Environment Canada Imaging Cover Page

Report N.:

SKP Box Number: 672572426

CIR - 3710
TEC - 421
16 AUG 62

METEOROLOGICAL BRANCH - DEPARTMENT OF TRANSPORT - CANADA

AERIAL ICE OBSERVING AND RECONNAISSANCE

THE HUDSON BAY ROUTE - 1961

UDC: 551.311.181(268)

METEOROLOGICAL BRANCH - DEPARTMENT OF TRANSPORT - CANADA

AERIAL ICE OBSERVING AND RECONNAISSANCE

BY

D. C. Archibald - M. N. Monsinger - T. B. Kilpatrick

This is the fourteenth technical report in the series concerning ice conditions observed by aerial ice reconnaissance conducted by the Basic Weather Division, Meteorological Branch, Department of Transport.

Observed ice conditions in this area during 1960 were described in Meteorological Branch Circular - 3569, TEC - 382, 21 NOV 61.

This technical report describes observed ice conditions with regard to ice coverage, age, topography, puddling, snow cover, and water features over the area of Davis Strait, Hudson Strait, Hudson Bay, Foxe Basin, and Foxe Channel, during the period April 22 to November 11, 1961, inclusive.

Approved

P. D. McTaggart-Cowan,
Director, Meteorological Branch.

UDC: 551.311.181 (268)

CONTENTS

AERIAL SEA ICE OBSERVING AND RECONNAISSANCE

HUDSON BAY ROUTE - 1961

1. During 1961, field ice reconnaissance units were established at Churchill, Manitoba, and Frobisher Bay, N.W.T., to carry out aerial ice reconnaissance in the Hudson Bay, Hudson Strait, Foxe Basin and Davis Strait areas. The areas covered by this survey are shown on Page 10.

2. This ice reconnaissance programme was carried out under the direction of the Meteorological Branch, Basic Weather Division. Aircraft, chartered by the Meteorological Branch, Department of Transport, were used for all flights.

3. Shipboard Ice Observers were assigned to C.C.G.S. Labrador, C.C.G.S. N. B. McLean, C.C.G.S. Montcalm, C.C.G.S. C. D. Howe, C.C.G.S. Sir John A. Macdonald, C.C.G.S. Sir Humphrey Gilbert, C.C.G.S. d'Iberville, on escort and associated duties in the Hudson Bay Route. Short range flights by helicopter, from the Icebreakers, as required, were completed by the shipboard Ice Observers, as requested by the Master of the respective ships.

4. During the shipping season, aerial and shipboard ice observations were supplemented by shore station ice reports from selected stations in the Hudson Bay Route. A number of interested agencies co-operated in taking these necessary ice observations. Throughout the entire year, weekly ice thickness reports were received from the following stations in the area:-

Chesterfield Inlet, N.W.T.	Frobisher Bay, N.W.T.
Coral Harbour, N.W.T.	Moosonee, Ontario.
Fort Churchill, Manitoba.	Port Harrison, P. Q.

5. Two preliminary flights were conducted over the Canadian Western Arctic in April and May, 1961, to obtain the break-up pattern. For the period June 22 to November 11, 1961, both dates inclusive, medium range ice reconnaissance flights, based in the area, were completed as required.

6. A graphical summary of the ice conditions observed is illustrated in Figures 1 - 29.

7. The descriptive terminology and the graphic presentation of ice conditions are in accordance with the procedures, as outlined in the publication MANICE, Manual of Standard Procedures and Practices for Ice Reconnaissance, Second Provisional Edition.

8. We are indebted to Mr. E. Stasyshyn for co-ordinating the data and assembling the charts for printing, and Messrs. R. V. Zuar, D. S. Veinot, L. B. Thiele, and J. N. Clarey for their assistance in preparing this summary.

RECONNAISSANCE FLIGHTS FLOWN FROM CHURCHILL, MANITOBA

AIRCRAFT UTILIZED - CANSO - IDENTIFICATION CF-SAT

DATE	AREA FLOWN	FLIGHT TIME	OBSERVERS
June 22, 1961	Northern Hudson Bay	10:26	A. W. Smith
June 30, 1961	Central Hudson Bay	10:44	A. W. Smith
July 5, 1961	Northwestern Hudson Bay	11:56	A. W. Smith, R. G. Moore
July 9, 1961	Central Hudson Bay	13:43	A. W. Smith, R. G. Moore
July 12, 1961	Central Hudson Bay	11:50	A. W. Smith, R. G. Moore
July 13, 1961	Coral Harbour to Resolute Bay	17:18	R. G. Moore, D. S. Veinot J. Y. Lafontaine
July 16, 1961	Resolute Bay to Coral Harbour	16:31	R. G. Moore, D. S. Veinot J. Y. Lafontaine
July 19, 1961	Southern Hudson Bay	13:12	A. W. Smith, R. G. Moore
July 21, 1961	Churchill to Coral Harbour	11:14	A. W. Smith, R. G. Moore S. A. Lupack
July 24, 1961	Central Hudson Bay	6:57	A. W. Smith, R. G. Moore
July 25, 1961	Central Hudson Bay	2:39	S. A. Lupack
July 25, 1961	Southern Hudson Bay	7:02	A. W. Smith, R. G. Moore
July 29, 1961	Northern Hudson Bay	9:49	A. W. Smith, R. G. Moore
July 31, 1961	Central Hudson Bay	11:04	A. W. Smith, S. A. Lupack
Aug. 3, 1961	Southern Hudson Bay	12:36	A. W. Smith, R. G. Moore
Aug. 5, 1961	Northern Hudson Bay	11:08	A. W. Smith, R. G. Moore
Aug. 8, 1961	Central Hudson Bay	10:30	A. W. Smith, R. G. Moore
Aug. 11, 1961	Central Hudson Bay	10:07	A. W. Smith, R. G. Moore
Aug. 15, 1961	Southern Hudson Bay	9:42	A. W. Smith, R. G. Moore
Aug. 19, 1961	Churchill to Coral Harbour	10:09	R. G. Moore
Aug. 29, 1961	Southern Hudson Bay	10:20	R. G. Moore
Sep. 25, 1961	Central Hudson Bay	9:55	R. G. Moore
Oct. 12, 1961	Northern Hudson Bay	12:52	R. G. Moore, R. I. Smith
Nov. 10, 1961	Northern Hudson Bay	14:40	R. G. Moore, R. I. Smith

PRELIMINARY BREAK-UP FLIGHTS

April 22 - 25, 1961	Hudson Strait Hudson Bay Foxe Basin	19.7	R. I. Smith A. J. Lewis S. A. Lupack E. Stasyshyn
May 20 - 23, 1961	Hudson Strait Hudson Bay Foxe Basin	17.0	W. R. Zubrecki G. T. Meek D. S. Veinot E. Stasyshyn

RECONNAISSANCE FLIGHTS FLOWN FROM FROBISHER BAY, N. W. T.

AIRCRAFT UTILIZED - DC-3 - IDENTIFICATION - CF-ILQ

DATE	AREA FLOWN	FLIGHT TIME	OBSERVERS
July 2, 1961	Hudson Strait, Frobisher Bay	8:35	S. A. Lupack, J. C. Plamondon
July 4, 1961	Eastern Hudson Bay, Ungava Bay	7:55	S. A. Lupack, J. C. Plamondon
July 7, 1961	Hudson Strait, Frobisher Bay	7:35	S. A. Lupack, J. C. Plamondon
July 11, 1961	Cumberland Sound, Hudson Strait	8:00	S. A. Lupack, J. C. Plamondon
July 13, 1961	Hudson Strait, Frobisher Bay	7:40	S. A. Lupack, J. C. Plamondon
July 16, 1961	Hudson Strait, Foxe Basin	8:50	S. A. Lupack, W. R. Zubrecki
July 17, 1961	Cumberland Sound, Hudson Strait	8:20	W. R. Zubrecki, J.C. Plamondon
July 19, 1961	Davis Strait, Frobisher Bay	8:40	W. R. Zubrecki, S. A. Lupack
July 20, 1961	Hudson Strait, Frobisher Bay	10:40	W. R. Zubrecki, E. Stasyshyn
July 23, 1961	Foxe Basin, Hudson Strait, Ungava Bay	15:10	W. R. Zubrecki, E. Stasyshyn
July 26, 1961	Hudson Strait	8:35	W. R. Zubrecki, E. Stasyshyn
July 27, 1961	Davis Strait	8:40	W. R. Zubrecki, E. Stasyshyn
July 29, 1961	Hudson Strait, Ungava Bay	8:50	W. R. Zubrecki, E. Stasyshyn
July 31, 1961	Hudson Strait	8:30	W. R. Zubrecki, E. Stasyshyn
Aug. 2, 1961	Davis Strait	9:25	W. R. Zubrecki, E. Stasyshyn
Aug. 3, 1961	Foxe Basin, Western Hudson Strait	9:10	W. R. Zubrecki, E. Stasyshyn
Aug. 5, 1961	Hudson Strait	9:35	W. R. Zubrecki, E. Stasyshyn
Aug. 8, 1961	Hudson Strait	6:15	W. R. Zubrecki, S. A. Lupack
Aug. 9, 1961	Foxe Basin	10:20	E. Stasyshyn, S. A. Lupack
Aug. 10, 1961	Davis Strait	9:50	E. Stasyshyn, W. R. Zubrecki
Aug. 12, 1961	Davis Strait	9:25	S. A. Lupack, W. R. Zubrecki
Aug. 14, 1961	Davis Strait	8:55	E. Stasyshyn, W. R. Zubrecki
Aug. 16, 1961	Foxe Basin	8:05	E. Stasyshyn, S. A. Lupack
Aug. 19, 1961	Foxe Basin	7:35	W. R. Zubrecki, S. A. Lupack
Aug. 20, 1961	Western Davis Strait	9:25	W. R. Zubrecki, E. Stasyshyn
Aug. 21, 1961	Foxe Basin	8:20	S. A. Lupack, E. Stasyshyn
Aug. 23, 1961	Foxe Basin	8:25	S. A. Lupack, W. R. Zubrecki
Aug. 24, 1961	Davis Strait	8:55	E. Stasyshyn, W. R. Zubrecki
Aug. 25, 1961	Foxe Basin	8:20	E. Stasyshyn, S. A. Lupack
Sep. 5, 1961	Foxe Basin	7:35	W. R. Zubrecki, S. A. Lupack
Sep. 6, 1961	Western Davis Strait	9:00	W. R. Zubrecki, S. A. Lupack
Sep. 7, 1961	Foxe Basin	7:00	W. R. Zubrecki, S. A. Lupack
Sep. 11, 1961	Foxe Basin	7:50	W. R. Zubrecki, S. A. Lupack
Sep. 13, 1961	Western Davis Strait	9:00	W. R. Zubrecki, S. A. Lupack
Sep. 17, 1961	Foxe Basin	8:15	W. R. Zubrecki, D. S. Veinot
Sep. 22, 1961	Hudson Strait, Labrador Coast	9:10	W. R. Zubrecki, J. Lafontaine
Sep. 23, 1961	Foxe Basin, Northwestern Hudson Strait	7:25	D. S. Veinot, J.Y. Lafontaine
Sep. 25, 1961	Eastern Hudson Strait and Approaches	8:55	D. S. Veinot, J.Y. Lafontaine
Sep. 28, 1961	Davis Strait	9:10	D. S. Veinot, J.Y. Lafontaine
Oct. 7, 1961	Foxe Basin, Northwestern Hudson Strait	8:20	D. S. Veinot, J.Y. Lafontaine
Oct. 10, 1961	Hudson Strait	6:15	D. S. Veinot, J.Y. Lafontaine
Oct. 11, 1961	East Coast Baffin, Lancaster Sound	7:55	D. S. Veinot, J.Y. Lafontaine

RECONNAISSANCE FLIGHTS FLOWN FROM FROBISHER BAY, N. W. T.

AIRCRAFT UTILIZED - DC-3 - IDENTIFICATION - CF-ILQ

DATE	AREA FLOWN	FLIGHT TIME	OBSERVERS
Oct. 13, 1961	Prince Regent Inlet, Foxe Basin	8:00	D. S. Veinot, J. Y. Lafontaine
Oct. 15, 1961	Hudson Strait, Frobisher Bay	9:15	D. S. Veinot, J. Y. Lafontaine
Nov. 1, 1961	Foxe Basin and Channel	9:05	D. S. Veinot, J. Y. Lafontaine
Nov. 3, 1961	Northeastern Hudson Strait	4:55	D. S. Veinot, J. Y. Lafontaine
Nov. 6, 1961	Hudson Strait, Frobisher Bay	7:25	D. S. Veinot, J. Y. Lafontaine
Nov. 11, 1961	Western Davis Strait, Frobisher Bay	9:00	D. S. Veinot, J. Y. Lafontaine

TABLE OF ICE RECONNAISSANCE FLIGHTS

Flying time and number of flights for Ice Observers

LOCATION: Churchill, Manitoba.

	TOTAL NUMBER OF FLIGHTS	TOTAL FLYING HOURS	TOTAL MILES (STATUTE)
A. W. SMITH			
June	2	21.2	2,464
July	8	85.7	9,860
August	6	65.1	7,500
	16	172.0	19,824
R. G. MOORE			
July	10	119.6	13,760
August	7	74.5	8,570
September	1	9.9	1,140
October	1	12.8	1,475
November	1	14.7	1,690
	20	232.5	26,635
D. S. VEINOT			
July	2	33.7	3,890
J. Y. LAFONTAINE			
July	2	33.7	3,890
S. A. LUPACK			
July	2	13.9	1,600
August	2	22.2	2,560
	4	36.1	4,160
R. I. SMITH			
October	1	12.9	1,485
November	1	14.7	1,690
	2	27.6	3,175

TABLE OF ICE RECONNAISSANCE FLIGHTS

Flying Time and Number of Flights for Ice Observers

LOCATION: Frobisher Bay, N. W. T.

	TOTAL NUMBER OF FLIGHTS	TOTAL FLYING HOURS	TOTAL MILES (STATUTE)
S. A. LUPACK			
July	7	56.8	9,390
August	8	66.8	10,620
September	5	40.4	6,460
	20	164.0	26,470
J. C. PLAMONDON			
July	6	47.4	7,400
W. R. ZUBRECKI			
July	9	86.3	13,750
August	11	96.9	15,000
September	7	57.8	9,190
	27	241.0	37,940
E. STASYSHYN			
July	6	60.4	9,600
August	11	103.3	14,255
	17	163.7	23,855
D. S. VEINOT			
September	4	33.8	5,360
October	5	39.8	6,340
November	4	30.4	4,830
	13	104.0	16,530
J. Y. LAFONTAINE			
September	4	34.7	5,490
October	5	39.8	6,340
November	4	30.4	4,830
	13	104.9	16,660

FLIGHT TIMES FOR SHIPBOARD ICE OBSERVERS

	TOTAL NUMBER OF FLIGHTS	TOTAL FLYING HOURS	TOTAL MILES (STATUTE)
C.C.G.S. LABRADOR **MASTER: N. V. Clark** **ICE OBSERVER: R. V. Zuar**			
July - 1961	6	4.6	276
August - 1961	4	2.7	163
	10	7.3	438
C.C.G.S. SIR HUMPHREY GILBERT **MASTER: G. S. Burdock** **ICE OBSERVER: A. W. Smith**			
August - 1961	1	0.9	54
C.C.G.S. N. B. McLEAN **MASTER: N. B. Gagne** **ICE OBSERVER: R. G. Rannard**			
July - 1961	1	0.8	48
August - 1961	4	2.4	164
	5	3.2	212
C.C.G.S. C. D. HOWE **MASTER: J. A. Ouellet** **ICE OBSERVER: A. J. Lewis**			
July - 1961	2	1.3	78
C.C.G.S. MONTCALM **MASTER: P. M. Fournier** **ICE OBSERVER: J. A. R. Bourbonnais**			
July - 1961	4	2.8	168
August - 1961	1	0.9	54
September - 1961	2	1.6	96
	7	5.3	318

DESCRIPTIVE TERMS USED IN THIS REPORT

(a)	Ice-free	No ice present.
(b)	Open Water	Less than 1/10 ice cover.
(c)	Scattered Ice	1/10 to 5/10 ice cover.
(d)	Broken Ice	5/10 to 8/10 ice cover.
(e)	Close Ice	8/10 to 10/10 ice cover.
(f)	Consolidated Ice	10/10, little or no water present on the sea surface.
(g)	Brash	Floes less than 6 feet across.
(h)	Block	Floes from 6 feet to 30 feet across.
(i)	Small Floe	Floes from 30 feet to 600 feet across.
(j)	Medium Floe	Floes from 600 feet to 3,000 feet across.
(k)	Giant Floe	Floes from 3,000 feet to 5 miles across.
(l)	Ice Field	Floes more than 5 miles across.

METEOROLOGICAL BRANCH
DEPARTMENT OF TRANSPORT - CANADA

KEY TO ICE SYMBOLS

CONCENTRATION

< 0.1 coverage

0.1 to 0.5 coverage

0.5 to 0.8 coverage

0.8 to 1.0 coverage

1.0 coverage *(no water)*

AGE

A
dominant, secondary

Sl - Slush
Y - Young Ice
W - Winter Ice
Pl - Polar Ice

Examples: $\frac{A}{Sl,W}$, $\frac{A}{Pl}$ *,etc.*

ICE OF LAND ORIGIN

Icebergs *(many)*

Icebergs *(few)*

Bergy bits and growlers *(many)*

Bergy bits and growlers *(few)*

WATER FEATURES

Crack

Lead

Polynya

UNDERCAST

Limits

CONCENTRATION BY SIZE

$\frac{C_n}{n_1,n_2,n_3}$

n_1 - tenths of slush, brash and block
n_2 - tenths of small and medium floes
n_3 - tenths of giant floes *and field*

PUDDLES

$\frac{Pd}{\text{dominant condition}}$

Tenths of ice covered if not frozen or rotten

F - Frozen
R - Rotten

Examples: $\frac{Pd}{3}$, $\frac{Pd}{F}$, $\frac{Pd}{R}$ *etc.*

TOPOGRAPHY

Rafted ice

Ridged ice

Hummocks

THICKNESS OF SEA ICE AND SNOW

$\frac{T.S.}{n\ n}$ where *n - nearest ft.*

Examples: $\frac{T}{5}$, $\frac{S}{2}$ *etc.*

BOUNDARY

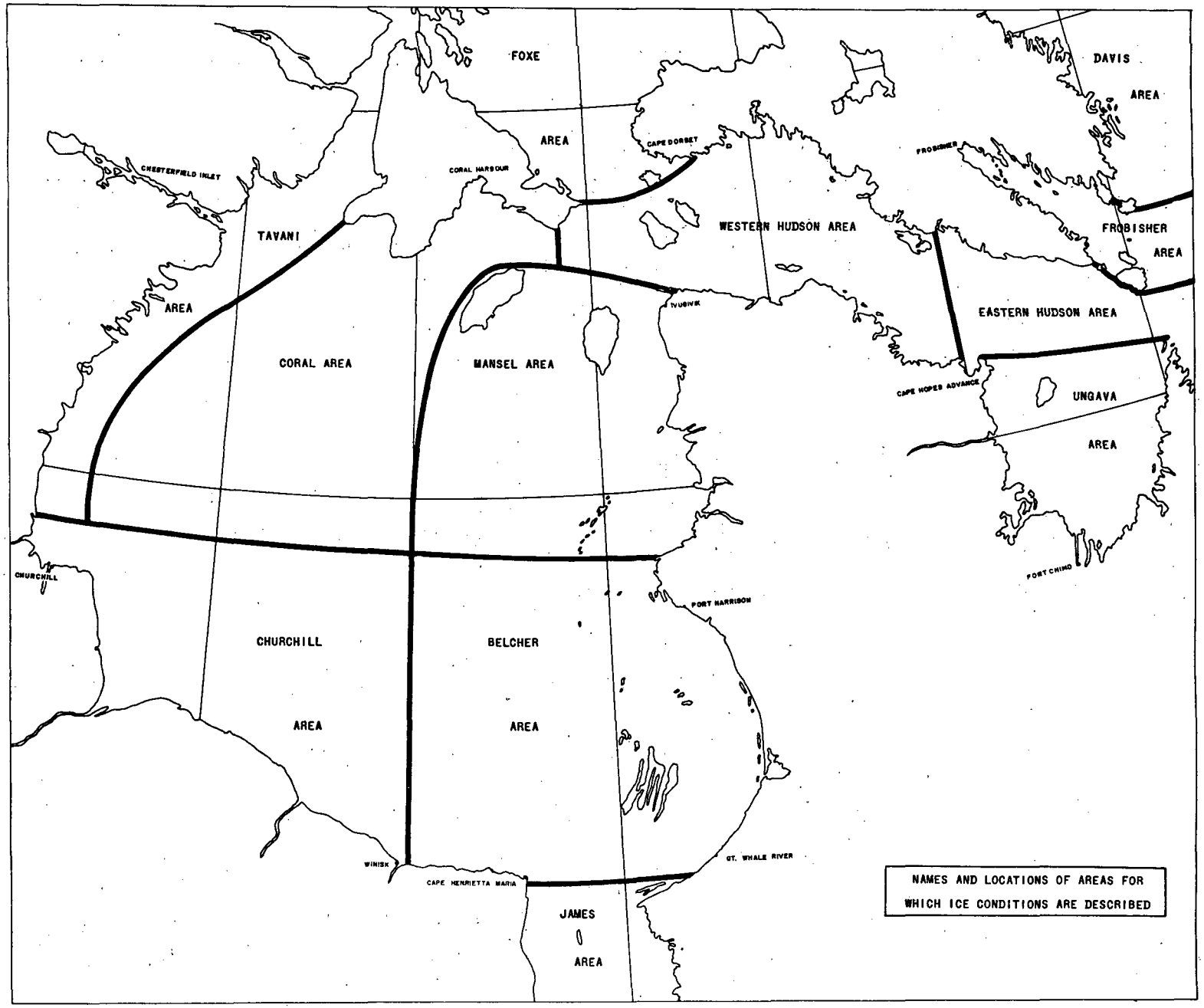
Known

Radar

Assumed

Limit of Estimated data

Symbols used for Recording the Various Ice, Snow, and Water Features.


FOXE
AREA
DAVIS
AREA
CAPE DORSET
CHESTERFIELD INLET
CORAL HARBOUR
FROBISHER
WESTERN HUDSON AREA
FROBISHER
AREA
TAVANI
AREA
TYUGNIK
EASTERN HUDSON AREA
CORAL AREA
MANSEL AREA
CAPE HOPES ADVANCE
UNGAVA
AREA
CHURCHILL
PORT HARRISON
FORT CHIMO
CHURCHILL
AREA
BELCHER
AREA
WINISK
GT. WHALE RIVER
CAPE HENRIETTA MARIA
JAMES
AREA
NAMES AND LOCATIONS OF AREAS FOR
WHICH ICE CONDITIONS ARE DESCRIBED

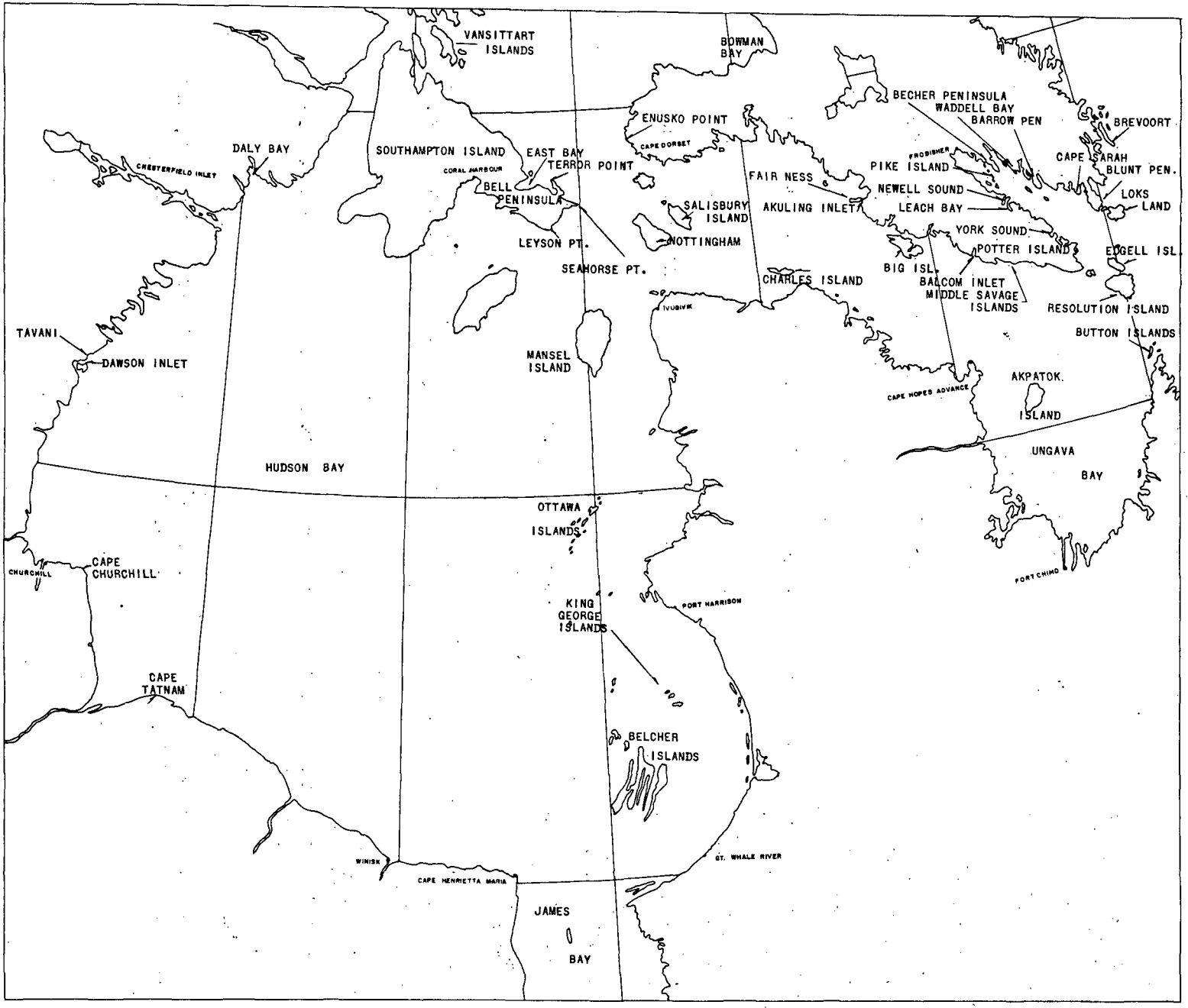


Chart of Place Names - Hudson Bay Route

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON APRIL 22 - 25, 1961

Ice conditions are illustrated in Figure 1.

WESTERN HUDSON AREA:

Broken, predominantly winter ice, covered the observed Eastern area with a ten mile wide band of scattered ice along the Baffin Coast. West of Nottingham Island, close ice existed with scattered conditions north of Digges Island.

CORAL AREA:

Moderately ridged close ice was general in this area, with fast ice along the coastal areas.

CHURCHILL AREA:

Fast ice extended approximately eight miles seaward with close ice covering the remaining area.

BELCHER AREA:

Broken ice conditions existed in the area of the King George Islands with open water to the east.

TAVANI AREA:

Moderately ridged close ice existed in this area.

FOXE AREA:

Consolidated ice was noted in the eastern Foxe Area while close ice was general in the Foxe Channel. A ten mile wide lead was noted west of the fast ice along the Foxe Peninsula.

FROBISHER AREA:

Fast ice was noted in inner Frobisher Bay, the remainder of the area was covered by close young and winter ice.

DAVIS AREA:

With the exception of a ten to twenty mile wide band of fast ice along the coast, close ice was general in this area.

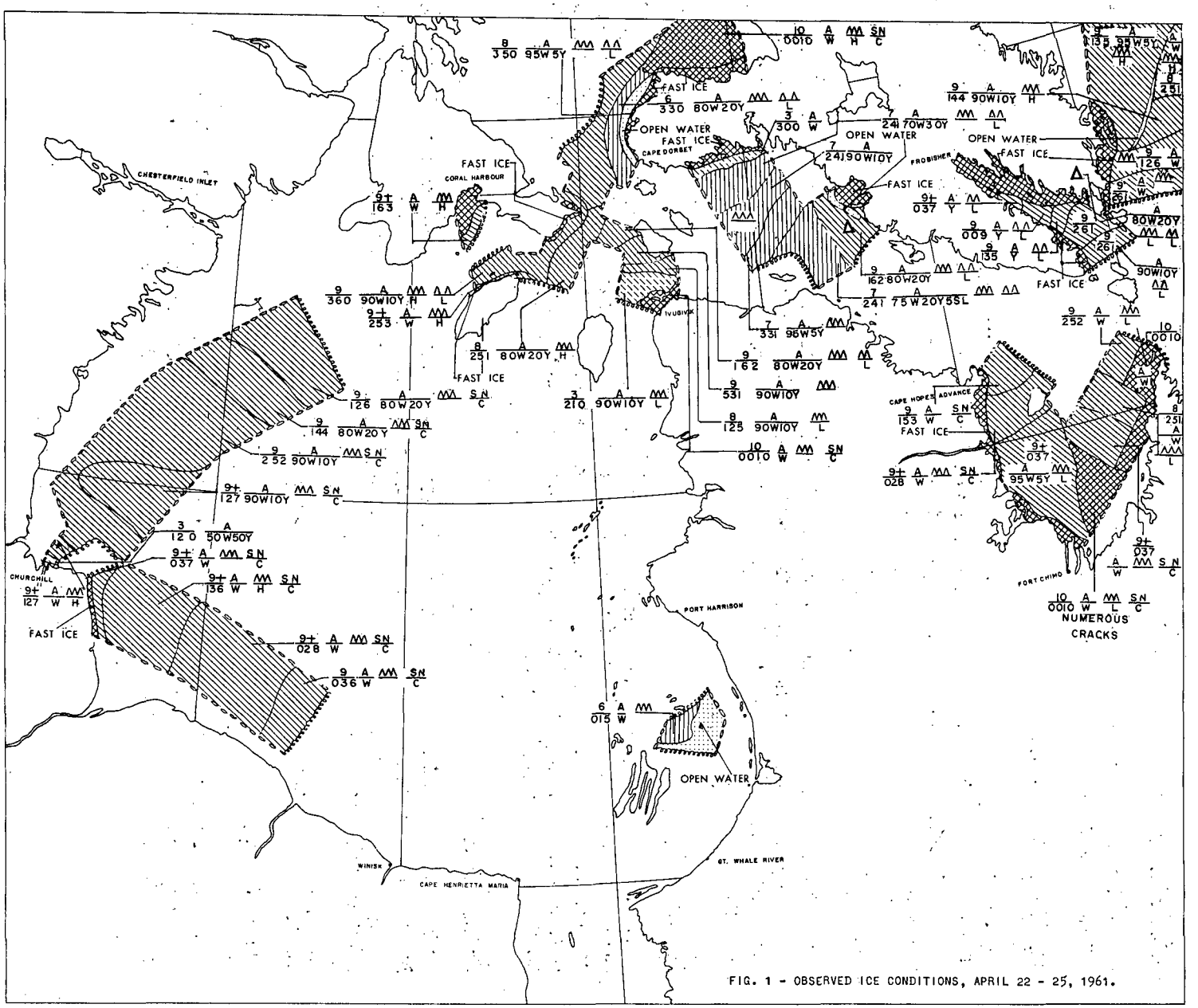


FIG. 1 - OBSERVED ICE CONDITIONS, APRIL 22 - 25, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON MAY 20 - 23, 1961

Ice Conditions are Illustrated in Figure 2.

EASTERN HUDSON AREA:

Close ice was general in the eastern and southern areas while open water was noted on the northwestern part of the area.

WESTERN HUDSON AREA:

A five mile wide band of fast ice was noted along the Quebec Shore and coast of Charles Island, with a ten to twenty mile wide band of close ice to the north of this. Scattered to broken ice was general in the centre of Hudson Strait.

CORAL AREA:

A ten to fifteen mile wide congested flaw lead existed seaward of the fast ice along the south coast of Southampton Island. Close ice was general in the remainder of the area with a few eastwest cracks in the southwestern sector.

MANSEL AREA:

Fast ice, five miles wide, extended from Digges Island to Smith Island. A lead, ten to twenty miles wide, extended from just south of Ivugivik to the Ottawa Islands. Scattered to broken ice was general in the remainder of the area except for a giant winter floe, twenty miles across, thirty miles northeast of the Ottawa Islands.

BELCHER AREA:

A fifteen mile wide band of fast ice existed along the coast south of Mistake Bay with a fifteen mile wide lead to the west of this. Broken to close ice was general in the rest of the area with the exception of fast ice around the Belcher Islands.

FOXE AREA: Close ice prevailed in this area.

FROBISHER AREA:

Fast ice covered inner Frobisher Bay and the north shore from Belcher Peninsula to Loks Land. Open water covered the remainder of Frobisher Bay north of latitude Loks Land. Broken ice covered the remainder of the area.

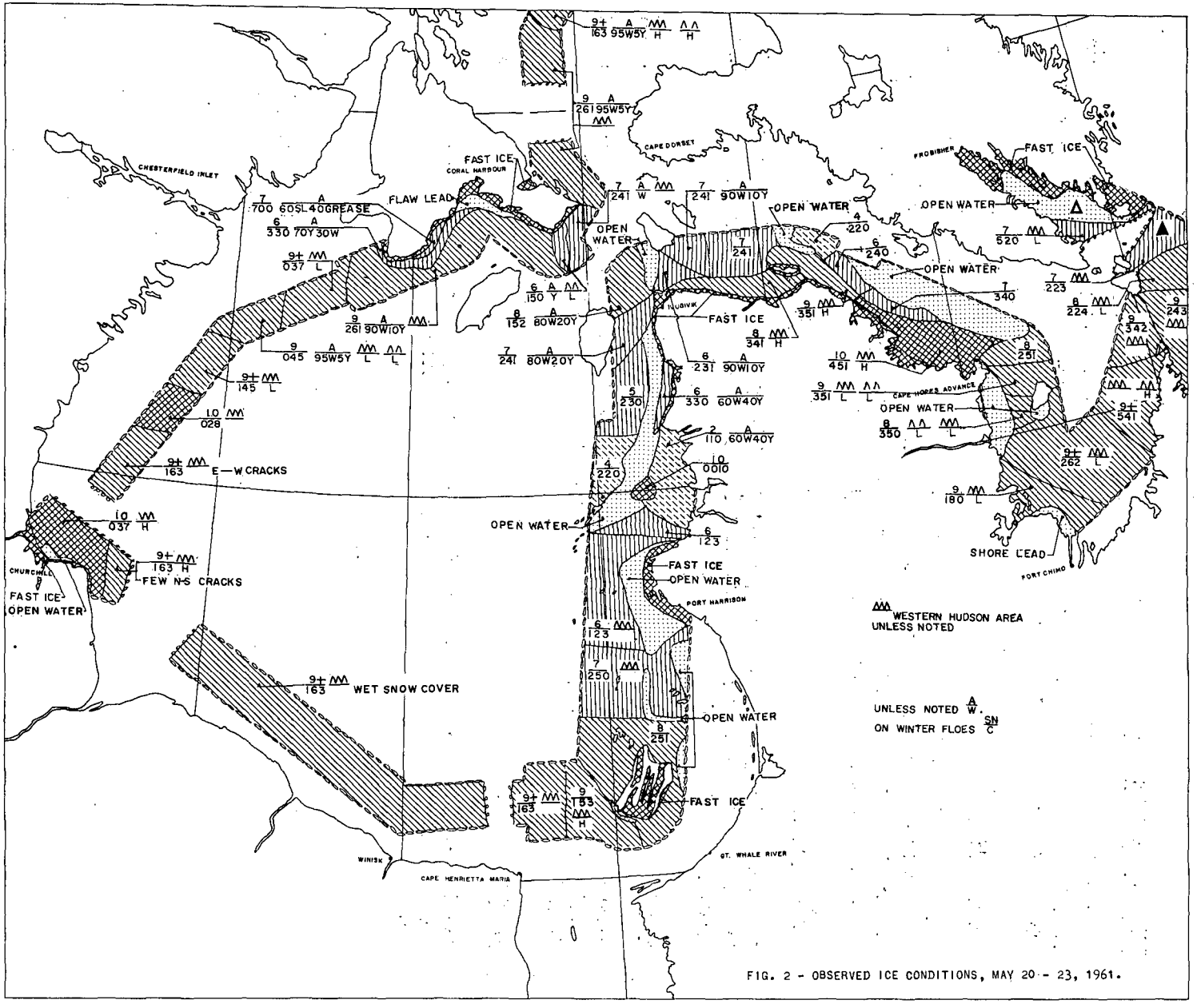


FIG. 2 - OBSERVED ICE CONDITIONS, MAY 20 - 23, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JUNE 21, 1961

Ice Conditions are illustrated in Figure 3.

WESTERN HUDSON AREA:

Broken to close concentrations covered the area west of Nottingham Island area except for a ten to fifteen mile wide open water area extending south from Nottingham Island.

CORAL AREA:

Broken to close ice existed along the north shore of Coats Island and in the southern portion of the area. The northwest half of the area was open water with the occasional patch of scattered ice. Fast ice extended eight miles seaward along the coast east of Cape Low.

MANSEL AREA:

Scattered ice persisted in this area while a forty mile wide area of open water projected south from Coats Island. Fast ice was noted in the coastal areas.

CHURCHILL AREA:

Close winter ice, with one to two tenths puddling was general in this area. A fifteen mile wide shore lead existed along the western shore of Hudson Bay.

TAVANI AREA:

Fast ice, varying in width from five to twenty miles, existed along the western shore. Scattered to broken ice was general at the entrance to Roes Welcome Sound.

CIR - 3710
TEC - 421
16 AUG 62

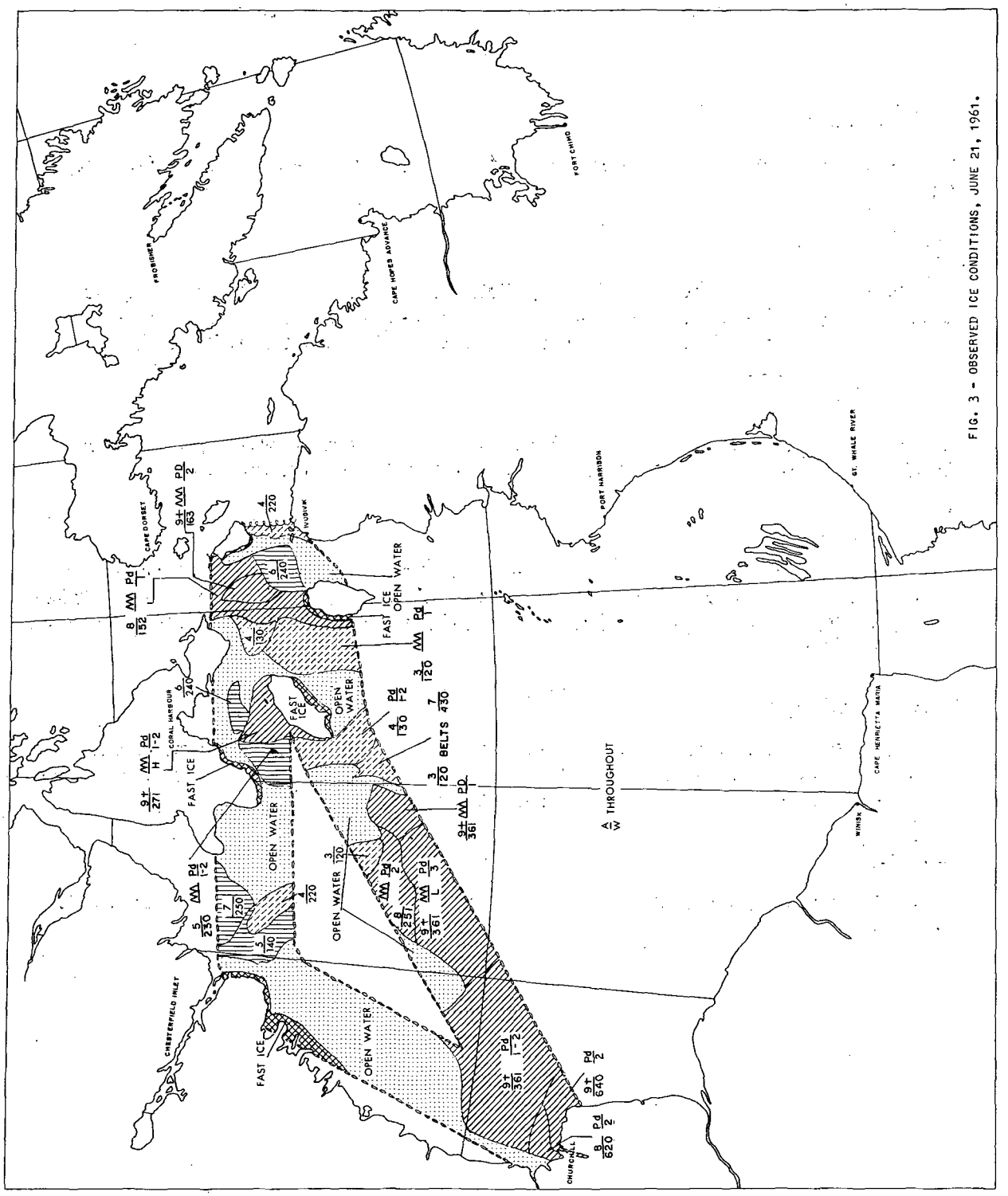


FIG. 3 - OBSERVED ICE CONDITIONS, JUNE 21, 1961.

ICE CONDITIONS ON JUNE 30 - JULY 2, 1961

Ice conditions are illustrated in Figure 4.

EASTERN HUDSON AREA:

Broken ice was observed along the Baffin Coast while scattered ice existed in the southern sector.

WESTERN HUDSON AREA:

Scattered ice prevailed in the Big Island area and in a band along the Baffin Coast. Scattered to broken ice existed along the southern sector of the Strait with broken to close ice west of Nottingham Island.

CORAL AREA:

Close ice, with puddling well advanced, was confined mostly to the area south of 61°30' N. North of this area, open water was observed.

MANSEL AREA:

Open water prevailed in this area except for a few patches of broken to close ice in the vicinity of the Ottawa Islands and south of Coats Island. A twenty mile wide band of fast ice, well puddled extended northward from Port Harrison.

CHURCHILL AREA:

A congested lead of scattered ice, five miles wide at Cape Churchill to fifteen miles wide at Hubbart Point was observed in this area. Close ice was general in the remainder of the observed area.

FROBISHER AREA:

Fast ice covered inner Frobisher Bay with scattered to broken ice south-east of this.

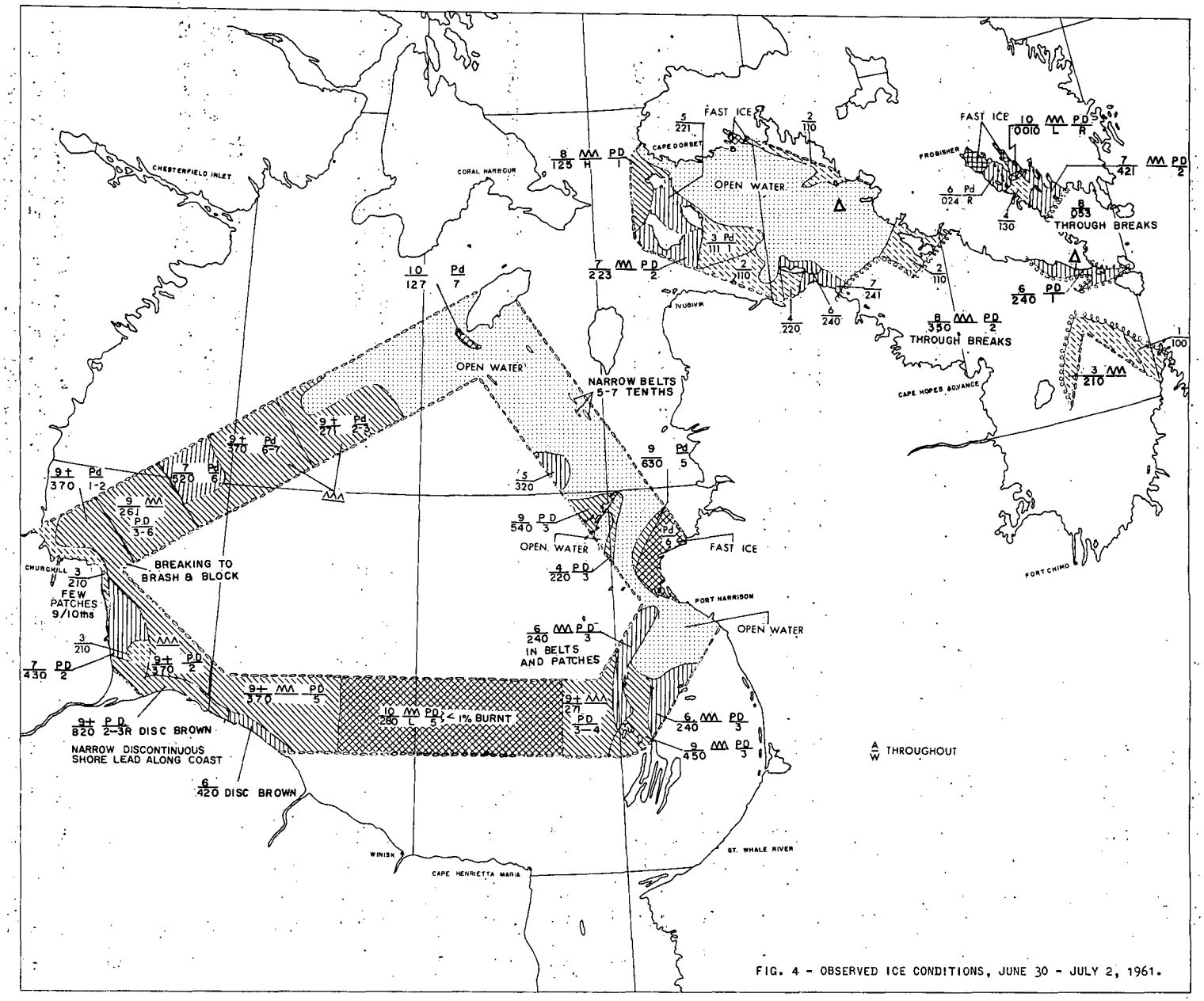


FIG. 4 - OBSERVED ICE CONDITIONS, JUNE 30 - JULY 2, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 4 - 5, 1961

Ice Conditions are Illustrated in Figure 5.

EASTERN HUDSON AREA:

Scattered, broken, and close ice covered this area with the heavier concentrations along the Baffin Coast and Central Area.

WESTERN HUDSON AREA:

In the observed portion of this area open water was noted.

CORAL AREA:

Close ice covered the southern sector while broken and scattered concentrations existed along the northern edge of the close ice. Open water was observed in the northern portion.

MANSEL AREA:

In the southwestern sector close ice with puddling well advanced, predominated with scattered and broken concentrations along the northern edge. The remainder of the observed area was open water.

CHURCHILL AREA:

A twenty mile wide congested shore lead, containing scattered ice occurred in the coastal area at Churchill. Broken to close ice prevailed northeast of this.

BELCHER AREA:

Close ice, well puddled, prevailed in the western sector with open water in the north-east sector.

TAVANI AREA:

The bays between Rankin Inlet and Pistol Bay contained fast ice. Scattered ice was noted in the southern approaches of Roes Welcome Sound. Open water was noted in the remainder of the observed area.

FROBISHER AREA:

Inner Frobisher Bay was covered by fast ice with scattered to broken ice covering most of the remainder of the Bay. Open water occurred along the North shore between Barrow Peninsula and Loks Land. East of Edgell Island was open water.

DAVIS AREA:

Consolidated ice extended to forty miles off the coast at Brevoort, curving westward to the coast at Loks Land. To the east, a twenty mile wide band of close and scattered ice existed, with open water in the eastern margin.

UNGAVA AREA:

Broken to close ice existed in the southern half of Ungava Bay with generally scattered conditions in the northern half.

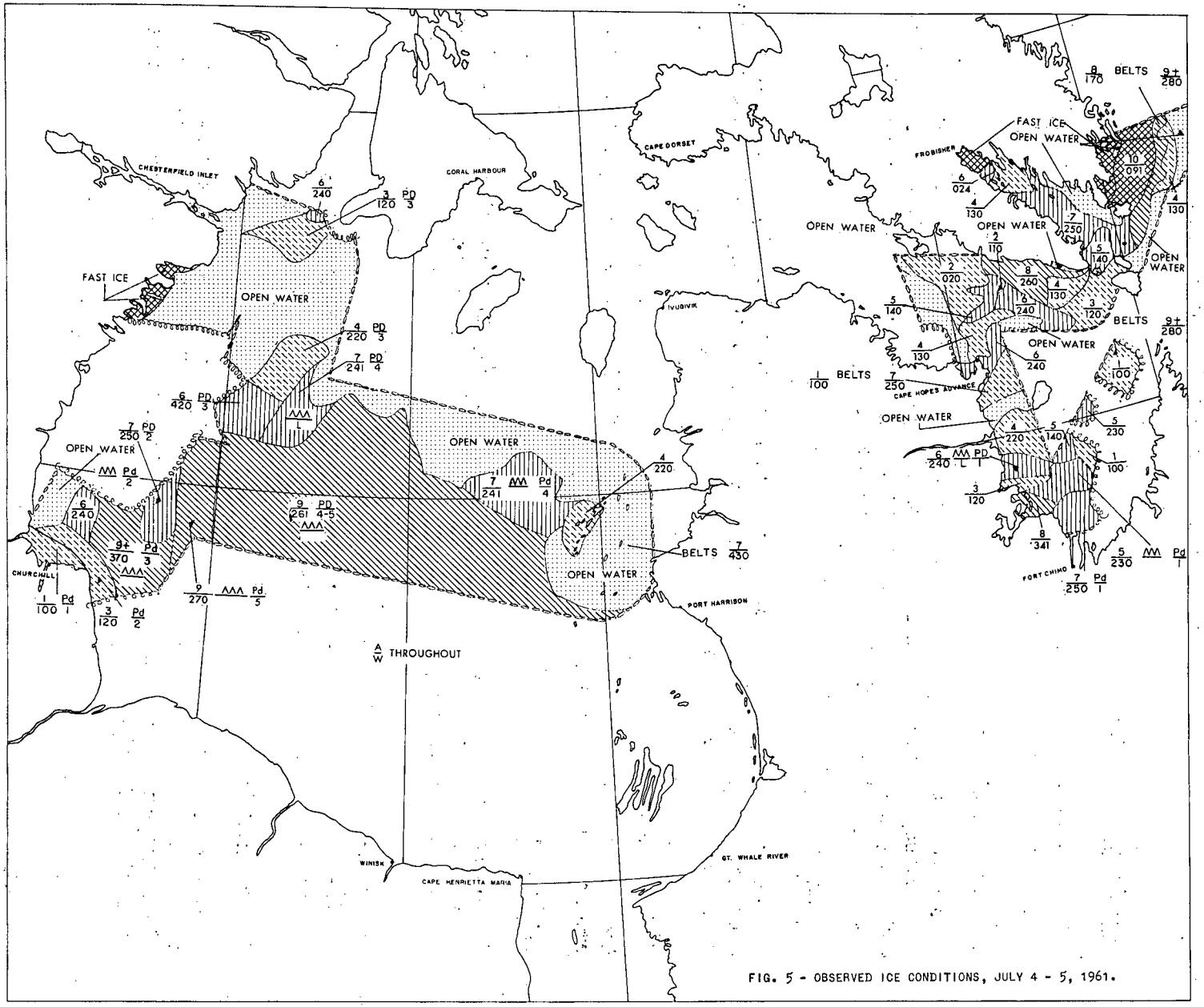


FIG. 5 - OBSERVED ICE CONDITIONS, JULY 4 - 5, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 7 - 9, 1961

Ice Conditions are Illustrated in Figure 6.

EASTERN HUDSON AREA:

Scattered to broken ice prevailed east of Cape Hopes Advance with open water to the west. Many icebergs, bergy bits and growlers were noted in this area.

WESTERN HUDSON AREA:

Open water was noted north of a line Cape Hopes Advance - Salisbury Island - Cape Dorset, except for a small area of scattered ice in the Big Island area and along the coast east of Cape Dorset. The remainder of the area was covered with scattered, broken, and close ice.

CHURCHILL AREA:

A five to ten mile wide shore lead extended south from Cape Churchill with open water west of Cape Churchill. Broken to close ice, well puddled, covered the remainder of the observed area.

BELCHER AREA:

Generally close ice, well puddled, covered this area except for open water around Belcher Islands.

JAMES AREA:

Except for a fifteen mile wide shore lead along the west shore and a thirty mile wide shore lead along the east shore, this area was covered by consolidated ice, well puddled.

FOXE AREA:

Broken to close ice covered this area except for scattered ice along the coastal areas of Foxe Peninsula.

FROBISHER AREA:

Frobisher Bay northwest of Chase Island was covered with scattered ice while the remainder of the Bay contained broken to close ice, except for open water along the north shore from Hamlem Bay to Loks Land. Open water was noted east of Resolution Island.

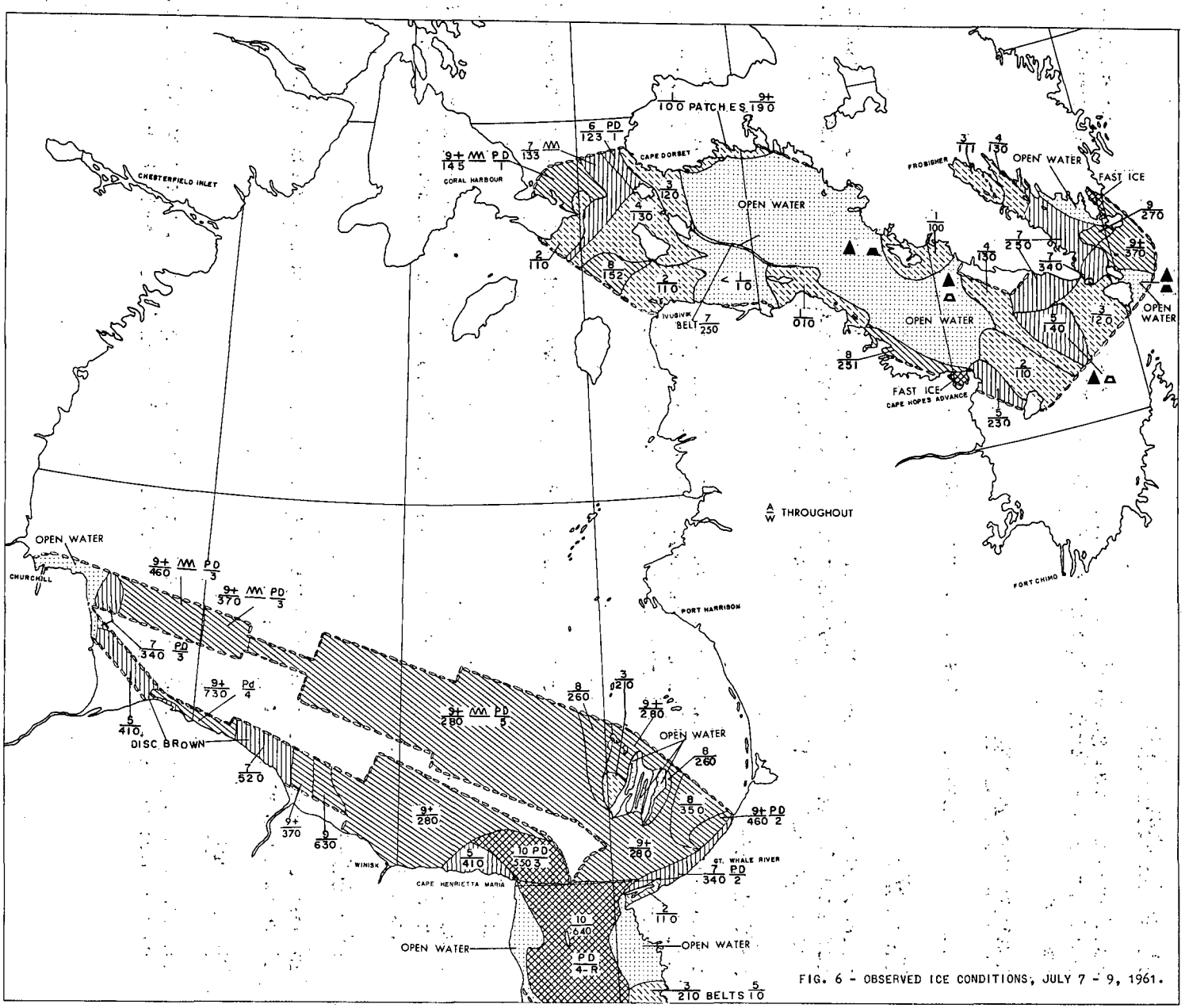


FIG. 6 - OBSERVED ICE CONDITIONS, JULY 7 - 9, 1961.

ICE CONDITIONS ON JULY 11 - 12, 1961

Ice Conditions are Illustrated in Figure 7.

EASTERN HUDSON AREA:

Scattered ice was general in the area east of Cape Hopes Advance with occasional patches of broken ice along the Baffin Coast. Open water occurred to the west.

WESTERN HUDSON AREA:

Open water existed in the observed portion of this area.

CORAL AREA:

Scattered to close ice covered the southern half of this area with the lighter concentrations along the northern ice edge. Puddling was well advanced. Open water existed in the northern observed portion of the area.

MANSEL AREA:

Scattered to close ice covered the southern half of this area west of the Ottawa Islands with the lighter concentrations along the eastern edge. Open water prevailed in the remainder of the observed area.

CHURCHILL AREA:

Open water was noted in the observed portion of the coastal area at Churchill.

BELCHER AREA:

Scattered to close ice existed in the area to the west of the Sleeper Islands with the lighter concentrations just west of the Islands. Puddling was well advanced in this area.

DAVIS AREA:

Broken to close ice covered this area with open water being observed thirty-five miles east of Brevoort.

UNGAVA AREA:

Scattered ice prevailed in this area with the exception of a twenty mile wide belt of broken ice, parallel to and twenty miles off the east shore.

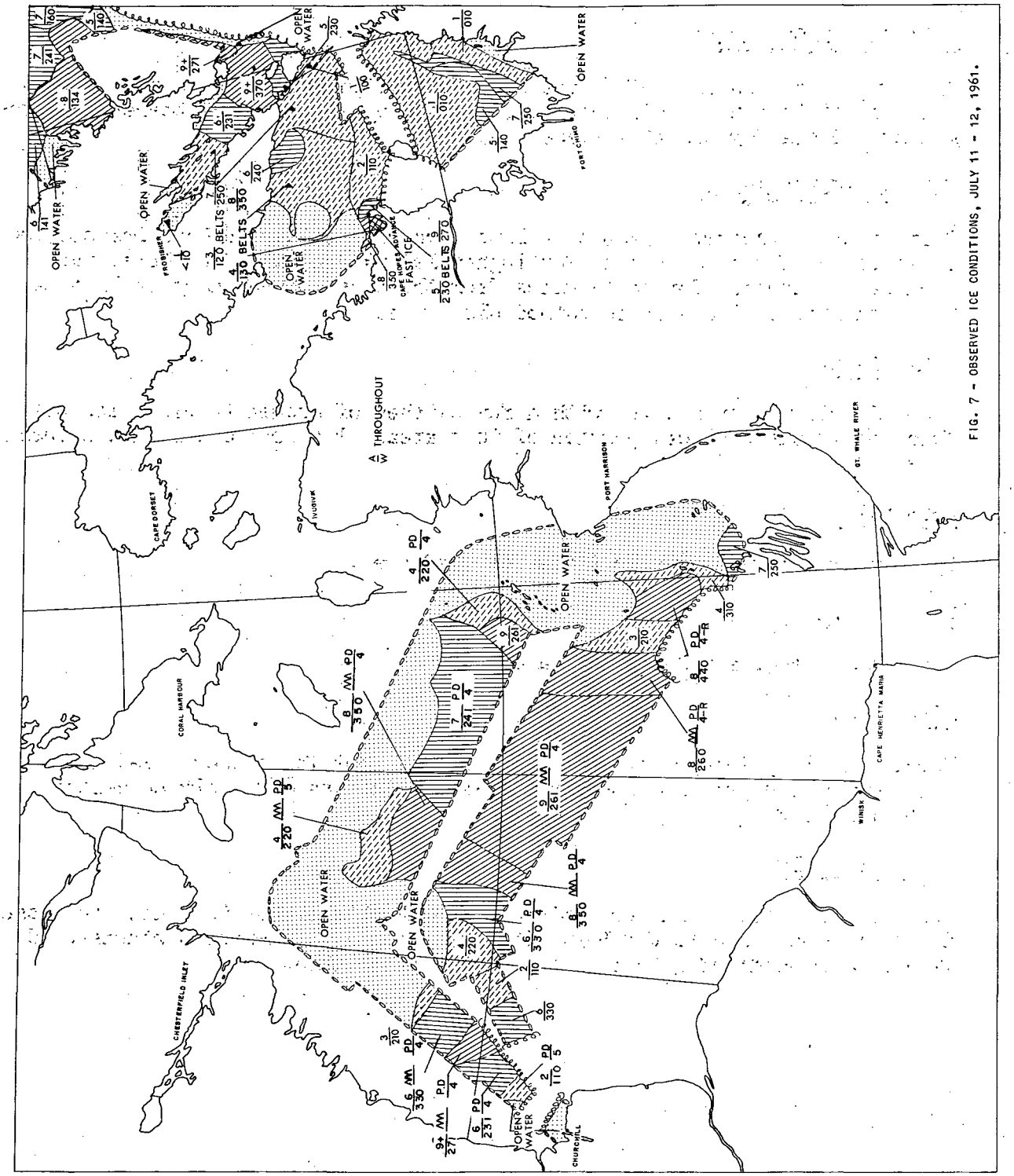


FIG. 7 - OBSERVED ICE CONDITIONS, JULY 11 - 12, 1961.

ICE CONDITIONS ON JULY 13, 1961

Ice Conditions are Illustrated in Figure 8.

EASTERN HUDSON AREA:

Open water existed east of a line from Resolution Island to Akpatok Island and west of Cape Hopes Advance. Between these two areas, scattered ice prevailed. Diana Bay contained fast ice.

WESTERN HUDSON AREA:

Open water was observed east of a line from Wakeham Bay to Cape Dorset. The remainder of the area east of Nottingham Island contained scattered ice. Open water extended for forty miles from the coast of Southampton Island. The remainder of the area contained close ice.

CORAL AREA:

Predominantly scattered ice with a few patches of broken to close ice was observed in the southern portion of this area. The northern area was open water.

CHURCHILL AREA:

Open water existed throughout the observed area.

TAVANI AREA:

Open water was observed in this area.

FOXE AREA:

Broken to close ice prevailed in this area except for a shore lead along the northeast coast of Southampton Island which was partially congested with scattered ice.

FROBISHER AREA:

Scattered ice less than one tenth at inner Frobisher Bay increased to close ice at the entrance to the Bay. The pack boundary extended northeastward from Hatton Headland with open water seaward of this.

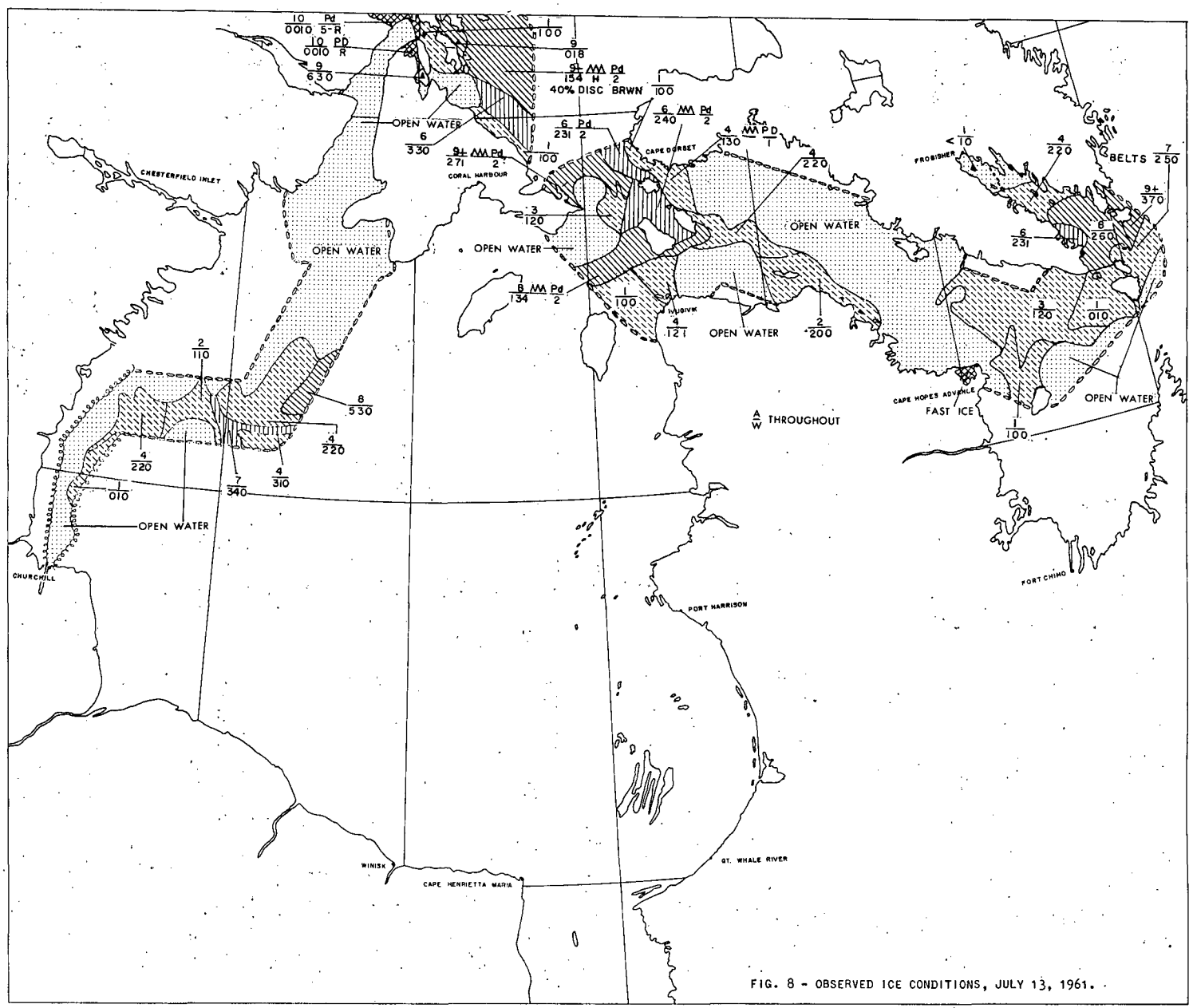


FIG. 8 - OBSERVED ICE CONDITIONS, JULY 13, 1961.

CIR - 3710
TEC - 421
16 AUG 62

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 16 - 17, 1961

Ice Conditions are Illustrated in Figure 9.

EASTERN HUDSON AREA:

Open water was observed east of Button Islands and west of line Cape Hopes Advance - Big Island. Scattered ice prevailed throughout the remainder of the area with a broken ice condition in Gabriel Strait.

WESTERN HUDSON AREA:

Open water existed in the eastern observed portion of the area while scattered to close ice, well puddled, was observed west of Nottingham Island.

CORAL AREA:

A few patches of scattered ice existed around the northeast coast of Coats Island and the coastal areas of Southampton Island. The main ice pack was observed south of 61° 30' N. Scattered, broken, and close ice existed in this area.

MANSEL AREA:

Open water was observed in this area.

CHURCHILL AREA:

A shore lead thirty miles wide at Hubbart Point narrowed to eighteen miles east of Cape Churchill with scattered ice northeast of this.

FOXE AREA:

Broken to close ice predominated in this area with the exception of Bowman Bay which was open water. A scattered ice condition existed along the northwest coast of Foxe Peninsula.

FROBISHER AREA:

Frobisher Bay, west of Belcher Peninsula, was open water while the remainder of the Bay contained scattered to broken ice with a band of close ice at the entrance. Open water existed thirteen miles east of Resolution Island and twenty-five miles east of Loks Land.

DAVIS AREA:

The pack ice extended seaward forty-two miles east of Brevoort with the ice edge extending northeast from this point. West of the pack boundary, predominentely broken to close ice existed, except for a band of scattered ice extending across the entrance to Cumberland Sound. Puddling was well advanced in this area.

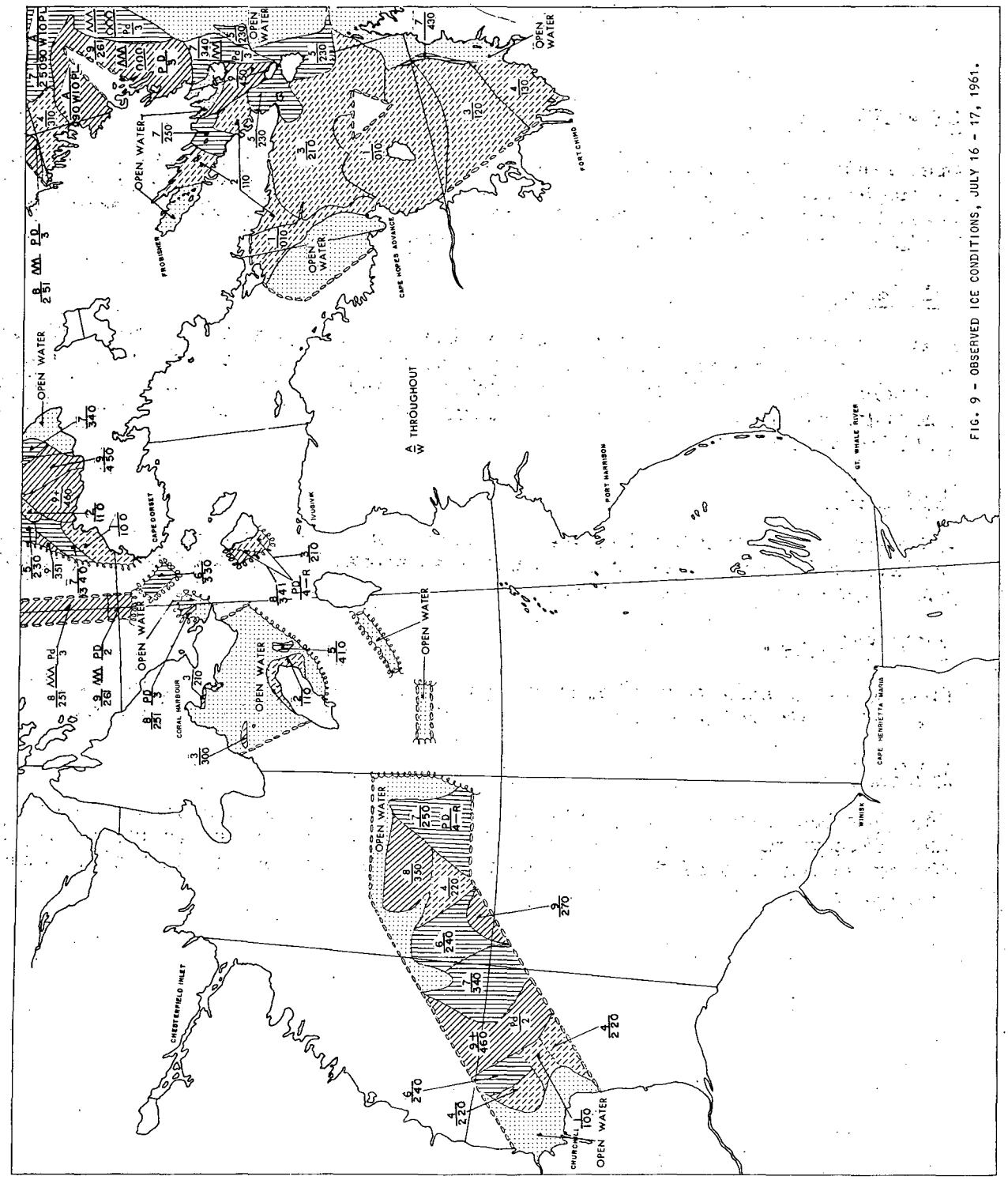


FIG. 9 - OBSERVED ICE CONDITIONS, JULY 16 - 17, 1961.

ICE CONDITIONS ON JULY 19, 1961

Ice Conditions are Illustrated in Figure 10.

CHURCHILL AREA:

Open water was observed west of Cape Churchill and in the approaches to the Nelson River. The main body of pack ice lay forty to fifty miles off the coast between Cape Tatnam and Fort Severn to twenty miles off the coast of Winisk. Areas of scattered ice existed south of the main pack.

BELCHER AREA:

A twenty mile wide shore lead existed along the coast west of Cape Henrietta Maria. Open water was noted around the Belcher Islands and north of them. Scattered ice existed between the Belcher Island and Great Whale River. The remainder of the area was covered predominantly with broken to close ice with puddling well advanced.

JAMES AREA:

A twelve mile wide shore lead existed along the west shore with a twenty-five to fifty mile wide shore lead on the east shore. The remainder of the area contained close ice well puddled.

FROBISHER AREA:

Open water existed west of Frobisher's Farthest while the remainder of the area was scattered ice to the ice edge twenty miles east of loks Land.

DAVIS AREA:

The pack ice extended forty miles seaward from Brevoort and then in a north-east direction. The remainder of the area contained broken to close ice with the exception of a band of scattered ice at the entrance to Cumberland Sound. Ten percent of the ice in this area was polar.

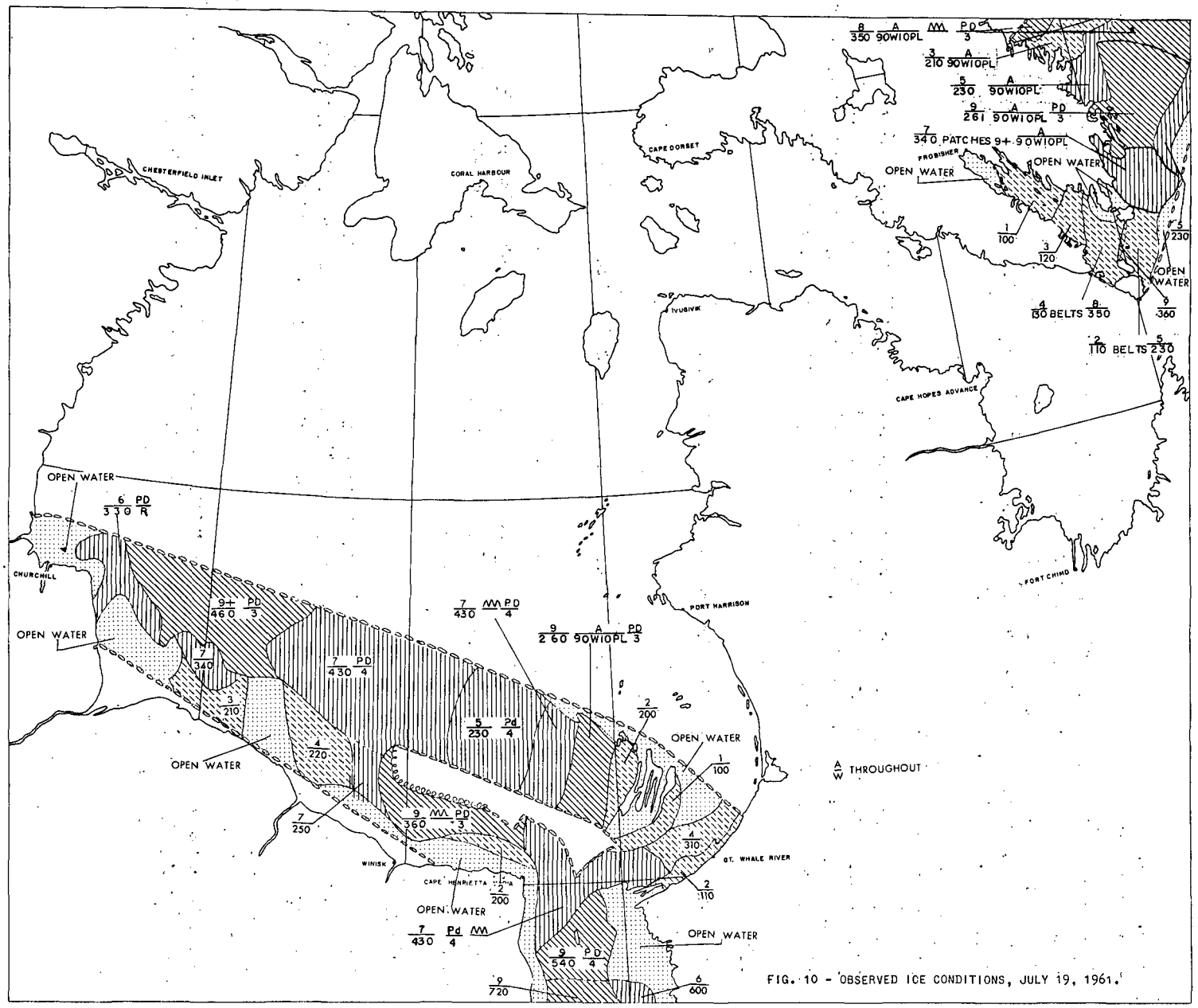


FIG. 10 - OBSERVED ICE CONDITIONS, JULY 19, 1961.

ICE CONDITIONS ON JULY 20, 1961

Ice Conditions are Illustrated in Figure 11.

EASTERN HUDSON AREA:

Open water existed east of Button Islands, south of a line Button Islands - Akpatok Island and west of longitude 69° 30' W. The remainder of the area contained scattered ice except for a narrow band of broken ice extending twenty-eight miles south-west from the Lower Savage Islands. Many icebergs existed in the eastern area with scattered icebergs in the western area.

WESTERN HUDSON AREA:

Scattered ice existed in the Nottingham - Salisbury Island area with a five mile wide band of broken ice extending eastward to five miles off Saddle Island. A twenty-four mile wide shore lead existed along the south shore in the Digges Island area. Scattered icebergs existed in the eastern sector.

CORAL AREA:

Open water existed in the observed portion of this area.

MANSEL AREA:

Open water existed in the observed portion of this area.

FOXE AREA:

Close ice existed along the north-east coast of Southampton Island while scattered ice existed along the Foxe Peninsula coast. Open water was observed in the centre of Foxe Channel.

FROBISHER AREA:

Open water existed west of Belcher Peninsula while scattered ice prevailed west of Potter Island. The entrance of Frobisher Bay to twenty miles east of Loks Land contained broken ice. East of this was open water.

DAVIS AREA:

In the observed area south of Brevoort, broken winter ice, sized up to medium floes, extended to thirty-five miles off the Baffin coast, with open water continuing eastwards.

CIR - 3710
TEC - 421
16 AUG 62

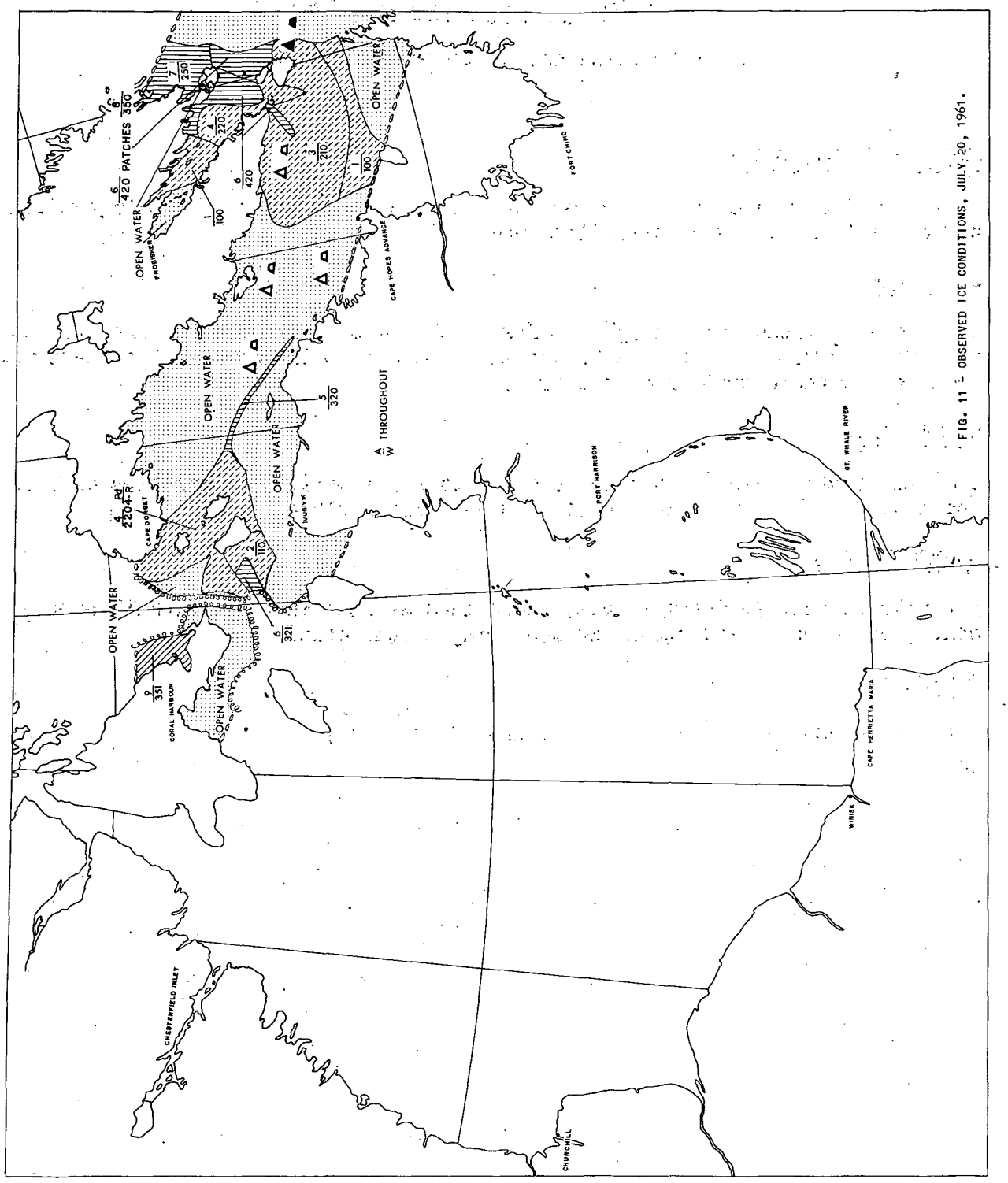


FIG. 11 - OBSERVED ICE CONDITIONS, JULY 20, 1961.

ICE CONDITIONS ON JULY 21, 1961

Ice Conditions are Illustrated in Figure 12.

WESTERN HUDSON AREA:

A twenty mile wide band of ice project from the north coast of Nottingham Island to the Western Hudson - Mansel Area boundary.

CORAL AREA:

Open water existed west of 93° W. The northern-most ice edge was observed to be at 62° N 87° W. Scattered to broken ice extended to the south. Open water covered the northern portion of the area.

MANSEL AREA:

Open water was observed in this area except for a small concentration of broken ice along the border of the Coral - Mansel area south of 61° N.

CHURCHILL AREA:

A twenty to thirty-five mile wide shore lead existed in the Churchill area with scattered, broken, and close ice occurring to the east.

TAVANI AREA:

Open water covered the observed portion of the area.

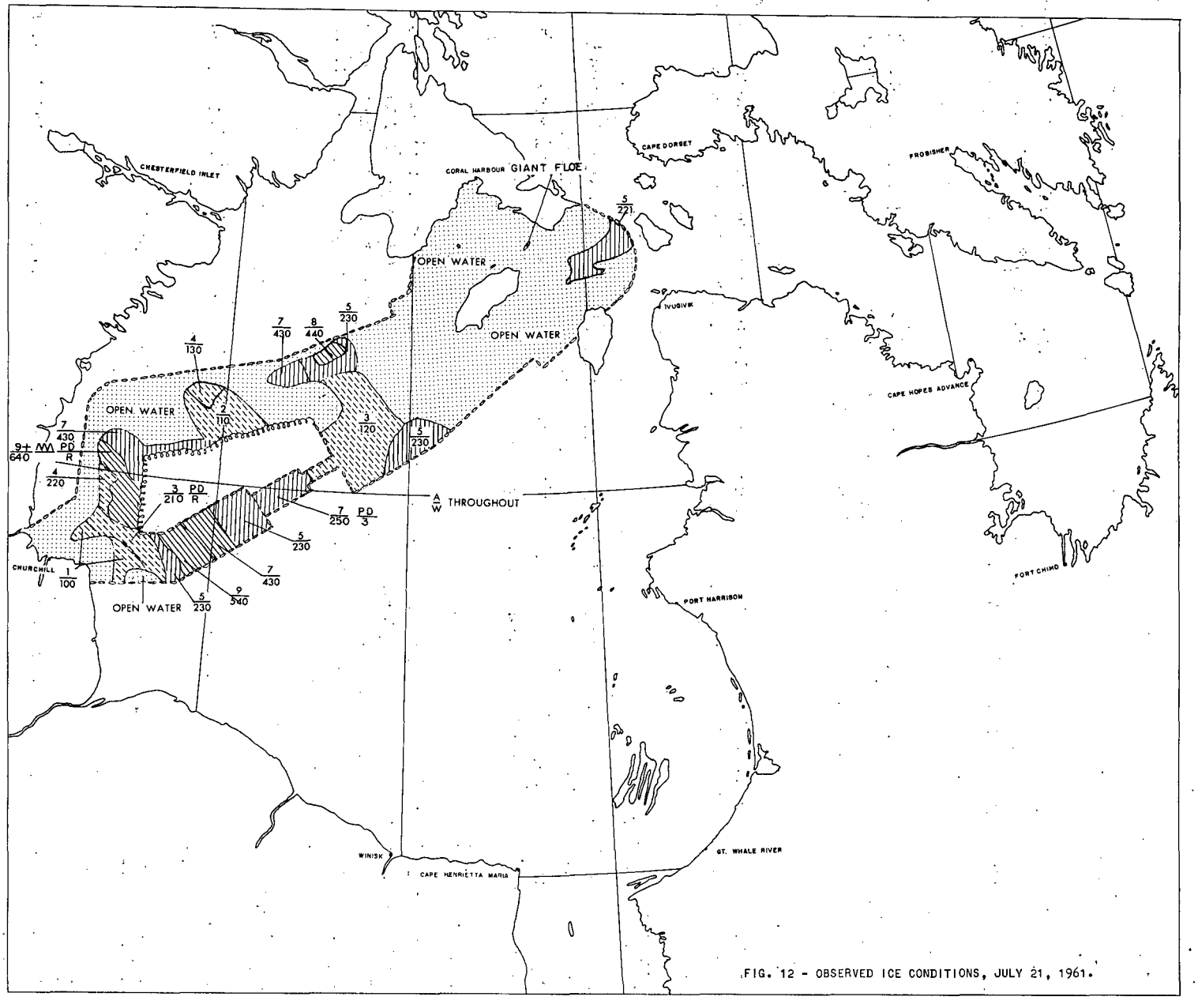


FIG. 12 - OBSERVED ICE CONDITIONS, JULY 21, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 23 - 24, 1961

Ice Conditions are Illustrated in Figure 13.

EASTERN HUDSON AREA:

Open water was observed in this area.

WESTERN HUDSON AREA:

Scattered ice covered the Nottingham - Salisbury Island area with a twenty-five mile wide shore lead along the Quebec coast. Four small patches of broken ice existed just north of Charles Island.

CORAL AREA:

A small patch of broken ice existed along the Mansel area border south of 61° N and at 87° W. An area of scattered, broken, and close ice covered the south-western sector just east of the Tavani boundary.

MANSEL AREA:

Except for a small patch of scattered ice just west of the Ottawa Islands and the area mention in the above paragraph, the observed portion of this area was open water.

CHURCHILL AREA:

An eighteen to thirty-five mile wide shore lead was observed along the west shore. Also a ten to twenty-five mile wide shore lead existed along the south coast between 85° W and 90° W. The remainder of the observed area was covered with scattered, broken, and close ice.

BELCHER AREA:

A ten to fifteen mile wide band of scattered and close ice extended westward from Duck Island to 80° W. Open water was observed west of Cape Henrietta Maria with scattered and close ice east of this. The remainder of the observed area was open water except for a small area of scattered ice fifty miles west of Port Harrison.

JAMES AREA:

Except for a band of broken and close ice between 81° W and 82° W, this area was open water.

TAVANI AREA: The observed portion of this area was open water.

FOXE AREA:

Broken to close ice covered this area except for open water in the south-east sector and Bowman Bay.

UNGAVA AREA:

The observed portion of this area contained less than one tenth coverage except for a scattered patch sixty miles north northeast of Fort Chimo.

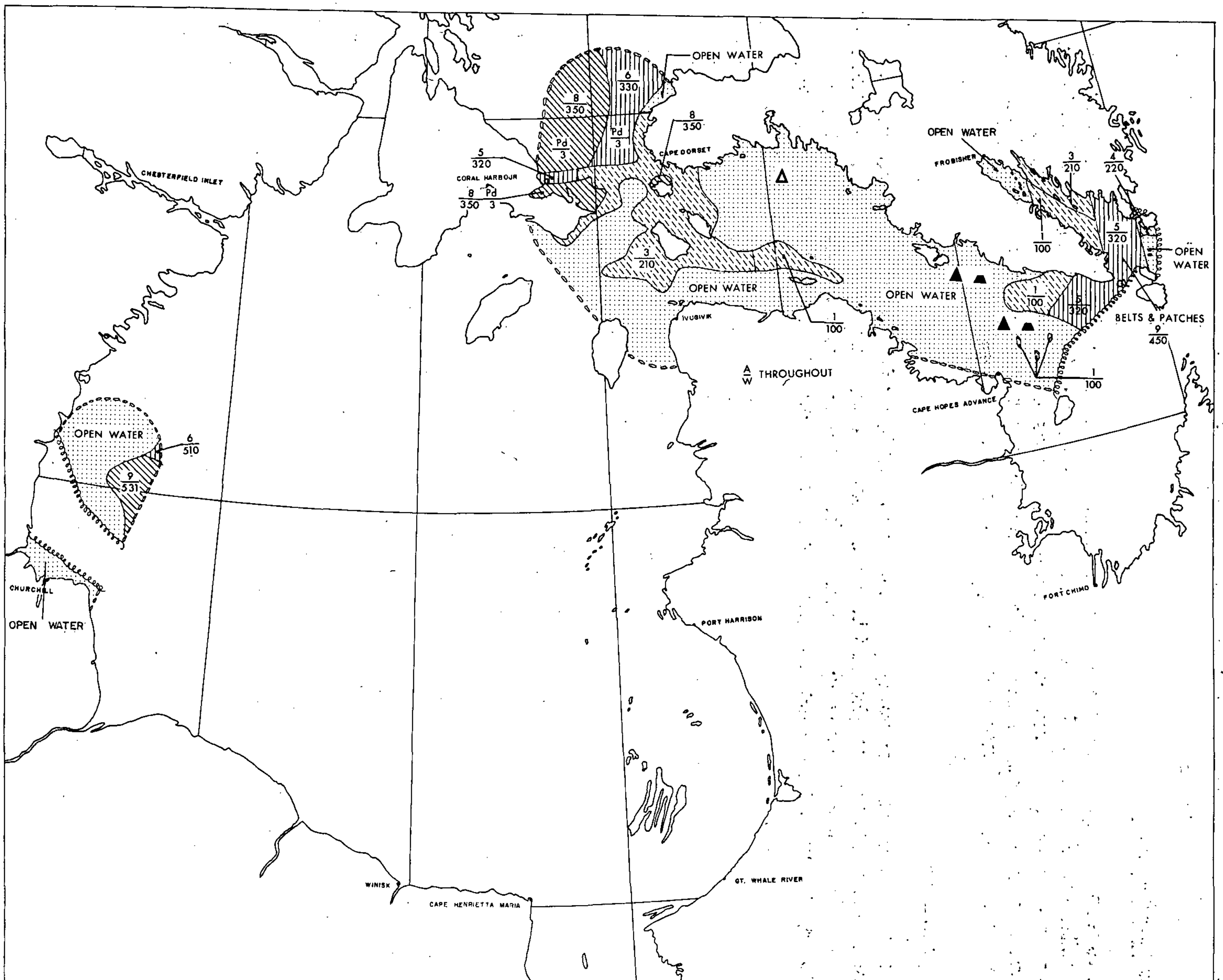


FIG. 14 - OBSERVED ICE CONDITIONS, JULY 25 - 26, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 27, 1961

Ice Conditions are Illustrated in Figure 15.

FROBISHER AREA:

Scattered winter brash and block covered Frobisher Bay and approaches from Resolution Island to Newell Sound with open water continuing to Frobisher. Open water covered the remainder of the areato the east of Loks Land - Resolution Island. A few icebergs and bergy bits occurred in Frobisher Bay with many icebergs and bergy bits in Davis Strait.

DAVIS AREA:

Close winter ice, extending twenty five miles off shore at Brevoort, covered Davis Strait to the latitude of Loks Land. Broken winter ice, puddled at thirty percent, extended across the entrance to Cumberland Sound, reducing to become scattered, with open water on the observed western margin.

CIR - 3710
TEC - 421
16 AUG 62

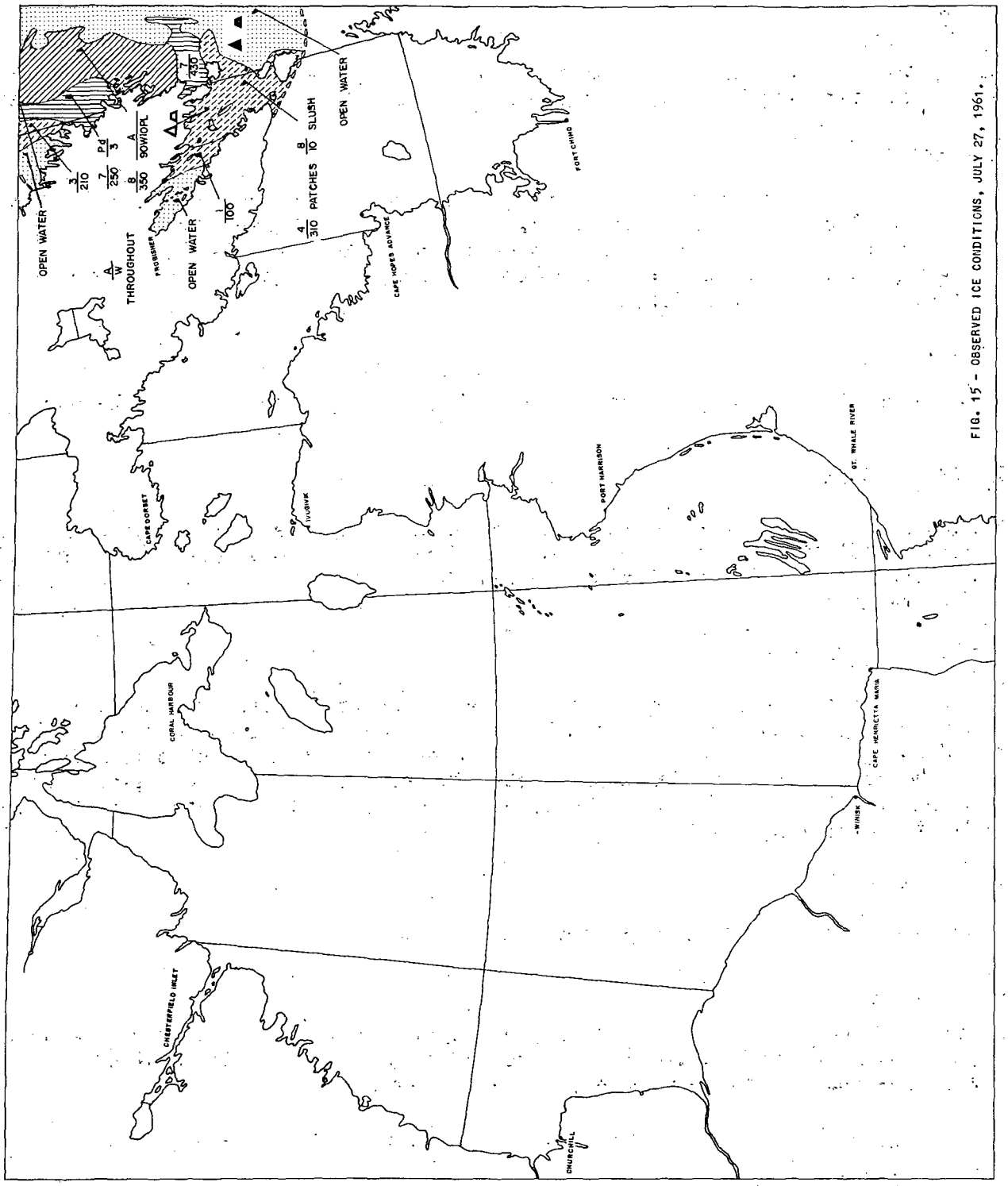


FIG. 15 - OBSERVED ICE CONDITIONS, JULY 27, 1961.

ICE CONDITIONS ON JULY 29, 1961

Ice Conditions are Illustrated on Figure 16.

DAVIS AREA:

Broken winter ice, sized up to medium floes, covered the immediate vicinity of Loks Land, with the boundary of open water occurring eighteen miles to the east.

FROBISHER AREA:

Scattered winter brash and block extended from the approaches of Frobisher Bay to the longitude of Belcher Peninsula. Some close belts were present to the southwest of Loks Land. Open water covered the head of Frobisher Bay and the remaining observed portion of Davis Strait. Many icebergs and bergy bits were present off Resolution Island.

UNGAVA AREA:

Open water with scattered icebergs, bergy bits and growlers covered the observed area.

EASTERN HUDSON AREA:

Scattered ice with a few heavier belts covered the northeastern half of the area west of Resolution Island. Many icebergs, bergy bits and growlers were noted in the eastern area while scattered icebergs, bergy bits and growlers were noted in the western sector.

WESTERN HUDSON AREA:

Scattered winter ice, predominently in brash and block, covered the observed area from Cape Dorset to Charles Island to the mid-channel point between Digges Island and Nottingham Island. A small area of winter ice, sized up to medium floes covered the coastal area at Seahorse Point. The remainder of the observed area was open water. A few icebergs and bergy bits occurred in the areaeast of the longitude of Charles Island.

MANSEL AREA:

Open water covered the observed portion of this area.

CORAL AREA:

An area of scattered, broken, and close ice covered the southwestern area just east of the Tavani - Coral boundary. A patch of scattered ice existed at 62° north 87° west. The remainder of the observed area was open water.

TAVANI AREA: Open water covered the observed portion of this area.

CHURCHILL AREA:

A thirty-five to forty mile wide shore lead existed along the coast south of Cape Churchill. The remainder of the observed area was covered by scattered and broken ice with a few patches of close ice. Puddling was generally forty percent.

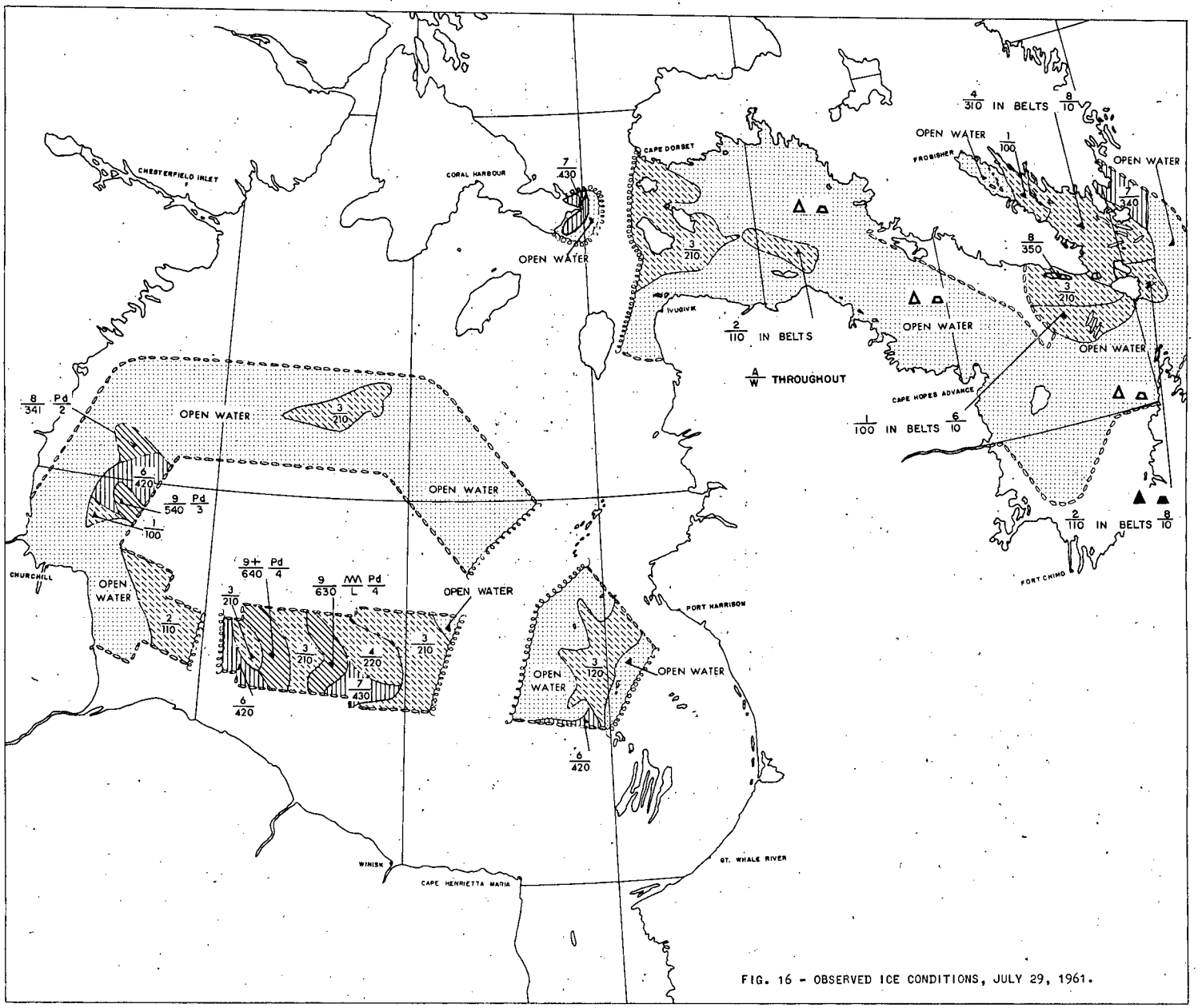


FIG. 16 - OBSERVED ICE CONDITIONS, JULY 29, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON JULY 31, 1961

Ice Conditions are Illustrated in Figure 17.

EASTERN HUDSON AREA: Scattered winter brash and block was observed in the northern central sector of this area with open water to the south and west. Many icebergs, bergy bits and growlers occurred in the area south of Middle Savage Islands with scattered icebergs, bergy bits and growlers to the west.

WESTERN HUDSON AREA: A band of scattered winter ice extended south eastward from Mill Island and between Nottingham Island and Salisbury Island. A small patch of scattered ice existed north of Digges Island. A narrow band of close ice extended five miles south from Seahorse Point to Leyson Point. Open water existed in the remainder of the observed area.

CORAL AREA: With the exception of a small area of broken to close winter ice in the extreme south-western portion, open water covered the observed area.

MANSEL AREA: Open water covered the observed portion of this area.

CHURCHILL AREA: A broad area of variable scattered to close winter ice, brash and block predominating, covered the offshore area in the south. Generally, open water occurred to the west of longitude of Cape Tatnam and in the coastal area to Winisk. Open water conditions existed in the observed northern portion of the area.

BELCHER AREA: A narrow shore lead extended eastward from Winisk, with broken to close winter ice sized up to medium floes continuing in the offshore area to the south of the Belcher Islands. Scattered winter ice with intervening areas of broken to close ice covered a narrow area from the Sleeper Islands to the head of James Bay, passing west of the Belcher Islands. Open water covered remaining sections of the observed area.

JAMES AREA: Scattered winter ice, brash and block predominating, extended southwards from the central portion of the entrance, broadening and increasing to cover the western half of the bay with broken to close ice. Generally, open water covered the observed eastern half of the bay.

TAVANI AREA: The observed portion of this area was open water.

FOXE AREA: Open water covered the entrance to Foxe Channel, with a narrow shore lead extending along the Baffin Coast. Broken to close ice, sized up to medium floes, covered the observed area to the north. Scattered ice occurred off East Bay and to the north of Mill Island.

FROBISHER AREA: Open water was observed in inner Frobisher Bay and the southern half of the Bay west of President's Seat. Scattered ice covered the remainder of the Bay with a band of broken ice across the entrance. Scattered icebergs, bergy bits, and growlers were noted in this area.

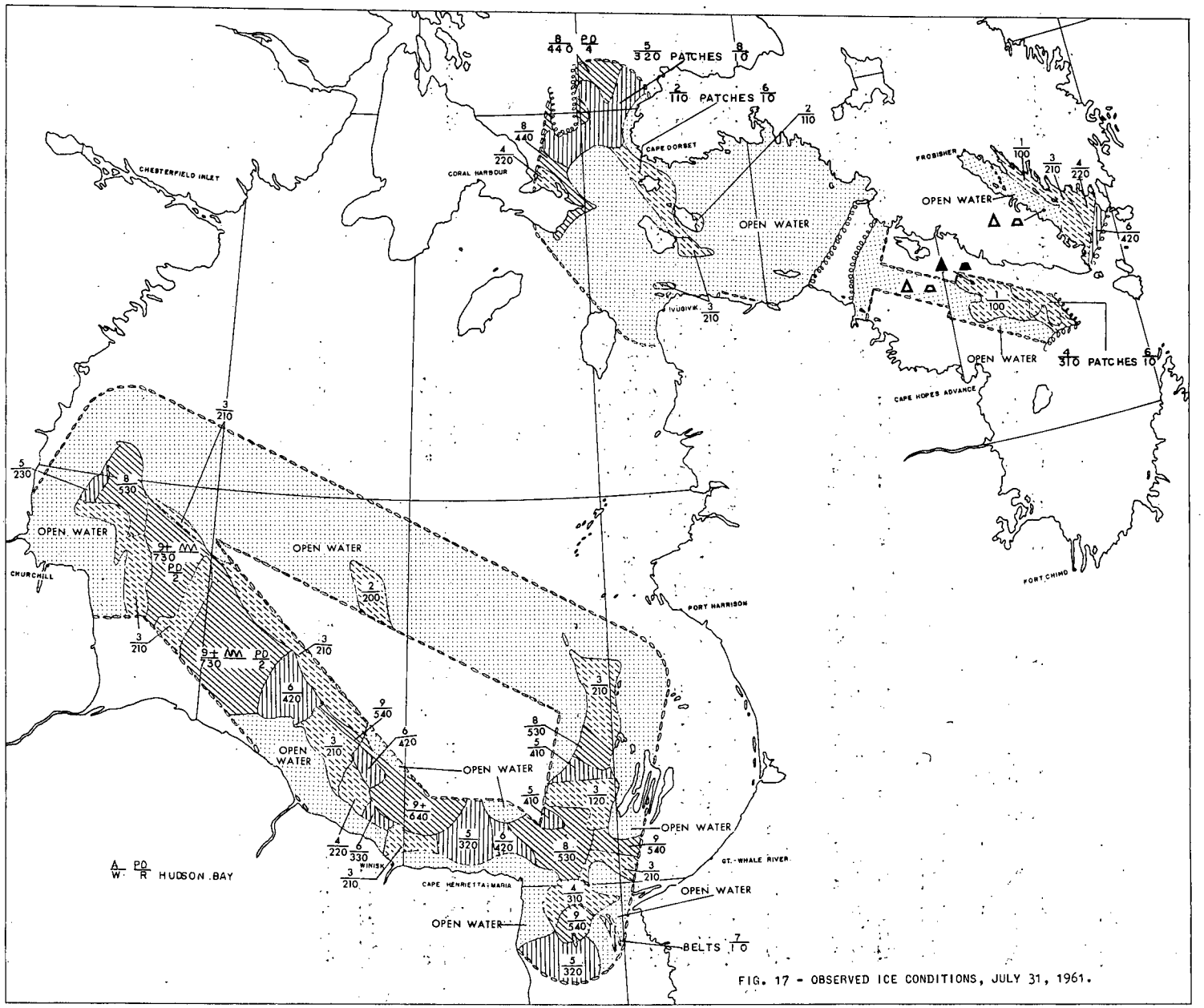


FIG. 17 - OBSERVED ICE CONDITIONS, JULY 31, 1961.

CIR - 3710
TEC - 421
16 AUG 62

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON AUGUST 3, 1961

Ice Conditions are Illustrated in Figure 18.

CORAL AREA:

Scattered to broken winter ice, brash and block predominating, occurred south of pack boundary on the southern margin of the area. Puddling generally was rotten.

CHURCHILL AREA:

Open water was observed west of Cape Churchill and for twenty-five miles to the east. Scattered, broken, and close ice covered the remainder of the observed area except for an open water area north of Fort Severn.

BELCHER AREA:

Coastal open water existed between Winisk and Cape Henrietta Maria, with scattered winter brash, and block occurring to the north-east of Winisk. Broken to close winter ice, sized up to medium floes, continued eastwards over the area to the south of Belcher Islands. Broken ice covered the coastal area at Great Whale River. The immediate southern and south-eastern area of the Belcher Islands was generally open water. Scattered winter ice, up to medium floes, extended over the area to the northwest of the Belcher Islands.

JAMES AREA:

Scattered ice covered the observed portion of this area with the exception of an open water area in the southeast sector.

TAVANI AREA:

The observed portion of this area was open water.

CIR - 3710
TEC - 421
16 AUG 62

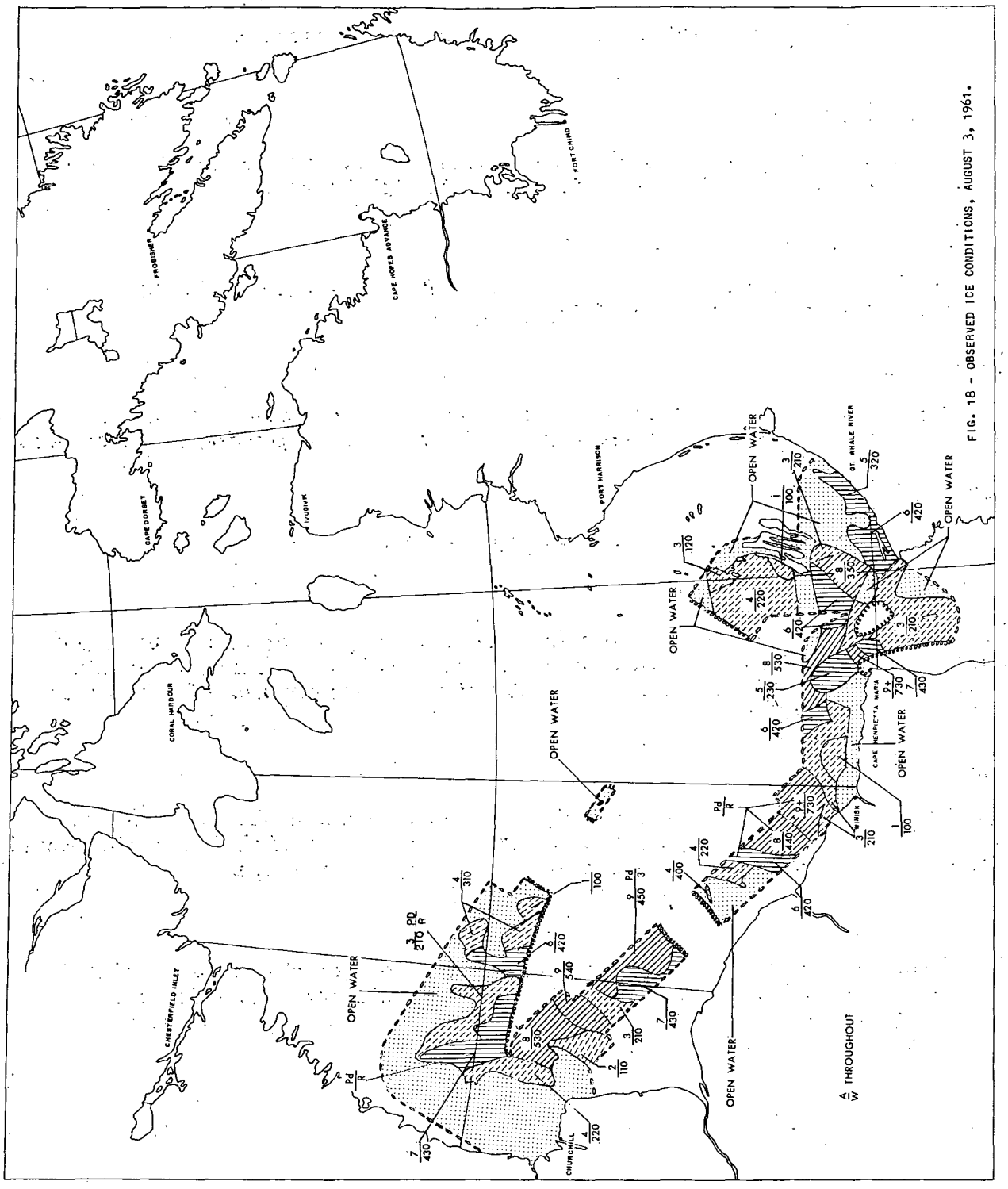


FIG. 18 - OBSERVED ICE CONDITIONS, AUGUST 3, 1961.

ICE CONDITIONS ON AUGUST 5 - 6, 1961

Ice Conditions are Illustrated in Figure 19.

EASTERN HUDSON AREA:

The observed portion of this area was open water with the exception of a small area of scattered ice to the southwest of Gabriel Island.

WESTERN HUDSON AREA:

The observed portion of this area was open water except for a few narrow belts of broken ice ten miles south of Cape Dorset.

CORAL AREA:

A forty to fifty mile wide band of broken to close ice existed along the Coral-Churchill area boundary. The remainder of the observed portion was open water.

MANSEL AREA:

The observed portion of this area was open water.

CHURCHILL AREA:

An area of broken to close winter ice, predominantly in brash and block, remained to the north and north-east of Cape Churchill, extending to within thirty-five miles off the coast at that point. The remainder of the observed area was essentially ice-free.

FOXE AREA:

A shore lead, thirty-five miles wide, was observed along the northeast coast of Southampton Island. Open water existed northwest of Mill Island. Scattered and broken ice covered the remainder of the observed portion.

FROBISHER AREA:

Scattered winter ice, sized up to medium floes covered the eastern half of Frobisher Bay to Loks Land - Resolution Island with some close ice belts occurring in the approaches. The western half of Frobisher Bay and the Davis Strait area was essentially ice-free.

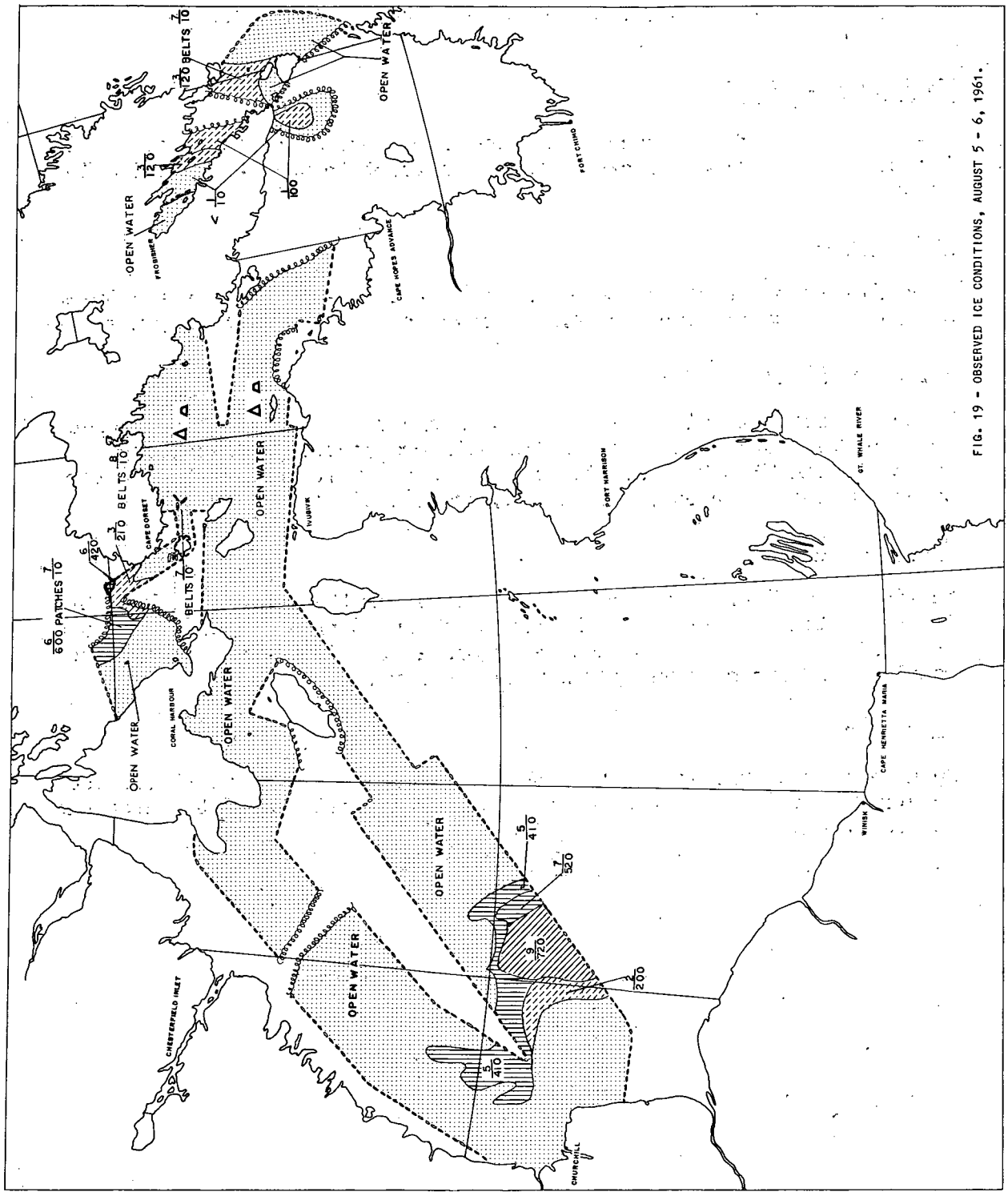


FIG. 19 - OBSERVED ICE CONDITIONS, AUGUST 5 - 6, 1961.

ICE CONDITIONS ON AUGUST 8, 1961

Ice Conditions are Illustrated in Figure 20.

WESTERN HUDSON AREA:

Open water extended throughout the observed portion of the area. A few icebergs, bergy bits and growlers were present to the north of Charles Island.

CORAL AREA:

A small area of scattered to broken winter ice remained in the extreme southwest. The remainder of the observed area was essentially ice-free.

CHURCHILL AREA:

Variable broken to close winter, interspersed with areas of scattered ice and open water continued in the offshore section between Cape Churchill and Winisk. Essentially ice-free conditions existed in the observed coastal zones and in the northern half of the area.

BELCHER AREA:

An area of scattered and broken ice existed south-west of the Belcher Islands extending almost to the coast at Cape Henrietta Maria. This area extended west of Cape Henrietta Maria for fifty-five miles. The remainder of the observed portion was open water.

FOXE AREA:

Open water was observed just north of Mill Island while scattered ice occurred in the vicinity of Cape Queen. The remainder of the area was not observed.

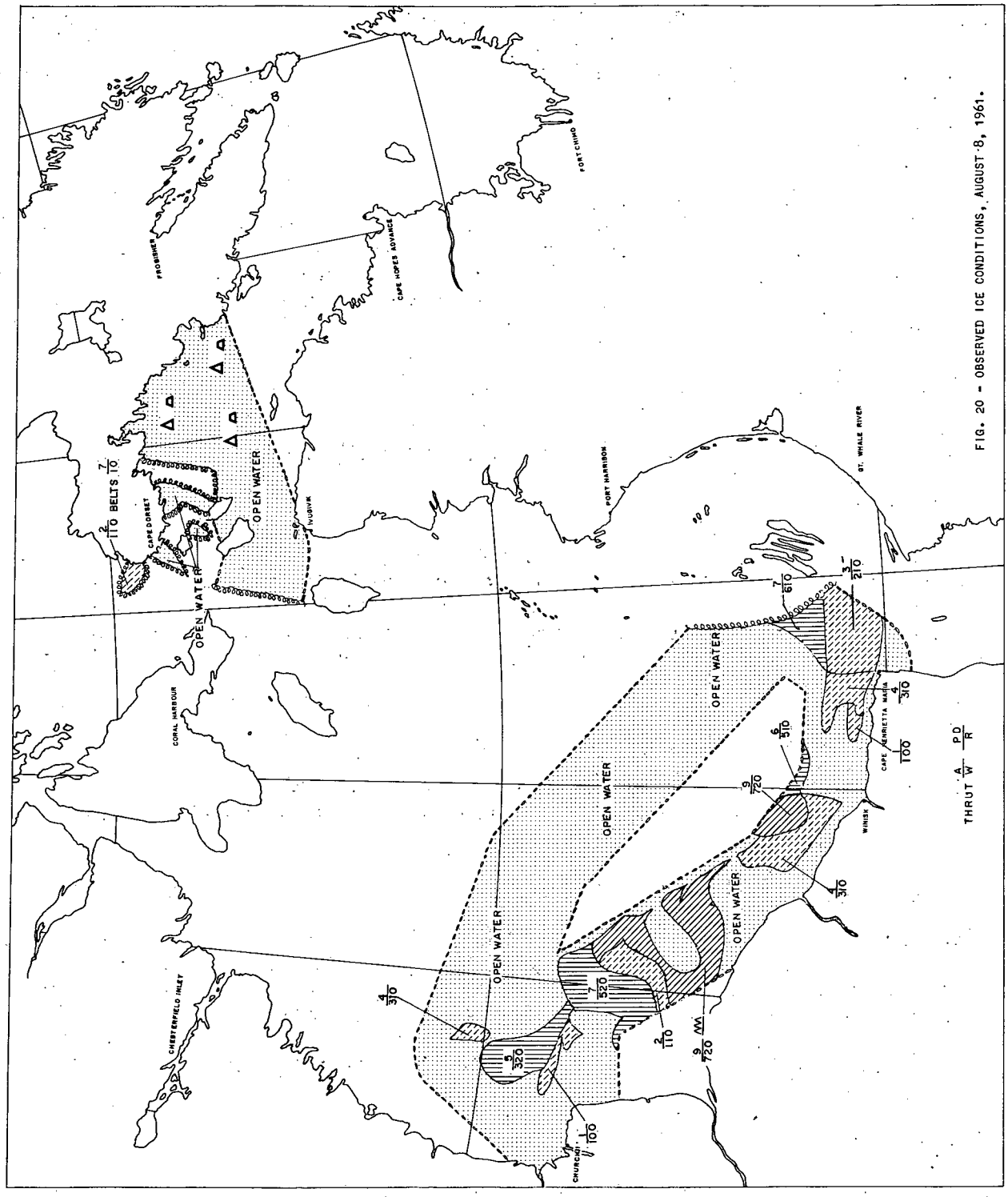


FIG. 20 - OBSERVED ICE CONDITIONS, AUGUST 8, 1961.

ICE CONDITIONS ON AUGUST 9 - 12, 1961

Ice Conditions are Illustrated in Figure 21.

DAVIS AREA:

Open water extended off the entrance to Cumberland Sound, continuing southwards along the extreme eastern margin of the area. Scattered winter brash and small floes, with some broken patches, covered the area from the northern latitude of Brevoort southwards. A few icebergs were present in the southern half of the area.

FROBISHER AREA:

The boundary of open water extended north-east, thence north from Resolution Island. Scattered winter brash and block continued to the western half of Frobisher Bay, with close patches along the northern coast. A few icebergs and bergy bits were observed. Open water covered the western half of Frobisher Bay.

WESTERN HUDSON AREA:

Open water covered the observed central portion of the area. A few icebergs and bergy bits occurred to the northwest of Big Island.

FOXE AREA:

A shore lead extended along the northeast coast of Southampton Island, with open water across the entrance of Foxe Channel. Scattered ice, with broken patches, continued to the latitude of Esusko Point. Northwards, broken winter ice, up to medium floes, covered the area. Bowman Bay was generally open water, with a belt of close ice extending northwards in the offshore portion.

CORAL AREA:

In the observed extreme southwest portion, a belt of scattered winter brash and block, with occasional broken patches, trended southeasterly. The remainder of the observed area was open water.

CHURCHILL AREA:

Scattered winter brash and block extended in a belt from the northern margin of the area off Churchill southeasterly towards Winisk, broadening off Cape Tatnam to an area of scattered ice with a central broken area. A narrow belt of broken ice continued towards the Winisk area where coverage increased to cover most of the observed eastern margin with scattered to broken ice, an area of close ice occurred off Winisk. Open water extended through the remainder of the observed area.

BELCHER AREA:

Scattered winter brash and block, becoming broken covered the area from Cape Henrietta Maria to the southwestern Belcher Islands. A small area of scattered ice occurred off Great Whale River. A narrow belt of scattered winter ice lay to the west of the Belcher Islands. On the extreme western margin, a small intrusion of scattered ice occurred to the northeast of Winisk. Essentially, ice-free conditions prevailed throughout the remainder of the observed area.

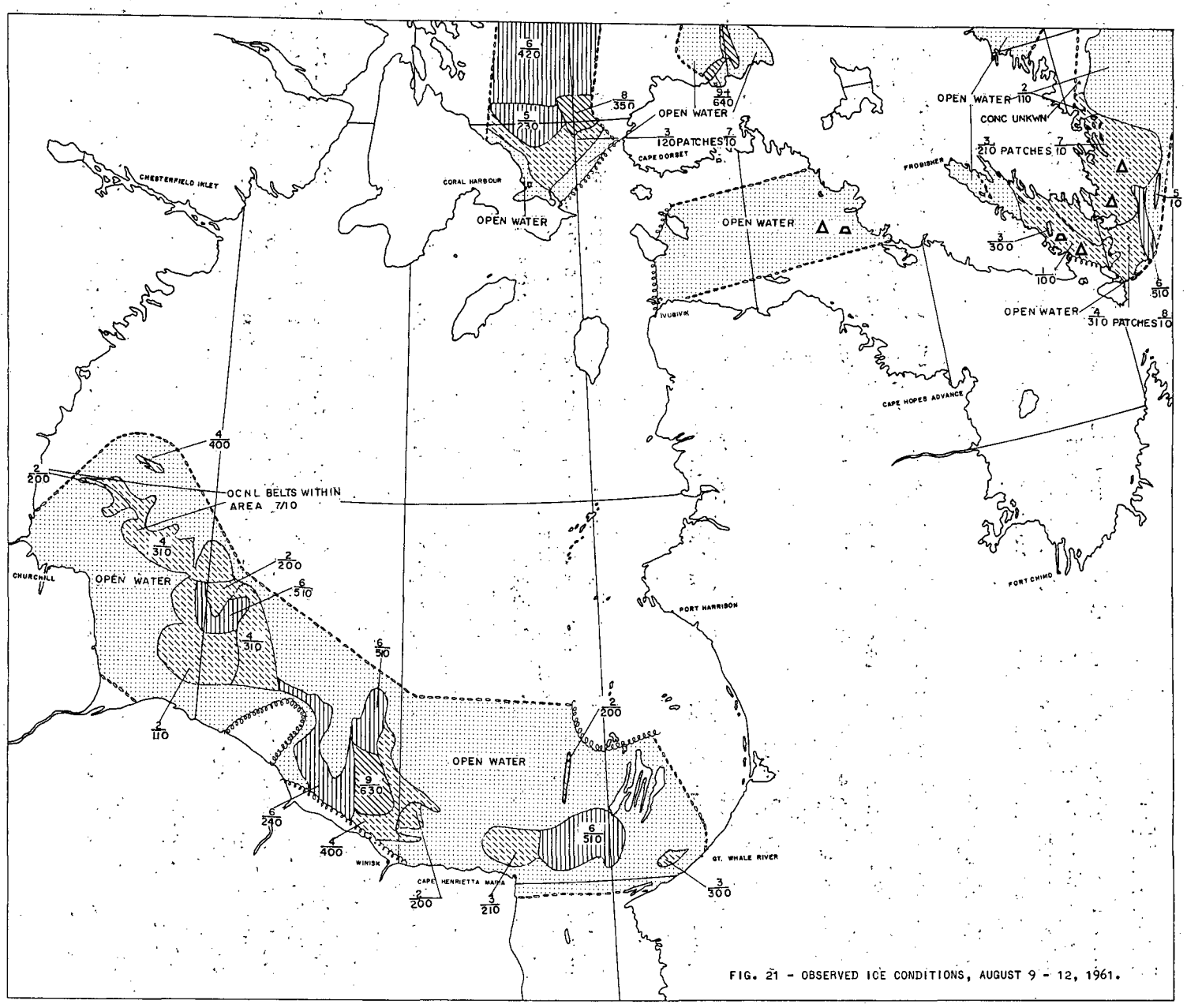


FIG. 21 - OBSERVED ICE CONDITIONS, AUGUST 9 - 12, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON AUGUST 14 - 16, 1961

Ice Conditions are Illustrated in Figure 22.

FROBISHER AREA:

Broken winter ice, predominantly in brash to small floes, extended in a belt across the entrance to Frobisher Bay and off the west coast of Blunt Peninsula. Scattered brash and block continued eastwards to the open water boundary east of Loks Land. Western Frobisher Bay was open water.

DAVIS AREA:

Scattered to broken ice extended over the entrance to Cumberland Sound, continuing southwards as scattered ice to the southern boundary of the area. Open water covered the area northeast of Brevoort, and within the observed portion of Cumberland Sound. A few bergs and bergy bits occurred in the Brevoort area.

WESTERN HUDSON AREA:

Open water covered the observed northern half. A few icebergs and bergy bits were present to the northwest of Big Island.

FOXE AREA:

Scattered winter ice covered the southern portion, with open water existing south of the latitude of East Bay. To the north, broken winter ice, sized up to medium floes, covered the area. Some close belts were present. Bowman Bay was open water, with broken winter ice continuing to the west.

TAVANI AREA:

Open water covered the observed southern-most portion.

CHURCHILL AREA:

Scattered to broken winter ice, with brash and block predominating occasionally in close patches, extended off Cape Churchill southeasterly to the coast at Fort Severn. Broken to close winter ice covered the northern area opposite Winisk. Open water covered the remainder of the observed area. The Winisk area was not observed.

BELCHER AREA:

Observations were confined to the southwestern quarter, with the exception of broken winter brash and block on the northwestern margin, open water covered the area.

CIR - 3710
TEC - 421
16 AUG 62

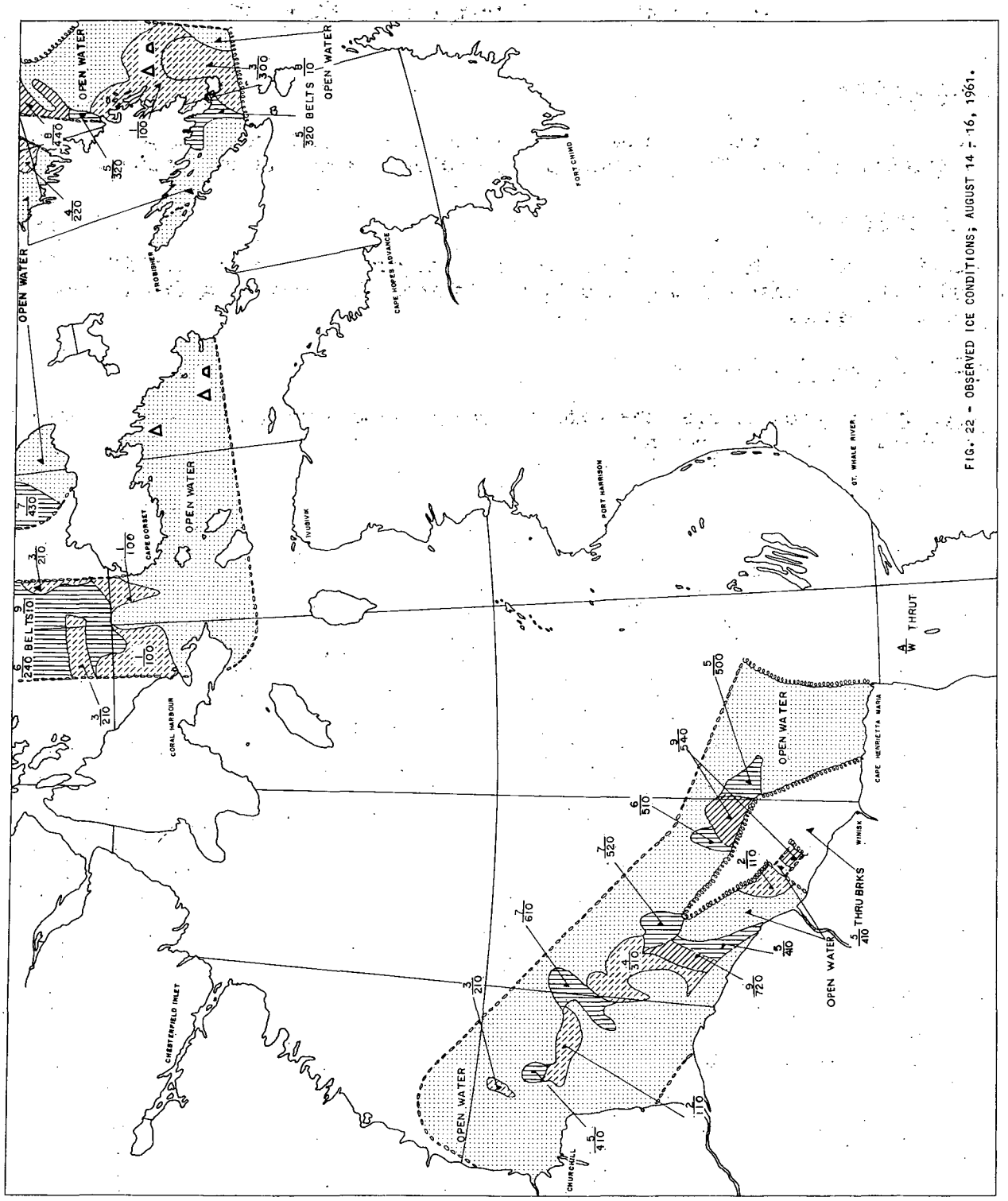


FIG. 22 - OBSERVED ICE CONDITIONS; AUGUST 14 - 16, 1961.

ICE CONDITIONS ON AUGUST 20 - 21, 1961

Ice Conditions are Illustrated in Figure 23.

DAVIS AREA:

Scattered winter block and small floes occurred in the northern portion off Cumberland Sound. The remainder of the observed area was open water.

FROBISHER AREA:

Scattered winter brash and block covered the eastern third of Frobisher Bay and along the east coast of Resolution Island. The remaining Frobisher area was open water.

WESTERN HUDSON AREA:

Open water extended over the observed north-eastern portion. A few icebergs and bergy bits were present.

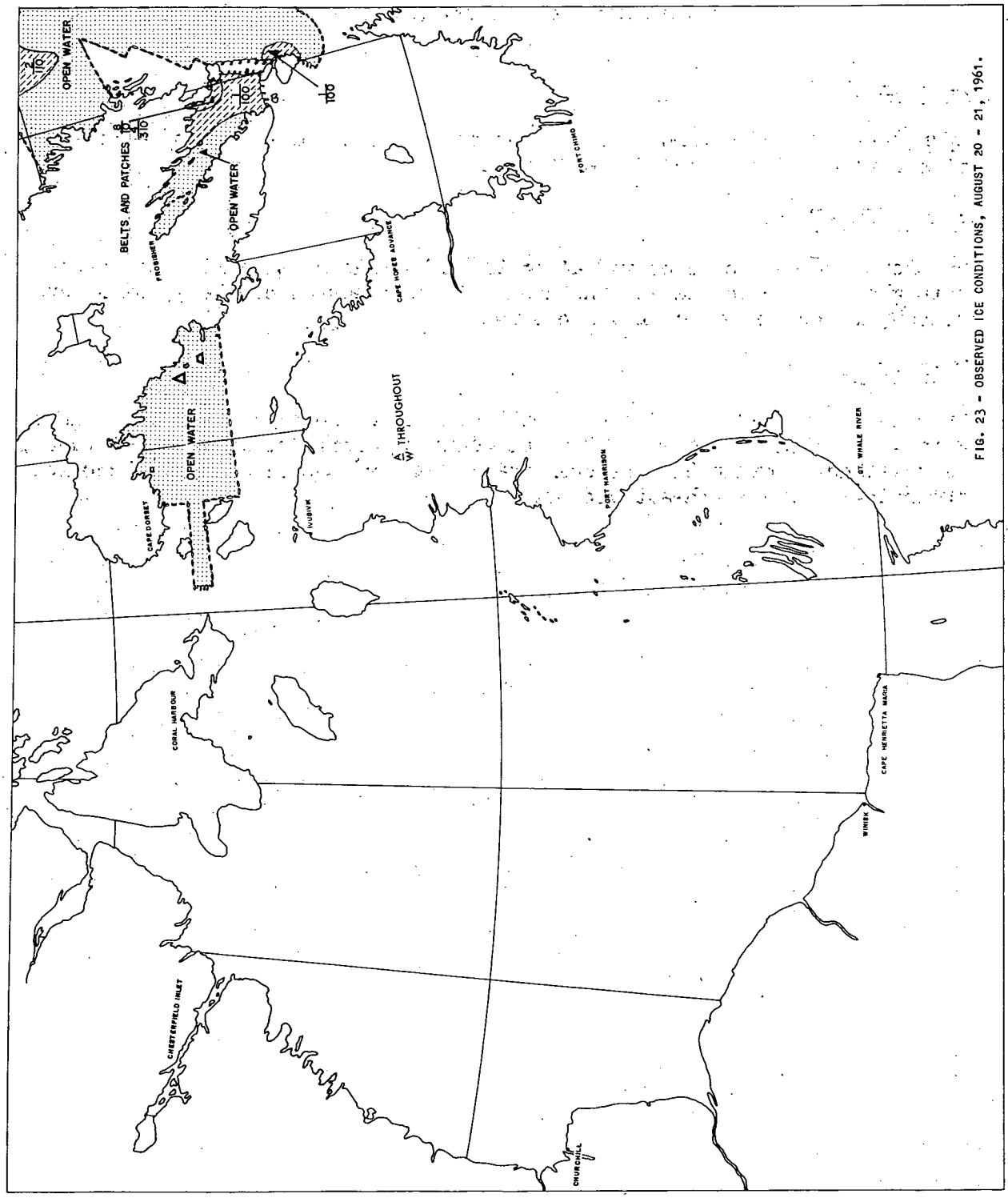


FIG. 23 - OBSERVED ICE CONDITIONS, AUGUST 20 - 21, 1961.

ICE CONDITIONS ON AUGUST 24 - 25, 1961

Ice Conditions are Illustrated in Figure 24.

DAVIS AREA:

Open water extended throughout the observed area. Many icebergs and bergy bits were present in the Brevoort area.

FROBISHER AREA:

Scattered winter ice occurred along the Loks Land coast, with open water throughout the remainder of the area. A few icebergs and bergy bits were present in the Frobisher Bay approaches.

FOXE AREA:

Open water covered Foxe Channel, with scattered winter ice extending northwards. An area of broken winter ice occurred along the latitude of Vansittart Island. Bowman Bay was open water, with a coastal belt of close ice occurring in the northeast sector.

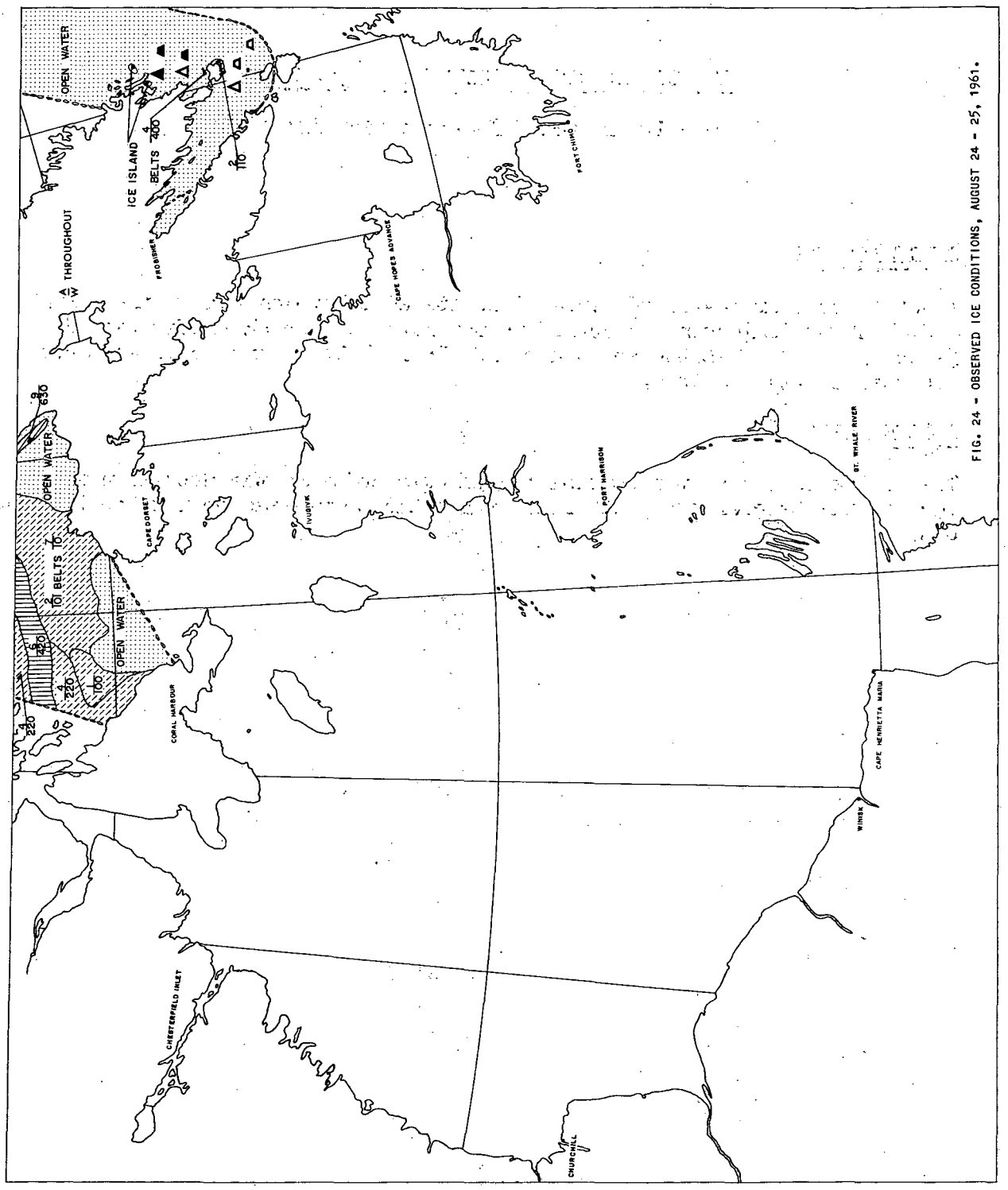


FIG. 24 - OBSERVED ICE CONDITIONS, AUGUST 24 - 25, 1961.

ICE CONDITIONS ON AUGUST 29 - 30, 1961

Ice Conditions are Illustrated in Figure 25.

CHURCHILL AREA:

A small, northerly-aligned, area of scattered to broken winter ice, brash and block predominating, occurred to the north of Winisk, with minor adjacent patches of scattered, brash and block. The remainder of the area was essentially ice-free.

BELCHER AREA:

The scattered ice of the Churchill area extended into the extreme western edge of the Belcher area, otherwise the areaobserved was open water throughout.

CIR - 3710
TEC - 421
16 AUG 62

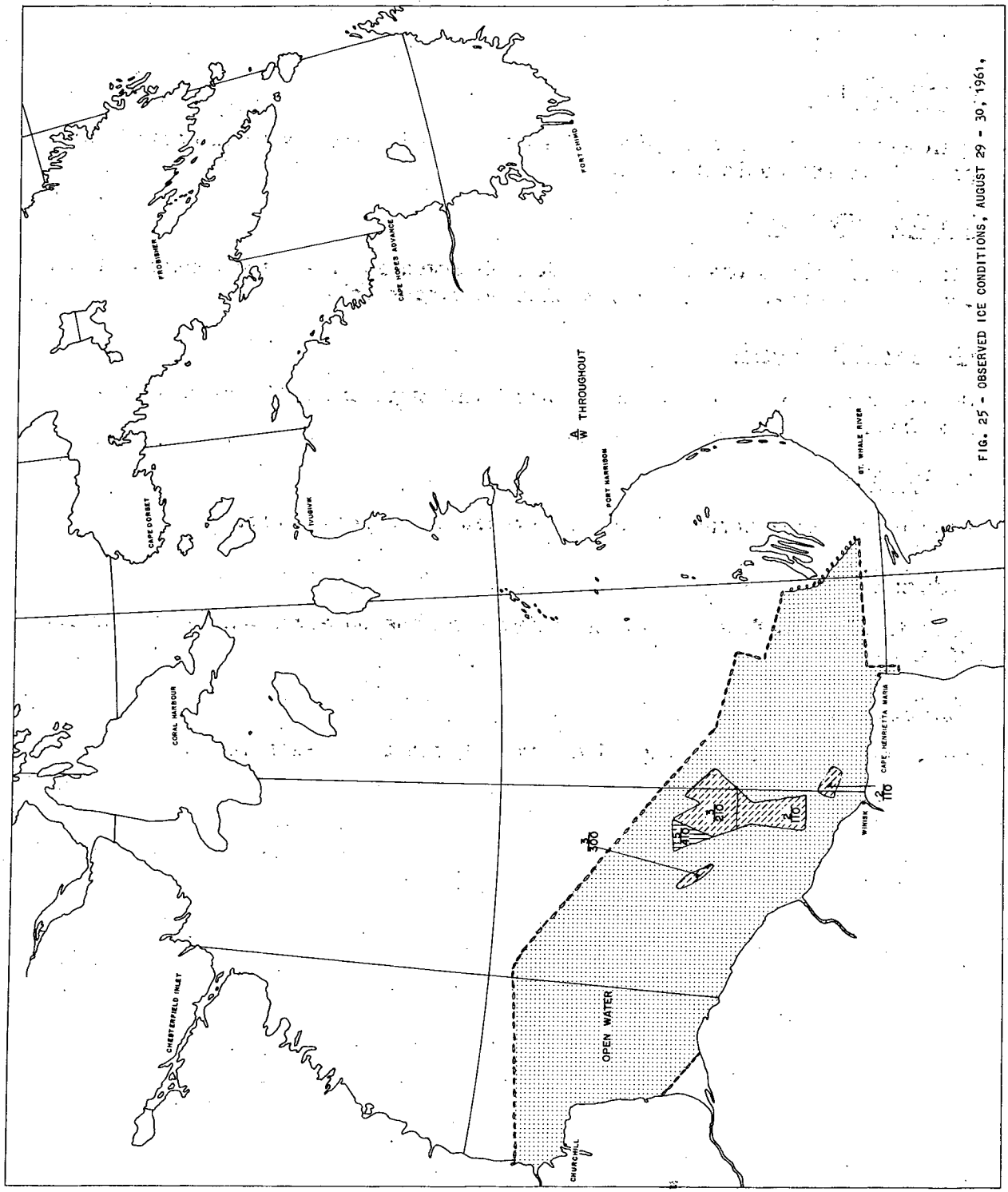


FIG. 25 - OBSERVED ICE CONDITIONS, AUGUST 29 - 30, 1961.

ICE CONDITIONS ON SEPTEMBER 23 - 25, 1961

Ice Conditions are Illustrated in Figure 26.

FROBISHER AREA:

Open water extended throughout the area. A few icebergs and bergy bits were present in the eastern sector.

EASTERN HUDSON AREA:

Open water conditions existed in the observed southeastern portion of the area. A few icebergs and bergy bits were observed.

WESTERN HUDSON AREA:

Observations were limited to the northwest section which was essentially ice-free.

CORAL AREA:

Open water conditions existed throughout the observed area.

MANSEL AREA:

Essentially ice-free conditions existed in the observed northwest portion of the area.

CHURCHILL AREA:

Open water conditions existed throughout the observed area.

CIR - 3710
TEC - 421
16 AUG 62

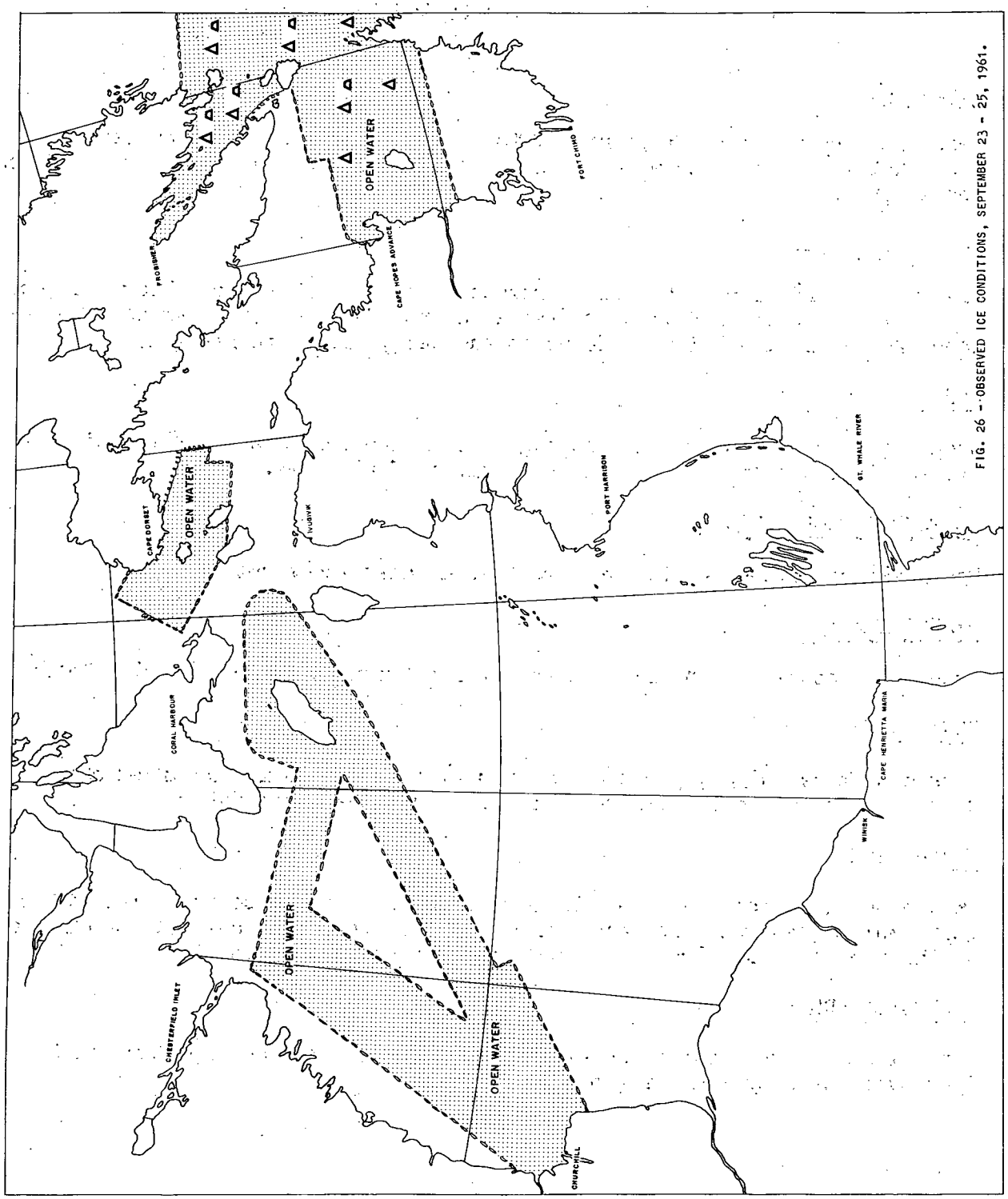


FIG. 26 - OBSERVED ICE CONDITIONS, SEPTEMBER 23 - 25, 1961.

ICE CONDITIONS ON OCTOBER 12 - 15, 1961

Ice Conditions are Illustrated in Figure 27.

DAVIS AREA:

Less than one tenth of fragments of ice islands and icebergs covered the Loks Land vicinity, with open water conditions existing in the remainder of the observed area.

FROBISHER AREA:

Open water conditions prevailed throughout the Frobisher area, less than one tenth of ice island and iceberg fragments extended over the area between Loks Land and Resolution Island. Icebergs and bergy bits were general.

EASTERN HUDSON AREA:

Open water conditions existed throughout. A few icebergs and bergy bits were present in the central and eastern portions of the area.

WESTERN HUDSON AREA:

The observed portion of the area was essentially ice-free.

MANSEL AREA:

Open water continued in the observed area between Coats and Mansel Islands.

CORAL AREA:

Broken to close slush, pancake, and young ice occurred in the immediate coastal zone, while the off-shore sections remained open water.

TAVANI AREA:

Broken to close ice crust and slush covered most of the coastal areas in the west, while fast young ice and slush extended along the southwest shores of Southampton Island. Open water continued in off-shore areas.

CHURCHILL AREA:

Coastal slush occurred in the vicinities of Churchill and Cape Churchill. Open water covered remaining observed area.

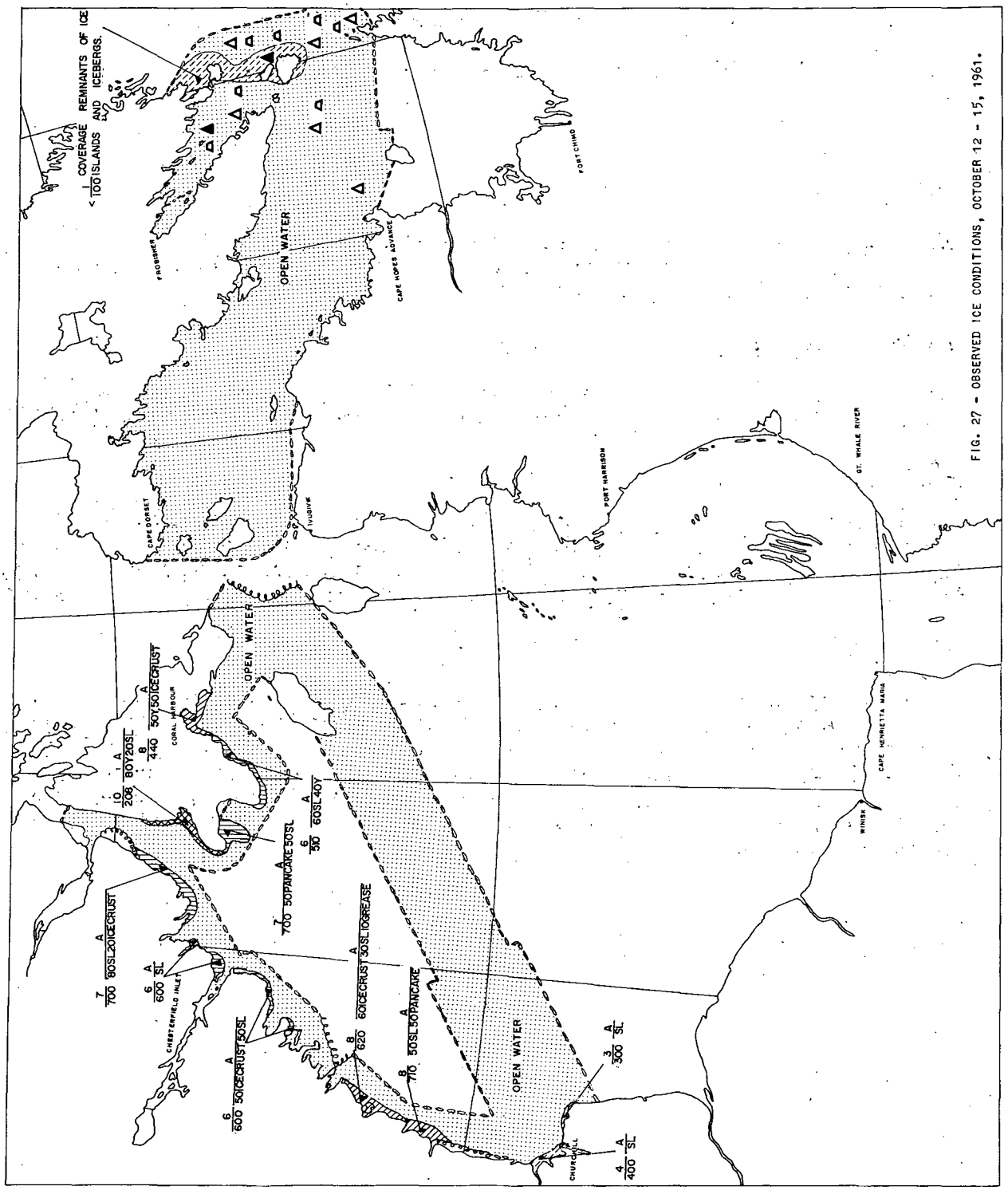


FIG. 27 - OBSERVED ICE CONDITIONS, OCTOBER 12 - 15, 1961.

ICE CONDITIONS ON NOVEMBER 1 - 3, 1961

Ice Conditions are Illustrated in Figure 28.

FROBISHER AREA:

Close young ice and slush occurred at the extreme head of the bay, with a few belts of slush and grease ice to the west of Pike Island. The remainder of the observed area was open water.

EASTERN HUDSON AREA:

Open water covered the observed northern half of the area. Heavy concentrations of icebergs and bergy bits occurred along the Baffin Island coast.

WESTERN HUDSON AREA:

Between Nottingham and Southampton Islands, open water extended west to the mid-channel point, with broken frazil crystals and grease ice continuing west to the Southampton Island coast. A small area of winter and young ice occurred off Seahorse Point. The remainder of the area was not observed.

FOXE AREA:

Close winter and young ice covered the coastal area of Southampton Island, with scattered to broken grease ice and slush extending to the western half of Foxe Channel. Open water covered the eastern half of Foxe Channel extending towards Vansittart Island. Close winter and polar ice continued to the north of the latter point. Bowman Bay and vicinity was covered by close winter and young ice, while broken to close grease ice and slush extended to the northwest.

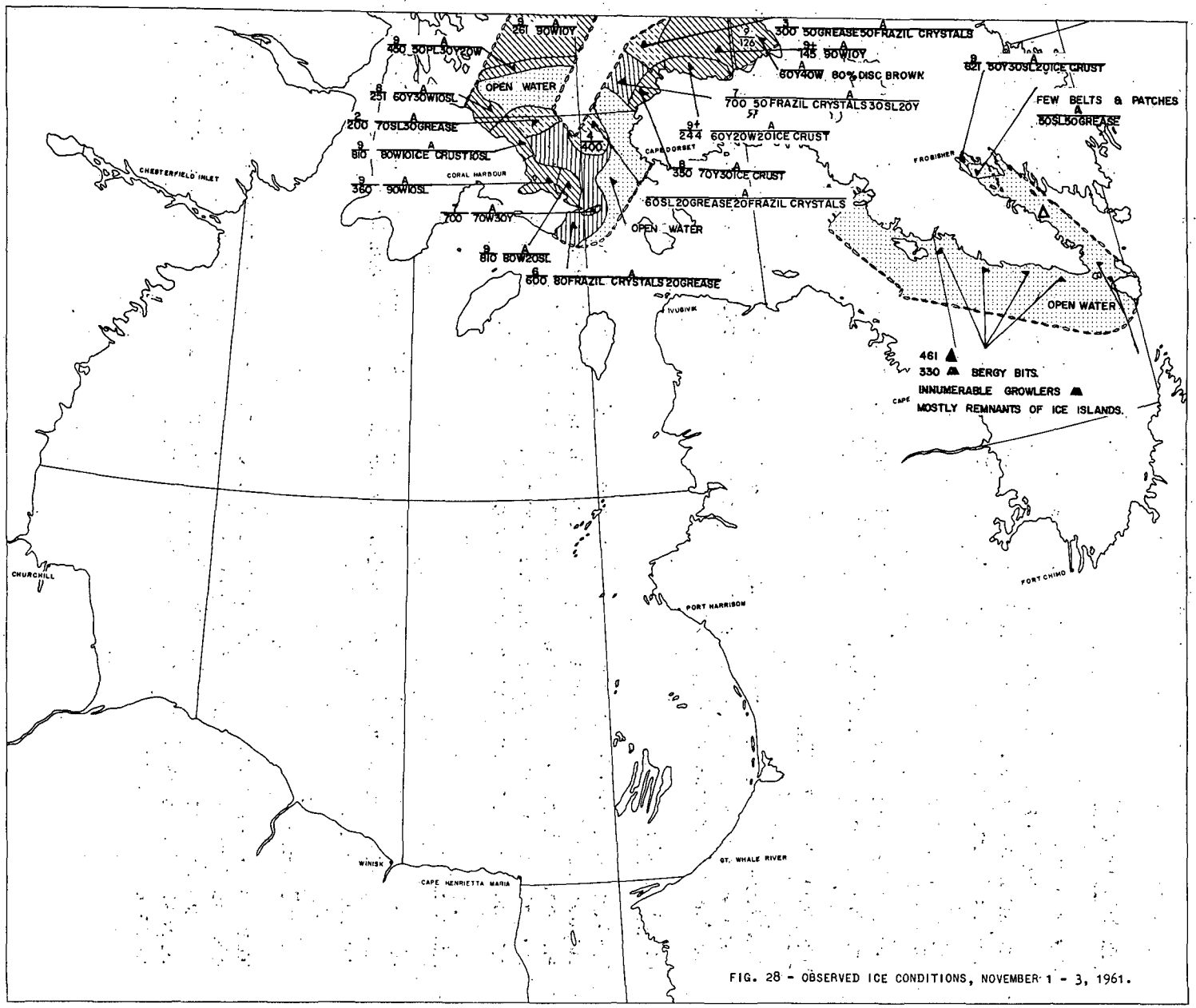


FIG. 28 - OBSERVED ICE CONDITIONS, NOVEMBER 1 - 3, 1961.

CIR - 3710
TEC - 421
16 AUG 62

ICE CONDITIONS ON NOVEMBER 8 - 9, 1961

Ice Conditions are Illustrated in Figure 29.

FROBISHER AREA:

Close young ice and ice crust covered the head of Frobisher Bay, with scattered to broken ice crust and slush along the shorelines of Barrow and Blunt Peninsulas. Open water continued throughout the remainder of the area. A few icebergs and bergy bits occurred off Resolution Island.

EASTERN HUDSON AREA:

Open water continued in the observed southern portion, with a few icebergs and bergy bits throughout.

WESTERN HUDSON AREA:

Scattered slush occurred in bays along the coast of Baffin Island, otherwise open water extended throughout the area. A few icebergs and bergy bits lay to the southwest of Big Island.

CORAL AREA:

Broken to close winter and young ice covered the observed area between Southampton and Coats Islands. Open water, with areas of scattered pancake ice, extended along the southern latitude of Coats Island, with close young ice and slush in the extreme western portion. Open water, with an area of broken grease ice, covered the southwestern Coral area.

TAVANI AREA:

Close to consolidated young and winter ice covered most coastal and off-shore areas, with open water areas existing to the east of Chesterfield Inlet and in the extreme south of the area.

CHURCHILL AREA:

The northern portion of the area had a scattered to broken concentration of grease ice, with open water continuing along the west coast. Close winter and young ice covered the Churchill area, with broken to close young and pancake ice offshore. Open water continued in a small area to the northeast of Cape Churchill.

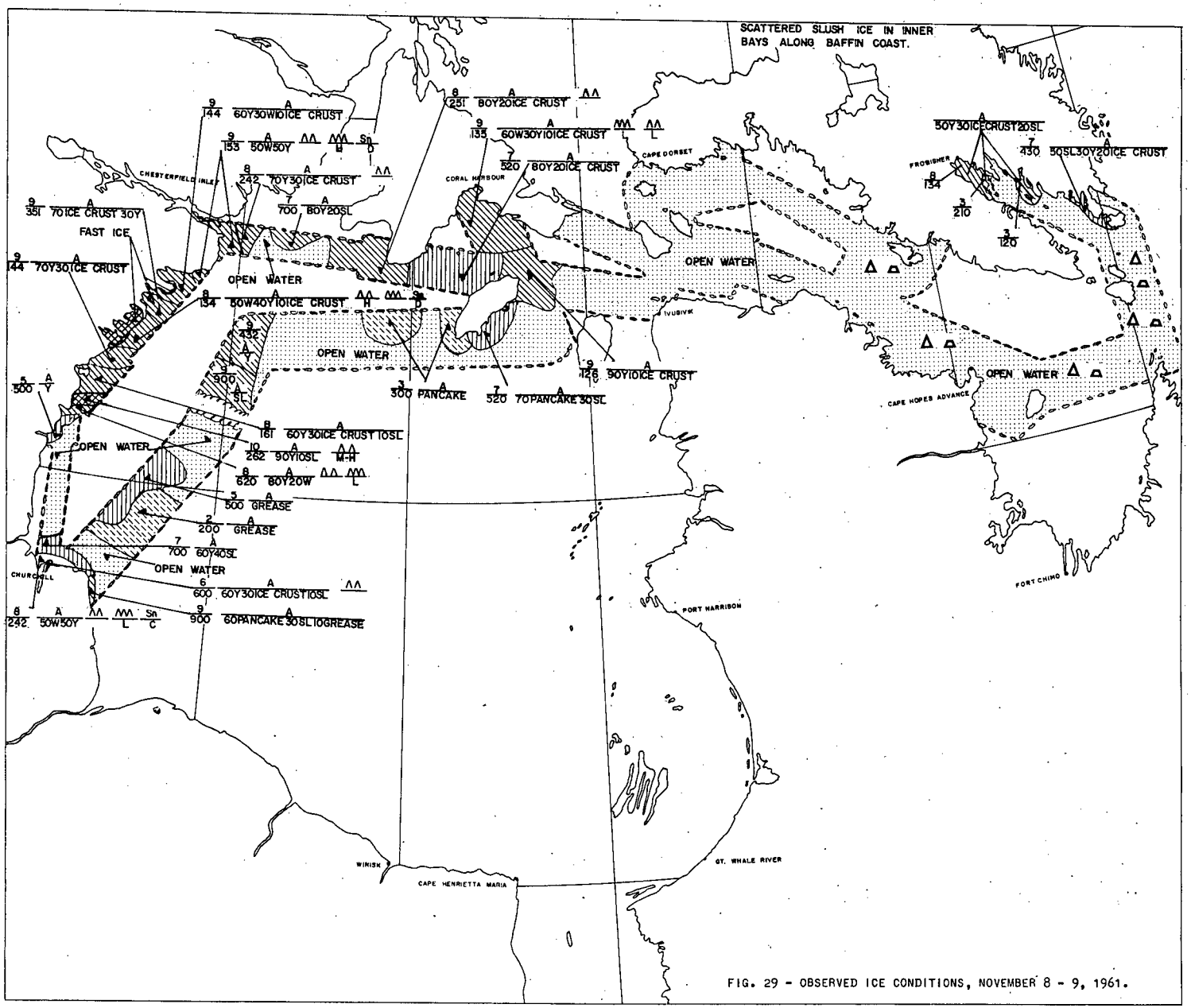


FIG. 29 - OBSERVED ICE CONDITIONS, NOVEMBER 8 - 9, 1961.

CIR - 3710
TEC - 421
16 AUG 62