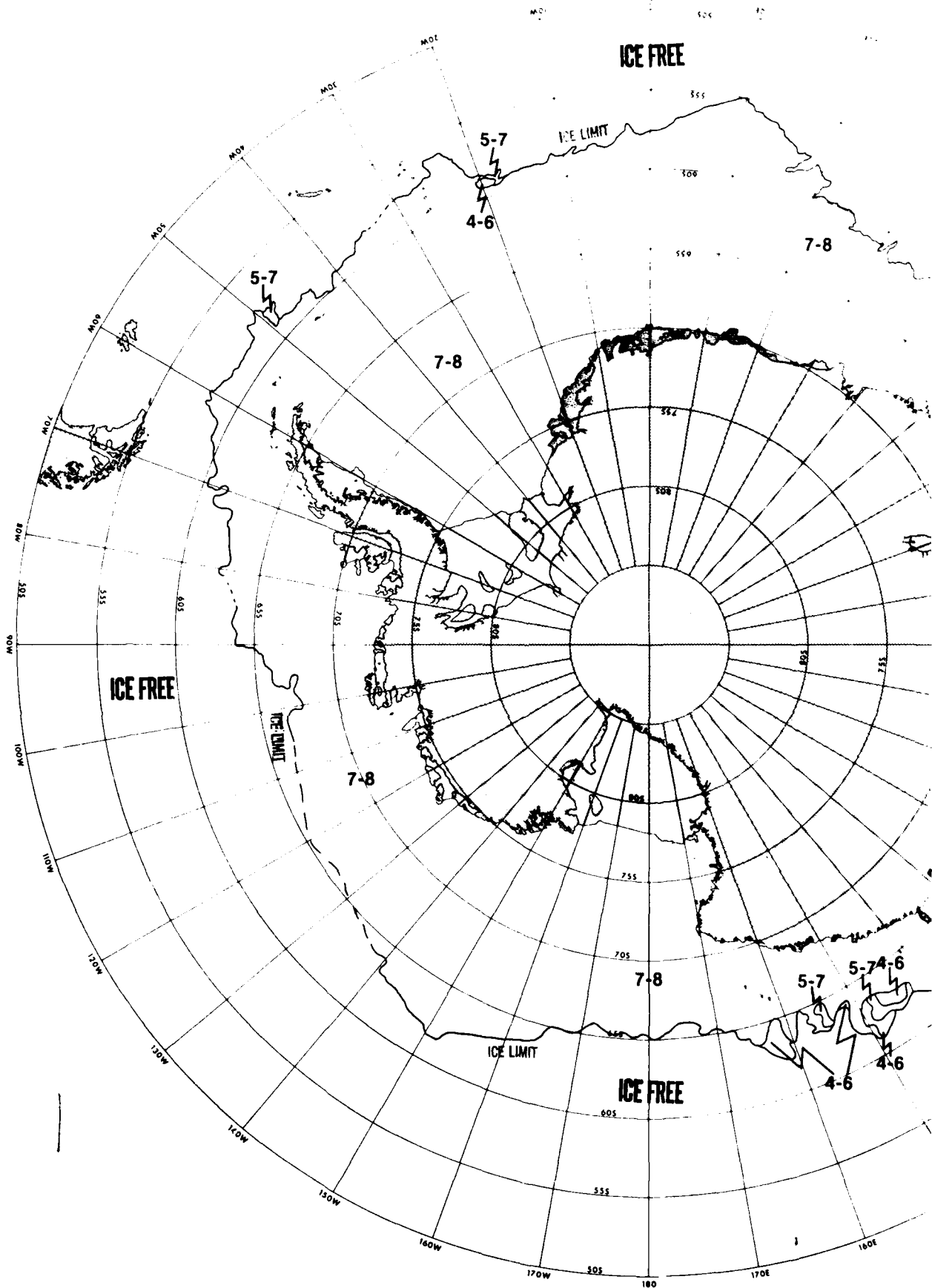
Northern Ice Limit

Date: 03 AUGUST 1978

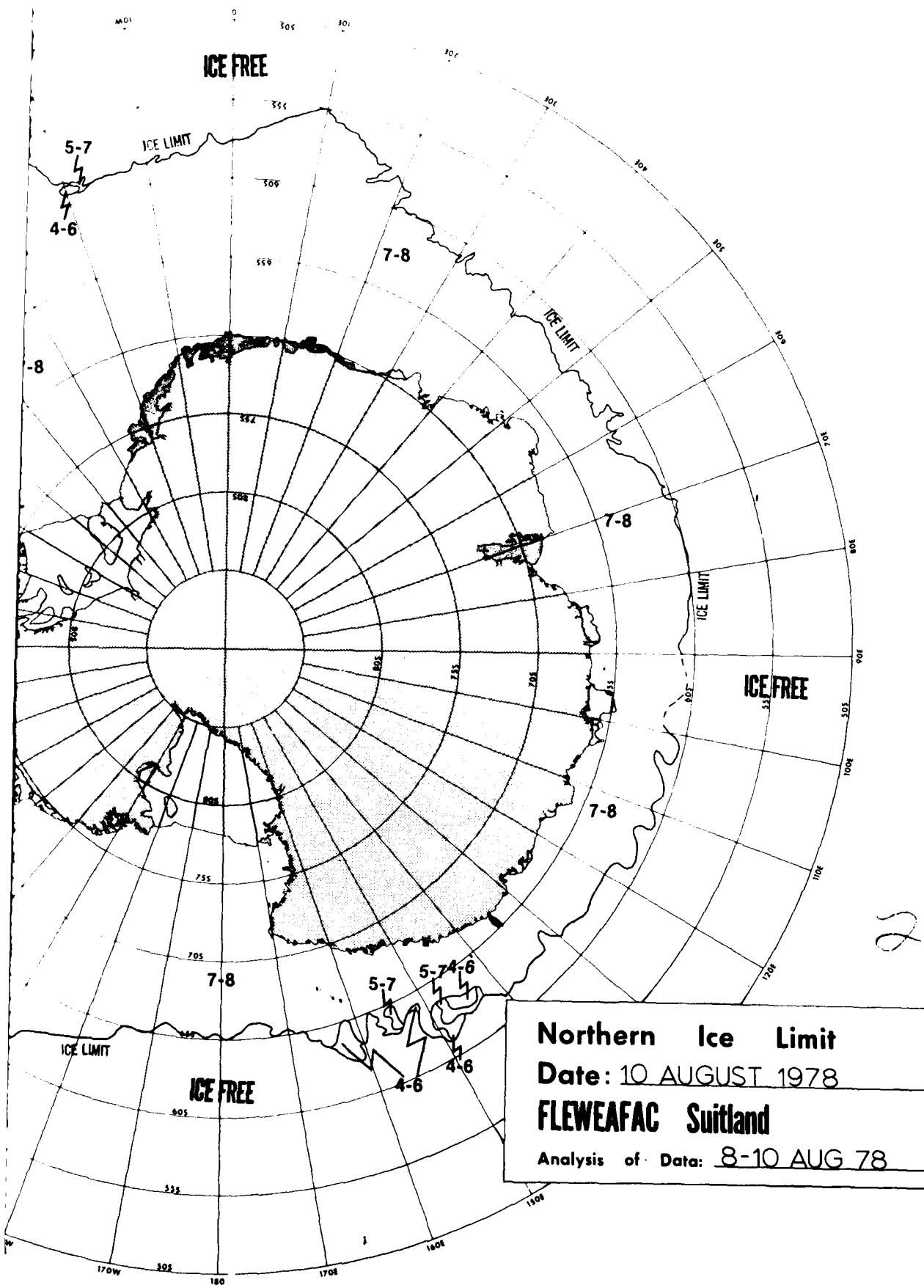
FLEWEAFAC Suitland

Analysis of Data: 02-03 AUG. 1978

2



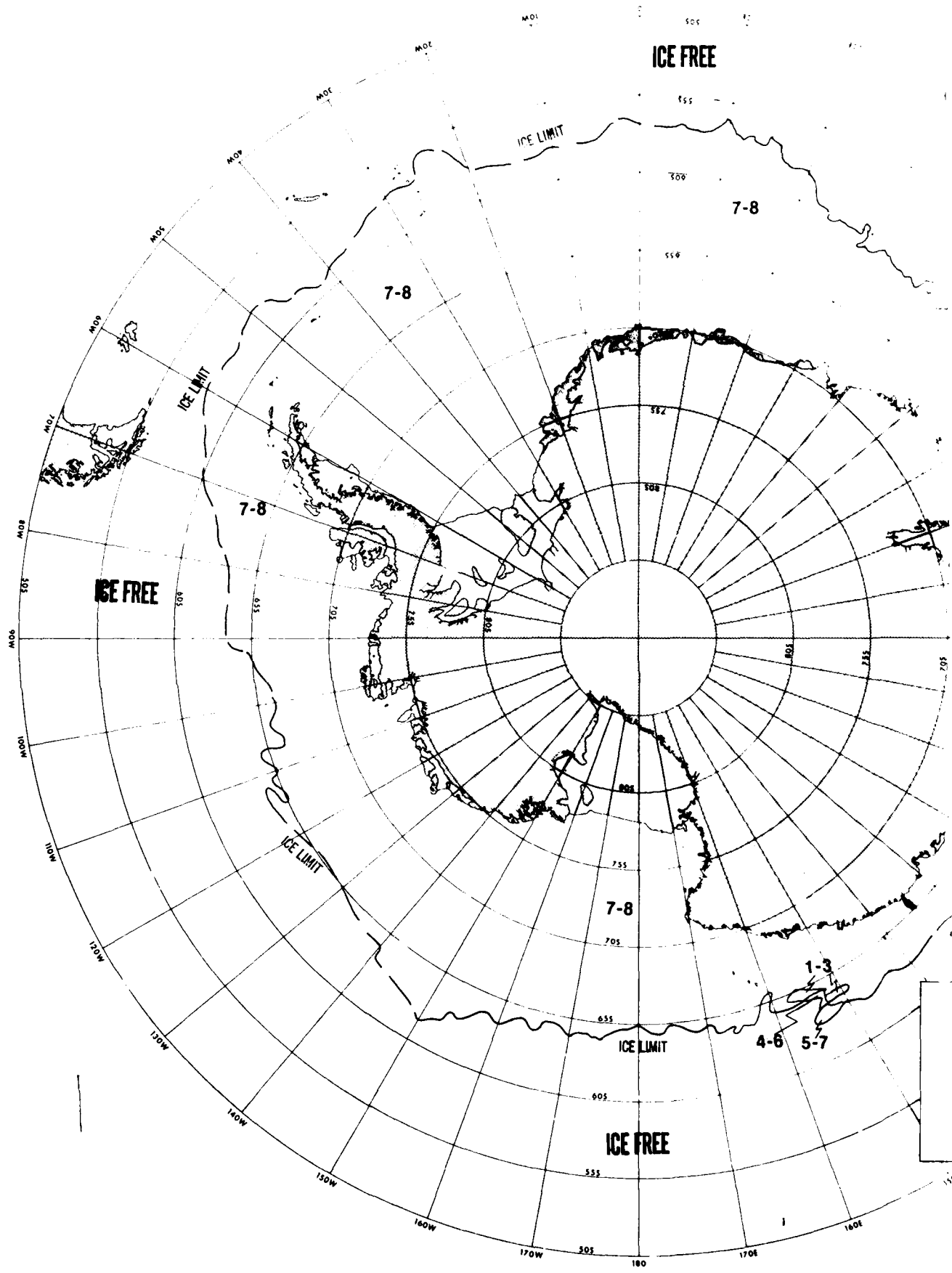
1

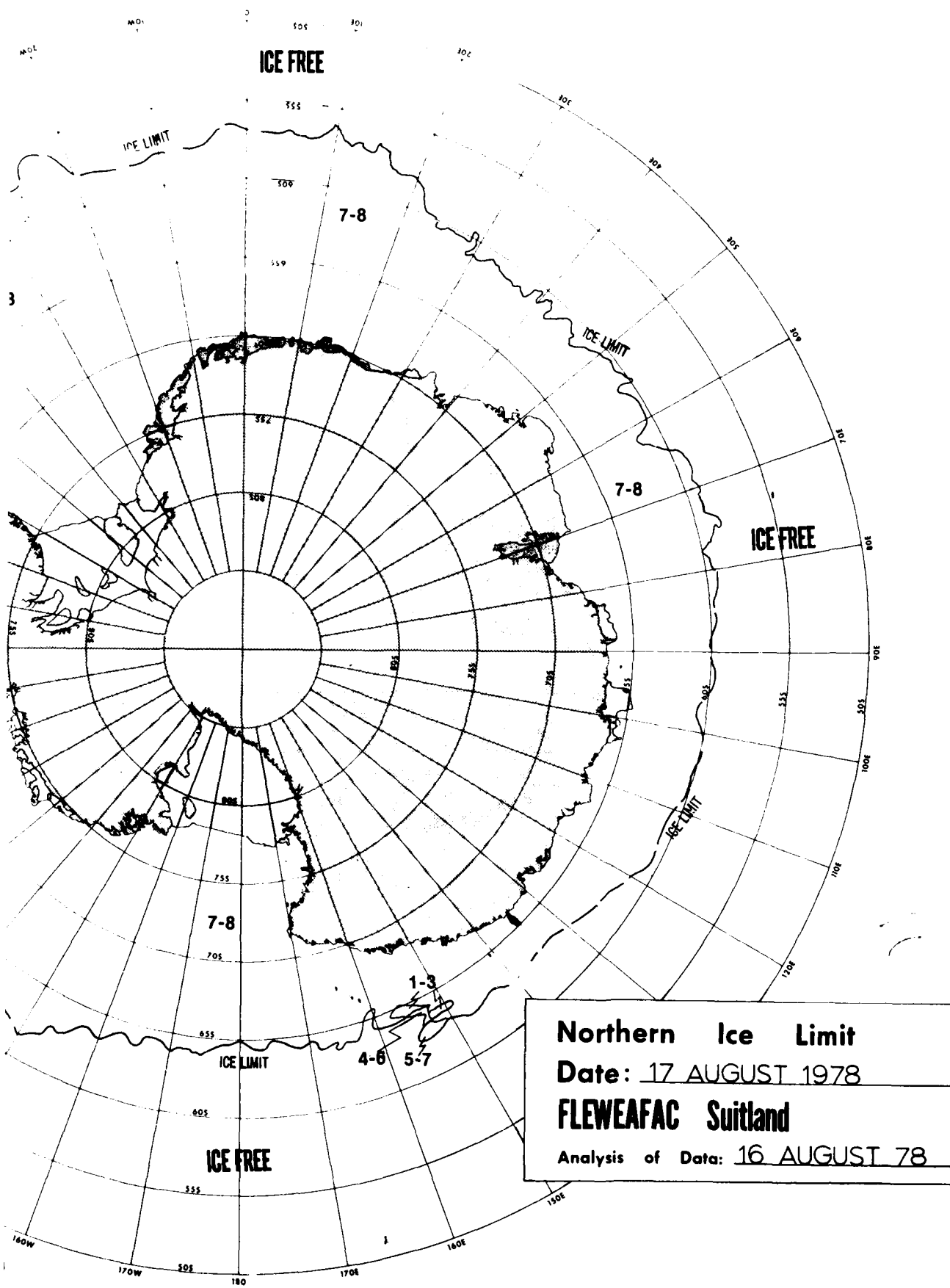


Northern Ice Limit
Date: 10 AUGUST 1978
FLEWEAFAC Suitland
Analysis of Data: 8-10 AUG 78

2

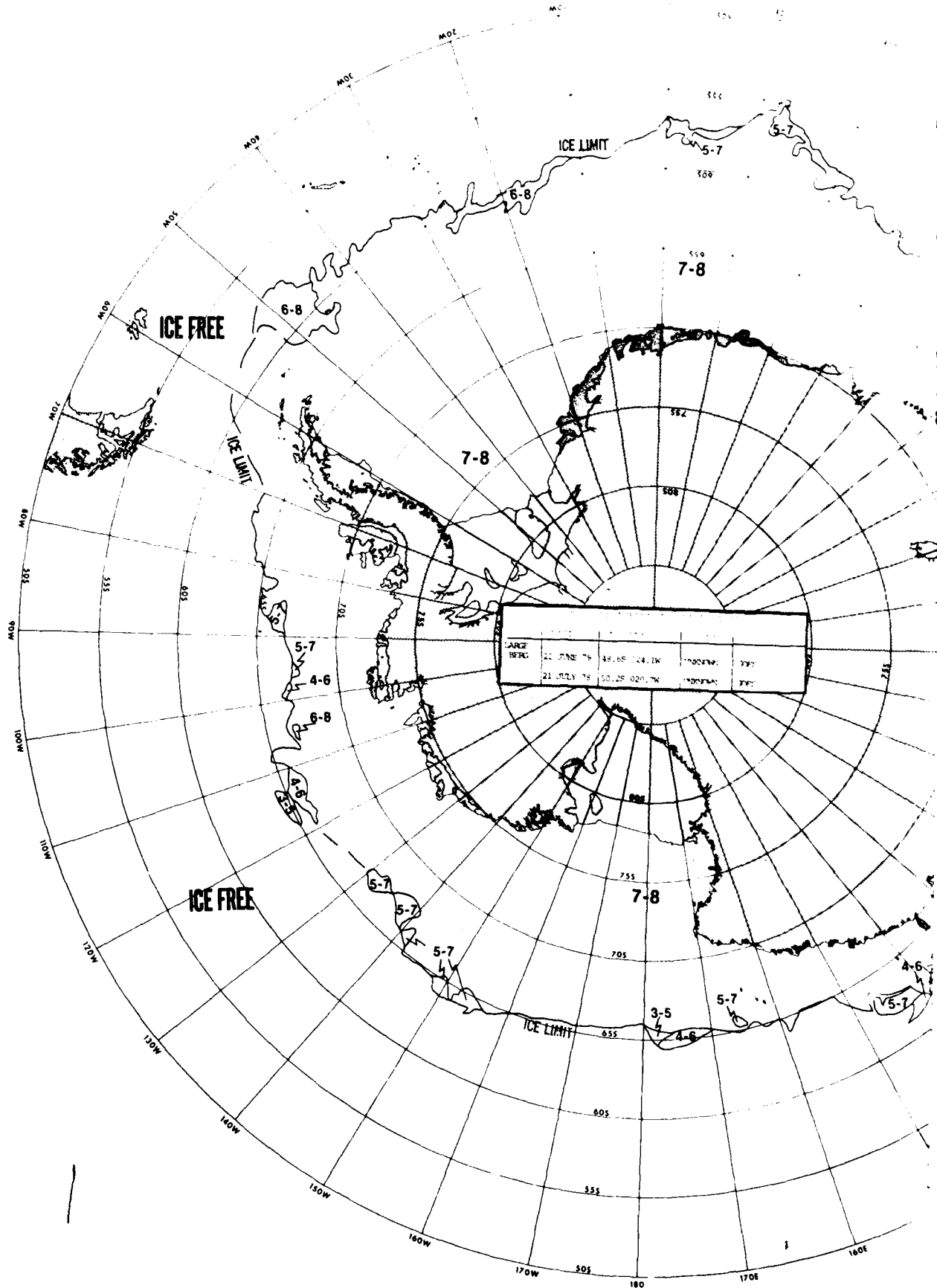
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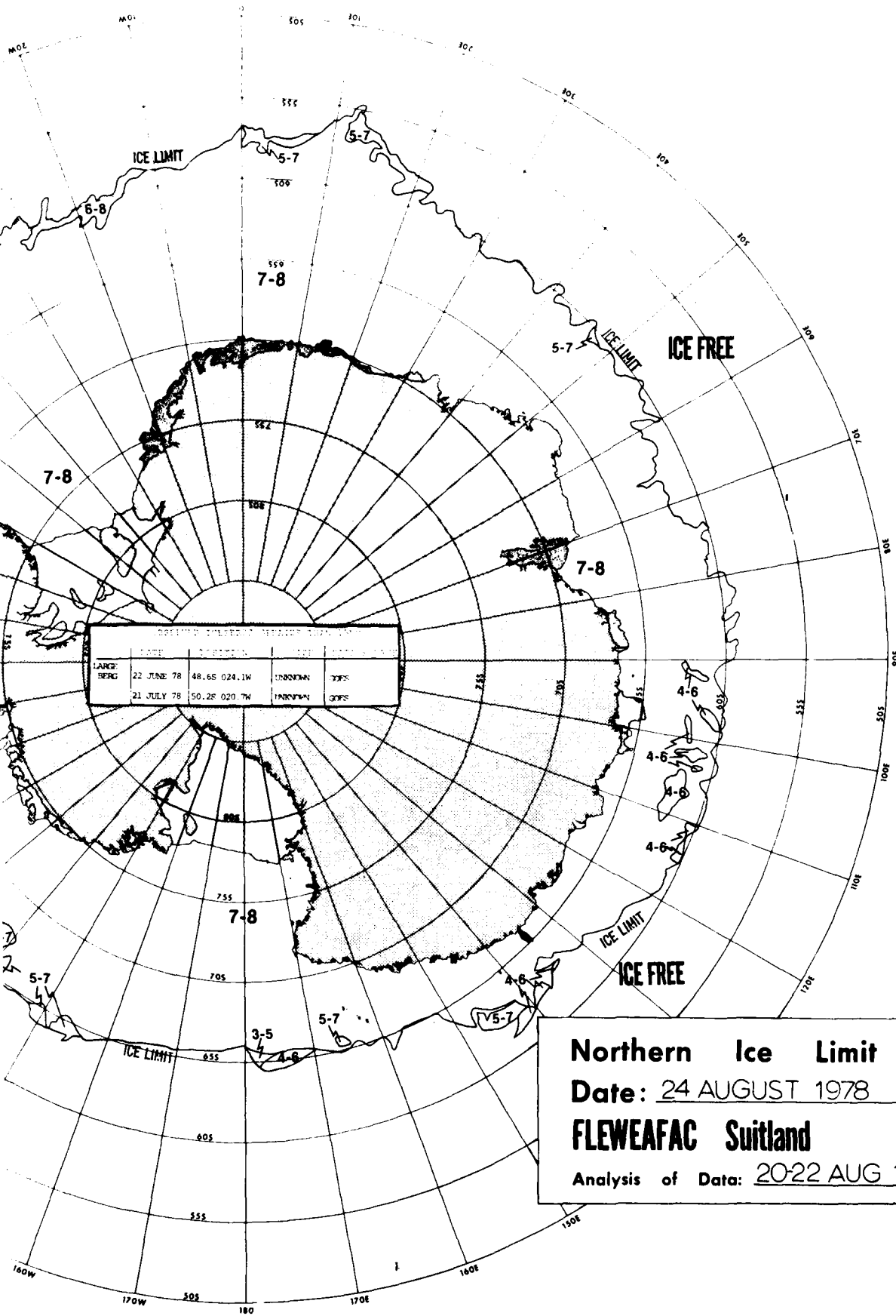




Northern Ice Limit
Date: 17 AUGUST 1978
FLEWEAFAC Suitland
Analysis of Data: 16 AUGUST 78

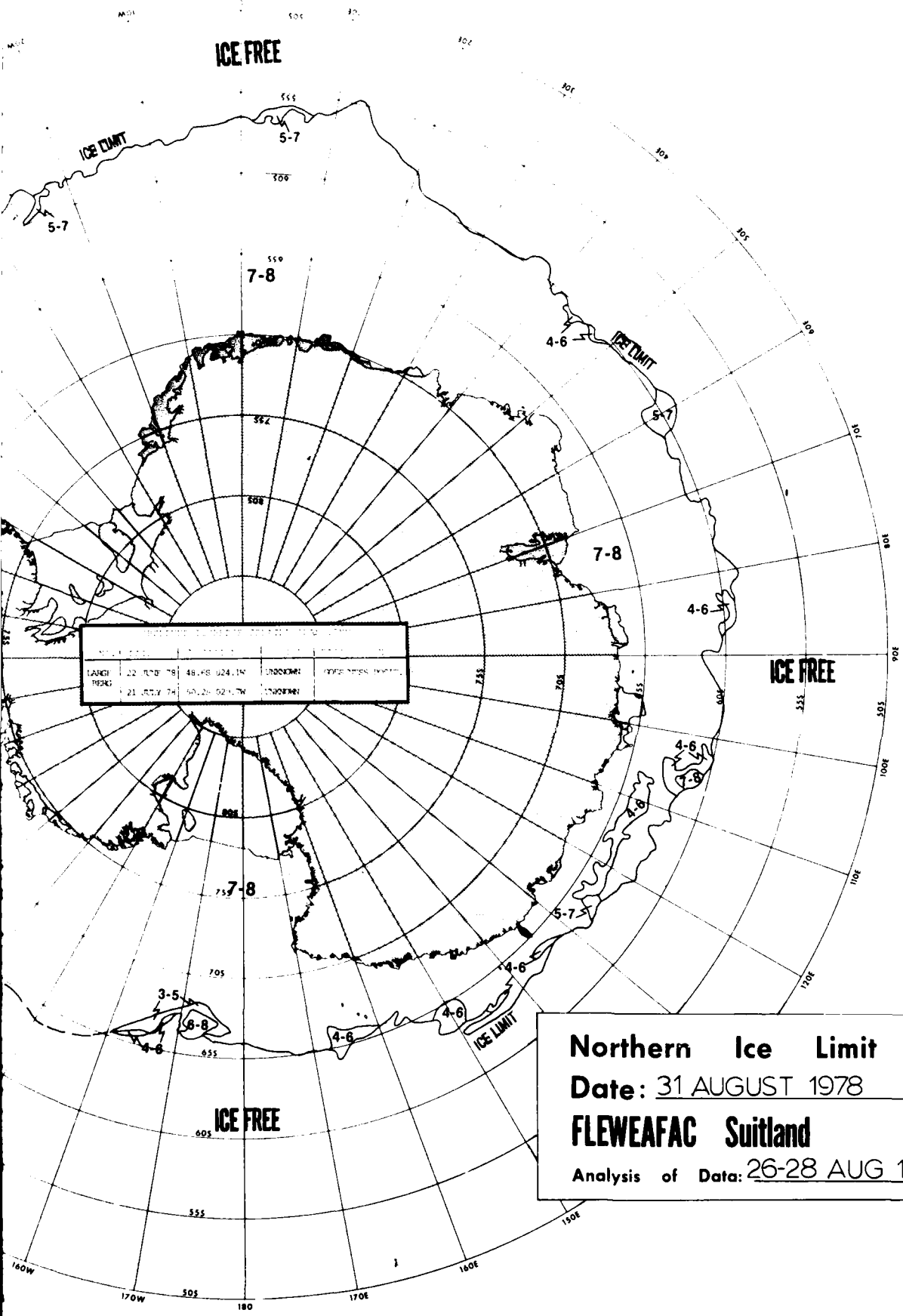
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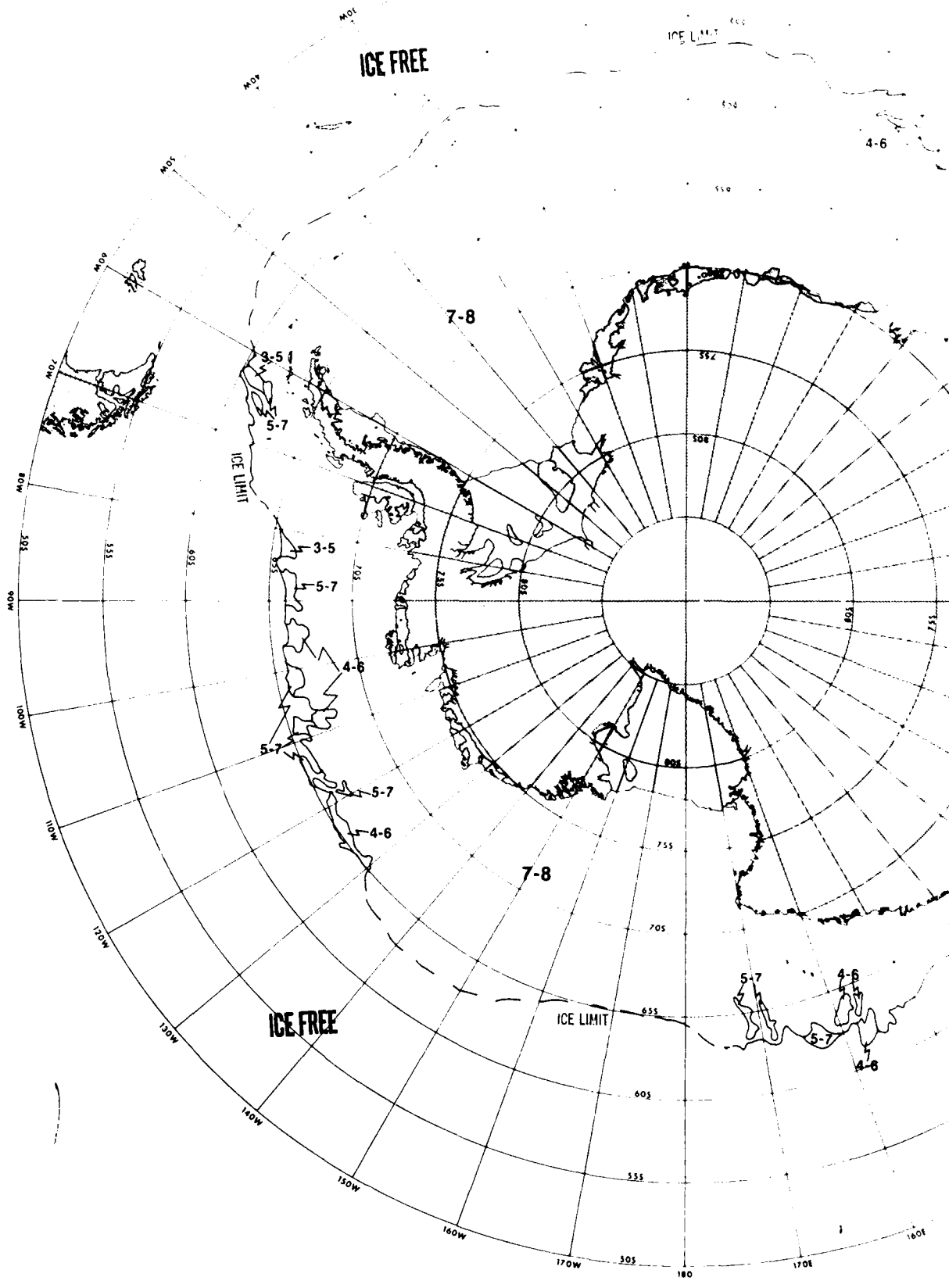
Northern Ice Limit
Date: 24 AUGUST 1978
FLEWEAFAC Suitland
Analysis of Data: 2022 AUG 1978

Q



Northern Ice Limit
Date: 31 AUGUST 1978
FLEWEAFAC Suitland
Analysis of Data: 26-28 AUG 1978

2



ICE FREE

4-6

7-8

ICE LIMIT

ICE FREE

ICE LIMIT

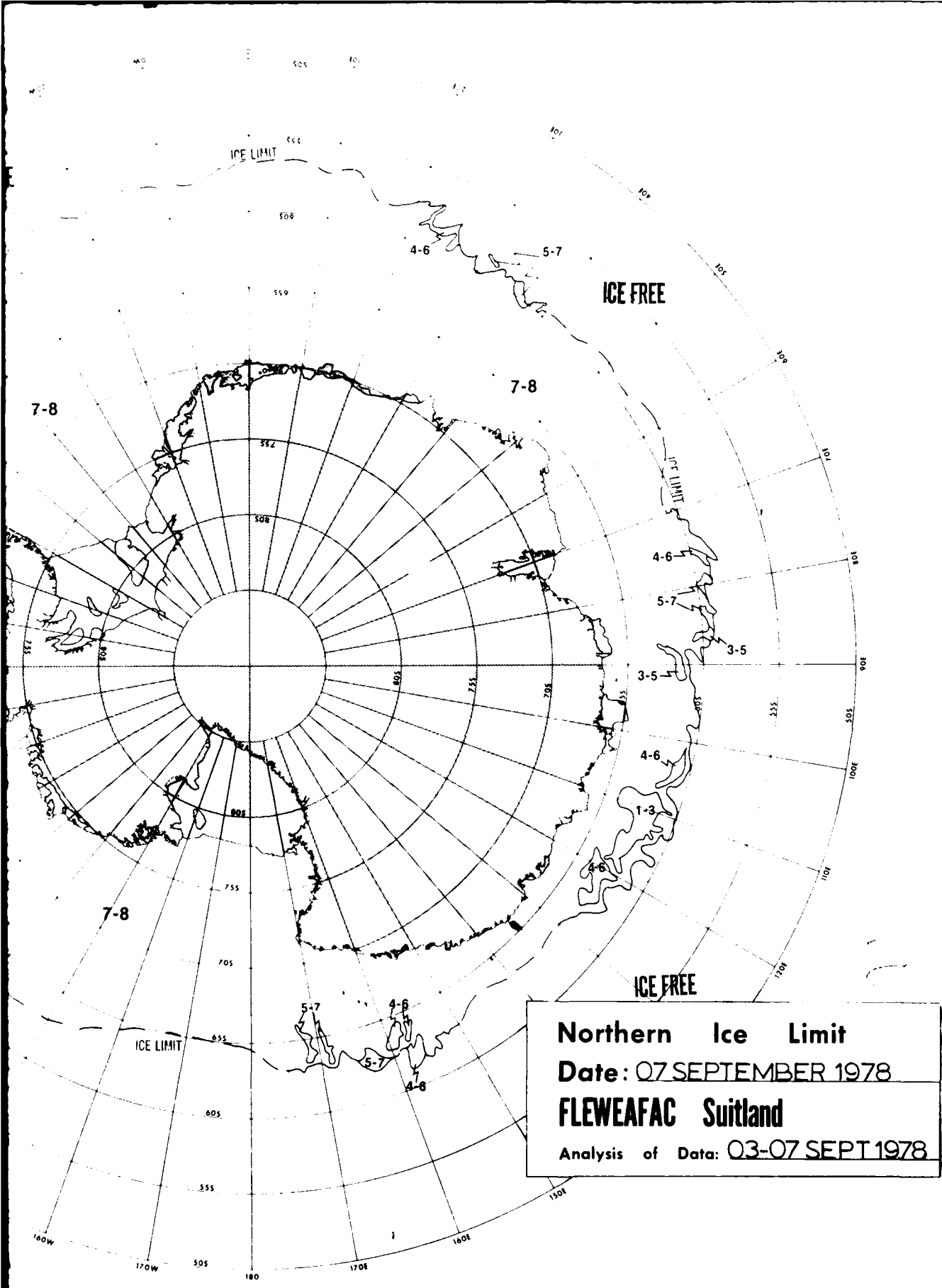
7-8

5-7

4-6

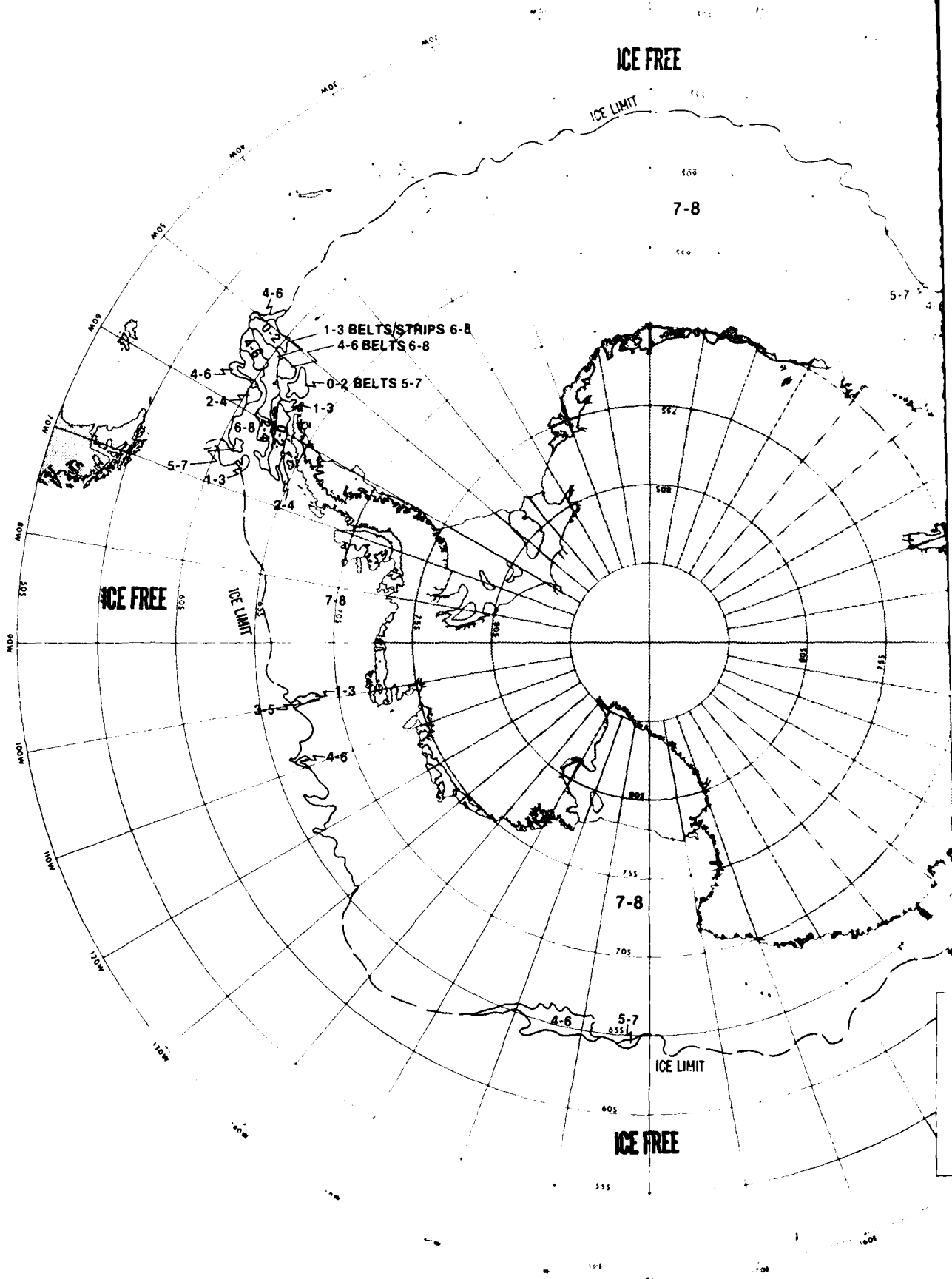
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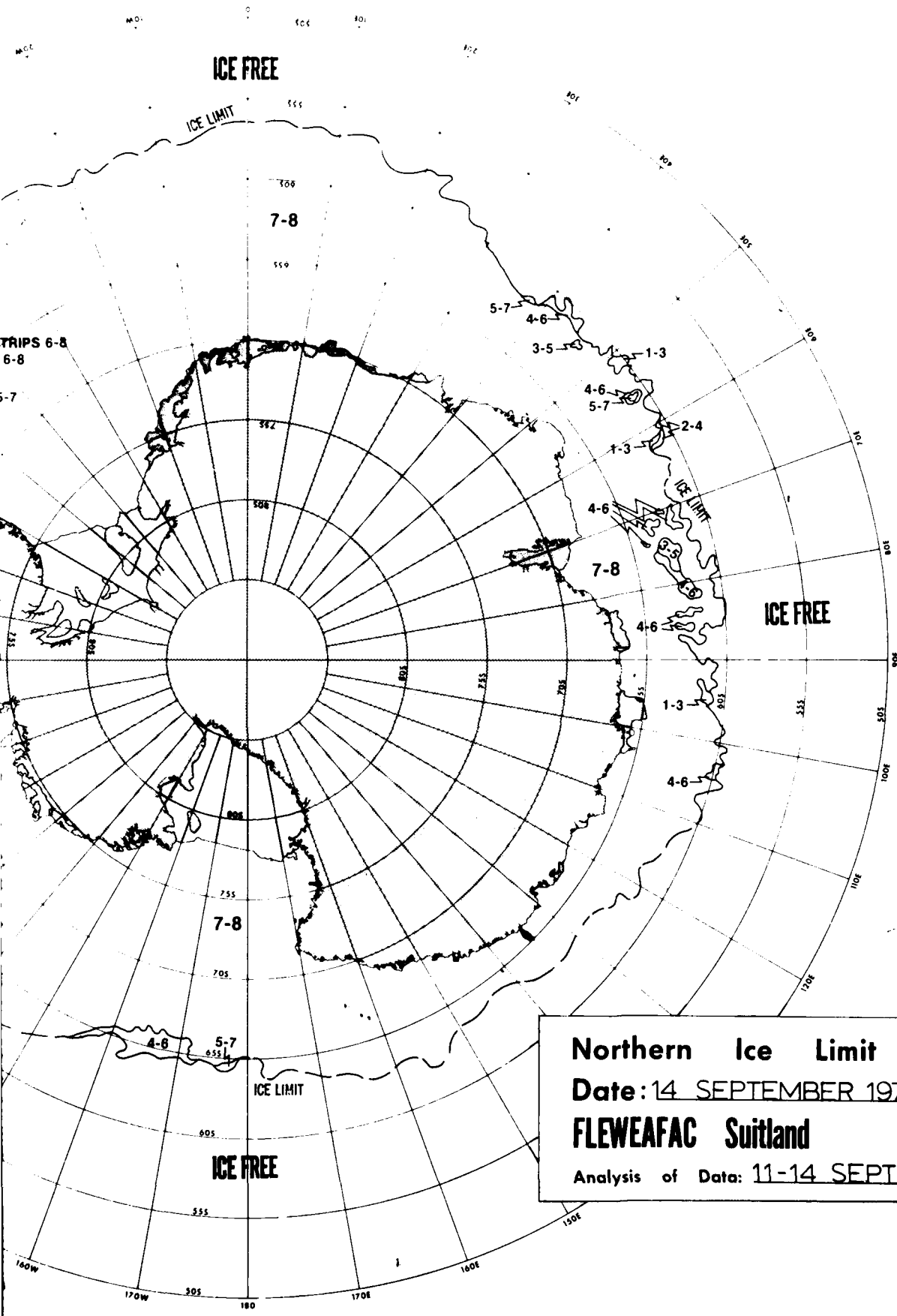
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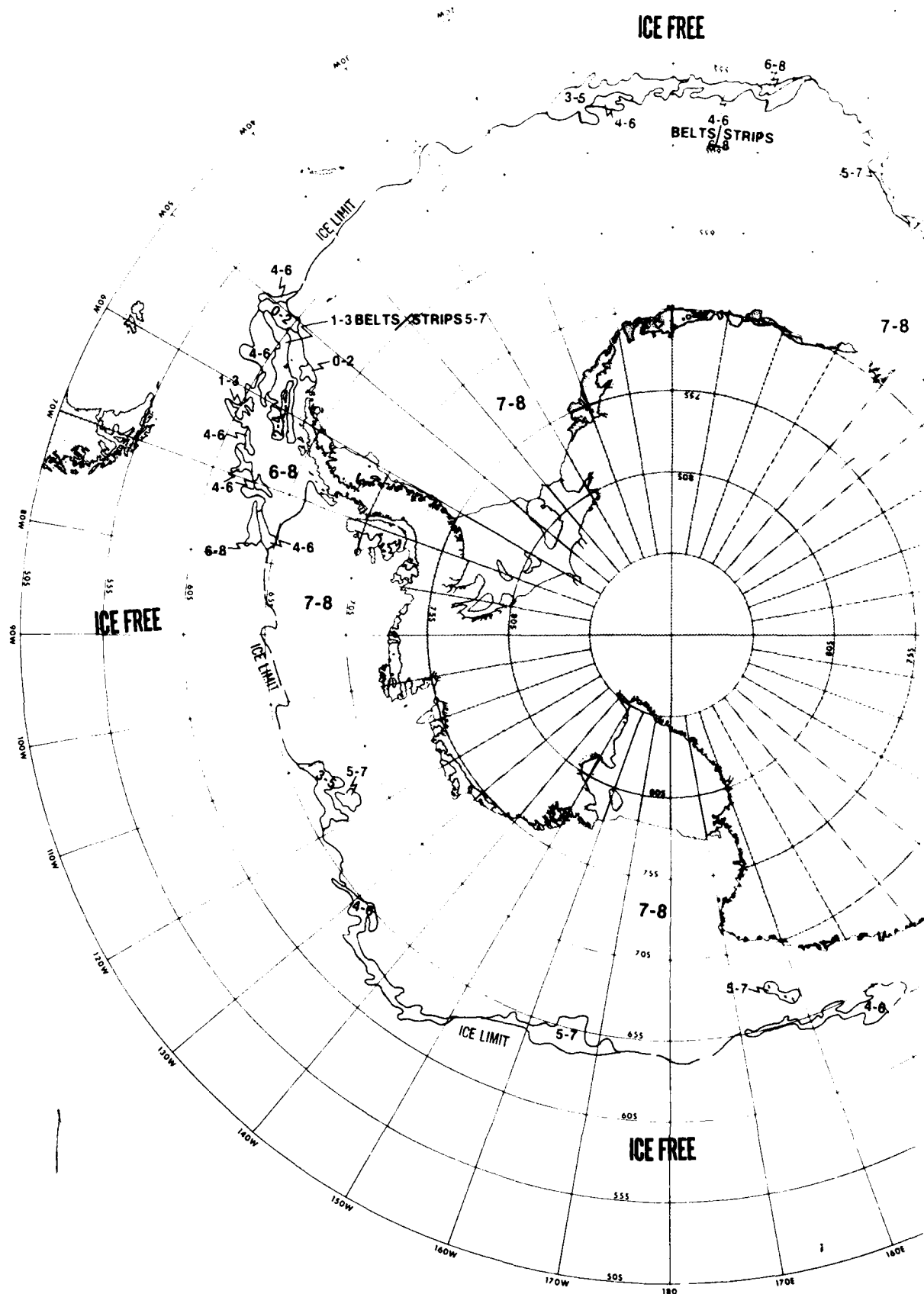
Northern Ice Limit
Date: 07 SEPTEMBER 1978
FLEWEAFAC Suitland
Analysis of Data: 03-07 SEPT 1978

2

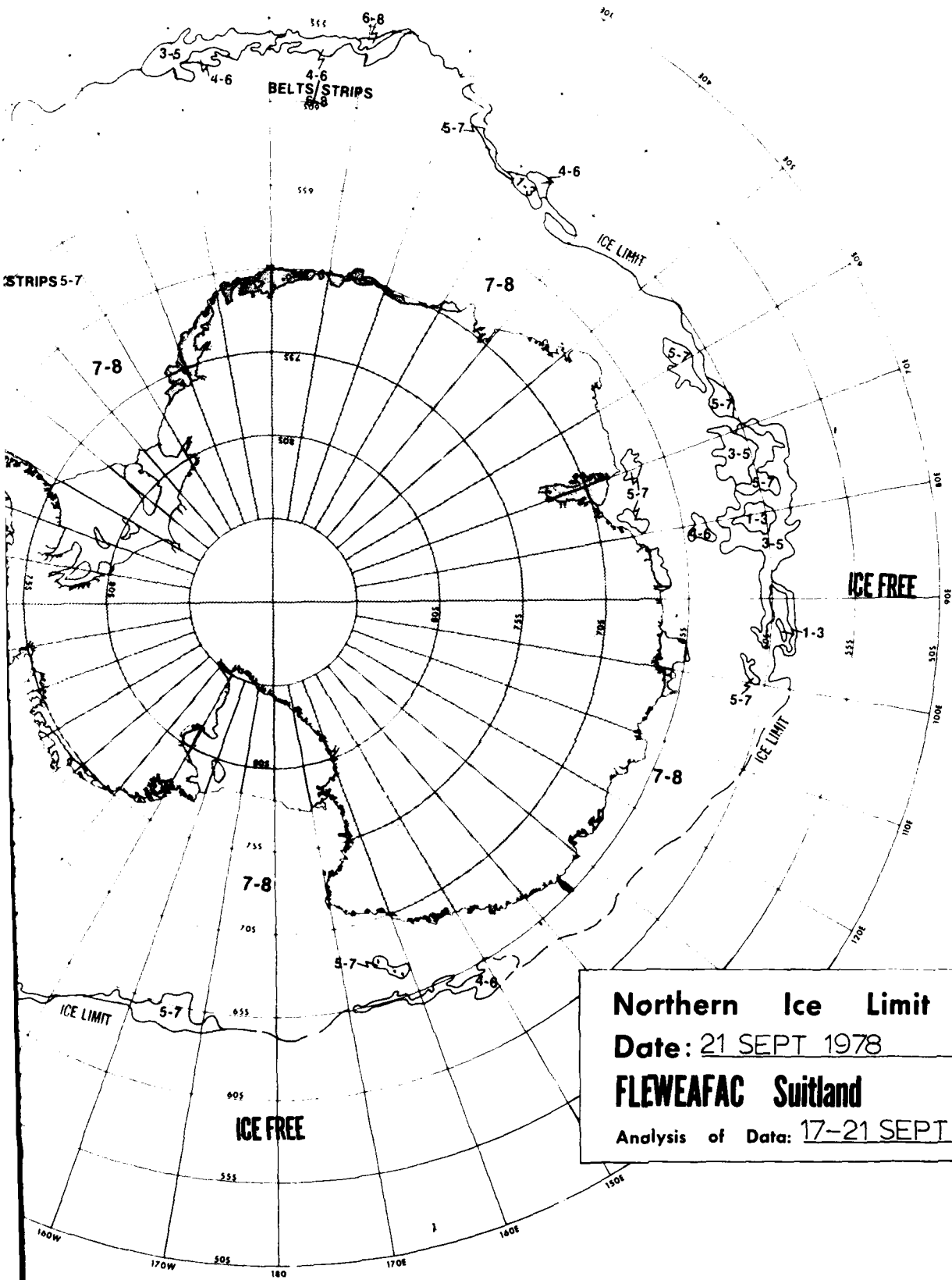




Northern Ice Limit
Date: 14 SEPTEMBER 1978
FLEWEAFAC Suitland
 Analysis of Data: 11-14 SEPT 78



ICE FREE



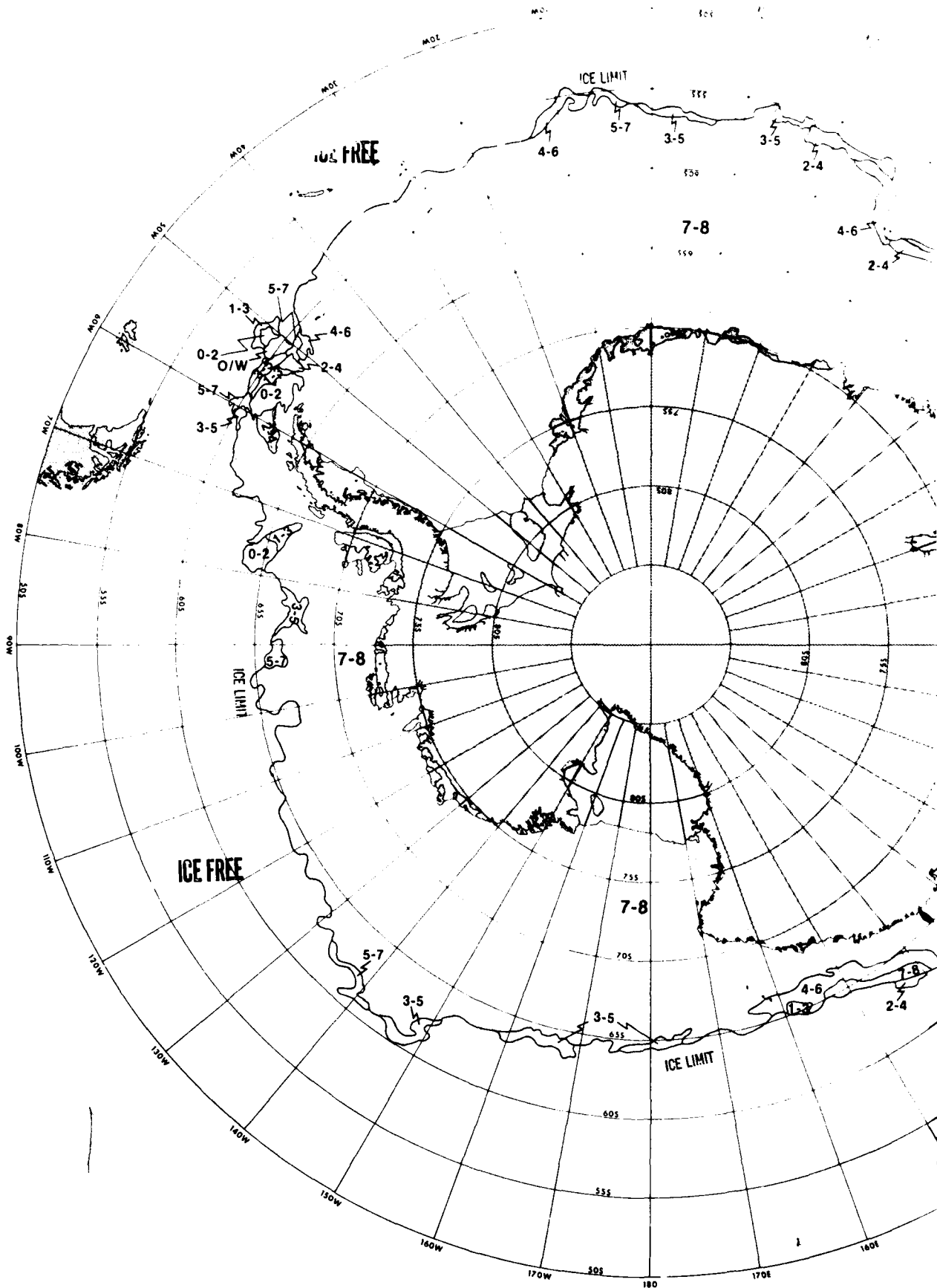
Northern Ice Limit

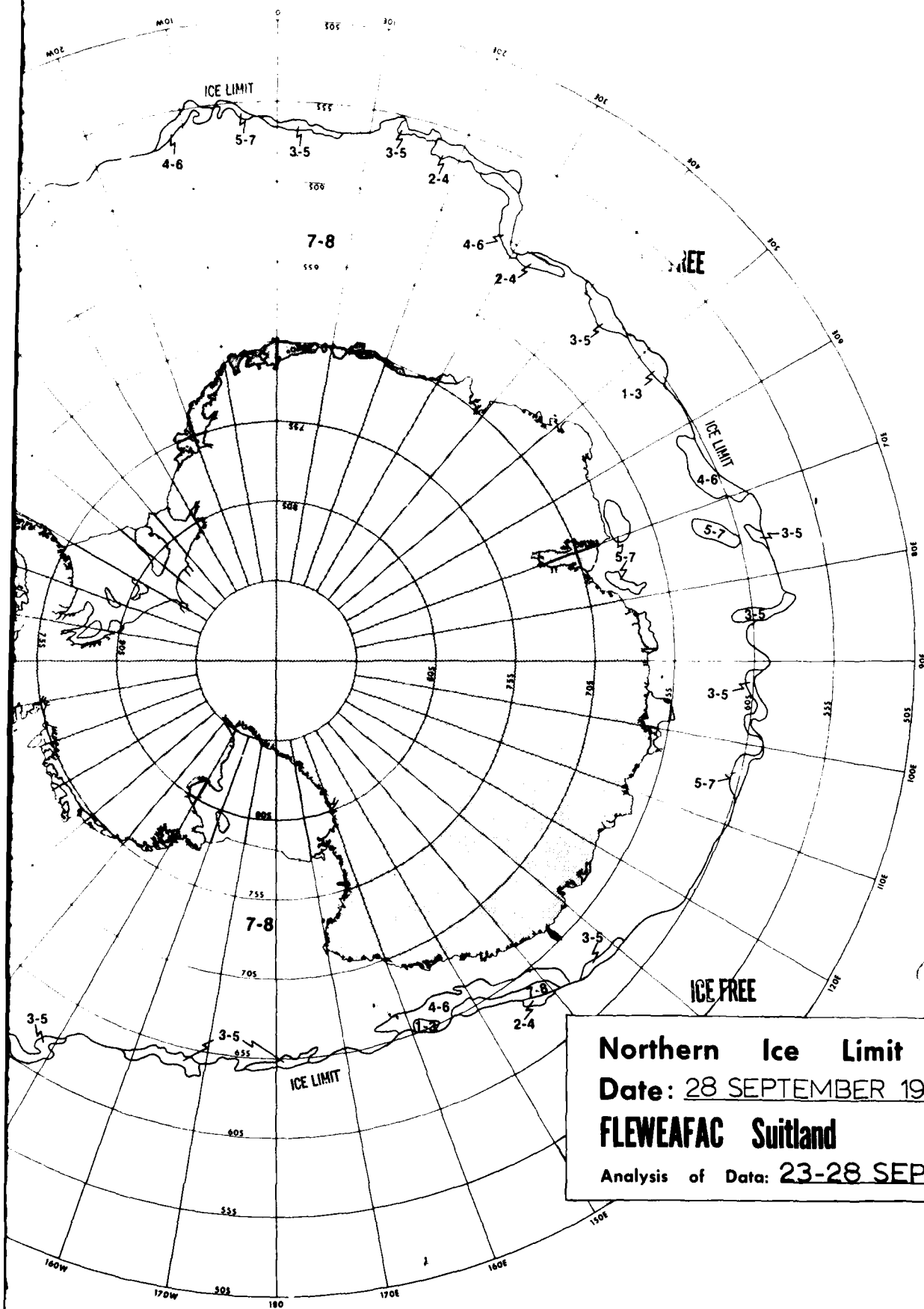
Date: 21 SEPT 1978

FLEWEAFAC Suitland

Analysis of Data: 17-21 SEPT

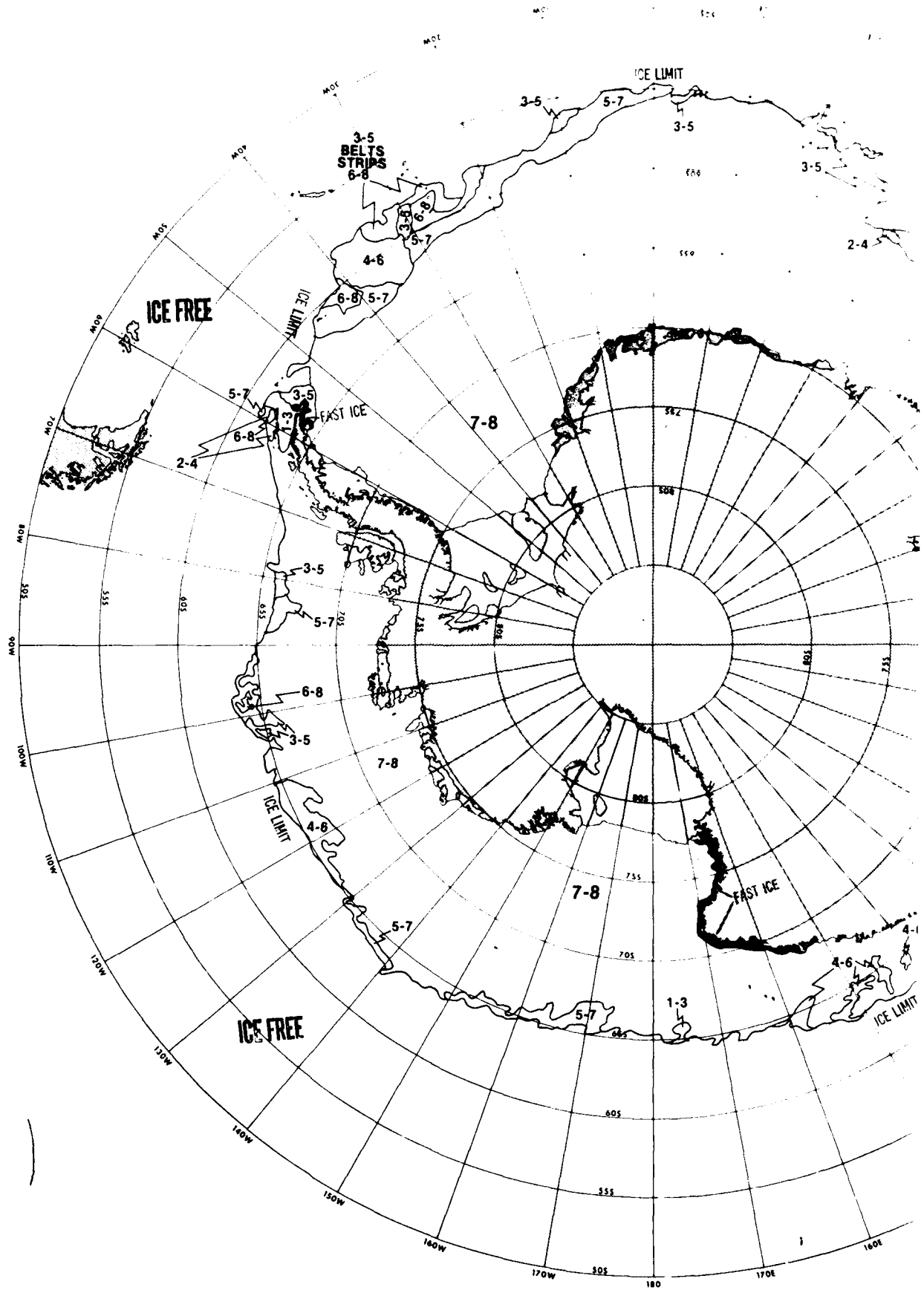
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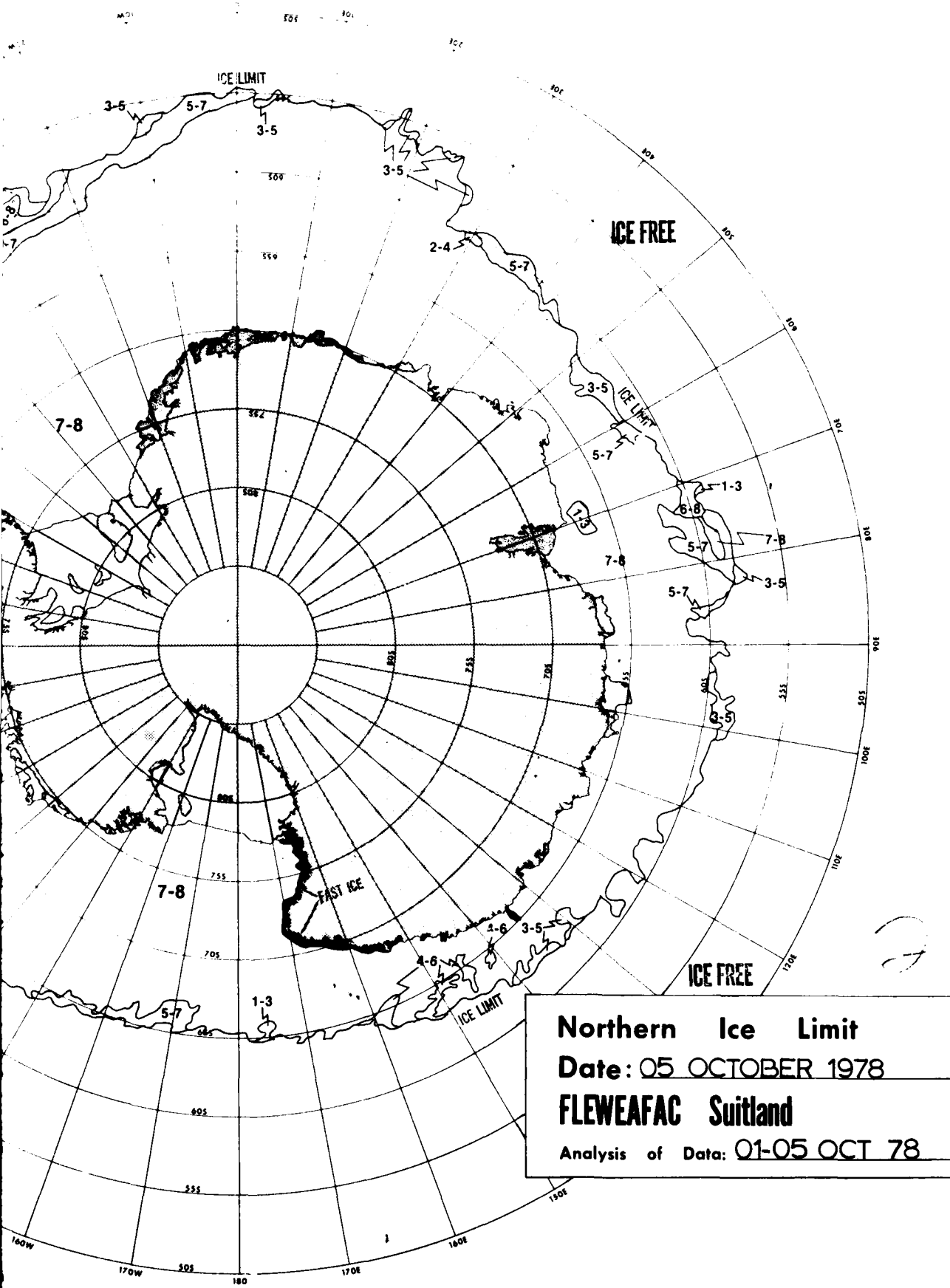




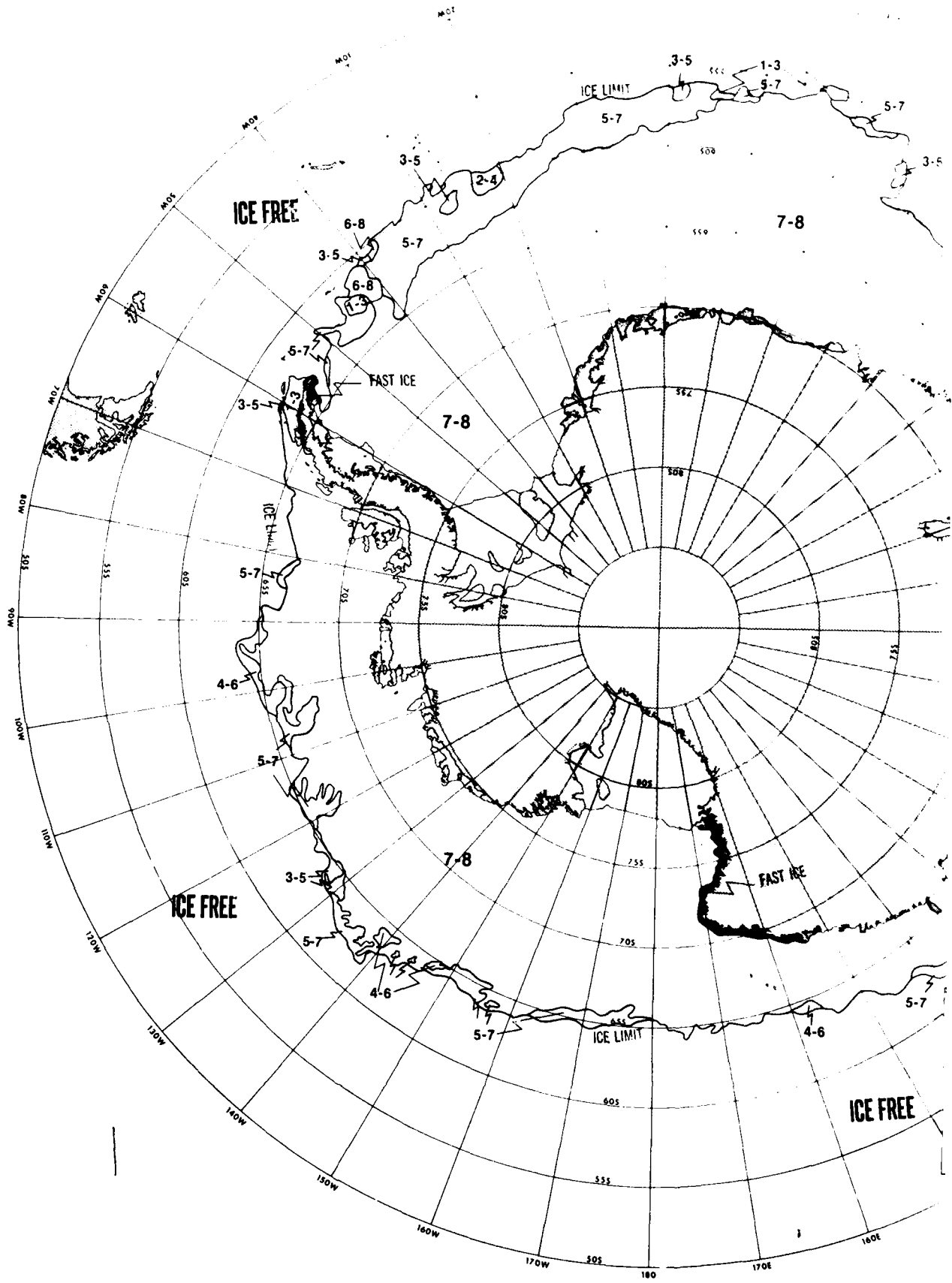
Northern Ice Limit
Date: 28 SEPTEMBER 1978
FLEWEAFAC Suitland
Analysis of Data: 23-28 SEPT 78

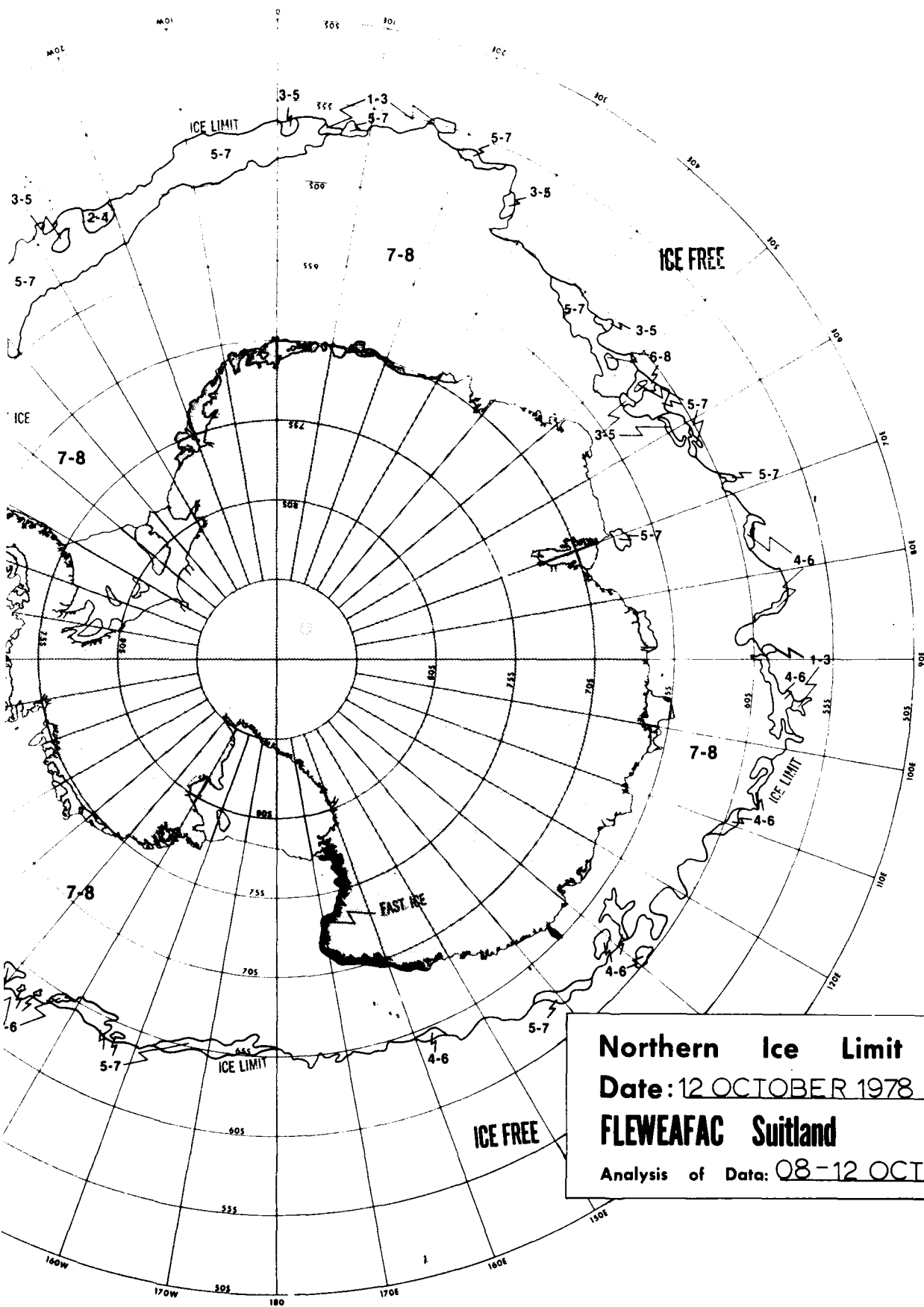
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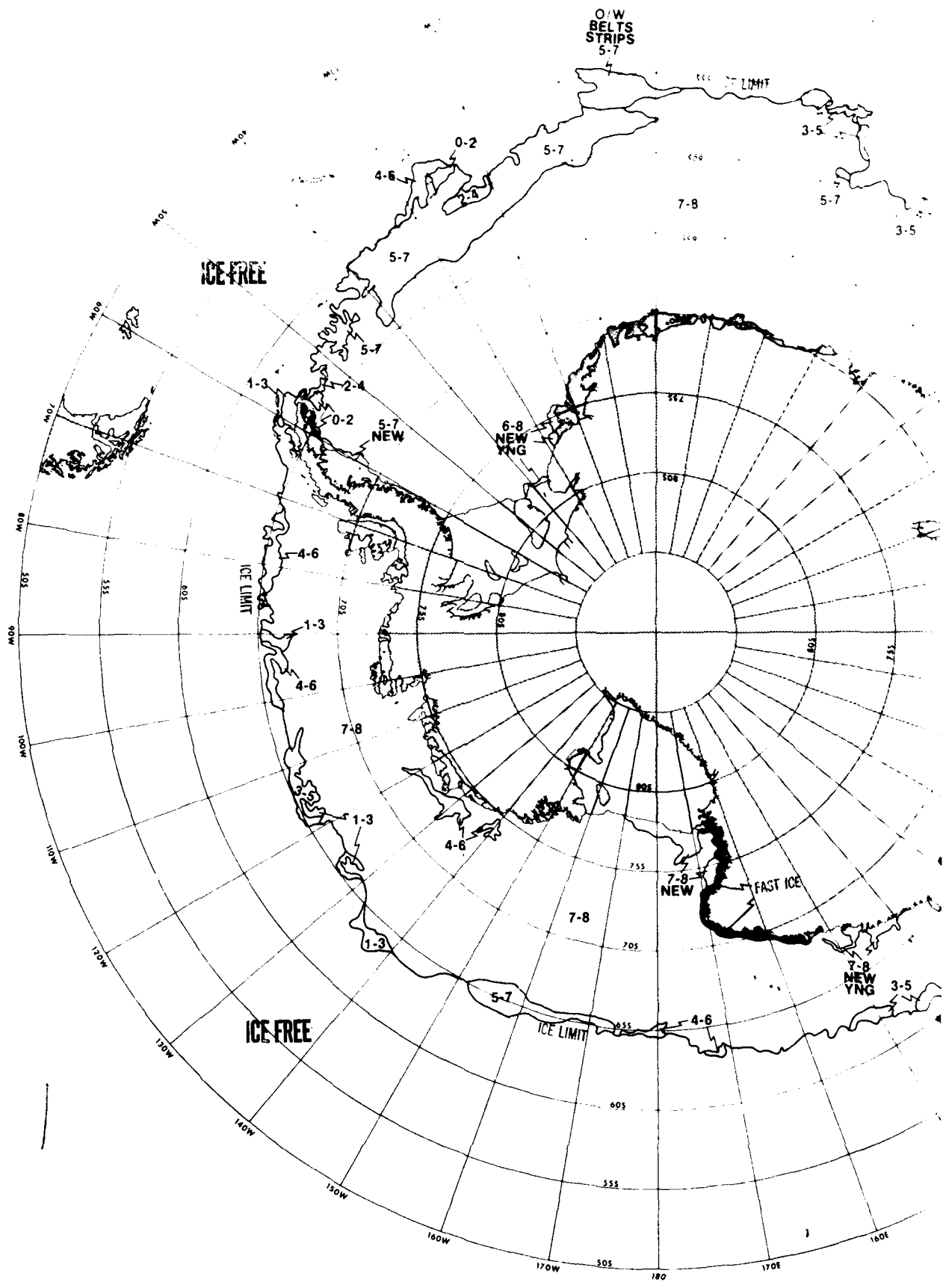
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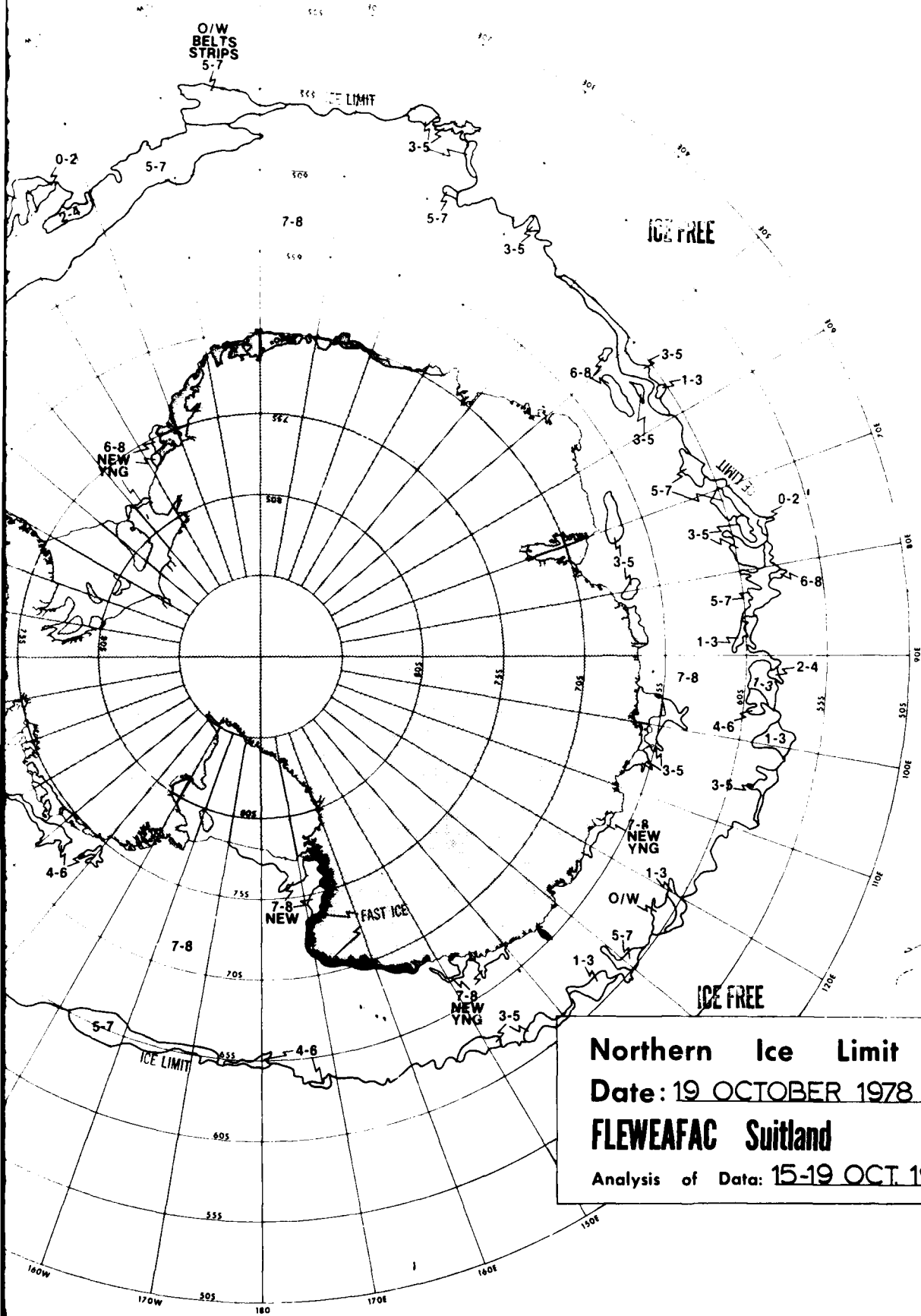




Northern Ice Limit
Date: 12 OCTOBER 1978
FLEWEAFAC Suitland
 Analysis of Data: 08-12 OCT

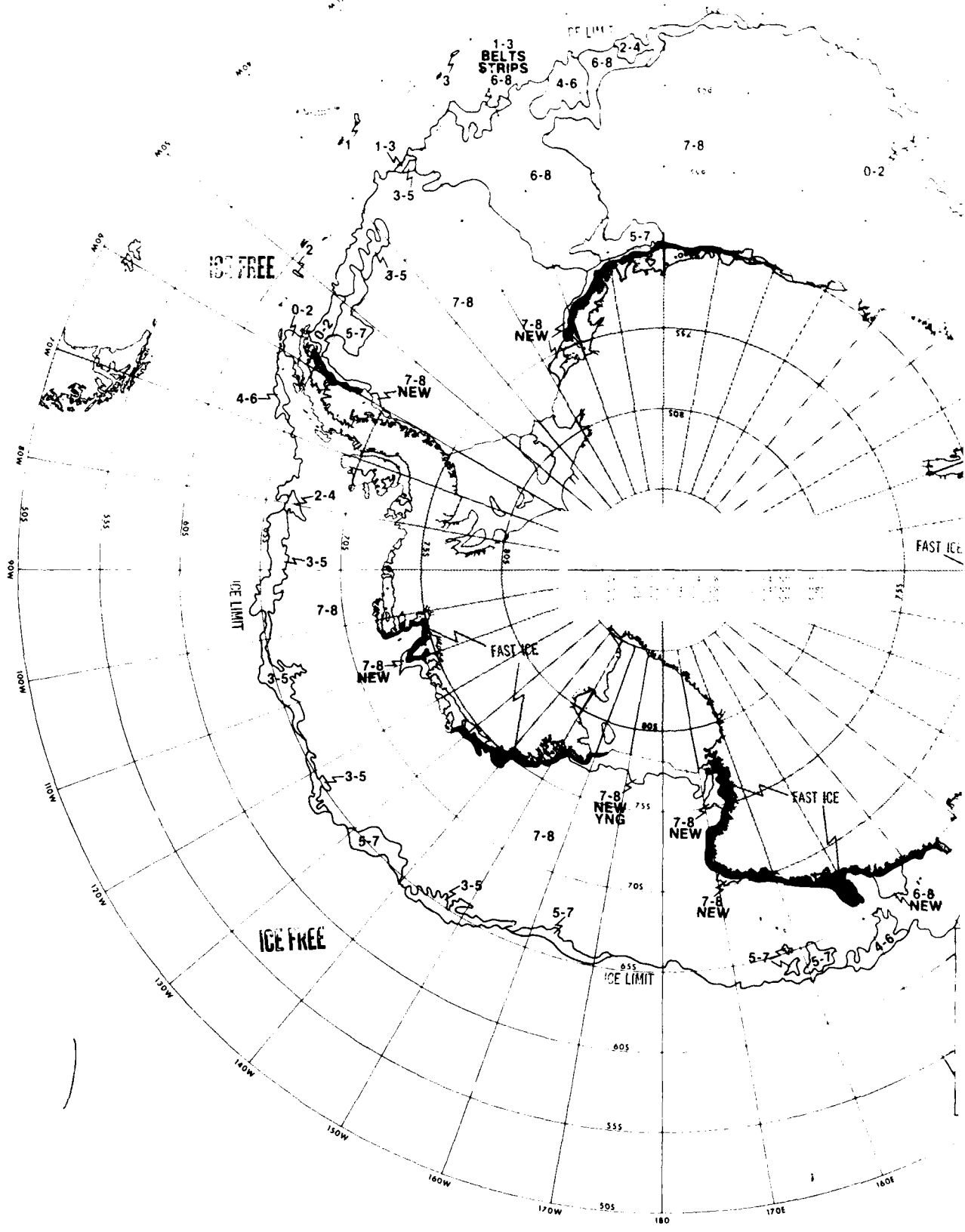
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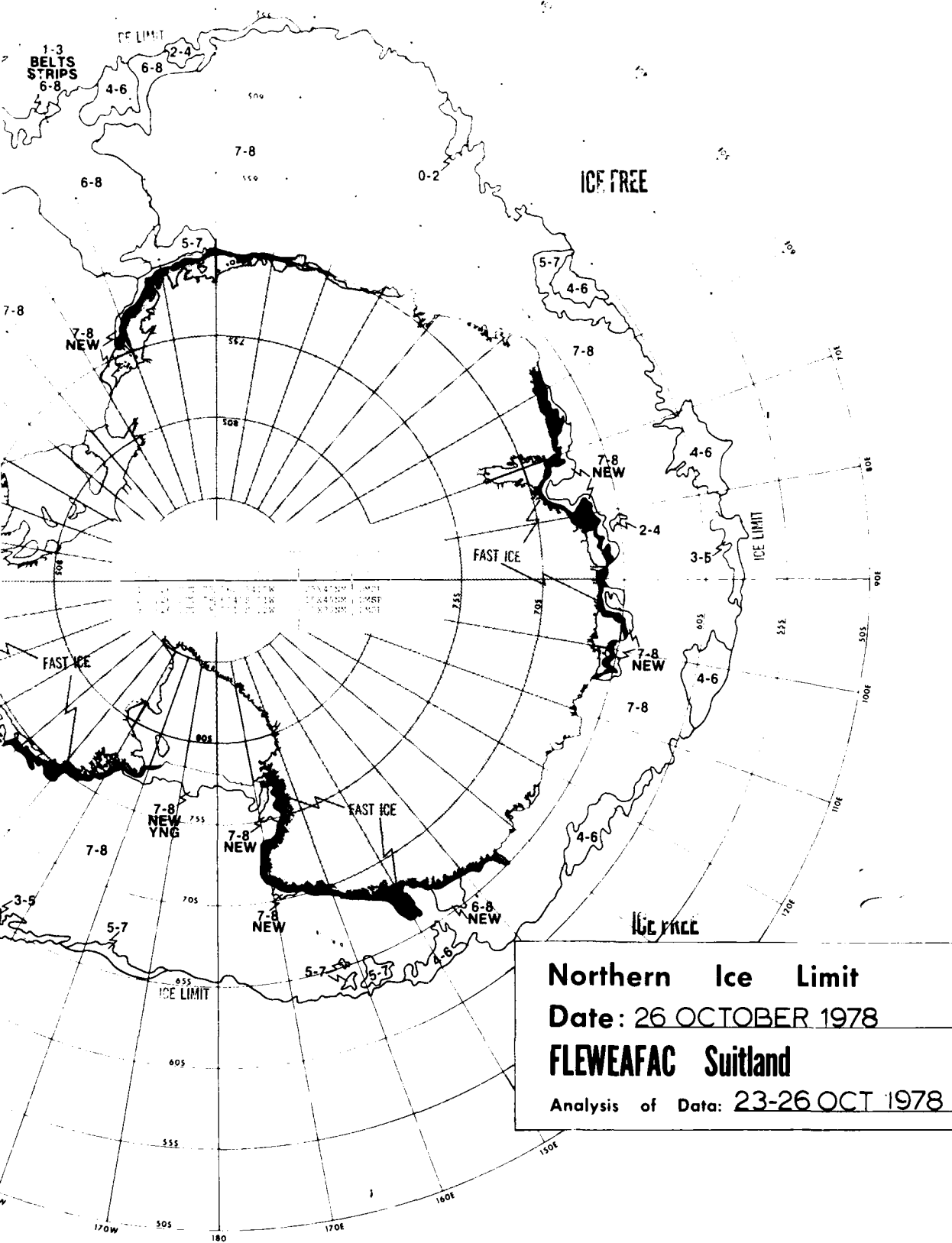




Northern Ice Limit
Date: 19 OCTOBER 1978
FLEWEAFAC Suitland
 Analysis of Data: 15-19 OCT. 1978

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FLEET WEATHER FACILITY SUITLAND MO
ANTARCTIC ICE CHARTS, 1977-1978. (U)
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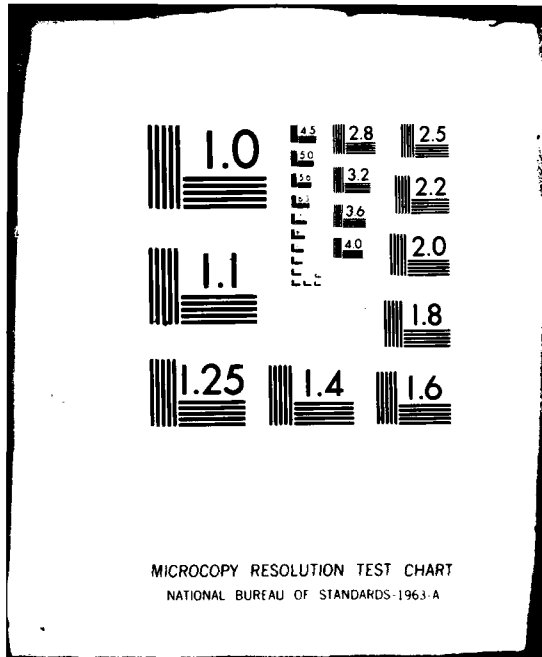
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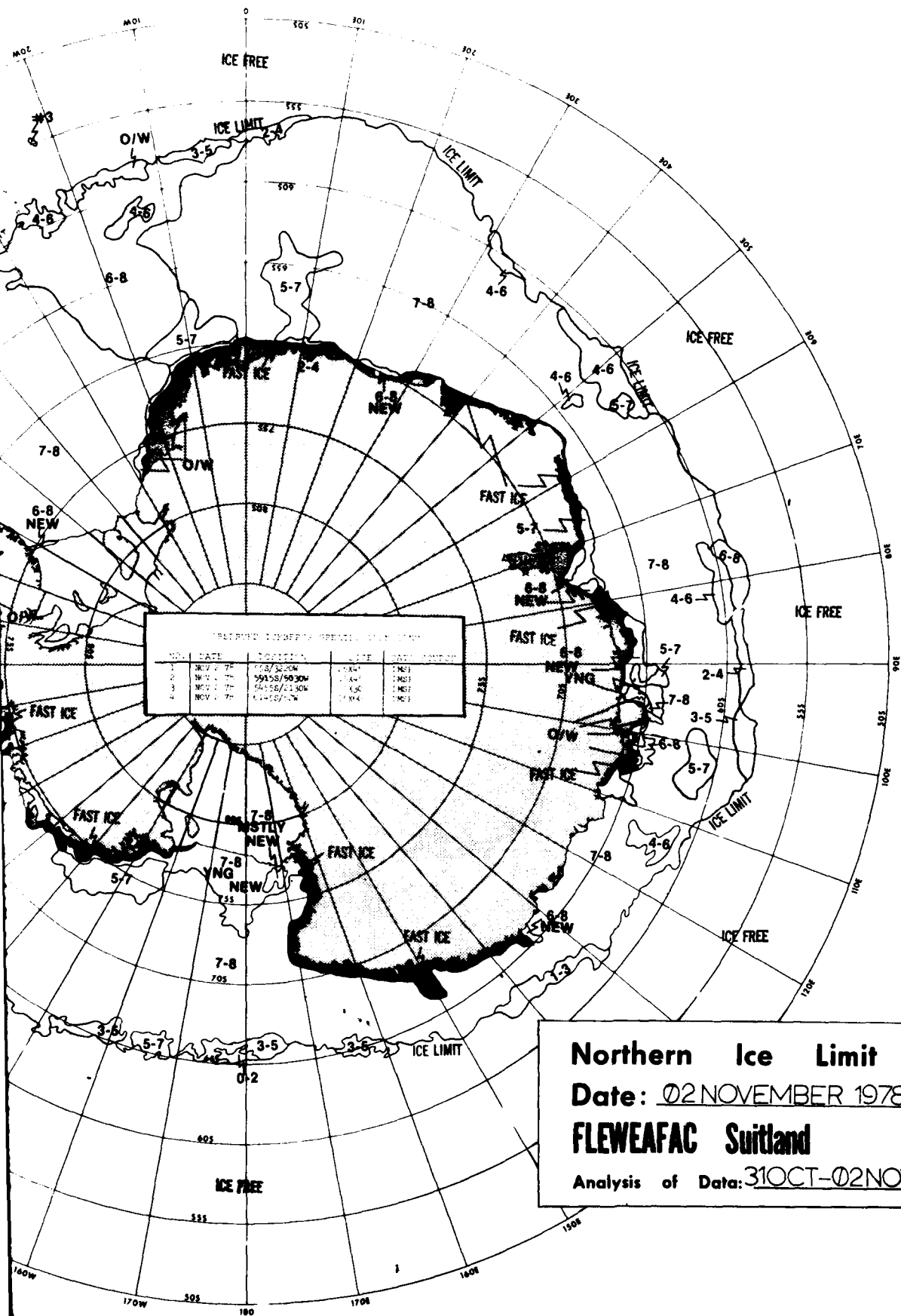
3 OF 3

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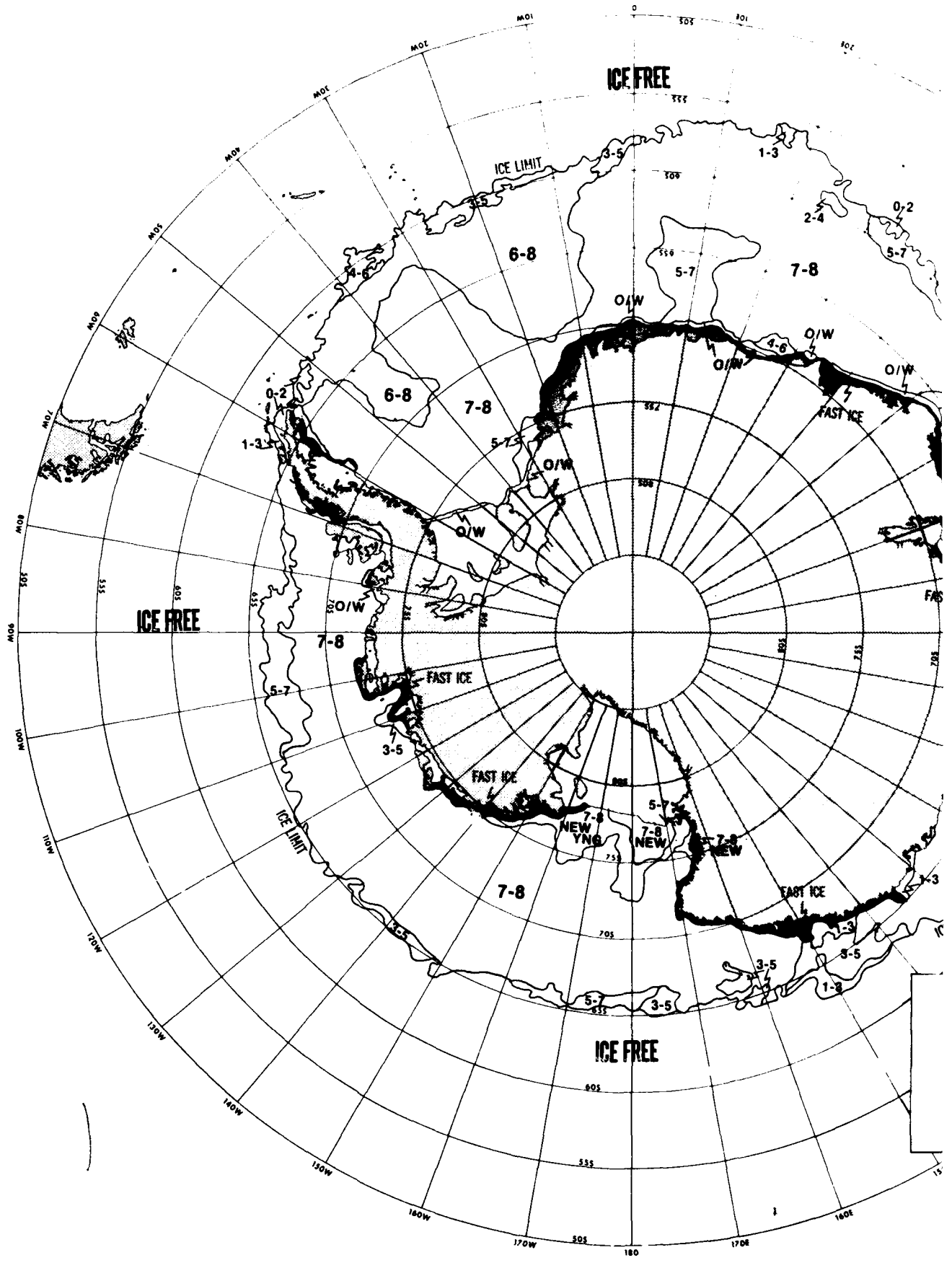


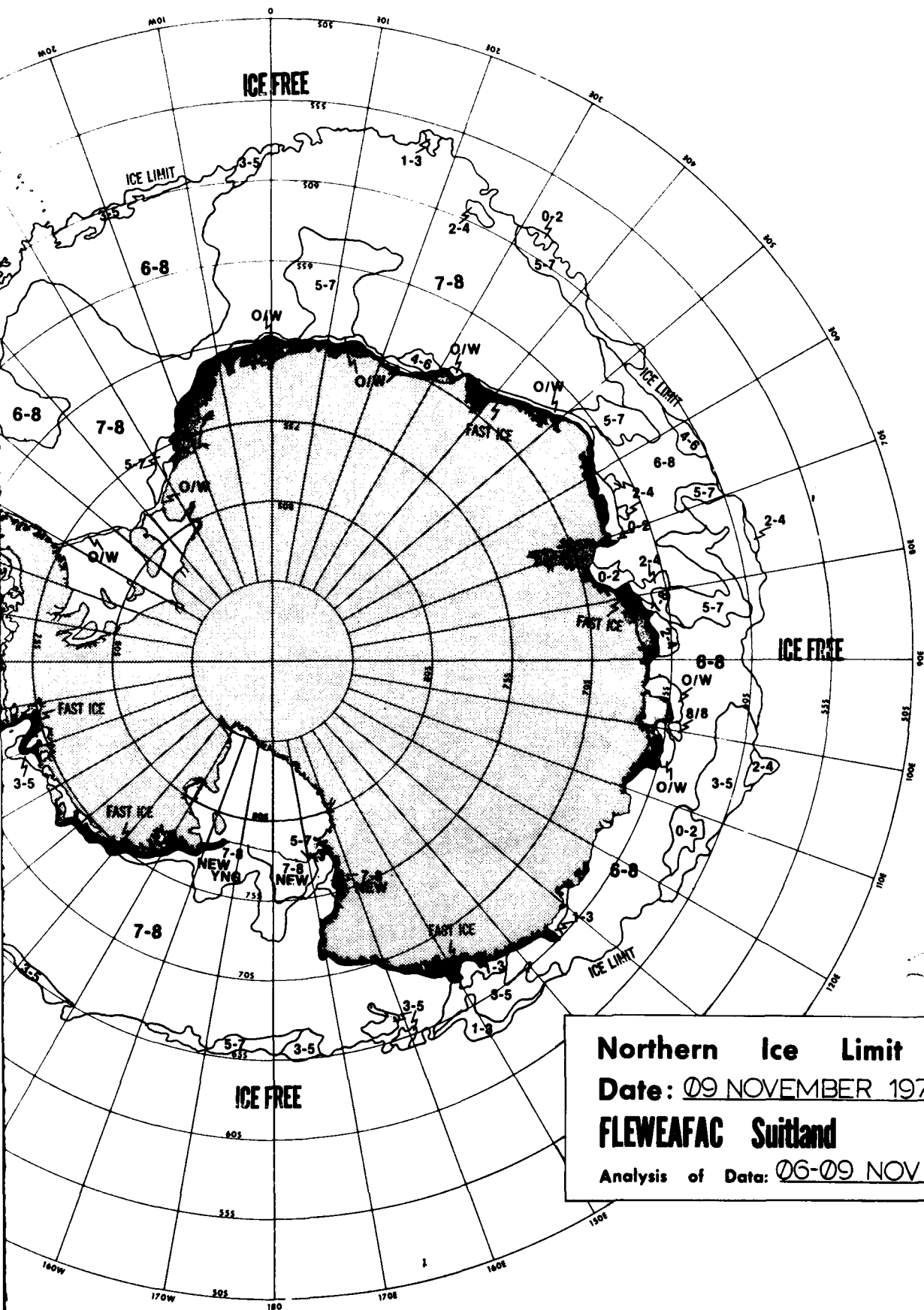
Northern Ice Limit

Date: 02 NOVEMBER 1978

FLEWEAFAC Svalbard

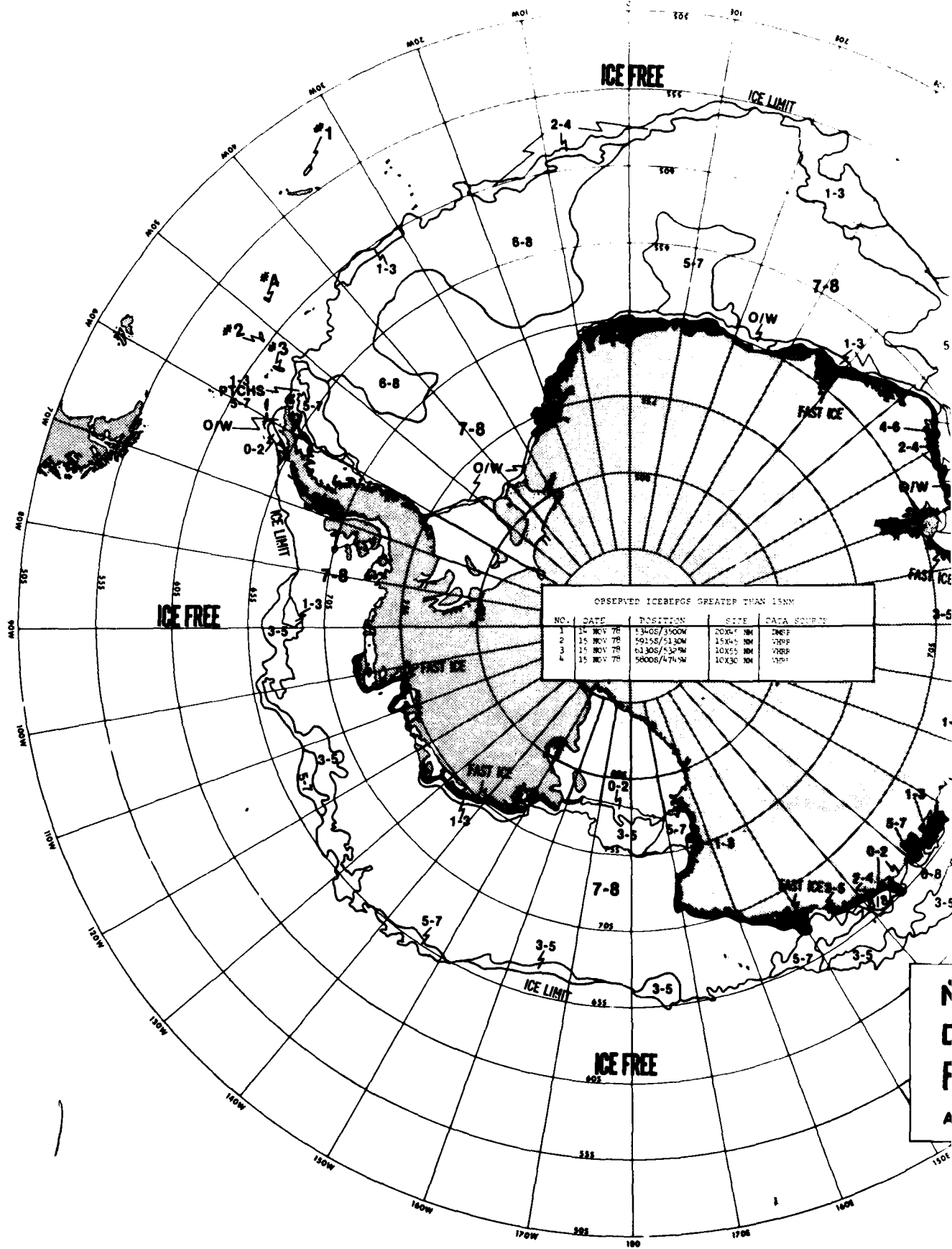
Analysis of Data: 31 OCT - 02 NOV 78



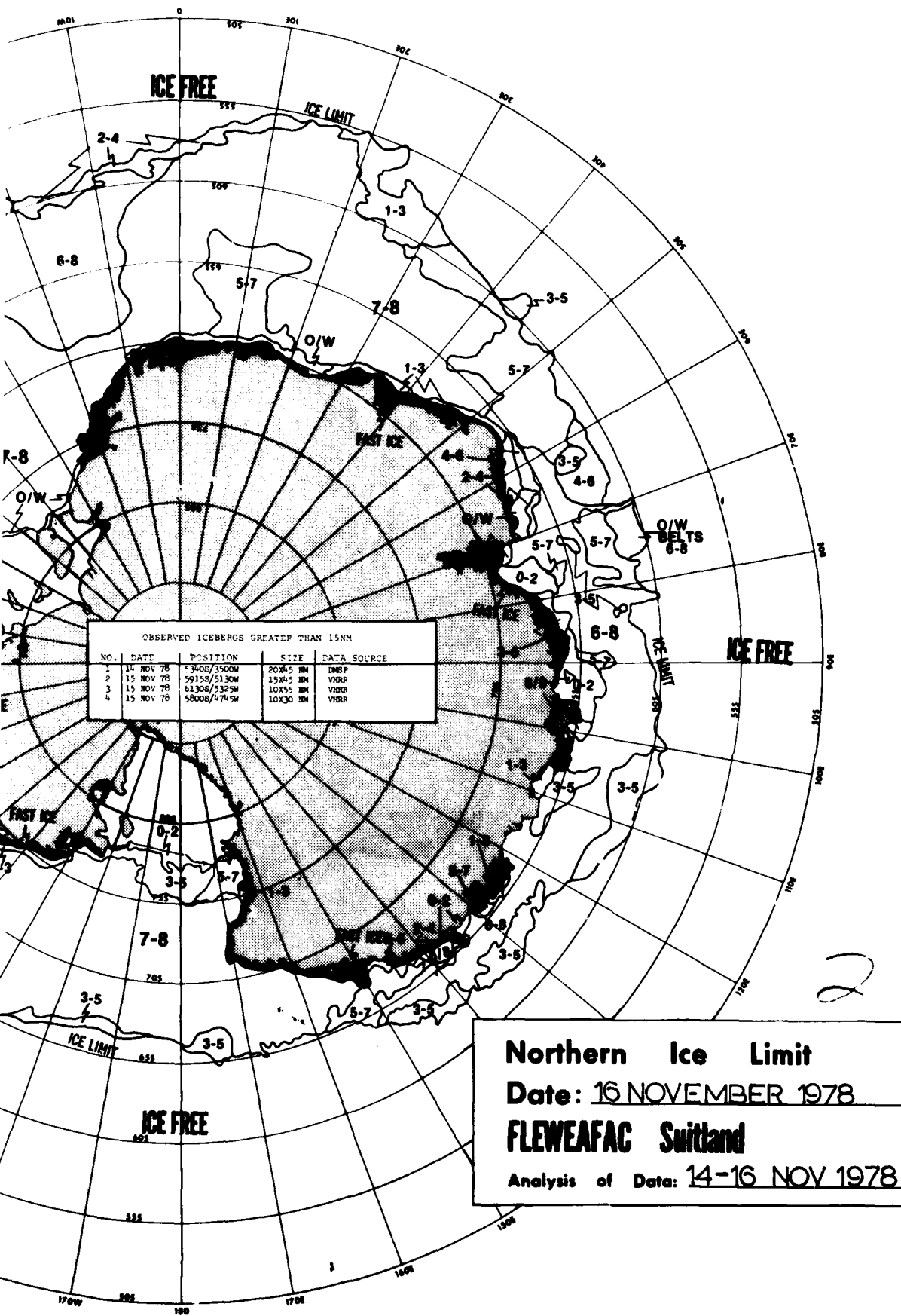


Northern Ice Limit
Date: 09 NOVEMBER 1978
FLEWEAFAC Suitland
Analysis of Data: 06-09 NOV 1978

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Northern Ice Limit

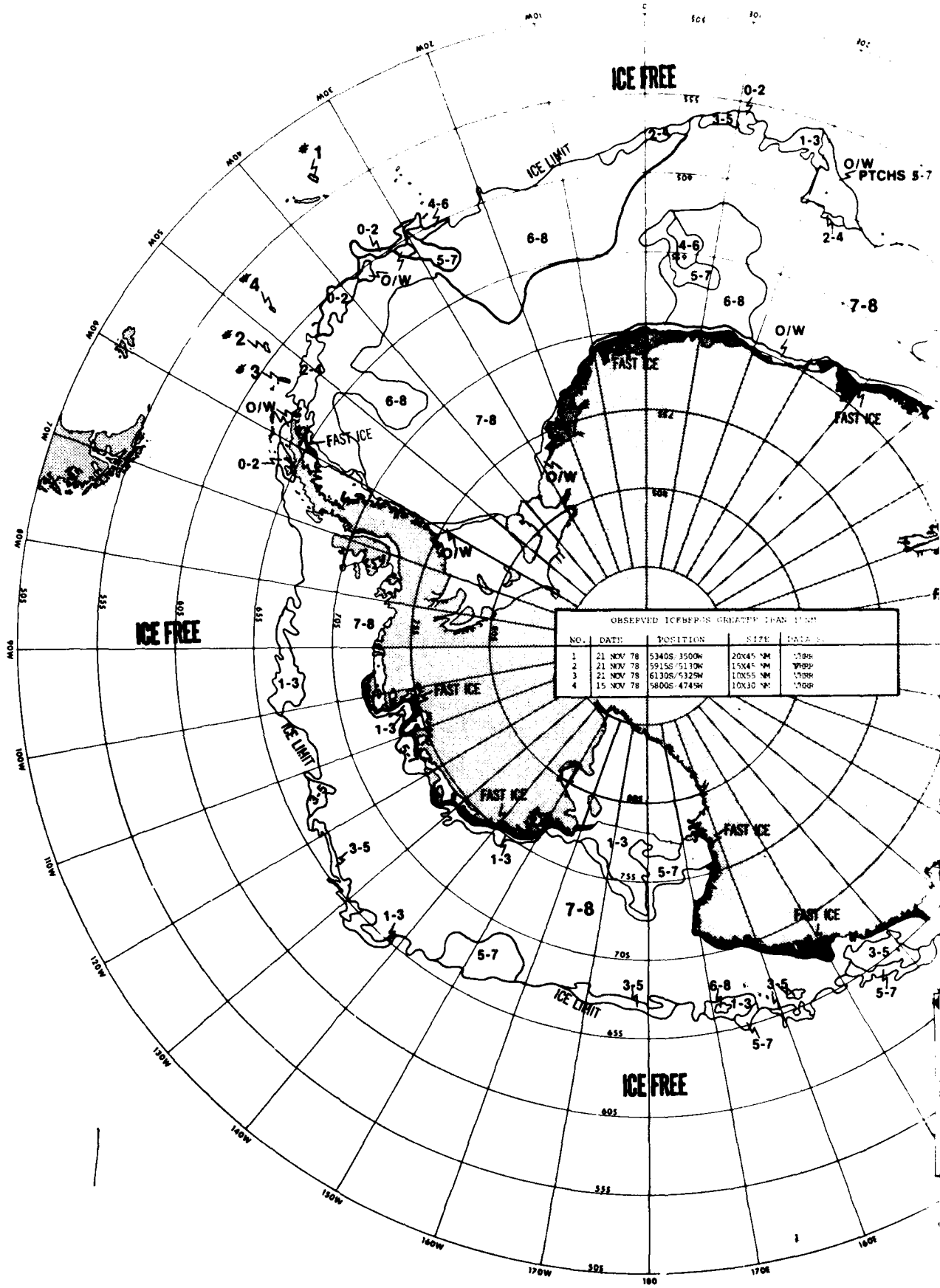
Date: 16 NOVEMBER 1978

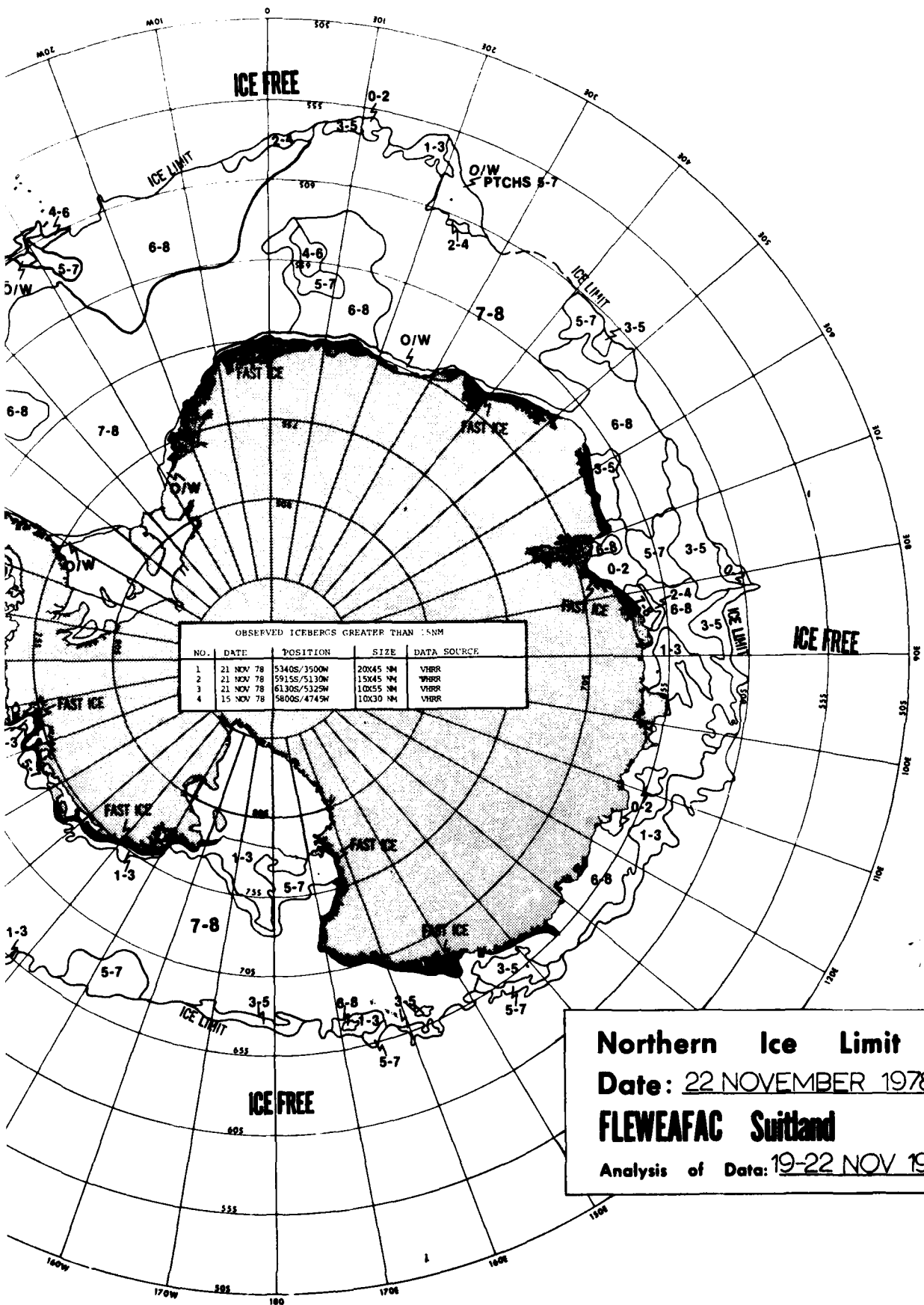
FLEWEAFAC Suttland

Analysis of Data: 14-16 NOV 1978

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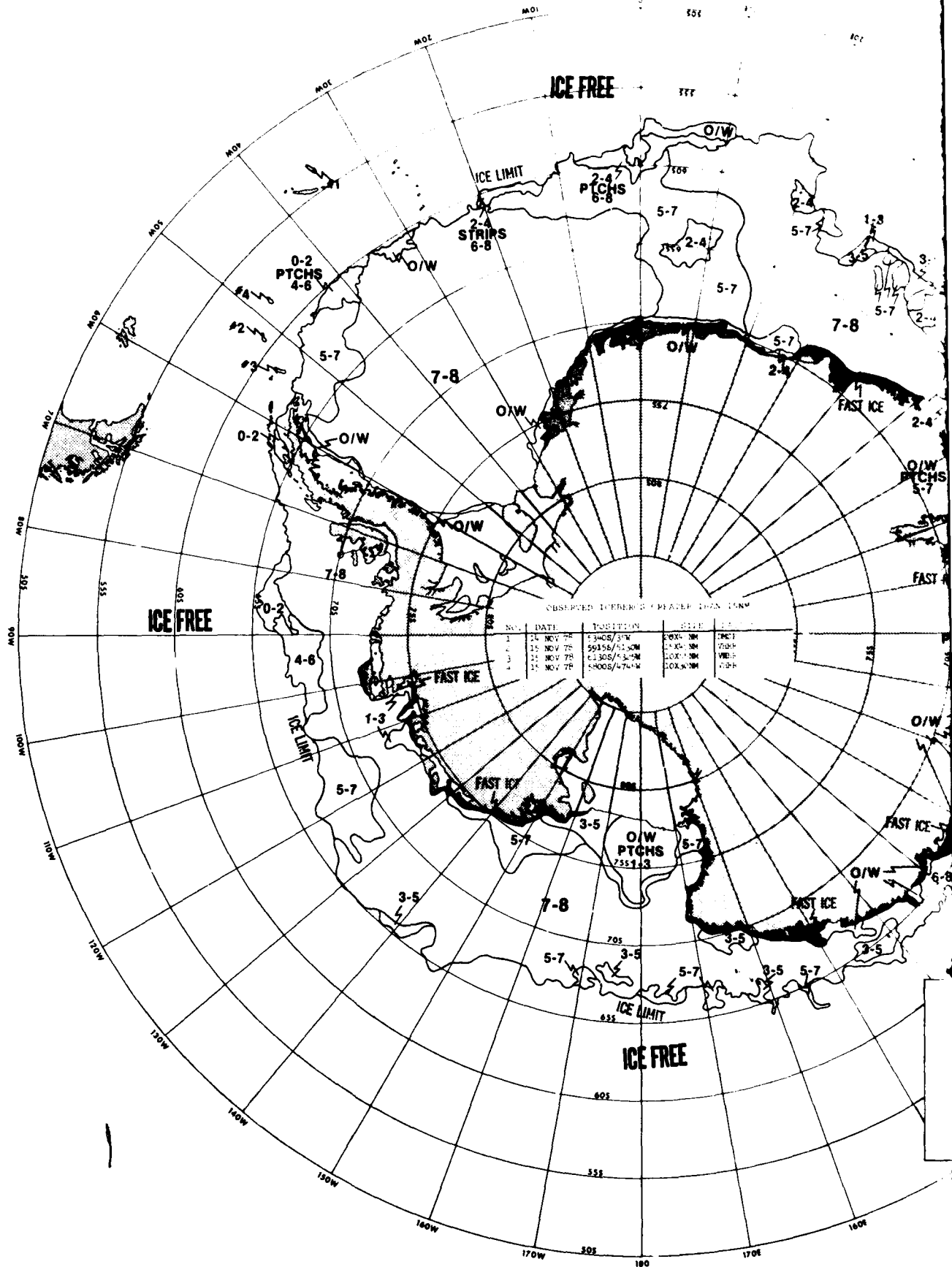
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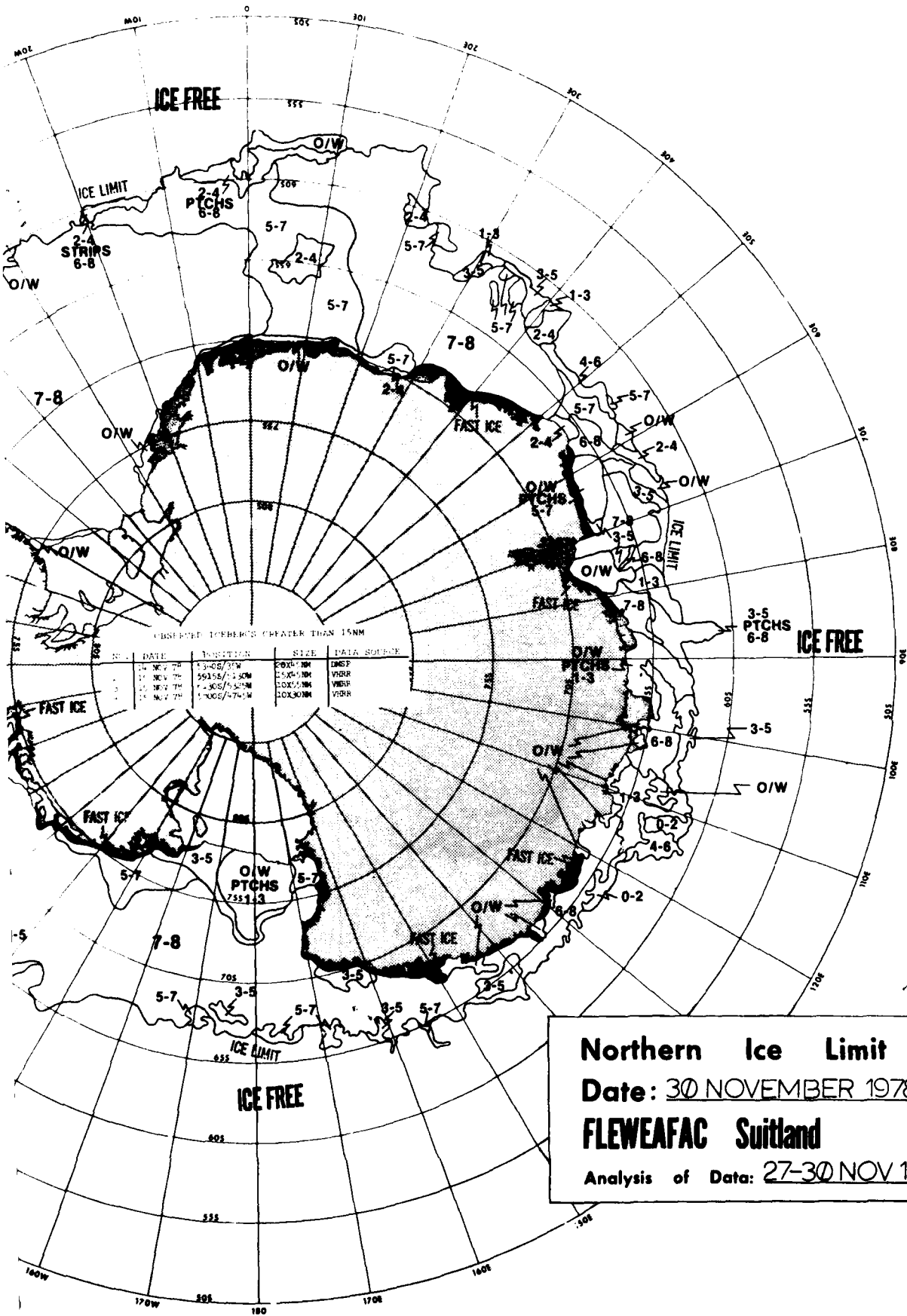




Northern Ice Limit
Date: 22 NOVEMBER 1978
FLEWEAFAC Suttland
Analysis of Data: 19-22 NOV 1978

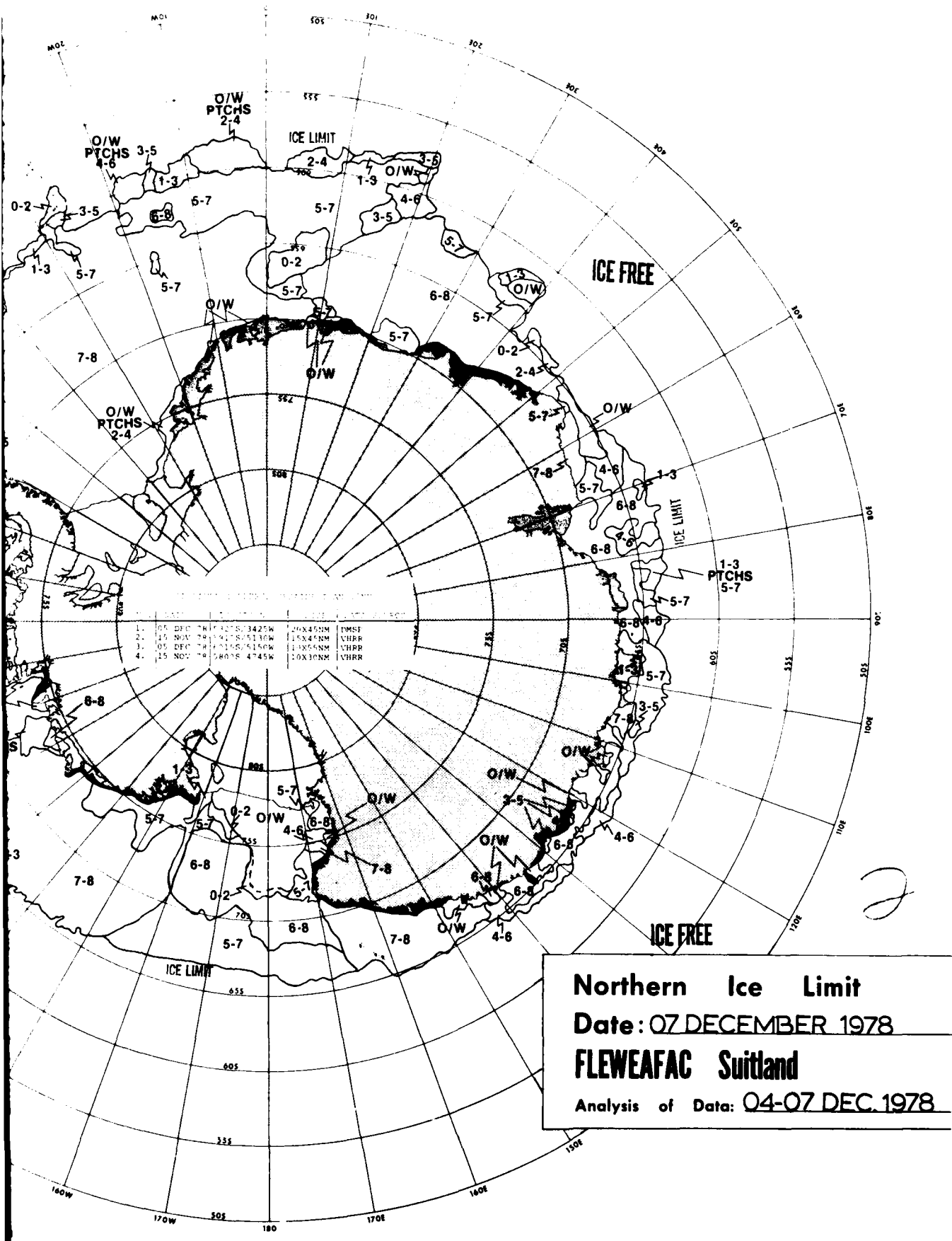
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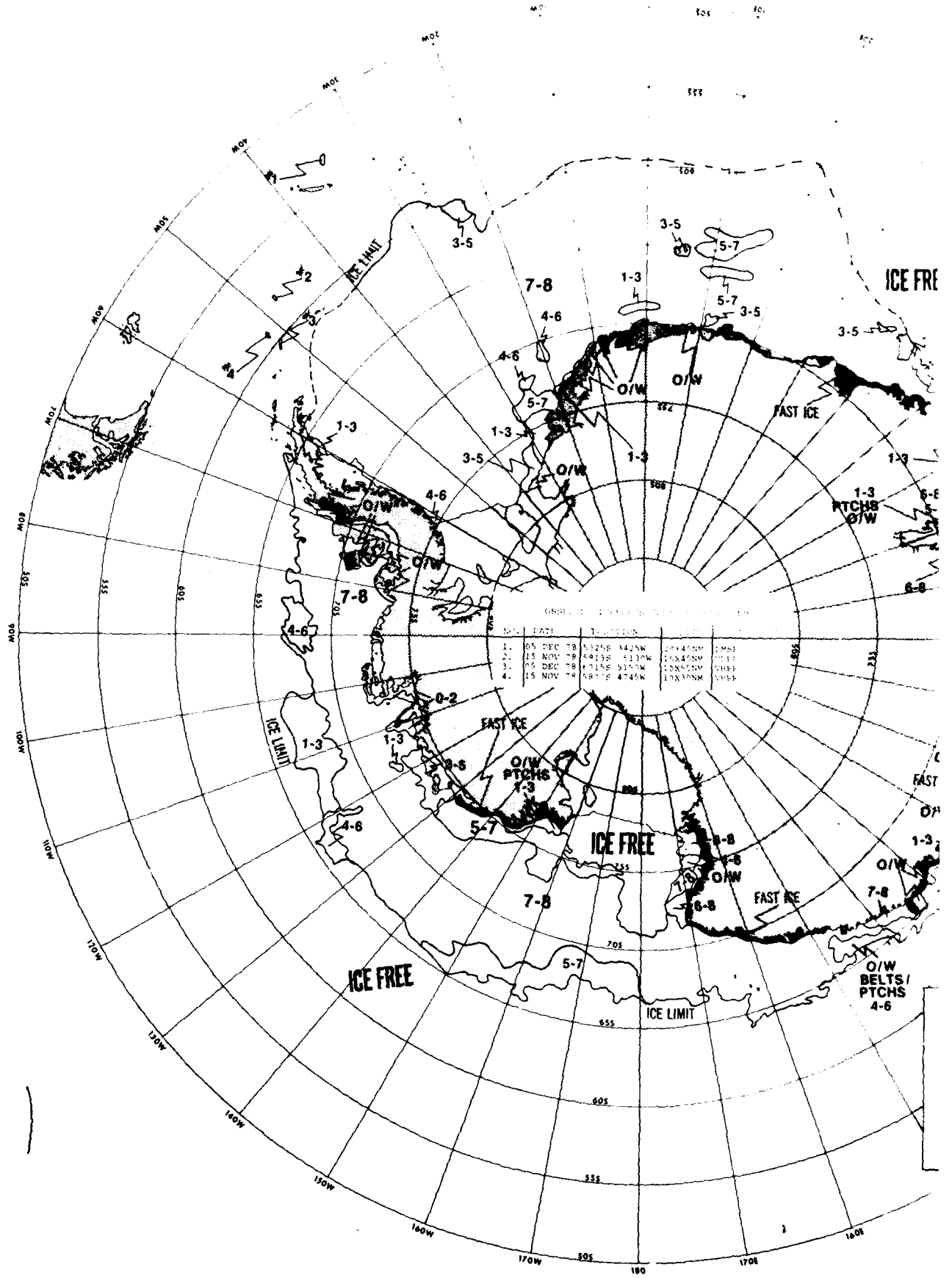
Northern Ice Limit
Date: 30 NOVEMBER 1978
FLEWEAFAC Suitland
Analysis of Data: 27-30 NOV 1978

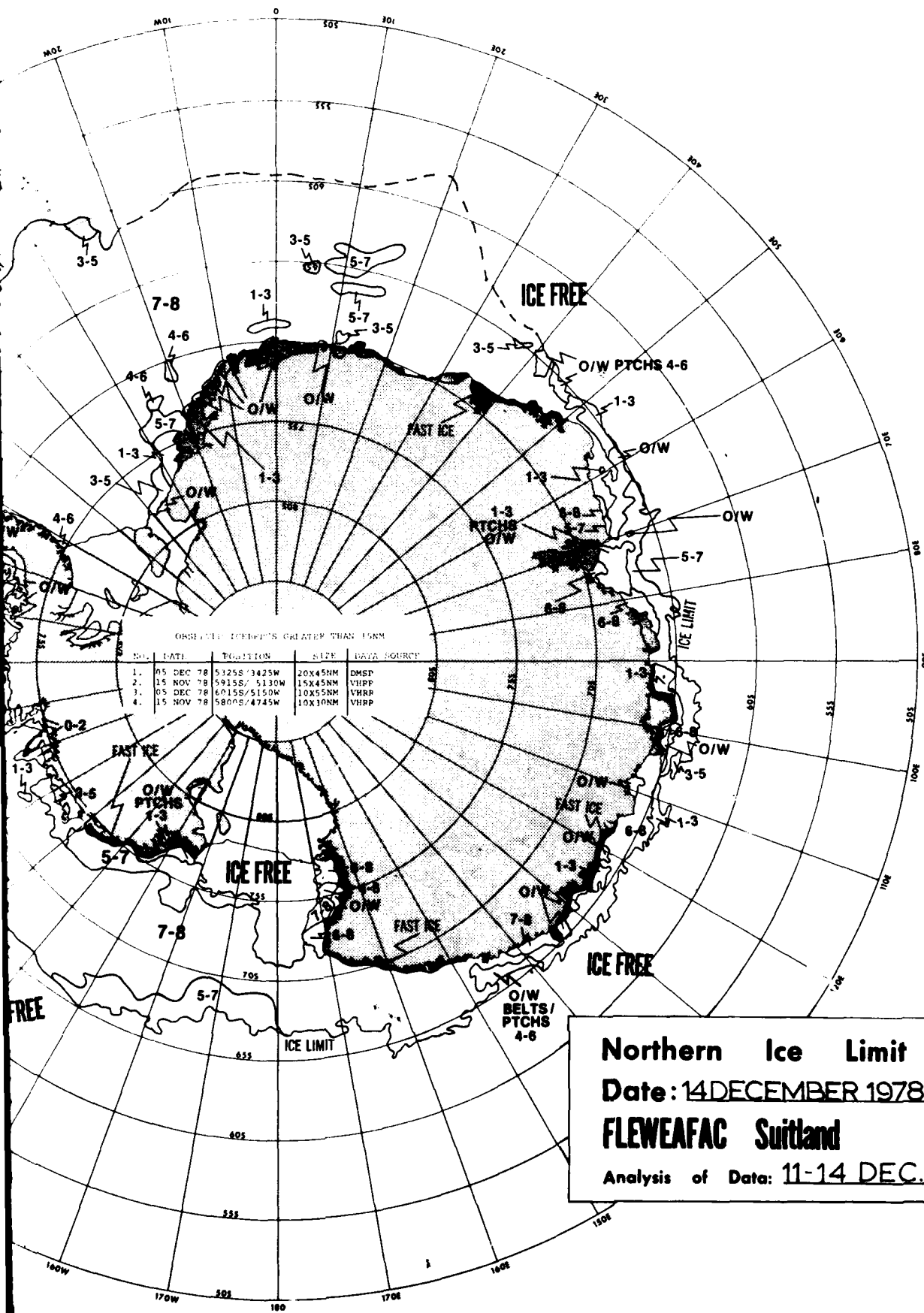
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Northern Ice Limit
Date: 07 DECEMBER 1978
FLEWEAFAC Suitland
 Analysis of Data: 04-07 DEC. 1978

2





Northern Ice Limit

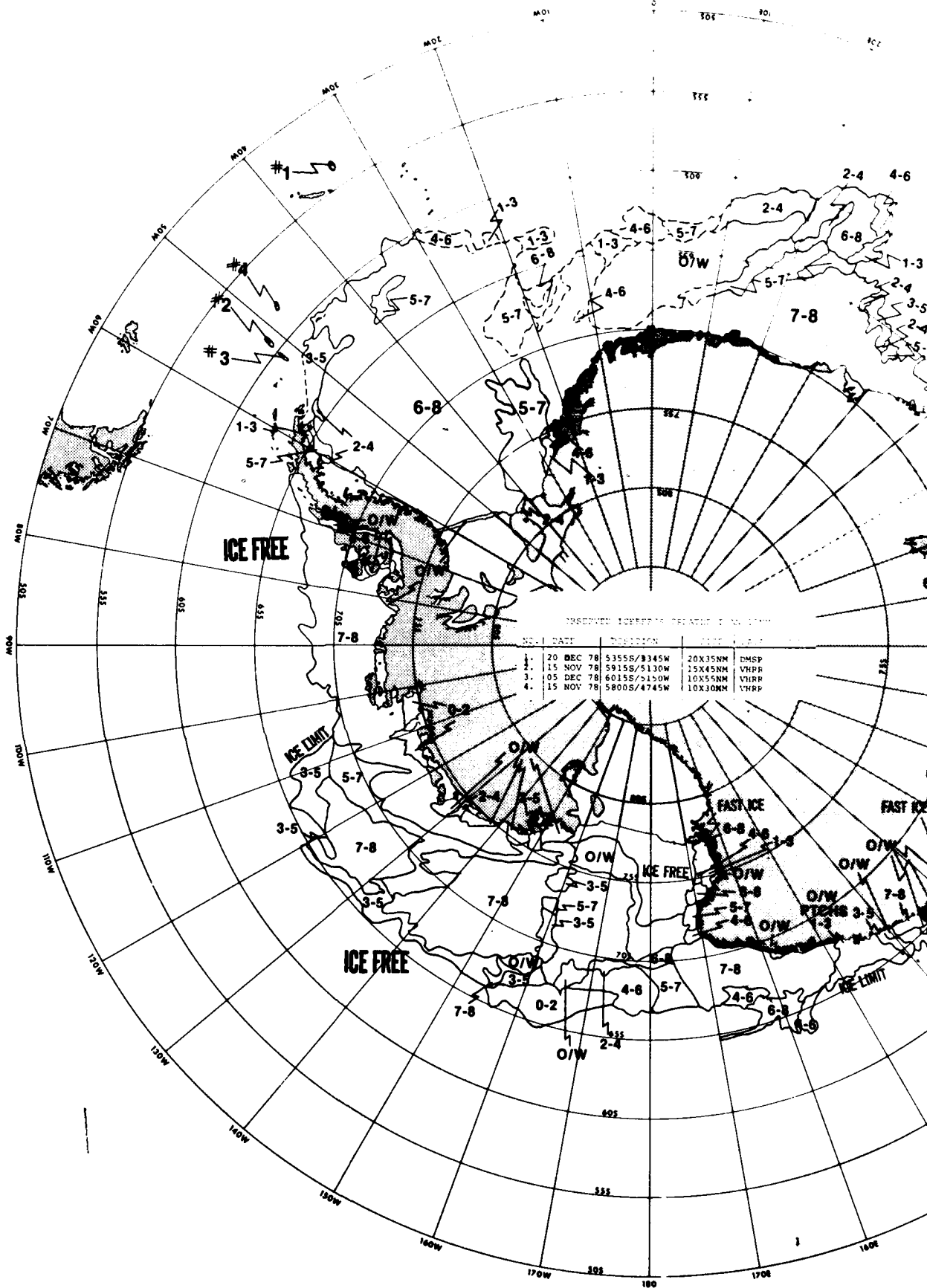
Date: 14 DECEMBER 1978

FLEWEAFAC Suitland

Analysis of Data: 11-14 DEC. 1978

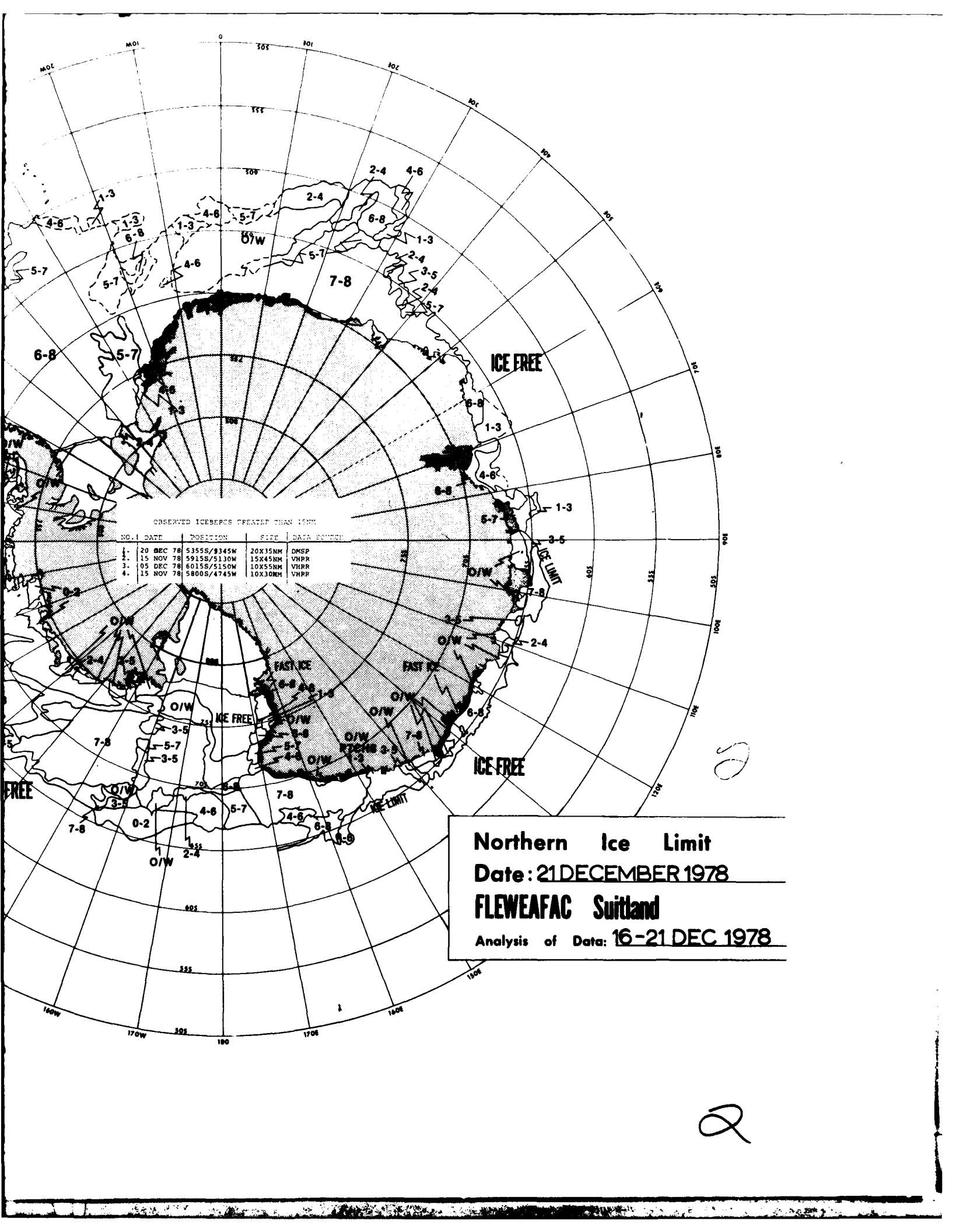
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OBSERVED ICEBERGS RELATED TO 150100Z

NO.	DATE	POSITION	SIZE	TYPE
1.	20 DEC 78	5355S/8345W	20X35NM	DMSP
2.	15 NOV 78	5915S/5130W	15X45NM	VHRR
3.	05 DEC 78	6015S/5150W	10X55NM	VHRR
4.	15 NOV 78	5800S/4745W	10X30NM	VHRR

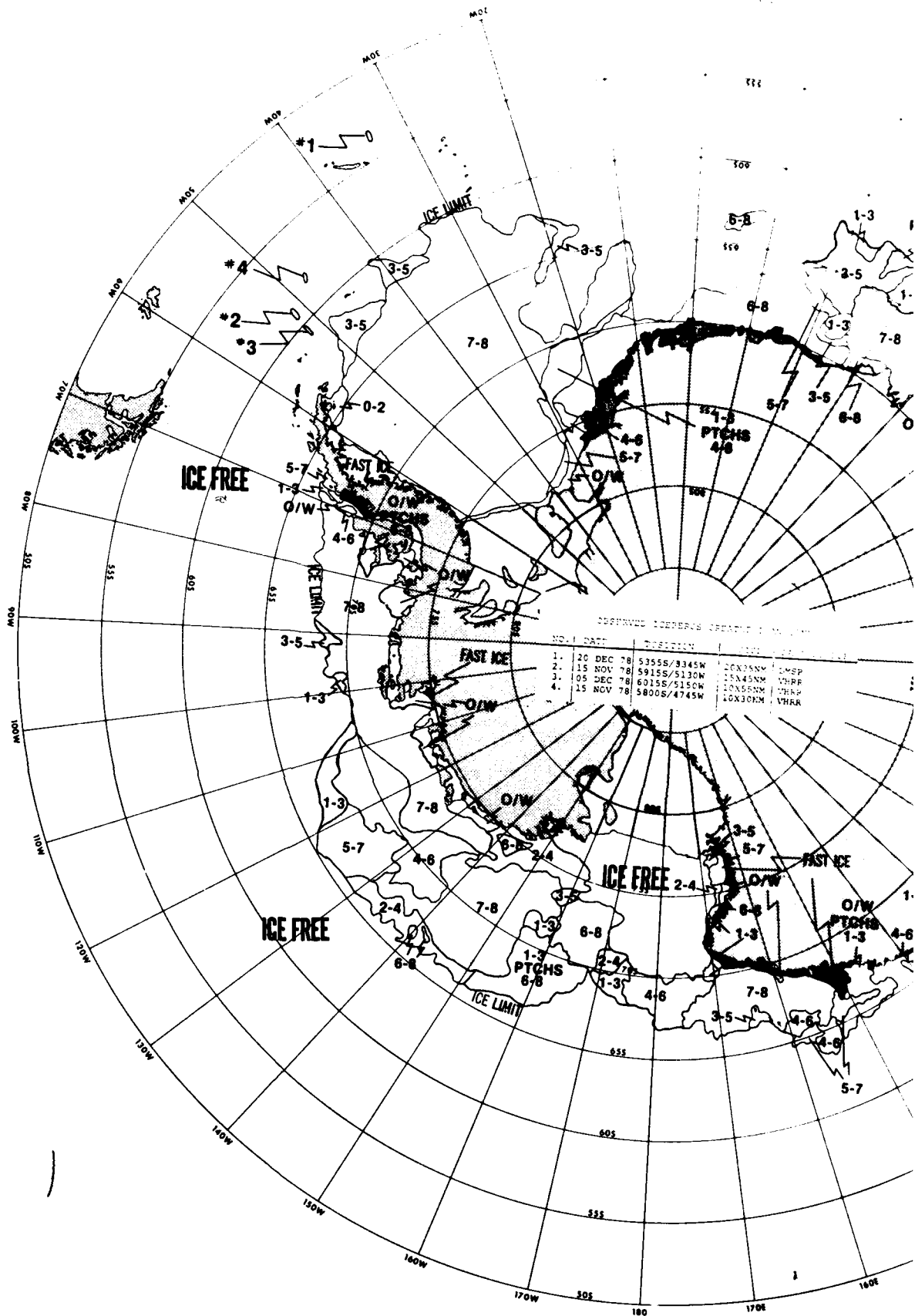


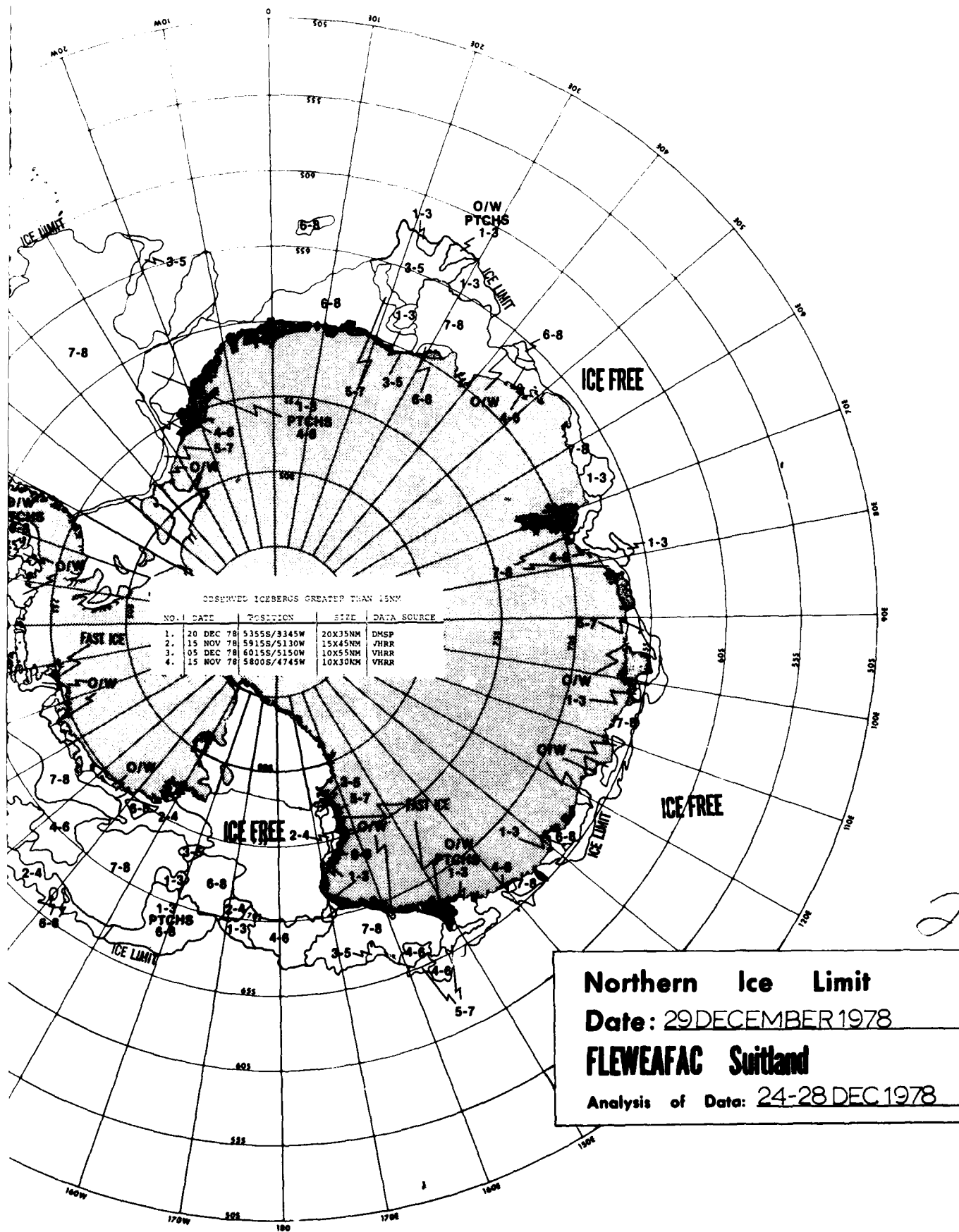
OBSERVED ICEBERGS GREATER THAN 10NM

NO.	DATE	POSITION	SIZE	DATA SOURCE
1.	20 DEC 78	5355S/8345W	20X35NM	DMSP
2.	15 NOV 78	5915S/5130W	15X45NM	VHRR
3.	05 DEC 78	6015S/5150W	10X55NM	VHRR
4.	15 NOV 78	5800S/4745W	10X30NM	VHRR

Northern Ice Limit
Date: 21 DECEMBER 1978
FLEWAFAC Suitland
 Analysis of Data: 16-21 DEC 1978

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Northern Ice Limit
Date: 29 DECEMBER 1978
FLEWEAFAC Suttland
Analysis of Data: 24-28 DEC 1978

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END

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