PUB. 181

SAILING DIRECTIONS (ENROUTE)

★

GREENLAND AND ICELAND

★

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ELEVENTH EDITION

Preface

Pub. 181, Sailing Directions (Enroute) Greenland and Iceland, Eleventh Edition, 2010, is issued for use in conjunction with Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean. Companion volumes are Pubs. 182 and 183.

Digital Nautical Chart 19 and 28 provides electronic chart coverage for the area covered by this publication.

This publication has been corrected to 30 October 2010, including Notice to Mariners No. 44 of 2010.

Explanatory Remarks

Sailing Directions are published by the National Geospatial-Intelligence Agency (NGA), under the authority of Department of Defense Directive 5105.40, dated 12 December 1988, and pursuant to the authority contained in U. S. Code Title 10, Sections 2791 and 2792 and Title 44, Section 1336. Sailing Directions, covering the harbors, coasts, and waters of the world, provide information that cannot be shown graphically on nautical charts and is not readily available elsewhere.

Sailing Directions (Enroute) include detailed coastal and port approach information which supplements the largest scale chart produced by the National Geospatial-Intelligence Agency. This publication is divided into geographic areas called "Sectors."

Bearings.—Bearings are true, and are expressed in degrees from 000° (north) to 360°, measured clockwise. General bearings are expressed by initial letters of points of the compass (e.g. N, NNE, NE, etc.). Adjective and adverb endings have been discarded. Wherever precise bearings are intended degrees are used.

Charts.—Reference to charts made throughout this publication refer to both the paper chart and the Digital Nautical Chart (DNC).

Coastal Features.—It is assumed that the majority of ships have radar. Available coastal descriptions and views, useful for radar and visual piloting are included in geographic sequence in each Sector.

Corrective Information.—Users should refer corrections, additions, and comments to NGA's Maritime Operations Desk, as follows:

1. Toll free: 1-800-362-6289
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3. DSN: 287-3147
4. DNC web site: http://www.nga.mil/portal/site/dnc
5. Maritime Domain web site: http://www.nga.mil/portal/site/maritime
6. E-mail: navsafety@nga.mil
7. Mailing address: Maritime Domain
   National Geospatial-Intelligence Agency
   Mail Stop D-44
   4600 Sangamore Road
   Bethesda MD 20816-5003

New editions of Sailing Directions are corrected through the date of the publication shown above. Important information to amend material in the publication is available as a Publication Digital Update (PDU) from the NGA Maritime Domain website.

NGA Maritime Domain Website
http://www.nga.mil/portal/site/maritime

Courses.—Courses are true, and are expressed in the same manner as bearings. The directives "steer" and "make good" a course mean, without exception, to proceed from a point of origin along a track having the identical meridianal angle as the designated course. Vessels following the directives must allow for every influence tending to cause deviation from such track, and navigate so that the designated course is continuously being made good.

Currents.—Current directions are the true directions toward which currents set.

Dangers.—As a rule outer dangers are fully described, but inner dangers which are well-charted are, for the most part, omitted. Numerous offshore dangers, grouped together, are mentioned only in general terms. Dangers adjacent to a coastal passage or fairway are described.

Distances.—Distances are expressed in nautical miles of 1 minute of latitude. Distances of less than 1 mile are expressed in meters, or tenths of miles.

Geographic Names.—Geographic names are generally those used by the nation having sovereignty. Names in parentheses following another name are alternate names that may appear on some charts. In general, alternate names are quoted only in the principal description of the place. Diacritical marks, such as accents, cedillas, and circumflexes, which are related to specific letters in certain foreign languages, are not used in the interest of typographical simplicity. Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the United States Government.

Heights.—Heights are referred to the plane of reference used for that purpose on the charts and are expressed in meters.

Index-Gazetteer.—Navigational features and place-names are listed alphabetically in the back of the book. The approximate position, along with the Sector and paragraph numbers (e.g. **1.1**), facilitate location in the text.

Internet Links.—This publication provides internet links to web sites concerned with maritime navigational safety, including but not limited to, Federal government sites, foreign Hydrographic Offices, and foreign public/private port facilities. NGA makes no claims, promises, or guarantees concerning the accuracy, completeness, or adequacy of the contents of the web sites and expressly disclaims any liability for errors and omissions of these web sites.

Light and Fog Signals.—Lights and fog signals are not described, and light sectors are not usually defined. The Light Lists should be consulted for complete information.

Ports.—Directions for entering ports are depicted where appropriate by means of chartlets, sketches, and photos, which facilitate positive identification of landmarks and navigational aids. These chartlets and sketches are not always to scale, however, and should be used only as a general informational guide in conjunction with the best scale chart. Specific port facilities

are omitted from the standard format. They are tabulated in Pub. 150, World Port Index.

Radio Navigational Aids.—Radio navigational aids are not described in detail. Publication No. 117 Radio Navigational Aids and NOAA Publication, Selected Worldwide Marine Broadcasts, should be consulted.

Soundings.—Soundings are referred to the datum of the charts and are expressed in meters.

Special Warnings.—A Special Warning may be in force for the geographic area covered by this publication. Special Warnings are printed in the weekly Notice to Mariners upon promulgation and are reprinted annually in Notice to Mariners No. 1. A listing of Special Warnings currently in force is printed in each weekly Notice to Mariners, Section III, Broadcast Warnings, along with the notice number of promulgation. Special Warnings are also available on the Maritime Division website.

Wind Directions.—Wind directions are the true directions from which winds blow.

Reference List

The principal sources examined in the preparation of this publication were:

British Hydrographic Department Sailing Directions.
Canadian Sailing Directions.
Various port handbooks.

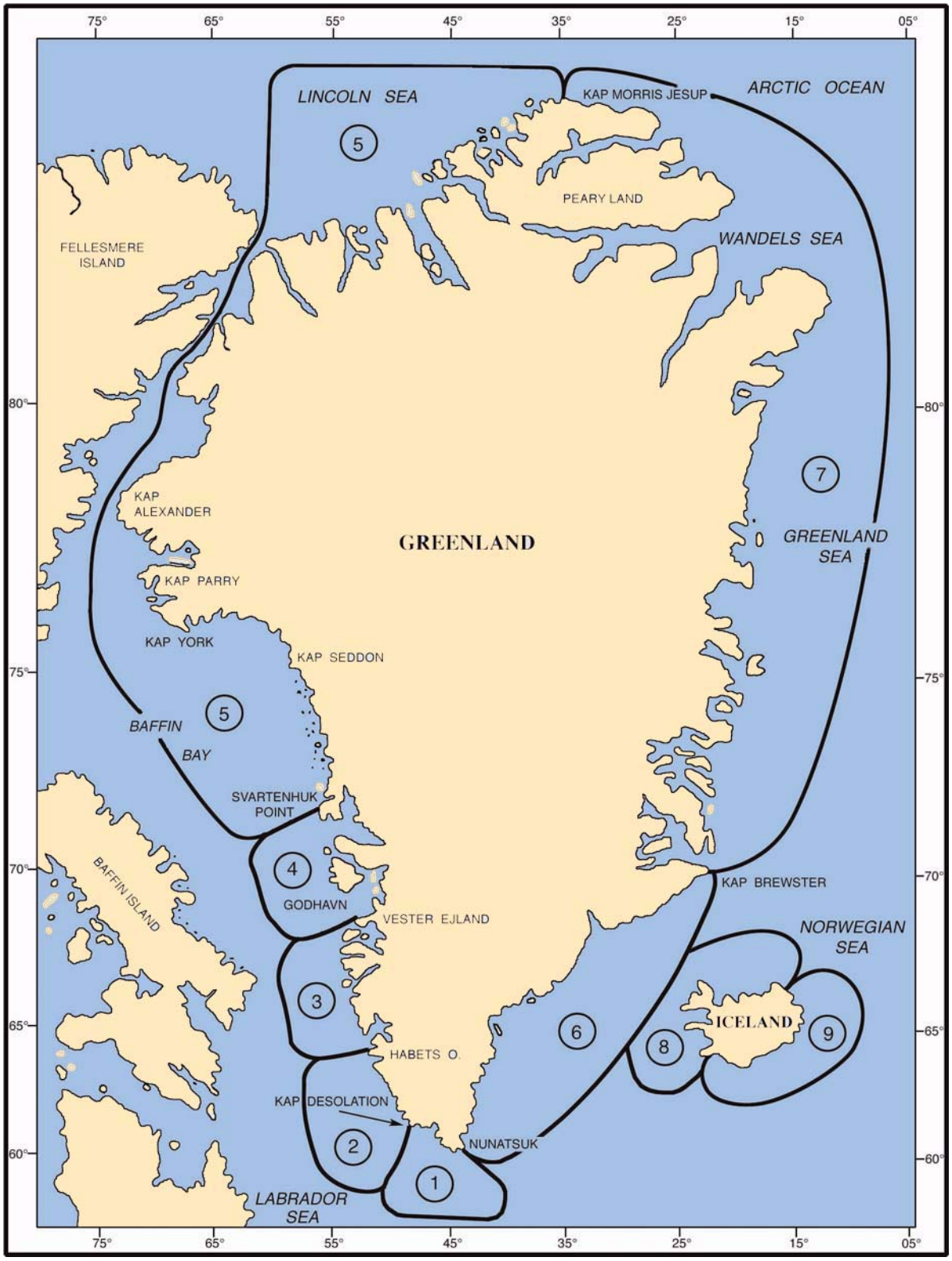
Reports from United States Naval and merchant vessels and various shipping companies.

Other U.S. Government publications, reports, and documents.

Charts, light lists, tide and current tables, and other documents in possession of the Agency.

Internet Web sites, as follows:

1. Fraser Port Authority
   http://www.fraserportauthority.com
2. Lighthouses of British Columbia
   http://fogwhistle.ca/bclights
3. Nanaimo Port Authority
   http://www.npa.ca
4. Port Alberni Port Authority
   http://www.alberni.net/harbor-havre
5. Prince Rupert Port (The New World Port)
   http://www.rupertport.com/home.html



SECTOR LIMITS — PUB. **181**

Feet to Meters

Feet	0	1	2	3	4	5	6	7	8	9
0	0.00	0.30	0.61	0.91	1.22	1.52	1.83	2.13	2.44	2.74
10	3.05	3.35	3.66	3.96	4.27	4.57	4.88	5.18	5.49	5.79
20	6.10	6.40	6.71	7.01	7.32	7.62	7.92	8.23	8.53	8.84
30	9.14	9.45	9.75	10.06	10.36	10.67	10.97	11.28	11.58	11.89
40	12.19	12.50	12.80	13.11	13.41	13.72	14.02	14.33	14.63	14.93
50	15.24	15.54	15.85	16.15	16.46	16.76	17.07	17.37	17.68	17.98
60	18.29	18.59	18.90	19.20	19.51	19.81	20.12	20.42	20.73	21.03
70	21.34	21.64	21.95	22.25	22.55	22.86	23.16	23.47	23.77	24.08
80	24.38	24.69	24.99	25.30	25.60	25.91	26.21	26.52	26.82	27.13
90	27.43	27.74	28.04	28.35	28.65	28.96	29.26	29.57	29.87	30.17

Fathoms to Meters

Fathoms	0	1	2	3	4	5	6	7	8	9
0	0.00	1.83	3.66	5.49	7.32	9.14	10.97	12.80	14.63	16.46
10	18.29	20.12	21.95	23.77	25.60	27.43	29.26	31.09	32.92	34.75
20	36.58	38.40	40.23	42.06	43.89	45.72	47.55	49.38	51.21	53.03
30	54.86	56.69	58.52	60.35	62.18	64.01	65.84	67.67	69.49	71.32
40	73.15	74.98	76.81	78.64	80.47	82.30	84.12	85.95	87.78	89.61
50	91.44	93.27	95.10	96.93	98.75	100.58	102.41	104.24	106.07	107.90
60	109.73	111.56	113.39	115.21	117.04	118.87	120.70	122.53	124.36	126.19
70	128.02	129.85	131.67	133.50	135.33	137.16	138.99	140.82	142.65	144.47
80	146.30	148.13	149.96	151.79	153.62	155.45	157.28	159.11	160.93	162.76
90	164.59	166.42	168.25	170.08	171.91	173.74	175.56	177.39	179.22	181.05

Meters to Feet

Meters	0	1	2	3	4	5	6	7	8	9
0	0.00	3.28	6.56	9.84	13.12	16.40	19.68	22.97	26.25	29.53
10	32.81	36.09	39.37	42.65	45.93	49.21	52.49	55.77	59.06	62.34
20	65.62	68.90	72.18	75.46	78.74	82.02	85.30	88.58	91.86	95.14
30	98.42	101.71	104.99	108.27	111.55	114.83	118.11	121.39	124.67	127.95
40	131.23	134.51	137.80	141.08	144.36	147.64	150.92	154.20	157.48	160.76
50	164.04	167.32	170.60	173.88	177.16	180.45	183.73	187.01	190.29	193.57
60	196.85	200.13	203.41	206.69	209.97	213.25	216.54	219.82	223.10	226.38
70	229.66	232.94	236.22	239.50	242.78	246.06	249.34	252.62	255.90	259.19
80	262.47	265.75	269.03	272.31	275.59	278.87	282.15	285.43	288.71	291.99
90	295.28	298.56	301.84	305.12	308.40	311.68	314.96	318.24	321.52	324.80

Meters to Fathoms

Meters	0	1	2	3	4	5	6	7	8	9
0	0.00	0.55	1.09	1.64	2.19	2.73	3.28	3.83	4.37	4.92
10	5.47	6.01	6.56	7.11	7.66	8.20	8.75	9.30	9.84	10.39
20	10.94	11.48	12.03	12.58	13.12	13.67	14.22	14.76	15.31	15.86
30	16.40	16.95	17.50	18.04	18.59	19.14	19.68	20.23	20.78	21.33
40	21.87	22.42	22.97	23.51	24.06	24.61	25.15	25.70	26.25	26.79
50	27.34	27.89	28.43	28.98	29.53	30.07	30.62	31.17	31.71	32.26
60	32.81	33.36	33.90	34.45	35.00	35.54	36.09	36.64	37.18	37.73
70	38.28	38.82	39.37	39.92	40.46	41.01	41.56	42.10	42.65	43.20
80	43.74	44.29	44.84	45.38	45.93	46.48	47.03	47.57	48.12	48.67
90	49.21	49.76	50.31	50.85	51.40	51.95	52.49	53.04	53.59	54.13

The following abbreviations may be used in the text:

Units

°C	degree(s) Centigrade	km	kilometer(s)
cm	centimeter(s)	m	meter(s)
cu.m.	cubic meter(s)	mb	millibars
dwt	deadweight tons	MHz	megahertz
FEU	forty-foot equivalent units	mm	millimeter(s)
grt	gross registered tons	nrt	net registered tons
kHz	kilohertz	TEU	twenty-foot equivalent units

Directions

N	north	S	south
NNE	northnortheast	SSW	southsouthwest
NE	northeast	SW	southwest
ENE	eastnortheast	WSW	westsouthwest
E	east	W	west
ESE	eastsoutheast	WNW	westnorthwest
SE	southeast	NW	northwest
SSE	southsoutheast	NNW	northnorthwest

Vessel types

LASH	Lighter Aboard Ship	ro-ro	Roll-on Roll-off
LNG	Liquified Natural Gas	ULCC	Ultra Large Crude Carrier
LPG	Liquified Petroleum Gas	VLCC	Very Large Crude Carrier
OBO	Ore/Bulk/Oil		

Time

ETA	estimated time of arrival	GMT	Greenwich Mean Time
ETD	estimated time of departure	UTC	Coordinated Universal Time

Water level

MSL	mean sea level	LWS	low water springs
HW	high water	MHWN	mean high water neaps
LW	low water	MHWS	mean high water springs
MHW	mean high water	MLWN	mean low water neaps
MLW	mean low water	MLWS	mean low water springs
HWN	high water neaps	HAT	highest astronomical tide
HWS	high water springs	LAT	lowest astronomical tide
LWN	low water neaps		

Communications

D/F	direction finder	MF	medium frequency
R/T	radiotelephone	HF	high frequency
GMDSS	Global Maritime Distress and Safety System	VHF	very high frequency
LF	low frequency	UHF	ultra high frequency

Navigation

LANBY	Large Automatic Navigation Buoy	SPM	Single Point Mooring
NAVSAT	Navigation Satellite	TSS	Traffic Separation Scheme
ODAS	Ocean Data Acquisition System	VTC	Vessel Traffic Center
SBM	Single Buoy Mooring	VTS	Vessel Traffic Service

Miscellaneous

COLREGS	Collision Regulations		
IALA	International Association of Lighthouse Authorities	No./Nos.	Number/Numbers
		PA	Position approximate
IHO	International Hydrographic Office	PD	Position doubtful
IMO	International Maritime Organization	Pub.	Publication
loa	length overall	St./Ste.	Saint/Sainte

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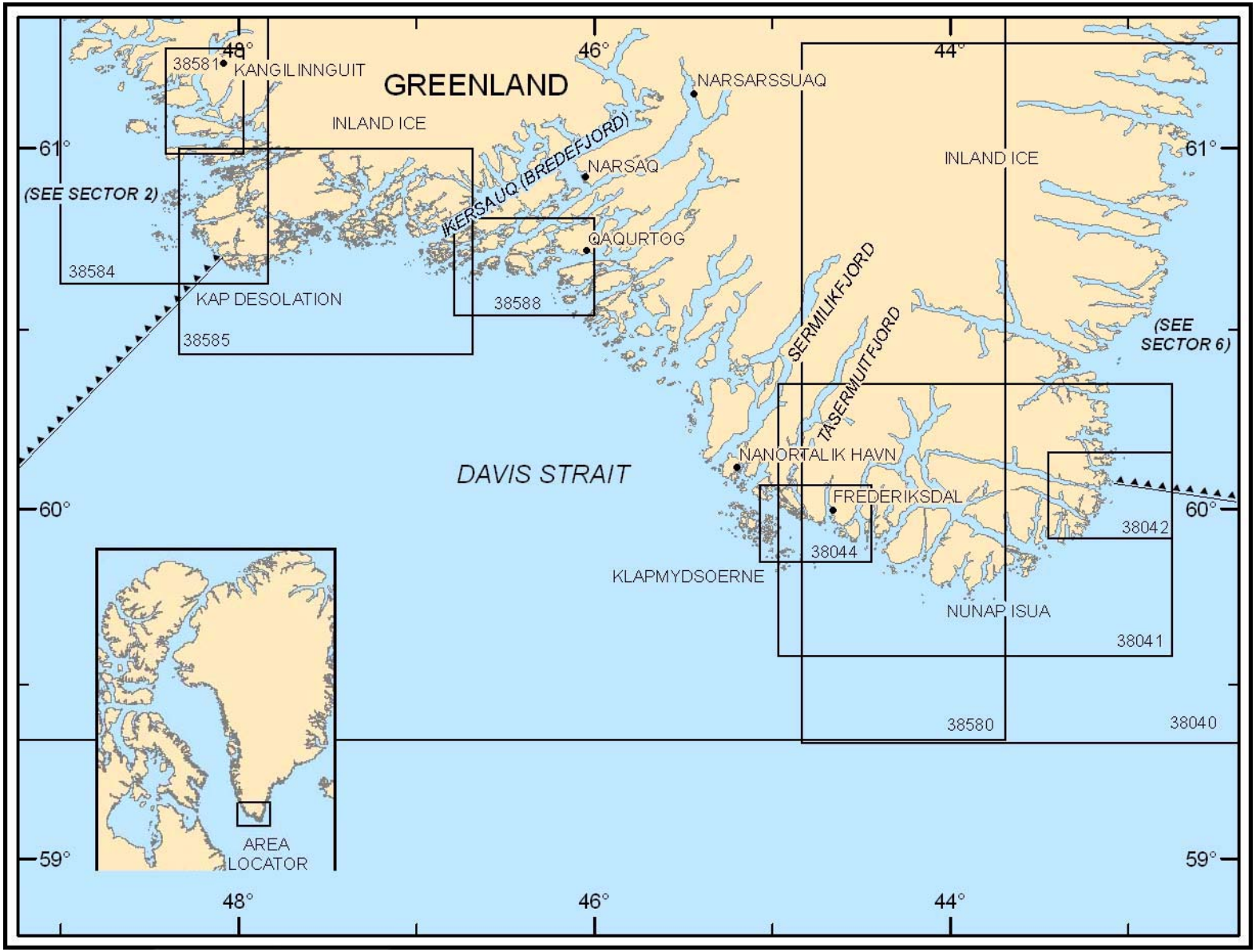


Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR 1 — CHART INFORMATION

SECTOR 1

GREENLAND—SOUTH COAST—PRINS CHRISTIAN SUND TO KAP DESOLATION

Plan.—This sector describes the S coast of Greenland from Nunap Isua, first extending NE to the limits of the E entrance of Prins Christian Sund, the Prins Christian Sund Passage, and the other fjord-like passages in the Nunap Isua Archipelago, then extending NW to Kap Desolation.

General Remarks

1.1 The great fjords of southern Greenland, even during the summer months, are subject to the influence of ice. As the cold arctic current off the E coast flows S, it brings pack ice together with freshwater ice from the glaciers on the E coast of Greenland. As the ice mass reaches the S tip of the W coast, it is deflected N by a branch of the Gulf Stream up the W coast of Greenland. As it moves N, it collides with larger masses of ice, which are from the glaciers on the E coast of Greenland, especially from Disko Bugt.

In the coastal regions of this vast territory, there exists an almost continuous ice-free belt, which varies in width from 1 to more than 100 miles. Between Nunap Isua and latitude 73°N, the average width of this ice-free belt is 50 miles. The coast described in this sector, encompassing about 190 miles, consists of a narrow strip of ice-free land at the back of which rises the inland ice; it is mountainous and divided up by fjords, sounds, and connecting channels much more than the other portions of western Greenland.

Courtesy of NASA

Southern portion of Greenland

The approaches to this part of the coast are, in general, deep and clear; although, a comparatively shallow continental shelf extends 12 to 33 miles offshore. In some places, narrow but navigable inner routes lead between the off-lying islands and the mainland. However, most of the inshore approaches are obstructed or narrowed by the innumerable rocky islets. The S part of the W coast of Greenland forms the E shore of Davis Strait and its S approach. This may be considered to include all of the coastline situated between Nunap Isua (Eggers O) and Disko Island, a distance of more than 600 miles. Julianehaab (Qaqortoq) and Narssarssuaq (Narsarsuaq) are the principal ports situated along this part of the coast.

Nunao Isua (Kap Farvel)

Southern portion of Greenland, including Disko Bugt and Baffin Bay

Winds—Weather.—It is difficult to describe the surface wind field within the Baffin Bay/Davis Strait region because the wind characteristics at most of the coastal stations are largely determined by local influences which are not amenable to regional generalization. There is also a frequent cyclonic activity which produces highly variable surface winds. Therefore, a pronounced prevailing direction is not demonstrated. It has been shown that at several stations the frequency data indicates that, during the course of a year, the winds tend to blow as much from one direction as another. In winter, the surface winds along the coastal sections are directed from the interior towards the coast. The speed of flow depends mainly upon the steepness of the slopes, the narrowness of the fjords, and the pressure gradient along the coast. These winds are strongest and of longest duration when the temperature contrast between the coast and the interior is greatest. Wind speeds under this system have indicated gusts up to 75 knots.

Local topography plays a key role in determining wind speed and direction. At many coastal points the winds are so local in character that they bear little resemblance to the general pressure pattern. Sheltering bluffs and the trends of the fjords largely determine the local wind direction and speed at these stations.

Precipitation along the S part of Greenland and over the Baffin Bay and Davis Strait region reaches about 2,540mm annually. In contrast, the N part has only about 102mm. Snow is the most common form of precipitation and is observed over the Davis Strait area almost all year round, except during July and August.

Fog, precipitation, and blowing snow are the principal obstructions to visibility. Fog frequencies are highest during the summer coincident with the navigational season. The belt of most frequent fog formation lies along the coastal sections and extends 20 to 30 miles seaward. This indicates that fog is not as frequent over the open waters of the Baffin Bay and Davis Strait area. During the summer, visibility of less than 2 miles is common for 30 to 40 per cent of the time along the coastal sections of W Greenland, from Upernavik to Godthab or Nuuk. Fog in this area is common for 10 to 16 days per month.

Tides—Currents.—The West Greenland Current flows N along the SW coast of Greenland. Between the latitudes of 62°N and 63°N, a branch of this current flows W and then S along the W side of the strait. The diminished main current continues N round the head of Baffin bay. It then curves W and S and is enhanced by water emerging from Nares Strait, Jones Sound, and Lancaster Sound. This combined flow sets SE and then S off the E coast of Baffin Island and is known as the Canadian Current.

In the S, the West Greenland Current swerves at a considerable rate, especially near the coast. During September, coastal runoffs and tributary discharges result in average current rates of 3 knots close inshore and 1.5 knots a few miles offshore. During June, the corresponding rates are 1 knot and 0.75 knot respectively.

The Canadian Current generally runs at a rate of 0.5 to 1 knot.

Along the S and W coasts of Greenland, the tides are semidiurnal or mixed. At some places considerable diurnal inequality occurs between successive H and LW. Mean tide ranges vary from 1 to 3m at different locations. The tide progression is clockwise along the Greenland coast. However, a solid cover of

Prins Christian Sund to Kap Desolation

ice may alter the tides to an extent where the times may be retarded and the ranges decreased.

Pilotage.—It should be noted that any person who is assigned to act in Greenland waters as "kendtmand", a ship's guide with local knowledge, is not considered to be a pilot in the sense of the word normally used in international shipping. While serving on board, this ship's guide with local knowledge, or as may be referred to as an "unlicensed pilot," is to act exclusively in an advisory capacity and the navigation of the vessel is at no time to be entrusted to that person.

Ice.—Most icebergs off the SW coast of Greenland originate from the glaciers of the E coast. Having rounded Nunap Isua (Kap Farvel) most of thes latter bergs drift NW and W to melt in the central part of Davis Strait.

On the W coast, the chief iceberg-producing glaciers are found in the region between Disko Bugt and Melville Bugt. The glaciers in this region are said to produce thousands each year. Some of these icebergs ground in the fjords into which they are calved and never become free. The majority eventually drift out into Baffin Bay, especially after the breakup of the fast ice inshore in summer.

Once in the bay, these ice bergs drift under the influence of currents and winds. Most ice bergs round the head of Baffin Bay with the predominantly counterclockwise current, first running N off the Greenland coast and then S off the coast of Baffin Island.

Ice is sometimes found floating in the Arctic Ocean as an ice island. An ice island is a large slab of ice whose horizontal dimensions may be measured in miles. They are derived from ice shelves in the N coasts of Ellesmere Isand (Canada) and Greenland. At rare intervals, ice islands or their remnants are carried by the currents into some of the channels within the archipelago.

Ice Center Narssarssuaq (Narsarsuaq) transmits daily at 1200, 1400, and 2200 UTC, giving the latest information of ice in S Greenland waters. Information is transmited by telex and facsimile. Ships can, free of charge, request telegraphic information from Tasillaq (Ammassalik) Coast Radio Station (OZL) or Qaqortq Coast Radio Station (OXF).

Caution.—Local magnetic anomalies have been observed off the W coast of Greenland and in the N part of Baffin Bay.

Mirages and other visual distortions have been observed in these regions. Halo phenomena and auroral displays of brilliance are somewhat common in these Arctic waters.

Fata Morgan mirage

For the safety of vessels navigating in Greenland waters and to assist in the coordination of SAR operations, two ship reporting systems have been established. GREENPOS is for vessels on passage to and from Greenland waters. KYSTKONTROL is for vessels on coastal passage in Greenland waters. For further details on both systems, see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Nunap Isua (Kap Farvel) to Prins Christian Sund

1.2 **Nunap Isua** (Kap Farvel) (59°47'N., 43°55'W.), 670m high, is the southernmost point of Itilleq (Eggers O). It is fringed by numerous round-topped islets and rocks which extend up to 0.75 mile offshore. In addition, small islands and dangerous rocks lie up to 4 miles offshore in the vicinity of this point. When passing Nunap Isua (Kap Farvel) at a considerable distance, it is difficult to identify any salient points in the area. However, within 10 miles of the point, vessels can easily make out the characteristic mountains on Itilleq (Eggers Island). It is reported that Nunap Isua appears as a small clifftop.

Caution.—Nunap Isua (Kap Farvel) is notorious for foul weather and heavy seas. During gales, vessels approaching from the E are advised to keep well clear of the point and make a landfall farther up the coast.

1.3 **Nunap Isua Archipelago.—**This island group, situated at the S extremity of Greenland, consists of several large islands which are mountainous and separated from the mainland and each other by fjord-like passages.

Itilleq (Eggers Island) (59°51'N., 44°02'W.) rises to an elevation of 1,251m in its N part. It is nearly as high in its SW part. The far N shore of the island is low and is in sharp contrast to the S shore which is bare and rocky. Two inlets indent the S shore and are separated by a mountainous headland which terminates in Nunap Isua (Kap Farvel).

Avatdlerssuaq (59°49'N., 43°35'W.) lies off the E end of Itilleq and rises to an elevation of 491m. A group of five islets, known as Saningassoq, lies close N of this island and off the SE entrance to **Ikeq** (59°55'N., 43°50'W.) This channel leads to that part of Prins Christian Sund Passage which forms **Ilua** (60°11'N., 44°13'W.), another channel.

When approaching Ikeq, vessels should bear E and N of the islands mentioned, as much of these waters have not been adequately surveyed. Underwater hazards are reported to lie S of a small island which is located 2.75 miles E of the N end of Saningassoq. Vessels should navigate E and N of this unnamed island and through the center of the channel. They should make for a position situated opposite Quernertup Kangia and between the islands of Quernertoq and Sangmissoq. From this position, vessels should favor the N side of the channel and stay a little closer to Sangmissoq than to Itilleq (Eggers O).

1.4 Christian IV Island (Christain IV O), lying on the S side of Prins Christian Sund, is the largest island in the Nunap Isua Archipelago. Glaciers are situated in the S and W parts of this deeply-indented island. The S part of Christian IV Island is almost severed by two narrow inlets; Manak extends W while Tangnera (Tannera) extends E.

Sangmissoq, located on the S entrance point of Tangnera (Tannera), is the nearest settlement to Nunap Isua.

Qernertoq (59°58'N., 43°26'W.), an island rising to an elevation of 1,081m, lies with Pamiagdluk Kujatdlek, its S extremity, situated 2 miles E of Serratit.

Qernertup Kangia, a channel, is entered between Kap Serratit and Pamiagdluk Kujatdlek and leads N for 8.5 miles to the entrance of Manak. It separates Qernertoq from the E side of the S portion of Christian IV Island. Two islands lie in the S part of the channel by Pilike Bay; several small islets and rocks are reported to lie in the N part.

Ikerasakasik, a narrow channel, leads N into Kipisako (Aqajaqqip Imaa) and separates Walkendorffs Oer from Qernertoq.

Kap Hoppe (59°56'N., 43°15'W.), 562m high, is the SE extremity of Walkendorffs Oer, the SE of the larger islands which form the archipelago. A submerged rock, visible at LW, lies 2 miles SW of the SW end of Walkendorffs Oer.

Kingigtuarssuk, an island, marks the SE extremity of the Akajaruanek Promontory. Several islands and islets lie in the SE entrance to Aqajaqqip Imaa (Kipisako) in the vicinity of Kingigtuarssuk.

Qipingajaq and Sangmerqat (Sammeqqat) are two groups of islands, islets, and rocks which lie off the E side of the Akajaruanek Promontory and extend about 1.7 miles E.

Anchorage.—Anchorage is available, in a depth of 28m, soft bottom, in Qasigissat (Qasigisat) (60°06'N., 44°06'W.), a small bight located on the S side of the W extremity of Christians IV Island. This anchorage affords shelter from all winds; however, foul ground fringes the W entrance point of the bight.

Anchorage is also available in a small indentation on the E side of the Akajaruanek Promontory, abreast the Qipingajaq Islands.

Qernertoq

Prins Christian Sund

1.5 When approaching **Prins Christian Sund** (60°04'N., 43°02'W.) from the E, the land situated N of the entrance is easily identified by the large sloping white expanse of a glacier. In addition, high jagged mountains stand on the land situated S of the entrance.

Prins Christian Sund Light

Aluk Avatdleq (Aluk Avalleq), located 6 miles N of the Prins Christian Sund, is dark brown. The islands lying S of Aluk Avatdleq are reddish brown and heavily scarred by ice action. These islands are easily recognized and form good marks.

Natsek Cove (Naajat Kangerluat), an indentation, is located 1.5 miles within the entrance of the sound. This is the site of the Prins Christian Sund coast radio and weather station. Prominent radio masts stand at the highest point of the terrain and a light is shown from a tower, 4m in height, standing near the weather station. In addition to these landmarks, a conspicuous tank stands on a small peninsula located in the SE corner of the cove. Vessels should approach the station by heading for the radio masts on a course of 260°. At night, vessels should steer in the white sector of the light, bearing between 263° and 288°. A racon is situated at the light structure.

There are no pilots, but persons with local knowledge are available. There is a quay, 10m long, with a depth of 4m alongside, located at the station. Small vessels up to 31m in length and 3.1m draft have been handled alongside. The radio station can be contacted by VHF. Tides rise about 3m at springs and 1.5m at neaps. During the flood, the current off the weather station sets SW at 2 to 4 knots; during the ebb, it sets E and SE at 1 to 4 knots and may form eddies.

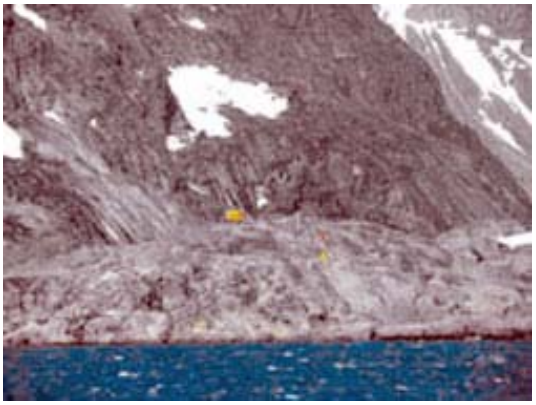
Anchorage.—Vessels can anchor off the weather station at Natsek Cove (Naajat Kangerluat). The berth is indicated by the intersection of the alignments of two pairs of anchorage beacons; the E pair in line bear 130° and the W pair in line bear 220°. Vessels up to 80m in length and 6m draft have used this anchorage.

Caution.—During the winter months, Natsek Cove (Naajat Kangerluat) has been found to be choked with bergs and growlers; therefore, vessels should not enter during this season.

Prins Christian Sund Passage

1.6 The passage formed by the E part of Prins Christian Sund, the connecting channel Ilua, and Torssukatak, has a total length of 56 miles. During bad weather or unfavorable ice conditions which make it difficult to pass S of Nunap Isua, this passage, when not blocked by ice, provides a safe and easy inner route. The greatest width of the passage is 2 miles, and it narrows to a width of only 0.25 mile, 13 miles within the E entrance. The shore on either side of the passage is bold and precipitous. A small projection, forming a harbor for small craft, is located at **Aappilattoq** (Augpilagtoq) (60°08'N., 44°18'W.), on the NW side of the entrance to Ilua. A beacon stands on this projection. A light is shown from close W of the beacon.

The depths throughout the passage are generally great. A least fairway depth of 14.6m has been reported to lie in Ilua, 0.4 mile SSE of the small projection at Aappilattoq.



Aappilattoq Beacon

Aappilattoq

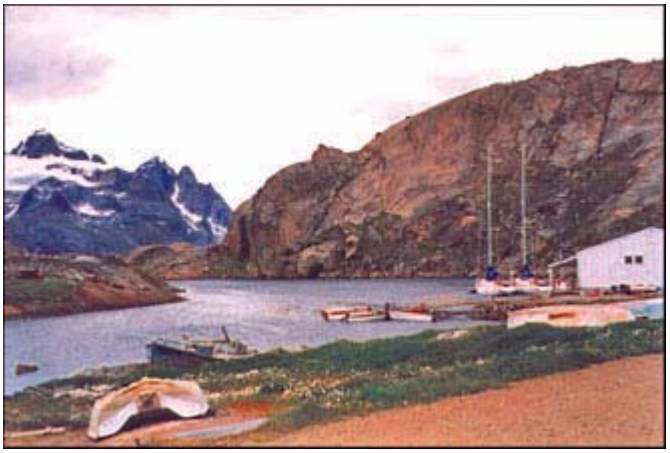
Aappilattoq

Courtesy of Caroline Goodhart - UK

Aappilattoq

Courtesy of Greg Wilkins - UK

Aappilattoq



Courtesy of Caroline Goodhart - UK

Aappilattoq Harbor

Caution.—A strong S set may be experienced in the approach to Prins Christian Sund.

The frequent passage of low pressure in the Nunap Isua area often causes very strong winds to blow through Prins Christian Sund.

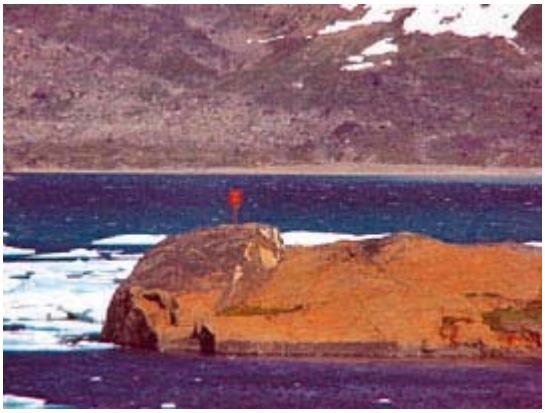
Submarine cables extend from Frederiksdal (60°00'N., 44°39'W.) to the E end of Prins Christian Sund and S from the E side of Nunarssuaq. Vessels are prohibited from anchoring in the sound except in the designated berths.

1.7 Kangerdluk (60°10'N., 43°38'W.), a fjord entered 4 miles NNE of Aappilattoq, extends 4 miles NW. It affords anchorage at Puiattoq, in a depth of 55m, good holding ground, 1.25 miles within the entrance. An isolated shoal depth of 4.5m is reported to lie in the middle of the entrance to this fjord.

Svaerdfisken Havn, 3.5 miles WNW of the entrance to Kangerdluk, affords good anchorage, in a depth of 59m, mud and clay. The berth is indicated by two pairs of range beacons. The indentation can be recognized by two small glaciers which do not reach down to the water.

Igdlorssuit Havn (Illorsuit Havn), located 10 miles WNW of Svaerdfiskens Havn, affords anchorage on a terminal moraine that slopes gradually into the sound from the foot of a wide glacier.

Niaqornaq is the NW extremity of Christian IV Island. A small islet, marked by a beacon, is located close NW of this point. A narrow channel, lying between the islet and the point, has a least depth of 12.8m and is navigable. The main and wider channel, which is the recommended one, leads NW and W of the islet and has a least depth of 99m. From Niaqornaq, the sound trends SSW for 2 miles, then NW for 2 miles, and enters the SE side of Ilua.



Niaqornaq Beacon

Ilua Channel, the outer part of which forms the connecting link between Prins Christian Sund and Torssukatak, leads N to Kangerdluk Fjord (Kangerluk), Kangikitsoq, and Nup Kangerdlua (Nuup Kangerlua), its three branches. Good anchorage may be obtained at the head of Kangikitsoq, where depths are between 55 to 66m. Steep mountains with jagged peaks rise to elevations of between 1,070m and 2,130m around the shores of the channel.

Nuk(Nuuk) (60°15'N., 44°10'W.), a small Eskimo settlement, stands on the narrow common entrance point of Kangikitsoq and Nup Kangerdlua (Nuup Kangerlua), situated 7 miles NNE of the S entrance. Kangerdluk Fjord, the S branch of Ilua Channel, should not be confused with the bay of the same name that lies on the N side of Prins Christian Sund.

Kangikitsoq, the main branch of Ilua, is entered N of Kangerdluk (Kangerluk). Two or three small glaciers descend to the sea between the mountains at the head of the fjord. Vessels can anchor at the head of the fjord, in depths of 56 to 66m.

Courtesy of Greg Wilkins - UK

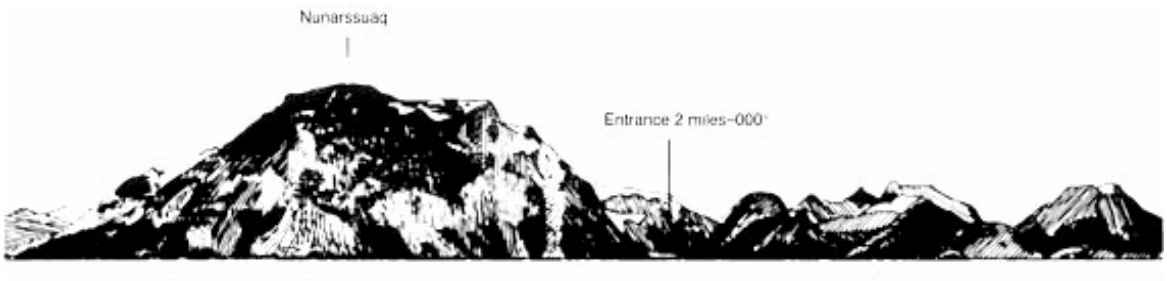
Entrance to Kangikitsoq

Courtesy of Greg Wilkins - UK

Kangikitsoq

Courtesy of Rob White - UK

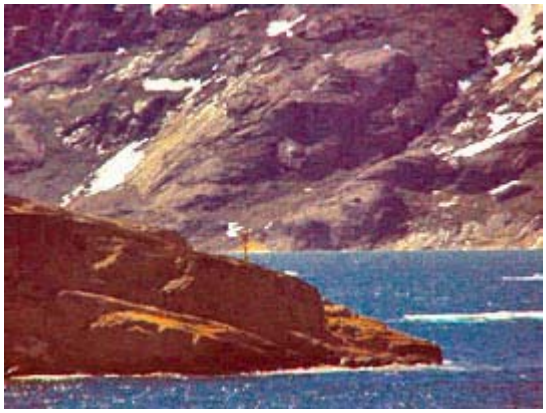
Kangikitsoq



South entrance of Torssukatak (Torsukattak) from S

1.8 Torssukatak, which forms the SW end of Prins Christian Sund Passage, leads between the mainland and Pamiagdluk (Pamialluk) to the E side of the Davis Strait, a distance of 18 miles. Two small islets lie close off the S shore of the entrance to the channel; a beacon stands on the W islet. Pamiagdluk (Pamialluk), a large island located on the E side of the channel, rises to an elevation of 1,371m. A beacon is reported to stand on its W extremity.

Stordalens Havn



Qagik Beacon

The depths in the channel are generally great, with a least known fairway depth of 56m.

From its NE entrance, situated close SW of Aappilattoq, Torssukatak extends N for 5 miles and then forms two branches. Stordalens Havn, the smaller branch, extends NW for 1.5 miles to a glacier at its head. The other branch leads E along the N side of Pamiagdluk (Pamialluk) into Ilua.

Vessels can anchor, in a depth of 64m, in the outer part of Stordalens Havn, but the inner part shoals rapidly.

1.9 Nunarssuaq, rising to an elevation of 939m, lies off the S entrance to Torssukatak and is the W island in the Nunap Isua Archipelago. A group of bare, precipitous islets and rocks, forming the E side of the E approach to the channel, lie 1 mile E of Nunarssuaq. Depths in the approach to the channel are irregular, but the least reported depth in the fairway is 137m.

Qornoq, the channel separating Nunarssuaq from the mainland, forms the W approach to the S end of Torssukatak. The least depth, in mid-channel, is reported be 90m.

An isolated rock (position doubtful) lies about 1.5 miles SSE of the S extremity of Nunarssuaq; above and below-water rocks are reported to lie about midway between.

Anchorage is reported to be available on the W side of Torssukatak in an indentation situated close N of the NE entrance to Qornoq. This anchorage affords good shelter from winds and protection from drift ice floating in the sound.

1.10 Kangersuak Kujallek (Kap Christian) (59°47'N., 44°05'W.), the SW extremity of Itilleq, lies 5.25 miles WNW of Nunap Isua and rises to an elevation of 486m.

Nunat (59°45'N., 44°11'W.) an islet 25m high, lies 4 miles SW of the cape. A smaller islet, on which the sea breaks during bad weather, lies 1.25 miles N of Nunat.

Qornoq, the channel separating Itilleq from the islands lying to the W, is entered between Kangersuak Kujallek and Tornarssuk (Toornaarsut). The entrance is encumbered with numerous islets and rocks. Qeqertat, a group of islets, lies from 1 to 2.5 miles S of Tornarssuk (Toornaarsut).

Pamiagdlup Kujatingua Sound separates Tornarssuk (Toornaarsut), 1,402m high, from Pamiagdluk (Pamialluk). There are numerous islets and rocks lying on either side of the S entrance to this sound.

Quvnerit (Qunnerit), a wedge-shaped island, lies between Tornarssuk (Toornaarsut) and Itilleq and rises to an elevation of 1,250m at its N end.

Angnikitsoq (Annikitsoq) lies E of Pamiagdluk (Pamialluk)

Approaches to Nanortalik

and is separated from the N shore of Quvnerit by Sivinganerup Ima. Prominent peaks stand near the N and S ends of this island.

Torrsukatak (Torsukattak) (Southwest End of Prins Christian Sund Passage) to Kap Desolation

1.11 Narsaq Kujalleq (Frederiksdal) (60°00'N., 44°40'W.) is a small fishing port situated within the E entrance point of Narssap Sarqa (Narsap Saqqaa), a short fjord. It stands at the head of a bay, open to the S, which forms a small harbor.

Medium-sized vessels can anchor, in depths of 18 to 26m, clay and sand, good holding ground 0.5 mile S of the church in the port. At the intersection of two pairs of range beacons, small vessels can anchor 0.3 mile SSE of the church, in a depth of 11m, good holding ground.

When the main anchorage berths cannot be used because of ice or swell, vessels may anchor within the small bays located 0.75 mile and 1.5 miles NNW of the church. There are no pilots, but persons with local knowledge are available. The harbor can be contacted on VHF channels 12 and 16 during the day.

Narssap Sarqa (Narsap Saqqaa) is entered between Nugssuaq (59°59'N., 44°40'W.), the SE extremity of the Fredeiksdal Promontory, and the SW extremity of the Ostproven Promontory, 2 miles W. Tikaquta (Tikaagutaa) Mountain, rising to an elevation of 1,405m, stands at the head of this fjord.

Range lights are established on Nugssuaq and, in line bearing 063°, lead from SW into the entrance of the fjord. A radio mast stands close ENE of the rear light.

Range lights are established on an islet lying off the Osproven Promontory. They lead, in line bearing 285°, from E into the entrance of the fjord.

Foul ground extends 0.75 mile N of Nugssuaq.

1.12 Klapmydsoerne is a chain of islands, islets, and rocks separated from the mainland by Kitsissut Tunua. The chain consists of two main groups, Nordlige Kitsissut (59°57'N., 45°12'W.) and Sydlige Kitsissut, and extends in a general NW direction for 19 miles from **Naajat** (Naujat) (59°52'N., 44°57'W.), the southeasternmost island.

Angissoq (59°59'N., 45°11'W.), the largest and highest island of the chain, lies 14.5 miles NW of Naujat. A peak, 101m in elevation, stands near the center of the island. Several coves and a bay indent the E side of this island. A beacon stands on this projection; a light is shown from close W of the beacon.

Angissoq Havn is formed by the bay at the E side of the island. There is a boat harbor and a quay, 10m long, with a depth of 3m alongside.

Anchorage can be obtained off the harbor, in a depth of 20m, good holding ground, at the intersection of the alignments of two pairs of beacons. Vessels of up to 80m in length and 6m draft have been handled at this anchorage. Vessels discharging bulk oil products anchor and secure their sterns to a point close S of the quay. There is no pilot, but persons with local knowledge are available.

Nunarssuaq (60°02'N., 45°16'W.) is the pair of northwesternmost islands of the chain. A trading station is established on this island during the fishing season in the Klapmydsoerne.

1.13 Igdlukasik (Illukasik) (60°02'N., 44°51'W.), an island lying W of the Ostproven Promontory, is separated from the mainland by a narrow channel, Igdlukasip Tunua (Illukaslip Tunua). The seaward side of this island is fronted by several small low islands and rocks which are, for the most part, covered with sharp gravel.

Anchorage can be obtained in Igdlukasik Havn, a small bay at the SE end of the island, in depths of 12 to 16m, good holding ground. A steep-to islet lies 0.3 mile SW of the entrance to the bay which is narrow but deep in mid-channel. The tidal current can run strongly between this islet and the entrance. Strong winds from SE and N are experienced in the anchorage.

Tasermuit Fjord

The general route for vessels navigating between Frederiksdal and Nanortalik is through Kitsigsut Tunua. However, there is an alternate inner route, for part of the passage, which is suitable for small coastal craft. This inner route, which has a least depth of 5m in the fairway, runs through the channel situated between Igdlukasik (Illukasik) and the islands and islets lying close SW. The E entrance of the channel lies 1.25 miles S of the SE extremity of Igdlukasik and is marked by a beacon. Local knowledge is required.

Tasermiut Fjord is entered between the S end of a peninsula, on which is situated the settlement of **Tuapait (Tuapaat)** (60°07'N., 45°11'W.), and an unnamed point, 2 miles S. There is high land on both sides of the entrance terminating on the E side in Jakobinerhuen, a 634m high mountain. On the W side, Tusardluarnaq, a 730m high mountain, stands 1.75 miles NNE of Tuapait. There is much higher land, up to 2,100m in elevation, standing on both sides of the upper reaches of the fjord. Within the fjord, the first 12 miles afford depths of more than 180m. The depths then decrease to 55m up to a position about 0.5 mile from the head.

Close E of the middle part of the fjord, up the rapids of a rivulet, there is a natural amphitheater, sheltered by high mountains, which is called the "Greenland Eden" because of the amount of vegetation, unusual for Greenland, which flourishes there.

Inigsugtalik (Inussuttalik), an island with a beacon standing on its E side, lies 2.5 miles S of Tuapait. Numerous small islands, islets, and rocks extend N and NW from Inigsugtalik across the SW approach to the fjord.

Range lights are established at Taterakasik, on the S side of the SE entrance point. In line, they lead S of Inigsugtalik and toward the entrance of the fjord.

A light is shown from a structure, 7m high, standing close E of the settlement at Tuapait on the NW side of the entrance.

Nanortalik Island lies with its S extremity located 3 miles NW of Inigsugtalik. A headland, on the SW side of the island, rises steeply from the sea; close N of it stands Qaqarssuasik, a 559m high mountain, which is easy to identify from seaward. The W side of Nanortalik Island is fronted by islets and rocks. A below-water rock lies about 2 miles W of the S extremity of the islet.

A radiobeacon is located at the head of a bay at the SE end of the island. It is reported that a small quay, with a depth of 7.3m alongside, has been constructed here.

1.14 Nanortalik Havn (60°08'N., 45°14'W.) (World Port Index No. 560) lies on the E side of Nanortalik Island within Kirkegaardsbugt (Kirkegardsbugten), a small bay open SE, which forms a harbor having general depths of 10 to 30m. A aeromnautical radiobeacon is located about 0.25 mile NW of Nanortalik.

Outside of Nanortalik

The open season is from August to May. During summer large amounts of polar ice usually occur. The port handles general cargo and containers.

Winds—Weather.—Very strong fjord winds can occur with the passage of a low pressure system. Also, during the autumn and winter periods, strong local mountain squalls can occur.

Nanortalik

Nanortalik

Courtesy of Greg Wilkins - UK

Approaching Nanortalik

Ice.—The harbor can usually be navigated from the middle of June until the middle of January. Pack ice can hinder navigation from January to June.

Tides—Currents.—Tides rise about 3m at springs and 1.5m at neaps. During mountain squalls and the passage of a low pressure system, the water level in the harbor can be lower than predicted.

Depths—Limitations.—There are two quays, 10 and 20m long, with depths of 1.4 to 2m alongside. They are used by small vessels with drafts up to 3.6m. A third quay, 30m long, has 7.3m alongside. Vessels up to 4,000 dwt, with a maximum length of 90m and a maximum draft of 6.5m, can be accommodated, although under extreme wind conditions, the maximum draft is limited to 5.7m. There are also several buoys for stern mooring.

The main approaches to the harbor are indicated by range beacons and lighted ranges. The harbor can also be approached from S by a deep channel, marked by unlit beacons, which leads W of Inigsugtalik (Inussuttalik) and is part of the inner route from Nanortalik to Sydproven (Alluitsup Paa). It is, however, easily blocked by ice.

The narrow channel, similarly marked, between Nanortalik and the mainland NE, has a least depth of 3m and is encumbered with below-water rocks, but affords a passage for small vessels.

Pilotage.—Taking a pilot is not compulsory, but is advisable. An unlicensed pilot is available by making arrangements with the Port Operator.

Vessels should send request for pilot through Qaqortoq (Julianehab), call sign "OXF," or on VHF channel 12, 13 or 16. The pilot boards off Akia or by arrangement.

The Port Operator is to be advised of vessel's ETA 24 hours prior to arrival and may be reached through VHF extension from Qaqortoq (Julianehab) or directly to Nanortalik Radio using VHF channel 13 or 16.

Anchorage.—There is a designated anchorage berth, in depths of 26 to 30m, marked by the intersection of the alignments of two pairs of lighted range beacons. Contact port officials for permission to anchor.

1.15 Sermersoq, lying N of Nanortalik Island, is the largest island in Julianehaab Bugt and forms the W side of Sermersup Sarqa. The mountains, particularly on the E side, are perpetually covered with ice and appear as towers and spires of an old castle. Kitdlavat, the highest peak, rises to an elevation of 1,276m and, in good visibility, can be seen from a considerable distance.

Kangeq (Kap Egede) (60°11'N., 45°25'W.), the S extremity of Sermersoq, is a steep headland fronted by islets and below-water rocks which extend up to 1.5 miles seaward.

Niaqornaq, a small peninsula, projects from the W side of Sermersoq, 7.5 miles N of Kangeq. Its seaward end is marked by a beacon. Vessels can anchor on either side of the peninsula, sheltered according to the direction of the wind.

Qornoq is a navigable channel leading between the SE side of Sermersoq and Nanortalik. Semersup Sarqa, its continuation between the middle part of Sermersoq and the mainland E, is navigable. Thomsens O, located 1.75 miles NE of the N end of Nanortalik Island, is a small island marked by a beacon on its NE side.

Amitsoq, rising to a height of 870m, is a long and narrow island which lies between the NE part of Sermersoq and the mainland to the E.

Angmalortoq, an island rising to a height of 1,253m, lies W of Amitsoq and NE of the N end of Sermersoq in the entrance to Sondre Sermilik Fjord.

Kanajormiut (60°24'N., 45°13'W.), an elongated island, lies 1.5 miles N of Sermersoq and close off the S end of a high peninsula of the mainland which forms the W side of Sondre Sermilik Fjord. Below-water rocks and islets lie in the deep channel situated between this island and Sermersoq. A beacon stands on the easternmost islet. Anchorage is afforded off the E side of Kanajormiut and in Niaqornarssuaqon, a small bay on the S side of the mainland peninsula. These anchorages should be approached from E as the W end of the narrow channel between Kanajormiut and the peninsula is foul.

Kangerdluak (Kangerdlua) (60°22'N., 45°16'W.) is a small bay which indents the N side of Sermersoq Island. Qegertasugssuk, an islet 60m high, with a rock close NW, lies on the W side of the entrance to this bay. A beacon stands on the islet. Anchorage is available in the SE part of the bay, in a depth of about 12m. It is sometimes exposed to N winds.

1.16 Aputajuitsok, the highest mountain within this stretch of coast, rises to an elevation of 2,103m about 75 miles N of Kangeq.

Sagdlek (60°16'N., 45°29'W.) a chain of islets and rocks, lies close W of Semersoq. Angissoq, the S islet of the chain, lies 4.75 miles NNW of Kangeq and is marked by a beacon. A radiobeacon is reported to be located on this islet. Vessels with local knowledge can find sheltered anchorage among the islets of the chain. A small islet and several below-water rocks lie about 1 mile WNW of Angissoq.

Igardlut (Ikardlut) (60°15'N., 45°38'W.), an above-water rock, lies 4 miles WNW of Angissoq. A 7.3m shoal patch lies about 0.5 mile N of the rock. Several below-water rocks lie within 0.5 mile SW of the rock.

Qeqertarssuatsiaq (60°21'N., 45°27'W.), an island, 225m high, lies N of Sagdlek and 2 miles off the NW side of Sermersoq. Beacons mark N and S extremities of the island. Anchorage is afforded within a small bay, in depths of 7 to 11m, situated midway along the E side of the island.

Inuarugdligaq (60°23'N., 45°40'W.), an island, 166m high, lies 5 miles WNW of Qeqertarssuatsiaq. This island can be readily identified by its summit which looks like the crest of a helmet. Arnargat, a group of islets, lies 1 mile E of the island. Ikardlugssuit, a group of rocks, is located on a submerged ridge which lies between the N end of Qeqertarssuatsiaq and Arnargat. Icebergs frequently ground on this ridge.

Anchorage can be obtained off the NW side of Inuarugdligaq.

Unartoq Fjord is entered 16 miles N of Kangeq and is separated from Sermilik Fjord by a mountainous peninsula. Its entrance lies between the SW extremity of this peninsula and Akuliaruseq, the S extremity of another peninsula, 7 miles WNW. The fjord extends NE for 14 miles and its inner part narrows to a width of less than 1 mile.

Tugtutuarssuk (Tuttutuarsuk) and Unartoq (Uunartoq) are two islands which lie in the middle of the entrance to Unartoq Fjord (Uunartoq Fjord). Tugtutuarssuk (Tuttutuarsuk), the outer and larger island, is cut almost in half by two small bays. Anchorage is afforded, sheltered from N winds, in the bay on the E side of the island. A small islet, marked by a beacon, and several below-water rocks lies within 1 mile of the S side of the island.

1.17 Alluitsoq Fjord (Lichtenau Fjord) (60°28'N., 45°30'W.) is entered between Akuliaruseq and Alluitsup Paa (Sydproven), 1.75 miles SW. It extends in a general NE direction for 12.5 miles and is then divided into two arms by a broad promontory on which stands Akuliarusersuaq, a conspicuous mountain, 1,465m high. Sioralik is the NE arm; Qagdlimiut Ima (Qagdlumiut Ima) is the NW arm. Amitsuarrssuk, an inlet, opens off the NW arm.

There are several drying rocks with a reef extending SW from them to the coast in the approach to Lichtenau.

Alluitsup Paa (Sydproven) (60°28'N., 45°34'W.), the largest settlement, is located on the low, indented and irregular tongue of land which forms the W entrance point of the fjord. Kingigtoq Mountain, 513m high, with a cairn on its summit, stands 2.75 miles NW of Alluitsup Paa (Sydproven). Vessels up to 60m in length and 3.5m draft can anchor off this settlement, but the berth is frequently affected by swell.

There are a number of settlements in the fjord, including **Ammassivik** (60°36'N., 45°24'W.), situated 3 miles within the W entrance point, which is the site of an old Moravian Mission. Ruins of a number of Norse farms are found around the shores of the fjord. Vessels up to 60m in length and 3.5m draft have anchored off the settlement, but the berth is open to swell. Although ice-free and navigable during periods between the end of July to end of January, local knowledge is required.

Qallimiut (Qullumiut) (60°42'N., 45°22'W.), a small settlement, should be approached during daylight hours only. Ships larger than 20m length should take anchorage in the bay off the harbor inlet, in a depth of 15m.

1.18 Inner Route—Nanortalik to Alluitsup Paa.—The tendency for Julianehaab Bugt to act as a pocket for ice coming N from Nunap Isua is accentuated by the fact that winter ice does not usually form in the fjords between Nanortalik and Alluitsup Paa. Therefore, during spring and summer, there is no outflow of melted ice water from them to keep ice coming from Nunap Isua.

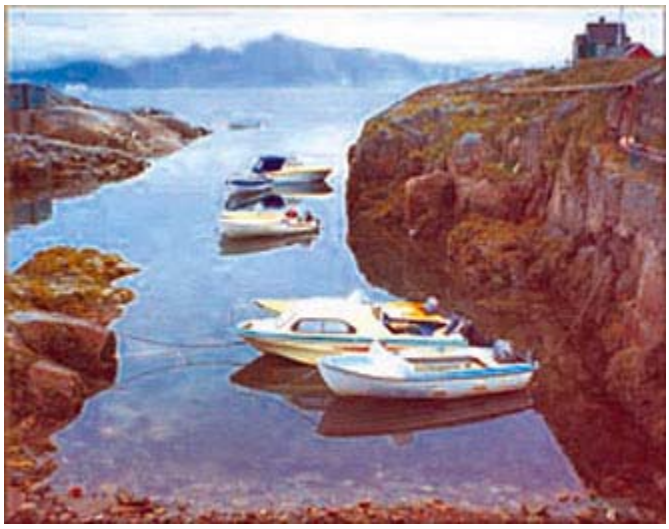
During the period of ice, between January and July, these islands act as a barrier to the ice. Within them there are three routes by which navigation between Nanortalik and Alluitsup Paa may be practicable, as follows:

1. The first route leads N from Nanortalik through Ikerasarssuk Channel and then E and N of Sermersoq. This route can be used by vessels with drafts up to 4m; however, there is a least depth of 3m in Ikerasarssuk Channel at LW.
2. The second route leads close S of the S extremity of Nanortalik and then E of Sermersoq, joining the first route N of Thomsens O.
3. The third route leads S of Nanortalik, S and W of Sermersoq, and then E and N of Qeqertarssuatiaq.

Caution.—Parts of the second and third routes lead through narrow passages but there is deep water throughout.

1.19 Alluitsup Paa to Julianehaab.—Between Alluitsup Paa and the W extremity of Akia, a large island located 23 miles WNW, numerous islands, islets, and rocks extend for several miles offshore. In the SW approach to Alluitsup Paa,

Ammassivik



cove at Alluitsup Paa (Sydproven)

Alluitsup Paa (Sydproven)

there is a concentration of several islands with adjacent dangers. The mainland coast is indented by a number of inlets and fjords and vessels navigating inshore are advised to adhere to the inner routes available between Alluitsup Paa and Julianehaab.

Qaersup Kangia (Torssukatak), a small fjord situated W of AlluitsoqFjord (Lichtenau Fjord), is entered between a point, 4.75 miles NW of Alluitsup Paa, and the SE extremity of the Saarloq Peninsula, 5.5 miles W. The shores of this fjord are heavily indented and its inner part is scattered with islets.

Kinalita Mountain (60°34'N., 45°39'W.), 702m high, stands N of the E entrance point and is conspicuous. Qeqertarssuaq Island lies in the entrance to the above fjord and restricts the E and W channels. This fairly large island is surrounded by great depths.

A group of islets, with adjacent dangers, lies W and S of the Saarloq Peninsula and can best be seen on the chart.

1.20 Ikardluk (60°30'N., 46°05'W.), a rock, awash, lies about 3 miles SSW of Sardlok. Numerous islets and rocks extend NNW for 5 miles from this rock to the islands which lie off the mainland coast.

A below-water rock, the position of which is doubtful, lies about 4 miles SSW of Ikardluk.

A rock, with a depth of 4m, lies 4 miles WNW of Ikardluk. The E side of the approach to Julianehaab Fjord lies between this rock and the W extremity of Akia, 8 miles N. Numerous

dangers exist in this area they are covered by the red and green sectors of Saarloq Light.

A 9.1m shoal patch lies 3 miles W of Ikardluk. The white sector of Saarloq Light leads between this danger and the rock mentioned above.

Caution.—Numerous sunken dangers have been reported (1970) to lie in the area between Ikardluk and Alluitsup Paa.

Zacharias Havn (60°33'N., 45°55'W.), a narrow inlet, lies 1.5 miles NNW of Alluitsup Paa (Sydproven). A beacon is located on the S entrance point at Ilerssuit. Two islets lie in shoal water N of the entrance point. The channel is about 0.1 mile wide and has a minimum charted depth of 10m.

Anchorage.—Vessels may anchor, in a depth of about 14m, sand and clay, good holding ground, about 1 mile E of the S entrance.

Caution.—Shoal areas lie up to 0.2 mile from the coast; a shoal, with a minimum depth of 6.2 m, is located near S of the anchorage area.

1.21 Talerua (60°33'N., 45°55'W.), an irregularly-shaped island, lies off the SW side of the Saarloq Peninsula. Umanassuaq, a hill 365m high, stands on the NE end of the island. Umanarssup Tunua, a narrow channel, leads between the SW side of the peninsula and the NE side of the island. A bay, situated on the N side of the island, affords good anchorage for medium-sized vessels, in a depth of 60m.

Saarloq (Sardloq) (60°32'N., 46°02'W.) is the northernmost island of a group of islands and islets which lie close W of Talerua. Saarloq Light is shown from the NW islet.

Saarloq Havn, a settlement, is situated at the W end of the S side of Saarlo. It is sheltered by the other islands of the group. There is a small jetty and several mooring buoys in the bay. Vessels up to 40m in length and 3.5m draft can anchor off the jetty and secure their sterns.

Kangeq, a large island situated close E of Akia, is separated on its N side from a mainland peninsula by Tuno, a channel 0.4 mile wide. Good anchorage, sheltered from the SE, can be obtained in the W bay on the N side of this channel.

Umanaq (Uummannaq) (60°35'N., 46°08'W.), an island, 205m high, lies 4.5 miles SW of Kangeq. A ridge, on which stand several cairns, encircles the island. Anchorage can be obtained off the E side of the island, in a depth of 18m.

1.22 Julianehabs Fjord is entered between the low-lying W extremity of **Akia** (60°40'N., 46°13'W.) and the SE extremity of Hollaendero, a large island 4 miles W.

All of the larger islands on this part of the coast are separated by narrow intricate channels. Several bays, which indent their shores, form good harbors and anchorages. Numerous smaller islands, islets, and rocks obstruct the area, but Julianehaabs Fjord, the main channel leading through these obstructions, is clear. This fjord forms the recommended approach to the Port of Julianehaab.

From its entrance, Julianehaabs Fjord extends 11 miles ENE to Karrarmiut Island where a broad arm opens N to form Qaqortoq Fjord. The main fjord then continues 4 miles farther ENE to Qeqertarssuaq, beyond which it leads into Igaliko Fjord.

There is a least charted depth of 27m in the fairway leading from Julianehaab Fjord and along the W and N sides of **Arpatsivik** (60°47'N., 45°55'W.) to the anchorage at the head of the fjord. The channel on the E side of Arpatsivik is encumbered with rocks and shoals and considered unsafe for navigation. A rock, awash, lies near the middle of the fjord about 1.25 miles N of the NE end of Arpatsivik.

Ivigssuartoq, an islet marked by a beacon, is located 4.5 miles SSW of the E entrance point. Several above and below-water rocks extend up to 1.5 miles N, S, and SW of this islet.

Qagssissalik, a small island, is located 2.5 miles S of the E entrance point. An islet, marked by a beacon, lies 1 mile E of this island. Numerous above and below-water rocks lie up to 0.75 mile E, S, and W of the island.

1.23 Paggivik Light (60°37'N., 46°11'W.) is shown from an islet located 0.5 mile N of Qagssissalik.

Islets, rocks, and shoal patches encumber the W side of the entrance to the fjord and extend up to 2.25 miles E and SE of the W entrance point.

A 14.6m shoal patch was reported to lie about 9 miles SW of Paggivik Light, but was reported (1979) not found by a vessel.

Pardlit, an island on the NW side of the fjord, is located 2 miles N of the E entrance point. Pardlit Light is shown from the SE extremity of the island. Kilagtoq is an island located 0.5 mile N of Pardlit. A light is shown from its NE extremity.

Hvide Naes Light is shown from a point on the N shore of the fjord, 3.5 miles ENE of Pardlit Light. A 9m shoal patch lies 2 miles WSW of Hvide Naes Light.

Isarut, a hill, 205m high, stands 0.5 mile within the W entrance point of the fjord and is prominent from seaward.

Because of their elevations, the mountains far inland to the NE of the fjord entrance may be visible at considerable distances.

Approaching from SW, **Redekammen Mountain** (60°53'N., 45°45'W.), 1,210m high, observed over the W end of Akia Island leads into the entrance clear of all dangers. Alternatively, **Ilimaussaq Mountain** (61°00'N., 45°56'W.), 1,390m high, in line with the highest point of Nordfjeld, 418m high, located 3 miles NNE of Pardlit Light, can be used.

Frequently, when these summits are obscured by cloud, Tugtutoq, a long island located 12 miles NW of the fjord entrance becomes easy to identify. In the approach to the fjord, the island, which rises to an elevation of 449m, has the appearance of a long, dark ridge sharply defined above the lower islands to seaward of it.

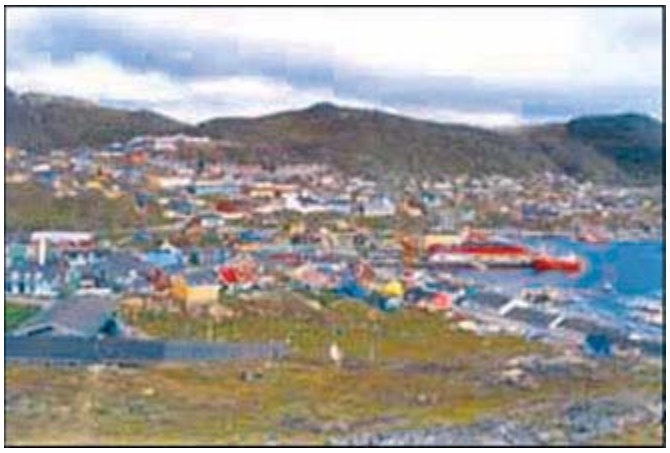
At night, the approach and entrance fairways are indicated by the various sectors of the above-mentioned lights.

1.24 Qaqortoq (Julianehaab) (60°43'N., 46°02'W.) (World Port Index No. 580) is the largest town in southern Greenland, with a population of approximately 3,200 inhabitants. The main industry is fishing. There is also a fur manufacturer and tannery in Qaqortoq.

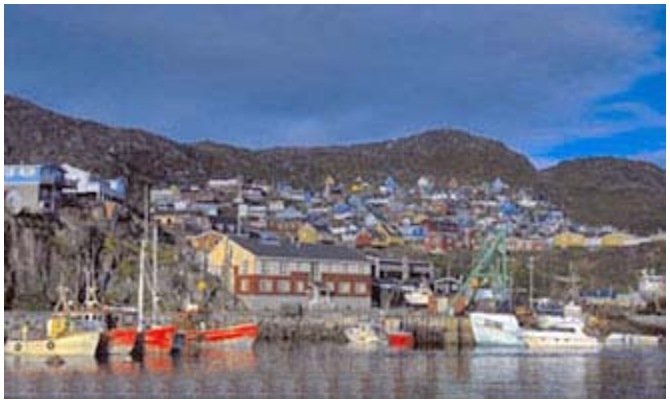
Tides—Currents.—Tides rise an average of 2.8m at springs and 1.4m at neaps. The current flows NW, but in the S part of the port there is little effect.

Depths—Limitations.—Qaqortoq (Julianehaab) is located on the N shore of Julianehaabs Fjord, 8 miles within its entrance. An inlet, open S, forms an inner and outer harbor. A breakwater, 145m long, extends from the W shore and protects

Qaqortoq Harbor



Qaqortoq (Julianhabb)



Qaqortoq (Julianhabb) Harbor

the inner harbor. A range indicates the fairway.

Atlantic Quay, the main wharf in the inner harbor, is 100m long, with a depth of 6.6m alongside. Vessels up to 110m in length and 6.5m draft have berthed at this quay.

The port is open, generally, throughout the year. However, entry is restricted from 1 January to 31 July to only ice-strengthened vessels.

Pilotage.—Pilotage is not compulsory, but is advisable. An unlicensed pilot is availabe by arrangement with the Port Operator. Vessels should send request for pilot through Qaqortoq, call sign "OXF" or by VHF. The pilot boards off Akia or by arrangement.

The vessel's ETA is to be advised to the Port Operator 24 hours prior to arrival.

Winds—Weather.—Winds from E and NE are the most frequent, occurring as stiff breezes during the summer, but as storms during the winter months. Strong winds also blow from NW and WNW. Winds from S are less frequent, but raise a heavy sea and swell in the port. Winds from SW, W, and NW can set ice into the harbor.

Anchorage.—Contact port officials for anchor positions.

1.25 Qaqortoq Fjord, fronted by Karrarmiut Island, is entered between the E entrance point of Julianehaab outer harbor and an unnamed point, 4 miles ENE.

A large part of the S end of the fjord is occupied by Arpatsivik, an island 425m high, which lies off the E shore. The narrow channel between the E shore and the island is encumbered by rocks and shoals.

Upernaviaksuk research station and jetty

Upernaviarsuk (60°45'N., 45°54'W.) consists of a research station and a jetty, 10m long, with a depth of 3.5m alongside. Anchorage, in depths of 10 to 70m, can be taken off the station, but the holding ground is poor. Spring tides rise to 2.8m.

Qaqortoq Fjeld, a mountain rising to 1,059m, stands 1 mile N of the entrance to **Tasiussaq** (60°50'N., 45°43'W.) the E of three small inlets which indent the N shore of the fjord. The ruins of Qaqortoq Church, the best preserved of all the old Norse buildings in Greenland, are situated on the shore of the fjord below this mountain.

Anchorage.—Vessels can obtain anchorage off a pebble

beach, which fronts the church, in a depth of 37m, good holding ground. However, vessels should approach the anchorage on a course of 090° to avoid a rock, awash, which lies about 0.1 mile offshore W of the anchorage. There is also foul ground E and S of the anchorage.

1.26 Igalikup Kangerlua (Igaliko Fjord) (60°44'N., 45°45'W.), a continuation of Julianehaabs Fjord, is entered 7 miles E of Julianehaab harbor and is fronted by Qeqertarssuaq, an island 212m high. From this island, the fjord extends NE for 18 miles to a broad promontory where it divides into two arms. Settlements are located at the extremities of each of these arms. A least depth of 16.5m is reported to lie in the fairway.

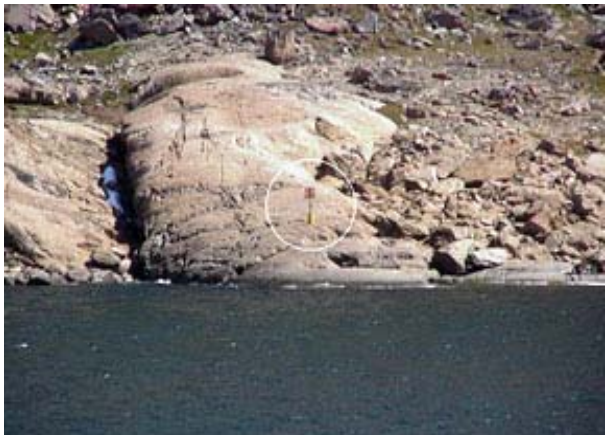
Igaliku (Igaliko) (60°59'N., 45°26'W.) is the small settlement which is situated at the head of the NW arm. It stands on the site of Gardar where there are the relics of an old Norse cathedral and Bishop's residence. Two islets and a rock, with a depth of less than 2m, lie at the head of the arm about 0.5 mile NE of the settlement. The remains of several old Norse farms also lie in the vicinity.

Vessels may anchor off the settlement or berth at the quay; the quay can handle vessels up to 35m long and 3m draft.

Spring rise is up to 3.5m; neaps rise up to 1.4m. The tidal current at the berth runs E and SE at 1 knot, and less at the anchorage. With the Southeaster, the water level reduces to 1m below chart datum.

1.27 Pardlit Island is the farthest NE of a group of three main islands and several islets and rocks lying on the NW side of Julianehabsfjord. Agssakataup Nuna and Sivingarngup Nuna are the other two main islands in the group.

Ikerassaq Qiterdleq is a navigable channel which leads along the SW side of Agssakataup Nuna. A beacon stands on an islet located on the S side of the W entrance to this channel.



Sivingarngup Nuna Beacon

Kilagtok, an island of irregular shape, lies close N of the group. A narrow channel leads between this island and the mainland E into Mato Lob (60°45'N., 46°17'W.) and Skovfjord.

Mato, a small island, lies 0.5 mile N of the N extremity of Kilagtok in the entrance to Singitsut, a small cove. A beacon stands on its NW side.

1.28 Hollaendero, a large island, forms the W side of the entrance to Julianehaabs Fjord and the E side of the entrance to Skovfjord. Hollaendero Havn (MacMillan Harbor) is formed by an inlet and several small islands, which lie close offshore, at the SE end of Hollaendero. Vessels can anchor in the inlet, in a depth of 30m, but the anchorage is open to the entry of ice.

The main advantage of the harbor is that it provides access to the hills on Hollaendero from where an excellent view of ice conditions at sea can be obtained.

Qeqertasugssuk, an indented small island, lies close off the middle of the E side of Hollaendero.

Qatitit, another small island, lies off the NE side of Hollaendero. It is marked by beacons standing on the SE and NW extremities.

Ikerasarssuk, a narrow channel, leads S of Qatitit and between the N side of Hollaendero and the S side of Kingigtoq. It is navigable and part of the inner route system. The channel has a least width of 0.12 mile and a least depth of 10m in the fairway, but is sometimes obstructed by pack ice.

1.29 Skovfjord (Skovfjorden), with its inner continuation called Tunugdliarfik, is situated W of Julianehaabs Fjord. The recommended entrance lies between the W end of Hollaendero and Simiutaq, 1 mile W.

From the entrance, the fjord extends NE for 19 miles to the SW end of a peninsula which projects from the mainland. Both sides of the fjord are bordered by islands and islets. Near this peninsula, the fjord divides into two arms. The NE arm is known as Tunugdliarfik. Narssaq Sund, the NW arm, connects the fjord to Bredefjord.

Within the entrance, Skovfjord narrows in places to a width of under 1 mile, but the depths in the fairway are great.

The fjord may be approached by channels which lead E and W of Simiutaq; however, the W channel is encumbered with rocks and shoals and frequently blocked by ice.

Ilimaussaq, 1,390m high, stands on the mainland 27.5 miles NE of Simiutaq and is an excellent mark. In addition, the long island of Tugtutoq, 450m high, is located 12 miles NNE of Simiutaq and is easy to identify.

Range beacons stand on the W side of Hollaendero and, in line, lead into the fjord.

1.30 Angissit (60°38'N., 46°43'W.), a rounded islet, 30m high, is located at the outer end of a chain of islands, islets, and rocks which extend 4.5 miles SW from Simiutaq. Two beacons stand on this island. A drying rock (position doubtful) lies about 3 miles E of Angisit on the W side of the approach to the fjord. Other dangers lie within 2 miles E, 6 miles WSW, and 8 miles W of Angisit and may best be seen on the chart.

Qioqe, 15m high, is the largest of a group of three islets located 2.5 miles S of the front range beacon on the W side of Hollaendero. This oval-shaped island is black in color and easy to identify, even at night, with the sea breaking over it. There are several shoals in the vicinity of Qioqe; several rocks, some of which dry, lie between it and the S coast of Hollaendero. Shoal patches, with depths of 12m and 16m, lie about 1 and 2.25 miles, respectively, SW of Qioqe on the E side of the approach to the fjord.

Simiutaq, on the W side of the recommended entrance, is marked by three radio masts which stand close together near

the center of the island. A mast, 61m high, stands on the SW part of the island. It is reported that a radiobeacon is located at this mast.

It is reported (1992) that a racon is located on a small islet lying off the SE side of Simiutaq.

Anchorage can be obtained close within the entrance to Skovfjord, in a narrow inlet on the SE side of Simiutaq, at the head of which stand the previously-mentioned radio masts.

Caution.—Any approach to the shore in the vicinity of the entrance must be made with caution because of the many small islets and rocks which may be scarcely visible. Vessels approaching the fjord from the W should keep well to seaward of the overfalls and breakers charted W and WSW of Angisit. These may indicate the presence of below-water rocks and other uncharted dangers.

The entrance to Skovfjord is the least conspicuous of any of the various fjord entrances situated along this coast.

A W set, of up to 2 knots, may be encountered in the approaches.

1.31 Niaquornap Nunaa (60°44'N., 46°35'W.) is the largest island in the chain which forms the NW side of Skovfjord. Its N shore is deeply indented. Several beacons, marking inner routes for small coastal craft, stand on the island. Hvide Humpel Lob, a narrow channel, leads between Niaqornap and Kerrortuskok, a small island SW, and forms part of the inner route system. An alternative inner route is through Nordlysets Lob, which leads between Kerrortuskok and Avatarmiut, close SW. It has the disadvantage that a single iceberg can block it and the tidal current runs strongly through it.

Igdlukasik (Illukasik) lies on the NW side of Skovfjord 2.5 miles NE of Niaqornap. Mathaeus Havn, an inlet at the NE end of this island, affords the only anchorage within Skovfjord for large vessels. The berth has a depth of 40m, good holding ground, in shells, pebbles, and mud. However, it is not recommended during S and SE winds. In addition, ice has been known to fill the inlet. Depths in the inlet shoal gradually from deep water, at the entrance, to 13m, at about 0.1 mile from the head. Below-water and drying rocks lie close off both sides of this inlet.

Qangue, a small island, lies close NE of Igdlukasik. There is a settlement on the island. A rock, which dries, lies in the channel between the two islands.

Kingittoq, the largest island on the SE side of the fjord, lies close N of Hollaendero

Alangorssuaq, a narrow peninsula extending SW for 12 miles from the mainland, forms the SE side of Skovfjord NE of Kingittoq. A beacon stands on its SW extremity.

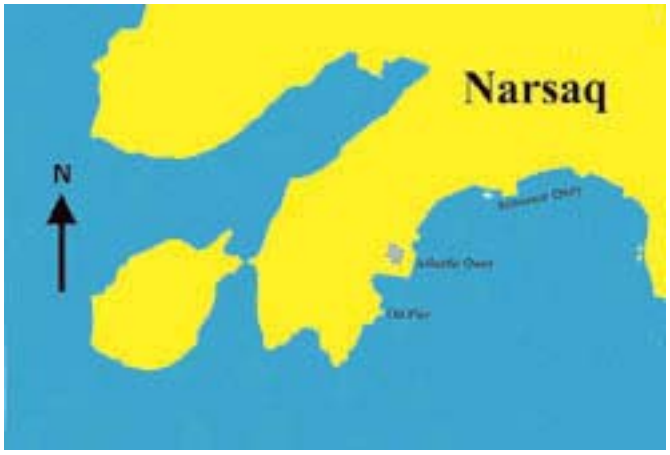
Kangerdluarssuk, a fjord on the SE side of Alangorssuaq, can be entered from either Skovfjord or from Mato Lob, the inner channel leading from Julianehaabs Fjord (see paragraph 1.22). A high, dark islet, with a cairn on its summit, fronts the mouth of a salmon river situated close within the W entrance point of Kangerdluarssuk. Anchorage can be obtained 0.2 mile NE of this islet, in a depth of 64m, good holding ground.

Eqalugaarsuit (60°37'N., 45°55'W.), a settlement, is situated on the mainland coast at the head of a narrow inlet. This inlet opens off a small bay on the S side of the entrance to Kangerdluarssuk, at its junction with Mato Lob. There is a small harbor with depths of 2.8 to 6.6m. Vessels up to 40m in length and 3m draft can berth with an anchor down and their sterns secured to the S shore. Larger vessels can anchor off the harbor, in a depth of 50m.

Igdtalik (Igdlutalik), on the S side of Narssaq Sund, is the innermost island of the chain which forms the NW side of Skovfjord. An 8.8m shoal patch lies about 0.75 mile N of the NE extremity of this island.

Narssaq Pynt, a projection, is located 2 miles ENE of the NE extremity of Igdtalik. It marks the junction of Skovfjord, Narssaq Sund, and Tunugdliarfik.

1.32 Narsaq (Narssaq) (60°55'N., 46°03'W.) (World Port Index No. 585), a large settlement, stands on the mainland coast at the head of a cove 1.25 miles NW of Narssaq Pynt. A radiobeacon is reported to be situated close SE of the settlement.



Narsaq

Narsaq

Winds—Weather.—Winds from the SE occur most frequently, but they can be accompanied by very strong mountain squalls. Winds from the SW rarely occur, but do so without previous warning, sending a violent sea and swell into the harbor.

Tides—Currents.—Spring tides rise 3m and neap tides 1.6m. Winds from SW can raise the water level by as much as 0.3m. Winds from NE can lower the level by the same amount.

Depths—Limitations.—West Harbor, located in the cove,

Narsaq

can be used by small vessels which anchor and moor stern-to, in depths up to 8m.

East Harbor is located in a bay close SE of the settlement. There are mooring buoys in the E part of the harbor. There is a quay for fishing vessels and a small oil jetty in the N part of the harbor. The main quay is 60m long, with a depth of 8.3m alongside. Vessels up to 135m in length and 7.5m draft can be accommodated alongside. Vessels can also anchor in the middle of the harbor, in a least depth of 20m. The recommended anchorage berth lies at the intersection of the alignments of two pairs of range lights.

A small islet, connected to the coast by a spit, is located on the E side of the entrance to the cove. A 3.4m shoal patch lies 0.1 mile NW of the islet, at the S end of a bank with depths of less than 10m, which occupies the central part of the entrance to the cove.

When anchoring in East Harbor, local knowledge is required due to the presence of outfall pipelines and poor holding ground.

The open season is March to February, but winter ice may occur and close to the port during summer. It is reported that only ice-strengthened vessels may enter the port from January to early August.

Pilotage.—Pilotage is not compulsory but is recommended. An unlicensed local pilot is available. Vessels should send an ETA at least 24 hours in advance. The harbor may be contacted on VHF channels 13 and 16 or via Julianehaab radio.

Tunugdliarfik, a continuation of Skovfjord, is entered E of Narssaq Pynt. There is high land around it, with elevations reaching 1,750m on Igdlerfigssalik, 24 miles ENE of the entrance. The sides of the mountains fall steeply down with a continuous steep gradient underwater, so that, with few exceptions, it is possible to approach quite close to the shores of the fjord and still find deep water.

Tunugdliarfik Fjord extends for 21 miles and then branches into two arms. The NE arm, known as Qoroq, extends to a glacier at its head. The other arm, known as Narssarssuaq Reach, trends N for 10 miles to Qinqua, a bay lying at its head.

Anchorage.—Anchorage, suitable for an extended time, can be obtained at the head of Narssarssuaq Reach, in depths of 18 to 29m. Tidal currents are reported to attain a rate of 1 to 1.5 knots in the reach.

Narsarsuaq and airport, right side

1.33 Narsarsuaq (Narssarssuaq) (61°09'N., 45°26'W.) (World Port Index No. 590) is locate inside Skovfjord and Tunulliarrrfik. The settlement is situated on the E side of the reach approxiamtely 4 miles within the entrance. The port is open from May to November and closed during the winter months because of ice accretion. There are facilities for handling cargo and small containers.

A pier, 140m long, extends from the shore. There are depths of 6 to 11m alongside its W side and 5 to 8m alongside its E side. Vessels up to 130m in length and 8m draft have been accommodated.

A meteorological observation station and airfield are located here.

Narsarsuaq airstrip-foreground, Qassiarsuk-background

Winds—Weather.—Winds from the SE can reach very strong gale strength. In addition, mountain squalls can blow out of Qoroq. There is heavy mooring equipment on the quay and it should be used by larger vessels during SE winds.

Ice.—An ice patrol and reporting service covering West Greenland is operated from **Iscentralen Narsarssuaq** (61°09'N., 45°25'W.). See Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean for further information.

Tides—Currents.—Tides rise 3.0m at springs and 1.6m at neaps. Strong winds from the SE may lower the water level by up to 1m.

Pilotage.—There are no pilots, but persons with local knowledge are available. An ETA should be sent at least 24 hours in advance. The port may be contacted by VHF.

The port is ice-bound during the winter and is open to entry only during the season from about mid-May to mid-October.

Caution.—Areas outside the fairway are not sufficiently well charted for vessels to proceed into them without local knowledge.

A strong NE current can occur off the pier. The pier is not solid and caution is advised during berthing.

Qassiarsuk (Qagssiarssuk) (61°09'N., 45°31'W.) a small settlement, is situated on the W side of Narssarssuaq Reach opposite Narssarssuaq. It is reported to be the site of Eric the Red's farmstead. There is a jetty for small craft. Vessels can anchor off the settlement, in a depth of 16m.

Ikersauq (Bredefjord) (60°46'N., 46°47'W.) is the longest

Qassiarsuk, opposite Narsarsuaq

and deepest of the fjords which open off Julianehaab Bugt. It trends NE for 27 miles to the junction with Narssaq Sund. Nordre Sermilik, the inner NW continuation of the fjord, has two arms, which both terminate in large glaciers.

Bredefjord is entered between **Qarmat** (Karmat) (60°44'N., 46°55'W.) and Upernivik, another island 2 miles NW. It can be safely navigated in mid-channel and has a least width of 1.5 miles. The SE side of the fjord is formed by a chain of islands which separate it from Skovfjord; the largest of these islands is Tugtutoq.

From the approach to Bredefjord, several mountains along with the lower but still prominent island of Tugtutoq, located in front of them, can all be seen at considerable distances in good visibility. Closer in, Upernivik Island, brown in color, appears to stand out well against the background. A number of beacons and a cairn stand on Qarmat Island.

Avatlek (Ydero) (60°41'N., 47°04'W.), a small islet lying 5 miles SW of Qarmat, is located at the seaward end of a chain of islands, islets, and rocks on the SE side of the approach to the fjord. Several dangers lie within about 1 mile of this islet and may best be seen on the chart.

Caution.—Areas lying SW, S, and SE of Avatleq have not been completely surveyed. Vessels should use extreme caution in this vicinity.

1.34 Inugsugtut, another islet in the chain, lies 1.5 miles WSW of Qarmat. A light is shown from a tower, 5m in height, standing on this islet. The white sectors of this light, bearing ahead and astern, lead into the entrance and up the fjord.

It is reported (1993) that a racon is situated at the light structure.

Avatdleg (Avalleq) (60°43'N., 47°15'W.), a rocky islet, 9m high, is located at the seaward end of a chain of islands and islets on the NW side of the approach to the fjord, 7 miles WSW of Upernivik. Shoal patches, with depths of less than 5m, lie within 1 mile of this islet and may best be seen on the chart.

Takissoq, an island in the chain, lies 2.25 miles NE of Avatdleg and is marked by a beacon. Shoal patches, with depths of less than 12m, lie within 1 mile SE of the island on the NW side of the approach fairway and may best be seen on the chart.

When approaching from E, vessels should keep well to seaward to avoid the many dangers which lie along the coast between Skovfjord and Bredefjord.

Ice.—Although Bredefjord usually contains glacier ice, it is generally navigable. Icebergs, which calve from the glaciers in the N part of Nordre Sermilik, may inconvenience navigation after the winter ice has broken up.

1.35 Apoqataq, located close E of Upernivik, is a small island on the NW side of Bredefjord. When ice blocks the main entrance, the fjord can be entered by passing close W and N of Upernivik and N of Apoqataq. There is a least depth of 12.8m in the passage between Apoqataq and the S part of Qaarsuarsuk (Kanertek), lying close N.

Anchorage.—Hoyers Havn. a small cove, indents the N side of Qarmat. Other than during E or NE winds, vessels are able to anchor in this cove with their sterns secured to the shore, and their bows to the NE. Vessels can also anchor in Apoqataq Havn, an open bay indenting the S side of Apoqataq Island, in depths of 31 to 33m, good holding ground.

Unertoq (Unektok), 45m high, is an islet located on the SE side of the fjord 0.25 mile E of the E extremity of Qarmat. Its summit is marked by a cairn; a beacon stands on its N end.

Lille Tugtutoq (60°45'N., 46°48'W.), an island located N of Unertoq, extends NE for 5 miles on the SE side of Bredefjord. Numerous islets lie close off all its sides except that which faces the fjord. The SW part of the island rises to a summit, 150m high, and several cairns stand along its SW shore.

Putdlatit, a small island, lies close off the S side of Lille Tugtutoq, 2.5 miles E of Unertoq. **Constance Havn** (60°44'N., 46°46'W.) is located in a bay which indents the S side of this island. Vessels can anchor here, in a depth of 15m. When approaching from the W, a useful landmark is the ruins of an old house which stand on a flat headland close W of the harbor. When approaching from the E, two round hills, standing on a headland close E of the harbor, are useful marks. Within the harbor, there are depths of 5.3 to 16.5m. It is spacious and affords protection from drifting ice.

Anchorage can also be obtained within a small bay, located close NE of the E entrance point of Constance Havn,(60 in a depth of 20m.

Qaarsuarsuk (Kanertek), a large irregular island, lies on the NW side of Bredefjord, with its S extremity located close N of Apoqataq. Kangerdluarssuk, the larger of two inlets, which indent the SW side of the island, extends in a NE direction for 6 miles and to within 2.5 miles of the NE shore. On its NE side, Qaarsuarsuk is separated from the mainland by a channel known as Torsukatak, the entrances of which are encumbered with islets. A prominent mountain, 507m high, stands on the NW side of this channel; its summit is marked by a cairn.

Tugtotoq lies close NE of Lille Tugtotoq and extends in a NE direction for 17 miles. This conspicuous island is bisected, near its middle, by deep inlets.

1.36 The Qassimiut Islands is a group of islands and islets located between the entrances to Bredefjord and Qaqaligatsiaq Fjord (Kakaligatsiak Fjord). A small islet lies about 390m S of the outermost islet of this group.

Qassimiut (Qagssimiut) (60°47'N., 47°10'W.), the easternmost island of the group, is located 6 miles NW of Inussuttuut Light and is surrounded by numerous islets and rocks.

Qassimiut's harbor is situated in a small inlet, with the settlement on its W and N sides. Smaller craft can berth alongside the jetty where depths are from 1.3 to 3m. The largest vessel berthed at the jetty was 30m long, with a draft of 3m on HW. Vessels can anchor, in 20m, about 100m SE of the jetty; however, larger vessels should also use the stern moorings to the ringbolts, one on each side of the inlet. Tankers anchor about 100m from the leading beacon and use stern moorings off the tank farm. The holding ground in both places is good, but with SE or N winds, vessels should leave the anchorage in good time before the heavy swell sets in.

Tides—Currents.—Tidal currents run strong in the sound W of the settlement but weaken inside the inlet. Spring tides rise to 2.4m; neap tides rise to 1.7m. The maximum tidal rise can reach 3.5m

The inner route for small coastal craft leads across the mouth of Ikersauq (Bredefjord), S of the islets and rocks lying off the SE end of Qagsimiut, and W into either Nordlige Maagelob or Sydlige Maagelob, two navigable channels which lead through the islands into Qaqaligatsiaq Fjord. Nordlige Maagelob, the N channel, is the preferred one, having a least depth of 9.1m in the fairway. Sydlige Maagelob, the S channel, is often affected by ice conditions at its E end. Both channels are marked by beacons and local knowledge is required.

Avatdlianguak (Avatdlinguaq) (60°43'N., 47°22'W.), with a below-water rock lying 1 mile WSW, is the outermost islet of the group.

Numerous shoal patches and rocks front the seaward side of the group and may best be seen on the chart.

Caution.—Kekertat Oerne (Qeqertat Oerne) (60°35'N., 47°34'W.), a group of low islets and rocks, lies about 10 miles SW of Avatdlianguak.

1.37 Qaqaligatsiaq Fjord (Kakaligatsiak Fjord) is an open bay lying between the Qassimiut Islands, to the E, and the large island of Nunarssuit, with its fringing islets, to the W. It can be entered between the island of **Unamaq** (Unamai) (60°43'N., 47°40'W.) and the islets of the Satut Group, 1.5 miles E, or between Unamaq and the coast of Nunarssuit, 0.5 mile NW.

The approaches are encumbered in places by islets, rocks, and shoal patches; local knowledge is necessary.

The inner continuation of the fjord, known as Sermilik (Sermitsialik), extends for 14 miles to a glacier. The SE side of Sermilik is formed by a chain of islands, but little is known about them or the passages leading between them.

Ice.—The islands, which form the E side of the fjord, are the first of those along the route from Julianehaab to Nunarssuit to become ice bound in winter. Icebergs can also block the E entrance to Nordlige Magelob, but this channel, unlike Sydlige Maagelob, is seldom obstructed.

1.38 **Nunarssuit** (60°45'N., 48°00'W.) the largest island in this vicinity, is located with Alangorssuak to the NW, close off the mainland coast between the entrances to Qaqaligatsiaq Fjord (Kakaligatsiak Fjord) and Kobberminebugt (see paragraph 2.3). Both of these large islands are fronted, on their W sides, by groups of small islands and islets.

The S side of Nunarssuit is steep and rugged, but by contrast,

its N side is quite low, with flat plains. Malenefjeld, a steep mountain 494m high, stands close to the E end of Nunarssuit and is conspicuous from seaward.

Torssukatak

Courtesy of Roger Parry - UK

View of Torssukatak from Augilagootoq

Torssukatak and Ikerasagssuaq, two narrow channels, form a passage, 22 miles long, leading N of Nunarssuit. They are used by small coastal craft navigating the inner route system between Julianehaab and Ivigtut. Local knowledge is required. The channels, marked by beacons, join in a narrows, about 45m wide, at Knaekket, a flat point located on the SE end of Alangorssuak.

Torssukatak, lying between Nunarsuit and Alangorssuaq, is characterized by steep shores and subject to almost constant fogs.

Ikerasagssuak, lying between Nunarsuit and the mainland, has lower and more sloping shores and is less foggy. That part of the narrows lying at the W end of Ikerasaqssuaq is the most difficult part of the passage to navigate because of a very swift tidal current which attains a rate of 4 knots. The flood stream sets W and the ebb stream sets E through both channels.

There is a least depth of 7.5m in the center of the fairway of the combined sounds; this depth occurs in the narrows at the E end of Torsukatak. A hill, 185m high with two conspicuous small summits, stands at the W entrance to Torsukatak on the NW extremity of Nunarsuit.

Ice.—Torssukatak is frequently filled with pack ice from seaward. However, the outflow of water from Sermilik through Qagaligatsiaq Fjord (Kakaligatsiak) keeps the drifting pack from penetrating into Ikerasagssuaq. Locally formed winter ice is more prevalent E of the narrows than to the W. Generally, the channels are not completely open throughout their length until the first half of June. Vessels capable of forcing the ice can use them from early May.

Anchorage.—Anchorage may be obtained in a bay at Bangs Havn, 2.5 miles E of Knaekket, in a depth of 15m, clay. Anchorage may also be obtained in a cove at Aurora Havn, 9.5 miles ESE of Knaekket, in depths of 13 to 15m. Vessels may use a single anchor or secure their sterns to the N shore.

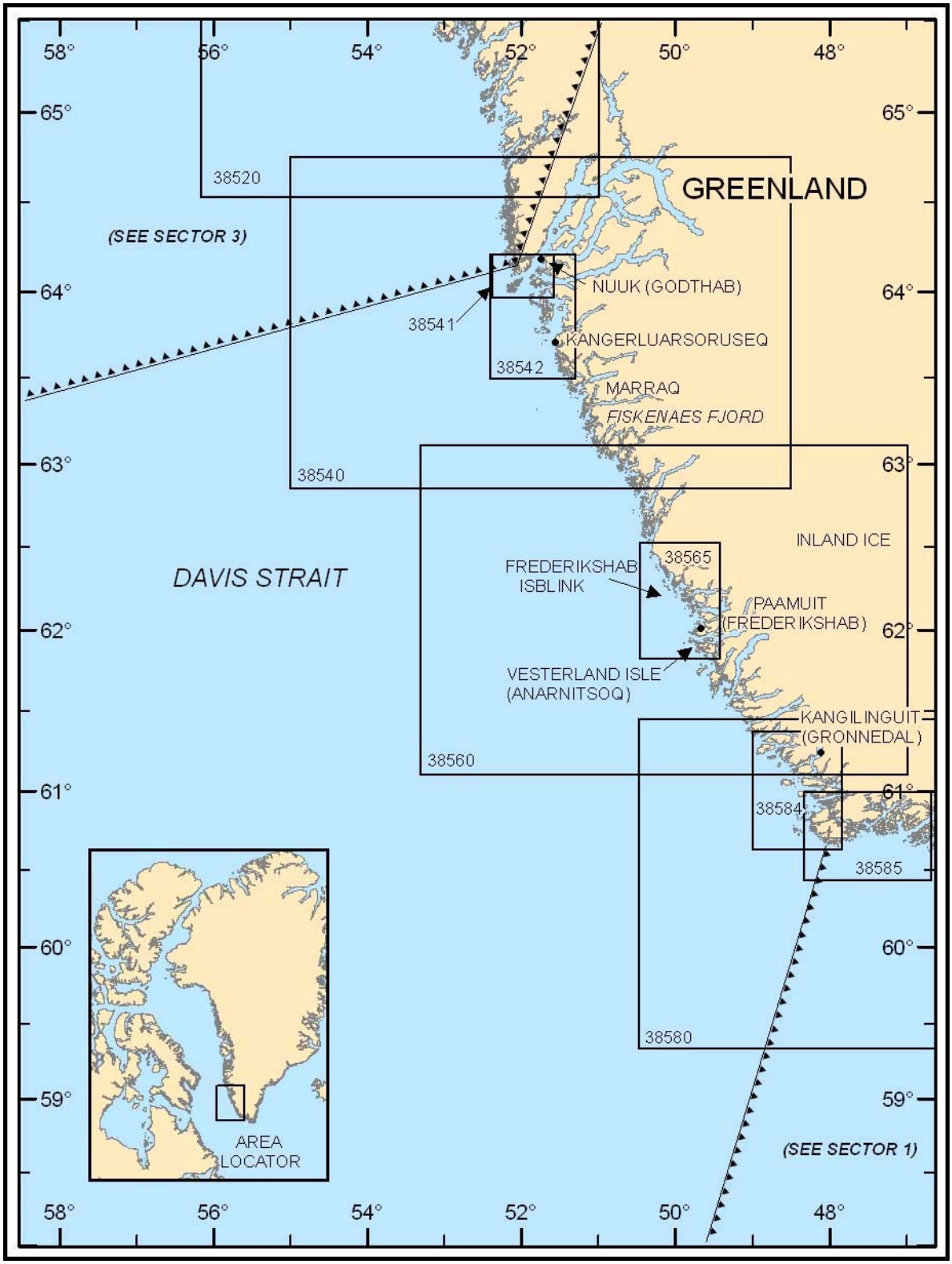
1.39 Kap Thorvaldsen (60°40'N., 47°54'W.), the S extremity of Nunarsuit and the NW entrance point of Julianehaab Bugt, is situated 7.5 miles SW of Umanaq (Umanai). The shore between is fronted by islets, rocks, and shoal patches. The cape, rising to a height of 377m, is conspicuous from seaward.

Islets and above-water rocks extend 1.25 miles S of the cape; a 1m shoal patch lies about 3.5 miles ESE of it.

Caution.—An area lying S of Kap Thorvaldsen has not been completely surveyed. Vessels should use extreme caution in this vicinity. A depth of 23.8m was reported (1992) to lie about 11.5 miles S of the cape.

Amitsuarssuk

Tasiusaq and Amitsuarssuk, two short fjords, are entered 6 and 8 miles, respectively, WNW of Kap Thorvaldsen. Both of their entrances are fronted by off-lying islands. These fjords are reported to be clear of dangers and provide shelter for vessels shut in by ice under the SW side of Nunarsuit. Good anchorage is available in the innermost part of Amitsuarssuk, E of a small island on the N side, in a depth of 26m. Anchorage is also available in the N part of a cove located on the S side close within the entrance, in a depth of 33m.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **2** — CHART INFORMATION

SECTOR 2

GREENLAND—WEST COAST—KAP DESOLATION TO NUUK (GODTHAB)

Plan.—This sector describes the SW coast of Greenland NNW from Kap Desolation, at the NW side of the entrance to Nuuk (Godthab).

General Remarks

2.1 This section of Greenland, consisting of 280 miles of coast with Frederikshaabs Isblink midway, has an irregular, rugged, and mountainous profile. The outer part of the coast is formed by a zone of islands, islets, and rocks which separates the mainland from the open sea. The coastal waters have irregular but ample depths and several large banks lie close offshore between Frederikshaabs Isblink and Godthabs Fjord. Numerous dangers fringing the coast render the inshore approaches complex and difficult, and several of the fjords have not been surveyed.

Kap Desolation to Paamiut (Frederikshab)

2.2 **Kap Desolation** (60°44'N., 48°11'W.), 600m high and the SW extremity of Nunarsuit, is located 9 miles WNW of Kap Thorvaldsen. The reddish peaks and jagged cliffs of the stretch of coast between these capes presents a superb landscape. Kitdlavat, a conspicuous mountain range, rises to an elevation of 782m close NNE of Kap Desolation.

Caution.—Between Kap Desolation and Arsuk Fjord, 30 miles NNW, the coast is deeply indented with numerous off-lying islands, islets, rocks, and shoal patches.

A shoal bank, with a least depth of 14.6m, is reported to lie about 19 miles WNW of Kap Desolation. A depth of 18.5m has been reported to lie about 3.5 miles farther to the N. Vessels should use caution when in the vicinity.

Naujartalik (60°46'N., 48°15'W.), the westernmost and largest of a group of reddish round-topped islands, lies 3 miles NW of Kap Desolation. Rocks, above and below-water, extend W and SW for about 1 mile from the island. Anchorage can be obtained by small vessels, in a depth of 15m, within a small harbor on the E side of the island; vessels may secure their sterns to the shore. The harbor is open to the S and, if much ice is present, should be examined before entry.

Torssukatak, the channel lying between Nunarssuit and Alangorssuaq, is entered 4 miles NNW of Kap Desolation, and is described in paragraph 1.39. Numerous islets and below-water rocks lie up to 2.5 miles W of the entrance and may best be seen on the chart.

Quairtorfik (Kuairtorfik) (60°50'N., 48°15'W.), an island, 127m high, is located off the W side of Alanngorssuaq, 2 miles N of the entrance to Torssukatak. A navigable channel, which forms a link in the inner route between Julianehaab and Ivigtutf, lies between this island and Qatit (Kautit), a group of small islets, located close W. The channel has a least depth of 11m.

Ydre Kitsigsut and Indre Kitsigsut, two groups of small islands, front the W sides of Nunarssuit and Alangorssuaq up to 7 miles W. They can best be seen on the chart.

Ydre Kitsigsut consists of some 30 islands, islets, and rocks lying from about 5 to 10 miles WNW of Kap Desolation. **Thorstein Islaender** (60°46'N., 48°26'W.), 116m high, is the highest and largest island of the group; it can be easily identified.

Indre Kitsigsut consists of a heavy concentration of low reddish islets and rocks which lie scattered from 2.75 to 8 miles NNE of Ydre Kitsigsut. This extensive group is dominated by Tulugartulik, 58m high, located 5 miles NNE of Thorstein Islaender.

2.3 **Kobberminebugt** (60°51'N., 48°14'W.) extends ENE for 23 miles to the edge of the Inland Icecap, which is visible from the entrance. It is entered between the NW extremity of Alangorssuaq and the SW extremity of Sanerut Island, 10 miles NNW. The outer part of the bay and the S part of the entrance are encumbered with numerous islets, rocks, and shoals. These extend NE in small, scattered groups from Indre Kitsigsut and continue as a long chain to the head. Ikerasargap Nuna is the largest islet within the chain. A navigable channel, named Sanerutip Ima, lies between the N side of the chain and the S side of Sanerut Island. The inner end of this channel leads NE and connects by a narrow passage with the head of the fjord, which lies on the N side of Sanerut. Sanerutip Ima is reported to have a least depth of 14.6m in the fairway. The branch leading NE has a depth of 5.5m. The narrow passage dries and can only be used by boats at high water. A channel, which separates the chain of islets from the mainland S, dries at its inner end.

Ice.—Large icebergs frequently drift in and ground around the numerous islets in the S part of the bay.

Caution.—Numerous above and below-water rocks lie within Kobberminebugt and breakers have been reported in several places. Local knowledge is advised.

2.4 **Satut** (60°55'N., 48°18'W.), a low and rocky islet, lies in the middle of the entrance to Kobberminebugt.

Baake, an islet with three prominent knolls, is located in the entrance 2.5 miles S of Satut. The inner route to Arsuk Fjord passes between Baake Island and the above-water rock, in depths of 12.7m.

Ikermuit and **Qernertut** (60°54'N., 48°07'W.) are small islets located on the N side of the approach to Ellens Havn, an indentation located on the N side of Alangorssuaq Island, where there are some disused copper mines. Breakers have been reported 1 mile NW of Ikermuit. Islets and rocks extend on the S side of the approach, from the NW extremity of Alangorssuaq to the NE islet of Indre Kitsigsut.

Amorsinguaq (60°57'N., 48°06'W.), a group of scattered islets and rocks, is located in the middle part of the bay, close W of Avssangiut, an irregularly-shaped island.

Angniksorssuak, rising to a height of 630m, stands near the

NW extremity of Alangorssuaq and is conspicuous. Alangorssuak Fjeldt, 2 miles NE of Angniksorssuak, rises precipitously from a narrow foreshore to two bare peaks. The SW peak, 675m high, is somewhat higher than the NE peak and each is marked by a cairn. Amitsuarssup Qaqa stands 3 miles NE of the NE peak and rises to a height of 371m.

Kitdliarssuk Kaka, 115m high, is a small headland situated at the NE end of Alangorssuaq. Rinks Havn, a small harbor, is located close E of this headland. It is preferred to Ellens Havn because of its better shelter. Local knowledge is necessary for entering Ellens Havn or Rinks Havn.

Sanerut (61°00'N., 48°20'W.), a large island, is steep, rugged, and brownish in appearance. A prominent peak rises to an elevation of 943m at its W end.

Borgs Havn lies in a cove, fronted by islets, 7.5 miles E of the SW extremity of Sanerut. The harbor is entered from the E through a narrow channel and affords anchorage, in depths of 13 to 27m. Local knowledge is required.

2.5 Kobberminebugt to Arsuk Fjord.—A large unnamed island is located to the N in the channel between Sanerut and Tavdlorutit. Kangerssup Avangnamut Nua, the NW extremity of Sanerut, is the S entrance point of the channel. Depths in its wide, outer part appear to be uneven. A chain of soundings, leading ENE from the S entrance point to the middle of the inner part of the channel, indicates a least depth of 25m, with a depth of 300m nearby. The charted soundings continue, with sufficient depths, E along the S side of Tavdlorutit and pass N of an islet, located at the W entrance of the narrows lying between the E ends of Tavdlorutit and Sanerut. A single chain of soundings, with depths of more than 35m, extends along the NE side of Sanerut Island to **Qipisargo** (61°01'N., 47°52'W.), at the head of the channel.

Arsuk

2.6 Arsuk Fjord (61°12'N., 48°14'W.) is deep and almost free of dangers as far as its head, which is occupied by a glacier. The principal approach to Arsuk Fjord lies between Stor O (Kekertarssuak), an island located 5 miles NW of the NW extremity of Sanerut, and Arsuk Umanak, an island about 6 miles NNW.

From the approach, two channels lead to the fjord. The S channel, Sondre Lob, is entered between Stor O and Manitsoq, 4.5 miles NE, and leads S and E of **Arsuk O** (61°09'N., 48°22'W.), a large island. This channel is used by large vessels and indicated by ranges which can best be seen on the chart.

The N channel, Torssukatak, is entered between Middluvik, an islet 0.5 mile N of Manitsoq, and Qajartalik, an islet 1.5 miles NW. Karra, 0.5 mile E of Qajartalik, is the S promontory point of the mainland. Two wrecks lie nearby. A light, indicating the approach, is shown from the SW side of Qajartalik. This channel leads N of Arsuk O and passes through a narrows at the E end where it enters the main fjord. Although Torssukatak provides the shortest route to the inner fjord, the narrows restrict vessels to a maximum length of 66m and a maximum draft of 5m. This channel is also, at times, wholly or partially blocked by icebergs or growlers.

The fjord can also be entered from S through Simpson Passage, which is located between Tavdlorutit and the islets lying off the E side of Stor O. The entrance lies between the SW side of Tavdlorutit and Camilla, a small islet, 3 miles WSW. The channel leads N into the fjord between the NW side of Tavdlorutit and Evqquitsut, an islet 1.25 miles WNW.

Aspect.—The land, at first sighting, is usually covered by low-hanging clouds and a snow haze; vessels may be well within the approach before sighting it. The mountain elevations in the vicinity are considerable and, to those unfamiliar with Greenland, it is wise to concentrate on the clouds at first approach, as some of the sky cover may turn out to be mountain ranges seen at a distance. In clear weather, the fjord may be identified without difficulty by an almost level range of mountains located to the N and a remarkable round-topped peak which rises abruptly to the S. Many of the islands and islets in the approach are radar conspicuous. A steep terrain, rising abruptly to a height of 610m, surrounds the fjord.

Arsuk Umanak (61°10'N., 48°40'W.), on the N side of the approach, has two distinctive hills and can easily be identified from a distance of several miles. This island rises to a height of 540m.

Stor O, on the S side of the approach, rises to a height of 745m can be easily identified. The island has three peaks, of which the lowest is a distinctive conical hill standing at its NW end.

Umanarssuk, located 0.5 mile off the SW side of Stor O, has a dark and conical peak 245m high.

Arsuk O, lying between the N and S entrance channels, appears as a high, dark mass marked by three main peaks.

Kungnat (61°13'N., 48°26'W.), rising to an elevation of 1,418m about 30 miles N of Kap Desolation, is the highest mountain along this stretch of coast. It has no well-defined features, but its height in clear weather makes it an excellent landmark.

Ice.—The ice, which arrives off Kap Farvel about January each year, generally reaches Arsuk Fjord about March. During April, May, or June, this ice may form an impenetrable barrier across the entrance and fill the fjord with packed ice and bergs. However, more usually a belt of free water, a few miles wide, will be found between the coast and the pack. In addition, the ice is frequently sufficiently scattered to permit penetration. After July, the coast is generally free of ice until the end of the year, but it may be found a few miles off during December or even November. From December, until as late as May, locally

Kangnet - viewed from the Arsuk Fjord

formed ice, up to 1m thick, will be found in the fjord as far S as Ivigtut.

The Naval Radio Station at Gronnedal will report the latest ice conditions in the fjord and the approaches.

Caution.—Permission to enter Arsuk Fjord must be secured immediately before entry from the Greenland Command Naval Station at Gronnedal. On the approach to the fjord and during the passage through it, vessels must display their national flag and, on passing the W entrance point of Ivigtut roadstead, report by VHF to the Naval Signal Station at Gronnedal.

2.7 Arsuk (61°10'N., 48°27'W.), on the N side of Torssukatak, is a small harbor located in an inlet which is open to the SW. There is a quay for small coastal craft with drafts up to 3.5m. Larger vessels, up to 80m in length, may anchor with stern moorings, in depths of 17 to 30m, close SW of the quay.

Pilotage.—The port can be contacted on VHF channels 9, 13, and 16. There are no pilots, but people with local knowledge are available.

Berthing for up to 33 cutters is provided by a group of 66 mooring buoys within the protection of an ice boom.

Akussak, the E extremity of Arsuk O, is located on the W side of Sondre Lob and is marked by a beacon. Anchorage can be obtained in a bay located 0.5 mile WSW of Akussak. Anchorage can also be obtained, in depths of 9 to 15m, gravel, off the entrance to a small bay at Isua, close SW of Akussak.

Taylors Havn, on the E side of Sondre Lob, is situated 2 miles NNE of Akussak. This bay is open to the S; the harbor is encumbered, in its E part, with rocks. Anchorage can be obtained, in a depth of 11m, soft bottom, in its W part; vessels must be secured to the shore by hawsers because of the lack of swinging room.

Webers Havn, located 1 mile NW of Taylors Havn, is a sheltered bay kept free of ice, for most of the year, by a rapid ebb tidal current. Range beacons, standing on the E shore, lead into the harbor between its W entrance point and some islets and rocks which front the bay. Anchorage can be obtained, in depths of 13 to 15m, stiff clay, in the N part of the harbor.

Ivigtut (Ivittuut) (61°12'N., 48°11'W.) is situated on the S side of the inner part of Arsuk Fjord. A light is shown from Kamigtalik Point, 0.5 mile WNW of the port. In 1989, the port was closed and all maintenance discontinued.

Ivigtut (Ivittuut) - abandoned cryolite mine area

2.8 Gronnedal (Kangilinguit) (61°14'N., 48°06'W.) (World Port Index No. 605), situated 3 miles E of Ivigtut, is a Danish Naval Station and handles general cargo. The harbor is located in a bay at the E side of the fjord. A river enters the bay through a valley enclosed by high ground. The open season is April through December. The port may be closed during the summer polar ice period.

Winds—Weather.—Winds from between S and SE are the most frequent. Occasionally, these winds will blow through the river valley, S of the harbor, at strengths up to 80 to 100 knots. During winter months, winds from SE (fohn winds) have occasionally reached strengths of up to 130 knots.

Tides—Currents.—Tides rise about 3m at springs and 1.6m at neaps. There are no notable tidal currents.

Depths—Limitations.—There is a T-shaped quay and two pontoon jetties. The berth on the W side of the quay is 90m long, with a depth of 11m alongside. The berth on the E side of the quay is 50m long, with a depth of 6.5m alongside. Vessels

Gronnedal - Danish Naval Station

up to 110m in length and 7.5m draft have been accommodated alongside.

It is reported that two mooring buoys, located in the S part of the harbor, can accommodate vessels up to 10,000 dwt.

Aspect.—Range lights, indicating the approach, are shown from the N part of the bay and may best be seen on the chart.

Pilotage.—Pilotage is not compulsory, but is advisable; an unlicensed pilot is available on request. Vessels should send an ETA at least 24 hours in advance. The port can be contacted by VHF channel 16.

Anchorage.—Anchorage can be obtained in Eqaluit (61°15'N., 48°06'W.), a bay situated 0.75 mile N of Gronnedal, in a depth of 28m; however, SE winds blow more violently here than elsewhere in the fjord.

Anchorage can be obtained in Christian Havn, a bay situated 4 miles W of Gronnedal on the N side of the fjord. The best berth, in depths of 11 to 16m, mud, lies at the W side of the bay, between some islets and the mainland shore.

Anchorage can be obtained in Ellerslie Havn (61°19'N., 48°08'W.), a bay situated 3 miles NE of Eqaluit on the W side of the fjord. The best berth is at the W part of the bay, in depths of 9 to 15m, clay and sand.

Caution.—The berths alongside the quay are sometimes untenable when strong winds blow down the river valley. Vessels shall leave the quay during strong SE winds.

That part of the fjord ,which lies within 2 miles of the port, is considered to be a prohibited area. The seaward limit of this area is marked by beacons. Vessels must receive permission from the Greenland Command Naval Station before entering.

2.9 Arsuk Fjord to Paamiut (Frederikshaab).—Two very conspicuous mountains stand along this 60 mile long stretch of coast and can be seen from a considerable distance offshore.

Tindingen (Kingigtok) (61°30'N., 49°06'W.), 913m high, is a pinnacle mountain standing on the coast 16 miles NNW of the W extremity of Sermersut.

Norssaerserfik (Nautsarsorfik) (61°43'N., 48°38'W.), 1,643m high, stands 26 miles N of the E extremity of Sermersuut.

Sermersuut (61°16'N., 48°50'W.), an island on the NW side of the approaches to Arsuk Fjord, appears as a high plateau. Sermersut Umanarssua, 314m high, is a prominent conical peak standing at the SW end of the island. From a distance, it may appear detached from the island. A beacon stands on the NE extremity of Sermersuut.

Sermersuut

Nunanguit (61°13'N., 48°47'W.), 198m high, is the largest of a group of islets lying 3 miles SSE of Sermersuut.

Isa (Issa), an island, 282m high, is located 1.5 miles E of the E end of Sermersuut. Anchorage is available in a bay, encumbered with small islets, formed between the SW end of Isa and two small off-lying islands, close SW. Vessels can anchor, in depths of 9 to 14m, gravel, with fair protection from N winds.

Tornarssuk, a large island, is located 1 mile N of Isa. It is separated from the N side of Sermersut by Tornarssuk Lob, a channel with a least middle depth of 75m. Oqutalik, the westernmost of several small islets, lies off the W end of Tornarssuk.

A shoal patch, with a least depth of 15m, lies about 5 miles WSW of Oqutalik Beacon.

Sondre Kangeq (Sioraq) (61°21'N., 48°59'W.), 5 miles NW of Sermersut, and Nordre Kangeq (Kangek), 4 miles farther NW, are two projecting points of a mainland promontory, fronted by rocks. A beacon stands on Sondre Kangeq.

Sitdlisit Havn (61°22'N., 48°56'W.) lies within a chain of islets on the SE side of the promontory, 1.75 miles NE of Sondre Kangeq. Anchorage can be obtained, in a depth of 22m, good holding ground, within the harbor. Vessels should secure their sterns to the N shore. The harbor can be entered through several danger-free channels which lead between the islets fronting it.

Tigssaluk Havn, 2.5 miles NE of Sondre Kangeq, affords anchorage, in a depth of 21m. The harbor, which is clear of dangers, is entered in mid-channel between two low-lying arms of the mainland. Tigssaluk Mountain, rising to an elevation of 640m, stands 2.5 miles ENE of the harbor.

Sermiligaarssuk Fjord (Sermiliarsuk Fjord) is one of two true ice fjords located S of latitude 69°00'N. The other, Sermilik, lies 20 miles NW.

Sermiligaarssuk Fjord is entered between Nordre Kangeq

and a headland, fronted by rocks, 4 miles NNE. It continues ENE for 25 miles to its head. Kangarssup Umanak, with small islets around it, is located near the middle of the entrance; foul ground extends up to 1.5 miles WNW from the island.

Tindingen, previously described above, stands close N of the entrance to the fjord.

2.10 The large mainland projection located between Sermiligarssuk Fjord and Sermilik Fjord is indented by three smaller fjords, named from S to N, Qasigialik (Kasigialik), Neria (Neriak), and Tasissaq (Tasiusak). Several lakes drain into the heads of Neria and Tasiussaq.

Smallesund (61°33'N., 49°16'W.), located S of the entrance to Neria, is a much-used safe harbor. It is formed in a sound lying between the mainland and Anarsivik (Anarsuak), an island, 130m high, located close W. Qioqe (Kioke), an isolated and prominent islet, 218m high, lies 3 miles WSW of the entrance to Smallesund.

Narsalik (61°39'N., 49°19'W.), a large island, 221m high, fronts the mainland between Neria Fjord and Tasiussoq Fjord. It is fringed by rocks which extend up to 1.5 miles offshore. Narssalik Havn, a small inlet on the NW side of the island, affords anchorage for vessels up to 35m in length.

A chain of islets, extending NE from the island, connects it to Nuk, the W entrance point of Sermilik Fjord. Sermilik Fjord extends NNE for 20 miles from Nuk.

Caution.—Ice calved from the glaciers in the fjords frequently hinders navigation in the vicinity of Narsalik. From the end of June or the beginning of July until some time in August, the waters off the entrance to these fjords are so closely packed with icebergs that vessels are advised to keep about 5 miles offshore in order to avoid them.

Vesterland (Anarnitsoq), a large island rising to a height of 260m, is located 3 miles NNW of Narsalik. Qeqertat (Kekertak), a group of islands and islets of which Akinaq (Akingnak) is the largest, extends SW for 4.5 miles from the S extremity of Vesterland. This group is bordered by foul ground and rocks and should be given a wide berth.

2.11 Frederikshab Umanak (61°46'N., 49°36'W.), a round-topped island 300m high, is located 14 miles S of Frederikshaab and serves as an excellent landmark for the approach. It is the largest of several islands, islets, and rocks lying seaward of Vesterland.

Kangerdluarsuk, fronted by islets, is an inlet in the mainland entered 2.5 miles NE of the N extremity of Vesterland. It provides anchorage, in a depth of 20m, good holding ground, but local knowledge of the area is required.

Igaussaq (61°53'N., 49°29'W.), a large island, is located close off the mainland 6 miles NNE of Frederikshaab Umanak. A mountain, given the same name, rises to a height of 599m at the SE end of this island.

Satuarssugssuag, an islet, is located 3.5 miles NW of the NW extremity of Igaussaq. Numerous small islets and rocks lie between the NW extremity of the island and this islet. A light is shown from a structure, 7m high, standing on the islet. It was reported (1992) that a racon was located at the light structure.

Vardeo, a small but prominent islet, 24m high, is located 4.5 miles W of the NW extremity of Igaussaq. Numerous obstructions lie between this islet and the W side of Igaussaq.

Kvanefjord (61°59'N., 49°44'W.) is entered between the N side of Igaussaq and the S side of a peninsula which projects from the mainland. It extends ENE for 13 miles and then NNE for 6 miles to where it divides into three short branches, each with a glacier at its head.

The main approach fairway into the fjord lies between Satuarssugssuag, on the S side, and the outermost of numerous small islets which front the SW end of the peninsula, 1.25 miles to the N. Vessels are cautioned to avoid the shoal patches lying within 1.5 miles NW of Satuarssugssuag.

Caution.—A submarine outfall extends about 0.5 miles SW from quay S of Pakhus (61°59.8'N., 49°40.8'W.).

A narrow channel, leading into the fairway from S, lies close E of Satuarssugssuag.

Kvaneo, 70m high and almost joined together, are two islands which lie in the middle of the entrance to the fjord, 0.75 mile N of Igaussaq.

Eqaluit, an inlet, opens off the N side of the entrance to Kvanefjord N of Kvaneo. It extends NNE for 5 miles.

Qaqarssuatsiaq Kujatdleq (62°02'N., 49°33'W.), rising to a height of 510m, stands on the N side of the fjord about 4.5 miles N of Kvaneo. It is very prominent when there is snow on the ground with which its bare sides contrast sharply.

Knoffeld (Arferfik) (62°00'N., 49°23'W.), 925m high, stands 5 miles NE of Kvaneo. This mountain is the most prominent in the vicinity and is reported to resemble the four knuckles of a clenched fist.

2.12 Paamiut (Frederikshab) (62°00'N., 49°40'W.) (World Port Index No. 610) is located at the SW extremity of the peninsula which projects from the mainland on the N side of the entrance to Kuannersooq Fjord or Kvanefjord. It lies on the NE side of Kanderdlunguaq, an inlet bordered on both sides by numerous islets.

Winds—Weather.—The port is situated in an outlying location and consequently, the climate is humid and raw, with a great deal of fog, especially during the summer.

Ice.—Extreme conditions can occur during the winter with ice forming locally between December and May. Due to ice, access is sometimes difficult between April and August when pack ice and icebergs can hinder navigation. The best periods for finding the port ice-free are between March and April and from the end of August.

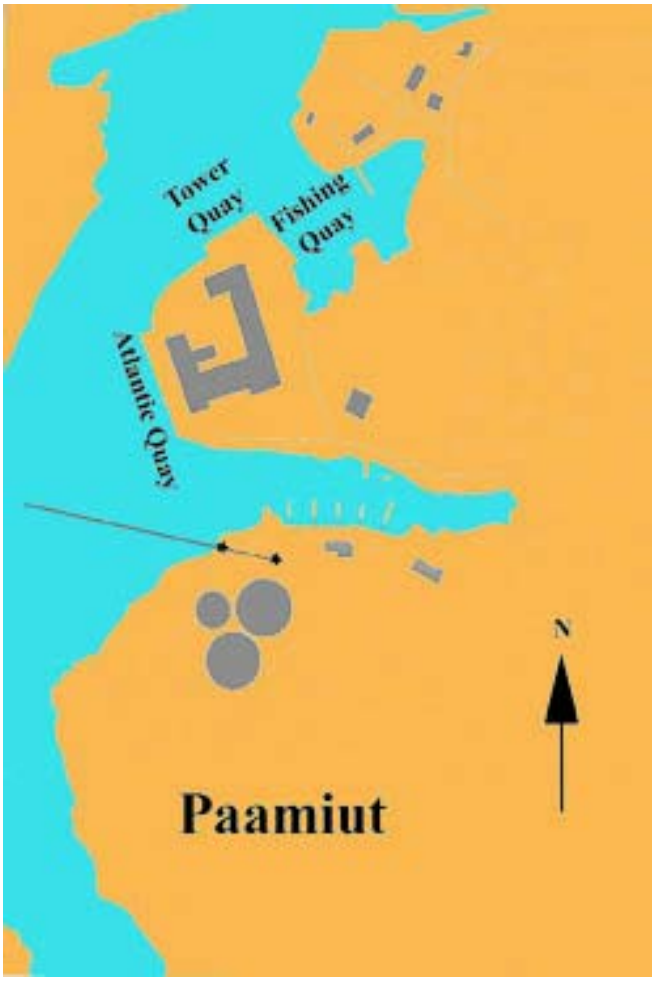
Tides—Currents.—Tides rise about 3.8m at springs and 2m at neaps. There is a W current, with a rate of 1 to 2 knots, in the mouth of the inlet. Tidal currents set weakly at about 1 knot in the harbor.

Depths—Limitations.—Atlantic Quay, a main cargo wharf, is 90m long, with depths of 7.8 to 8.6m alongside. Vessels of up to 110m in length and 7m draft have been accommodated

There is a total of about 170m of berthing space, with depths of up to 4m alongside, for fishing vessels. There is a small tanker jetty, with a depth of 5m alongside, in the S part of the harbor.

Paaimut (Frederikshab) has an open season from August to January. Large amounts of polar ice usually occur during spring and summer. The port handles general cargo and containers.

Aspect.—The extremity of the peninsula is fringed with numerous islets and rocks. The port can be approached by two



Paamiut (Frederikshab)

Paamiut (Frederikshab) approach

narrow channels which lead through these islets and dangers lying S and W of the harbor. However, these channels are not recommended for safe navigation.

Paamiut-right side, airstrip-center

The main approach channel leads through the entrance to Kvanefjord N of Satuarssugssuag Light. The main fairway through Kanderdlunguaq is indicated by a range. The outer islets at the mouth of the inlet are marked by beacons, which may best be seen on the chart.

Pilotage.—Pilotage is not compulsory, but advisable. A representative, with local knowledge, is available on request. Vessels should send an ETA at least 24 hours in advance. The port can be contacted by VHF channel 16.

Anchorage.—Anchorage can be obtained in the approach channel, in depths of 18 to 22m, about 0.5 mile SW of the harbor. the holding ground is not good and vessels should anchor at very slow speed. The anchorage area is exposed to swells and SW winds.

Caution.—A submarine outfall extends about 0.5 mile SW of the quay in position 61°59.8'N, 49°40.8'W.

Paamiut (Frederikshab) to Nuuk (Godthab)

2.13 From the peninsula on which Paamiut is located, the coast trends NW for 30 miles to the S end of the Frederiskhaab Isblink. This stretch of coast is extremely irregular, being indented by many fjords and fronted by innumerable small islets which form an almost continuous chain from one to several miles wide.

Qeqertarsuaaraq (Sonde Storo) (62°03'N., 49°42'W.), an island 240m high, lies in the mouth of a wide bay 4 miles NNE of the entrance to Kvanefjord. A beacon stands on its SE side. It is reported that drift net fishing with nets up to 500m long, is carried out between this island and the mainland. Kangerdluarssuk, a narrow inlet, opens off the E side of the bay.

Nerutussoq (Nerutusok), a fjord, is separated from Kangerd-

Frederikshab Isblink

luarssuk by a peninsula, 550m high. It seldom freezes over as it is exposed to the open sea.

Nordre Storo (62°08'N., 49°45'W.) is an island lying close off the N entrance point of Nerutussoq. Islets; rocks extend nearly 2.5 miles SSE and 3.25 miles W from this island.

Qagssit (Kagsit), a fjord, is located 5 miles N of Nerutussoq and extends ENE for 15 miles. Iterdlak, a large island, fronts this fjord and rises to a height of 505m. **Kuanit Island** (62°14'N., 49°53'W.), a smaller island, lies off the N entrance point of the fjord.

Anchorage can be obtained, with limited swinging room, in depths of 25 to 50m, in a small bay on the N side of Iterdlak, off a settlement. Anchorage can also be obtained, in a depth of 18m, in a small harbor on the S side of Kuanit (Kvaneo) near a settlement.

Two islands, Oqaitsua and Umanaq (Umanak), the latter being the larger island and 65m high, are located 3 miles SW of Kuanit (Kvaneo), at the SW end of a group of islands and islets. Umanaq (Umanak) is a good landmark in the seaward approach to these anchorages.

Qagssissalik (62°12'N., 50°00'W.), a small group of islets, lies 4 miles WSW of Kuanit (Kvaneo). A beacon stands on the S part of the highest islet.

Tinignertoq Fjord, entered 6 miles NNE Qagssissalikof, indents the coast close S of Frederikshaab Isblink and dries. There is a strong current in the entrance to the fjord which is much frequented by salmon fishermen. Nunasarmak, 370m high, along with several smaller islands, forms the W side of the fjordq and lies about 3 miles within the entrance.

Frederikshabs Isblink (Frederikshaabs Glacier) (62°29'N., 50°19'W.) is the most remarkable feature along the stretch of coast between Kvanefjord and Graedefjord, about 90 miles NNW. It consists of a wide tongue of the Gronland Ice Cap, which reaches almost to the sea 30 miles NNWof Kvanefjord. It is fronted by extensive mud flats and narrow islands. The seaward edge of the ice is a lofty, perpendicular cliff about 10 miles long, from which the glacier slopes steeply upwards, rising in its N part to an elevation of approximately 350m and, at distances of 30 to 35 miles inland, to heights of 1220 to 830m. New deposits of clay and sand are constantly being carried along by the glacial rivers so that, for several miles seaward, the water has a milky appearance due to the clay particles. Frederikshaabs Isblink also creates a very strong glare which is visible from a considerable distance.

Caution.—Vessels proceeding along this coast are advised to keep at least 8 miles W of Frederikshaab Isblink.

2.14 Between Frederikshab Isblink and the N side of the entrance to Godthabs Fjord, 106 miles NNW, the coast is rugged and mountainous. However, at the N side of the entrance to the fjord, it changes very quickly to a low and rolling land, the so-called "North Country." North of Frederikshaab Isblink, the coastal area of ice-free land continues to widen, so that in the vicinity of Faeringehavn, 27 miles SSE of the entrance to Godthabs Fjord, the Inland Ice is more than 50 miles distant from the shore.

Caution.—The greater part of this section of the coast is fronted by Frederikshaab Banke, Danas Banke, and Fiskenaes Banke, several extensive relatively shallow banks which can best be seen on the chart.

Tulugartalik (62°29'N., 50°19'W.), 25m high, is one of several islets that lie off the middle of Frederikshaab Isblink and close outside the drying flat which, at this point, is from 2 to about 3 miles wide. A beacon stands on this islet.

The coast extending 12 miles N of Frederikshaab Isblink is divided into narrow peninsulas by three fjords.

Majorarissat, the southernmost and shortest fjord, is blocked by sand and clay.

Kuvnilik (Tasiusarsuaq), the middle fjord, is encumbered at its entrance by islands and islets.

Agdlumersat (Allumersat) (Bjornesund) (62°48'N., 50°18'W.), the northernmost fjord, extends NE for nearly 25 miles and contains Inland Ice.

Ikatoq (Ikkattoq) (62°38'N., 50°15'W.), a channel, lies on the SE side of the chain of islands and islets situated in the entrance to Kuvnilik. Kakarssuak (Qaqarssuaq), a prominent mountain, rises to a height of 940m on the peninsula between Kuvnilik and Agdlumersat.

Ravns Storo (62°43'N., 50°23'W.), 209m high, is the largest

of several islands lying off the coast. Beacons stand at the N and S ends of the E side of the island.

A rock, existence doubtful, was reported (1953) to lie about 10 miles SW of Ravns Storo.

Sondre Kitdlit, marked by a beacon, is the larger of two islets located 3.25 miles WSW of the W end of Ravns Storo. Nordre Kitdlit is the larger of two islets, fringed by rocks, lying about 1 mile N of Sondre Kitdlit. Sorte Stribe is a prominent black basalt stripe located on the NW and larger of the two islets lying close off the SW side of Ravns Storo.

Sondre Fiskerihavn, formed in a bay on the SW side of Ravns Storo, affords anchorage for several vessels, in depths of 26 to 44m. It was reported (1973) that a vessel of 85m length and 6m draft had used this anchorage.. It was reported (1987) that there is weed on the bottom which may foul small anchors. Also, the buildings and jetty were in a dilapidated condition.

Nordre Fiskerihavn, a small cove on the N side of Ravns Storo, affords anchorage. It was reported (1973) that a vessel of 40m length and 3.5m draft had anchored here. It was reported (1987) that the buildings and jetty were in a dilapidated condition.

Tides—Currents.—At Ravns Storo, tides rise about 3.8m at springs and 1.5m at neaps.

Ice.—Ice, which drifts N from Kap Farvel, may reach Ravns Storo between April and mid-June and block its anchorages. When ice is present, fog is frequent.

2.15 Fiskenaes Fjord (Fiskaesfjorden) (63°05'N., 50°41'W.) is located 21 miles NNW of Ravns Storo. The coast between is deeply indented and fronted by numerous islets and rocks.

The main entrance to the fjord lies between Qeqertarsuatsiaat, a large island on the SE side, and Manisat, a large island and one of a chain of islands and islets forming the NW side. The fjord can also be entered by a narrow channel situated between Qeqertarsuatsiaat and the mainland E.

Qioqe is the outermost islet of a group of islets and rocks which extend up to 2 miles SSW from the S end of Qeqertarsuatsiaat.

Fiskenaes Fjord light

Fiskenaes Fjord Light is shown from a tower, 5m high, standing on an islet 4.5 miles NW of Qioqe. A sector of the light indicates the entrance to the fjord.

Hellefiskeoer, marked by a beacon, is a group of islets and rocks which lies on the N side of the approach 8.5 miles NW of Qioqe.

A racon is situated on a small islet 1 mile SW of Hellefiskeoer.

Qagsse (Qassi), the highest mountain E of the fjord, rises to a height of 1016m about 14 miles ENE of Fiskenaes Light.

Ilivertalik (Qarartoq), a jagged-topped mountain, rises to a height of 1,079m, about 14 miles NNE of Fiskenaes Light.

Kangarssugssuaq (Kangarssuk), 376m high, stands near the coast 10.5 miles NW of Fiskenaes Light. This mountain is very prominent from N and S.

Irkens Havn (Eqalugissat) (63°04'N., 50°47'W.) is the NW and narrower of two inlets which open off the N side of the fjord. A beacon stands on the point situated between the two entrances.

Fiskenaesset (Qeqertarsuatsiaat), a settlement, is situated on the shores of a cove, fronted by several islets, near the NW extremity of Qeqertarssuatsiaq. Tides rise about 3.6m at springs and 2.0m at neaps.

There is a 10m long quay, with a depth of 4m alongside, and a 17m long quay, with a depth of 2.2m alongside. Vessels up to 60m in length and 4.5m draft have been accommodated at high water.

Anchorage can be obtained in the cove, in a depth of 22m, with both the bow and stern secured to the shore.

There are no pilots, but persons with local knowledge are available. The harbor can be contacted through the agents at Nuuk.

2.16 The coast between Fiskenaes Fjord and Graedefjord, 17 miles NNW, is indented by several smaller fjords and fronted with numerous islands, islets, and rocks which extend, in places, up to 4 miles offshore.

Fiskenaes Banke lies from about 12 to 35 miles offshore along this part of the coast and can best be seen on the chart.

Marraq (63°26'N., 51°15'W.) is a promontory connected to the W end of a broad peninsula by a low isthmus. A cairn is located at an elevation of 119m near its seaward end.

Marraq Havn indents the N side of the promontory and affords anchorage off its entrance, in depths of 18 to 22m, good holding ground.

Marraq Ikerat is a large bay located on the S side of the promontory.

Caution.—The approaches to Marrat Ikerat and Marraq Havn are encumbered by numerous rocks, shoals, and islets, some of which are marked by beacons. Local knowledge is required to navigate these waters.

Graedefjord (63°21'N., 51°06'W.), the longest fjord in this area, extends E for 25 miles. It is approached from the S by a deep channel situated between two groups of islands, islets, and rocks. Ikerasarssuk (Ikerasarssup Tima) is the largest island of the N group fronting the fjord. Avatdleq, low and black, is the southernmost islet of this group. Inugsugtut (Inussuttuut) is the largest island of the S group. Shoals and rocks, some of which dry, extend up to 1.25 miles NW from this island, leaving a fairway between them and Avatdleq, 0.5 mile wide.

Sermitsiak (63°21'N., 50°19'W.), a prominent mountain, 1,247m high, stands on the S side of the fjord. Umivit (Umiivi-

Sermitsiak

it), 1,477m high, stands on the N side of the fjord, 3 miles ENE of Sermitsiak.

2.17 Sermilik Fjord (63°29'N., 51°12'W.) is entered 3 miles NNE of Marraq. It extends to a long glacier which fills what would otherwise be a continuation of the fjord. It is reported the depths within the fjord are unknown. The N side of the inner part of the fjord is formed by a large, unnamed island which is separated from the mainland by Alangordlia (Alanngorlia), a long winding branch of the fjord. The approaches and entrance to the fjord are encumbered by numerous islands, islets, rocks, and shoals.

Kasuk, a prominent hill, 270m high, stands 1.25 miles NE of the N entrance point.

Kidlavat, a mountain, 1,292m high, stands 7.5 miles ENE of Marraq on the S side of the fjord and is a good landmark.

Qingmut (63°35'N., 51°33'W.) is the outermost group of numerous islets and rocks which front the coast, up to 6 miles offshore, between Serrmilik Fjord and the approaches to Kangerluarsoruseq Fjord, 13 miles NW. Many of these islets are marked by beacons indicating the inner route system for small vessels. Dangers extend up to 4 miles W of these groups and larger vessels should give them a wide berth.

Kangerluarsoruseq Fjord (63°42'N., 51°33'W.), entered 5.5 miles N of Qingmut, is short and narrow.

Sankta Maria Skaer, a group of drying rocks, lies 5 miles NNW of Qingmut and 1.5 miles WSW of the S entrance point.

Satut (63°42'N., 51°36'W.) is the outermost of several islets which lie close NW of the entrance to the fjord. A light is shown from a structure, 3m high, standing on this islet. A beacon is situated close NE of the light structure. The sectors of the light indicate the approach to the fjord. A racon is reported to be located at the light structure.

Sorte Skaer (Sorteskaer), a small rock with an orange patch painted on it, lies at the S end of a foul area which extends 0.75 mile S from Satut.

The main fairway leading into the fjord passes between Sorte Skaer, to the N, and Sankta Maria Skaer, to the S.

Den Smukke O, an islet 13m high, is located in the mouth of the fjord. A light is shown from this islet.

2.18 Kangerluarsoruseq (Faeringehavn) (63°42'N., 51°33'W.) (World Port Index No. 630) consists of a fishing harbor and an oil terminal. The town stands on the NW side of an islet-encumbered bay at the N side of the fjord entrance.

Kangerluarsoruseq (Faeringehavn)

Kangerlarsoruseq, a natural port, has anchorages for large vessels. The main wharf is 225m long, with 5m alongside. Nordafar quay is 250m in length and has depths from 4.7 to 7m alongside. It is reported (2010) to be under repair.

The bunkering station at Kangerlauarsoruseq is open all year, and during winter there may be difficulties entering the harbor due to ice.

Tides—Currents.—Tides rise about 4m at springs and 2m at neaps. A strong and unpredictable current often sets across the quay at Polaroil. The tidal streams run very strongly in the fjord, particularly off Den Smukke O.

Pilotage.—Pilotage is not compulsory, but is recommended. Pilots are normally available from May to October. Vessels should send an ETA at least 24 hours in advance. The port can be contacted by VHF. Vessels should not attempt to berth at the oil terminal without local knowledge. The port can be contacted between 0600 and 2200 by telephoning the Harbormaster (299-20) or on VHF channel 9, 12, 13, 14, or 16.

Nordafar, 1.5 miles E of Faeringehavn, is much used in summer, from May to October, by the fishing fleets of many nations. There is a 250m long quay, with depths of 4 to 6.9m alongside. Vessels of up to 135m in length and 7m draft have been accommodated here at high water.

Polaroil, an oil terminal, is situated 1.25 miles SE of Faeringehavn within Sydhavnen, a small bay on the S side of the fjord. There is an 18m long quay and a mooring dolphin with depths of 6 to 8.8m alongside for small vessels. Larger tankers are handled at a mooring/anchorage berth off the pier. Vessels anchor and then secure to the shore with permanent moorings which are hauled up from surface buoys. Tankers up to 30,000 dwt, 180m in length, and a draft of 12m, can be accommodated. It has been reported (1994) that these moorings are no longer in service and lie on the sea floor.

Anchorage.—Vessels can anchor, in a depth of 40m, within a bay situated close NE of Polaroil. Anchorage is afforded al-

most anywhere within the fjord, in depths of 7 to 64m, E of Sondre Naes, a point on the mainland 0.4 mile ENE of Den Smukke O.

2.19 Between Kangerluarsoryeq Fjord and Lysefjord (Ameralik), the southernmost of the fjords within the Nuuk area 20 miles N, the coast recedes to form a bight. Several groups of islands, islets, and rocks front this bight and a navigable channel, which provides access to the Nuuk area from the S, lies between these dangers and the shore.

Skinderhvalen (63°44'N., 51°32'W.), 244m high and resembling the back of a whale, stands near the coast 3 miles N of the entrance to Kangerluarsoryeq Fjord.

Buksefjord

Buksefjord, fronted by islets and rocks, is entered 4 miles NE of Skinderhvalen and extends for 17 miles. Steep mountains border the inner part of this fjord and several lakes drain into its head.

Qeqertarsuaq (Kekertarssuak) (63°54'N., 51°30'W.), a large island isolated from the remainder, is located in the middle of the channel between the coast and the outer dangers, 6 miles NNW of the entrance to Buksefjord.

Johan Mollers Skaer (63°46'N., 51°53'W.), a rock with a depth of less than 1.8m, lies at the SW side of the dangers fronting the bight, 8.5 miles WNW of Satut Light.

Simiutat (Simiuttat), a group of islands surrounded by islets and rocks, lies on the SE side of the dangers, 5 miles NNW of Satut Light. Nungarussuit, a chain of rocks, extends between this group and Johan Mollers Skaer.

An extensive area of foul ground exists in the vicinity of the dangers lying off the bight between Kangerluarsoryeq Fjord and Lysefjord (Ameralik). Within this foul area there are many large islands with elevations up to 140m.

Augissunguaq (Angissungsuak) (63°57'N., 51°45'W.), a large island, lies near the N edge of the foul area, 7 miles WNW of Qeqertarssuaq. Range lights, indicating the inner route channel, are shown from the N end of the island.

Ravneoer (Ravneoerne) (63°58'N., 51°53'W.), a group of islets, lies near the NW edge of the foul area, 12 miles N of Johan Mollers Skaer.

Kigtorqat Light (63°56'N., 51°35'W.) is shown from an islet on the W side of the inner route channel, 1.75 miles WNW of Qeqertarssuaq.

Tukingasunnguaq Light (Tukingassrassuaq Light) (64°00'N., 51°42'W.), indicating the inner route channel, is shown from an islet in the Qagssissagdlit Group, situated 2 miles NE of the N end of Augissunguaq.

Simiuta Light (64°03'N., 51°38'W.) is shown from the SW extremity of Simiuta Island.

The fairway of the inner route channel, which leads between this island and Kingigtoq Island, 0.35 mile W, is reduced to a width of 0.15 mile by rocks and shoals on both sides.

The channel is marked by range lights

2.20 **Kookoerne** (Kitsissut) (64°03'N., 52°04'W.) is an extensive cluster of about 200 islets and rocks lying in the SW approaches to Godthabsfjord. They have a peculiar dome-shaped appearance, and are low and close together, and may appear as a single, dark mass from seaward. The islets are a good mark for establishing the entrance to Godhabsfjord. However, they should not be confused with Satsigsuarqat (64°09'N., 52°10'W.), 6 miles NNW, which is a more scattered group of islets, smaller and fewer in number than Kookoerne, and surrounded by rocks, awash and below water.

It has been reported that the Kookoerne islets are not easily identified on radar at distances over 10 miles., although the high land NE may be detected between 35 to 50 miles.

Attorssuit (64°03'N., 52°07'W.), an islet, is located on the NW side of Kookoerne. A light, indicating the approach channel, is shown from this islet. A racon is situated at the light structure.

Attorsuit Light

Avatdleq, the westernmost islet of The Kookoerne, lies 1.5 miles WSW of Agtorssuit.

Radio O (64°02'N., 52°05'W.), an islet in the middle of Kookorne (Kookoerne), approximately 1.75 miles SE of Agtorssuit Light. A prominent radio mast reported at 114m stands on this islet. A radiobeacon is situated on an islet located 2.5 miles NE of Radio O.

Kookoernes Havn, a harbor suitable for small vessels, lies in the NE part of the group.

2.21 Godthabsfjord extends NE from the NW part of the common entrance with Lysefjord (Amerilik). With its numer-

Renso Light

ous branches and great depths, it is the largest and broadest fjord in West Greenland.

The entrance to this fjord is considered to lie between **Jakobsholm** (Napparutilikasik) (64°04'N., 51°55'W.) a small islet, approximately 8 miles SW of Nuuk, and Kangeq, an island, 111m high, 3.5 miles NW. It is reported that Jakobsholm is difficult to identify against the higher background.

Store Malene (Ukkusissat), a mountain standing on the NW side of the entrance to Kobbefjord, has a rounded summit with two peaks, the E and higher of which rises to a height of 759m. Lille Malene, 420m high, stands close N of the W peak of Store Malene. Sadlen, 1,210m high, is the summit of a large island located 5 miles NE of Nuuk (Godthab).

These mountains, along with Hjortetakken (Kingigtorssuaq) described in paragraph 2.22, are conspicuous from the approach to the fjord and are referred to as the beacons of Godthab.

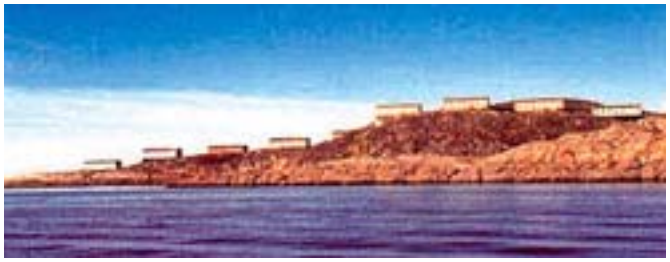
It is reported that the mountain skyline in this vicinity can be seen from up to 50 miles seaward.

Renso, a small islet, is located on the NW side of the fairway, 2.75 miles ENE of the S extremity of Kangeq. A light, indicating the entrance to the fjord, is shown from this islet.

Saelskaeret (Ikkarlussuaq), a reef, lies 1 mile NNW of Agtorssuit Light and is the SW extremity of the foul ground which extends from Kangeq. This reef usually breaks and can be easily identified although, in calm weather, there may only be a slight ripple over it.

Nord Lob, the deep water approach channel from seaward, passes between the NW side of Kookoerne and Saelskaeret.

Caution.—Entry to Godthabs Fjord E of Kookoerne is not recommended due to incomplete surveys.



Courtesy of Tony Wright

Approach to Nuuk (Godthab) from Godthabsfjord

Magnetic anomalies have been reported in an area 20 to 25 miles seaward of the entrance to Nuuk (Godthab).

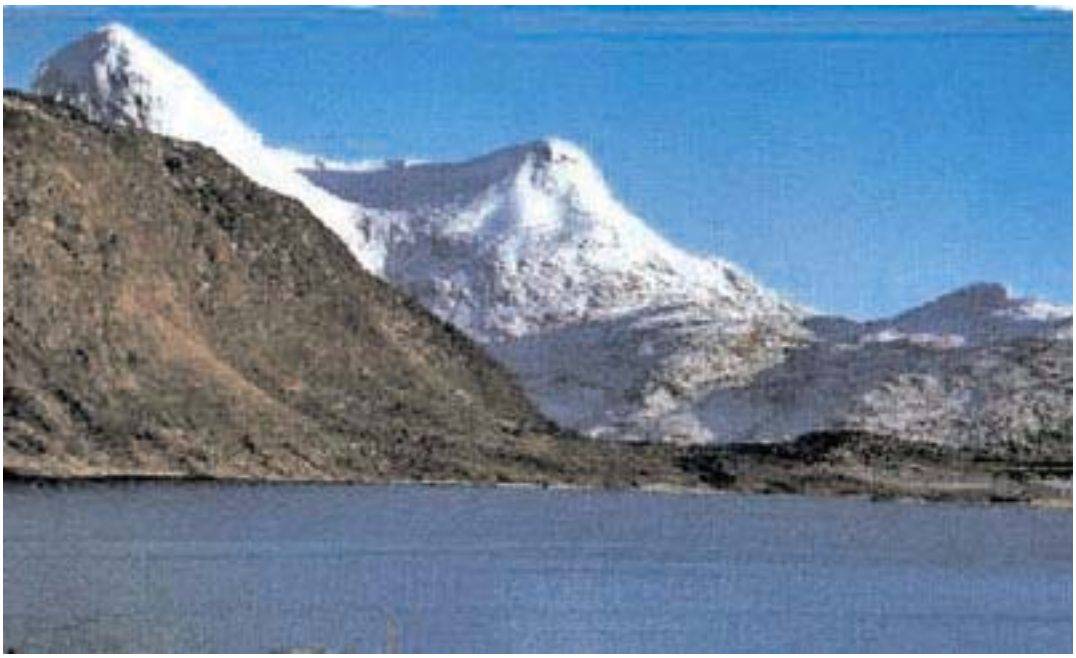
It has been reported (2008) that a stranded wreck lies near position 64°34'N, 52°09'W.

In fog, the sounding depths over the off-lying banks located W of the approach provide good navigational information.

Nuuk (Godthab) (64°11'N., 51°45'W.)

World Port Index No. 640

2.22 Nuuk (Godthab) is the capital of Greenland and the country's political and administrative center. It lies approximately 155 miles S of the Arctic Circle. Most of Greenland's



Hjortetakken (Kingigtorssuaq)

industry is concentrated in Nuuk, and the town is considered Greenland's industrial powerhouse. There are approximately 15,000 inhabitants in the Nuuk area, which includes the main town and the two settlements of Kapisillit and Qeqertarsuatsiaat (Fiskenaesset).

Courtesy of Tom Wright

Nuuk (Godthab)

Winds—Weather.—Nuuk, being situated near the open sea, has the weather characteristics of a coastal area. There is a high incidence of fog, strong winds, and heavy precipitation. The worst storms come from the S and SW, often being followed, in the winter, by a heavy and protracted snowfall.

The average annual precipitation at Nuuk is 598mm, which is heavy for such a high latitude. Much of this precipitation falls as rain during summer and early fall.

Winter fogs are rare, but during the months of June, July, and August, fog occurs on an average of 36 days and, at times, moves into the fjord, covering Nuuk completely.

Ice.—The pack ice (storis) from the E coast of Greenland seldom reaches Nuuk and when it does, generally in June or July, it is usually so well scattered that it does not seriously impede navigation. Generally, except for an occasional iceberg, ice is never seen in the vicinity of Nuuk during the winter.

Tides—Currents.—Tides rise about 4.4m at springs and 3.3m at neaps. Tidal currents in the fjord are strong. During spring tides, the rate at the anchorage in Godthab Red has been estimated at 2 knots.

Depths—Limitations.—The port, which is ice-free all the year round, handles general cargo and containers. Although the harbor is navigable throughout the year, day and night, large vessels should make arrangements in advance with the harbor authority.

The main facilities include the following:

1. Eastern Atlantic Quay—170m long, with depths of 4.6 to 7.0m alongside.
2. Western Atlantic Quay—102m long, with a depth of 10.0m alongside.
3. Schooner Quay—52m long, with depths of 3.9 to 4.5m alongside.
4. Coastal Passenger Quay—40m long, with a depth of 5.4m alongside.
5. Sand Jetty—30m long, with a depth of 5m alongside.

6. Fishing Quay—205m of berthing space, with depths of 2.6 to 6.6m alongside.

Vessels up to 135m in length and 7m draft have been accommodated.

Small tankers can anchor and stern moor out from the petroleum installations, using an oil pipeline connection.

A tanker berth, consisting of two platforms connected to the shore by walkways, has a depth of 12.6m alongside and can handle vessels up to 30,000 dwt.

There are also several mooring buoys within the port.

Nuuk (Godthab) Container Quay

Nuuk (Godthab) Dolphin Berth

Aspect.—The town of Nuuk is located at the mouth of Godthabsfjord, at the W end of a small peninsula which separates Godthabfjord (Nuup Kangerlua) from Lysefjord (Ameralik Fjord). Godthabsfjord (Nuup Kangerlua), one of the largest fjords in the world, and Lysefjord (Amerilik) have arms or branch fjords which extend to the inland ice, approximately 65 miles from the coast. There is an narrow entry to the port, but the port is well protected.

Lysefjord (Amerilik) is entered close NE of Simiuta Island between two high peninsulas of the mainland. **Iviangit** (64°01'N., 51°36'W.), a prominent mountain, 345m high, stands on the S side of the entrance. The peninsula on the N side of the fjord attains a height of 1,478m midway along it. Lysefjord (Amerilik), which appears to be deep, divides into two branches at Nua, 28 miles within the entrance. In its outer part, the shores are bare, high, and often steep, making landing impossible. Beyond Nua, the mountains become lower and recede from the shore. Praestefjord (Ekaluit), entered 4 miles within the entrance, is a deep inlet indenting the S side of the fjord.

Nuuk E entrance light

Kobbefjord, a short and narrow fjord, lies midway between Lysefjord (Amerilik) and Godthabsfjord (Nuup Kangerlua), at the W end of the peninsula which separates them. There is high land on both sides of this fjord. Hjortetakken (Kingigtorssuaq), a truncated peak, 1,183m high, stands on the SE side of the entrance to Kobbefjord and is prominent.

Nuuk harbor range lights

Prominent in Nuuk are the church spire standing at the NW end of the town; the radio station situated on a hill 0.4 mile S of the spire; Ny Herrnhut, a former Moravian mission consisting of a long building with a spire, standing at the SW end of the town; and the hospital standing close ENE of Ny Herrnhut.

Range lights, situated on an islet at the SE side of the

Nuuk (Godthab)—Atlantic Quay in winter from NE

Nuuk (Godthab) inner harbor from S

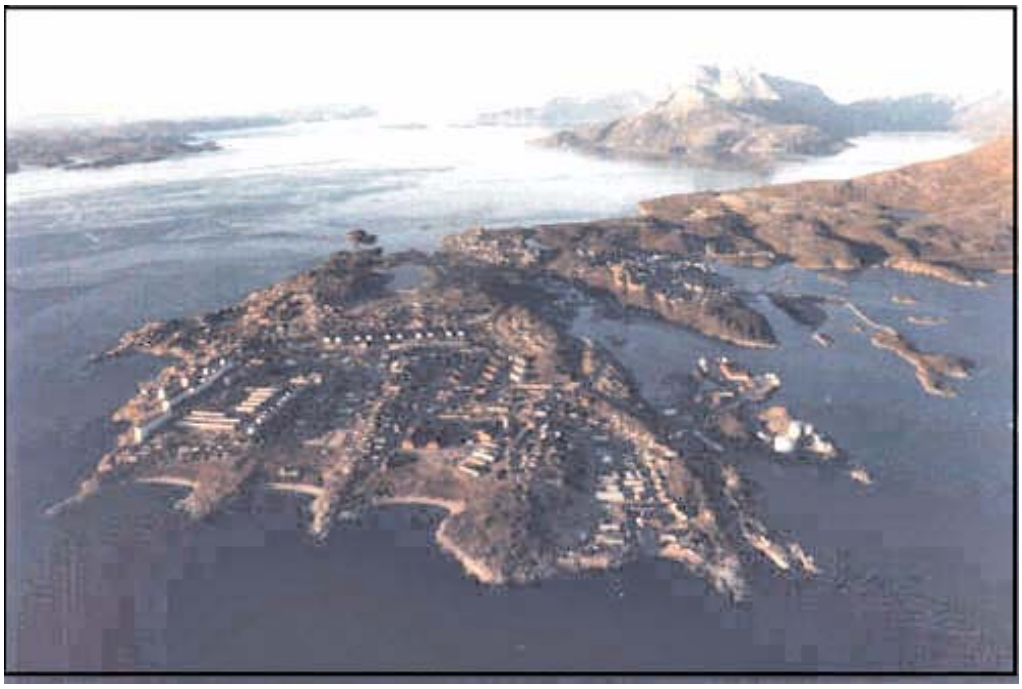
peninsula, indicate the fairway through the fjord to the harbor.

An aeronautical radiobeacon is situated on a small promontory at the NW side of the town; an aeronautical lighted beacon is shown, at an elevation of 99m, from a tower standing 1.5 miles ENE of it.

A chain of islands, islets, and rocks extends across the entrance to Kobbefjord and into the approach to Nuuk. A light is shown from the E side of **Serfartorssuaq** (64°06'N., 51°38'W.), the southeasternmost island of the chain.

The inner route to Nuuk leads between this chain and the entrance to Kobbefjord. It is reported that it can be used by vessels of up to 61m in length and 4.9m draft.

Pilotage.—Pilotage is not compulsory, but advisable. The Port Manager is available and will act as an unlicensed pilot on request. Vessels should send an ETA 36 hours and 24 hours in advance when a pilot is required. The harbor can be contacted by telegraph at Handel Godthaab or on VHF channel 9, 13, or 16. The harbor master monitors channel 16, call sign "Nuuk



Nuuk (Godthab) from SW

Havnekontor." Pilot boards off Avatdleq,15 miles WSW of Agtorssuit U. Nuuk also provides pilotage for Kangerluarsoruseq (Faeringehavn).

Anchorage.—Large vessels should anchor on a bank at the W side of Malene Bugt, a bay at the E side of the peninsula, in depths of 15 to 19m. Close S the depths increase rapidly and the holding ground is not good.

Small vessels can anchor in Godthabs Red, the roadstead fronting the town at the SW side of the peninsula, in depths of 22 to 46m. It is exposed and only recommended in good weather with no ice.

Caution.—An overhead power cable, with a vertical clearance of 60m, spans Lysefjord about 6 miles above the entrance to Praestefjord.

An overhead power cable, with a vertical clearance of 60m, spans Kobbefjord 3 miles within its entrance.

Small vessels have ocasionally been ice-bound in the inner harbor during winter. A wreck lies in a depth of 12m within the small bay close SE of Nuuk.

Qornoq (Qoornoq)

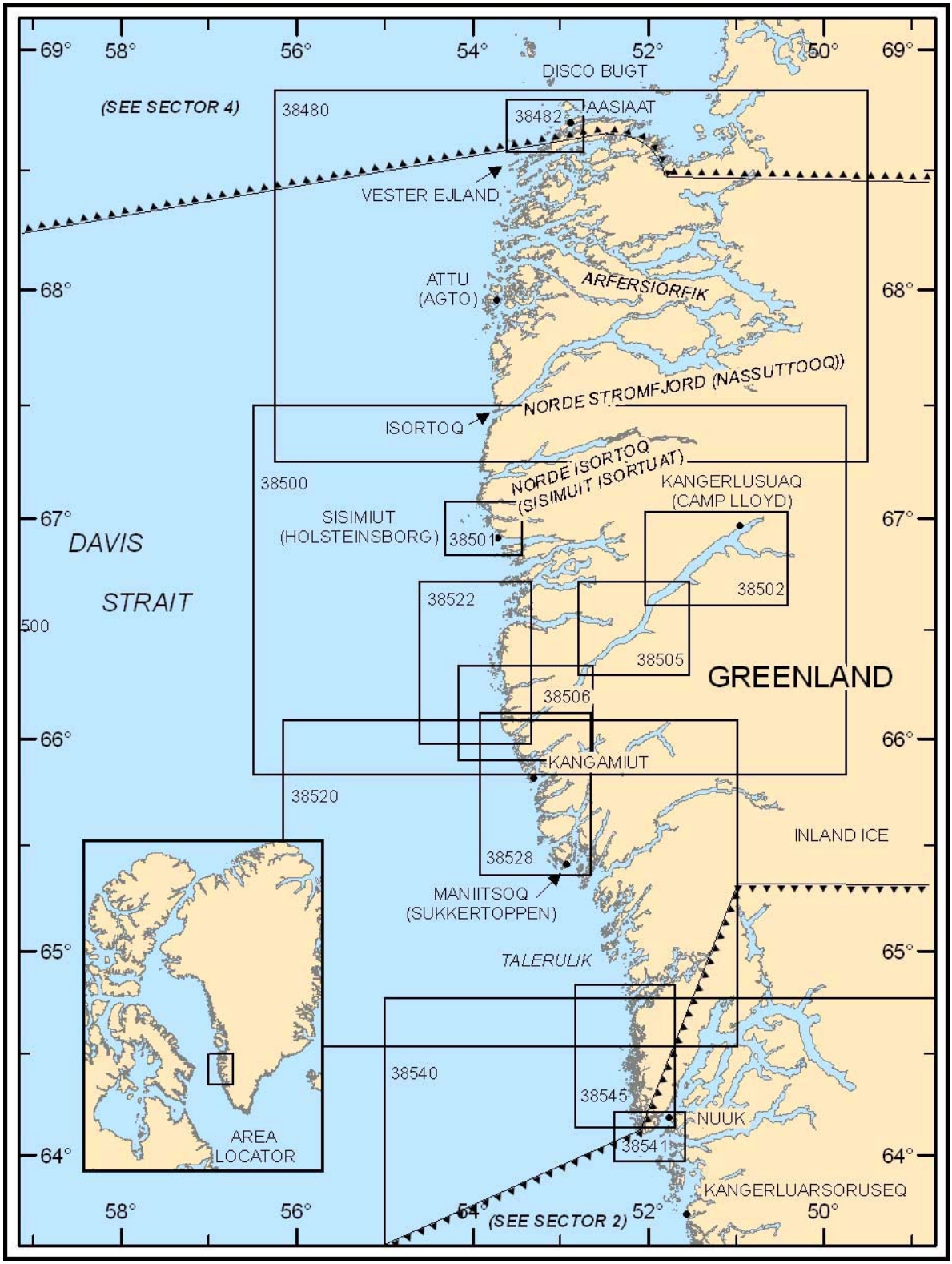
2.23 Godthabsfjord extends inland above Nuuk for 50 miles as far as Kangersuneq (Kangersunek), the head. This is separated by a narrow isthmus from the head of Pisigsarfik (Kapisillit Kangerluaq), a branching arm which, in turn, is separated by a low and narrow isthmus from Itivdleq, the NE arm of Lysefjord, thereby forming an almost landlocked basin. There are several large and lofty islands, separated by clean and deep fairways, within this basin. The depths are generally considerable throughout this extensive area, no bottom having been found (1973) in several places at 600m.

Soundings are not available for the inner part of Kangersuneq, the head of which is filled with ice from the interior. The "North Country," on the W side of this area, is relatively low-lying, with many large lakes. The land to the E is high, with elevations up to 1,630m.

Sadelo, the southwesternmost island of the area, is located 5.5 miles NW of Nuuk. Sadlen, previously mentioned in paragraph 2.21, stands on the W side of this island.

Bjorneo, an island close N of Sadelo, extends NNE for 15.5 miles. Its greatest elevation, 1,256m, is located at the N end.

Qornoq (Qoornoq) (64°32'N., 51°06'W.), the site of a meteorological station and a settlement, stands on a low-lying island off the NE end of Bjorneo. Small vessels can anchor in a bay S of the station.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **3** — CHART INFORMATION

SECTOR 3

GREENLAND—WEST COAST—NUUK (GODTHAB) TO DISKO BUGT (QEQERTARSUUP TUNUA)

Plan.—This sector describes the W coast of Greenland N from Kangeq, on the NW side of the entrance to Nuuk (Godthab) to Sarqardlit, on the S side of the entrance to Disko Bugt (Qeqertarsuup Tunua).

General Remarks

3.1 This sector describes about 270 miles of coastline. The ice-free land, which lies at the back of this entire stretch, widens to about 60 miles between the coast and the Gronland Ice cap to the E. It consists of a low plain with numerous lakes and swampy patches. The mainland coast is indented by numerous fjords that are separated by peninsulas and extend up to 100 miles inland, usually ending at glaciers or at valleys leading to glaciers.

The section of coast between Godthabsfjord (see paragraph 2.21 and paragraph 2.23) and Fiskefjord (Niaqunngunaq), 40 miles N, is indented by several short fjords and fronted by a chain of large islands lying close inshore. Numerous islets lie up to 4 miles seaward of this chain of islands.

Between Fiskefjord (Niaqunngunoq) and Sukkertoppen, the coast is more indented and has fewer off-lying islands, which are farther offshore.

In the area of Sukkertoppen, 85 miles NNW of Nuuk (Godthab), the coast presents a succession of precipitous and lofty headlands. North of Sukkertoppen, the ice-free land attains a width of over 100 miles.

Between Sukkertoppen and Egedesminde, on the S side of the entrance to Disko Bugt (Qeqertarsuup Tunua), 197 miles N, the mainland coast is high and mountainous, except for a 45 mile-long stretch at the N end, where the land is reported to be the flattest and most featureless in Greenland.

Caution.—Due to numerous islets, rocks, shoal patches, and foul ground, the waters along this coast are difficult for safe navigation. Vessels without local knowledge should not approach closer than 10 miles and should keep in depths of over 50m.

A below-water rock lies in a shoal area in position 64°13'N, 52°20'E, about10.5 miles NW of Kangeq and 5 miles offshore.

Nuuk (Godthab) to Sukkertoppen

3.2 **Kangeq** (64°06'N., 52°03'W.), an island 111m high, is located on the NW side of the entrance to Godthabfjord. Habets O is an island lying close N of Kangeq and is connected to its N part by a narrow isthmus.

It is reported (1992) that a stranded wreck lies 3 miles off the coast, 23 miles NNW of Kangeq.

The low, rolling aspect of the coast between Kangeq and Sukkertoppen is marked by two mountains that are conspicuous from seaward. **Toqqusaq** (64°53'N., 52°10'W.), 516m high, stands near the coast; **Finnefjeld** (65°16'N., 52°09'W.), 1,119m high, has a serrated summit which resembles the fin of a fish and is especially remarkable from N or S.

Ice.—It is only in exceptionally heavy ice years, such as 1898 and 1940, that the East Greenland pack ice drifts so far N as to block this section of the coast. The coast between Nuuk and **Sukkertoppen** (65°25'N., 52°55'W.) is nearly free of pack ice, more so than any other part of West Greenland, lying as it does, just outside the S limit of the pack ice which drifts S from Baffin Bay.

Caution.—Toqqusaq Banke (64°25'N., 53°25'W.) lies in the SW approach to Fiskefjord, with its NE extremity located 37 miles NW of Kangeq. There is a least charted depth of 41m on this bank, which is about 8 miles wide and 22 miles long.

Sukkertop Banke lies in the SW approach to Sukkertoppen, with its SE extremity located 52 miles NW of Kangeq. There is a least charted depth of 33m on this bank, which is 25 miles wide and 36 miles long.

3.3 **Fiskefjord** (Niaqunngunaq) (64°45'N., 52°05'W.) is the next fjord of any size N of Godthabfjord. It penetrates the coast for 27 miles and is fronted by numerous islets and rocks which extend up to 5.5 miles offshore. There are many small islands in Fiskefjord, which is much indented by narrow channels that are characterized by strong tidal currents. A submerged wreck lies near the S entrance buoys, about 0.5 mile off the W cape. The shores are low at the entrance and rise gradually to the head, where, on the S side, they fall steeply to the sea. **Kakatsiak** (65°01'N., 51°30'W.), a prominent mountain 669m high, stands near the head of the fjord. Tasiusarsuaq is the upper branch in Niaqunngunaq. Three mooring buoys and a quay, about 300m long and 35m wide, have been established at a unnamed settlement near position 64°59'N, 51°35'W.

Fiskefjord bend

Angmagssivik (Ammassivik), a short fjord branching into two arms, is separated from Fiskefjord (Niaqunngunaq) by only a narrow peninsula. It is also fronted by numerous dangers. A river enters the N arm from a lake.

Atammik (Atangmik) (64°48'N., 52°11'W.), a trading station, is situated at the head of a bight 1 mile within the N entrance point of the fjord. The harbor is navigable from early April to mid-December, but is restricted to only small vessels up to 40m in length. It is reported that several prominent buildings stand at the station; these include a modern trading terminal, a store, warehouses, and a chapel/school. Anchorage is available, in a depth of 15m, close NNW of the station.

3.4 **Toqqusaq Havn** (64°52'N., 52°12'W.), 4.5 miles N of Atangmik, is located close under Toqussaq, a conspicuous mountain previously described in paragraph 3.2. A short spur extends W from the foot of the mountain and forms Inderhavn, an inner harbor, on its N side. Small vessels can berth here at high water. Qaersup Ilua, on the S side of this spur, is a large bay in which the depths are too great for anchoring. Lango, a long narrow island, lies close off the spur and almost landlocks Inderhavn and Qaersup Ilua. A beacon stands 0.5 mile N of its S extremity. Inderhavn can be entered through Sydlob, a channel 200m wide and 24m deep, which leads between Lango and the mainland. A small fishing station, used in summer, is situated in the middle of the E side of Lango.

The approaches to Inderhavn and Lango are encumbered with small islets, rocks, and patches of foul ground; local knowledge is required.

Talerulik (64°59'N., 52°22'W.), an elongated island, and Nunarssuaq, close NW, are the largest of a group of islands, islets, rocks, and shoals which lie off the entrance to Kangia Fjord. Napasoq (Napassoq), a hunting base and trading station, is situated on the E side of a small island lying 1.75 miles ENE of the N extremity of Nunarssuaq. It is reported that the buildings of the base are visible from a considerable distance.

Kangia Fjord, 4 miles wide at its outer part, extends NE for 17 miles to its head into which a river flows. The depths in the fjord appear great, but its entrance is encumbered with islets, rocks, and shoals. Tasiusaq (Tasiussaq) and Amitsuarssuk, two short branches of the fjord, are entered on the SE side of its outer part.

Alanngua (Alangua), a short and broad fjord encumbered with islets and rocks, is entered between the NW side of the island forming the outer part of Kangia Fjord and the SW extremity of a peninsula extending from the mainland, 3.5 miles NW. Groups of rocks, awash and below-water, lie 1.5 and 4.5 miles SW of the SW extremity of the above peninsula on the NW side of the approach to the fjord.

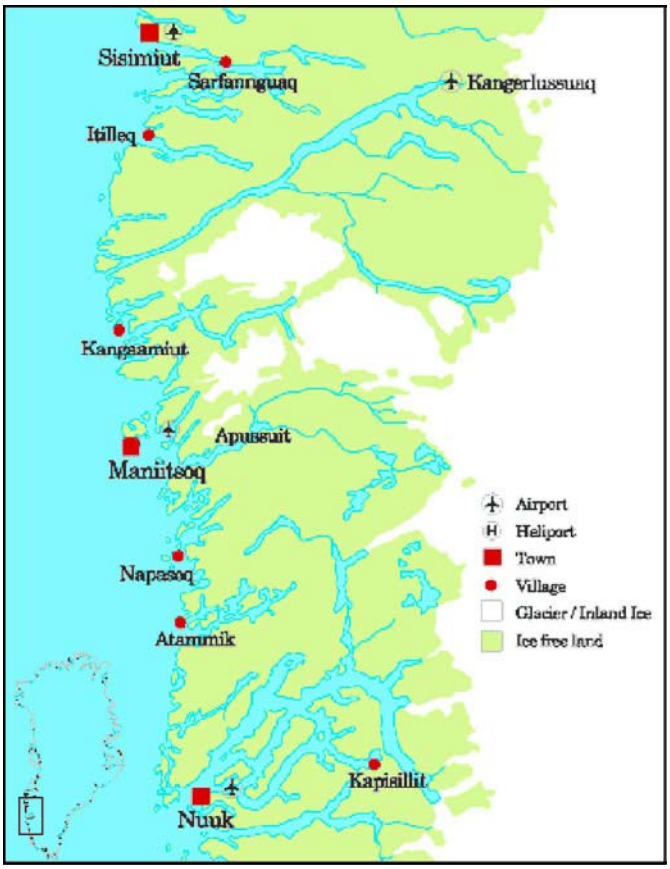
Uummannaq (65°16'N., 52°35'W.), an island, 281m high, is located close offshore 5 miles NNW of the N entrance point of Alangua Fjord. Several patches of foul ground and rocks extend up to 2 miles W and SW from it.

3.5 Sondre Isortoq is a long and narrow fjord, entered 5 miles NNE of Uummannaq, at 23 miles from its entrance, divides into two arms. **Nukappiaq** (Nukagpiaq) (65°30'N., 51°51'W.), a mountain, 1,269m high, stands near the S shore of the fjord, located within 12 miles from its entrance.

Kangerluarsuk (Kangerdluarssuk), a short and narrow fjord, is entered 8 miles N of Umanaq. A small settlement is situated at the head of a small bay close within the E entrance point.

Maniitsup Sermilia (Manitsup Sermilia), a fjord entered 11 miles NNE of Umanaq, terminates at the foot of a glacier.

From the seaward end of the peninsula, which separates Kangerluarsuk (Kangerdluarssuk) from Maniitsup Sermilia (Manitsup Sermilia), an area of foul ground with numerous islets and rocks extends up to 8 miles SSW. **Spaniolo** (65°18'N., 52°48'W.), an islet, 28m high, is located at the SW extremity of this foul ground area. Below-water rocks extend 0.5 mile SSW and up to 2.5 miles SSE of Spaniolo in the approaches to the fjords. A narrow channel, marked by beacons, is reported to lie across the middle of the foul ground area.



Settlements and villages in the vicinity of Maniitsoq

Courtesy of Wedigo Ferchland - Denmark

Maniitsoq (Sukkertoppen)

Maniitsoq (65°28'N., 52°57'W.), a rugged island of irregular shape, is located 7 miles NNW of Spaniolo and 3 miles off the mainland coast. It is comparatively free of snow and brownish in color. The area between this island and the mainland is encumbered with numerous islands, islets, and dangers. There are also many dangers lying off its S and W sides.

Kin of Sal, a steep brownish-colored island 375m high, lies close off the SW side of Manitsoq and is very conspicuous from the S and N, standing out distinctly against the background. Naujarssuit, located 1.25 miles SW of Kin of Sal, is the northwestern islet of a chain of barren islets and rocks that extends SE for 4 miles. A below-water rock lies about 1 mile W of Naujarssuit.

Pattefjeld, a mountain 570m high, stands on Manitsoq, 3.25 miles NNW of its S extremity; it has a rounded summit and is very prominent.

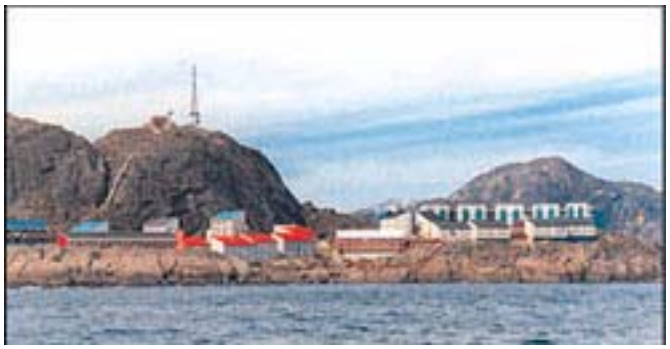
Kistefjeld (65°32'N., 52°46'W.), a mountain, 898m high, stands on the mainland 5.25 miles E of the N extremity of Manitsoq. It is prominent from about 2 miles offshore, but not from a greater distance as it stands against a backgroud of higher and serrated mountains that dominate the coast. It may be identified by a cleft located on the S side of the summit that descends almost to the water.

Maniitsoq (Sukkertoppen)

3.6 Maniitsoq (Sukkertoppen) (65°25'N., 52°55'W.) (World Port Index No. 670) is one of Greenland's largest settlements. It is situated on the SE side of Maniitsoq Island. The open season is from March to Janurary. Winter ice may occur. The port handles general cargo and containers.

Ice.—Ice occurs locally from December to April, but breaks up easily.

Tides—Currents.—Tides rise about 4.2m at springs and 2m at neaps. A tidal current is reported to run across the entrance to the harbor. During the ebb, the S current attains a rate of 2 knots.



Approach to Maniitsoq (Sukkertoppen)

Maniitsoq (Sukkertoppen) outer harbor

Depths—Limitations.—Atlantic Quay is 60m long and has a depth of 8m alongside. There is an extensive quay, with a depth of 3.5m alongside, for fishing vessels. There is also Fishing pier, with a depth of 6.5m alongside.

Vessels up to 7,500 dwt, 110m in length, and 7.5m draft have been accommodated.

Aspect.—The approach to Maniitsoq harbor is one of the most difficult in West Greenland. The main channel lies between the foul ground extending NNE from Spaniolo, on the E side, and the foul ground extending S from Manitsoq, on the W side.The harbor can also be approached from N by a narrow channel that leads close to the E coast of Manitsoq.

A radiobeacon is located close N of the harbor.

Kitdliaraq, a small islet, is located 3.75 miles NNW of Spaniolo at the W edge of the foul ground. A light is shown from a tower, 7m high, standing on this islet; a racon is located at this light.

Maniitsoq (Sukkertoppen)

Faltings Skaer, a detached rock with a depth of less than 1.8m, lies on the W side of the approach fairway, 2.25 miles WNW of Kitdliaraq Light.

Ikermiut Rev, a reef with depths of 1.8m, lies on the E side of the fairway, 1.75 miles NW of Kitdliaraq Light.

Hellefiskeskaer, a group of rocks, lies on the W side of the channel, 2.5 miles NW of Kitdliaraq Light. Numerous dangers extend NNE from these rocks to the S side of the harbor entrance.

Kirkegaardsnaes Light, indicating the approach fairway, is shown from the NE end of a point located 0.5 mile NE of the harbor.

The harbor is entered between Portusoq (Portussoq), an islet 40m high, and the coast of Maniitsoq, 0.1 mile SW. The entrance fairway is indicated by a light shown from the W side of the harbor.

Pilotage.—Taking a pilot is not compulsory but is advisable. Unlicensed pilot is available by arrangement with Port Operator. Vessels should send request for pilot through Nuuk (call sign "OX"). Pilot meets vessel outside the harbor or at Faltings Skaer, 2.5 miles S of Maniitsoq Light. The harbor can be entered day or night throughout the year. However, no attempt should be made during strong S to SW winds which cause a heavy sea and swell in the harbor.

Anchorage.—Vessels can anchor in the roadstead 1 mile E of the harbor, in depths of 13 to 29m, but the holding ground is not good. A 9m shoal patch lies close N of it.

Anchorage may also be found between the entrance to Ata, an inlet lying about 2 miles NNW of Maniitsoq, and an islet 0.7 mile E. There is a 5.8m shoal on the north side of the anchorage and a 10.3m patch on the S side.

Caution.—A pipeline runs from the fish quay within Yderhavn and then leads SE through the harbor entrance.

Maniitsoq (Sukkertoppen) to Sondre Stromfjord (Kangerlussuaq)

3.7 On the high land near the coast, between Sukkertoppen and Sondre Stromfjord (Kangerlussuaq), there is a large, isolated glacier and the tongue of the Gronland Icecap. Otherwise, this section of the coast consists of the broadest ice-free belt in West Greenland.

Between Maniitsoq and Sondre Stromfjord (Kangerlussuaq), 37 miles NW, the coast is indented by five fjords and fronted by several large islands. These islands are fringed by numerous small islets and rocks on their seaward sides. The high land within the coast includes some of the loftiest mountains in West Greenland.

Hamborgerland (Sermersuut), a large island, fronts the coast N of Maniitsoq and can be identified by its snow-capped mountains in the N part.

Hamborgerland (Sermersuut)

Passage inside of Hamborgerland (Sermersuut)

Ammaqqoq (Angmarqoq), a channel separating Hamborgerland (Sermersuut) from Maniitsoq (Sukkertoppen), is deep and free of off-lying dangers.

Hamborgersund, deep in mid-channel, separates the N side of Hamborgerland (Sermersuut) from a large peninsula of the mainland. It is entered from E by a deep passage that lies between the island and Ikamuit, a small settlement situated 0.75 mile E on a small projection of the mainland. It is entered from W by a narrow channel that passes between several groups of islets and rocks and has a least depth of 7m.

Appamiut Kangerdluarsuat, a fjord entered 3 miles N of the W entrance to Hamborgersund, extends NE and is surrounded by steep mountains. Numerous islets and rocks extend up to 4 miles SW from the 631m high SW extremity, of the narrow projection that forms the NW side of this fjord.

Ikermiut (65°46'N., 53°20'W.), two islets surrounded by

rocks, lie 4.5 miles NNW of the entrance to Appamiut Kangerluarsuat (Agpamiut Kangerdluarssuat); the SW islet is marked by a beacon.

Evighedsfjord, long and branching, is entered 3 miles NE of Ikermiut. Twenty miles within the entrance, two outlets of a large glacier lead down from Sukkertoppen Icecap and terminate in high ice walls, which calve into the fjord at frequent intervals. Taateraat (Taterat), 2,187m high, stands near the head of the fjord and is conspicuous. It rises almost vertically for 915m from the glacier and then slopes skyward to a pyramidal summit. Qinngua Avannarleq (Avangnatdlek) opens off the SE side of the fjord 3 miles from the head; this long arm extends 28 miles farther inland.

3.8 Kangaamiut (Kangamiut), an island rising to a height of 469m in its N part, is located 2 miles W of the N entrance point of Evighedsfjord.

Kangaamiut (Kangamiut) (65°50'N., 53°21'W.) (World Port Index No. 680), a small natural harbor, is formed between the SW side of Kangamiut Island and a chain of islets which front the shore. It can be entered at either end of the chain, but the S channel is normally used.

Tides—Currents.—Tides rise about 4m at springs and 2.1m at neaps. The tidal streams are weak.

Depths.—Limitations.—There is a quay, 10m long, with depths of 2.5 to 4m alongside, and a fishing vessel wharf. Vessels up to 40m in length and 3.5m draft have been accommodated. It is reported that there are three mooring buoys for the use of cutters.

Pilotage.—There are no pilots, but persons with local knowledge are available.

Anchorage.—Vessels can anchor close N of the settlement, in depths of 30 to 40m. Mooring berths are available in the harbor for small vessels with anchors down and their sterns secured to ring bolts.

Caution.—It has been reported that a rock, over which the depth is unknown, lies near position 65°57'03"N, 53°29'53"W near Ungorsivik.

3.9 **Uummannat** (Umanat) (65°52'N., 53°24'W.), an island located close NW of Kangamiut, can be easily identified from a considerable distance by its cone-shaped peaks, the highest of which attains an elevation of 423m. From the SW, Uummannat and Kangamiut appear as a single dark bluff, but, when observed from the N, they stand out as two separate islands.

Kangaamiut Kangerluarsuat (Kangamiut Kangerdluarssuat), a short fjord entered 2.5 miles NE of Umanat, is encumbered in its approach by numerous scattered islets and rocks, through which an unmarked and narrow channel leads. The fjord extends NE for 12 miles to a glacier, but is mostly unsurveyed.

Lille Hellefiske Banke, with depths of 24 to 48m, lies centered 10 miles offshore in the SW approaches to Kangerlussuaq (Sondre Stromfjord) and can best be seen on the chart.

Between Umanat and the entrance to Sondre Stromfjord, 9 miles NNW, the coast is fronted by numerous small islands, islets, rocks, and shoals extending up to 3 miles seaward.

3.10 **Kangerlussuaq** (66°02'N., 53°32'W.), a narrow and long fjord, extends NE for 85 miles from its entrance to Nakajanga, a broad promontory, where Umiiviit (Umivit), a short and broad branch, opens SE. North Fork, the continuation of the main fjord, extends NE for a farther 12 miles to the head. Kangerlussuup Umiarsualivia (Camp Lloyd), a marine terminal serving an airfield, is situated within North Fork.

Kangerlussuaq is entered between Qeqertassuk (Qeqertasugssuk), a small island lying close off the mainland, and Simiaataq (Simiutag), a large island, 0.75 mile NW. Numerous islets, rocks, and reefs lie in the entrance channel and reduce the fairway to a width of 240m.

Qeqertassuk (Qeqertasugssuk), on the SE side of the entrance, rises to a height of 162m. Simiutag, on the NW side of the entrance, is rugged and attains a height of 783m near its center It is distinguished by a lower, but prominent spur 1.5 miles E of the summit. Cruncher Island lies on the NW side of the fairway, 0.4 mile W of the N end of Qeqertassuk (Qeqertasugssuk). A square building and several masts are reported to stand on this island.

The entrance should be approached from the W. Range lights, situated on the N and S parts of Qeqertasugssuk and on the N side of the fjord, indicate the fairway and may best be seen on the chart. Depths in the fairway of the entrance and indenting the fjord for 6 miles vary from 16 to 110m. Caution is advised as dangers lie along the sides of the fairway. A racon is located near the SW extremity of Qeqertasugssuk.

The navigations beacons are normally withdrawn and removed during the winter months.

Ice.—In winter the fjord, from 30 miles within the entrance, freezes over completely and is regarded as closed to navigation from early January to the end of June. During this period and in the spring, some ice is carried into the W part of the fjord by the tidal current.

Tides—Currents.—Currents set strongly across the approach to the fjord entrance. They attain a rate of 7 knots, setting NE on the flood tide and SW on the ebb tide. The maximum rates decrease to 3 knots, 20 miles within the fjord, but the effect of the tidal stream is noticeable for another 40 miles.

Aspect.—In the vicinity of Sondre Stromfjord, the inland ice recedes and the belt of ice-free land bordering the coast widens to about 100 miles. From a position about 12 miles within the entrance, the narrow strip of ice-free land along the SE shore of the fjord is backed, for a distance of more than 20 miles, by the great **Sukkertoppen Ice Cap** (Sukkertoppen Iskappe) (66°13'N., 52°02'W.); the latter embraces an area of approximately 900 square miles between the fjord and Evighedsfjord.

About midway within the fjord, where the depths increase, the sharp rugged mountains are replaced by rolling mountains and then finally by rather low hills. Inland on either side of the inner half of the fjord lies a rolling plain, covered with low scrubs and dotted with lakes.

Puto (66°07'N., 53°10'W.), 1,020m high, stands on the SE side of the fjord 10 miles within the entrance. The peak derives its name from a small hole or tunnel near the summit, but this is only visible when bearing almost SW from mid-channel.

Augpilagtunguaq, 1,430m high, stands on the NW side of the fjord 6.5 miles NNE of Puto. Its horned summit, from which a black basalt strip extends almost to the water, is very prominent.

Sorte Klippe (Black-Faced Rock), a point at the SE side of

the fjord almost directly across from Augpilagtunguaq, is a low and distinctly marked black ridge.

Revet (The Reef), a pinnacle rock that dries, lies 0.5 mile N of Sorte Klippe and is the only known danger in the fairway. It resembles the back of a whale and eddies surround it.

Qaqortorssuaq, 6.5 miles NE of Augpilagtunguaq on the NW side of the fjord, is a sheer light-colored mountain with a flat top making it an excellent mark.

3.11 Fiskemesterens Havn (66°01'N., 53°28'W.) is a landlocked bay, 0.75 mile wide, formed between the E side of Qeqertasugssuk and the mainland. The channel affording access to the bay and Paa (Pa Havn), an inlet opening S of Fiskemesterens Havn, is entered from the outer part of Kangerlussuaq (Sondre Stromfjord) between the NE extremity of Qeqertasugssuk and the mainland.

Anchorage.—Anchorage is available, in a depth of 40m, mud, close off the entrance to a cove that forms the head of Fiskemesterens Havn; however, at times, the tidal current runs very strongly through this anchorage.

Large vessels can anchor, in depths of 40 to 60m, clay, in Paa (Pa Havn) within the basin at the E end of the inlet.

3.12 Sarfartooq Point (Sarfartok Point) (66°31'N., 52°03'W.), located on the SE side of the fjord 48 miles above the entrance, is the N entrance point of the Sarfartoq River estuary. This estuary, 0.75 mile wide, is a labyrinth of sand banks and tidal channels.

Angujaarzorfik (Angujartorfik), a short and wide inlet on the SE side of the fjord, is entered 18 miles NE of Sarfartok Point. A river, which drains from some inland lakes, flows into its head. Vessels can anchor in this inlet, in depths of 18 to 55m, but it is affected by gale force winds which funnel through the surrounding hills.

Tatsip Ataa (Tatsip Ata), a small inlet, is located on the SE side of the fjord 12 miles NE of Angujaarzorfik (Angujartorfik). Vessels can obtain good anchorage in this inlet, in depths of 18 to 55m.

Umiviit (Bowdoin Bay), the S branch of Sondre Stromfjord (Kangerlussuaq), is entered on the SE side of the fjord, 3 miles NE of the entrance to Tatsip Ata.

North Fork, leading to the head of the fjord, is entered between Borup Pynt (Point Brainard), the E entrance point of Umiviit, and Hancock Pynt (Hancock Point), 2.5 miles NW. Depths within the fjord decrease rapidly toward the head. Brennan Pynt (Brennan Point) lies 2.75 miles NE of Hancock Point.

3.13 Kangerlussuup Umiarsualivia (Kangerlussuaq) (Camp Lloyd) (66°58'N., 50°57'W.) (World Port Index No. 695) is situated at the head of Soendre Stroemfjord and is open to the S, approximately 90 miles from the open sea. It is on the N side of North Fork, 1.5 miles NE of Brennan Point.

Kangerlussuup Umiarsualivia (Camp Lloyd) is a former United States air base, built in 1941, but after technological progress eliminated its military significance, it was turned over to Greenland's Home Rule in the 1990s. It provides a connection between the coastal passenger services and the continental and internal air services operating from the airfield.

Winds—Weather.—Due to its location far inland, Kangerlussuaq has an exceedingly stable climate with warm dry summers and very cold winters. Open season is from mid-June to the beginning of December. The port is closed in winter because of ice.

Kangerlussuup Umiarsualivia (Camp Lloyd)

Kangerlussuup Umiarsualivia (Camp Lloyd)

The prevailing winds at the port are NE; these are off the ice cap and are cool and dry. During the summer season, there are occasional strong winds from the S quadrant. From Evans Fjeld (Mount Evans), where the topographic influence was practically eliminated by the 397m elevation of the observatory, it was reported that 60 per cent of the winds were from W to N. Kangerlussuaq has a sub-arctic climate; the area is generally free of snow and seldom does the depth reach over 0.3m. Fog is rare and the rainfall is extremely low. The harbor is normally ice free from mid-June to the end of October. The harbor is navigable day and night during the ice-free period.

Tides—Currents.—Tides rise about 3m at springs and 1.6m at neaps. The high water at the head of the fjord occurs about 3 hours later than at the mouth.

Depths—Limitations.—The port consists of a bridge, 45m long, with a depth of 1.5m. There is a quay, 20m long, for the use of small craft.

Two submerged oil pipelines extend SE for 0.5 mile from the harbor, the ends marked by buoys. At the seaward end of these pipelines there is a tanker terminal with bow and stern moorings; the berth is 300m long with depths of 10.5 to 15.0m.

There is a mooring buoy situated about 0.5 mile SSW of the harbor, in a depth of 60m.

Kangerlussuaq (Camp Lloyd) Air Traffic Control Tower

Aspect.—Range lights indicate the approach to the harbor and can best be seen on the chart. It is reported (2008) that the paint on one of the rear leading light structures has faded and therefore the beacon is difficult to see in daylight.

Two radio masts stand about 1.25 miles N of the harbor. An aeronautical light is reported to be shown from a position 9 miles E of the radio masts.

Pilotage.—Local residents, with knowledge of local conditions, are available if requested. Vessels should establish contact by radiotelephone at least 1 hour prior to arrival.

Local residents are also available to assist in the entry and navigation of the fjord. Vessels should send an ETA at least 24 hours in advance. The harbormaster may be contacted by VHF and radiotelephone.

Anchorage.—Vessels can anchor 0.5 mile E of Brennan Point, in a depth of 80m, or 3 miles E of the same point, in a depth of 40m. Tankers moor to a large buoy 0.4 mile SSE from Emmons Pynt. The ground is good and consists of mud and clay. However, the bottom slopes steeply and vessels are advised to contact the port before anchoring.

Kangerlussuaq (Sondre Stromfjord) to Sisimiut (Holsteinsborg)

3.14 The coast between the entrance to Kangerlussuaq (Sondre Stromfjord) and Sisimiut (Holsteinsborg), 55 miles N, appears as a range of snow-capped hills weathered into fantastic shapes that seem to rise almost vertically from the sea.

In parts, the coast is indented by several small inlets. Large rivers, which drain the lakes lying a few miles inland, flow into the heads of these inlets.

Caution.—Numerous groups of islets and rocks, surrounded by very shallow water, form an almost continuous belt along this stretch of coast and vessels are advised to keep at least 10 to 12 miles offshore.

Local magnetic anomalies have been observed along this stretch of coast.

Kingatsiaq (Qinngatsiaq) (66°10'N., 53°36'W.), a mountain, 543m high, stands on the coast 8 miles N of the entrance to Sondre Stromfjord. It is outstanding for its steep dark sides and dome-shaped summit.

Kangerdluarsuqssuaq (66°14'N., 53°37'W.), a narrow fjord, is entered 4 miles N of Kingatsiaq. It widens to 0.25 mile and extends ENE for 12 miles to the head. The central part of the mainland between this fjord and Itivdleq, 18 miles N, is occupied by an inactive glacier that rises to an elevation of 1,156m, about 2.25 miles NE of the head of Kangerdluarssuaq.

3.15 Anders Olsens Sund (Anders Olsen Sund) (66°29'N., 53°40'W.) lies 15 miles N of Kangerdluarssugssuaq. It separates Inugsugtussoq, a large island, from several smaller islands located close offshore. The sound can only be entered from N as the S entrance is encumbered with rocks. Anchorage is available for small vessels, in a depth of 42m, about 0.75 mile within the sound, 75m E of a house standing on Inugsugtussoq.

Itivdleq, a long and deep fjord, is entered between **Cape Burnil** (66°32'N., 53°34'W.) and a point on the mainland 4 miles NE. Qeqertarssuatsiaq, an islet 38m high, is located 1.25 miles NNW of the entrance to Anders Olsens Sund on the S side of the approach to the fjord. A light, indicating the entrance to the fjord, is shown from this islet. A submerged wreck lies about 7 miles NE of the light in the vicinity of several small islets.

The shores of Itivdleq are backed by magnificent mountains. **Qaqatsiaq** (Kakatsaak) (66°33'N., 53°09'W.), 1,062m high, stands on the N side and is prominent. **Qaqatoqoq** (Kakadokak) (66°38'N., 52°52'W.), a snow-capped peak 1,453m high, stands 3.5 miles N of the N shore of the fjord and is very conspicuous.

The N side of the approach to the fjord is formed by a chain of islets and rocks extending 7 miles WSW from the N entrance point. Anarnitsut, an islet, lies 3 miles NNW of Qeqertarssuatsiaq Light and 1.5 miles within the outer end of this chain. Below-water rocks, with depths of less than 1.8m, lie 3.5 miles NNW and 1.5 miles W of this islet. These rocks are the outer dangers in the approach to the fjord.

Itivdlaq Harbor lies between two islets at the inner end of the chain forming the N approach to the fjord. It can be approached from N or S through channels which have depths of 24m and are marked by beacons. The harbor is entered from W. Tides rise about 3.8m at springs and 1.9m at neaps. There is a 24m long quay, with depths of 0.5 to 1.5m alongside. Vessels up to 30m in length and 3.5m draft have been handled at HW. There is a mooring berth, in depths of 20 to 30m, where vessels anchor and secure their sterns to the NW extremity of an islet in the harbor. There are no pilots, but persons with local knowledge are available from Sisimiut. The harbor is icebound in January and February; during severe winters, the immediate approaches to the fjord are also icebound.

3.16 Between Itivdleq and Sisimiut, 23 miles N, the coast is indented by four large fjords. These fjords are deep and, within their entrances, appear to have few off-lying dangers.

However, they have not been completely surveyed and caution is advised.

Kangerluarsuk (Kangerdluarssuk), the southernmost fjord of the four, is entered 10 miles NE of Itivdleq. It is flanked by bare rugged mountains and extends E for 15 miles. It is reported to have a least depth of 35m. **Kinngaq** (Kingaq) (66°38'N., 53°26'W.), a conspicuous mountain 640m high, stands 4.5 miles NNE of Itivdleq.

Qeqertalik (Kekertalik), a short and broad fjord, is separated from Kangerluarsuk (Kangerdluarssuk) by a narrow promontory that rises to a height of 734m. It is restricted by Qeqertarssua, a large island 480m high, located in its central part. Rocks, with depths of less than 1.8m, lie between the island and the S shore of the fjord.

Ikertoq, a long and branching fjord, is entered 11 miles N of Itivdleq and separated from Qeqertalik by an irregular promontory that rises to a height of 610m. It freezes over from December to March. Sallersuaq (Saglerssuak), a large island, 541m high, lies close off the seaward end of this promontory and forms the S side of the outer part of the fjord. Sarfanguaqland, a very large island 401m high, lies 18 miles NNE of Itivdleq and forms the N side of the outer part of the fjord. Numerous islets and rocks lie off the seaward ends of Sallersuaq (Saglerssuak) and Sarfanguaqland.

Maniitsorsuaq (Manitsorssuaq), a large island, lies 1 mile off the NW coast of Sarfanguaqland. Ingigsorssuaq, a prominent mountain 353m high, stands on the W part of this island. Umanarssugssuaq, a smaller island, 154m high, lies 1 mile SW of the SW side of Maniitsorsuaq (Manitsorssuaq).

Amerloq (Amerdloq), a deep fjord, is entered between the NW extremity of Maniitsorsuaq (Manitsorssuaq) and the mainland 2.5 miles N. It is connected at its inner end to Ikertoq by a narrow channel which leads E of the E extremity of Sarfanguaqland. The fjord freezes over from December to April; the inner part not clearing until the end of May. The S side of the approach to the fjord is encumbered with islets, rocks, and shoals that extend up to about 5 miles W and SW of the W end of Manetorssuak.

Sarfanguaq, a settlement, is located at the E end of Sarfanguaqland and approached through a very narrow channel. Small craft can moor alongside a jetty or anchor, in depths of 5 to 15m, off the settlement. Local knowledge is required.

Sisimiut (Holsteinsborg)

3.17 Sisimiut (Holsteinsborg) (66°56'N., 53°41'W.) (World Port Index No. 690), one of the leading fishing centers of West Greenland, is situated on the S side of an inlet that indents the mainland coast close N of the entrance to Amerdloq Fjord.

Sisimiut is located north of the Arctic Circle and is Greenland's nothernmost town with an ice-free harbor during winter. With its 5,400 inhabitants divided between the town proper and the nearby settlements of Sarfannguaq and Itilleq, Sisimiut is the second-largest municipality in Greenland.

Ice.—The winter ice forms about the first of January and rarely breaks up until the latter part of April or the beginning of May. It attains a considerable thickness at Sisimiut; the heavi-

Sismiut (Holsteinsborg)

est observed had a thickness of about 0.8 to 1.7m. The harbor can normally be entered all year round.

Early in the spring, W ice occasionally blocks the approaches to Sisimiut; however, this ice seldom remains against the coast later than April, after which it is usually encountered from 40 to 50 miles offshore. Icebergs are seldom seen at Sisimiut.

The port consists of an inner and outer harbor providing accommodation for small general and bulk cargo ships and fishing vessels.

Tides—Currents.—Tides rise about 4.4m at springs and 2m at neaps. The tidal currents are weak inside the harbor. Gales from the W can increase the water level in the harbor. In the offing, the tidal currents are strong. The flood current, with a rate of 2 to 3 knots, sets to the NNW and assumes a more N set as it slackens. The ebb current sets in the opposite direction with a rate of 1.5 to 2 knots. These are the usual directions and rates, but winds often influence the currents.

Depths—Limitations.—Vessels of up to 180m in length and 7.5m draft have been accommodated alongside. There are anchor berths with stern moorings within the harbor. There are extensive quays for fishing vessels, with depths of 0.5 to 5m alongside, in the inner harbor.

Off the tank farm, there is an anchor berth with stern moorings for tankers up to 30,000 dwt.

Sydlobet is normally the preferred approach channel. Vessels approach from the W and pass S and E of Mollers O. A range, situated on the N side of the inlet, indicates the fairway leading N between Stone Island and the 3m pinnacle rock close E. Another range, situated at the E side of the port, indicates the fairway leading E into the outer harbor. There is a least charted depth of 11m in the fairway.

A bridge crosses the entrance to the bay, with a supporting pillar at mid-point. The channel N of the pillar is 35m wide, with a vertical clearance of 8m; the channel S of the pillar is 17.5m wide, with a vertical clearance of 6m.

Sisimiut—Berth Information		
Berth	**Length**	**Depth**
Atlantic Quay	60m	8-12m
Industry Pier	80m	9.5m
Offshore Quay	15m	6-8m
Schooner Quay	14m	7.0m

Aspect.—Augpilagtorssuag, a conspicuous mountain 898m high, stands 10 miles E of the port.

Kaellingehaetten, a mountain 773m high, stands 3 miles ESE of the port. It has a distinctive peak when seen from the W. From close in and from the S, identification is helped by a remarkable rock called Manden (The Man), which stands close E of the summit and resembles a human figure.

Praestefjeldet, a precipitous ridge, rises to a height of 550m about 1.5 miles NNW of the port; it becomes less steep as it trends inland. Two cairns, visible from about 5 miles seaward, stand on it. The highly elevated landscape located to the E of this ridge is snow-covered even during the summer.

The mountainous countryside in the vicinity of the port, in contrast to the low land on the S side of Amerdloq Fjord, may help to identify the entrance to the harbor.

A radiobeacon is located close SW of the port.

Outlying islands and dangers lie up to 11 miles seaward of the port. In the approach, an extensive archipelago of dangers fronts the harbor and extends 8 miles NNW. A section of this archipelago, which fringes the coast, has not been completely surveyed.

The outer islets of the archipelago lie within three small groups and may best be seen on the chart.

Qagssit (67°00'N., 54°08'W.) is the southwesternmost and outermost of these groups. The northwesternmost and highest islet of this group is 17m high and surmounted by a beacon. Foul ground, consisting of sunken rocks and detached shoals, extends SSE for 3.25 miles from the group. It is reported that uncharted pinnacles exist in the vicinity of Qagssit.

Avangnardlerssuaq (Revet), marked by a beacon, lies 2.5 miles NE of Qagssit. It is the northernmost and largest islet of the middle group. Below-water rocks and detached shoal patches extend S from this group.

Inugsulinguaq, 37m high, lies 3 miles NE of Avangnardlerssuaq. It is the northernmost and largest islet of the NE group.

Nordlobet, a secondary approach channel from the N, is entered between the middle and NE groups.

Mollers O (66°55'N., 53°45'W.), an island, is located 1.75 miles SW of the port. A light is shown from a tower, 7m high, standing on the SW extremity of this island; a racon is located at the light. A dangerous rock lies 4 miles W of the light.

Frederik VII's O, an island 80m high, lies 0.75 mile N of Mollers O on an area of foul ground. A beacon stands on its summit.

Stone Island lies near the outer edge of a foul area 60m E of Mollers O. A pinnacle rock, with a depth of 3m, lies about 0.25 mile E of this island; occasionally, the sea breaks over it.

Jacobs Skaer, an isolated low rock, lies on a shoal patch 2 miles SW of Mollers O Light. There are always breakers or ripples on it.

Ikermiut, a rock, awash at high water, lies on a shoal patch 1.75 miles WNW of the N extremity of Frederik VII's O.

Victoria Skaer, the westernmost of a group of below-water rocks, lies 1 mile NE of Mollers O Light.

Qingmit, a small islet, lies 1.5 miles NE of Mollers O Light, on the S side of the entrance to the harbor.

Pilotage.—Pilotage is not compulsory, but is advised. Unlicensed pilots are available on request and will board in the vicinity of Jacobs Skaer, 2 miles SW of Mollers O Light.

Regulations.—Vessels should send an ETA, along with its pilotage request, at least 36 hours in advance. The port can be contacted by VHF channel 12 and 16. The port is open day and night, and normally year round.

Anchorage.—Vessels may anchor anywhere in the outer harbor, in depths of 30 to 50m, blue clay and sand. Small vessels can anchor in the inner harbor, in a depth of 23m, clay. It is reported that vessels can also anchor outside the harbor.

Directions.—In clear weather, approach Sisimiut from the S with Praestefjeldt to the NNE or from the WSW with Kaellingehaetten to the ENE. Both lead to Jakobs Skaer. On approach to land, care must be taken not to be set to the N.

Caution.—The prominent mountains in the vicinity of the port may often be obscured by mist or fog.

Numerous dangers lie adjacent to the sides of the fairways.

Anchoring or navigating in parts of the harbor may be restricted during the operation of seaplanes.

An unmarked sewer outfall pipe extends about 0.2 mile NW of Industry Pier, on the NE corner of Tommermandsoen. In addition, an oil pipeline and a submarine cable are laid across the entrance.

Sisimiut to Disko Bugt

3.18 Between Sisimiut and Vester Ejland, 102 miles N, the coast is deeply indented by numerous fjords, of which Nordre Isortoq (Sisimuit Isortuat), Nordre Stromfjord, and Arfersiorfik are the largest. Inland, the belt of ice-free country is about 100 miles wide, narrowing to about 50 miles at the N end.

Kangerdluarssuk Tugdleq (Kangerluarsuk Tulleq) and Kangerdluarssuk Ungatdleq are two narrow and short fjords entered 4 and 8 miles, respectively, NW of Sisimiut. The numerous islets, foul ground, and dangers lying within the archipelago, which extends NW from Sisimiut, encumber the entrances of both these fjords.

A power cable crosses Kangerdluarssuk Tugdleq at about position 65°59.5'N, 53°36.0'W. The vertical clearances are 11m S of the island of Qeqertarssuaq, 24m on the sounding line N of the island of Qeqertarssuaq, 24m in the channel N of the unnamed island that lies NE of Qeqertarssuaq, and 6.8 m in the channel that leads to Tarajornitsoq Fjord.

Nordre Isortoq, a fjord entered 15 miles NNW of Sisimiut, is encumbered by islets which lie about 2 miles within the entrance where the width decreases. No depths are indicated in the outer part of the fjord and its inner reaches are shallow and filled with mud flats. Prominent high land, rising to a height of 887m, stands on the S side of the entrance. Umataussaq (Umatuasak), a mountain 1,530m high, stands on the N side of the fjord; although located 23 miles NE of the entrance, it is prominent from seaward.

Sydbay (Isortoq), an island 86m high, lies off the N entrance point of Norde Isortoq. It is the largest and highest of a group of islands located off this fjord. A light is shown from this island. A beacon stands on a small islet lying close off the S end of the island.

Vessels can obtain anchorage, in a depth of 16m, sand, within a channel lying between Sydbay and the mainland. The anchorage is well sheltered, with good holding ground. Local knowledge is required

3.19 Nordre Stromfjord, entered 32 miles N of Sisimiut, extends about 100 miles from its entrance to the inland icecap and is one of the longest, if not the longest, fjord in West Greenland. There are depths of over 100m in its entrance with no known off-lying dangers; no soundings are available for the remainder of it (1973).

From its entrance, Nordre Stromfjord extends NE for about 35 miles and divides into two arms that pass on either side of Qeqertaussaq (Qeqertaasaq), a broad promontory, 630m high. One arm, known as Amitsuarssuk (Amitsuarsuk), continues NE for 23 miles to its head, while the main fjord trends E for 26 miles to a peninsula where it branches SE, E, and N.

Caution.—A rock, over which the depth is unknown, has been observed inside Amitsuarsuk fjord. The rock dries at low water.

Pertutussut, a group of islets and rocks, extend up to 1.25 miles offshore from the W side of the S entrance point.

Simiutat (Simiuttat), a chain of islets and rocks, extends up to 2.25 miles WSW from the N entrance point; the tidal currents are reported to run very strongly among them.

Eqalugssuit, a small inlet, indents the coast 9 miles N of Nordre Stromfjord. It is the salmon-fishing center for the district of Egedesminde (Aasiaat). Simiutanguit (Simuitannguit), a chain of islets and rocks, extends from 1 to 3 miles W of the N entrance point. The channel between them is deep. A river at the head of the inlet drains a great volume of water from Gieseckes So (Giesecke So), a lake about 25 miles long and the largest known in Greenland.

Shoal patches, with depths of 8 and 9m, are reported to lie about 7 miles WNW of Simiutat.

3.20 **Faeringe Nordhavn** (67°40'N., 53°35'W.), a narrow inlet, indents the coast 3.5 miles NE of Eqalugssuit. It is approached between the N side of Simiutanguit (Simuitannguit) and Aorfit (Aarfit), a small island lying 1 mile NE. A beacon stands on the SW side of this island. Kangeq, a large island fronted by islets and rocks, forms the N side of the approach between Aorfit (Aarfit) and the mainland, from which it is separated by a narrow channel. Large vessels can anchor, in a depth of 30m, close NE of the largest islet, Qeqertarssuaq, on the S side of the approach to Faeringe Nordhavn. Small vessels can anchor within the inlet, in depths of 20 to 25m, about 240m from its head.

Kingigtoq, a prominent mountain, 730m high, stands 7 miles NE of the head of Faeringe Nordhavn on the S side of Gieseckes S. It can be easily identified by its twin peaks.

Numerous islands and dangers extend up to 11 miles from the section of coast between Faeringe Nordhavn and the entrance to Arfersiorfik, 30 miles NNE. They may best be seen on the chart.

Kitsigsut (Kitsissut) (67°47'N., 53°59'W.), an islet surrounded by foul ground, lies at the SW extremity of this area 4.5 miles NW of Kangeq. A beacon stands on this islet.

Shoals, existence doubtful, with depths of 9 and 13m, are reported to lie about 8 miles WSW and 9.25 miles NW, respectively, of Kitsigsut (Kitsissut).

Manetsok (Maniitsoq), an island, 73m high, lies 4 miles NE of Kitsigsut, with foul ground in between. Numerous shoals and dangers lie between this island and the mainland.

3.21 **Rifkol** (67°58'N., 53°47'W.), an island, 271m high, lies 10 miles NNE of Kitsigsut. It is the highest of the outermost islands along this stretch of coast and is surrounded by islets and rocks.

A dangerous rock, existence doubtful, is reported to lie about 9.25 miles W of Rifkol.

Attu (Agto) (67°57'N., 53°38'W.) (World Port Index No. 700) a trading station, stands at the head of a small bay located 3.5 miles ESE of Rifkol. Anchorage can be obtained, in depths of 40 to 45m, good holding ground, 120m NW of the station. The tidal currents in the vicinity are strong. Pilots are not available, but mariners without local knowledge may obtain assis-

tance by contacting the Port Authority. Ajetty with a berthing face 6.6m in length has 3.2m depth alongside.

Ikerasak, a settlement, lies on the SW side of an island located 3.5 miles NE of Rifkol.

Attu (Agto)

Simuitaluk, an island 70m high, lies 8.5 miles NNE of Rifkol at the end of a chain of islands and islets extending from Rifkol. A chain of islets and rocks extends 3.5 miles ENE from Simuitaluk to Alangorssua, a peninsula extending W from the mainland.

Ataneq, a long and deep fjord, is entered S of the W extremity of Alangorssua. The N part of the entrance is encumbered with islets and rocks. Ataneq extends ESE to within a few miles of the NE arm of Nordre Stromfjord. The hills around the fjord rise from heights of 90m in the outer part to 455m in the inner reaches. Iginiarfik (Iginniarfik), a trading station, stands on the shores of a harbor located in a bay 6 miles within the N entrance point of the fjord. The bay and harbor are used by fishing vessels with local knowledge. Winter ice may remain in the bay until the early part of July, but it normally clears in June.

Simiutarssuaq, a large island 96m high, lies 3 miles N of Simuitaluk. A cairn stands on its summit. A chain of islands, islets, and rocks extends 10 miles ENE from the E side of the island into the entrance of Arfersiorfik.

Arfersiorfik, a long and complicated fjord system, is entered N of Alangorssua. It works its way generally in an ESE direction for about 80 miles and terminates at the inland icecap. Depths in the fjord are mostly unknown. For a distance of about 15 miles within the entrance, the fjord resembles a bay encumbered by numerous islands. There are several trading stations located within the fjord system, but local knowledge is required.

Simiutarssup Ikardlue (68°11'N., 53°58'W.), a small group of drying and below-water rocks, lies 5 miles W of Simiutarssuaq and 24 miles N of Kitsigsut at the NW end of this section of coast. A dangerous rock lies 2.25 miles SE of the group.

Dangerous rocks, existence doubtful, have been reported to lie 11.5 miles W, 8 miles WSW, and 11.25 miles SW of Simiutarssup Ikardlue.

Kitdliat (Killiat) (68°17'N., 53°45'W.), the outermost of the islands in the approach to Arfersiorfik, lies 4.75 miles N of Simiutarssuaq. A chain of islands, islets, and rocks extends 5.5 miles ESE from this island along the N side of the approach to the fjord.

3.22 Naternaq (68°20'N., 52°00'W.) is a large land area lying between Arfersiorfik Fjord and the SE part of Disko Bugt. From its W side, a long and irregular peninsula, named Tunorssup Nuna, extends WSW for nearly 20 miles. The seaward shores of both Naternaq and Tunorssup Nuna are much indented by small fjords and bays and fronted by numerous large and small islands. The coasts of Naternaq are low; the land rises gradually from them towards the interior, where there are elevations of 214 to 457m.

North of the entrance to Arfersiorfik Fjord, the coast recedes to form an extensive bay bounded on its N side by Sarqardlit, a large island. Numerous chains of islands, islets, and rocks lie within and front this bay.

Kangatsiaq (Kangaatsiaq) (68°18'N., 53°28'W.), a settlement, is situated 5.5 miles ENE of Kitdliat. It stands on a level plateau located on the W extremity of Tunorssup Nuna and is fronted by islets, through which the tidal currents run with great strength.

Kangatsiaq

The harbor is normally navigable from the latter half of May to the end of November, but there are numerous dangers in the approach and local knowledge is required. A quay, 12m long, has a depth of 3m alongside and there are four mooring buoys for the use of fishing vessels. Coastal vessels can berth with an anchor down and their stern secured to the quay. Vessels up to 60m in length and 4m draft have been handled. A light is shown from close WSW of the quay; another light is shown from an islet close WSW of the first light.

Vessels can anchor, in depths of 30 to 35m, between 60 and 120m SE of the quay; however, the holding ground is poor. Two pairs of beacons have been established to assist vessels when anchoring.

Qeqertarssuatsiaq, a large and irregularly-shaped island, lies 8 miles NE of Kangatsiaq in a bight formed on the N side of Tunorssup Nuna. Knofjeld, a hill 194m high, stands on its W end.

Qioqerssuit and Qioqinquit, both small groups of islets and rocks, lie 6 miles NW and 8.5 miles NNW, respectively, of Kangatsiaq and are among the outermost dangers along this stretch of coast.

Sarqardlit (Sarqardlip Nuna), a large island, lies on the S side of the entrance to Disko Bugt and is narrowly separated from the mainland at the E end. It rises to a height of 247m in its central part. The settlement of Egedesminde (Aasiaat) is situated on the NW end of one of the numerous islands lying off its N side. Manermiut, a very small settlement, stands on the N side of the W extremity of Sarqardlit. Nivap Suvdlua (Sarqardleq), a channel, separates the islands lying off the NW side of Natermaq from the S side of Sarqardlit (Saqqarliit). This channel, for which no soundings are indicated and in which

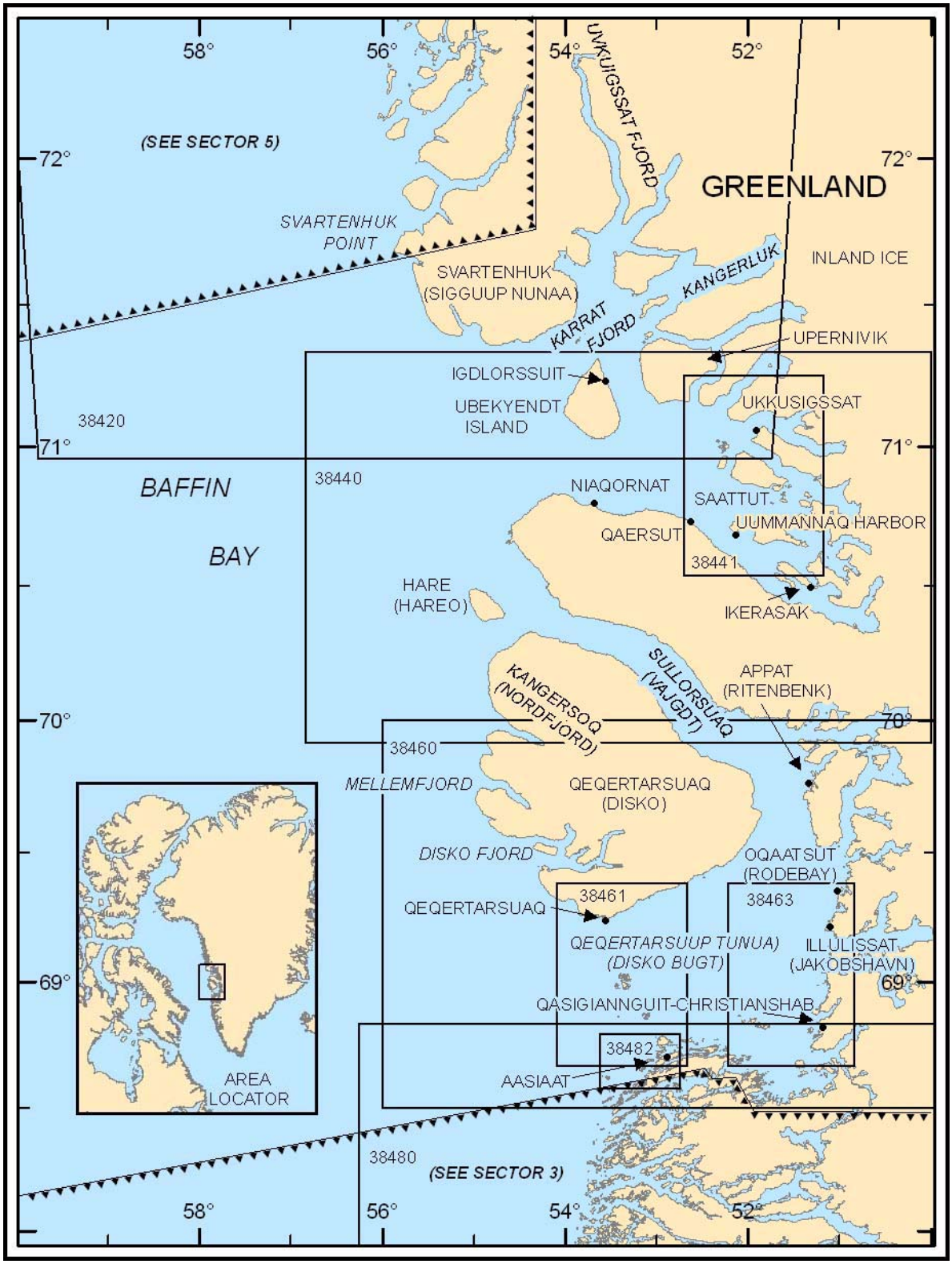
there are a number of islets and rocks, extends ENE for about 16 miles.

A belt of islets and rocks, up to 3 miles wide, extends SW for about 10 miles from the W end of Sarqardlit (Saqqarliit). **Sioragdlit** (68°30'N., 53°36'W.), a small islet, lies at the seaward end of this belt, 4 miles NNE of Qioqinquit. Ivnalinguaq, a small islet 68m high, lies 1 mile N of Sioragdlit and is among the outer dangers along this stretch of coast.

3.23 **Akulliit** (Akugdlit) (68°35'N., 53°30'W.), a group of small islands and islets, is located 3.5 miles NNE of Ivnalinguaqa; the center island is 43m high and marked by a beacon. This group, fringed by dangerous rocks, is among the outer dangers along this section of coast. An isolated rock, with a depth of 5m, lies about 2.25 miles W of the group.

Vester Ejland, the largest island of a group of islands and islets, is located 2.5 miles N of Akugdlit in the SW approaches to Disko Bugt, the S part of a large bay extending NNW from Sarquardlit.

Arfersiorfik



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **4** — CHART INFORMATION

SECTOR 4

GREENLAND—WEST COAST—DISKO BUGT (QEQERTARSUUP TUNUA) TO THE SVARTENHUK PENINSULA (SIGGUUP NUNAA)

Plan.—This sector describes the W coast of Greenland from Vester Ejland, on the S side of Disko Bugt (Qeqertarsuup Tunua), to Sigguup (Svartenhuk Point) on the Svartenhuk Peninsula (Sigguup Nunaa). It includes descriptions of Disko Bugt (Qeqertarsuup Tunua), Disko Island, Vaigat, Umanak Fjord, and Karrats Fjord (Karrat Fjord).

General Remarks

4.1 The coastal area described in this sector is characterized by broad bays, long peninsulas, off-lying islands, and branching fjords which extend to the Inland Ice Cap in many places. Anchorages are available at the ports and at several other localities throughout this area; however, most of them are suitable only for small vessels.

Winds—Weather.—During the summer in good weather, the prevailing winds blow in or out of the bight, but in stormy weather there are winds from other directions. The level of tides can be increased up to 0.3m by winds from the W and decreased up to 0.5m by winds from the E through S.

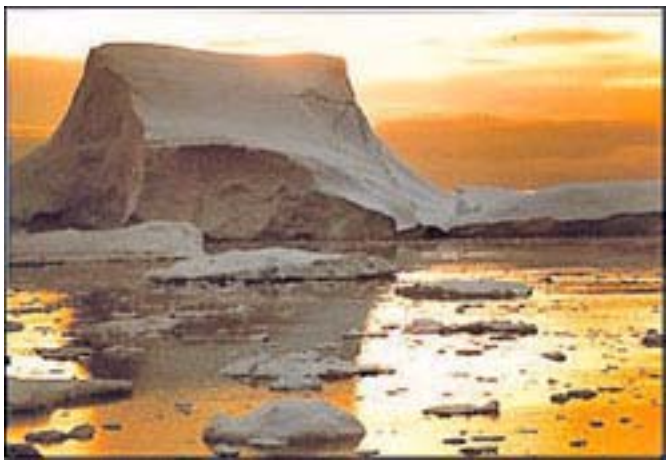
Fog frequently extends through the entrance to Disko Bugt (Qeqertarsuup Tunua) past Egedesminde (Aasiaat) and Godhavn; it enters with the afternoon wind from seaward and remains until the offshore E wind arrives in the morning. Fog also enters from N through Vaigat and covers the E part of the bight. When close drift ice remains N of Jakobshavn Isford, fog will sometimes form in the area.

The climate of Christianshaab is reported to be the best in Disko Bugt (Qeqertarsuup Tunua). The prevailing winds are from E and NE, especially in the fall, with not much force. However, the katabatic wind is as violent here as anywhere in Greenland and has, at times, done considerable damage. Fog is rare, but will often form when many icebergs are in the vicinity. The average number of days with clear and calm weather is high. Summer temperatures rise to 20°C in the shade. The sun remains above the horizon from May 22 to July 23. The sunless period lasts from December 2 to January 23-25.

Tides—Currents.—The tidal currents run at a greater rate on the S side of the bight than in the N part, except along the N shore; in consequence, there are always fewer bergs and less calfved ice near the S shore of the bight than near the SE coast of Disko Island (Qeqertarsuaq).

The West Greenland Current sets N along this section of the coast, with a maximum rate of 0.5 knot. During the summer months, when the rate increases, a branch of this current sets E into the S side of the entrance to Disko Bugt.

Ice.—Normally, Disko Bugt (Qeqertarsuup Tunua) is frozen solid in winter with ice extending seaward up to a line between Egedesminde and Godhavn. Christianshaab and Godhavn are rarely ice-free until June and the other settlements are not navigable until the end of June at the earliest. Fast ice and new ice, developing into winter ice, begin to form in Disko Bugt and Vaigat towards the end of November or early December. When the winter ice is established, sledging is sometimes possible between Egedesminde and Godhavn, but storms frequently break up the ice at the seaward side. The winter ice does not clear until about the end of May. When the ice breaks up, numerous icebergs from Jacokshavn, 60 to 90m high, fill the bight and render it unnavigable for several days. Many of these bergs ground on the foul areas at the entrance and within the bight.



Iceberg from Jakobshavn Glacier in Disko Bugt (Qeqertarsuup Tunua)

Usually the pack ice appears in early January and retracts by the middle of April. The heaviest winter ice observed had a thickness of 1m; it can reach a thickness of about 0.3m by January 1 and nearly 0.6m by February 1.

In the S, the advance of Baffin Bay pack ice almost fills the sea to the W of Disko Bugt and Disko Island from January through April. It decreases during May and is usually gone by the end of the month.

Disko Bugt (Qeqertarsuup Tunua) to Aasiaat (Egedesminde)

4.2 A large bight indents the coast and extends about 120 miles N from the N side of Sarqardlit (Saqqarliit), previously described in paragraph 3.22. Disko Bugt (Qeqertarsuup Tunua) is the S part of this bight. The N side of the bight is formed by the SW coast of the Nugssuaq Peninsula. Disko Island (Qeqertarsuaq) occupies the NW part of the bight and its S shore bounds the N side of Disko Bugt. Vaigat, a wide strait, separates Disko Island from the Nugssuaq Peninsula.

The settlement of Egedesminde is situated on one of the numerous islands lying off the N coast of Sarqardlite (Saqqarliit) in the SW part of Disko Bugt. Godhavn is situated on the S side of Disko Island, 35 miles NNW of Egedesminde. The set-

Grounded icebergs in Disko Bugt (Qeqertarsuup Tunua)

tlements of Christianshaab and Jacobshavn are situated on the E side of Disko Bugt, about 50 miles within the bight.

Vester Ejland (68°37'N., 53°32'W.), the largest of a group of islands, islets, and rocks, lies in the SW approach to Disko Bugt (Qeqertarsuup Tunua), about 9 miles W of the W end of Sarqardlit. A light, with a racon, is shown from a prominent tower, 7m in height, standing near the center of the island. A small islet, located 1.25 miles W of the light, lies at the outer edge of an area of foul ground which extends from Vester Ejland. An isolated rock, with a depth of 7m, lies 1 mile N of the light.

Approaches to Aasiaat (Egedesminde)

4.3 Numerous islands and dangers lie off the N coast of Saqqarliup Nunaa (Saqqarliit), in the approaches to Aasiaat (Egedesminde), and may best be seen on the chart. The dangers described below are those which lie adjacent to the approach channels.

Maniitsoq, a prominent island, 154m high, lies 16 miles NE of Vester Ejland and is the N of the numerous islands fronting the N side of Saqqarliup Nunaa (Saqqarliit). Cairns stand on its summit and E extremity.

Appalilik (Kullen), a small island, 94m high, lies 2.5 miles W of Maniitsoq and is reported to be easy to identify.

Appaliliup Ikkarlussua (Braendevinsskaeret), a small islet, lies 2.5 miles WNW of Appalilik (Kullen). An isolated rock with a depth of 19m, lies 6 miles W of this islet.

Susanneoer, a small group of islets and rocks, lies 8.5 miles ENE of Vester Ejland. A light is shown from the N islet of the group.

Oqaatsoq (Oqaatsut), an island located 1.5 miles NE of Susanneoer, lies at the SW end of a chain of small islands which extends 6 miles NE. Lights are shown from the S side of this chain, about 3 miles NE of Qqaatsoq (Oqaatsut).

Skarveholmene, a group of islets marked by beacons, lies about 3 miles NE of Susanneoer and close S of the chain of islands extending NE from Qqaatsoq.

Iginiarfik, an island, lies 1.5 miles ENE of Skarvholmene and 0.25 mile S of the chain of islands extending NE from Oqaatsoq.

Anartalik, a small island, lies 0.5 mile S of the S side of Maniitsoq and 0.75 mile N of Hareo (Hare), the NE island in the chain extending NE from OQqaatsoq.

Angisoq, a small island, lies 1 mile SE of the E extremity of Manitsoq and 2 miles ENE of Anartalik.

Zimmers Vardeo, a low islet, lies 0.25 mile E of Angissoq. A light is shown from this islet.

Torveo, located 1 mile SSE of the E extremity of Hareo (Hare), lies in the entrance to the harbor.

There are three channels in the approaches to Aasuaat (Egedesminde), as follows:

1. Sydvestlobet, the SW and most frequently used approach channel, is entered between Vester Ejland and Akugdlit and passes close N of Susanneor. The fairway then narrows and leads between Qqaatsoq, on the N side, and Skarveholmene and Iginiarfik, on the S side. It is indicated by a range which may best be seen on the chart.

   It is reported that there is a least depth of 35m on the range, but a depth of 5m lies very close SE of the line, E of Qqaatsoq. Due to it being narrow, ice frequently blocks this channel.

2. Nordvestlobet, the NW channel used by vessels proceeding between Godhavn and Egedesminde, is entered between Braendevinsskaer and Kullen. The fairway then leads ESE and passes S of Kullen and between Anartalik, on the N

Towns and villages in the vicinity of Disko Island

side, and Hareo (Hare), on the S side. It then leads S to the harbor.

It is reported that this channel has a least depth of 9m at its inner end N of Hareo (Hare).

3. Nordostlobet, the NE channel used by vessels proceeding between Christianshaab and Egedesminde, leads between Angissoq and Zimmers Vardeo and then SW into the harbor. The fairway, which is indicated by Zimmers Vardeo Light and a range, is reported to have a least depth of 17m.

Anchorage.—Vessels up to 50m long can anchor in Hollaenderhavn, a harbor located on the N side of Natassit, in a depth of about 40m.

Caution.—Several areas lying in the approaches and adjacent to the channels are not completely surveyed. Local knowledge is recommended for navigating in the entrance fairways, which are intricate and pass between numerous dangers.

Aasiaat (Egedesminde)

4.4 **Aasiaat** (Egedesminde) (68°43'N., 52°53'W.) (World Port Index No. 760) is the administrative center of North Greenland. The harbor lies in a bay, fronted by Torveo, and is formed by the NW end of Aassiaat (Ausiat Island) and the NE end of Raeveo Island. Transtoen, an islet, lies 0.25 mile S of Torveo and divides the inner harbor from the roadstead. The beacons around Transitoen cannot be expected to be in place or in working order.

Polar darkness at Aasiaat lasts from December 2 to January 11;the midnight sun lasts from May 22 to July 23.

Aasiaat (Egedesminde)

Tides—Currents.—Tides rise about 2.6m at springs and 1.5m at neaps.

Depths—Limitations.—Atlantic Quay, the N part of the main wharf, is 1,100m long and has a depth of 8.1m alongside; the S part 70m in length and 6.5m alongside. Vessels up to 136m in length and 7.5m draft have been accommodated.

There is an anchorage berth with stern moorings, in a depth of 13m, near the tank farm; it can be used by vessels up to 61m in length. There is another anchorage berth with stern moorings, in a depth of 30m, in the outer harbor.

An extensive fishing harbor is located 1.25 miles ENE of Aasiaat (Egedesminde). It has a wharf, with depths of up to 7.4m.

Aspect.—A radiobeacon is situated 1 mile E of the harbor.

Lighted range beacons, which can best be seen on the chart, indicate the harbor entrance fairway and the mooring berths.

It is reported that, among several buildings standing in the

settlement, a two-story church building with a cross on its gable is very prominent.

Pilotage.—Pilotage is not compulsory, but advisable. There is no official pilot, but experienced local assistance is available if requested with the ETA message; the pilot usually boards off the harbor entrance. Vessels should send an ETA at least 24 hours in advance. The harbor can be contacted by VHF, call sign OYR. The harbor is reported to be open from May to December and closed for the winter.

Anchorage.—Anchorage can be obtained in the roadstead, but is not recommended as there is limited swinging room, poor holding ground, and the winds rise frequently here.

Caution.—Submarine power cables lie in the harbor and may best be seen on the chart.

Disko Bugt (Qeqertarsuup Tunua)

4.5 Several groups of islands, islets, and rocks span the entrance to Disko Bugt (Qeqertarsuaq) and lie between the S coast of Disko Island and the dangers fronting Aasiaat (Egedesminde), previously described in paragraph 4.4.

Five navigable channels lead E through these groups into the bay.

Rotten (68°52'N., 53°25'W.), a low islet, lies 11.5 miles NW of the N extremity of Manitsoq. Foul ground fronts its W side.

Hunde Ejland (Kitsigsuarssuit) (68°52'N., 53°07'W.), lying 6 miles E of Rotten, consists of two groups of small islands, islets, and rocks separated by a channel about 0.3 mile wide. A cairn stands on the S island, which is 38m high. Hunde Ejland is fringed with shoals; large vessels without local knowledge should not approach within 1 mile of it.

Kronprinsens Ejland (Whale Fish Islands), a large group of islands, islets, and rocks, lies in the middle of the entrance to Disko Bugt (Qeqertarsuup Tunua), 9 miles N of Rotten. A channel, about 0.4 mile wide, runs through the center of the group. From the SW, the narrow passages between the various islands and islets can be plainly seen. However, from the S, when viewed with the high land of Disko Island (Qeqertarsuaq) behind them, they appear as one large island. Cairns stand on most of the islands and islets.

Ausigsut (Bruendevinsskaer), a detached group of three islets and several rocks, lies 3.5 miles NW of the main group. Rocks, with depths of 5.9m and 8.6m, lie 1.75 miles NE and 1.5 miles N, respectively, of Ausigsut.

West Parry Skaer, a rock with a depth of 0.1m, lies 9 miles WNW of Ausigsut and 7.5 miles S of **Kangaarsuk** (69°16'N., 53°51'W.), a point on the SW coast of Disko Island.

East Parry Skaer, a rock with a depth of 3.7m, lies 4 miles ENE of West Parry Skaer; the sea rarely breaks on this rock.

Disko Island (Qeqertarsuaq)—West Coast

4.6 Disko Island (Qeqertarsuaq) occupies the NW part of Disko Bugt and is the largest island on the W coast of Greenland. Landmarks on its W side are not reconizable from the offing; however, on closer approach, the entrance points of Disko Fjord, Mellemfjord, and Nordfjord are easily identified. The steep sides of the flat-topped mountains in the W part of the island appear, from seaward, to be rust-colored and the stratification of the rocks is quite apparent.

Itilleq (**Laksebugt**) (69°18'N., 53°56'W.), a bight in the SW end of Disko Island (Qeqertarsuaq), is entered between Kangaarsuk, a point previously mentioned in paragraph 4.5, and a point 4.5 miles NW. Below-water rocks encumber the NW part of this bight.

Blafjeld, 714m high, stands 7.25 miles NW of Kangaarsuk. From S, this mountain appears high and flat-topped with steep, prominent sides. At the N end it slopes away gradually to the entrance to Disko Fjord. A cairn stands on its summit.

Luciefjeld, a mountain, 359m high, stands 4 miles N of Kangaarsuk and is prominent.

Maligiaq (69°27'N., 54°14'W.), flat and barren, forms the S entrance point of Disko Fjord. Satoq, an islet fringed by rocks, lies 1 mile W of the point. A small cove, located close SE of the point, is the site of an abandoned Loran station.

Disko Fjord (Kangerdluk), long and branching, is entered N of Maligiaq and extends E for 8 miles to Sioraq, the SW end of a broad promontory, which divides it into two arms. Qeqertaq, an island 622m high, lies in the entrance to the fjord and divides it into two channels. A cairn stands on the summit of the island. Depths in the channel leading N of the island are unknown. It is reported that there are depths of over 90m in the center of the channel leading S of it. Kangerdluarssuk, an inlet indenting the promontory E of Qeqertaq, is reported to provide good anchorage.

Nordre Laksebugt, a small bay, is located 5 miles NW of the N entrance point of Disko Fjord. Its narrow head terminates in sand and clay. Vessels with local knowledge can anchor in a cove located 0.75 mile within the S entrance point.

4.7 **Mellemfjord** (69°46'N., 54°52'W.), entered 9 miles N of Nordre Laksebugt, extends SE for 12 miles. A drying flat extends 0.75 mile offshore at its head. A warm spring and several valleys lie within the head. Several prominent mountains, rising up to 1,009m in height, stand in the vicinity of the fjord and may best be seen on the chart.

Vessels with local knowledge can anchor in the middle of Enoks Havn, a small bay located 2.5 miles within the S entrance point of the fjord, in a depth of 18m.

Small vessels with local knowledge can anchor close inshore, sheltered from all winds, under the lee of the promontory on which Narssarssuaq, a settlement, is situated 3 miles E of Enoks Havn. It is reported that there is an airfield at this settlement.

Qasiqisat, a small bay, is entered 6 miles N of Mellemfjord and affords shelter for small vessels during S winds.

Nordfjord (North Fjord), 7 miles NNE of Mellemfjord, is entered between Nugarssuit and a point 6 miles NNE, on which Igdluluarssuit, an abandoned settlement, stands. A rock, with a depth of 8m, lies about 0.5 mile WSW of Nugarssuit. Avatarpait, a small group of rocks, lies 1.5 miles offshore 3.5 miles NW of Igdluluarssuit.

The fjord extends ESE for 12 miles to its head, from which a drying mud flat extends 1 mile offshore. Its inner part is very shallow. Kingigtussoq, a prominent mountain 660m high, stands 3 miles ENE of Nuugarssuit; a cairn stands on the summit.

Anchorage.—In a small bay 8 miles within the entrance, on the S side of the fjord, there is anchorage for small vessel.

There is another anchorage 4 miles within the entrance off Perdlertut and near an abandoned settlement, situated on the N side of the fjord. In both cases, local knowledge is required.

Igdlorpait (Illorpaat), an abandoned settlement, is situated on a point located 11 miles N of the N entrance point of Nordfjord. This stretch of coast is fringed with foul ground, extending up to 0.75 mile offshore; numerous rivers flow into the sea through it.

Serfarsuit (Sarfarsuit) (70°20'N., 54°23'W.), the N extremity of Disko Island (Qeqertarsuaq), is located 10.5 miles NE of Igdlorpait (Illorpaat).

Hareo (Hare Island) is centered 11 miles NW of Serfarsuit. It is separated from the N coast of Disko Island by Maligiaq (Maligat), a 7-mile wide channel. The island rises to a height of 517m in its S part. A cairn stands on its summit and a beacon stands on a hill in its N part. There are no harbors, but vessels can find shelter in deep water close up to the precipitous sides of the island.

Disko Island (Qeqertarsuaq)—South Coast

4.8 Kangaarsuk (69°16'N., 53°51'W.), previously mentioned in paragraph 4.5, is a point on the SW coast of Disko Island. Fortune Bay lies between Kangaarssuk and a point 2.25 miles ESE. It is protected from the SW by several islands, islets, and rocks which extend about 1 mile from the coast. Anchorage can be obtained, in a depth of 23m, in the middle of an arm which opens off the NE corner of the bay. The anchorage should be approached from E of Qaqaq, the largest and outermost island, which is marked by a cairn. Local knowledge is required because of the numerous above and below-water rocks lying in the vicinity.

4.9 Qeqertarsuaq (Godhavn) (69°14'N., 53°32'W.) (World Port Index No. 840) is situated on the SW coast of Disko Island, approximately 6.5 miles E of Kangarssuk. The settlement stands on the shore of a small bay located on the W side of an irregular peninsula which extends S from the coast. A pipeline has been installed across the fjord at the E end of the inner bay. The pipeline is surrounded by a protection zone of 200m along the length and to either side of the pipeline. Anchoring, sand dredging, stone extraction and the use of bottom-trawled gear are prohibitied in thes protection zone.

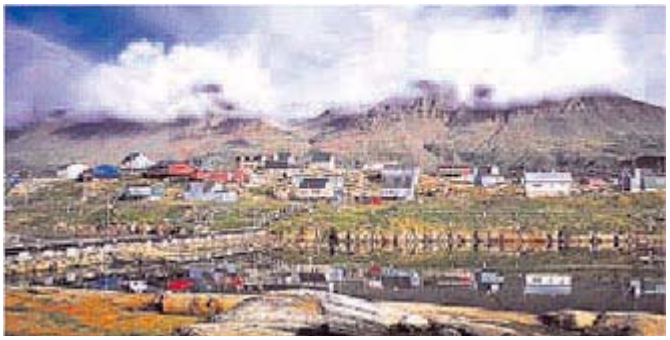
Various scientific and research institutions, including the Danish Arctic Station, are at Qeqertarsuaq. The harbor provides excellent shelter for small vessels, but the importance of the port has declined since the time of the Baffin Bay whaling industry and it has lost much of its shipping to Aasiaat (Egedesminde).

The port handles general cargo and containers.

Tides—Currents.—Tides rise about 2.4m at springs and 1.4m at neaps. Tidal currents are weak in both the harbor and the approaches.

Depths—Limitations.—The outer harbor has depths of 26 to 44m; the inner harbor has depths of 12 to 16m in its central part. Schooner Quay, the main wharf, is 15m long,with a depth of 5.0m alongside. Vessels of up to 60m in length and 3.5m draft have been accommodated alongside. There are anchor berths with stern moorings in the outer harbor for vessels up to 100m in length and 7m draft.

Qeqertarsuaq



Qeqertarsuaq (Godhavn)

A 15m long quay for fishing vessels, with a depth of 7.0m alongside, has been constructed.

The port is open from early May to the end of November. Ice-strengthened vessels can use the port from about mid-April. The port is closed during the winter. The polar darkness lasts from November 25 to January 15. The midnight sun lasts from May 19 to July 26.

Aspect.—The mountainous coast to the W of Qeqertsuaq is very irregular in comparison to the E.

Apostelfjeld, a prominent mountain, 709m high, stands 3 miles NNE of Qaqqaliaq (Udkiggen) and has two cairns on its summit.

Lyngmarksbraeen, an ice cap, is located N of Qeqertarsuaq and can be seen from the W approaches.

Skarvefjeld, a mountain, rises steeply from the shore 3.5 miles NE of Qeqertarsuaq. It has twin W and E peaks which rise to heights of 830m and 899m, respectively, and are marked by cairns.

Blaesdalen, a deep valley, lies between Skarvefjeld and Lyngmarksbraeen and can be seen from the S approaches.

A radiobeacon is situated on the E side of the peninsula 1 mile NNE of Qaqqaliaq (Udkiggen).

Qaqqaliaq (Udkiggen) is a point at the S extremity of the peninsula on which Qeqertarsuaq stands and is the S extremity

of Disko Island. A light, which indicates the approaches, is shown from a tower, 5m in height, standing on the point. A beacon, formed of four whale jawbones covered with boards, stands close NW of the light tower. A racon is located at the light.

Range lights indicate the entrance fairway leading to the harbor and can best be seen on the chart.

Kodo, a bare islet 9m high, lies 0.5 mile NW of Qaqqaliaq (Udkiggen). A beacon stands on this islet. A small islet lies on foul ground close ENE of Kodo.

Pilotage.—Pilotage is not compulsory, but is advised. Unlicensed pilots are available on request. The harbor can be contacted by VHF channels 13, 16. Vessels should send request for pilot with their ETA and arrange the pilot boarding position.

Anchorage.—Anchorage is afforded in the middle of the outer harbor, in a depth of 37m, sand and clay mixed with rock, but it is exposed to the W and SW.

Contact port officials for permission to anchor.

Caution.—It is reported that swarms of mosquitoes may be encountered in the vicinity of the port.

Kirkegaardsbugten (False Bay), an inlet entered 0.5 mile N of Qaqqaliaq (Udkiggen) and fronted by Kodo, should not be mistaken for the entrance to the harbor.

A pipeline extending in a N-S direction is positioned close E of the inner bay. A protection zone, marked by beacons, extends a distance of 200m along each side of the pipeline Anchoring, dredging, fishing, and trawling are prohibited in this area.

Disko Island (Qeqertarsuaq)—Southeast Coast

4.10 The SE coast of Disko Island (Qeqertarsuaq), which extends from Udkiggen to Norujuk (Nuk), 45 miles NE, forms the N side of Disko Bugt (Qeqertarsuup Tunua). It is unusually even and unindented; however, deep valleys extend from near the shore to the ice-covered interior of the island. A few isolated small islets and rocks lie close offshore, at irregular intervals, along this stretch of coast. Behind the coast, mountains rise to heights of 609 to 914m, but towards Norujuk, the high land recedes farther from the shore and leaves a wide coastal belt.

Per Dams Skib, a conical islet, lies on a shoal patch close offshore, 6.5 miles ENE of Qaqqaliaq (Udkiggen).

Brededal, a large prominent valley, extends N from a point about 2 miles E of Per Dams Skib to the head of Disko Fjord.

Skansen (69°26'N., 52°26'W.), a trading station, is centered around some local coal deposits 26 miles ENE of Qaqqaliaq (Udkiggen). A basalt cliff resembling a palisade, rises from the sea in perpendicular pillars on the SW side of the station. The buildings of the station stand on a fairly high sandstone cliff and are reached by way of a narrow gorge. There is no harbor or suitable anchorage here; the beach is fronted by shoals.

Nunguaq, an islet lying on shoal ground, is located 1.75 miles SSW of Skansen. A below-water rock lies about 0.5 mile W of it. The channel, 0.75 mile wide, lying between the islet and the coast, is navigable by small vessels with local knowledge.

Skorstensfjeldet, a prominent mountain 978m high, stands 7 miles N of Skansen. It is one of several which are surmounted by chimney-like formations. However, this mountain is unique because of its isolated position and prominent snow drifts which extend downward and inward on either side.

Iviangernat, a prominent mountain 683m high, stands 3 miles NW of Skansen.

Porsild Grund (69°19'N., 51°53'W.), a rock with a least depth of 17m, lies on a shoal patch about 14 miles SE of Skansen.

Norujuk (Nuk) (69°39'N., 51°50'W.), 18 miles NE of Skansen, is the E extremity of Disko Island and the SW entrance point of Vaigat. It is low-lying and fronts a lagoon formed by a long sand spit which extends 3 miles NW into Mudderbugten. The stretch of coast extending 16 miles SW from Norujuk is known as Flakkerhuk. It is flat and radar responses from it are poor. The good responses received from the mountains standing inland should not be confused with the low shore.

Disko Bugt (Qeqertarsuup Tunua)—South Side

4.11 Between Egedesminde and Nuk, the SW extremity of a mainland peninsula 35 miles E, the S coast of Disko Bugt (Qeqertarsuup Tunua) is rather low in profile and almost featureless. Sorpiussat Qaqat, a mountain, 399m high, stands 34 miles ESE of Egedesminde and is the only landmark of any prominence along this part of the coast.

Numerous islands, islets, and rocks front the N and E sides of Sarqardlit and may best be seen on the chart. A few small boat harbors are located among some of the islands, but local knowledge is required to enter them. Ikardlukasit, a small islet, lies at the outer end of a chain of islets and rocks which extend 4.5 miles E from the E extremity of Sarqardlit.

Sydostbugten, the S extrimity of Disko Bugt (Qeqertarsuup Tunua), is entered between Ikardlukasit and Niaqornaq, the NW extremity of a long and narrow mainland promontory, 18 miles E. Its S shore, which is formed by the mainland, is composed of low land with broad stretches of sand and clay. Cliffs and a few peaks rise above the low land and project into the bay as capes and peninsulas. Sarpiussat, 15 miles SE of Ikardlukasit, is reported to be the most prominent peninsula. Numerous small islands fringe the shores of Sydostbugten and several fairly large islands lie in its E part.

Kangersuneq, a short fjord, extends NE from the NE end of Sydostbugten and is entered between Niaqornaq and Niaqornarssuk (Niaqornarssuaq), a point 2 miles NW. Orpigsoq (Orpissooq), an arm of this fjord, extends off its S side. A below-water rock is reported to lie in the entrance to this arm. Angiarfik, a prominent mountain, 539m high, stands 2 miles NE of the head of Kangersuneq.

Caution.—No soundings are available for Sydostbugten, but it is believed to be fairly deep in the W part.

4.12 Gronne Ejland (Kitsissunnguit) (68°50'N., 51°55'W.), a chain of islands, islets, and rocks, lies in the S part of Disko Bugt along the S edge of an extensive area of foul ground. The islands are low-lying and greenish-brown in color. The islands are contained within a designated marine reserve area; landing is prohibited.

Basiso, 28m high, is the largest island. It is located in the center of the chain, 8.5 miles NE of the E extremity of Sarqardlit. There is an anchorage for small vessels in a small bay

on the S coast of this island. A racon is located on the S extremity of the island.

Angissat, the E island of the chain, rises to a height of 33m. An islet and some below-water rocks lie 0.75 mile ENE of the E end of this island.

Satuarssuit, a small group of islets, lies at the W end of the chain. A detached area of foul ground lies 3 miles NNE of Satuarssuit. Vessels are advised to give the N side of the chain a wide berth.

Disko Bugt (Qeqertarsuup Tunua)—East Side

4.13 The E side of Disko Bugt (Qeqertarsuup Tunua) lies between **Nuuk** (68°45'N., 51°19'W.) and Itivdlerssuaq, the SE entrance point of Vaigat, 46 miles N.

Nuuk, a point 112m high, forms the SW extremity of the peninsula on which Christianshaab is situated.

Nuuk Point

Qasigiannguit (Christianshab)

Qasigiannguit (Christianshab) (68°49'N., 51°11'W.) (World Port Index No. 790) is situated at the head of an inlet which indents the W side of a broad peninsula, 5 miles NNE of Nuk.

Ice.—At Qasigiannguit (Christianshab), icebergs and glacier ice rarely obstruct navigation as the outer harbor is large and at least one of the entrance channels is likely to be clear.

Qasigiannguit (Christianshab)

Qasigiannguit (Christianshab)

Much ice can be encountered off Qasigiannguit (Christianshab) when it breaks up in Disko Bugt (Qeqertarsuup Tunua) in early summer, but normally it does not lie close inshore, which makes navigating close to the coast possible with care and caution.

Tides—Currents.—Tides rise about 2.8m at springs and 1.6m at neaps. The tidal currents within the harbor are weak.

Depths—Limitations.—Atlantic Quay is 40m long, with a depth of 8m alongside. Vessels up to 135m in length and 7.5m draft can be accommodated alongside.

There is a 75m long jetty, with depths up to 4m alongside, for small craft and fishing vessels. There is a 10m long tanker jetty with a depth of 3.5m alongside where vessels berth stern-to. There is an anchor berth with stern moorings, in a depth of 13m, in the inner harbor.

The port can be approached N or S of Savik and its adjacent dangers. Two entrance channels, which pass on each side of a small islet, lead between Spaekholmen and Napissaq and into the harbor. A mast surmounted by a radar reflector stands on the small islet. The N channel has a least depth of 18m in the fairway, which is 60m wide; when navigating this channel, a vessel should make good a course of 122°. The S channel has a least depth of 20m in the fairway which is 120m wide.

Another deeper entrance channel, 450m wide, leads S of Napissaq and has a least depth of 24m.

The port is open from May to December. It is closed during the winter. The polar darkness lasts from December 2 to Janu-

ary 11; the midnight sun lasts from May 22 to July 23.

Aspect.—Qeqertatssiaat (Jakobsholm), a large island, lies 7.5 miles N of Nuuk. A beacon surmounts its summit, which is 152m high, and serves as an excellent landmark in the N approaches. Savik, a large island, lies 2 miles W of the port. A beacon stands on its summit, which is 83m high, and is a prominent mark from all directions. A light is shown from a tower standing at the NW end of the island. Several islets lie close off the W and S sides of the island and a 7m shoal patch lies 0.5 mile S of its S end.

Kingigtuarssuk (Kingittuarsuk), an islet, 78m high, is located 1 mile SSE of Savik on the SE side of the approaches. From it, chains of islets extend 1 mile ENE and 2 miles NE, respectively, to the S and N entrance points of the inlet in which the port lies. Spaekholmen, an islet at the N end of the NE chain, lies close off the N entrance point and is connected to it by a causeway. Napissaq, an islet, is located 0.5 mile SW of Spaekholmen. A light, indicating the approaches, is shown from its N extremity.

The land in the vicinity of Christianshaab consists of numerous rounded mountains rising to heights of 400 to 500m. Of these, Qaqarssuaq, standing 1 mile E of the settlement, has an imposing appearance.

A radiobeacon is situated on the N side of the inlet 0.5 mile NNE of Spaekholmen.

A prominent red factory chimney is reported to stand in the settlement.

Ranges, which can best be seen on the chart, indicate the entrance fairways into the outer and inner harbors.

Pilotage.—Pilotage is not compulsory, but is advisable. An unlicensed pilot is available on request. Vessels should send an ETA and a request for a pilot at least 24 hours in advance. The port and the pilot can be contacted on VHF channes 9, 13, and 16.

Anchorage.—Large vessels can anchor in the outer harbor, in depths of 20 to 40m, clay and rock. However, strong E winds with gusts from the mountains sometimes render the anchorages unsafe.

Caution.—An outfall pipe lies about 250m SE of the base of the oil jetty.

4.14 The stretch of coast between Qasigiannguit (Christianshaab) and Qeqertatssiaat (Jacobshavn), 24 miles NNE, is generally low-lying and backed by a high mountain range which rises gradually to heights of 400 to 600m. A few small islands, islets, and rocks lie close off the shore.

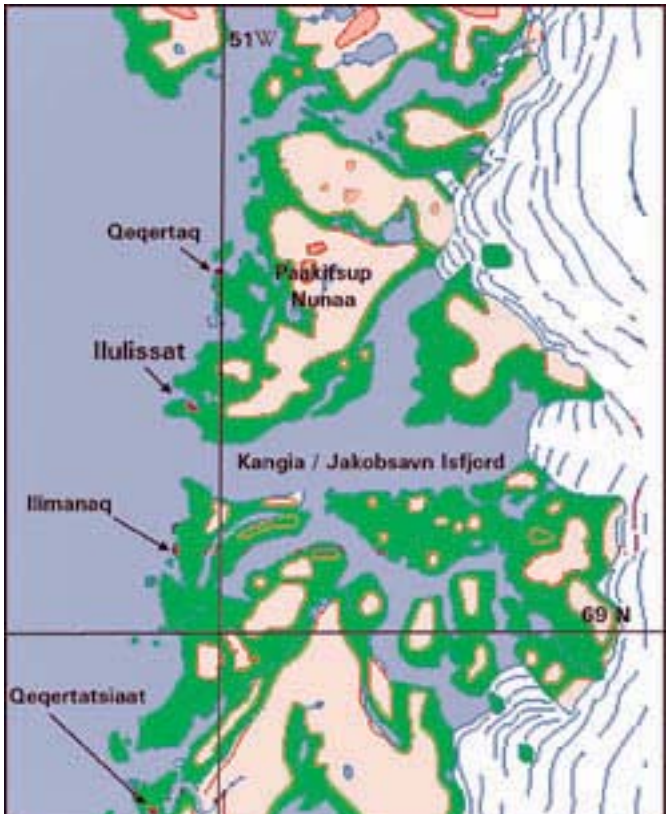
Sagdliup Tunulia (Salliup Tunulia), a mountain, 540m high, stands 4.5 miles ENE of Christianshaab and is conspicuous.

Rypeholm (Oqaatsuarsuit), an island, 69m high, is located close off the coast 1.5 miles NNW of Spaekholmen. A cairn marks its summit.

Laksebugt, an inlet, is entered between Rypeholm (Oqaatsuarsuit) and the S side of Qeqertatssiaat (Jakobsholm), previously described in paragraph 4.13, 2 miles N. It extends NE for 7 miles between steep shores.

Between the N entrance point of Laksebugt and another point 10 miles N, the coast recedes to form a large bight. The depths within this bight are unsurveyed and several islets and rocks front the shore.

Qilangalik (Qilanngalik), an islet, 12m high, lies 2.25 miles offshore, 6 miles N of Jacobsholm. It is the outermost danger off this stretch of coast and is surrounded by foul ground.



Towns and villages in the vicinity of Illulissat

Maagefjeld (Nuajanguit), a mountain 432m high, stands near the coast, 6 miles NE of Jacobsholm and is prominent.

Agpat (Appat), a small peaked island, lies close off the N entrance point of the bight, 3.5 miles NNE of Qilangalik. A cairn stands on its summit. Itivdliup Ilua, a small deep bay, is entered close N of this island.

Claushavn (Ilimanaq), a trading station, is situated 2.5 miles NNE of Agpat (Appat). It stands on both banks of a river which drains from a large inland lake. Islets and rocks, lying on foul ground, front the station and extend 1.25 miles SSW. Small vessels, up to 30m in length, can anchor off the station, but the roadstead is frequently obstructed by glacier ice and the holding ground is poor. Local knowledge is required.

Jakobshavns Isfjord is entered between Avqutdluk (Eqe), a point 3.25 miles N of Claushavn, and Nua, another point, 3.75 miles NNW. It extends E for about 20 miles to Jakobshavns Isbrae (Sermeq Kujalleq), a glacier which is a tongue of the Greenland Icecap. The fjord is never navigable because of the tremendous quantity of ice produced by the glaciers within it and its branches.

4.15 Illulissat (Jakobshaven) (69°13'N., 51°06'W.) (World Port Index No. 810) stands on the SW side of a narrow inlet which opens from the head of a bay entered 1.5 miles NNE of Nua. Ililissat (Jakobshavn) is situated N of Kangia (Icefjord of Illulissat).

The port is a narrow open bay, with its entrance to the NW, and has an outer and inner port. The outer port contains Atlantic Quay and a bunkering station; the inner port has another quay and a fishing harbor.

The open season is from May to December. Heavy ice may occur in winter. The port handles general cargo and containers.

Ice in the vicinity of Ilulissat (Jakobshaven)

Ilulissat (Jakobshaven)

Ilulissat (Jakobshaven)

Winds—Weather.—Winds from the SW and W may block the approach to the harbor with ice. Winds from the NE and E

Ilulissat (Jakobshaven)

occur almost daily in the fall and can be rather strong, especially in the morning. Fog is rare.

Ice.—During the navigation season, the harbor occasionally becomes filled with ice floes, but as a rule, this condition lasts only until the tidal current changes. When icebergs have just been discharged from Jakobshavns Isfjord, the entrance may appear to be blocked by bergs; however, on closer inspection, lanes of open water will frequently be found.

Tides—Currents.—Tides rise about 2.8m at springs and 1.6m at neaps. The tidal currents in the harbor are weak. During calm weather, a current sets NNW at a rate of 1 to 3 knots from the vicinity of Jakobshavns Isfjord.

Depths—Limitations.—Atlantic Quay, in the outer harbor, is 110m long, with a depth of 8m alongside. Vessels up to 110m in length and 6.8m draft can be accommodated. There is a wharf for fishing vessels, with depths up to 6.5m alongside. There is an anchorage berth with stern moorings in the inner harbor, in depths of 5.5 to 6m.

Across the entrances to the inner harbor and the outer harbor, a heavy wire, which is used as an ice boom, is suspended at a depth of 2.5m to prevent ice from entring. The wires are marked by red barrel buoys and slackened down when vessels are entering the harbors.

An outfall pipeline extends 135m NW into the harbor from the vicinity of the shrimp factory.

Aspect.—Akinaq (Akinnaq), a prominent mountain, 380m high, stands 2.75 miles NE of the harbor.

Several islets and rocks lie on patches of foul ground in the S part of the bay on the SW side of the approach to the harbor inlet.

A range, situated on the N side of the inlet, indicates the approach fairway which leads N of the dangers in the bay. Another range, situated at the head of the inlet, indicates the entrance fairway to the harbor.

Pilotage.—Pilotage is not compulsory, but is recommended. An unlicensed pilot is available on request. Vessels should send an ETA at least 24 hours in advance. The harbor can be contacted by VHF. Vessels should confirm that the ice boom wires have been slackened down. The port is ice free from June to December. The polar darkness lasts December 1 to January 12; the midnight sun lasts May 21 to July 24.

Anchorage.—Large vessels can anchor off the harbor, in

depths of 20 to 40m, good holding ground, but the roadstead is only partly protected from E winds.

Caution.—A peculiarity of Illulissat is an effect called the "kanele," which is produced, particularly at the time of spring tides, by the calving of large icebergs, or by a discharge of ice from Jakobshavns Isfjord. This causes a regular and heavy swell and, without any warning, a long flat wave, up to 2m in height, enters the inner harbor, with a frequency of about 6 minutes; the water in the innermost part of the harbor is violently disturbed and covered with white foam. The effect is also strong where the inlet narrows, between the inner and outer harbors. Special precautions are necessary during this period.

4.16 **Bredebugt** (69°17'N., 50°59'W.), a small and irregular bight, indents the coast 3.5 miles NNE of Jacobshavn. The depths within it are unknown. Saverneq (Saveerneq), the largest of a group of islands and islets fronting the bight, lies close off the S end of a narrow promontory of the mainland which encloses the N part of Bredebugt.

Rodebaynaesset (69°21'N., 51°01'W.), a headland and the S entrance point of a bay, is located 3.5 miles N of Saverneq. **Oqaatsut** (**Rodebay**), (69°21'N., 51°01'W.), a settlement, stands on the E side of this headland. Qeqertaq (Pamiua), an island 134m high, lies close off the headland and forms the NW side of the bay. The head of the bay forms a safe harbor, even for fairly large vessels. Small craft can enter this harbor through a narrow channel, 30m wide, lying between the headland and the SW side of Qeqertaq. The fairway has a least depth of 3m, but rocks, awash, lie in the vicinity. The main approach channel lies between the E side of Qeqertaq and the mainland 0.5 mile E. The fairway, which has a least depth of 21m in the center, is about 60m wide with shoal water on both sides. Vessels can anchor at the head of the bay, in depths of 28 to 68m. This anchorage is sheltered and has good holding ground, clay and rock bottom. Local knowledge is required. The winter ice remains late in the bay, sometimes until the middle of July.

Niaqornaq, an outpost settlement, is situated 6.75 miles NNE of Qeqertaq. It stands on the S side of the S entrance point of Pakitsoq, a fjord. Three small islets lie within 1 mile of this point. Small vessels can anchor off the settlement, in a depth of 35m, poor holding ground.

Sigssarigsut, the N entrance point of the fjord, lies 1.75 miles NNE of Niaqornaq. An islet lies 0.75 mile W of this point.

Ata Sund (Ataa Sund) (69°40'N., 50°55'W.) is formed between the mainland and the E side of Arveprinsen Ejland, a large island located at the SE end of Vaigat. It is entered between Sigssarigsut and Niaqornaarsuk, the S extremity of Arveprinsen Ejland, 5 miles WNW. The sound trends N for 14 miles and then NE for 6 miles to where it broadens into a spacious nameless basin. Depths of 80 to 90m lie in the entrance except for a depth of 22m which was reported (1991) to lie near the center. Throughout most of its course, the sound has a width of about 3 miles and is reported to be very deep, with depths of over 500m. Kangerdluarssuk, a short fjord, leads ESE from the E side of the sound, about 10 miles N of the entrance. Several islands and islets lie between the NE end of Arveprinsen Ejland and the mainland. They are located on the N side of the basin, mentioned above, and on the S side of Torsukattak, a fjord to which the sound connects.

Paakitsoq (Pakitsoq) (69°29'N., 50°53'W.) extends NE for 5 miles to its head where another smell settlement is reported to stand. A narrow channel leads from the SE side of fjord into a large and almost landlocked basin.

Berggren Havn, a small bay, lies at the W end of the promontory and is reported to be a sheltered harbor. Islets and rocks lie near the entrance.

Vaigat (Sullorsuaq)—West Side

4.17 Vaigat (Sullorsuaq), the channel lying between Disko Island (Qeqertarsuaq) and the mainland, connects Disko Bugt (Qeqertarsuup Tnua) with Baffin Bay in the N. Its S entrance lies between Norujuk (Nuuk) and Itivdlerssuaq (Niaqornaarsuk), 17 miles SE. The W side of this channel is formed by the E side of Disko Island. For the most part, the coast is backed by a mountain range and deep valleys extend inland to the interior glaciers.

Vaigat (Sullorsuaq)

Mudderbugten (69°41'N., 52°00'W.), a small bay, is entered close N of Norujuk (Nuuk). It extends W for about 3 miles and narrows to about 1.5 miles at the head from which a drying mudflat extends 1.75 miles offshore. A sounding of 88m, clay and sand, was reported in the middle of the entrance to the bay, but from this position, the depths apparently decrease very rapidly. Shoal water extends off both entrance points and a below-water rock lies close offshore, about 1.5 miles SSW of the N entrance point. A dangerous wreck is reported to lie approximately 1 mile NE of Nuuk (69°39'N., 51°50'W.).

Isunguak (Isunguaq), a conical peak 849m high, stands 3.5 miles NW of the N entrance point of Mudderbugten. A cairn stands on its summit and forms a prominent landmark.

Ingigsooq, a prominent mountain 856m high, stands 3 miles NW of Isunguak.

Ujarasussuk (69°52'N., 52°27'W.), a small settlement, is situated near the coast 13 miles NW of the N entrance point of Mudderbugten. It affords anchorage with good holding ground, but there is no shelter and in SW winds there are heavy squalls from the surrounding mountains. There is no harbor at the settlement and foul ground is reported to extend some distance offshore.

Qullissat (70°05'N., 53°00'W.), an abandoned coal mining settlement, is situated 30 miles NW of the N entrance point of Mudderbugten. There is an open roadstead lying at the foot of the mountains which rise to heights of 900 to 1,200m. Anchorage can be obtained about 110m off the settlement, in a depth of 20m. The berth is indicated by the alignments of two pairs of beacons, but these are no longer maintained. Anchorage, marked by similar beacons, is also available off the former coal mine, in a depth of 6m, 0.5 mile S of the settlement. Both berths are exposed to ice and untenable in strong winds.

Orllingasaq, a prominent mountain, 848m high, stands 1.5 miles within the coast, 13 miles NW of Qullissat.

Serfarsuit (70°20'N., 54°23'W.), 19 miles WNW of Ordlingassaq, is the N extremity of Disko Island and the NW entrance point of Vaigat. The coast between Qullissat and this point is steep and intersected by several rivers some of which have deltas formed at their mouths. These rivers drain the interior glacier.

Vaigat (Sullorsuaq)—East Side

4.18 Niaqornarssuaq, a cape 141m high, is located 2.5 miles NW of Itivdlerssuaq (Niaqornaarsuk), the S extremity of Arveprinsens Ejland and the SE entrance point of Vaigat. The cape is fronted by foul ground and a few small islets.

Kangeq (69°43'N., 51°24'W.), a broad promontory, is located 13 miles NNW of Itivdlerssuaq (Niaqornaarsuk). Its seaward face has a distinct profile and forms a good landmark. Qaqarssuaq, a prominent mountain 663m high, stands on this promontory.

Kugssuk, a conical peak 816m high, stands about 5 miles E of Kangeq and is the highest mountain on the island.

Langebugt (69°51'N., 51°09'W.), a short fjord, is entered 7 miles NE of the N extremity of Kangeq. The coast between is indented by several small and narrow inlets and fronted by a group of islands. The fjord extends NE for 5 miles and almost severs the NW part of Arveprinsens Ejland from the rest of the island. Anchorage, with good shelter from all winds, can be obtained on the S side of this fjord.

Kangaarsuk, a cape, 131m high, is located 9 miles N of Kangeq and is the NW extremity of Arveprinsens Ejland.

Oqaitsoq, an island 520m high, lies 2 miles N of Kangarssuk. It is surmounted by a cairn at the S end. Smalle Sund, the shores of which are bordered by below-water rocks, separates this island from the NW end of Arveprinsens Ejland. The NE end of the sound, which leads into Torssukatak (Torsukattak), is very narrow and deep, but free of dangers; however, the tidal currents in the narrows are strong. Small vessels can obtain anchorage close S of the narrows in an inlet, fronted by an islet, at the E end of Oqaitsoq. Good holding ground lies about 200m SSE of the oil storage tanks, in a depth of about 40m.

Northwest of Arveprinsens Ejland, the E side of Vaigat is formed by the SW coast of the Nugssuaq Peninsula.

Torssukatak (Torsukattak) (69°56'N., 51°00'W.), a deep fjord, is entered between the W extremity of Oqaitsoq and Igdlutsiait Point, 3 miles NNW. It trends ENE for 26 miles and is reported to have depths of 400 to 700m. Numerous icebergs are discharged from two large glaciers at its head. Qeqertap Ilua, a branching arm of the fjord, opens off the N side close inside the entrance. Ikorfat and Nugaq (Nuugaaq), both small settlements, stand, respectively, near the W and E entrance points of Qeqertap Ilua. Naajat, a prominent mountain 710m high, stands 3 miles ENE of Nugaq (Nuugaaq). Qeqertaarsuk, two small islets, lie on foul ground 1.75 miles ENE of Ikorfat. Qeqertaq (70°00'N., 51°19'W.), an island, lies on the W side of Qeqertap Ilua, about 2 miles within its entrance. A small trading station is reported to be situated at its S end.

Sarqaq (Saqqaq) (70°01'N., 51°57'W.), a trading station, is situated at the head of a cove 10 miles WNW of the W entrance point of Torssukatak (Torsukattak). It can be easily identified by a prominent church. Qeqertaq, a small flat island, fronts the station about 60m offshore. Vessels with local knowledge can anchor W of Qeqertaq, in depths of 10 to 50m.

Tartunaq, an abandoned settlement, is situated 6 miles WNW of Sarqaq, on the W side of a rocky promontory which is easily identified by a prominent hummock. A chain of small islets extends up to 0.75 mile seaward from the end of the promontory. Small vessels can anchor off the station and, in depths of 30 to 40m, good holding ground, in a cove located at the NW end of a wide bay which extends 2.5 miles WNW from Tartunaq.

Ata (Ataa) (70°18'N., 53°00'W.), an abandoned settlement, lies 27 miles NW of Sarqaq (Saqqaq). A river discharges through a delta located close S of the former settlement. It is backed by some of the highest peaks in the area.

Narsaq (Nussaq) (70°26'N., 54°05'W.), the NE entrance point of Vaigat, is located 23 miles WNW of Ata. An abandoned settlement stands at the head of the cove. A small cove, about 2.5 miles SW of the point lies on the S side of the point and affords good anchorage. A shoal patch is reported to lie near the coast, with a depth of 1m.

Vaigat (Sullorsuaq) To Umanak (Uummannaq) Fjord

4.19 Kussuaq, a long river, flows through the Nugssuaq Peninsula and enters Baffin Bay 4 miles NW of Narssaq. It discharges through a wide and constantly-changing delta, from which discolored water extends up to 0.75 mile seaward. It is reported that a stranded wreck lies close off the N part of the delta.

Niaqornarsuk (68°14'N., 52°52'W.) a small hook-shaped peninsula, extends a short distance NW from the coast, 5 miles NNW of Narssaq. Rocks, with depths of 1.8m or less and on which the sea breaks, are reported to lie up to 0.25 mile N and 1.25 miles NW of this peninsula. A cairn is reported to stand near the S end of the peninsula; a white house with a flagstaff, stands near the shore of a small bay, 0.75 mile NE of it.

Poor anchorage is found in the bay, in depths of 75 to 85m, rock bottom. The bay is open to drifting icebergs and eddys, with a predomenent NW current at a rate of 0.75 knot. Vessels at anchor are advised to have their engine available at all times.

Itivdle (Itille), a wide and prominent valley, extends NE from the coast about 6 miles NW of Niaqornarssuk.

Nussuta (Nugssuta) (70°39'N., 54°36'W.), a small promontory 12.5 miles NW of Niaqornarssuk, is the W extremity of the Nussuta Peninsula. A beacon stands at its seaward end. Rocks fringe the promontory and extend up to 1.25 miles offshore.

Kangeq, a point marked by a beacon, is located 4 miles N of Nugssuta. The coast between is indented by several coves and

Uummannaq from W

fronted by numerous islets and rocks.

Nugsuak (Nugssuaq) (70°41'N., 54°35'W.), a harbor suitable for small vessels, lies off the site of an abandoned trading station situated within one of these coves, 2 miles N of Nugssuta. Range beacons indicate the entrance into the harbor. Vessels with local knowledge can anchor in the harbor, in depths of 12 to 22m, and secure lines to the shore. Anchorage from all winds can also be found 0.5 mile N of the harbor.

Kanisut, the N extremity of the Nugssuaq Peninsula, is located 11.5 miles NE of Kangeq. A beacon stands on the point. Cairns stand on the summits of several mountains located near the N end of the peninsula. Small vessels can anchor within a small cove located 1.5 miles SW of the point. The cove is open to the N; two rocks lie on the W side of the entrance.

Uummannaq Fjord

4.20 Uummannaq Fjord (70°53'N., 53°00'W.) is entered between Kanisut and the S extremity of Uberkyendt Island (Ubekendt Ejland), a large island 14 miles NE. Karrat Fjord opens off the inner, SE end of the fjord. The depths in Uummannaq Fjord appear generally to be very great, with only a few dangers. The winter ice in the fjord seldom breaks up before the latter part of June. However, shortly after this breakup, a great mass of bergs and calf ice drifts out of the fjord.

4.21 Uummannaq Fjord—South side.—Niaqornat (70°48'N., 53°40'W.) (World Port Index No. 870), a small settlement, is situated 9.5 miles ESE of Kanisut on a low sandy cape fringed by rocks. The settlement is surrounded by dark basalt mountains and, from a distance, the area appears barren, but there is, however, considerable vegetation. Medium sized vessels can anchor, in a depth of 35m, off a small cove located on the W side of the cape. With NW winds, however, the cove fills with ice and large bergs may find their way into it. Small vessels can obtain anchorage on the E side of the cape.

A river flows through the NE part of the the valley of Itivdle (Itille), previously mentioned in paragraph 4.19, and discharges into the fjord via a delta located at the head of a wide bay, 2 miles W of Niaqornat.

Ikorfat, a small and rounded projection, is located 11.5 miles E of Niaqornat. A cairn stands, at an elevation of 173m, about 0.5 mile S of the projection.

Qaersut (Qaarsut) (70°44'N., 52°38'W.), a trading station, is situated 9.5 miles ESE of Ikorfat. Vessels can obtain anchorage, poor holding ground, rock bottom, NNW of the pier, in 10 to 30m, or for tankers, NNE of the oil storage tanks, in 25m. The roadstead is exposed to E winds and only partially sheltered from W winds.

Slibestenfjeldet (Slibesten Mountain), a prominent mountain with a cairn stands at 741m high, near the coast 5 miles W of Qaersut. Qilertinguit, a conspicuous mountain with a remarkable small peak, rises to a height of 1,968m 5.5 miles S of Qaersut.

Sangmissunguaq, a point 12 miles SE of Qaersut, can be considered as the NW entrance point of Qarajaq Isfjord. Several streams flow into the fjord through the coast NW of this point and several hunter's huts stand along the shore.

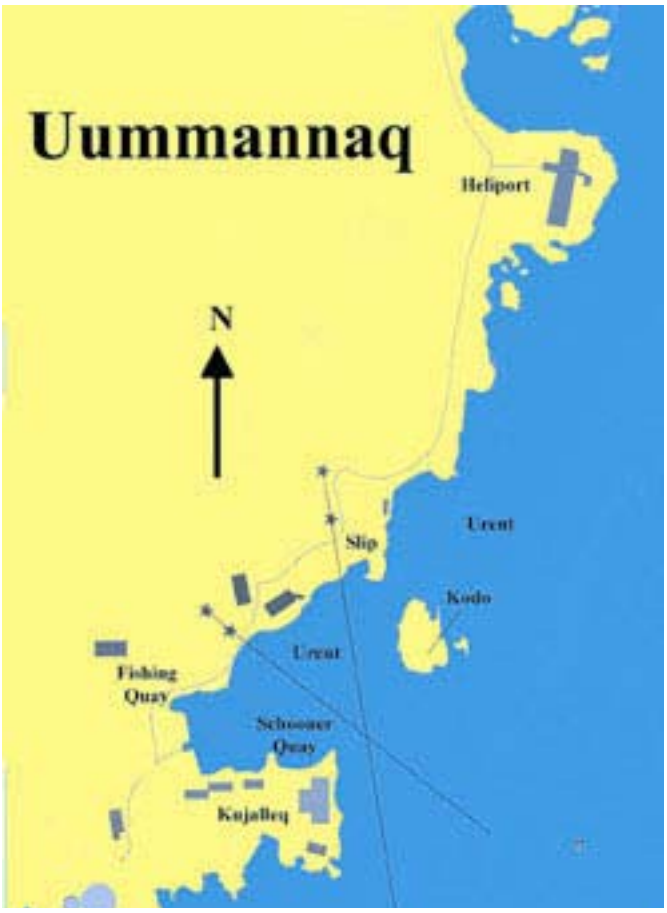
4.22 Uummannaq Island lies in the approach to Qarajaq Isfjord, with its S extremity located 3.75 miles N of Sangmissunguaq. The central part of the island is made up of a mountain,

1,175m high, with a series of jagged peaks. A cairn stands near the N end of the island.

Rocks, with depths of 15m and 2.7m, lie 1.5 and 6 miles, respectively, N of the N end of the island. Isfjeldsbanken, a bank, with a least depth of 50m, extends 2.5 miles S from the SE extremity of the island.

Qasigissat (Spraglebugt), a bay indenting the W side of Uummannaq ((70°42'N., 52°08'W.), is entered about 1 mile N of the S extremity of the island. An islet, marked by a cairn, lies in the middle of the entrance. The bay is nearly always ice-free during the navigation season and provides an alternative harbor for small vessels calling at Umanak.

Range beacons indicate the entrance fairway during the months of May through December. The front beacon (70°40.6'N., 52°07.6'W.) aligns in range with the rear beacon 22m NW, on a bearing of 312.5°. Vessels anchor, in a depth of 10m, mud and clay bottom, and secure stern lines to ring bolts on the shore. An anchor painted on a rock and a beacon are used as marks for anchoring.



Uummannaq

4.23 Uummannaq Harbor (70°41'N., 52°09'W.) (World Port Index No. 890), which handles general cargo and containers, is situated at the head of a cove close NE of the S extremity of Ummannaq Island. The island is in the approaches to Qarajaq Isfjord, which is approximately 40 miles ESE of Kanisut.

Uummannaq

Uummannaq Harbor

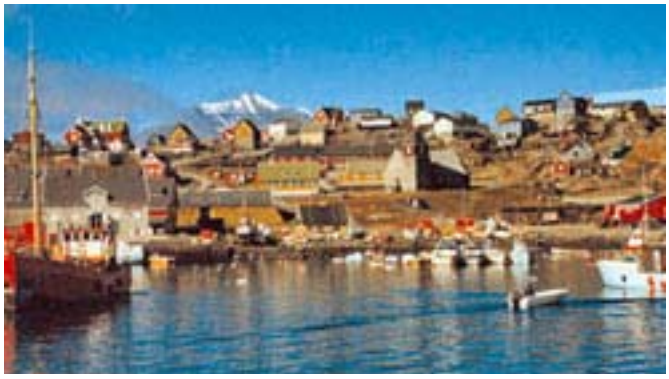
Uummannaq Harbor

Winds—Weather.—Warm and violent winds from the E and SE are common off Uummannaq.

Ice.—Icebergs may occur in the open season.

The harbor is normally ice-free from the end of June to the end of November. After the ice breaks up, drift ice often persists in the vicinity for as long as a month and may be carried into the harbor by SE winds, hindering navigation.

Many icebergs come from Qarajaq Isfjord; some of the larg-



Uummannaq Harbor

er ones strand on the bank S of Uummannaq. While they provide some protection from the mass of calf ice and smaller icebergs which fill the inner part of Uummannaq Fjord after the spring break-up, they also cause considerable inconvenience when they calve on the bank. This sends large waves into the harbor and special precautions have to be taken to secure vessels against damage.

Tides—Currents.—Tides rise about 2m at springs and 1.3m at neaps. There is reported to be a constant S or SSE set, of 0.5 to 2 knots, out of the harbor.

The water level in the harbor may increase by 0.5m during strong NW winds and decrease by the same amount during SE winds.

Depths—Limitations.—A main quay, 12m long, has a depth of 4.2m alongside. There is a quay for lighters, with depths up to 1.5m alongside, and a quay for fishing vessels, with depths up 2m alongside. There is an anchorage/mooring berth within the harbor, in a depth of 12m. Vessels up to 80m in length and 6m draft have been accommodated.

The harbor may be entered at any time, but during daylight only for larger vessels. The open season is from June to November.

From August to December, an ice barrier is laid across the entrance between the SW side of Kodo and the NE point of Sedeoen. It consists of a below-water wire with a blue nylon rope, marked by orange buoys on the surface. The entrance will normally be open for vessels with a draught of more than 3.5m. Small vessels should enter the harbor N of Kodo. The time period may vary according to weather conditions.

Aspect.—The fairway, which leads between the dangers in the approach, is indicated by a range situated close W of the W entrance point. Vessels approaching Uummannaq from W are advised to keep close to the coast of the Nugssuaq Peninsula, which is steep-to and where a favorable current is likely to be found. Fewer icebergs are also likely to be met that father out in the fjord. On near approach to the S extemity of Unmmannaq a N course can be steered along the E side of Smedeoen Kodo, another islet jointed by reclaimed land to the N entrance point, fine to starboard. Depths of 9m or less extend up to 30m off the NE side of Smedeoen.

Pilotage.—Pilotage is not compulsory, but is advisable. An unlicensed pilot is available upon request. Vessels should send an ETA at least 24 hours in advance. The port is open from the end of June to December, but icebergs may be encountered during the open season.

The pilot and port can be contacted on VHF channels 13 and 16. Vessels should send a request for pilotage with their ETA message. The pilot boards off the harbor entrance.

Anchorage.—Large vessels can anchor outside the harbor entrance on Isfjeldsbanken; a good berth is found 0.25 mile E of the entrance, in a depth of 46m.

4.24 Salliarliseq (Storoen) (70°43'N., 51°48'W.), a large island, is located with its W side 3 miles E of Umanak Island. It rises to a height of 1,419m in its N part. Akugdleq, a small island 204m high, lies close E of the E extremity of Storoen.

Qarajaq Isfjord, the SE arm of Umanak (Uummannaq) Fjord, extends SE for about 35 miles.

Great Qarajaq Glacier and Little Qarajaq Glacier, which flow into the E end of the fjord, have movements of up to 18m and 50m, respectively, per day. Both these glaciers discharge vast quantities of ice into Qarajaq Isfjord.

Ikerasak (70°32'N., 51°30'W.), a long and narrow island, lies 5 miles SE of Storoen and forms the outer NE side of Qarajaq Isfjord. **Ikerasak** (70°30'N., 51°19'W.), a settlement, stands on the N side of the SE end of the island, at the head of a small bay which is divided into two coves by a projecting point. The S cove affords anchorage for small vessels with local knowledge. It is reported that there is a small wharf for fishing vessels.

Qeqertarsuaq, a small island, 108m high, lies off the SE extremity of Ikerasak Island and protects the anchorage from E. Talerua (Issua), a narrow island, 356m high, lies close off the SW side of Ikerasak Island.

Drygalskis Halvo, a projection of the mainland, lies with its NW end about 5 miles SE of Storoen. It is much indented on all sides by small inlets, bays, and coves.

4.25 Uummannaq Fjord—North side.—Ubekendt Ejland (Illorsuit) (71°09'N., 53°42'W.), located on the N side of the entrance to Ummannaq Fjord, is large and rugged. A valley, which runs in an E-W direction across the middle of the island, separates the high land into two parts. The N and S parts attain heights of 1,029m and 1,149m, respectively.

Illorsuit (71°14'N., 53°31'W.) a trading station, stands on the NE side of the island, 5 miles SSE of the N extremity. The station is situated on the S side of an open bight which is clear of rocks and has a steep beach of dark sand. Anchorage can be obtained in the bight and stern lines can be secured to ring bolts on the shore. Large vessels anchor, in a depth of 30m; however, the roadstead is open to N winds and the holding ground is insecure.

Upernivik, a large island lying between two peninsulas of the mainland, is located 6 miles ENE of Ubekendt Ejland. It is separated from the latter by Illorsuit Sund, a deep sound, which connects Uummannaq Fjord to Karrat Fjord. There are two coal mines in the SW part of the island.

Inukassait (71°15'N., 52°19'W.), a channel 2 miles wide, separates Upernivik from Qioqe, a broad promontory extending 26 miles SW from the mainland. The channel extends NNE from Umanak Fjord and, by a curving course, leads into the S side of Kangerdlussuaq, a branch of Karrat Fjord.

Kangerluarsuk, a fjord, is entered between the S extremity of

the Qioqe Promontory and the SW extremity of Alfred Wegener Halvo, about 5 miles ESE. The fjord extends NE for about 10 miles and gradually narrows to a width of about 2 miles. It then opens out into a basin which is 7 miles wide and extends E to the glaciers at the head.

Perdleriup Kangerlua (Perlerfuit) (71°02'N., 51°30'W.) is one of the largest of the branch fjords which lead from the head of Umanak Fjord. It is entered between the SE extremity of Alfred Wegener Halvo and the SW extremity of a broad promontory, 4 miles SSE. The fjord extends NE and E for about 10 miles and a glacier lies at the head.

Ukkussissat (Ukkusigssat) (71°04'N., 51°54'W.) (World Port Index No. 920), a trading station, lies close S of the S entrance point of Perdleriup Kangerdlua. It stands at the N end of a bight which provides anchorage for medium-size vessels, holding ground is poor.

Qaumarujuk (Qaamarujuk), the NE arm of Perdleriup Kangerdlua, is entered on the N side of the fjord 8.5 miles within the entrance. Two inlets indent the SE shore of this arm. Tasiussaq, the outer and larger inlet, is located 2 miles within the entrance and is encumbered by small islets and rocks. Agfardikavsa, the inner inlet, is entered 5 miles within the entrance of the arm. It is narrow and generally deep, with a mid-channel depth of 21m over the bar which lies across the mouth. A dangerous rock lies 120m NW of the W entrance point. It was reported (1991) that a large quantity of rock had been deposited in the inlet and depths may be less than charted.

Marmorilik (Maarmorilik) (71°08'N., 51°17'W.), lying close within the W entrance point of Agfardikavsa, is the site of a closed ore-loading facility.

4.26 Appat (Agpat) (70°54'N., 51°55'W.), the largest of the islands lying at the head of the N part of Umanak Fjord, rises to a height of 1,688m.

A small settlement of the same name is situated on the W side of the island, 4.5 miles SSW of the N extremity. Umiasugssup Ilua, an inlet, is located on the SE side of the island. It is reported (1991) that a small vessel anchored, in a depth of 15m, near the head of this inlet.

Torssukatak, a channel, is entered from the W between Akulairuseq and Pania, the N extremity of Appat (Agpat). The channel leads SE for 18 miles to the entrance of Itivdliarssup Kangerdlua. Qaqortuatsiaq, 3 miles SE of Pania, is the site of a former marble quarry. Iliarssuit Qeqerta (Itilliarsuup Kangerlua), a group of islets, lie on the NE side of Torssukatak. A cairn stands on the largest islet.

Salleq (Sagdleq), an island, 1,070m high, lies off the W end of Appat (Agpat) Island, from which it is separated by Agpat Ikerat, a channel 2 miles wide. A small islet, surrounded by shoal water, lies close off the S side of the island.

Qasigissat (71°00'N., 52°15'W.), a group of islands, islets, and rocks, lies about 1.25 miles N of Sagdleq. Qasigissat, with the same name, a detached group of low-lying islets and below-water rocks, lies close WNW of Qeqertat. A rock, awash, lies on a patch of foul ground about 5 miles WNW of Qeqertat.

Small vessels may obtain anchorage in the N part of the inlet, in depths of 3 to 10m, where the narrow channel to the E of the inlet widens before reaching the inner pool. The narrow channel has a least depth of 3m.

4.27 Itilliarsuk Fjord (70°49'N., 51°00'W.), a fjord with a 3.5-mile wide mouth, is entered 7 miles ESE of Appat (Agpat). It extends SE for 13 miles to Kangilleq (Kangidleq), a glacier at its head. Sermeg Silardleg (Sissartartoq Glacier), another glacier, empties into the NE side of this fjord.

Several islands, islets, and rocks lie in the channel between the SE end of Appat (Agpat) and the NW end of the mainland peninsula which forms the SW side of Itilliarsuk Fjord.

Ukalilik, a small island, 339m high, lies 1 mile NW of the S entrance point of the fjord. Its summit is marked by a cairn. Tugdligtalik, a larger island, 255m high, lies 1 mile S of Ukalilik.

Saattut (Satut) (70°49'N., 51°39'W.), 72m high, is located 2 miles SSE of the S extremity of Agpat. It is the S island of a group that fronts the SE side of Agpat and extends 4 miles NE. The settlement of **Saattut** (70°49'N., 51°39'W.), with a jetty for small craft, stands near the W extremity of the island.

Agssordlit (Assorliit) and Orqordlit (Oqqorliit), two small islets, lie 2 miles WSW of the W extremity of Satut.

Karrats Fjord

4.28 Karrat Fjord (71°30'N., 53°40'W.) is entered between Eqqua (Erqua), the W extremity of Illorsuit (Ubekendt Ejland), and Kap Cranstown, 631m high, the SW extremity of Sigguup Nunaa (Svartenhuk Halvo), 27 miles NW. From its entrance, the fjord extends NE for more than 29 miles to Qeqertarsuaq, a large island, where it branches E, NE, and N. Immense glaciers flow into these branches and discharge their icebergs into the main fjord, making navigation dangerous.

The known depths in the W part of Karrat Fjord are considerably less than those in Ummannak Fjord. However, no information regarding depth conditions in the inner part of the fjord is available.

A 3.6m shoal patch, position doubtful, is reported to lie in the entrance to the fjord, about 7.25 miles NW of Erqua. Two dangerous rocks are reported to lie about 15 miles NW of Erqua. Shoal patches, with depths of 3.6m, positions doubtful, are reported to lie about 3.5 and 6 miles WNW of Ingia, the N extremity of Ubekendt Ejland (Illorsuit).

Winter ice in Karrat Fjord forms in October and November and lasts until July. The frozen surface of the sea is frequently broken up by the calving of glaciers; in summer, when the last masses of the winter ice finally melt away, the fjord becomes so choked with fresh bergs that no vessel can make its way through.

Schades Oer (71°23'N., 53°51'W.), a group of small low islands, lies in the narrowest part of the entrance, about 6 miles NW of Ingia. A hunter's hut stands on the largest island of the group that lies in the N. Anchorage can be obtained in a bay, which makes a good harbor for small vessels, on the E side of Saatukujooq (Satukujoq), the S island of the group. Agssordlinguit, a small detached group of islets, lies 1.5 miles NE of Schades Oer.

Arfertuarsuk (Arfertuarssuk), a small fjord, lies close NE of Kap Cranstown. It affords several good anchorages sheltered from N and W winds. A conspicuous traveler's hut stands on the S side of the Svartenhuk Peninsula (Sigguup Nunaa), 7.5 miles ESE of Kap Cranstown; a hunter's hut stands 5.5 miles farther E.

Itsako (71°41'N., 53°52'W.), an almost circular promontory 948m high, extends S from the E side of the Svartenhuk Peninsula (Sigguup Nunaa). It lies on the NW side of Karrat Fjord and separates two short branch fjords, Umiiviup Kangerlua (on its SW side and Kangiussap Ima on its NE side.

Karrat O (71°30'N., 53°00'W.), a narrow island, 782m high, lies in the middle of the entrance to Karrat Isfjord, which is a continuation of Karrats Fjord.

4.29 Kangilleq (Kangerdluk) (71°37'N., 52°00'W.), a branch fjord, extends E from Karrat Fjord to Rinks Isbrae (Kangilliup Sermia), one of the most active glaciers in the vicinity. This glacier calves every 10 to 20 days, completely filling the fjord with ice. However, when a strong E wind has been blowing for several days the bergs shift out, leaving the fjord clear of ice. Umiamako Isbrae, another active glacier, discharges close N of the entrance to Kangilleq (Kangerdluk), into the N side of Karrat Fjord. The combined output of the two glaciers constitutes the Karrats ice stream, which drifts out through Karrat Fjord.

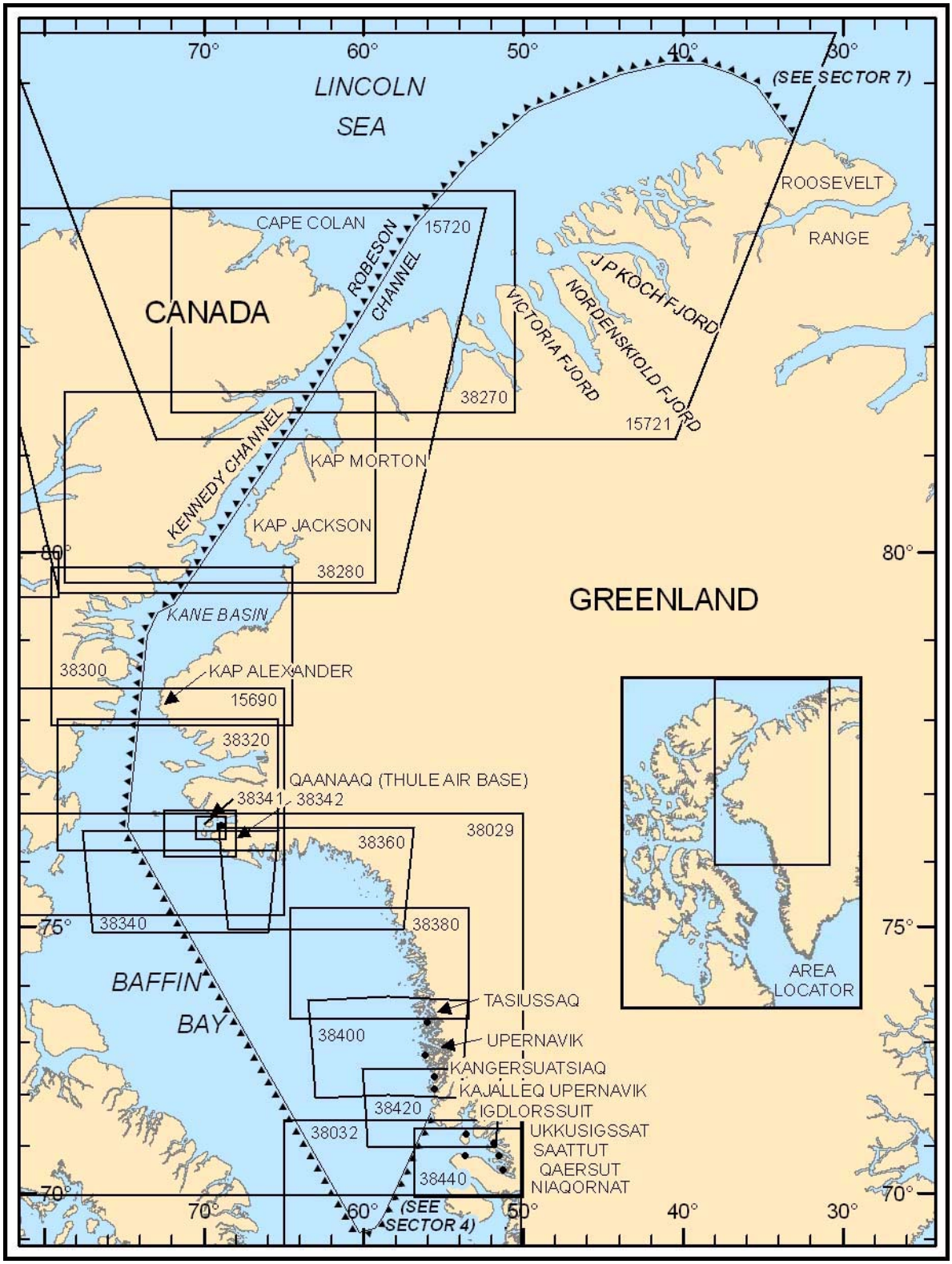
Qeqertarsuaq (Kekertarsuak) (71°32'N., 53°13'W.), a large island, 1,630m high, lies at the inner end of Karrat Fjord, close off the mainland. Nugatsiaup Tunua, a channel about 2 miles wide, separates this island from a mainland projection located to the N.

Nuugaatsiaq (71°32'N., 53°13'W.), a trading station, is situated on the S extremity of Qeqertarsuaq. The station stands at the foot of high land, on a flat beach at the head of a small cove. Rocks extend 1 mile SW from the W entrance point of the cove and below-water rocks encumber its head.

Anchorage can be obtained in the cove, in a depth of 10m, hard gravel, but it is open to the S and exposed to the constant menace of ice bergs. A better anchorage berth has been reported to lie in a bight close W of the station. Local knowledge is required for both these anchorages. The station is normally approached through Illorsuit (Igdlorsuit) Sund, Karrat Fjord being inadequately surveyed (1973).

Ukkusissat Fjord is entered about 6 miles NNW of the NW extremity of Qeqertarsuaq. It extends NNW from the N side of the head of Karrat Fjord for a distance of 38 miles, passing between the NE side of the Svartenhuk Peninsula (Sigguup Nunaa) and the mainland to the E. A narrow point separates the entrance of this fjord from Ingia Fjord. Ingia Fjord extends NE for about 20 miles to a glacier at its head. A small glacier, which melts without producing icebergs, discharges into Uvkuigssat Fjord and fills the inner part of the fjord with clay deposits. The fjord is exposed to all winds and is little frequented.

Sigguup (Svartenhuk Point), the W extremity of the Svartenhuk Peninsula (Sigguup Nunaa), is located 22 miles NNW of Kap Cranstown and is described in paragraph 5.2.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **5** — CHART INFORMATION

SECTOR 5

GREENLAND—WEST COAST—BAFFIN BAY TO THE LINCOLN SEA

Plan.—This sector describes the W coast of Greenland from Sigguup (Svartenhuk Point) to Kap Morris Jesup. It includes Baffin Bay, the E shores of Nares Strait, and the Lincoln Sea. The coastline between the two main points trends in a NW, N, NNE, and NE direction.

General Remarks

5.1 Baffin Bay is bounded on its E side by the W coast of Greenland and on its W or Canadian side by Baffin Island, Devon Island, Ellesmere Island, and several other smaller islands. The bay extends NNW from its S limit, at latitude 70°00'N, for about 530 miles to Nares Strait, which leads to the Arctic Ocean about 285 miles NE. Refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

The N end of Disko Island, the Nugssuaq (Nusussuaq) Peninsula, Nordostbugten, and the S end of the Sigguup (Svartenhuk Point) lieswithin the S limit of Baffin Bay.

The coast between Sigguup (Svartenhuk Point) and Wilcox Head is formed by a narrow belt of ice-free terrain. This belt is composed of numerous islands and mountainous peninsulas which are separated by fjords and backed by the Inland Icecap.

Baffin Bay is generaly clear of dangers and deep. A depth of 37m, with possible less water in its vicinity, was reported (1958) to lie about 115 miles from the coast in approximate position 73°00'N, 62°00'W. A detached shoal with a depth of 35m, is reported to lie about 57 miles WNW of Disko Island in approximate position 70°00'N, 54°00'W.

The general characteristics of Melville Bugt (Qimusseriarsuaq) include a coast that is formed largely by the seaward margin of the Inland Icecap, fronted in places by a few small scattered islands, and occasionally interrupted by promontories partially enclosing open bays; approaches which lead through relatively unsurveyed stretches of water and are dangerous due to numerous icebergs and changing pack ice conditions; the nonexistence of ports or surveyed anchorages; a relatively unexplored coastline; no habitation, except for a small settlement in the NW part; and there is no line-of-communication, except for a few native trails.

The chief characteristics of the coast lying between Kap York and Kap Alexander are two large indentations, Wolstenholme Fjord and Inglefield Bredning, and the extent of ice-free land located between the coast and the Inland Icecap. The most extensive ice-free area lies S of Wolstenholme Fjord. The coastal terrain is mostly steep and rocky, with elevations of 300m in places, backed by highlands with local snow fields and small glaciers. Between Kap York and Kap Alexander, glaciers from the Inland Ice Cap reach the sea, in places, at the heads of indentations located along the outer shores. Soundings in the area indicate that the sea is moderately deep and, with a few exceptions, the offshore underwater gradient is steep. Communication is principally by means of coastal vessels which are subject to storms and ice conditions. A radio station, meteorological station, and an airstrip are maintained at the port for Thule Air Base situated on the SE side of Wolstenholme Fjord. Several anchorages are available, but only those in the port for Thule Air Base are extensively used.

Winds—Weather.—During all seasons, the most frequent wind direction along the shores of Baffin Bay is NW. This frequency of NW winds is most marked in the autumn and winter and not quite so evident in midsummer. During July and August, SE and E winds are likely to be the most frequent directions over the water. In midsummer, there is an average of two days per month with gales, but this number increases in September and October. Gales from the N and NW are most frequent, but some may blow from the NE, or SE.

Ice.—Pack ice normally covers about eight tenths of Baffin Bay and, in occasional winters, fills the bay solidly from shore to shore. The Baffin Bay pack has its greatest extent in March and least in August and September. During some winters, the ice completely fills the bay while, during others, open patches of water are numerous and extensive, especially in the vicinity of Lancaster Sound, Jones Sound, and Smith Sound.

The "North Water," a considerable area of open navigable water at the extreme N end of Baffin Bay and in Smith Sound, forms in May; however, during especially favorable years, it may appear in April. It is roughly oval in shape with its major axis lying in a N-S direction. It is bounded by the fast ice of Smith Sound and, farther S, by the Baffin Bay pack ice, which has a coverage of eight to ten tenths. The S boundary of North Water usually lies close N of the 75th parallel. This area of open water has been known to explorers for two centuries and was referred to as the "North Water" by the nineteenth century whalers; its origin is not definitely known and more than one possible explanation has been suggested. Though essentially open water, the "North Water" is not entirely ice-free and small patches of ice may occur within in it.

The "North Water" was reported to be present, during May, for 15 years, during a period between 1920 and 1938; it normally persists in June when it may extend to the 75th parallel, but loses its identity in July because of the increasing clearance of the ice to the S.

Icebergs in Baffin Bay

Tides—Currents.—The circulation of the waters within Baffin Bay is known only in a general way. However, it seems established that a general counterclockwise circulation prevails, so that from the W and most ice-encumbered side there is an outflow through Davis Strait, while a compensating indraft flows N along the Greenland side. Current conditions within Baffin Bay are mostly unknown and it must be assumed that several weak eddies are to be found in the central part of the bay.

Directions.—Between Sigguup (Svartenhuk Point) and Wilcox Head, navigation along the coast is dangerous due to the lack of information and the existence of numerous icebergs. In spite of 200 years of whaling operations in the area and the many exploration vessels that have passed through it, most of these waters along the coast remained unsurveyed as late as 1900 and were considered unknown territory. Even today it remains comparatively unknown and, in places, there are considerable discrepancies between existing charts. Navigation along this section of the coast in good visibility and when reasonably clear of ice, presents no difficulties providing vessels remain at least 1 mile W of the outermost islands. The waters lying W of a line of bearing between the outermost islands are deep and clear of dangers.

Navigation across Melville Bugt, from the vicinity of Wilcox Head to Kap York, is rendered difficult and dangerous by the uncertain movements of the pack ice; the SW winds drive the pack ice towards Melville Bugt and it may be pressed close up against the shore ice. During July, August, and September, the sea lying between the shore ice and the pack ice is generally navigable. August is the best month; however, about one year out of every three the bay may be blocked. It was once reported that an old whaling vessels had crossed Melville Bugt in the month of June, when the winter ice lay solid along the coast. This crossing was possible only by using an open channel that exists between the pack ice and the shore ice.

During favorable times of the navigation season, vessels can navigate along the W coast of Greenland as far N as Etah, close N of Kap Alexander. As a general rule, during July, vessels could expect to navigate between Kap York and Kap Atholl; vessels also, at this time, may find it possible to proceed as far N as Kap Parry. The fairway leading to Kap Alexander is navigable during August and September.

During July and August, under normal conditions, vessels passing Melville Bugt should steer directly for Kap York from a position on the coastal track lying 21 miles W of **Upernavik** (72°47'N., 57°20'W.). If seriously obstructed by ice, vessels should find easier conditions toward the W. Fewer icebergs are met when these waters are clear of sea ice; however, vessels should steer from Upernavik for a position lying about 15 miles SW of Kap York.

The Svartenhuk Peninsula (Sigguup Nunaa) to Kangersuatsiaq (Proven)

5.2 Sigguup (Svartenhuk Point) (71°41'N., 55°53'W.), the W extremity of the Svartenhuk Peninsula, is a dark and bold vertical promontory which rises to a round flat-topped mountain, 652m high. The sea off the promontory is subject to frequent storms and fogs. In winter, the ice off the promontory is constantly broken by strong currents.

Sigguup (Svartenhuk Point) from Qaarsorsuaq

Caution.—Magnetic disturbances have been repeatedly observed in the areas W of the Svartenhuk Peninsula.

Midlorfik and Amitsoq are two inlets which indent the NW coast of the Svartenhuk Peninsula, either side of a broad promontory, 10 miles NE of Sigguup (Svartenhuk Point). Anchorage, reported to be good, can be obtained in Midtlorfik by vessels with local knowledge.

Qeqertaq (Skalo) (71°52'N., 55°36'W.), a roughly circular island, lies 11.5 miles NNE of Sigguup (Svartenhuk Point). The island, which fronts the entrance to Umiarfik Suvdlua, has precipitous sides and rises to a height of 162m. It is easily recognized from seaward.

Umiarfik, a long fjord, is entered 2 miles E of Skalo and separates the Sigguup (Svartenhuk Peninsula) from the Innerit Peninsula. It extends NNE for 26 miles from the entrance, which is 2 miles wide. A river flows into the head and drains some of the lakes which lie at the junction of the two peninsulas.

Kangaarsuk (72°00'N., 55°37'W.), the site of an abandoned settlement, is situated close NE of the W extremity of the Innerit Peninsula. Two islets and a below-water rock lie off the point, with a narrow but navigable channel between. Excellent anchorage is afforded, sheltered from N winds, just off the settlement site.

Innerit, an inlet, indents the W coast of the Innerit Peninsula, 6 miles NE of Kangarssuk. A rock, with a depth of 4.6m, lies 2.5 miles WNW of ithe SW entrance point. Another rock, with a depth of 1.2m, lies 2 miles WNW of the NE entrance point. A dog quarantine station has been established close within the SW entrance point of the inlet.

5.3 Kigataq (Kigatak) (72°05'N., 55°50'W.), the southernmost island of a chain, lies 5.5 miles NW of Kangarssuk and rises to a height of 451m. Nuua, its W extremity, is dark colored and bluff. Beacons stand on the SE and NE extremities of the island.

Tukingasoq, an island rising to a height of 163m at its center, lies 1.75 miles NW of Kigatak. A monument, reported to be prominent, stands on a hill at the SW side of the island. Due to

the presence of a reef, vessels are advised to give the W extremity of the island a berth of at least 3 miles.

Store Flado (Satoq) (72°16'N., 55°55'W.), a basalt island 56m high, lies 2 miles N of Tukingasoq, at the N end of the chain. Uigordluk, an islet, lies 0.5 mile N of the N extremity of Store Flado (Satoq). Anchorage is available off the NW end of Lille Flado, from which shoal water extends for about 0.5 mile.

Ivssortussoq (Issortussoq), a small detached island marked by a beacon, lies 3.5 miles E of Saattoq.

5.4 **Qeqertaq** (72°16'N., 55°20'W.), a very large island, is located with its SW extremity lying 3 miles N of the NE extremity of Kigataq.

Upernavik Kujalleq (Sondre Upernavik) (72°09'N., 55°32'W.) (World Port Index No. 940), a settlement, stands on the E side of a small peninsula which forms the S extremity of Qeqertaq. A beacon stands at the S end of the peninsula; a prominent red and white chapel stands on a hill near the settlement.

Anchorage can be found close NE of the settlement, in depths of 19 to 22m, good holding ground. The roadstead is open to the S and E and, although subject to heavy squalls during SW gales, icebergs seldom enter. It is free from dangers and there are only weak tidal currents. Vessels of up to 70m in length and 4.5m draft have anchored off the settlement.

Kangersuatsiaq (Proven) (72°22'N., 55°30'W.), a group consisting of four islands, along with several islets and rocks, lies between the Qeqertaq Peninsula and the Kangeq Peninsula, 5 miles N. Nisterfik, the outermost islet of the group, lies 2.5 miles NNW of the NW extremity of Upernavik Kujalleq (Sondre Upernavik) and is marked by a beacon. Sioraq (Sandoen), an island, 120m high, lies 1.5 miles NE of Nisterfik; a beacon stands on its SE extremity. Avalleq (Torveoen), marked by a beacon, lies close N of Sandoen and is the northernmost islet of the group. Kivisaaq, an island 100m high, lies at the S end of the group 2 miles NE of the NW extremity of Upernavik Kujalleq (Sondre Upernavik). Small islets and rocks extend up to 1 mile S and 0.5 mile NE from this island. Saffiorfik, the largest island, lies 0.5 mile NW of Kivisaaq (Kivssaq) and rises to a height of 211m. Provens Island, 150m high, lies between Sagfiorfik and Sandoen, from which it is separated by narrow channels. A cairn stands in the middle of this island.

Kangersuatsiaq (Proven) (72°22'N., 55°34'W.) (World Port Index No. 950), a trading station, stands on the N side of a cove which indents the W coast of the Proven Islands and is encumbered with below-water rocks. Local knowledge is recommended. There is an anchorage and mooring berth for small vessels at the entrance to the cove. Larger vessels may anchor over a ledge N of the cove in a depth of 40m, rock, poor holding ground.

Kangersuatsiaq (Proven) To Upernavik

5.5 The **Kangeq Peninsula** (72°27'N., 55°05'W.) terminates at its broad W end in a bold promontory with steep, dark bluffs and is marked by a number of mountain peaks. Kissavvaasaq, a prominent mountain, 805m high, stands 8 miles E of the W extremity; a beacon stands near the coast 2 miles SSE of the same point. The islands of Maniitsoq, Salleg, and Iperaq

Kangersuatsiaq (Proven)

lie off the NW side of the peninsula, along with several islets and rocks. Beacons stand on the NE extremity of Maniitsoq, on the W extremity of Iperaq, and on an islet lying close to the N extremity of Salleg. A narrow channel with deep water lies between Iperaq and Salleg.

Eqalugaarsuit Sulluat (Laksefjorden) is entered between the NW extremity of the Kangeq Peninsula and the SW extremity of Akuliaruseq, 2 miles NE. The latter is the SW island of a group of islands which lie N of the peninsula and form the N side of Eqalugaarsuit Sulluat (Laksefjorden).

At the head of the fjord there are several valleys occupied by lakes and streams which drain from the ice cap.

Angmarqua (Ammaqqua) (72°36'N., 55°17'W.), a narrow sound, extends NE from the entrance to Eqalugaarsuit Sulluat (Laksefjorden). It is one of a series of sounds called Norde Sunds which lead between the above islands and connect Laksefjorden with the head of Upernaviks Isfjord; the depths within them are unknown.

Nutaarmiut, the largest of the off-lying islands, rises to a height of 1,000m and forms the W side of Norde Sunds.

Singarnaq (72°35'N., 55°46'W.), an island marked by a beacon at its W extremity, lies 1 mile S of the SW extremity of Nutarmiut and rises to a height of 630m. Kangeq, a small island marked by a beacon at its N end, lies close to the SW end of Singarnaq. There is a least depth of 5m in the narrow passage lying between this island and Singarnaq.

Qaarsorsuaq (72°42'N., 56°00'W.), a large island close W of Nutaarmiut, is located with its S extremity lying 4 miles NNW of Singarnaq. A number of islets and rocks lie in the channel between the S side of this island and Singarnaq. Anana, the outermost islet of these, rises to a height of 192m and is prominent. A beacon stands on the N islet, Qorssorfik, which lies close off the S extremity of Qaersorssuaq.

Qaarsoq, an outpost reported to be occupied during the winter, is located on a green slope on the W side of a small bay, 1.5 miles NE of the S extremity of Qaarsorsuaq. Anchorage, with a sandy bottom, has been found off the outpost.

Sandersons Hope (72°43'N., 56°11'W.), the W extremity of Qaersorssuaq, is formed by steep precipitous cliffs, which rise to heights of 305m and, in places, overhang. It is famous for

Upernavik

the sea birds which congregate along the face of the cliffs. A racon is local on Aorrussaq (Hvalo), a 27m high islet lying about 3 miles SW of Sandersons Hope.

Upernavik

5.6 Upernavik (72°46'N., 56°09'W.) (World Port Index No. 960), the northernmost principal settlement on the coast of West Greenland, is situated on a small island of the same name. The island lies midway along the SW side of the extensive archipelago between Kangeq peninsula and Upernaviks Isfjord.

The open season is June to November. There is heavy ice in winter. The port handles general cargo and containers.

Tides—Currents.—Tides rise about 2m at springs and 1.3m at neaps. The tidal currents are weak.

Depths—Limitations.—Schooner Quay is 15m long and has a depth of 4.2m alongside. Vessels up to 70m in length and 3.4m draft have been accommodated. There is an anchorage/mooring berth in the harbor, in depths of 15 to 20m. Vessels up to 75m in length and 5m draft have been handled.

Aspect.—The principal approach to the settlement is from the S, but numerous dangers lie adjacent to the channels. A range indicates the entrance fairway into the harbor. An aeronautical radiobeacon is situated near the port.

When the presence of ice makes it difficult in low visibility to identify Upernavik O by radar, an aeronautical radiobeacon, which transmits from the N side of the harbor, is a useful navigational aid.

Pilotage.—Pilotage is not compulsory but is advisable. Unlicensed pilots are available by arrangement with the Port Operator.

Vessels should send request for a pilot with the ETA. The pilot boards 1 mile off the harbor entrance.

Regulations.—The vessel's ETA should be sent to the Port Operator 24 hours prior to arrival.

Anchorage.—Anchorage can be obtained off the S end of Upernavik Island, in depths of 30 to 40m.

Directions.—Vessels making for Upernavik from the S must approach from E of the rocks 14 miles SSW of the harbor and then proceed between Aorrussaq (Hvalo) and Qeqertusussuk (Bruuns O) to the W, and Qaersorssuaq, to the E. Care must be taken to avoid rocks awash and below water, up to 0.25 miles to seaward of Smedeo, an near islet SW of Upernavik Island, before turning into the harbor entrance W and N of Isabel Islets, which lie off the S entrance point. The rocks off Smedeo lie E of a line joining Sondre Naes and the W extremity of Karrat.

Vessels making for Upernavik from the NW should approach with the summit of the prominent mountain on Qaersorssuaq bearing SSW. This leads towards Kingittortallit (Kingigtortadglit), a group of islets and rocks off the entrance to Upernaviks Isfjord, which are a good navigational marks and can be passed close on the SW side. Vessels should then proceed SW of Kiatanguaq, between that islet and Talbot Reefs, directly to Upernavik.

Caution.—Fog often occurs during the breakup of the winter ice and usually in conjunction with N or SW winds.

During poor weather from the W, vessels may have to vacate the harbor.

Upernavik To Kap York

5.7 Upernavik Isfjord (72°53'N., 55°20'W.), a long channel, runs in an ESE direction through the middle of the mass of islands which lie between Upernavik and Qagssers-

suaq, a broad and rugged mainland promontory, 18 miles NE. It is reported that this promontory is not prominent, particularly to seaward.

Avssaqutaq (Assaqutoq), a group of islands and islets, is located 13 miles NNW of Upernavik and forms the S entrance point of the fjord. Beacons stand on the islets lying close to the NW and NE extremities of the main island of the Kingigtorssuaq group, about 3 miles within the entrance to the fjord.

Tussaaq (Tugsaq) (73°03'N., 56°08'W.), an island, is located 16 miles N of Upernavik and forms the N entrance point of Upernavik Isfjord. A settlement with a boat harbor stands on the E side of this island and, under good conditions, small vessels can anchor NE or SW of it; however, at times, grounded icebergs send large waves through the narrow entrance channel, making the harbor dangerous.

Numerous icebergs collect in great numbers among the islands, which form the S side of Upernavik Isfjord, and tend to block the shallow channels between them until late in July. Once these channels are open, navigation is assisted rather than impeded as some of the icebergs ground on rocks while others float, affording some evidence of deep water.

Kingittortallit (73°02'N., 56°55'W.), a group of islets and rocks, is located 19 miles NW of Upernavik. It is the outermost of several dangers which lie in the approaches to Upernavik Isfjord. The largest islet of this group, which rises to a height of 88m, is covered with moss and grass and some ruins stand on its summit. A local magnetic anomaly was reported about 25 miles W of Kingittortallit.

Kitsissut, a group of islets and rocks surrounded by shoal water, lies on the N side of the approach to Upernavik Isfjord, 8 miles NE of Kingittortallit (Kingigtortagdlit). Larger areas of shoal water, with islets and rocks, extend 1.5 miles farther NE.

Aappilattoq (72°53'N., 55°36'W.), an island, lies 17 miles within the entrance to Upernavik Isfjord. A settlement stands at the head of a small bay on the NW side of this island. It is normally approached from the SW, direct from Upernavik, keeping in mid-channel between the islands, but ice from Upernavik Isfjord can frequently hinder navigation. Small vessels with local knowledge, can anchor off the S end of the settlement, N of a small islet, in a depth of 25m. During unfavorable ice conditions, anchorage can be found closer inshore, in a depth of 10m.

Qaersorssuatsiaq, a large island, lies 5.5 miles N of Tussaaq (Tuvssaq). It affords good anchorage, with shelter from SW winds, within a bay on its E side. Beacons stand on the SE, E, and NE extremities of this island.

Ivnarssuit (Innaarsuit) (73°12'N., 56°02'W.), a small settlement, is situated 9 miles NNE of Tuvssaq. It stands on the W side of a peninsula which projects from the NW side of an island lying E of Qaersorssuatsiaq. Anchorage off the settlement is impossible because depths are too great. Small vessels with local knowledge can anchor, in a depth of 20m, in a small bay located on the E side of the peninsula. A quay, with 2m alongside, is located at the settlement.

Naajaat (73°09'N., 55°51'W.), a very small settlement, stands on the E side of the W island of a group lying 9 miles NE of Tuvssaq. Small vessels can anchor S of the settlement, in depths of 20 to 40m, rock bottom. Although the area has not been surveyed, the settlement can be approached directly from Upernavik Isfjord, keeping in mid-channel between Tuvssaq and Kanek.

5.8 Tasiusaq (73°22'N., 56°00'W.) (World Port Index No. 990), a large island 525m high, lies 14 miles NNE of Tuvssaq. A settlement stands within the N entrance point of a bay located on the W side of this island. A church, situated in the settlement, is visible from seaward. Small vessels can anchor off the settlement, but huge waves caused by capsizing icebergs sometimes roll into the bay, which is open to the SW, and endanger them. Safer anchorage, with shelter from SW gales, is available, in depths of 30 to 40m, poor holding ground, rock bottom, within a cove located on the SE side of the bay, 0.75 mile from the settlement. A beacon stands on the N entrance point of the cove. The bay is navigable from July to September.

Tasiusaq Bugt (73°12'N., 55°30'W.) lies between the Qagsserssuaq promontory and Nunatarssuak (Nunatarsuak). Two large glaciers form the head of this bay.

Ikerasaarsuk (73°32'N., 56°26'W.), a settlement, stands on an islet which lies close off the NE extremity of Nutarmiut, an island. The islet forms part of a narrow sound in which there is a good harbor for small craft. The harbor is protected from all winds, but navigation is difficult because of several rocks lying on the SE side of the sound. The largest craft that can anchor SE of Nutarmiut is 40m long and 3m draft.

5.9 Tuttoqortoq (73°40'N., 56°58'W.), a large island, bounds the S side of the outer part of Gieseckes Isfjord. It rises to a height of 587m and is divided into two cliffy masses by a deep valley.

Kangerlassuaq (Giesecke Isfjord) (73°37'N., 56°00'W.), a long channel, extends in a SE direction between the NW extremity of Tuttorqortoq and Kap Shackleton, 6 miles N. Horse Head (Agpalarsalik), a small island, is located 1.5 miles W of Tuttorqortoq, from which it is separated by a safe and deep channel. A rock with a depth of 9m, lies 2.5 miles SE of the island. Horse Head, the NW extremity of Agpalarsalik, forms a prominent landmark and is easy to identify, except from the W, when it blends with the land behind it. Ikardlunguaq, consisting of a below-water rock and a rock, awash, lies in the approach to Gieseckes Isfjord, 4 miles NW of Tugtorqortoq.

Kap Shackleton (73°47'N., 56°50'W.), the W extremity of Horsehead (Agparssuit), an island, 658m high, lies 6 miles N of Tuttorqortoq and is the N entrance point of Giesecke Isfjord. The cape, from which a reef extends, is formed by a bold headland rising steeply from the sea to a height of 426m. Its cliffs are the nesting places of many birds.

Several small islets lie off the NW side of Horsehead (Agparssuit) and the innermost of these is marked by a beacon at its E end. The N extremity of Horsehead (Agparssuit) is bordered by below-water rocks and a beacon stands on its E extremity.

Qutdlikorssuit (Qullikorrrsuit) (73°52'N., 56°20'W.), the largest of the islands off this part of the coast, rises to a height of 822m and forms the N side of the outer part of Gieseckes Isfjord. It is easy to recognize, being reddish brown in color and of massive appearance, with a steep W face 440m high.

The island is separated from Horsehead (Agparssuit) by a deep channel with a least known depth of 225m.

The two bays which indent the W and S sides of Qutdlikorssuit afford good anchorage sheltered from all directions. Rocks were reported to lie within the bay on the E side where icebergs frequently ground.

Kuk (Kuuk) (73°43'N., 56°13'W.), a small settlement, stands near a cove at the S end of Mernok, an island lying on the N side of Giesecke Isfjord. Small vessels may anchor off the cove, in a depth of 25m.

Nuuluk (73°33'N., 55°58'W.), an island, lies mid-way along the SW side of the inner part of Giesecke Isfjord. A small harbor is located within a bay on its N side near the site of an abandoned settlement.

Giesecke Glaciers (Giesecke Braeer) discharge into the NE side of the inner part of the fjord at several places. As the tidal currents in the fjord are very strong and the depths considerable, icebergs immediately drift away from the front of the glaciers leaving, in both summer and winter, a large ice-free basin at the head. Although most of the icebergs drift seaward along the NE side of the fjord, a considerable number veer to the SW side and block the channels between the islands. Some of the large icebergs on reaching the outer fjord are carried N and eventually strand in the large bay which indents the S side of Qutdlikorssuit. Here they remain until they break up into small bergs and make their way seaward through the narrow channels.

5.10 Sugar Loaf Bugt, extending E for 20 miles, is entered between the NW extremity of Qullikorsuit and the SW extremity of Nugssuaq (Nussuak), 15 miles NW. The central part of its head is occupied by an irregular land mass which rises to a height of more than 900m. Ussing Isfjord, on the S side of this land mass, extends SE for 10 miles to its head. Ryders Isfjord, on the N side of this land mass, extends NE for 6 miles to its head. Several small islands lie within Sugar Loaf Bugt.

Kittorsaq (73°56'N., 56°45'W.), an island, lies on the SE side of the entrance to Sugar Loaf Bugt. Good anchorage is available off the site of an abandoned settlement situated on this island.

Kitsissorsuit (Edderfugle Oer), a scattered group of islands and rocks, lies between 7 and 10 miles SW of Nugssuak, in the W approach to Sugar Loaf Bugt. There are three islands in the group, two of which lie close together and appear as one island, with the third located about 2 miles NE. The southwesternmost island is the highest and rises to a height of 82m; its summit is surmounted by a cairn. Rocks extend up to 2 miles from the islands. The tidal currents in the channel between the two close-lying islands are strong. It has a rocky bottom and is not suitable as an anchorage.

Umanak (Sugar Loaf) (74°01'N., 56°58'W.), the outermost of the islands in the bay, lies in the middle of the entrance. It has a symmetrical, rounded summit, which rises to a height of 280m, and is very conspicuous from seaward. A rock, with a depth of 9m, lies 1 mile W of this island.

Nussuak (Nugssuaq), a rugged peninsula with many sharp peaks, extends 25 miles SW from the mainland and has an average width of about 3 miles. It separates Sugar Loaf Bugt from Unugsulik Bugt to the N.

5.11 **Kraulshavn** (Nuussuaq) (74°07'N., 57°04'W.), a small supply outpost, is situated on the E entrance point of a bay which indents the S side of the Nussuak Peninsula, 3 miles E of its SW extremity. The bay forms a large deep harbor in which small vessels can anchor. It is normally navigable from mid-June to mid-October. The tidal currents within the bay are reported to be weak. Qeqertanguaq, a small island, 49m high, is located 90m E of the W entrance point of the bay and marked by a beacon. Range beacons, bearing 048°, stand on the E side of the bay close N of the supply outpost and lead W of this island and into the anchorage. Vessels usually anchor, in a depth of 15m, about 90m NW of the outpost. Shallow draft vessels can also obtain anchorage in an inlet which indents the N coast of the peninsula, 2 miles N of the outpost.

Inugsulik Bugt (74°19'N., 57°00'W.) is entered between the SW extremity of Nussuak (Nugssuak) and Wilcox Head, 23 miles N. Two glaciers discharge into the head of this bay, but as the icecap levels off in this vicinity, the icebergs produced are not high. During the summer, the land located around the bay has a comparatively rich vegetation and the remains of earlier habitations have been found in many places. Several groups of small islands, islets, and rocks, lie within the bay and can best be seen on a chart of the area.

Kangerluarsuk (Kangerdluarsuk), a short fjord, indents the SE corner of the bay and extends almost as far as the icecap located between Nugssuak and a shorter peninsula, 1.5 miles N. A steep bluff, located at about the middle of the N shore of the fjord, is prominent.

Igdlulik (74°21'N., 56°43'W.), a small settlement accessible only by boat, is situated at the W end of the N peninsula.

Pokulufik (Pukulugfik) (74°15'N., 57°30'W.), a small and low islet, lies in the approaches to Inugsulik Bugt, 9 miles NNW of the S entrance point. This islet is sometimes difficult to identify.

5.12 Melville Bugt, an extensive bight, lies between Wilcox Head and Kap York, 160 miles NW. Most of its shoreline is covered by enormous glaciers, their crevassed surfaces broken only occasionally by steep mountain tops. In contrast to the numerous islands that fringe the coast to the S, only a few islands front this stretch of coast; all of them are small and they lie up to 15 miles offshore.

Melville Bugt contains large numbers of icebergs throughout the year. During average years, the bight is only ice-free from pack ice and fast ice from mid-August until the end of September. In the spring, the fast ice normally lies in a direct line from Wilcox Head to Kap York. The break-up begins in June with the formation of leads between this fast ice and the pack ice of Baffin Bay. However, the movements of the latter are uncertain and SW winds may close the gap; on the other hand, a continuous lead may develop right across the bight, ending S of Wilcox Head.

During July, in average years, the break up of the fast ice and pack ice in the region is rapid and by mid-August none remains. From then till the end of September it does not normally impede navigation, but August is generally the best month for navigation.

Caution.—Vessels making way within Melville Bugt are advised to keep in depths of over 600m so as to prevent from getting caught in ice.

Kiatassuaq (Holms Oer), an island, 935m high, is the largest within the bight and lies close to the E shore.

Wilcox Head (74°29'N., 57°31'W.), the W extremity of Holms O and the SE entrance point of Melville Bugt, is a salient point 750m high. A large cairn stands on this headland. Areas of foul ground are reported to exist up to about 7 miles W and NW of the headland.

Alison Bugt lies at the SE end of Melville Bugt, between the E end of Holms O and the mainland to the E. Wandels Land, a table-like mainland peninsula, rises to a height of 940m on the NE side of Alison Bugt. A small and heavily-crevassed glacier, which discharges icebergs to the W, is located on the N side of this peninsula.

5.13 Ryders Oer (74°39'N., 57°40'W.), a group of four small and widely-separated islands, lies between 6 and 13 miles NNW of Wilcox Head. Foul ground is reported to lie in the vicinity of this group. It was reported that vessels had obtained anchorage off the southernmost and northwesternmost islands of the group.

Sardlia, a small island, lies 4 miles NE of Wilcox Head. Its W end is lower than the E end, which rises to a height of 122m, and a marshy depression lies between them. A bay lies at the S end of this depression and forms a good anchorage, but the depths within it are unknown.

Kullorsuaq (74°36'N., 57°10'W.), an island, lies 2 miles NE of Sardlia, on the S side of the approach to Alison Bugt. Djavelens Tommelfinger, a remarkable landmark, stands on the S side of this island. It consists of a 540m high column of rock which has the appearance of a gigantic thumb extending upwards from a hand.

Kullorsup Timmilerssua (Sarqardlerssuaq), an island 583m high, lies between Kullorsuaq and the N side of Holms O. Good anchorage is available off the NW side of this island, in a depth of 35m; however, the bottom is uneven and the area has not been surveyed (1973).

5.14 Amdrups O (74°45'N., 57°30'W.), an island, 415m high, lies on the N side of the approach to Alison Bugt, 13 miles N of Wilcox Head. Blochs O, an island 90m high, lies off its SW extremity. A vessel detained here because of ice reported finding anchorage off both islands.

Hovgaards Kystland (74°43'N., 56°55'W.), a small ice-free part of the coast, lies 10 miles NW of Wandels Land. Hayes Gletscher (Hayes Brae), a glacier, forms the shore between Hovgaards Kystland and Lille Renland, a mountain, 765m high, standing 15 miles NNW.

De Greers Oer (De Geer Oer), three small islands, and I.A.D. Jensens Oer, two islands and an islet, lie centered 2.5 miles SW and 9 miles W, respectively, of Lille Renland, with a detached islet between them. Hammers O, 70m high, Gardes Oer, and Bluhme Oer, lie, in that order from NW to SE, between I.A.D. Jensens Oer and Amdrups O.

Kjaers Gletscher (Kjer Gletscher), which produces few icebergs, forms the shore between Lille Renland and Red Head, 13 miles NW.

Red Head (75°04'N., 58°08'W.), a promontory bordered by islands and islets, extends about 2 miles SW from the edge of the icecap and rises to a prominent rock knoll, 263m high, which falls steeply on its NW side.

Steenstrups Gletscher (Sermersuaq), the largest glacier in Melville Bugt, covers the shoreline NNW of Red Head for a distance of 14 miles. This glacier produces many icebergs up to 25m high.

Depot Oer and N.E. Balles O, two small groups of islands and islets, lie about 9 miles seaward of Steenstrups Gletscher.

Tuttulissuaq (Kap Seddon) (75°21'N., 58°39'W.), located 19 miles NNW of Red Head, is the SW extremity of Tuttulissuaq (Kap Seddon), a narrow and prominent promontory which extends 7 miles SW from the NW side of Steenstrups Gletscher. Numerous ruins found on the promontory indicate that it was once the site of a large settlement.

A small islet with a rock close off its SE side, lies close S of Tuttulissuaq (Kap Seddon) and there are indications that a bank extends up to 7.5 miles WNW of the cape. Hoj O, an islet, lies about 11 miles NW of the cape.

Between Tuttulissuaq (Kap Seddon) and Kap Walker, 31 miles NNW, the coast recedes for about 12 miles and forms a bight in which there are several islands.

Duneira Bugt, a small bay fronted by islands, lies in the bight between Tuttulissuaq (Kap Seddon) and Kap Lewis, 14 miles NNE.

Mylius Erichsens Monument, a solitary pillar 545m high, appears from offshore to be encircled by peaked mountains and rises above the glacier ice 10 miles NE of Kap Lewis.

Devil's Thumb (75°46'N., 59°25'W.), a familiar landmark to Arctic navigators, is a small island lying about 5.5 miles ESE of Kap Walker. When seen from SW, the island appears very similar to Kullorsuaq (see paragraph 5.13) and is very conspicuous.

5.15 Off-lying islands and dangers.—Sabine Oer (75°30'N., 60°13'W.), two low islets, lie about 25 miles WNW of Kap Seddon. During most of the summer months, open water extends inshore as far as these islets. Several islets and a below-water rock, position doubtful, lie in an arc between about 6 miles NE and 15 miles ESE of Sabine Oer. Five rocks, awash, are reported to lie about 7 miles N of Sabine Oer.

It was reported (1988) that a useful emergency anchorage can be found between the two islets of Sabine Oer, in a depth of about 10m. The approach from the SW was reported to be clear of dangers, with a least depth of 8m existing at the entrance to the anchorage. A prominent hut is reported to stand at the W end of the westernmost islet.

Thoms O (75°43'N., 60°36'W.), a small island, lies 15 miles NNE of Sabine Oer. In its center there is a cone-shaped rock formation, 90 to 120m high, with a rounded summit. It is formed of alternating red and gray strata, not found elsewhere in the vicinity. Below-water rocks lie about 1.5 miles WNW and 3 miles NE of this island, but their positions are doubtful.

Caution.—A Marine Nature Reserve area lies within Melville Bugt. The seaward limit of this area extends from **Tugtulipaluk** (75°34'N., 58°23'W.) near Sverdrup Brae in a WSW direction to the SW extremity of Sabine Oer, then to Thoms O, Bryants O, and finally to Kap Melville. Navigation is prohibited within this protected area. Exceptions may be made to allow local hunters and scientific expeditions to operate within certain parts of the reserve.

5.16 **Nuussuaq** (Kap Walker) (75°48'N., 59°45'W.) is the SW extremity of the Nuussuaq Promontory. This promontory, which projects about 8 miles SW from the edge of the land ice, has steep ice covered sides and rises to heights of over 1,000m.

Kong Oscar Brae and Peary Gletscher are two glaciers which occupy the shoreline between Kap Walker and Thalbitzers Naes, 23 miles NW. Peary Gletscher discharges few icebergs, but Kong Oscar Brae is reported to be very productive. The iceberg bank, which occupies the bay on the NW side of the Nuussuaq. Promontory, extends for about 12 miles along the face of these glaciers.

Thalbitzers Naes (76°03'N., 60°58'W.), 220m high, is the SW extremity of the largest of several small islands which lie close together off the NW end of Peary Gletscher.

Kap Murdoch (76°08'N., 61°52'W.), located 14 miles WNW of Thalbitzers Naes, is the S extremity of an unnamed island which rises to a height of 480m.

Between Kap Murdoch and Thalbitzers Naes, the coast recedes to form a bay that is fronted by many small islands. Two glaciers form the head of the bay and several mountains (nunataks) interrupt the faces of these glaciers.

Fisher Oer, a group of several islands, lie up to 7 miles E of Kap Murdoch.

Balgoni Oer, a chain of three small islands and rocks, extends about 4 miles W from Thalbitzers Naes. Kloft O, a small island, lies 3.75 miles S of Balgoni Oer. Heilprin O, a larger island than most in this vicinity, lies 4 miles SW of Fisher Oer. It rises to a height of 350m and a small islet lies 1 mile off its NW extremity.

A large bay lies between Kap Murdoch and Kap Melville. It is encumbered by a number of islands and has several glaciers along its shores.

Kap Melville (Nallortup Nuua) (76°03'N., 64°01'W.), 275m high and prominent, is the S extremity of an L-shaped promontory which is connected to the shore by a low isthmus, awash at high water. The cape can be recognized by a large, steep, and black mountain wall, 512m high, which extends seaward on a low headland. Huts used by hunters stand on its S side.

Bushnans O, an island 230m high, lies 14.5 miles WSW of Kap Melville and is almost divided in half by a glacier. It appears to be fertile, especially around the site of an old settlement standing on its SW side. A rocky shoal, with a depth of 4.9m, lies close off the NW coast of this island.

Caution.—It was reported (1976 and 1988) that shoal water extends up to 2 miles W of Bushnans O. It was observed (1988) that pack ice and numerous bergs were in the area between Bushnan O and Cape York.

5.17 **Meteorite Oer** (76°03'N., 65°00'W.), 336m high, is located 1.5 miles N of Bushnans O and is the largest island located off the N shore of Melville Bugt. It lies on the W side of the entrance to Meteorbugt.

Savissavik (Savigsivik) (76°01'N., 65°05'W.), a trading station, is situated on the N side of a bay which indents the SW coast of the island. Vessels up to 90m in length and 6m draft have anchored, in a depth of 16m, about 60m off the station, in August. The maximum tidal range is 3.5m. Local knowledge is advisable.

Pattefjeldene, a prominent mountain 380m high, stands 15 miles NE of Kap York on the W extremity of a peninsula which separates Meteorbugt from Sidebrikdfjord.

Georg O (George O), 345m high, and Salve O, 470m high, are two steep islands which lie off the SW side of this peninsula, with some islets between.

Akuliaruserssuaq, located 4.5 miles NW of Salve O, is the S extremity of a broad promontory which separates Sidebriksfjord from De Dodes Fjord.

Kap York (Innaanganeq) (75°54'N., 66°27'W.), the NW entrance point of Melville Bugt, is the outer extremity of a narrow peninsula which extends 13 miles SE from the mainland. The cape itself consists of a bold and bluff headland, 450m high, with dark snow-capped cliffs. It is very conspicuous from seaward. There is deep water close off the S and W sides of the cape, but the depths on the E side are unknown. Peary Minevarde, a prominent monument 18m high, stands on the cape.

The high land forming the cape has been reported to be visible at a distance of 30 miles. When seen from between E and SE, the left tangent of the cape rises abruptly as a steep dark cliff, then trends NW and slopes gradually towards a large glacier. The land then becomes a series of snow-capped peaks which rise to heights of over 760m and are interrupted by glaciers.

Kap York To Kap Atholl

5.18 The coast between Kap York and Kap Atholl, 54 miles WNW, can be divided into two quite distinct parts. As far as Parker Snow Bugt, 33 miles WNW of Kap York, it consists of steep bluffs and precipitous cliffs, about 300 to 600m high, which are separated by numerous small glaciers above which rise snow-capped summits. Anchorages are available off this part of the coast, but a sudden inset of ice may make them untenable. Most of the coast is ice-free except for Pituffik Gletscher (Petowik Gletscher), which enters the sea about 15 miles SE of Kap Atholl.

Numerous seabirds breed all along this stretch of coast. The fertilizing effect of their presence combined with the natural deep rock gives the cliffs, in summer, unexpected rich colors. In addition, during early summer when the melting of the snow is well advanced, the presence of numerous microscopic plants produces a phenomenon of red or pink snow. Because of this effect, the cliffs are called the Crimson Cliffs.

Caution.—Local magnetic disturbances have been reported to exist off this part of the coast.

Parker Snow Point (Appat Appai), the W extremity of a bluff 550m high, is located at the NW end of the Crimson Cliffs.

Conical Rock (Igannaq), an islet 299m high, lies 2.25 miles SW of Parker Snow Point (Appat Appai) and is steep and sharp-pointed. Because of its shape and color, the islet forms an excellent landmark. Vessels may pass either side of the rock, depending upon ice conditions at the time.

Parker Snow Bugt (76°09'N., 68°37'W.) is entered between Parker Snow Point and Kap Dudley Diggs (Cape Dudley Digges). The shores of this bay rise in abrupt cliffs to heights of about 450m. Two glaciers are located near the head, but they terminate against steep banks of boulder clay and do not discharge into the bay. A settlement, normally deserted in sum-

mer, stands on a plain on the N side of the bay near its head. Excellent anchorage can be found in the innermost part of the bay, about 100m offshore, in a depth of 20m, clay.

5.19 Kap Dudley Diggs (76°10'N., 68°49'W.), the W extremity of a fairly extensive area of ice-free land N of Parker Snow Bugt, is a precipice 245m high. It is reported to be clear of snow with yellow vegetation at the top.

Pituffik Gletscher, located close N of Kap Dudley Diggs, is conspicuous and easy to identify. Its outer face, about 3 miles wide, extends about 1 mile seaward from the land on either side and presents a line of low abrupt cliffs rising directly from the sea. Large icebergs frequently break off from the face of this glacier; some of them ground on ledges which extend on each side of the glacier. Good anchorage can be obtained off the N side of the face of the glacier, in depths of 42 to 46m.

Hule, a prominent cave, is located close N of Pituffik Gletscher; it is about 6m high and wide.

Quaratit (76°19'N., 69°21'W.), the former site of the Kap Atholl Loran Station, is located 7 miles NW of the N end of the face of Pituffik Gletscher and about 5 miles SE of Kap Atholl.

Kap Atholl (Kangaarasuk) (76°23'N., 69°38'W.) is located 12.5 miles NW of the N end of the face of Pituffik Gletscher. It is 230m high and forms the S entrance point of Wolstenholme Fjord. Tonge Skaer, a low table rock, almost awash, lies 3 miles SE of Kap Atholl and about 0.75 mile from the shore. A dark patch on the mountain side in the vicinity of this rock is prominent from a considerable distance.

Outlying Islands

5.20 Carey Oer (76°47'N., 72°58'W.), an isolated group of islands, islets, and rocks, lies with its center located 50 miles WNW of Kap Atholl. Some of the greatest depths in the N part of Baffin Bay, over 600m, are found to lie between this group and the mainland NE. The islands lie on foul ground where icebergs strand and rocks, awash and below-water, are located off the SW side of the group. They must be approached with care as the waters in the vicinity are not completely surveyed. The group is only accessible to vessels from early August until the middle of September, although the surrounding waters are never completely frozen over.

Bjorlings O (Bjorling O) (76°43'N., 72°33'W.), the easternmost island of the group, rises to a height of 300m and is surmounted by a cairn.

Nordvest O (Nordvesto), the largest and westernmost island of the group, lies 7.5 miles W of Bjorlings O and rises to a height of 225m. This island is fringed by islets and rocks which extend up to about 1 mile from its NE extremity.

Bordo, Hollaenderhatten, Fireo, Isbjorneo O, Mellemo O, and Tyreojet are the more important islands and islets which complete the group.

Isbojorn (76°44'N., 73°03'W.), a harbor, is formed in the SE end of a channel which separates Isbjorneo O from Mellemo O to the SW. It affords almost landlocked anchorage, reported to be sheltered in all weathers, in depths of 16 to 22m. The anchorage berth lies off a small bight which indents the S side of Isbjorneo O. A cairn surmounted by a staff stands on the shore of the bight. It is reported that there is little swell and weak tidal current is experienced within the harbor.

Anchorage can also be found in a bay at the SE end of Mellemo O.

Kap Atholl to Port of Thule Air Base (Pituffik)

5.21 Bylot Sund (76°30'N., 69°30'W.), deep and free of dangers, is entered between Kap Atholl and the S extremity of Wolstenholme O, 5 miles WNW. The sound extends NE for 14 miles, between the mainland on the E and some islands on the W, to join Wolstenholme Fjord. For information on the ship reporting systems covering the waters of Greenland (GREENPOS and KYSTKONTROL), see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Wolstenholme O is a steep-sided island which, when viewed from the S, appears saddle-shaped. Its E and higher part rises to a height of about 550m and is surmounted by a cairn. Dalrymple Rock (Iganak), a peaked islet 146m high, lies 1 mile NW of Wolstenholme O and is the breeding place of numerous sea birds.

Caution.—A local magnetic anomaly has been reported in the vicinity of Dalrymple Rock (Iganak).

Ederfugleoer, consisting of two islets and a rock, awash, lies on a shoal located 2 miles N of Wolstenholme O; a below-water rock lies midway between them. It was reported that an isolated shoal patch with a depth of 25m, lies about 7.5 miles W of Ederfugleoer.

Saunders O (76°34'N., 69°43'W.), located 5 miles NNE of Wolstenholme O, rises steeply to an almost level top about 380m high. The prominence of this island is enhanced by the color of its cliffs, banded in red and yellow, which are the breeding place of innumerable sea birds. The NW part of the island is comprised of a huge semi-detached mass of rock over 305m high. On its SW and E sides there are small, flat, raised patches of debris lying at the foot of the cliffs.

5.22 Wolstenholme Fjord (76°38'N., 68°30'W.), fronted by the above islands, is entered between an unnamed point, located 13.5 miles NE of Kap Atholl, and Kap Abernathy, 10.5 miles NNW. The fjord extends E for about 22 miles, terminating in three great glacier faces. A prohibited area, best seen on the chart, lies in the fjordt.

Wolstenholme Fjord

Several good anchorage roadsteads lie in the fjord, the best of which is North Star Bugt, located 2 miles within the SE entrance point.

Dundas Fjeld (76°34'N., 68°53'W.), a dark and isolated mountain, stands on the N shore of North Star Bugt and forms a very prominent landmark. A cairn stands on the E side of its flat top and its steep sides are dangerous due to avalanches.

North Star Bugt (76°34'N., 68°52'W.), a small bay, is formed between Dundas Fjeld (Uummannaq) and Pituffik (Astro), a low-lying point, 1 mile SSE. The width of the entrance to the bay is reduced to 0.65 mile by a causeway and berthing pier which extends 245m WNW from Pituffik (Astro).

Courtesy of Steffen Winther

Dundas Fjeld (Uummannaq)

Dundas Fjeld (Uummannaq) and North Star Bugt

The bay forms a harbor. The whole of this area is a U.S. Defense area. On the S side there are port facilities for the U.S. Air Force Base at Thule; the installations are situated 1 mile SE of the port.

The bay is open to navigation from July 20 to September 30. Icebreakers are stationed in the area to assist vessels during difficult periods.

Aspect.—An airfield is situated 2 miles SSE of the cairn standing on Dundas Fjeld (Uummannaq). The buildings in its vicinity are prominent. An aeronautical light is shown from a position close S of the airfield. A conspicuous red house stands on the N side of the bay, in the settlement of Dundas. A radar dome is reported to stand about 0.75 mile ESE of the root of the causeway. A group of storage tanks stand close SE of the root of the causeway.

Wolstenholme Fjord, Inglefield Bredning, Thule Air Base, and vicinity

Caution.—North Star Bugt is a restricted U.S. Defense Area and permission to enter must be obtained from the authorities.

Submarine cables lie within the approaches to the bay and can best be seen on the chart. A large and prominent sign "Submarine Cables—Do Not Anchor" stands on the SE shore of North Star Bugt, 0.75 mile NE of the root of the causeway.

Dundas, a small Danish settlement, lies at the head of the bay. Originally founded as Thule, this name now applies to a larger settlement situated in the vicinity of Ingelfield Bredning (see paragraph 5.28).

Vessels up to 80m in length and 5.5m draft have anchored at Dundas, close SSW of the settlement.

Port of Thule Air Base (Pituffik) (76°32'N., 68°52'W.)

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5.23 The port of Thule Air Base is situated on the S side of North Star Bugt. There are anchoring and berthing facilities for

large vessels. Pituffik (Pitugfik) is a harbor and oil terminal exclusively reserved and secured to serve the Thule Air Force Base (TAB). Vessels must obtain permission from the authorities prior to entering and anchoring as directed in the North Star Bugt.

During the navigation season, ice conditions in the North Star Bugt may unexpectedly change and vessels may be required to leave the bay on short notice.

Courtesy of Steffen Wintherf

Aerial view of Thule Air Base and North Star Bugt

Thule Air Base Pier

Winds—Weather.—The wind direction is quite variable, but generally prevails from a W direction in June and July, shifting to the E in September. Average winds are light, being 4 to 11 knots or less 82 per cent of the time. September and October are months in which the possibility of storms is greatest. Storms are rare in July and August, but, when occurring, come mostly from the SE quadrant. Icebreakers are available during severe ice conditions.

Tides—Currents.—Tides in the bay rise about 3m at springs and 1.7m at neaps. The tidal currents within the bay are weak.

Depths—Limitations.—The principal berth in the port is a pier, 305m long, connected to Pituffik (Astro) by a 430m long causeway.

The pier has a depth of 9.4m alongside its N side. The S side is not used because of shoal depths and rocks. It is reported that

Thule Air Base Pier

range beacons stand close E of the root of the causeway and indicate the approach to the pier.

Vessels up to 130m in length and 7m draft can be accommodated alongside.

A submarine pipeline extends in a W direction for nearly 0.5 mile from the S side of Pituffik (Astro). Tankers moor at the seaward end of this pipeline, where six mooring buoys are available.

A number of hulks, lying at the head of the bight close S of Pituffik (Astro), are used as finger piers for the handling of cargo, but are reported to be in poor condition.

Pilotage.—Pilots are not available; however, U.S. harbor service personnel assist in the berthing and securing of vessels.

Vessels bound for the bay should send an ETA in advance to the U.S. Base Authority at Thule and also to the Danish Harbor Authority at Dundas. The port can be contacted by VHF.

Regulations.—Refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean for vessels entry requirements and other pertinent information.

Anchorage.—Anchorage is obtained under a steep cliff which extends for 0.65 mile from the head of the bay along the SE shore, terminating in a shallow bight, into which flows the Pitugfiu Kugssua River. Vessels may only berth at North Star Bugt as directed by the U.S. Harbor Authority. A number of designated anchor berths have depths 10 to 30m, good holding ground, sheltered from SE winds, which occasionally occur.

There are a number of mooring buoys close SW of the berthing pier. Between these and the root of the causeway there is a submarine oil pipeline. Tankers discharging fuel secure at the outer end of the line using the starboard anchor with hawsers to three mooring buoys.

Port of Thule Air Base (Pituffik) to Inglefield Bredning

5.24 Within the region of Wolstenholme Fjord and Inglefield Bredning is the municipality of Qaanaaq (Thule). The municipality consists of one town, Qaanaaq (Thule), and five villages.

From **Kap Abernathy** (76°41'N., 69°16'W.), the N entrance point of Wolstenholme Fjord, the coast trends NW for 35 miles

to Kap Parry. The coast in this area has several indentations, the largest of which is Granville Fjord.

Manson Oer, two small islands, lie close off Kap Abernathy in an extensive area of water which remains unsurveyed. Near 76°39'N 69°10'W, there are two small islands about 2 miles SE of Kap Abernathy. Approximately 1.25 miles S of the W part of Manson Oer there is an additional island, about 150m long and 40m wide and about 16m high. There is also a rock that is exposed at low tide approximately 0.5 mile SW of the W part of Manon Oer's S point. Vessels should not approach this area due to other uncharted rocks.

Moriusaq (Manussaq) (76°45'N., 69°54'W.), a native settlement, is situated 10 miles NW of Kap Abernathy on the SE entrance point of Granville Fjord. Vessels can anchor 90m offshore, in a depth of 33m, with a prominent red house in the settlement bearing 214°. Range beacons, situated close E of Manussaq and bearing 007°, lead into the anchorage.

Granville Fjord is entered between Manussaq and Uvdlisautinguag, a point 8 miles NW. Three Sister Bees, a group of small and flat islands, lie in the middle of the entrance to the fjord. The shores of the fjord are bound by mountains with ice-covered summits. Two glaciers enter a basin that forms the head of the fjord at the edge of the Greenland Icecap.

Drown Bugt (76°52'N., 70°48'W.), a small bay, lies 9.5 miles NW of the Three Sister Bees. This bay forms part of the SW side of Steensby Land, the W end of an ice-covered peninsula which rises to a height of 1,190m.

Booth Sund is entered 5 miles NNW of Drown Bugt. A sand bar, barely awash, extends across the entrance to this sound. Fitz Clarence Rock, an islet 105m high, lies 1 mile within the S entrance to the sound and is a very conspicuous mark.

Kap Parry (77°01'N., 71°22'W.), one of the most striking landmarks on this coast, rises to a height of 470m and is precipitous on its W and NW sides. Winter ice rarely forms off Kap Parry.

Caution.—The waters within the vicinity of the cape are subject to sudden offshore storms; warning of these storms is usually given by low fast-moving woolly clouds gathering over the cape.

Approaches to Inglefield Bredning

5.25 Hvalsund and Murchison Sund, two channels, lead from Baffin Bay into Inglefield Bredning and Olrik Fjord. The former channel passes on the S side of Hakluyt O, Northumberland O, and Herbert O, and the latter channel passes on the N side of these islands.

Hakluyt O (77°26'N., 72°42'W.), a small island 400m high, lies 1.5 miles W of Northumberland O. A tableland, about 1 mile long, forms the top of the island. In summer, grass and flowers flourish on its SE side. Northumberland O, an island, 1,030m high, can be recognized from the S by a snow-covered peak standing on its W end. Foul ground, the outer extremity of which is awash, extends up to 2.5 miles from the SE side of the island.

Herbert O (77°25'N., 70°29'W.), an island, 890m high, lies 3 miles E of Northumberland O and is separated from it by a channel with a least known depth of 16m. Icebergs frequently strand on foul ground that borders the E end of this island. It is formed from a vertical flat-topped mass of sandstone. Three glaciers descend from a small icecap to the N side of the island, but only one reaches the sea.

Herbert O

A small settlement is situated at **Qeqertarssuaq** (77°25'N., 70°09'W.), a low foreland 4 miles NW of the E extremity of the island. Vessels can anchor, in depths of 20 to 25m, 120m off this settlement. Range beacons, in line bearing 177°, lead through a foul area to the roadstead. Larger vessels anchor on the same bearing 0.5 mile offshore, in 40m.

Hvalsund (77°19'N., 70°40'W.) is the S approach channel. Its S side between Kap Parry and Kap Radcliff, 7 miles NNE, is high and bold with scanty vegetation. Drifts of snow remain here throughout the year, under the crests of cliffs. Barden Bugt, an inlet into which several glaciers descend, is entered between Kap Radcliff and Kap Powlett, 4.5 miles NE. A reef, partially awash and of unknown extent, stretches SW from Kap Powlett. A rock, on which the sea breaks, lies 0.75 mile off shore, midway along the S side of the inlet. It is reported that vessels can anchor off **Natsilivik** (77°10'N., 70°52'W.), a winter settlement standing 1 mile within Kap Powlett, in depths of 85 to 90m, soft bottom. Anchorage can also be found approximately 4 miles ENE of Kap Powell near a reef approximately 0.2 mile from **Narsaaq** (77°12'N., 70°36'W.), good holding ground, in depths of 25 to 30m.

Caution.—A local magnetic anomaly exists in the W part of Hvalsund.

5.26 **Olrik Fjord** (77°12'N., 67°35'W.), long and narrow, is unique on the NW coast of Greenland, being more like a river than a fjord. Between Kap Powlett and Kap Trautwine, 11 miles ESE, the S side of the approach is formed by a continuous line of multi-colored cliffs which rise vertically to a height of 680m. The tidal currents in the fjord are strong. Its outer part is probably navigable as far as a reef which is reported to extend S from the N side near the narrows, about 13 miles within the entrance. At its head, the fjord is almost joined to Inglefield Bredning by Academy Bugt, but is blocked by Leidy Gletscher.

Murchison Sund, the N approach channel, is 28 miles wide at its NW entrance between Hakluyt O and Kap Robertson, on the mainland NE. The outer part of the NE side of the sound between Kap Robertson and Kap Cleveland, 20 miles SE, is deeply indented by Robertson Fjord and MacCormick Fjord.

Panoramic view of Qaanaaq

Kap Robertson (77°48'N., 71°26'W.), the NE entrance point, is the W extremity of a large mainland promontory. This promontory can be recognized by three glaciers, located on its S side, which extend toward the S, but do not reach it.

Robertson Fjord is entered between Kap Robertson and Iglunaksuak Pynt. Close within its entrance the fjord narrows to a width of 3 to 4 miles and maintains this width to the head. The scenery in the fjord is very bold and the precipitous cliffs at its head are majestic. Verhoeff Gletscher, a rapidly moving glacier, terminates at the head of the fjord in a wall of ice nearly 30m high. The depths within the fjord are great and decrease only close inshore.

Siorapaluk (77°47'N., 70°42'W.), a small trading station, is situated on the SW side of Robertson Fjord. Siorapaluk is the northernmost community on earth. Vessels can anchor, in depths of 27 to 50m, sand, about 150 to 200m off the station. At times, numerous icebergs are reported to drift by the station. A supply vessel is reported to call here during August. Vessels up to 70m in length and 6.5m draft have been handled.

MacCormick Fjord (77°39'N., 70°00'W.) is entered between Iglunaksuak Pynt and Kap Cleveland. The shores of the fjord present an almost continuous line of beach. The head of the fjord is occupied by a glacier about 1 mile wide; it has a vertical face, about 30m high, from which numerous icebergs are discharged. On the NW side of the fjord, the land, which slopes up moderately from the shore, is intersected by numerous ravines and crested with an isolated icecap.

Piulip Nunaa (Red Cliff Halvo), a peninsula separating MacCormick Fjord from Bowdoin Fjord, extends 15 miles S from the coast to which it is joined by an isthmus, 8 miles wide. It is about 22 miles wide at its seaward face and is fringed by foul ground.

5.27 Qaanaaq (Thule) (77°28'N., 69°18'W.) was first established during the 1950's when the U.S. airbase needed to be extended. The permanent inhabitants were moved approximately 60 miles N to what is now the settlement of Qaanaaq or Thule.

The town of Qaanaq stands on the S coast of Piulip Nunaa (Red Cliff Halvo) and is situated in Inglefield Fjord.

There are no quays or piers at Qaanaaq. Cargo must be handled to the shore by small boats. There are anchorages and mooring berths approximately 600m offshore.

The port is normally navigable from the end of July to mid-September.

Pilotage.—Taking a pilot is not compulsory but is advisable. Unlicensed pilot is available by arrangement with the Port Operator. The vessel's ETA must be sent to Port Operator 24 hours prior to arrival.

Fjord and cliffs facing Qaanaaq

Aerial view of Qaanaaq

Tides rise about 3m at springs and 1.7m at neaps. Vessels with local knowledge normally anchor about 180m off the settlement, in a depth of 15m; the holding ground is good, but a sternline is secured ashore. Anchor beacons indicate the berth. Vessels up to 135m in length and 7m draft have been handled.

The ice-free calling period lasts from early July until the end of September. The dark period lasts from 3 November to 9 February; the midnight sun period lasts from 24 April to 18 August.

Inglefield Bredning

5.28 Inglefield Bredning (77°26'N., 68°00'W.), a wide and branching fjord, is entered between Kangeq (77°16'N., 69°06'W.) and Kap Ackland. For the greater part, the fjord is

Qaanaaq

bordered by promontories, 300 to 900m high, from the base of which the snow melts off in summer. At several places, the shores are interrupted by fjord-like depressions through which short glaciers flow from the Greenland Ice Cap and discharge a few small icebergs. The innermost part of the bay, by contrast, is almost entirely occupied by large and very productive glaciers, which are fronted by ice-scoured islands.

Tidal currents are reported to run very strongly along the S shore of Inglefield Bredning, with many eddies.

Bowdoin Fjord is entered 8 miles ENE of Kap Ackland. Igdlorssuit, a small settlement, is situated on the W side of this short fjord, about 2 miles N of **Kap Tyrconnel** (77°31'N., 68°36'W.), the W entrance point. Vessels can anchor, in a depth of 55m, soft bottom sloping steeply and poor holding ground, about 0.1 mile off the settlement; a windmill and a flagpole in line, bearing 205°, indicate the berth.

Academy Bugt, a short arm of Inglefield Bredning, extends SE between a number of lake-strewn and ice-free plateaus, about 1,000m high, and terminates close N of the head of Olrik Fjord, in a glacier common to both. The SW side of this arm is formed by a continuous, inaccessible, and vertical cliff that extends from a bluff at the entrance to beyond the glacier face. The NE side of the arm is also bold, but, towards the entrance, there are some deep valleys that give access to the easternmost plateau.

5.29 The Head.—The S side of the head of Inglefield Bredning, E of Academy Bugt, is bold but ice-free. The E and N sides form an almost continuous glacier face. Four huge ice streams, separated by precipitous mountains (nunataks), flow down from the Greenland Icecap to release great quantities of icebergs along this face. As a result of this heavy discharge, the ice located in the interior E part of the head has settled down into a huge semi-circular basin.

Several islands lie at the head; some of these islands are located in the face of the glaciers and others at a short distance from them. Josephine Peary O, the northernmost island, has almost vertical cliffs, 500m high, at its S end. Harward Oer, two large islands 100m high, lies in the middle of the semi-circular basin described above; **Qeqertat** (77°30'N., 66°42'W.), a settlement, stands on the SW end of the larger island. Vessels with local knowledge can anchor 100m away from this settlement, in a depth of 28m, holding ground is poor. Several islets and rocks are reported to lie on foul ground about 1 mile S of the settlement.

Murchison Sund to Kap Alexander

5.30 From Kap Robertson, the NE entrance point of Murchison Sund, the coast trends NNW for 15 miles to Kap Chalon and consists of alternating cliffs and glacier faces. Kap Saumarez, 445m high, is located 5 miles NNW of Kap Robertson and separates two glaciers, Morris Jesup Gletscher and Diebitsch Gletscher.

Caution.—A local magnetic disturbance has been observed about 3 miles SW of Kap Saumarez.

Kap Powell (77°54'N., 71°54'W.), 435m high, is located 5.5 miles WNW of Kap Saumarez. It is the NW extremity of a broad promontory which separates Diebitsch Gletscher from Clements Markham Gletscher.

Kap Chalon, a sandstone mountain 581m high, can be readily identified by a black, basalt dike which extends E along the coast for 2 miles to the face of Clements Markham Brae Gletscher. This dike, 9 to 15m high, forms a retaining wall for a mass of stratified sandstone which rises to heights of 305 to 365m above it. Icebergs are reported to ground on a bank lying off Kap Chalon.

Prudhoe Land (78°00'N., 71°00'W.), an immense area capped with ice, backs the irregular coast between Kap Chalon and Kap Alexander, 16 miles NW. Numerous glaciers descend to the sea from this area. Generally, the ice-free land consists only of a narrow band fringing the extremities of the projecting promontories.

Sonntag Bugt (78°00'N., 72°26'W.) is entered 5 miles NNW of Kap Chalon. Several glaciers enter the bay and a moraine, 50m high, on the W part of the northernmost glacier is sometimes used as a route to the Greenland Icecap. Radcliff Pynt is the SE extremity of a promontory which separates Sonntag Bugt from a small unnamed bay, the head of which is occupied by Storm Brae, an enormous glacier.

Caution.—A local magnetic disturbance has been reported close off the S part of the entrance to Sonntag Bugt.

Sutherland O, a rough-grained sandstone island, lies in the entrance to the bay 3 miles SE of Kap Alexander and rises to a height of 90m.

Kap Alexander (78°10'N., 73°09'W.), the W extremity of Greenland, forms the SE entrance point to Smith Sound. The cape, about 1 mile wide, extends 4 miles W from the glaciers at its base. It is composed of layers of light yellow sandstone and dark columnar basalt. Rising to a height of 350m, it is reported to be the highest and steepest of all the capes along this coast.

Nares Strait

5.31 Nares Strait, a channel leading NNE from Baffin Bay to the Arctic Ocean, passes between the W side of the N part of Greenland and the E coast of Ellesmere Island in Canada. The strait consists of, from S to N, Smith Sound, Kane Basin, Kennedy Channel, Hall Basin, and Robeson Channel.

Although the strait and neighboring sea are at times hazardous for navigation due to severe ice conditions, they have long been attempted by explorers seeking a NW passage between the Atlantic Ocean and the Pacific Ocean. However, prior to 1948, only five vessels were recorded as having successfully navigated N of Kane Basin, the middle part of Nares Strait. Thereafter, the strait has provided a route, navigable in August by icebreakers, to supply a meteorological station at Alert, on the NE coast of Ellesmere Island.

Smith Sound

5.32 Smith Sound (78°24'N., 73°30'W.) leads N from Baffin Bay into Kane Basin and forms part of the Nares Strait route to the Lincoln Sea. It lies between the E coast of Ellesmere Island, Canada, and the W coast of Greenland. The sound, with a general width of about 25 miles, is entered between Kap Alexander, located on the coast of Greenland, and Cape Isabella, located 26 miles WNW on the coast of Ellesmere Island.

The shores on both sides of the sound are high, but differ greatly in aspect. The Greenland coast, although consisting mostly of worn headlands, has fertile land, with long grass in summer. The Ellesmere Island coast is bleak, barren, desolate, and backed by extensive ice fields.

From limited information, the depths in Smith Sound appear to be deep, being nowhere less than 183m and generally more than 365m. No known dangers appear farther than 1 mile offshore (1973). The tidal currents within the sound are reported to be weak.

Ice.—The S end of the sound normally remains open throughout the year, although winter ice forms in the inner parts of the bays S of Etah, midway along the Greenland coast. The remainder of the sound freezes over entirely from shore to shore every winter. The S limit of this solid ice forms a bridge across the sound, opposite Etah, which is used by Eskimo hunters.

After the breaking up of this ice, usually in June or July, conditions vary and are liable to alter radically, even within a few hours; these conditions depend upon the wind and the current that affects the entry of heavy Arctic pack ice from Kane Basin. New ice begins to form off Etah in September.

5.33 McCormick Bugt (78°14'N., 72°48'W.) lies 5 miles NNE of Kap Alexander. Kap Kenrick, the N entrance point of the bay, is a prominent headland 240m high. A drying reef, on which icebergs ground, extends off the S side of this point. Pandora Havn, the inner part of the head of the bay, forms a harbor for small vessels, but is exposed to W winds. Vessels can anchor, NE of a small projection on the S side of the harbor, in a depth of 12m, good holding ground.

Hartstene Bugt is entered between Kap Kenrick and Sunrise Pynt, 5 miles NNW. A bight is located close within Kap Kenrick and, at its head, a cascade falls over 100m from the hills. A small bay indents the N shore of Hartstene Bugt and has been reported to be bordered by an icefoot fringed by rocks. Anchorage has been obtained by small vessels, in a depth of 15m, within this bay.

Foulke Havn, a small deep inlet, is fronted by three small islands and indents the head of Hartstene Bugt. It is fully exposed to the SW and open to the entry of ice. It was reported that a small vessel with a draft of 2.4m was icebound in the bay and wintered there protected from SW winds by grounded icebergs off the entrance to the inlet.

Foulke Fjord, about 1 mile wide and 4 miles long, opens E from the head of Hartstene Bugt, close N of Foulke Havn. It has been visited by many expeditions and used as a winter base. Numerous islets and rocks encumber both sides of the entrance and a 12.8m shoal patch lies in the middle of it. Vessels entering this fjord are advised to keep slightly N of mid-channel to avoid the known dangers.

Several mountains, 610 to 740m high, stand on the N side of the inner part of the fjord and are fronted by shores which rise almost vertically to a height of 330m.

Etah (78°19'N., 72°36'W.), lying at the head of a bay 1.5 miles within the N entrance point of Foulke Fjord, is the site of a former Eskimo settlement.

Anchorage.—Vessels can anchor in the inner part of Foulke Fjord, in depths over 25m, about 30m off a small peninsula.

Kap Ohlsen, a prominent steep cape of light reddish rock, is located 11 miles NNE of Kap Alexander. The cliffs in its vicinity are precipitous.

Littelton O (78°21'N., 72°52'W.), a small island 180m high, is the largest of a group of islands, islets, and rocks which lie close NW of Kap Ohlsen. It is flat-topped and prominent and has been used as a repository for the records of various expeditions. McGary O, a much smaller island, lies close NW of Littelton O. Rocks encumber the SW end of the passage that lies between them. Small vessels have anchored at the NE end of this passage, but found it unsatisfactory due to the limited swinging room and the entry of ice.

Kap Hatherton (78°28'N., 72°34'W.), located 6 miles NNE of Kap Ohlsen, is a bold, rocky mass. The small bays lying close N and S of the cape have sandy bottoms but are shallow. Refuge Havn, an inlet located 3 miles NNE of the cape, is open to the S and the W and can be entered close S of Cairn Pynt. Small vessels can anchor, in a depth of 14m, in the NW part of this inlet.

Kane Basin

5.34 Kane Basin lies between Smith Sound and Kennedy Channel. It is about 110 miles long and has a greatest width of about 80 miles in its middle.

Cairn Pynt (78°31'N., 72°29'W.), the SE entrance point of Kane Basin, is a square-faced headland surmounted by a cairn. It forms the W extremity of a small, but prominent, peninsula of laminated rock.

Inglefield Land, a broad strip of ice-free land, extends from Foulke Fjord to Kap Agassiz, 83 miles NE. The coast which fronts it is generally formed of almost vertical cliffs, from 150 to 305m high, some of which have long slopes of rock debris reaching to an icefoot at their bases. Bays and deep inlets indent the shore, but none afford refuge or shelter from the ice, the pressure of which is severe along this coast. The ice-free land, which extends inland for about 20 miles, is comparatively level, except in its E part where small elevations alternate with the valleys.

Rensselaer Bugt is entered 15 miles ENE of Cairn Pynt, between Kap Ingersoll and Kap Leiper, 7 miles farther ENE. It

is reported that a small vessel wintered in this bay by mooring to the shore, in a depth of 13m, between two islands in the innermost part, safe from outside ice pressure. However, the vessel had to be abandoned because the winter ice failed to move out of the bay.

Bancroft Bugt (78°47'N., 70°16'W.) is entered between Kap Francis, 5 miles NE of Kap Leiper, and Kap Taney, 4 miles farther NE. The Minturn River, about 0.75 mile wide at its mouth, discharges 8 miles ENE of this inlet and is shallow,

Marshall Bugt lies 13 miles NE of Bancroft Bugt and is entered between Inuarfigssuaq and Kap Russell, 2 miles N. The bay penetrates 6.5 miles into the coast, its inner part having the character of a fjord. It connects to the mouth of a river which drains several lakes located near a glacier. A group of small steep-sided islands occupies the outer part of this bay.

5.35 **Dallas Bugt** (79°05'N., 68°00'W.) is entered between Kap Kent and Kap Scott, 5 miles ENE. This bay extends 3 miles SE to its head where it receives the flow of two rivers. Several islets lie near the head and a small islet lies close off Kap Scott.

Advance Bugt, an irregular bay, is entered 2 miles E of Kap Scott from which it is separated by a small inlet and promontory. This bay is 4 miles wide and extends S for 1.5 miles. It is fronted by an island chain and encumbered with islets. A river flows into its head.

Bonsall Oer (79°10'N., 66°39'W.), a chain of islands and islets about 6 miles long, fronts the coast 4 miles WNW of Kap Agassiz. They lie close off the shore, which is indented by numerous small inlets and bays.

Kap Agassiz (79°08'N., 66°10'W.) is the NE extremity of Inglefield Land. A number of islets lie close off this cape. McGary Oer, a small group of islands, lies 4 miles N of the cape and close off the S end of Humboldt Gletscher.

Peabody Bugt (79°37'N., 65°10'W.), the E part of Kane Basin, fronts Humboldt Gletscher, the glacier which covers the coast from close N of Kap Agassiz to Kap Forbes, 50 miles N. The edge of this glacier slopes down evenly to the bay and is almost without crevasses. In most places, the edge is no more than 50m high and, in several places, it is easily accessible from a boat. The icebergs from Humboldt Gletscher look like huge pieces of ice from polar regions and are never as high as those discharged from the glaciers of Inglefield Bredning and Melville Bugt, to the S.

Benton Bugt, an open bight, is formed by the shore which recedes N for 2.5 miles between Kap Forbes and Kap Clay, 10 miles WNW. Putdlerssuaq, an island 1 mile long, lies near the E end of this bay, 2 miles SW of Kap Forbes.

5.36 **Cass Fjord** (80°05'N., 64°32'W.), a branching indentation about 2 miles wide, extends 15 miles NE and N from its entrance. Poulsens Klint, 180m high cliffs, extend NE for several miles along the N shore of this fjord.

Nygaard Bugt indents the mainland coast for 4 miles between the N entrance point of Cass Fjord and Kap Webster, 10 miles WSW. The W shore of this bay is bordered by the Talilenguaq Klipper and a river enters its head.

Wright Bugt is entered between Nunatami, a point 2.5 miles W of Kap Webster, and Kap Jackson, 11 miles WNW. This bay penetrates 4.5 miles N to a narrow inlet at its head. The cliffs on its E side rise to a height of 490m and those on its W side, known as Troedsson Klipper, rise to a height of 365m.

In the vicinity of Kap Webster and Wright Bugt, the limestone cliffs are of fantastic formation, with gray cold colors at their feet and glowing red shales near their summits.

Kennedy Channel

5.37 Kennedy Channel connects Kane Basin with Hall Basin. It is entered from the S between **Cape Lawrence** (80°21'N., 69°35'W.) and Kap Jackson. The channel extends NE for about 80 miles between comparatively regular and almost parallel shores, 15 to 20 miles apart. Its junction with Hall Basin lies on a line joining Cape Baird and Kap Morton, 22.5 miles SSE.

There is deep water throughout Kennedy Channel; depths average 336m on the NW side and range from 183m to 275m on the SE side. No offshore dangers have been reported within the waters of the channel, but several islands are located in its middle part. On a rising tide, the tidal current sets SW through the channel; on a falling tide, it sets NE. A current is reported to set SW in the channel and may attain a considerable rate following N winds.

The relatively large range of the tide in Kennedy Channel, up to 3.8m, keeps it open late and reopens it early, in the season. Some floes of old polar ice, which are nearly always moving S through the channel, collect on the edge of the open water and pile up on the existing ice, forming high and uneven areas. They have also been known to pack up to 20m high against the islands and temporarily block all ice movement.

Kap Jackson (80°03'N., 67°03'W.), which forms the SW extremity of that part of Greenland known as Washington Land, is located at the junction of the E shores of Kane Basin and Kennedy Channel. The cape is described as bluff and comparatively low, but when viewed from a distance, it appears flat. Strong currents are reported to set around the cape.

Morris Bugt (80°08'N., 67°04'W.) is entered 2.5 miles N of Kap Jackson, between Kap Calhoun and Kap Madison, 6 miles NW. High hills, up to 200m high, stand to the E of the bight, beyond which lies a bare limestone plateau, cut by a few deep valleys, rising toward small icefields some distance inland.

From Kap Madison, the coast trends N for about 8 miles to Kap Hamilton and then another 2 mile, to Kap Jefferson. This part of the coast is known as Nicolaj Nielsen Kyst. It is fronted by a limestone foreshore, up to 2 miles wide, which dries and appears at high water as a collection of low-lying reefs and islets.

5.38 **Lafayette Bugt** (80°27'N., 66°47'W.) indents the coast between Kap Jefferson and Kap Independence, 13.5 miles NNE. The shores of this bay are formed by steep mountains, up to 430m high, fronted by a low and narrow foreshore. Kap Independence is a precipitous headland which rises to a height of 185m.

Kap Constitution, located 2 miles N of Kap Independence, is also a precipitous headland and rises to a height of 500m.

Crozier O (80°30'N., 67°11'W.) is the southernmost island in Kennedy Channel. It fronts Lafayette Bugt and is reported to

be easily identified. The cliffs at its SW side rise to a height of 60m.

Franklin O, the largest island in Kennedy Channel, lies 3 miles N of Kap Constitution and is easily identified. It is light brown in color, very steep-sided, flat-topped, and rises to a height of about 210m on its SE side.

Hans Island is located 9 miles NNE of Franklin O, almost in the middle of the channel. This island, which rises to a height of 150m in its S part, is under Canadian sovereignty.

John Brown Kyst is the name applied to that part of the coastal strip which lies between Kap Constitution and Kap Bryan, 44 miles NNE. Along the N part, the ice foot is narrow and the sea ice presses hard against it, with the result that the surface of the ice foot is covered, in many places, with large ice blocks. The S part of John Brown Kyst is indented by a wide bight, into which flow several streams and where signs of ancient habitation have been found.

Alakratiak Fjord (Aleqatsiaq Fjord) (80°40'N., 65°47'W.) is entered between Kap Resser, 300m high, and Graptolit Naesset, which rises to a height of 530m, 4.5 miles NE. A river discharges into the head of this fjord. The Pentamerus Mountains back the coast N of Alakratiak Fjord, about 800m high, and extend 12 miles NE to E to merge with the John Brown Icecap, about 1,100m high.

Fossil Bugt lies 11 miles NNE of Alakratiak Fjord. Several streams discharge into the head of this wide bay. A large bay, into which several streams discharge, lies between Kap Godfred Hansen, 5 miles NNE and Kap Ulrich.

From Kap Ulrich, the coast trends NE for about 4 miles to Kap Field and then another 8 miles to Kap Bryan.

5.39 Kap Bryan (81°07'N., 64°00'W.), 360m high, is the W entrance point of Bessels Fjord and the N point of Washington Land. Violent gusts of wind have been reported to sweep down the mountains, which rise steeply to a height of 650m in this vicinity. The ice foot here is narrow and impassable. Hannah O lies close NE of Kap Bryan and has been described as an immense heap of pebbles and drift, probably the remains of an old glacier.

It has been reported that a vessel anchored off the entrance to Bessels Fjord, in a depth of 15m, on a bank which extended E from Hannah O. A very strong flow over the bank was observed.

Bessels Fjord is entered between Kap Bryan and Kap Maynard, 3 miles ENE. It is long and narrow and extends SSE between John Brown Iskappe, the ice cap to the W, and Petermann Halvo, the peninsula to the E. The precipitous cliffs on both sides of the fjord are cut by many ravines, from which small but active glaciers discharge icebergs. Many of these icebergs have been observed aground in shallow water at the entrance and much older ice has been noted in the upper reaches of the fjord.

Hall Basin

5.40 Hall Basin (81°25'N., 63°00'W.) lies between Kennedy Channel, to the SW, and Robeson Channel, to the NE. It is entered between Cape Baird, on the E coast of Ellesmere Island, and Kap Morton, on the NW coast of Greenland. The basin is irregular in shape; its W shore is almost entirely broken by the entrance to Lady Franklin Bay, off which opens an extensive fjord system. The E shore is more regular, but deeply indented by Petermann Fjord at its S end.

The basin appears to be deep, except on the E side, where depths of 55m have been reported to lie up to 5 miles from the coast. However, there are no known off-lying dangers (1973). Ice conditions in the basin depend much upon the wind and may change from day to day.

Kap Morton (81°12'N., 63°26'W.), the N extremity of Petermann Halvo, lies at the termination of Kennedy Channel. Joe O, located 2.5 miles NNW of Kap Morton, is a small, mushroom-shaped island over 100m high. Deep water lies in the channel between the island and the cape.

Petermann Fjord is entered between Kap Lucie Marie and Kap Tyson, 13 miles NE. From about 11 miles within its entrance, the fjord is occupied by Petermann Gletscher, the longest glacier in Greenland, which extends nearly 50 miles SSE to the Greenland Ice Cap. However, the seaward face of this glacier is low and few icebergs are discharged from it.

On either side of Petermann Fjord, steep cliffs rise to ice-covered plateaus, 800m high, from which small glacier tongues occasionally form over the cliffs. The projecting ice then breaks off, frequently carrying with it masses of rock torn from the face of the precipice.

Offley O (81°18'N., 61°51'W.), a small and steep island, lies 1.5 miles S of Kap Tyson. Its NE extremity presents a precipitous face about 150m high.

Polaris Bugt, which indents the shore for 3 to 4 miles to the E, lies between Kap Tyson and a small, low point, where a stream enters the sea, 12 miles NNE.

Thank God Havn (81°38'N., 61°48'W.) is a small bight formed between the above low point and Kap Lupton, 4 miles N. The land behind this bight is high and consists of a series of elevations and depressions. It is reported that vessels can also anchor, in a depth of 55m, mud and silt, about 0.6 mile W of a river delta located within the bight.

Robeson Channel

5.41 Robeson Channel (81°57'N., 60°47'W.) extends 50 miles NE from the N end of Hall Basin, lying between Cape Murchison and Kap Lupton, to its junction with the Lincoln Sea, lying between Cape Sheridon and Kap Stanton, 37 miles ESE. It has a least width of 11 miles and is the narrowest part of Nares Strait.

The Greenland coast of Robeson Channel is almost uniformly high and bold, except where it is broken by Newman Bugt, a long inlet, opening SE, 17 miles within the entrance. The channel itself appears to be deep throughout with depths of over 360m. It has steep-to shores and no known off-lying dangers to navigation (1973).

During summer and autumn, close pack ice drifts in the channel, concentrating and building up pressure, particularly in the narrowest parts. However, conditions can vary greatly, the channel having been observed almost ice free in August and even, for brief periods, as late as mid-October, although previously closely packed with ice.

Kap Lupton (81°41'N., 61°53'W.), the SE entrance point of Robeson Channel, is a prominent landmark on the W coast of

the Polaris Promontory. In this vicinity the character of the coast changes, the low-lying land to the S being replaced by high steep cliffs.

Kap Porter and Kap Ammen are located 5.5 miles N and 9 miles NNE, respectively, from Kap Lupton. The land close within the coast between these capes rises to a height of over 880m and the cliffs continue round the seaward face of the Polaris Promontory, 9 miles farther NE, to Kap Sumner, its N extremity. The only significant break in the cliffs is a remarkable opening in the land near Kap Ammen that, when viewed from the W, has the appearance of an indentation. However, it is a straight line of coast, with a low, level plain stretching inland for 2 miles to a line of hills.

5.42 Kap Sumner (81°54'N., 60°41'W.), the SW entrance point of Newman Bugt, is steep and moderately high, though much less so than the cliffs to the SW. In summer it is bare of snow. A deep ravine is located close S of the cape.

Newman Bugt is entered between Kap Sumner and **Kap Brevoort** (81°59'N., 60°17'W.), 6 miles NE. This bay separates the Polaris Promontory from **Nyeboe Land** (81°55'N., 58°20'W.), a large ice-free area extending 45 miles E. The middle part of the bay is encumbered with islands. Several streams empty into the bay from the slopes draining on either side. The head of the bay is occupied by a glacier which is part of the Greenland Ice Cap.

Congress Hojland backs the NW coast of Nyeboe Land, about 7 miles inland, between Kap Brevoort and Kap Stanton, 28 miles ENE. Most of this stretch of coast consists of rocky cliffs. Gap Dal, a valley through which a small stream enters the sea, is located 6 miles NE of Kap Brevoort.

Repulse Havn (82°06'N., 59°08'W.), a small bay, lies 11 miles NE of Kap Brevoort. The low-lying land surrounding it can scarcely be distinguished from the sea ice so that some hills in the background give the bay the appearance of being much larger with two islands in it. A small cairn stands on one of the entrance points.

Black Horn Klint is named for a remarkable black rock which projects like a horn from one of the cliffs. These cliffs extend along the coast 16 to 20 miles ENE of Kap Brevoort. They rise precipitously from the sea to a height of 305m, with neither a foreshore nor an ice foot at their base.

The Lincoln Sea

5.43 The NW coast of Greenland from Kap Stanton to Kap Morris Jesup, about 170 miles ENE, forms the SE side of the Lincoln Sea. The land is extensively indented by numerous fjords and in most places the shore consists of steep and stratified cliffs. The fjords are usually, if not always, filled with heavy polar pack ice.

Kap Stanton (82°13'N., 57°18'W.), the E entrance point, lies at the N end of Robeson Channel and also forms the SW entrance point of Hand Bugt. Rock Bakke, a mountain 1,050m high, stands at the head of this inlet.

Frankfield Bugt is separated from Hand Bugt by a promontory, the seaward face of which is about 3 miles wide and rises to a mountain, 365m high. The entrance of this inlet is 1.5 miles wide and its E entrance point is known as Rest Pynt. A mountain range, which rises to a maximum height of 1,250m, extends between the inlet and Hand Bugt and forms the base of the above-mentioned promontory.

Kap Bryant (82°20'N., 55°15'W.), the N extremity of Nyeboe Land, lies 10 miles ENE of Rest Pynt. Wyatt Bjerg, 610m high, and Punch Bjerg, 1,100m high, stand 4 miles S and 11 miles SSE, respectively, of the cape. Punch Bjerg is reported to be the most prominent landmark in this vicinity.

Saint George Fjord is entered between Kap Bryant and Dragon Pynt, the N extremity of Hendrik O, a large island 11 miles ESE. It extends S for 45 miles to the face of Steensby Gletscher. The W side of the fjord, formed by the E coast of Nyeboe Land, consists of cliffs as far as Kap Fulford, 4 miles from the entrance. The remainder of this shore is regular in character but with several small valleys leading inland from it through mountainous country, on which there are some minor ice caps.

Hendrik O (82°03'N., 53°18'W.), which separates the outer part of Saint George Fjord from Sherard Osborn Fjord, extends S and SE for a total distance of 29 miles. This island has an average width of about 5 miles and rises to a height of 1,152m in its N part. It is ice-free except for a few small glaciers. Warming Land, a peninsula located S of the island, is separated from it by Hartz Sound.

5.44 Sherard Osborn Fjord (82°15'N., 52°06'W.) is entered between Dragon Pynt and Kap May, 19 miles NE. From its entrance, the fjord narrows gradually to a width of about 10 miles abreast the S end of Hendrik O. The head of the fjord is occupied by a glacier. Castle O, an island, lies on the W side of Sherard Osborn Fjord, 6 miles within the entrance; it rises to a height of 520m at the N end. Reef O, a small island, lies close off the E shore opposite Castle O. Wedge O, a small island 150m high, lies close S of Reef O.

Kap May is the N extremity of Wulff Land, an extensive mainland peninsula that forms the E side of the fjord. The W side of the fjord is formed by Hendrik O and Permin Land, a smaller glacier-covered peninsula, lying between Wulffs Land and Warming Land.

At the head of Sherard Osborn Fjord, in the SW part of Wulff Land, there is an ice-free strip of land called Aage Bistrup Land. This strip is completely encircled by Ryder Gletscher, a glacier which slopes down evenly from the Greenland Ice Cap into the head of the fjord. After passing between Kap Buttress, 1,070m high, and the E extremity of Permin Land, and the coast of Wulff Land, 3 miles E, the glacier spreads out and extends many miles N through the E part of the fjord and as far as Wedge O.

Kap V Nordman, 800m high, is the N extremity of Permin Land. It is separated from the SE extremity of Hendrik O by a channel less than 1 mile wide.

5.45 Depot O (82°30'N., 50°30'W.), a small island, lies close off the NE end of Wulff Land, 9 miles E of Kap May. Between them, the N coast of the peninsula is ice-free but mountainous. Several fertile valleys lead inland from the coast, the largest being Gunnar Andersson Dal, located close W of Depot O.

Victoria Fjord is entered between Depot O and Kap Wohlgemuth, 18 miles ENE. The latter cape, 700m high, is the NW

extremity of Nares Land, a very large and high island covered with ice. Ostenfeld Gletscher, a glacier, occupies the head of the fjord and stretches from shore to shore. Its edge extends to within about 20 miles of the entrance.

Stephenson Island, 1,050m high, lies with its N extremity located 9 miles E of Depot O, on the W side of the outer part of Victoria Fjord. It is separated from Wulff Land by Nares Sund which has a least width of 3.5 miles.

Nordenskiold Fjord is entered between **Kap Middendorff** (82°40'N., 47°30'W.), the N extremity of Nares Land, and Kap Wegener, the W extremity of Freuchen Land, a high and mountainous peninsula 9 miles NE. Between Nares Land and Freuchen Land, the fjord extends SE for about 40 miles and then divides into two arms at its head. The middle and inner parts of the fjord are entirely covered by Jungerson Gletscher, a large glacier, the edge of which lies within 10 miles of the entrance. The land on both sides of the fjord rises from the shores to glacier-covered heights of 600 to 850m. It is reported that icebergs have been found to be densely packed across the fjord, a few miles within the entrance.

J. P. Koch Fjord is entered between Kap Wegener and the SE extremity of Elison O, 5 miles NW. This island, together with Sverdrup O and Nansen Land bounds the N side of the fjord which, along its outer part, consists of wild and mostly ice-free alpine country. The land along the outer part of the S side of the fjord, which is formed by Freuchen Land, and on both sides of the inner part, is covered with glaciers except for a small ice-free shore margin.

5.46 Elison O, the S extremity of which forms the NW entrance point of J. P. Koch Fjord, lies 5 miles NNW of Kap Wegener. This island is composed almost entirely of rugged, but ice-free mountains which rise to heights of 1,000m. **Kap Salor** (82°56'N., 48°05'W.), the NW extremity of the island, is precipitous.

Sverdrup O is a much larger island than Elison O and rises to a height of 1,290m. It lies with Kap Emory, its low-lying W extremity, 2.5 miles NE of Kap Salor. The channel between these two islands is known as Chipp Sund. Numerous coves indent the shores of Sverdrup O. Markham O, a small island, lies close off Kap Emory.

Lemming Fjord is entered between Kap Emory and a point, 1 mile NE. It extends SE almost as far as a small bay located on the S side of Sverdrup O and nearly separates the SW part of the island from the larger NE part.

Blue Kap and Black Kap, the NW extremity of Sverdrup O, are located 2 miles and 4.5 miles, respectively, NE of Kap Emory. Linn Bugt, a small bay, indents the coast between Black Kap and Kap Benet, the N extremity of the island, 2.25 miles NE.

Mascart Sund is entered between Kap Benet and Kap Payer, 5 miles NE. It extends SE between Sverdrup O and Nansen Land and into the W coast of the latter. From the SW side of the sound, a narrow channel leads S into J. P. Koch Fjord and separates Sverdrup O from Nansen Land. It provides a connection between the fjord and the Arctic Ocean.

5.47 Peary Land is the extensive region that forms the N part of Greenland. With its mostly indented NW coast, extends 95 miles ENE from **Kap Payer** (83°08'N., 46°30'W.) to Kap Morris Jesup. Numerous icecaps are located inland, but there are also large ice-free areas and large valleys.

Nansen Land, the W part of Peary Land, is a large irregular projection of the mainland which lies between J. P. Koch Fjord, to the SW, and DeLong Fjord, to the NE. Four islands lie close off its seaward face, which extends 22 miles ENE from Kap Payer to Kap Mohn. The edge of the Lincoln Sea pack ice lies close up to the outer projection of the coast, within which the land slopes up evenly and is very fertile.

Distant Cape (83°10'N., 46°05'W.), located 1.5 miles NE of Kap Payer, is the N extremity of a high promontory which forms the E shore of the outer part of Mascart Sund.

Jewell Fjord is entered 4 miles E of Distant Cape, between Low Pynt and a rounded projection, 4 miles farther NE. Three glaciers terminate at its head.

Gardiner Fjord, short and irregular, is entered close NE of Jewell Fjord. Islands lie close off each of the entrance points which are located 1 mile apart. The southwesternmost island, 825m high, lies with its SW extremity located 10 miles ENE of Kap Payer. The channel lying between the two islands is the widest opening leading into the fjord.

5.48 **Kap Mohn** (83°17'N., 43°24'W.) is the N extremity of an island which is located on the W side of the entrance to De Long Fjord. Kap Hommock, the E entrance point of De Long Fjord, lies 11 miles ENE of Kap Mohn and is the NW extremity of Hazen Land, a long narrow island which bounds the E side of the fjord. Nansen Land forms the W side of the fjord. From its entrance, in which lie several islands, De Long Fjord branches into three arms named from W: Thomas Thomsens Fjord, Adolf Jensen Fjord, and O.B. Bogild Fjord.

Thomas Thomsens Fjord, entered 7 miles SSE of Kap Mohn, is formed between Nansen Land and a long narrow island which, in turn, forms the W side of Adolf Jensen Fjord. The two fjords join S of the island and Adolf Jensen Fjord continues SE into Peary Land, terminating in Tjalfes Gletscher, a large glacier.

O.B. Bogild Fjord is entered through Wild Sund, the channel which separates Inge O, a small island fronting the entrance to Adolf Jensen Fjord, from Hazen Land. The fjord is formed between the W coast of Hazen Land and an island which, in turn, forms the E side of Adolf Jensen Fjord. To the S of this island, the two fjords join and O.B. Bogild Fjord continues E into Peary Land.

Weyprecht Fjord is entered between **Kap Hommock** (83°22'N., 41°31'W.) and Kap Christiansen, the NW extremity of Lockwood O, 6 miles NE. The fjord is bounded to the E by the W coast of Lockwood O, which rises to a height of 760m, and the W coast of Amundsen Land. It is bounded to the W by Hazen Land. At its inner end, off the SE end of Hazen Land, the fjord joins with Harders Fjord, which extends E into Amundsen Land and merges into a glacier. An island lying at the junction of the two fjords almost fills the entrance to Harders Fjord.

Conger Sund is entered between Kap Christiansen and Kap Kane, 4 miles NE. It separates Lockwood O from Amundsen Land and joins with Weyprecht Fjord, S of the island.

Amundsen Land forms the N part of Peary Land. From **Kap Kane** (83°27'N., 38°55'W.), the N coast extends 42 miles ENE to Kap Morris Jesup. Many promontories, separated by inlets

or fjords, project from this irregular stretch of coast, which is backed by the Roosevelt Range, with peaks rising to 2,000m.

Hunt Fjord is entered between a point, located 1 mile E of Kap Kane, and Kap Robert Lincoln, 5 miles ENE. Both entrance points are ice-free, but otherwise the shores of the fjord are ice-covered, except for a few protruding mountains. Thomas Gletscher, a large glacier, enters the head of the fjord.

5.49 Kap Washington (83°31'N., 38°50'W.), 885m high, is located 9 miles ENE of Kap Kane.

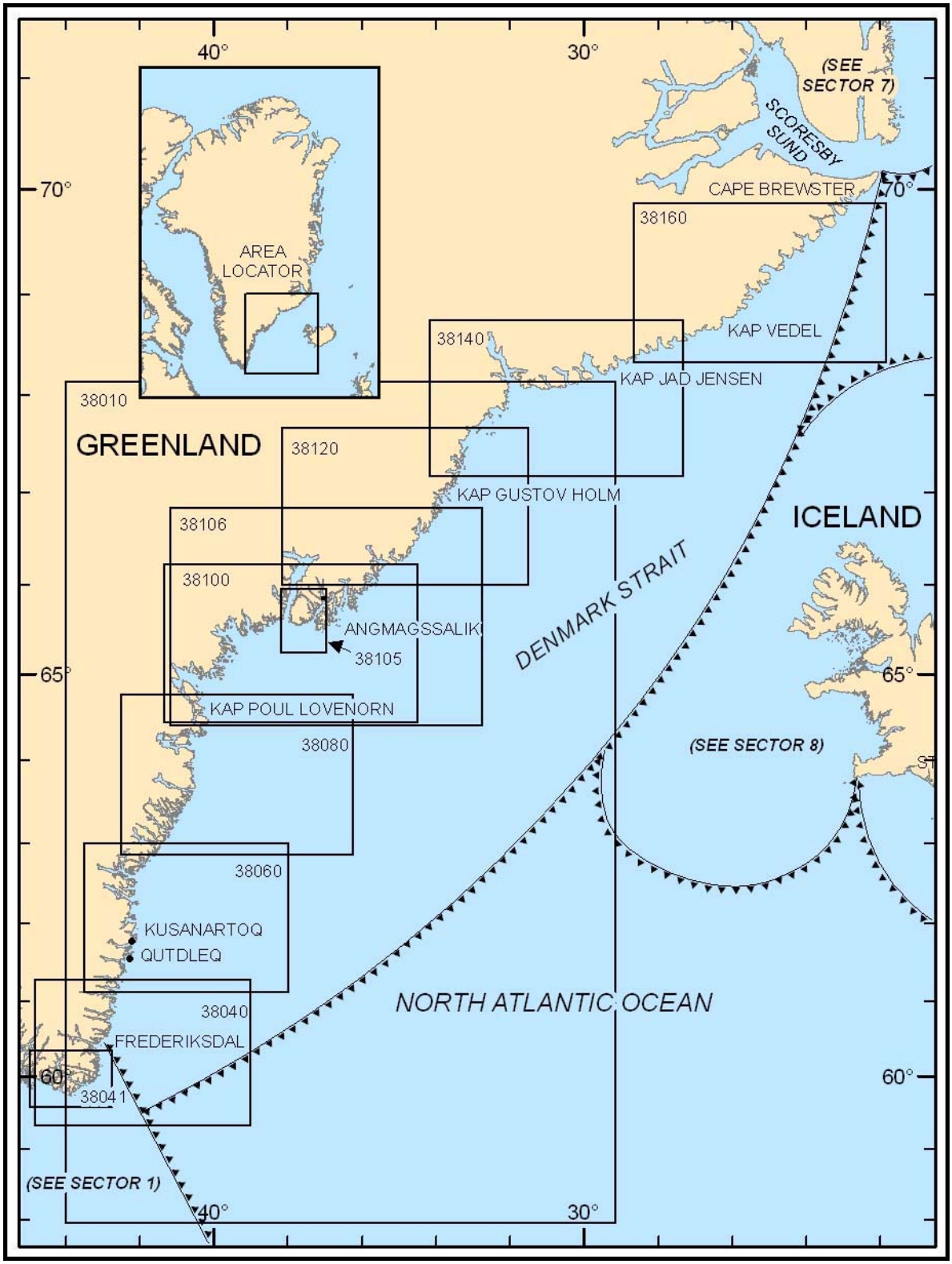
Benedict Fjord lies close E of Hunt Fjord and is entered between Kap Washington and Kap Cannon, 5 miles ENE. It extends SE for 8 miles to the face of Harmsworth Gletscher, a glacier that occupies the innermost part of the fjord. A small branch extends S for about 3 miles from the SW side of the fjord and almost the whole of its E shore is formed by a glacier.

Gertrude Rask Land is a promontory lying between Benedict Fjord and an unnamed fjord, 16 miles ENE. Most of it is occupied by glaciers, but a number of mountain peaks rise above the ice. It is reported that there are four separate glaciers on the N coast of Gertrude Rask Land; however, only three of them descend to the sea. The glacier located immediately E of Kap Cannon, the NW extremity of the promontory, is the only one on the NW coast of Peary Land that discharges icebergs.

Kap Christian IV, located 30 miles ENE of Kap Kane, is the N extremity of a small projection that forms the W side of the above unnamed fjord. From Kap Christian IV, the coast trends ESE for 3 miles to Kap Hans Egede, the W entrance point of Sands Fjord. This fjord extends S for about 4 miles facing the MacMillan Gletscher and the mountains, rising to heights of 800m on their sides.

Kap Morris Jesup (83°40'N., 33°24'W.), a small projection, is the N extremity of Greenland.

To the N of the cape, pack ice, up to 16m high, with snow-covered crevasses and narrow passages, has been observed in May with, farther to seaward, indications of open leads. Open water has also been seen during this month a few miles offshore, E of the cape.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **6** — CHART INFORMATION

SECTOR 6

GREENLAND—SOUTHEAST COAST—PRINS CHRISTIAN SUND TO SCORESBY SUND

Plan.—This sector describes the SE coast of Greenland from the N entrance point of Prins Christian Sund to the S entrance point of Scoresby Sund. The coastline between the two sounds trends in a NE direction.

General Remarks

6.1 Between Prins Christian Sund and Tasiilaq (Ammassalik or Angmagssalik), the principal settlement of East Greenland, the coast trends NNE for about 375 miles and is known as Kong Frederik den VI Kyst. This stretch of coast is characterized by numerous short fjords and small islands. A narrow belt of ice-free land extends along it, to the W of which rises the Inland Icecap. It is often difficult to approach the coast because of the movement of pack ice in the area. The ice limit varies from season to season and from year to year.

From Tasiilaq (Ammassalik), a stretch of coast, known as Kong Christian den IX Land, trends NE for about 450 miles to Scoresby Sund and fronts the Denmark Strait. In its first section, between Tasiilaq (Ammassalik) and the great ice fjord Kangerdlugssuak, numerous and widely ramified fjords cut deeply into the land, producing a maze of peninsulas and islands, separated by narrow channels. In the section NE of Kangerdlugssuak, the coast is formed by an alternation of steep promontories and fjords, the interiors of many of which are reached by productive glaciers that flow down from the Inland Ice Cap. Here rises Gunnbjorns Fjeld, the highest peak in all of Greenland. Finally, there is a section called the Blosseville Coast; this is an area lying S of Scoresby Sund, where the Inland Ice Cap generally comes down to the shore. The coast in this area is only slightly indented and there are only a few offlying islands.

To the NE of Tasiilaq (Ammassalik), the pack ice generally lies farther offshore than it does to the S. Additional dangers to navigation are present here due to the large numbers of icebergs that are discharged from the fjords. The Blosseville Coast portion of the coast is one of the most difficult regions of Greenland to approach from seaward, for the pack ice tends to set against the shore, and further hindrance is caused by strong currents.

Winds—Weather.—The wind force is highest in winter and lowest in summer. Winds are also stronger over sea areas than along the coasts where there are topographic interferences. This is especially true in Greenland. The wind is also closely related to the distribution of atmospheric pressure and the movement of cyclones. In this region of marked cyclonic activity, the winds are strong and changeable, especially during the colder months. The winds at points located to the N of the paths of cyclones will mainly increase from an E direction and then back through N to W as the storm progresses. Similarly, points to the S of the storm track will experience SE winds that will shift to SW or W as the storm moves E in accordance with Ballots Law. For this reason, winds over the ocean between latitudes 50° and 60°N prevail from a WSW direction, while between latitudes 60° and 65°N prevailing directions are more variable. To the N of latitude 65°N, all months show prevailing wind directions to be E or N.

During the winter, widespread gale force winds occur on about two days out of every three over the open ocean areas SW of Iceland. The most violent winds known in this region are the well-developed "foehn" winds that sweep down from the Greenland Ice Cap and may, at times, attain velocities of over 100 knots in favorably situated exposures along the E coast.

During the summer months (June through August), gales are at a minimum, observations throughout the ocean area record less than 7 per cent. They increase in September with the greater cyclonic activity and average between 8 and 11 per cent of the observations. Gales occur in the strait between Greenland and Iceland with the most frequent occurrences in January. These gales sometimes exceed 3 day's duration with local winds reaching hurricane force.

Prins Christian Sund to Danells Fjord

6.2 **Toqulineq** (60°05'N., 43°06'W.), a large islet, lies 2 miles NE of the N entrance point of Prins Christian Sund. This islet is reddish brown in color and one of the largest in a chain that extends from the coast.

Kekertatsiak (Qeqertarsuaq), a much indented island, 524m high, fills the greater part of a large bay, which is entered between a point located 3 miles NNW of Toqulineq and Kap Ivar Huitfeldt, 8 miles NNE. Aluk, a dark brown islet, 459m high, lies close SE of Kekertatsiak (Qeqertarsuaq).

Kap Ivar Huitfeldt, 398m high, is located 6 miles N of Aluk. It is a precipitous, pyramidal headland of blackish appearance with slanting yellowish strata. The mountains rising to the S of this cape are reported to be the color of copper.

Kanajormiut, lying 6 miles N of Kap Ivar Huitfeldt, is an island, 311m high, with a double summit. Several islets lie close off its N end and submerged rocks lie within 1.25 miles N and NW of them.

Dronning Louise O (60°21'N., 43°15'W.), separated from Kanajormiut by a narrow channel, is actually a peninsula, on which three peaks stand; the W and highest peak rises to a height of 781m. An expedition reported that several harbors, suitable for ocean-going vessels, were located NW of the peninsula. These harbors were observed to be ice-free from the 10 to 15 July 1932, a time when there was much ice in Lindenow Fjord and off the coast.

Lindenow Fjord (60°27'N., 43°17'W.) is entered between an islet, lying 1.25 miles NNW of Dronning Louise O, and the SE extremity of Nanuseq, a peninsula. It extends in a WNW direction for about 30 miles and, from a width of 2 miles at the entrance, narrows to about 1.5 miles near the head. About midway within the fjord, arms branch N and S. Nanuseq, an islet 670m high, lies close off the N entrance point. A small islet

and an area of foul ground lie on the N side of the approach, about 2 miles SE of Nanuseq.

Peersvig, on the N shore of the fjord, 7 miles within its entrance, is the site of a former Eskimo settlement.

Ice.—The time of arrival off the fjord of pack ice from the N, following the ice-free period in the autumn, varies from year to year, but observations over a period of 16 years give a mean date of 25 January with the ice normally remaining until mid-July.

6.3 Nanuseq Fjord (60°29'N., 43°13'W.), formerly known as Oyfjord, is entered between Nanusaq, the peninsula, and the S side of Angnikitsoq (Anikitok), a projection located 1.5 miles NE. It extends NW for 7.5 miles with irregular depths but no known dangers. Two small rocky islets lie close within the entrance to the fjord and an island lies in mid-channel, about 2 miles NW of them. A small bay located near the S entrance point of the fjord affords anchorage to vessels with local knowledge.

Torgilsbu (60°33'N., 43°13'W.), a former meteorological station, is situated on the N part of the head of the fjord. Vessels can anchor, in a depth of 35m, stiff mud, about 275m off the station site.

Nagtoralik (Nattoralik) Fjord, an inlet with islets and rocks encumbering the entrance, lies 3.5 miles N of Nanuseq and extends 4 miles W.

Kap Walloe, 310m high, is located 4.5 miles ENE of the N entrance point of Nagtoralik Fjord. A trapper's hut is reported to stand on the S side of this cape.

Kangerdluaraq Fjord, entered on the N side of Kap Walloe, is narrow and extends W for 11 miles. It is surrounded by high mountains.

Kutseq Fjord, entered 8 miles NNE of Kap Walloe, extends SW for 6 miles and then WNW for 10 miles. **Kutseq** (60°41'N., 42°47'W.), an islet, is the largest of a group which extends 1 mile NE from Ingerdlarsiutit (Ingerlaarsiutit), the extremity of a long and narrow peninsula forming the S side of the fjord.

Patussoq (Patursok), a fjord, is entered 5 miles N of Kutseq and extends 12 miles WNW. Two rocks, awash, lie in the entrance. Qasingortoq, 355m high, is the extremity of a promontory that forms the N side of the fjord. The surrounding land in this area is covered by glaciers that reach down to the sea; however, in some parts, solitary black mountains (nunataks) show above the ice.

Kap Discord, located 12 miles NNE of Kutseq, rises to a height of 430m and forms the E extremity of Iluileq, an island, which extends 10 miles W and lies in the entrance to Danells Fjord. This island has rugged cliffs and attains a height of 829m. Ivingmiut, a group of islets and rocks, lies close off the S extremity of Iluileq, 4 miles SW of Kap Discord.

Danells Fjord (60°51'N., 43°09'W.) extends in a WNW direction for 27 miles to its head. The fjord is about 2 miles wide throughout most of its length, but the inner part is nearly always blocked by ice, making it difficult to reach the head by boat.

Danells Fjord to Tingmiarmiut Fjord

6.4 Umanarssuaq (Umanarsuk) (60°56'N., 42°38'W.), an islet 153m high, lies 4.5 miles N of Kap Discord. An unnamed islet lies W of it and is located on an area of foul ground which extends up to 2 miles seaward.

Kangerdluk, a short fjord 2 miles wide, is entered 3 miles W of Umanarssuaq and extends 4 miles NNW. Several glaciers project into the interior of this fjord and are backed by a chain of high mountains over 1,400m displaying purple and blue strata.

Nuk, a small cove, is located on the mainland, 1 mile N of the NE entrance point of Kangerdluk. Serkertnua, 1.5 miles farther N, is reported to be the only place in this vicinity where boats can be hauled up on the beach. The rocks in the vicinity are reported to contain an intensified geomagnetic field.

Kangerdluluk (Kangerluluk) (61°05'N., 43°08'W.), a fjord, is entered between Qeqertatsiaq (Qajartalik), an islet lying 3 miles N of Nuk, and Kap Olfert Fischer, 3 miles N. It extends 24 miles WNW, but at times is blocked by ice. High mountains, rising to heights of 1,615m, stand along its S shore and head.

Igutsait Fjord (Igutsaat Fjord), entered between Kap Olfert Fischer and Kap Herluf Trolle, 7 miles NNE, is similar to Kangerdluluk but shorter. Umanarssuk, a lofty islet, lies in the S part of the entrance to this fjord, 2 miles N of the S entrance point. Numerous islets and rocks fringe the outer part of the N shore of the fjord. It is reported that several ruins of Eskimo houses can be seen on fairly fertile land on the shores within the fjord. Kap Herluf Trolle, 580m high, is reported to be very steep and prominent.

Taterat (61°14'N., 42°38'W.), an ancient site near Taateraat Nuuat, a cape, is located 4.5 miles NW of Kap Herluf Trolle. A large grotto, into which the sea flows, lies near this point.

Avarqqat Kangerlua Fjord (Puiagtoq Fjord) (61°17'N., 42°55'W.) is entered between Taterat and Karrat Pynt, a point 2.75 miles N. An arm of the fjord, entered 2 miles W of Taterat, extends 4 miles WSW. Two islets, fringed by rocks, lie in the approach to the fjord, 4 miles SE of Karrat.

6.5 Kap Tordenskjold (61°25'N., 42°22'W.), 658m high, is one of the best landmarks on this coast. The cape consists of two peaks separated by a deep cleft. The inner and highest peak has a round summit covered with ice; the outer peak is black with a flat top. It was reported that there is a sheltered boat harbor with a narrow entrance, on the NE side of the cape. Two small islands are reported to lie 0.5 mile SSE of Kap Tordenskjold.

Nuk (61°28'N., 42°19'W.), located 4.5 miles N of Kap Tordenskjold, is the NE extremity of a narrow peninsula. Anoritup Kangerlua (Anoritoq), a fjord entered N of Nuk, extends W for 16 miles. Several deep bays are located on the S side of this fjord, near the entrance; a number of glaciers are located at the head. Several high peaks stand in the vicinity of the head and rise to heights of 1,340m.

Qutdleq (Kutdlek) (61°31'N., 42°13'W.), an island, 451m high, lies 5 miles NE of Nuk, on the N side of the approach to Anoritup Kangerlua. The former site of a Loran station stands on its SE end. A large bay, which is usually ice-free, is located on the SW side of this island and forms a sheltered harbor. Vessels, with local knowledge, can anchor within this harbor and secure sternlines to the shore. The bay provides shelter from all winds except from S. Four beacons standing on the shores of the bay assist entry and indicate the anchorage berth. A 5.5m shoal patch is reported to lie in the middle of the entrance to

the bay and an 8m shoal patch is reported to lie 2.5 miles ESE of the S end of the island.

Napassorssuaq Fjord (61°42'N., 42°30'W.) is entered between a point, 10 miles N of Qutdleq, and Kap Daniel Rantzau, 5.5 miles NE. It extends W and NW for 18 miles. Between the entrance of Anoritup Kangerlua and this fjord, the coast is very irregular and indented by four inlets. Qeqertarssuit, a group of three islands, lies N of Qutdleq and fronts these inlets.

Kap Daniel Rantzau, 461m high, is a precipitous headland, under which, at times, the ice becomes closely packed. The cape forms the SE extremity of an irregular island that extends 6.5 miles N; Tunua, a narrow strait, separates this island from the mainland. Kusanartoq, 1 mile within the S entrance of this strait, affords sheltered anchorage, in a depth of 13m, mud, to vessels with local knowledge. The approach has a least depth of 13m, but shoals are reported to lie in the entrance. The N entrance to the strait has not been examined and should not be used.

Kap Cort Adelaer (61°50'N., 42°05'W.), 707m high, lies 2.75 miles NNE of Kap Daniel Rantzau. Umanarssuk, an islet, lies close E of this cape. A harbor, located on the S side of a bay which indents the coast between Kap Daniel Rantzau and Kap Cort Adelaer, is reported to be well-sheltered and frequently ice-free; however, it is subject to occasional heavy swells.

Sermip Nua, 6 miles NW of Kap Cort Adelaer, is the NW entrance point of Tunua, and the S entrance point of Puisortup Kangerlua, a fjord which extends W for 4 miles. Several small islets lie close N of Sermip Nua.

Puisortup, a glacier, extends along the coast between 3 and 6 miles NE of Sermip Nua. It is considered dangerous to approach closely, on account of its frequent calving, but, at times, the only passage along the coast is close to its foot. It rises vertically from the sea to a height of about 180m and then unites with the glaciers which cover the high land above.

6.6 Kap Steen Bille (62°01'N., 42°05'W.), a yellowish and rocky projection, 640m high, lies 12 miles N of Kap Cort Adelaer.

Otto Rud Oer, an island, is located 4 miles NNW of Kap Steen Bille and mostly covered with ice. It was reported that the channel between this island and the mainland is still blocked by winter ice at the end of June.

Ingerqajorpik (Inqeqqajarpik), located 3 miles NNW of the N end of Otto Rud Oer, is a cleft in the rocky coast where there is just enough room to haul up boats. The coast extending S of this cleft is low, with the snow and ice of the glaciers coming right down to sea level in most places.

Mogens Heinesen Fjord (62°23'N., 42°30'W.) is entered N of a point lying 17 miles N of Kap Steen Bille. It extends NW for 21 miles to some lofty mountains which stand at its head. Several glaciers discharge into this fjord. Ikermiit (Ikermiut), an island, 295m high, lies 2.5 miles SE of its S entrance point. Maligissat, a group of islets, lies midway between Ikermiut and the mainland.

Qasinngortooq (Qasingortoq), located 3 miles NE of the N entrance point of Mogens Heinesen Fjord, is a low, narrow, and precipitous point, bare of snow. Nagtoralik (Qasingortup Ingmikortukaja), lying close N of this point, is an island of a dark or blackish aspect that rises to a height of 529m. It is reported that the narrow channel lying between this island and the mainland affords good shelter.

6.7 Uvtortiutit (Uttorsiutit) (62°30'N., 42°09'W.), an island, 643m high at its SE end, lies with its S extremity located 2.75 miles N of Nagtoralik. Qasingortup Kangerdlua, a fjord, is approached between these two islands and extends W and NW for 12 miles. Inlets indent the N and E coasts of Uvtortiutit and anchorage is obtainable, with local knowledge, at their heads. The approach through the N inlet has a least depth of 10m while the approach through the E inlet has a least depth of 12m; the latter inlet is normally used. Vessels have taken anchorage in a bay located close N of the SW extremity of Uvtortiutit, off some islets near its S shore.

Tingmiarmiut Fjord (62°39'N., 42°43'W.) is entered between the N end of Uvtortiutit and Auluik, an island 220m high, lying 4 miles N. The fjord extends WNW for 27 miles between high mountains and several islands lie within it. Its inner part narrows and is often blocked by icebergs which are discharged from the glaciers at the head. Tingmiarmit, a large island on the N side of the outer part of the fjord, is 12 miles wide and rises to a height over 1,200m. A number of islets lie off its S side. Anchorage is reported to be obtained W of the islet in a depth of 18m at the settlement.

Tingmiarmit Turnorqutaria (Ikerasak) is the channel separating Tingmiarmit Island from the mainland N of it. Kamoen, a small and precipitous island 680m high, lies close N of the E end of Tingmiarmit. It was reported that vessels can anchor in a well-sheltered cove located at the W end of the channel.

Tingmiarmiut Fjord to Kap Moltke

6.8 Griffenfeld O (62°58'N., 41°30'W.), located 11 miles NE of Kamoen, is a deeply indented island. Three prominent peaks, the highest rising to a height of 701m, stand on it. Several islets lie close off the S extremity of the island and several more lie between this point and Kamoen. It was reported that there was a good roadstead, free of ice and swell, located within a long and narrow fjord which indents the S end of the island.

The channel separating Griffenfeld O from the mainland is bounded on either side by lofty mountains. It is reported to be deep and free of dangers; a passage through is possible when the state of the ice permits.

Sehested Fjord

Sehested Fjord is entered between Griffenfeld O and Uiivaq, a large island 2 miles N. It extends 23 miles NW and has several branches. Mountains, rising to heights of 2,070m, stand at the head. Rans Sund, a narrow inlet, lies on the N side of this fjord 7 miles within the entrance. It is reported to afford good anchorage for small craft. Annat Fjord, an inlet, is located on the N side of the fjord 14 miles within the entrance. It is also reported to afford sheltered anchorage for small craft.

Skjoldungen (63°20'N., 41°30'W.), a large island over 1,500m high in its NW part, stretches 27 miles in a NE/SW direction. It is separated from the mainland by Sonder Skjoldungesund (Inugsuarmiut), to the SW, and Nordre Skjoldungesund, to the NE. Kap Niels Juel, the SE extremity of the island, is a narrow rocky point, reddish-brown in color.

Kap Skjold (63°07'N., 41°12'W.) is the extremity of a promontory located 4.5 miles NE of Uiivaq.

Sonder Skjoldungesund is entered between Kap Skjold and Kap Niels Juel. A submerged rock, position doubtful, lies in the entrance to the sound, about 3.5 miles NNW of Kap Skjold. Caroline Amalies Havn lies on the SW shore of the sound, 6 miles within its entrance. It is a small but excellent harbor with depths of 5.5 to 9m, sand. The entrance is protected by a barrier of rocks and islets.

Halvdans Fjord (63°14'N., 41°20'W.) is located on the N side of Sonder Skjoldungesund, 7 miles W of Kap Niels Juel. It is a sheltered harbor that is accessible as a refuge for fairly large vessels. From its entrance, the fjord extends 2 miles N, then turns W and opens into a broad basin in which there are depths of 18 to 64m, soft bottom. A small low island lies close within the entrance and may be passed on either side, but the channel to the W of the island is preferable.

Norre Skjoldungesund, the channel on the NE side of Skjoldungen Island, separates the island from the Langenaes Peninsula. Morkensund, connecting the heads of Sonder Skjoldungesund and Norre Skjoldungesund, is a narrow but deep channel, 4 miles long.

6.9 Graah Fjord (63°24'N., 41°17'W.) is entered between Kap Langenaes and Imaarsivik, an island, 300m high, 2.25 miles NE. Graahs Havn, a good but small harbor, lies on the W side of this island and is formed by a deep and narrow inlet leading into an inner basin.

Finnsbu, the site of a former temporary meteorological radio station, is situated on the SW shore of the fjord, 7 miles NW of Kap Langenaes.

Jaettefjorden, located 8 miles within the entrance, is a branch of Graah Fjord that extends 11 miles NNW. The main fjord extends 12 miles NW and branches into two arms at its head. Lommen, a group of islets, lies in mid-channel within the N arm.

Good anchorage for ocean-going vessels was reported to be obtained N of Lommen in a basin at the head of that branch.

Kangerdlikajik (Ilertakajik) (63°27'N., 41°09'W.) is located 3.5 miles E of Jaettefjorden and extends W and NW for 14 miles to the foot of a glacier. The shores of this fjord are backed by steep mountains which attain heights up to 1,590m near the head. Several islands and islets lie off the entrance to the fjord and can best be seen on the chart.

Kap Moltke (63°29'N., 40°47'W.) is located 20 miles NNE of Kap Niels Juel. This cape is reddish-brown in color and consists of high cliffs up to 460m high. It is the SE extremity of a mainland promontory.

Kap Moltke to Dannebrogs O

6.10 Sattiaatteq (Sagiarusek) (63°38'N., 40°37'W.), an island located on the S side of the entrance to Bernstorff Isfjord, lies 9 miles NNE of Kap Moltke. A small inlet, with a meadow and a stream at its head, lies on the S side of this island.

Bernstorff Isfjord is entered between Sattiaatteq and Kap Mosting, 3 miles NE. It extends WNW for about 30 miles and is usually, if not always, blocked by heavy ice. It is reported that a bank of icebergs usually lies off the entrance and navigation is especially hazardous in the approaches to the fjord, as a rapid current sets out of it, causing numerous eddies and whirlpools inside the bank of icebergs.

Kap Mosting (63°41'N., 40°30'W.), a precipitous and prominent headland, rises to a height of 475m. From this point, the bold and steep coast, covered with glaciers that protrude into the sea at every cleft or ravine, trends in a N direction for 14 miles, to a position at the S entrance point of Otte Krumpen Fjord. Taterakajik, an island fringed by islets and rocks, lies close inshore, 8 miles N of Kap Mosting.

Otte Krumpen Fjord (63°57'N., 40°40'W.) extends 5 miles W. Its S entrance point is fronted by a group of islets and rocks. Pingasukasit (Pingasikkajiit), its N entrance point, is a bold projection that extends SE and rises to a height of 584m. Tingmiartalik is the largest of a group of islets that lies close inshore N of Pingasukasit (Pingasikkajiit).

6.11 Gyldenlove Fjord (64°10'N., 41°00'W.) lies between the N side of Colberger Heide and the S side of Upernarsuak (Upernattivik), 2 miles N. Upernarsuak was formerly believed to be a large island and is shown as such on present charts. However, it was reported (1931) to be a peninsula which extended NE from the mainland W of Colberger Heide; consequently Gyldenlove Fjord is probably much shorter than charted. Pikitse, an islet close SE of Uppernattivik, rises to about 50m.

Umiivik, a large indentation in which lie several islands and intricate channels, is located between Upernarsuak and a mainland promontory, 6 miles NE.

The region around Umiivik and Gyldenlove Fjord is called the Umiivik area and it is different from many of the fjord systems of East Greenland. In this unique region, the inland ice cap comes down to the shore in smooth, even waves, with only occasional glimpses of bare rock.

Umiiviitaa (64°20'N., 40°12'W.) is the NE islet of a group of islets, islands, and rocks. Gerners O, the largest island of the group, lies 1.5 miles W of Umiiviitaa and attains a height of 369m; a cairn stands on its summit. Ikasartik, the narrow channel between Gerners O and the mainland, is foul at its SW entrance, but was reported to afford sheltered anchorage at its NE entrance.

6.12 Kiataq (64°22'N., 40°32'W.), 766m high, stands on a small promontory and is reported to be the most distinctive peak in this vicinity. It has a large red streak stretching from its summit to the water's edge. Ruins of a settlement are reported to lie at its foot.

Nansens Bugt, an inlet located at the head of Umiivik, extends 9 miles W from Kiataq between the mainland and Nunarssuaq, an island on which stands the sites of former Eskimo settlements. Torssukatak, a narrow channel, leads W between Nunarssuaq and Upernarsuak to Sverdrups Sund, a wide basin that extends 15 miles W and contains one or more large islands.

6.13 Kap Poul Lovenorn (64°28'N., 40°09'W.), a bare point which projects from a precipitous headland 280m high, is light colored and intersected by black strata. It forms the SE extremity of Jens Munks O, a long and narrow island, which is separated from the mainland by Kagssortoq (Kattertooq), a channel 25 miles long and from 0.5 to 4 miles wide. Anikitsek, a mountain 1,235m high, stands 17 miles NW of the cape.

Pamiagdlussaq, located 9 miles NNW of Kap Poul Lovenorn, is the N entrance point of Peder Oxe Bugt, a wide bay that indents the E coast of Jens Munks O. Pros Munds O is the largest of a group of islands which lie in the middle of the entrance to this bay. Ilipigtivaq, a group of islands fronted by above and below-water rocks, lies 2.5 miles NE of Pamiagdlussaq.

Kap Torfaeus (64°42'N., 40°24'W.), located 7 miles N of Pamiagdlussaq, is the N entrance point of Lemon Bugt, a wide bay somewhat similar to Peder Oxe Bugt. Two islets lie close E of the point.

Ikermit (Ikermiit) (64°49'N., 40°17'W.) is the largest of a group of islands which lie 5 miles NE of Kap Torfaeus and 4 miles ESE of Upernagssivik, an indentation in the coast.

Koge Bugt, a large bay, is entered between Putugua, an island lying 6 miles NW of Ikermit (Ikermiit), and Ole Romer O, 5 miles NNE. The head of this bay is surrounded by lofty mountains, which are usually bare of snow, and indented by a number of inlets and coves.

Comanche Bugt (Igtip Kangertiva) (65°02'N., 40°18'W.), entered between Ole Romers O and Aqitseq, 5 miles E, is a narrow inlet. It extends 8 miles NNW and the shores are surrounded by a strip of ice-free land.

A hunting station is reported to be situated on the shore of a small cove on the E side of the inlet, 6 miles N of the E extremity of Ole Romers O. Vessels can anchor in this cove, in a depth of 46m, with a beacon, standing on the S side, bearing 106° and another beacon, standing on the N side, bearing 060°. Vessels can also anchor, in a depth of 66m, with the beacon, standing on the S side, bearing 075° and the beacon, standing on the N side, bearing 021°.

The W shore of Comanche Bugt (Igtip Kangertiva) is fringed by a number of low islets. Vessels should not attempt to navigate this inlet without local knowledge.

6.14 Graah Oer (65°09'N., 39°39'W.) is a maze of islands and islets which fringe the coast of the mainland between Ole Romer O and Dannebrogs O, 30 miles NE. They can best be seen on the chart.

Qertartip Saliaqita (65°00'N., 39°50'W.), surrounded by numerous smaller islands and islets, is the largest island in the S part of Graah Oer.

Hornemann O, an island, 350m high, lies 10 miles NNE of Saliaqita. Vessels with local knowledge may anchor, in a depth of 10m, near the head of a sheltered inlet located on the W side of this island. Vahls O, 152m high, and Vend Om, 103m high, are islands lying 2 miles E and 2.5 miles NE, respectively, of Hornemann O.

Kap Gudbrand Torlaksen (65°15'N., 39°41'W.) is the E extremity of a mainland promontory. The cape is prominent and Tornartik (Toornaartik), a mountain, rises to a height of 400m close within it.

Dannebrogs O (65°18'N., 39°34'W.), over 400m high, lies 4 miles NNE of Kap Gudbrand Torlaksen and is the largest island of the Graah Oer group. It is of irregular shape, with two projecting peninsulas on its E side; a cairn stands, at a height of 217m, on the N peninsula and an islet lies 1.25 miles SE of the S peninsula. An excellent boat harbor is reported to be located halfway along the SW side of the island.

Dannebrogs O to Amassalik

6.15 Ikertivaq (Ikerssuaq) (65°30'N., 39°38'W.) is approached between Dannebrogs O and Sunnikajik, 9.5 miles NE. This fjord extends 10 miles NW and its head is divided into several inlets by irregular promontories. Ikertivaq has been described as the most dangerous fjord in the S part of East Greenland because many large icebergs, which ground at its entrance, form a barrier and keep the calf ice, discharged from the glaciers, inside the fjord.

Sunnikajik (Sujunikajik), an island, 222m high, is fringed on the E side by numerous rocky islets.

Isertup Kangertiva (Ugssugtussoq) (65°38'N., 39°07'W.) is entered between Akiliaitseq, a promontory, and an unnamed peninsula, 3 miles ESE. This fjord extends 12 miles NNW. Igssalik, an islet 51m high, is separated from the E entrance point by Isertoq, a narrow channel encumbered by small islets and rocks.

Kitak (65°32'N., 38°45'W.), an island, 200m high, is the largest and easternmost island of an archipelago which extends 8 miles E from the E side of Igssalik and is separated from the mainland by narrow channels. Ikasartik, a channel, lies between the NW side of Kitak and the mainland. An indentation located in the NW side of Kitak is reported to provide a sheltered anchorage suitable for ocean-going vessels.

Orssuiagssuak (Orssuiagssuaq), the S island of the archipelago, lies close off the SW extremity of Kitak. It is the former site of a Loran station.

Nuukajik (65°33'N., 38°33'W.), the S extremity of a promontory, is located 4 miles E of Kitak and rises to a height of 300m. Ise, a small peninsula, is located 4 miles N of it.

Nattivit (Nagtivit Kangertivat) is entered between Ise and Ingmikerteq, an islet lying close off a mainland promontory, 1.5 miles E. This fjord curves 6 miles W and NW to Bussemandgletscher, a glacier, which slopes gradually from the head upward to the Gronland Icecap. Tasitalik, an inlet, indents the NE shore of the fjord, 2 miles within the entrance, and extends 2.25 miles N to the foot of Sulugssut, a 500m high mountain.

Isip Ilua (65°38'N., 38°18'W.), a broad bay, indents the coast between the extremity of Tungortug, a peninsula 400m high, and Kap Tycho Brahe, 6 miles ENE. Torssukatak, an inlet located in the NE corner of the bay, was reported to be ice-free and apparently suitable as a harbor for ocean-going vessels. Kap Tycho Brahe is prominent and rises to a height of 990m.

6.16 Sermilik (Egede og Rothes Fjord) is entered between Kap Tycho Brahe and Ikateq, 6 miles E. The fjord extends 45 miles NNE and has a width of 3 to 7 miles. It divides into two branches at the head.

On the W side of the fjord between Kap Tycho Brahe and the S entrance point of Johan Petersens Fjord, 10.5 miles NNE, the coastline is very irregular, steep, and mountainous.

Johan Petersen Fjord (65°52'N., 38°15'W.) extends 15 miles NW from its entrance which is 2.25 miles wide. The S side of Qeertartivatsiaq, a large island, forms the N entrance point of the fjord. Several glaciers are reported to discharge icebergs into the inner part.

Stoklunds Fjord, entered between the NW side of Qeertartivatsiaq and the mainland, extends 4 miles N between mountains. The N side of Qeertartivatsiaq is separated from the mainland by a narrow channel which connects Sermilik Fjord and Stoklunds Fjord.

Umigtuartivit (65°54'N., 38°00'W.), located 5 miles N of Johan Petersens Fjord, is the site of an abandoned Eskimo settlement which was situated on a small peninsula. Sukersit, 4.75 miles N of the settlement site, is an islet that lies in the mouth of a small bay.

Qipa (66°10'N., 37°50'W.), a point located lies 10 miles N of Sukersit, is near Igte, the site of a former Eskimo settlement.

Tasilaq, a broad bay, is entered between Qipa and Akiliaitseq, 1.5 miles NE. It contains several islets and a number of inlets indent the shore. Tasilajik, one of these inlets, extends 1 mile WNW and has been reported to afford shelter for small craft. Akiliaitseq is the S extremity of a peninsula which separates the N part of Tasilaq from the outer part of Helheimfjord

Amanga (66°14'N., 37°36'W.), an islet, 400m high, lies in mid-channel, 5 miles NE of Akiliaitseq.

Helheimfjord (66°18'N., 37°42'W.), the W branch of Sermilik, extends 15 miles WNW from the N end of Amanga. It is about 4 miles wide and a glacier discharges into the head.

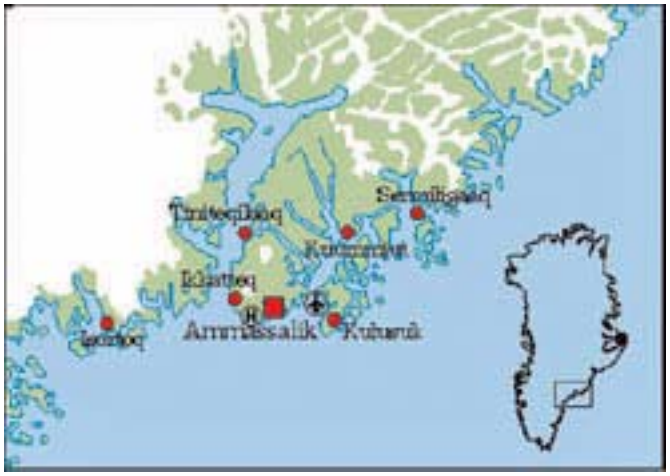
Ikateq (65°38'N., 37°57'W.), the E entrance point of Sermilik, is the largest of a number of islets which lie close off the SW end of Tasiilaq (Ammassalik). Numerous small islands and islets lie off the N end of the W side of the point.

Pupik, a point, is located 8.5 miles N of Ikateq. The coast between is scattered with numerous remains of Eskimo dwellings. Ukiverajik, an islet, lies close inshore, 1 mile S of Pupik. Sarpaq, an islet, is located 7 miles NNE of Pupik in the entrance to Ikerasagssuaq (Ikasagtivaq).

6.17 **Tiniteqilaaq** (65°54'N., 37°48'W.), a mainland peninsula, is located close N of Sarpaq and forms the N entrance point of Ikerasagssuaq (Ikasagtivaq). An Eskimo settlement is reported to lie at its S extremity. No local information on the conditions, harbor approaches, depths, or tidal data is available. Pikitse, an islet, lies 4 miles NNE of Sarpaq (65°52'N., 37°47'W.) and contains the ruins of a former Eskimo settlement. It is uncertain whether the local traffic is made through Ikerasagssuaq (Ikasagtivaq) (65°45'N., 37°35'W.) for a passage between Tiniteqilaaq and Tasiilaq (Ammassalik).

Ivnarssip Kangerdlua, an inlet, is entered 4 miles N of Pikitse. It indents the coast for 1.5 miles and is reported to be ice-free, easily accessible, and suitable as a harbor for ocean-going vessels.

Itterajik (66°04'N., 37°44'W.), a former Eskimo settlement, is



Settlements in the vicinity of Tasiilaq (Ammassalik)

situated on the N side of a bold promontory which rises steeply from the waters edge to a height of 600m. Another former settlement, also in ruins, lies 2 miles E, at the head of a small inlet.

Paornakajit (Paarnakagiit), a former settlement, is situated on a small point, 2 miles NE of Itterajik, which forms the N entrance point of an unnamed bay. This bay, which is 2 miles wide at its entrance, extends SE for 2 miles and then becomes a narrow inlet at its head. Nuk, a small projection, is located 5.5 miles NNE of Paornakajit.

Ammassalik O, a large island, is about 20 miles long, from N to S, and 16 miles wide, from E to W. The island forms the E side of the S end of Sermilik. Its N end is separated from the mainland by Tiniteqilaq and Ikerasagssuaq (Ikasagtivaq), two channels, and its deeply indented E side is bounded by Tasiilaq Fjord (Ammassalik Fjord).

6.18 From **Ikateq** (65°38'N., 37°57'W.), the coast extends 4 miles SE to Naujatalik, the extremity of a peninsula which rises to a height of 700m. Manginersiorfik, close SE of Naujatalik, is an islet which, with an unnamed islet, forms the W entrance point of an unnamed bay extending 2 miles NW between high mountains. Ikateq is fronted by a group of islets and rocks which can best be seen on the chart.

Qasigissat (65°34'N., 37°41'W.), the S extremity of Ammassalik O, forms the W entrance point of a small inlet. Ortunuviaq, 1 mile E, is the steep granite extremity of a peninsula that forms the E side of this inlet.

6.19 **Tasiilaq** (Angmagssalik) (Ammassalik) (65°36'N., 37°37'W.) is the township in Tasillaq District with the largest population on the E coast of Greenland. Ammassalik (Tasiilaq) is located on the S side of Angmagssalik Island. The open season is from the end of July to mid October. The port is closed in winter

Winds—Weather.—The strongest of all the Piteraqen (foehn) blows from NNW at hurricane strength.

Fog is mostly predominent over the storis along the outer coast. Inside the fjord and over the harbor areas, fog covers during the morning and evening.

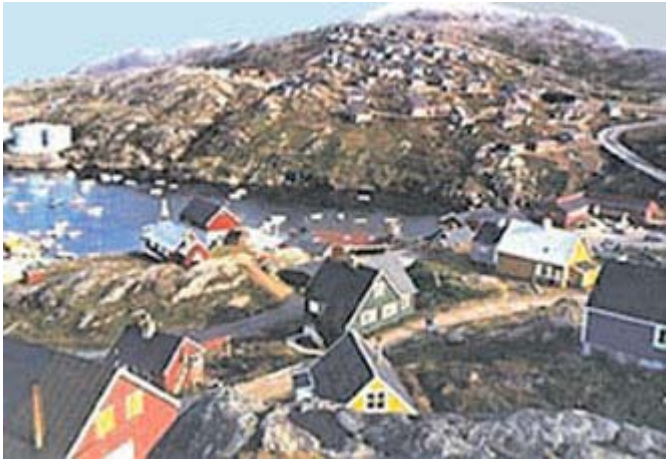
Tasiilaq (Ammassalik)

Tasiilaq (Ammassalik)

Courtesy of Tom Nyman - Fin

Tasiilaq (Ammassalik)

Tides—Currents.—There is a strong, clockwise circulating current at the entrance, 4 to 5 knots, influenced by a branch of East Greenland Current. For more information, refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.



Tasiilaq (Ammassalik)

Aspect.—A narrow inlet leads from SW side of Kong Oscar Havn to a sheltered harbor at Tasiilaq (Ammassalik), entered during daylight only.

Pilotage.—Taking a pilot is not compulsory, but is advisable. An unlicensed pilot is available; arrangements are made through the Port Operator. The vessel's ETA should be sent to port officials 24 hours prior to arrival.

Anchorage—Contact port officials for permission to anchor.

6.20 Kong Oscar Havn (65°37'N., 37°37'W.), an almost landlocked inlet, indents the S shore of Ammassalik O. It is entered through a channel, about 0.5 mile wide, and forms a harbor which can accommodate vessels of practically any size and draft. Tasiilaq (Ammassalik) stands on the SW shore of the inlet.

Ice.—Tasiilaq (Ammassalik) and Kong Oscar Havn are usually ice-free from early August to early November. During a good season, this part of the coast may be accessible as early as the beginning of June and as late as early December, but in a bad year, the area may only be accessible from early September to early November. Offshore winds often open up leads, sometimes several miles in width, but these leads quickly close up when the normal NE winds become reestablished.

Tasilap Nua (65°35'N., 37°34'W.), from which a light is shown, is the E entrance point of the harbor. Shoal patches, with depths of 5m and 6m, lie 0.75 mile SE and 0.25 mile S, respectively, of the point. Solos Pynt, a small projection, lies on the W side of the entrance 1 mile NNW of Tasilap Nua. It is fronted by a bank with depths of less than 20m, which extends up to 30m E. Elsewhere the depths in the channel are deep.

From Solos Pynt, the harbor widens and extends for 2 miles in a general NW direction to **Kap Horring** (65°38'N., 37°38'W.), the S extremity of a narrow peninsula which divides the head of the harbor into two branches. Fugleoerne, a group of islets and rocks, lies close SE of Kap Horring and partially restricts the entrances of both of these branches.

Tasiilaq (Ammassalik) stands on the shores of a small cove located 0.75 mile NW of Solos Pynt. A flagstaff and several radio masts standing near the settlement are conspicuous.

Olieoen, an islet connected to the mainland by a causeway,

lies in the entrance to the cove; the small harbor is sheltered and working cargo is easy except at low water when the inner part of the cove dries. A wharf is situated on the SE side of Olieoen; it is 30m long, with a depth of 8.7m alongside. Vessels generally berth alongside, bows NE, with two anchors down. Local knowledge is required; however, a harbor foreman is reported to act as a berthing pilot.

Anchorage.—Vessels may anchor, in a depth of 20m, rock, about 50m E of Olieoen. However, this anchorage is exposed to NE gales which occur suddenly. It has been reported that during these conditions, sheltered anchorage may be obtained at the head of the E branch of Kong Oscar Havn.

Caution.—A local downwind may occasionally be experienced during the winter months; this wind, which often reaches hurricane force, is known as the Piteraqen and is characterized by a sudden clearing of the sky. Piteraqen warning lights are shown from the settlement.

Ammassalik Fjord

6.21 Ammassalik Fjord is entered between Tasilap Nua and Kap Dan, 9 miles SE. It extends NE and N for 26 miles to the S extremity of a peninsula that divides its head into two branches. The depths in mid-channel are generally great, but a considerable number of dangerous islets and rocks have recently been reported (1985) and, therefore, local knowledge is required.

The outer part of the fjord lies between the SE coast of Ammassalik O and the S part of an extensive archipelago of islets and rocks that extends 32 miles NNE. From Ammassalik Fjord, Ikerasagssuaq (Ikasagtivaq) leads NW to Sermilik, while Ikasak and Ikateq lead NE to Sermiligaq.

The SE coast of Ammassalik O is heavily indented by numerous fjords. **Sarpakajik** (65°37'N., 37°31'W.), the outermost fjord, is entered between Tasilap Nua and Qamavik, a point located 2 miles E. It extends 3.5 miles N and the outer part is encumbered by islets.

Tasilartik (65°38'N., 37°25'W.), 2.5 miles E of Sarpakajika, is a narrow fjord that extends 2 miles N. A beacon stands near its E entrance point, close S of a former Eskimo settlement.

Nugarssik (65°38'N., 37°20'W.) is the NE entrance point of Qasigiarmiut, a bay 0.75 mile wide. Qitalivajik, the largest of a group of three islets, lies in the entrance to this bay and contains the remains of a former settlement. A prominent beacon stands on the coast 0.5 mile NE of Nugarssik.

6.22 **Nerernaq** (65°41'N., 37°18'W.), 2.5 miles N of Nugarssik, is the S entrance point of an unnamed bay and the site of a former Eskimo settlement. At the head of this bay, Sangmileq Fjord extends 3 miles W and Tasilag Fjord extends 8 miles NW. Qernertivartivit, an island, lies in the mouth of the bay. An Eskimo settlement stands at its S extremity and several islets lie close off the NE and SW coasts. Ikasagtivaq, an islet, lies 3.5 miles NE of Nerernaq at the extremity of a long and narrow peninsula. It is the N entrance point of the bay.

Ikasagtivaq Channel, entered between the islet and Qernertoq, the extremity of the peninsula, extends 15 miles NW and then 4.5 miles SW to its junction with Sermilik. The NE coast of Ammassalik O, which forms the SW side of the channel, is comparatively smooth and even, with high mountain peaks.

A dangerous submerged rock is reported to lie nearly in mid-channel, 0.5 mile off the NE shore, 2.5 miles within the SE entrance of the channel. Two above-water rocks, one in mid-channel, are reported to lie about 1.5 miles NW of this submerged rock. It was reported (1988) that another rock, with a depth of 2m, lies about 3.5 miles within the SE entrance of the channel.

Tasilartik, a fjord on the N side of Qernertoq, extends 5 miles parallel with and 1.5 miles NE of Ikasagtivaq. Rodhorn, a prominent mountain 1,050m high, stands near the head of this fjord.

Kigtajik (65°51'N., 37°05'W.), the site of a former Eskimo settlement, is the S entrance point of Ikasaulaq, a fjord which curves 14 miles NW and NNW. Maries Havn, a small bay, is located on the S shore of Ikasaulaq, 1.5 miles W of Kigtajik. A beacon stands on Griseoen, an islet that lies in the NW entrance to this bay. Ocean-going vessels can obtain sheltered anchorage between this islet and the shore, at the head of the bay. The roadstead is usually ice-free due to the outflow from a stream which flows into the head of the bay.

Sioraq (Seraq), a short fjord, indents the shore 4 miles N of the entrance to Ikasaulaq.

Qingertivaq (66°03'N., 37°12'W.), the W branch at the head of Ammassalik Fjord, extends 10 miles NNW from **Misugtoq** (Mitigtoq) (65°58'N., 37°05'W.). Cassiopefjeld, a prominent mountain 1,100m high, stands close W of a glacier that discharges into the head of this branch.

6.23 **Kap Dan** (65°31'N., 37°11'W.), the E entrance point of Ammassalik Fjord, forms the S extremity of Kulusuk, an island easily identified by the dome-like shape of its E end. A foul area, with many islets and rocks, extends SW and S from the cape. The outermost known dangers are two above-water rocks and a rocky 35m high islet, which lie 2.5 miles WSW and 3 miles SE, respectively, of Kap Dan. The W and N coasts of Kulusuk are fringed with islets and above and below-water rocks. Vessels can obtain anchorage within a large bay located on the S side of Kulusuk. An aeronautical radiobeacon is situated 1 mile N of Kap Dan.

Settlement on Kulusuk

Kap Dan Settlement stands 3.5 miles N of the cape, near the NW extremity of Kulusuk. It is reported to be one of the largest permanently-inhabited native settlements in the area. Local knowledge is required for approaching and anchoring off the settlement.

Settlement on Kulusuk

Settlement on Kulusuk

A disused airstrip, 1,520m long, is situated on the N coast of Kulusuk. It is reported to be in a poor state of repair; however, it is still capable of light aircraft operations. A racon is established on the NW coast of Kulusuk near position 65°34'N, 37°13'W.

Ikasartik (Ikerasarssik), a foul channel, separates the NE coast of Kulusuk from an unnamed island lying to the N. A beacon stands near the W extremity of this unnamed island. The channel has not been thoroughly sounded and is not recommended. Tunoq, a narrow channel, separates Kulusuk from, Auluit, a group of islands and islets lying to the NW.

Amangaq (65°46'N., 36°58'W.), a small island 300m high, lies in a 2 mile wide channel between two unnamed islands on the E side of Ammassalik Fjord.

6.24 **Kangartik** (65°49'N., 37°01'W.), the site of a former settlement, is the SW extremity of a narrow mainland peninsula and the N entrance point of Ikasak

Kuummiit (Kungmiut) (65°51'N., 37°00'W.), 2.5 miles N of Kangartik, is the site of a large Eskimo settlement. A mountain, 1,250m high, stands 3 miles N of the settlement. This peak is a grayish color that contrasts with the darker surrounding land and makes it prominent when viewed from the middle of Ammassalik Fjord. Fog often lies in Ammassalik fjord when there is extensive drift ice.

The harbor lies in the N part of the fjord, and Fiskeribro pier, 10m long, with a depth of 4m, is situated there. The largest vessel that has berthed at the pier had a length of 74m and a draft of 4.3m (vessels lie best when berthed starboard side-to). Spring tides rise 3m; neap tides rise about 2.2m.

Vessels may anchor, in a depth of 50m, S of the jetty, good holding ground.

Tasilaq, the E branch at the head of Tasiilaq Fjord (Ammassalik Fjord), is entered through a narrow channel running 1 mile NE from Misugtoq (Mitigtor). The branch extends 6 miles farther N.

Ikasak (65°51'N., 36°53'W.), a channel, is entered between Kangartik and Igdlukasak, 1 mile S. It extends NE for 6 miles to a junction with an unnamed sound, which leads to the S. A group, consisting of three islets, lies close within the SW entrance to the channel. The largest islet of the group lies about 700m NNE of a low point that projects from the S shore, marked by a beacon. Tuno, a fjord, extends 4 miles N from the unnamed sound.

Ikkatteq (65°38'N., 37°57'W.) lies between the mainland and the NW side of Qianarteq, a large island, which forms the E side of the unnamed sound. A beacon stands on the W extremity of this island. The channel is entered between Igdlerajik, the N extremity of Qianarteq, and a point on the mainland, 1.5 miles N. It extends 7 miles NE to the junction with Sermiligaq. A prominent peak, 600m high, stands on the SE side of the channel, 2.5 miles NE of Igdlerajik.

At each end of Ikateq, the mid-channel depths are great, but decrease to about 55m for 0.5 mile midway along the NW shore. A bank, with depths of less than 9m, extends 320m offshore abreast the mouth of this valley. Vessels may anchor, in a depth of about 37m, 0.25 mile S of the mouth of the valley.

Tasiilaq Fjord (Ammassalik Fjord) to Kap Wandel

6.25 Between Kap Dan and Erik den Rodes O, 27 miles NE, the coast is fronted by numerous islands, islets, and rocks.

Kitsissit Oqqorsiit (Kitsigsit), the outermost group of islets, lies 15 miles ENE of Kap Dan. A below-water rock is reported to lie about 6 miles E of this group.

Erik den Rodes O (65°47'N., 36°18'W.), 480m high, is one of the larger of a group of islands and islets which lie on the E side of the approach to Sermiligaaq (Sermilgaq). The middle of this island is almost bisected by Qissivit, a fjord, which indents the E coast and runs NW for almost 2 miles. Several islets front the E and S sides of the island. Uigertertivit, 200m high, is the SE of these islets.

Leifs O, the largest island of the group on the E approach to Sermiligaq, lies with its S extremity 1 mile W of Erik den Rodes O and Sarfaq Pynt. The N extremity lies 1 mile E of a mainland peninsula. Ikasak and Ikasak Kiateq are channels

separating, respectively, the NW and NE sides of Leifs O from the mainland. Sermiligaq Settlement, on the mainland, stands on the NW entrance point of Ikasak.

Sermiligaq (Sermiligaaq) (66°00'N., 36°28'W.), a fjord, is entered between Sermiligaq Settlement and the E side of Qianarteq. It extends 10 miles N and branches into two arms at the head. The fjord is generally full of icebergs, which discharge into the E arm from Knud Rasmussens Gletscher, a large glacier. It is reported that the fjord is only navigable by small vessels from July through September; winter ice closes navigation from October to June. Sermiligaq is usually filled with icebergs from Knud Rasmussen Gletscher. The area S of the fjord has many dangers to navigation, including widely-scattered skerries, small islands, strong S and SW currents causing severe ice screwing, unknown depths, and undeterminable safe anchorage.

Kangertivartikajik, a fjord, is entered close NW of the N extremity of Leifs O. It is about 1 mile wide and trends in a generally N direction for 4.5 miles. Nutugat (Amagat), a peninsula 880m high and 1 mile wide, extends S between this fjord and Sangmilik, a smaller fjord to the E.

A short peninsula, 1.5 miles wide, projects S between Sangmilik and Iliartakil, another fjord which extends N for 2 miles. Between Iliartakil and Kap Nordenskiold, 19 miles NE, the mainland is fronted by several islands and islets. Tikivipik, the southwesternmost of these islands, is separated from the mainland by Jerno Sund.

Bjornbugt (66°04'N., 35°55'W.) is entered between a short promontory and Kangikajik, the E extremity of a peninsula, which rises to a height of 830m, 2 miles NE. This bay extends 2 miles NW. Below-water rocks encumber its entrance and three islets lie off the S entrance point.

Depotfjord is entered between Kangikajik and Akilerut, a point 2.5 miles N. It extends WNW for 5 miles and maintains a width of about 2 miles throughout this distance. A glacier flows into a narrow and short arm at the SW corner of the head.

Ananap Kangertiva Kiateq is entered between Akilerut and the extremity of a narrow peninsula, 2 miles E. This fjord extends 6 miles NW. Depoto, an islet 300m high, lies off the E entrance point. Several smaller islets lie in the vicinity of Depoto.

6.26 Kap Nordenskiold (66°08'N., 35°36'W.) is the E extremity of a peninsula which forms the E side of Ananap Kangertiva Kiateq. Storo, an island 880m high, is located 2 miles NNE of the cape. Odesund, a narrow passage, separates Storo from the mainland and leads to Vestfjord, which extends 2 miles SW.

Kangertittivatsiaq (Kangerlugssuatsiak) (66°22'N., 35°46'W.), a long fjord, is approached between Eskimo O, a small island close N of Storo, and Kap Japetus Steenstrup, 4 miles ENE. It is entered between Nuuluk, a point on the mainland 4 miles WNW of Eskimo O, and Sarqarmiut, the W extremity of a rounded promontory 2 miles NNW. The fjord extends 17 miles NW to Glacier de France at its head. Sangmilik (Sammilik), a short fjord, indents the SW shore 3 miles within the entrance.

Kap Japetus Steenstrup (66°16'N., 35°05'W.), 880m high, is the extremity of a mountainous promontory that extends 9 miles ESE and rises to a height of 1,156m.

Mont Forel, the second highest mountain in Greenland, rises to an elevation of 3,360m about 37 miles NNW of the head of Kangertittivatsiaq. It is surrounded by numerous peaks between 2,750 and 3,050m high.

Nigertuluk (66°16'N., 35°02'W.), a fjord, is entered between Kap Japetus Steenstrup and a point, 1.5 miles NE. It extends NW for 5 miles and then N for 5 miles to a glacier at the head. Several islets lie off the N entrance point. The fjord, about 1.5 miles wide, is enclosed by mountains on either side. Two submerged rocks lie close to the E shore of the fjord, 5 miles within the entrance.

Kap Wandel to Kangerlussuaq (Kangerlussuak)

6.27 Kap Wandel (66°19'N., 34°52'W.), 880m high, is located 6.5 miles NE of Kap Japetus Steenstrup. Ailsa O, a small island 281m high, lies 1 mile SSW of the cape.

Tuttilik, a fjord, is entered W of Kap Wandel and extends 4 miles N to a square basin with steep mountains on either side. A wall of ice, 30m high, stands at the head and forms the front of an active glacier. A monument stands on the S entrance point of a short branch that extends 2 miles W from the head of the fjord. A hut stands near the head of this short branch on the site of a former expedition base. Generally, the fjord is clear of ice from July to the end of October.

Vahl Fjord, with a rocky headland on its NE side, is entered 3 miles NE of Kap Wandel. Nassippik (Nasigfik) is the SE extremity of a small mallet-shaped peninsula that rises to a height of 700m and lies on the E side of this fjord.

K.I.V. Steenstrups Sondre Brae and K.I.V. Steenstrups Nordre Brae, located 4 and 9 miles, respectively, N of Nassippik (Nasigfik), are two great glaciers which discharge into the sea. Their faces are formed by walls of ice 60 to 90m high. Two ice-free peaks, 610 and 670m high, stand on the NE side of the face of the N glacier.

Ikertivaq (Ikersuaq) (66°36'N., 34°30'W.), a fjord, is entered between the ice-free peaks, described above, and Kap Gustav Holm, 3.5 miles NE. Similaq, an islet, lies in mid-channel 1.5 miles within the entrance. Ostre Tasiisaq, a branch of Ikertivaq, extends 8 miles N on the W side of Kap Gustav Holm. Vester Tasiisaq (Tasilap Agtertikajia), a second branch, indents the W shore 6 miles within the entrance and extends 3 miles SW. It has been reported that Ostre Tasiisaq contained a harbor suitable for ocean-going vessels.

6.28 Kap Gustav Holm (66°34'N., 34°21'W.) is the S extremity of a mountainous peninsula which rises to a height of 966m and extends 7 miles NNE to Kap Buchholz. Nanertalik, an islet, is located 0.75 mile off a small projection on the coast, 4 miles NE of Kap Gustav Holm. A dangerous submerged rock lies close off its SE side.

Between Kap Buchholz and Kap S.M. Jorgensen, 8 miles NNE, the coast is irregular and indented by several short fjords.

Kap Hildebrandt (66°48'N., 33°54'W.), 3 miles NNE of Kap S.M. Jorgensen, is the SE extremity of a heavily indented island that lies close N of the NE part of Ilivtiartik. Several islands and islets lie close off the large bight which indents the N side of this island. Laubes Gletscher, a large glacier, discharges into the sea 9 miles NNW of Kap S.M. Jorgensen. Imilik, an is-

let 209m high, is separated from Kap Hildebrandt by a narrow and foul channel, 0.5 mile wide.

Kialaneq (Skraekkensbugt) is an area partly enclosed by islands. **Aaluiartik** (66°55'N., 33°52'W.), the largest island, and Lilleo, 1 mile N, partly enclose the W side of Kialaneq. Nulak, a promontory 1,100m high, projects from the mainland, 1 mile W of Lilleo, and forms the SW side of Ilivtalip Kangertiva, a small fjord. The remaining islands and islets which surround Kialaneq may best be seen on the chart.

Kap Warming (67°01'N., 33°43'W.) is the SE extremity of an island which lies 1 mile from the mainland and rises to a height of 500m. This island is the SW of a chain which lies close off the coast and extends 15 miles NE. The ice cap comes down to the coast in this vicinity and numerous glacial tongues discharge into the sea between isolated promontories. Peaks, which rise above the ice cap close within the coast, attain heights of over 1,220m.

Kap Heggeman (67°04'N., 33°27'W.) is the E extremity of Lango, a narrow island. Jakos Sund, entered between this cape and Nyo, 1.5 miles N, curves in a general NNW direction and separates Nyo from the mainland.

Kap C Christiansen (67°13'N., 33°22'W.) is the NW extremity of Milait, an island 675m high, which is separated from the mainland by Qornitsiaq, a narrow channel.

Kruuse Fjord is entered between Kap C Christiansen and Nugalik, 2 miles N. It extends 9 miles W and is almost completely surrounded by ice. Sondre Aputiteq, a small island, lies 3 miles E.

Kap Louis Ussing (67°18'N., 33°18'W.), 300m high, is the S extremity of a peninsula that forms the NE side of Agtertia, a fjord. This fjord extends 9 miles NW and its shores are largely covered by glaciers. An islet, 107m high, lies on the N side of the approach to the fjord, 0.75 mile SSE of the cape. It was reported (1932) that a reef, with a heavy ground swell over it, apparently stretches completely across the entrance to Agtertia.

6.29 **Aggas O** (67°23'N., 33°13'W.), an island, 275m high, lies 5 miles NNE of Kap Louis Ussing and 1 mile offshore. Uunartit, a chain of islets, extends nearly 7 miles NNE from the coast close W of Aggas O.

Between Uunartit and Kap Deichmann, 45 miles NNE, the coast contains numerous glaciers and is reported to always be blocked by ice.

Deception O (67°37'N., 32°54'W.), an island, 111m high, is located 9 miles NNE of the N island of the Uunartit chain and about 3 miles offshore. Islets lie close off the N extremity and W side of this island.

Ittutarajik and Paatuulaajivit (Pagtulajivit), 151m high, are islands lying 6 and 9 miles, respectively, E of the S end of Deception O. A chain of islets extends 2.5 miles E from a point located 1 mile N of Paatuulaajivit. Flado, an island 183m high, lies close offshore, 9.5 miles NE of Deception O.

Nordre Aputiteeq (67°48'N., 32°16'W.), a small island, 90m high, lies 4.5 miles E of Flado. An automatic unmanned weather station and a disused radio station stand on this island. A small quay, with a depth of 6m alongside, is reported to be situated in a bay on the SW side of the island.

Kap Edvard Holm (67°51'N., 32°11'W.) is the S extremity of a bold promontory which rises to a height of 800m and projects SE from the mainland. Keglen, an islet 139m high, lies 3 miles NE of the cape. Between this cape and Kap Deichmann, 13 miles N, the coast is indented by several short inlets.

Kap Deichmann (68°03'N., 32°02'W.) is the S extremity of a small promontory, 830m high, which forms the NE side of an unnamed bay. A small island and several islets lie close SW of the cape. A submerged rock is also reported to lie 1 mile WSW of the cape, 0.25 mile offshore.

Kangerlussuaq (Kangerlussuak)

6.30 **Kangerlussuaq** (Kangerlussuak) (68°22'N., 32°14'W.), the second-largest fjord in the SE part of Greenland, is entered between Kap Deichmann and Kap Hammer, 10 miles ENE, and extends 40 miles NNW. The outer section of Amdrup Fjord lies 10 miles NW of Kap Hammer; 5 miles farther N, Watkins Fjord is entered.

Anchorage within the fjord itself is difficult due to its great depths and strong currents; however, vessels can obtain anchorage in Uttental Sund.

Sortskaer (Black Reef) (68°06'N., 31°58'W.) lies about 4.75 miles NNE of Kap Deichmann and about 2 miles SE of Amdrup Pynt. This reef consists of two rocks, 9m high and blackish in appearance. Amdrup Pynt, 6 miles N of Kap Deichmann, is the extremity of a sharp promontory that projects 2 miles E.

Amdrup Fjord lies on the W side of Kangerlussuaq and is entered between Amdrup Pynt and Bagnaesset, a point 4 miles NW. From its entrance, the fjord trends WNW for 10 miles. A mountain peak stands at the head.

Skaegardshalvo, 5 miles NW of Kap Hammer, is a rocky peninsula that projects 1.5 miles SW. A submerged rock lies 0.25 mile SSW of its W extremity. An unnamed bay lies on the E side of this peninsula.

Kraemer O (68°12'N., 31°51'W.), a large island, is located with its SE extremity lying 6 miles NNW of Kap Hammer. It is separated from the E shore of Kangerlussuaq by Uttental Sund. A bay deeply indents the W side of this island.

Uttental Sund, a narrow passage, is entered between the W extremity of Skaegardshalvo and the SE side of Kraemer O, 1.5 miles NNW. The SE shore close within the entrance is encumbered by several islets and rocks. The N side of the entrance is reported to be clear of dangers. Depths in the fairway are reported to be 18 to 26m. Sheltered anchorage is obtainable, by vessels with local knowledge, in a depth of about 30m, close off the E shore of the sound, 2.5 miles within the S entrance.

A reef, which nearly dries, is reported to lie in the N entrance to the sound, at its junction with Watkins Fjord.

Watkins Fjord (68°15'N., 31°55'W.) is entered between the NW end of Kraemer O and Spaekpynten, a point on the NE shore of Kangerlussuaq 3 miles NNW. There are few glacier tongues running along the N shore of this fjord, which is generally filled with ice.

Courtauld Fjord indents the E shore of Kangerlussuaq 9 miles NNW of Spaekpynten; it extends 5 miles N.

Near its head, the fjord widens and forms a basin which is surrounded by high and rugged mountains. Batbjerg, a mountain, 1,660m high, stands at the root of a short promontory which projects from the head of the fjord and forms two branches. Nordfjord Gletscher flows into the head of the E branch while Kangerlussuaq Gletscher flows into the head of the W branch.

Kangerlussuaq (Kangerlussuak) to Kap Vedel

6.31 Miki Fjord (68°08'N., 31°30'W.), entered 5 miles E of Kap Hammer, extends NW for 4 miles and then, turning sharply, runs E for 4 miles. It maintains a width of about 1 mile throughout. The entrance is flanked on either side by mountains which rise almost perpendicularly from the sea.

Anchorage may be obtained, in depths of 18 to 20m, within a small cove located abreast of a conspicuous hut on the W side of the fjord; local knowledge is required. Good anchorage is also available, in depths of 24 to 40m, clay bottom, at the head of the fjord. There are no known dangers in this fjord, but ice bergs may cause considerable inconvenience at either of these anchorages.

Kap Irminger (68°05'N., 30°56'W.), located 15 miles E of Kap Hammer, is 610m high and the SE extremity of a broad and mountainous promontory. J.C. Jacobsen Fjord is separated by this promontory from Miki Fjord and extends 10 miles NW from its entrance. It has been reported that submerged rocks probably lie off the entrance to this fjord as ground swells have been experienced in the vicinity.

Kap J.C. Jacobsen (68°06'N., 30°30'W.), located 10 miles E of Kap Irminger, is the SE extremity of a broad promontory. Stomo, an islet 250m high, lies close offshore 3.5 miles W of the cape. Ryberg Fjord is entered E of the cape and has a glacier at its head.

J.A.D. Jensen Fjord is entered between an unnamed point, located 10 miles ENE of Kap J.C. Jacobsen, and the SW extremity of Sokongen O, an island 2 miles NE. This fjord has a glacier at its head and appears free of dangers.

6.32 Kap J.A.D. Jensen (68°10'N., 29°49'W.), an imposing vertical basaltic mass about 1,000m high, is the SE extremity of Sokongen O. A short and narrow channel separates the island from the mainland and connects J.A.D. Jensen Fjord with Nansen Fjord. A vessel anchored about 365m from the S end of this channel, 1 mile W of its E entrance, in a depth of 83m; however, the berth was reported to be poor. Subsequent examination disclosed a more suitable anchorage, in depths of 27 to 46m, off the NW extremity of Sokongen O, at the W entrance to the channel, 365m offshore.

Nansen Fjord, entered between Kap J.A.D. Jensen and Kap Nansen, 9 miles ENE, extends 15 miles NNW and appears to be free of dangers. Christian IV's Gletscher, a large glacier, is located at its head.

Between **Kap Nansen** (68°13'N., 29°26'W.) and Kap Ravn, 29 miles ENE, the coast consists of a succession of headlands, between which are short indentations with active glaciers at their heads.

Watkins Bjerge is a range of mountains extending far NW, with elevations ranging from about 2,100m close within the coast, to **Gunnbjorns Fjeld** (68°55'N., 29°52'W.), 3,700m high and, as far as known, the highest point in Greenland.

Kap Hartz, located 2 miles NNE of Kap Nansen, has a short, unnamed fjord on either side of it. Kap Garde, located 6 miles NE of Kap Nansen, is the extremity of a peninsula that forms the W side of Kivioq Fjord. This fjord, which extends 7.5 miles NW, is entered between Kap Garde and Kap Normann, 8.5 miles NE. Between Kap Normann and **Kap Rink** (68°22'N., 28°38'W.), 5 miles ENE, the coast is indented by an unnamed bay.

Kap Stephensen (68°25'N., 28°31'W.), 1,000m high, is located 4 miles NE of Kap Rink. It is the NE entrance point of Stephensen Fjord and the W entrance point of Ravn Fjord.

Kap Ravn (68°25'N., 28°15'W.), located 5 miles E of Kap Stephensen, is the S extremity of a promontory which separates Ravn Fjord from Wiedemann Fjord.

Wiedemann Fjord lies on the E side of the promontory that terminates in Kap Ravn. It is 3 miles wide at the entrance and extends NW for 5 miles to a glacier at the head. It is reported that a vessel obtained good anchorage, in a depth of 15m, about 0.25 mile from the E shore of the fjord, 2 miles from the glacier at the head. The berth was near the mouth of a stream, the current from which kept the ice at a distance.

Kap Johnstrup (68°28'N., 28°02'W.), 450m high, is one of the steepest and most jagged headlands on this coast. It is located 6 miles ENE of Kap Ravn and is the SE extremity of a peninsula that separates Wiedemann Fjord from Vedel Fjord. A small bay indents the coast on the W side of the cape.

Vedel Fjord extends 8 miles N from its entrance which lies between Kap Johnstrup and the S extremity of a peninsula which forms the E side of the fjord.

Kap Vedel (68°30'N., 27°38'W.), 800m high, is located 10 miles ENE of Kap Johnstrup. It is the E extremity of the peninsula that forms the E side of Vedel Fjord.

Kap Vedel To Kap Brewster

6.33 Blosseville Kyst (68°44'N., 26°20'W.) is the stretch of coast lying between Kap Vedel and Barclay Bugt, 70 miles NE. It is characterized by steep, rather narrow, and very rough basaltic promontories which separate many fjords. The Inland Ice Cap reaches down to the heads of these fjords, producing a large number of icebergs. Farther inland, high mountains can be seen projecting above the ice cap. The current off the steep promontories is very strong and a number of comparatively shoal areas exist in several places, causing the large icebergs to ground, with the result that the pack, driven by the current, accumulates around them, and at times, obstructs all navigation.

Grivel Bugt (68°32'N., 27°40'W.) is entered N of Kap Vedel. This bay has an entrance 4 miles wide and extends 5 miles WNW. Grivel Fjord extends 2 miles N from the N shore of this bay. Savary Fjord is entered between Kap Grivel, located 9.5 miles ENE of Kap Vedel, and Kap Savary, 5 miles farther ENE. It extends 4.5 miles NW.

Kap Savary (68°36'N., 27°03'W.), 730m high, is very steep. It was reported that the current off this cape is particularly strong.

Sortebrae, a moderately large glacier with a black surface, fills the coast between the cape and Kap Daussy, 5 miles ENE.

Sokongens Bugt (68°40'N., 26°40'W.), lying on the E side of Kap Daussy, is an open bay with two arms at its head. Vessels can anchor, in a depth of 16m, within the E, 0.25 mile offshore.

6.34 Kap Tupinier (68°45'N., 26°19'W.) is located 13 miles ENE of Kap Daussy. A small bay, Johan Peterson Bugt, lying on the NE side of this cape has a hot spring at its head. Storbrae, a large glacier, descends to the sea 10 miles NE of Kap Tupinier. Kap Beaupre is located 16 miles NE of Kap Tupinier. De Reste Bugt, an inlet, lies on its N side.

Kap Coster (68°58'N., 25°27'W.) is the extremity of a

promontory which rises to a height of 945m and separates de Reste Bugt from d'Aunay Bugt. The head of d'Aunay Bugt is divided into three branches. The W branch is generally full of ice bergs and the NE branch is open to the prevailing swell. The center branch, which has an islet lying in its entrance, offers excellent anchorage near its head. Vessels can anchor, in a depth of about 27m, soft mud; sheltered from all quarters. In this branch, as soon as the soundings shoal from 73 to 55m, the depths decrease very rapidly and caution is necessary when anchoring.

Kap Ryder (69°04'N., 25°07'W.), located 10 miles NE of Kap Coster, is the extremity of a promontory which lies midway between d'Aunay Bugt and Barclay Bugt. A bank, with a least depth of 40m, was reported (1932) to extend 8 miles ESE from a position 2 miles SE of this cape.

Barclay Bugt is entered between a point, located 8 miles N of Kap Ryder, and Kap Barclay, 8 miles farther ENE. This bay extends WNW for about 9 miles. Host Havn, an inlet located on the W side of the promontory terminating in Kap Barclay, is reported to afford sheltered anchorage, in depths of 13 to 20m, clay.

Kap Barclay is the NE extremity of a promontory which separates Barclay Bugt from Knighton Fjord, to the NNE. This fjord is entered between the cape and Kap Ewart, 9 miles NE, and extends 7 miles NW. Mountains surround the fjord and behind them, the Icecap is visible. An inlet extends 2 miles NNE from close NW of Kap Ewart. Its entrance is narrowed by a spit that extends from the SE shore. Vessels can obtain sheltered anchorage, in a depth of about 20m, mud, within this inlet.

6.35 Kap Dalton (69°24'N., 24°10'W.), located 7 miles NE of Kap Ewart, is a bold headland 400m high. It is connected by a low isthmus to a mountainous peninsula which consists entirely of basalt and reaches a height of 1,433m, 7 miles NW of the cape. This low isthmus forms part of the NE shore of an unnamed bay. A sulfur spring is located on the shore close NW of the cape. Anchorage is obtainable, in depths of 22 to 29m, sand and gravel, in a small bay on the N side of Kap Dalton. This anchorage is open to the NE and caution is necessary, as the depths in the bay decrease rapidly. Two lagoons lie on the S side of the bay, separated from the sea by narrow strips of land. The outermost lagoon, although mostly shallow with drying rocks, affords sheltered anchorage inside the mouth for small craft.

Unatertaqartikajip Orqungmut Kangertiva indents the coast between Kap Dalton and the S extremity of Henry Land, 9 miles NE. This fjord extends 11 miles NW. Bartholin Brae, a large glacier, lies at the head of an inlet located 4 miles within the NE entrance point of the fjord. Henry Land is a broad peninsula that rises to a height of about 1,000m.

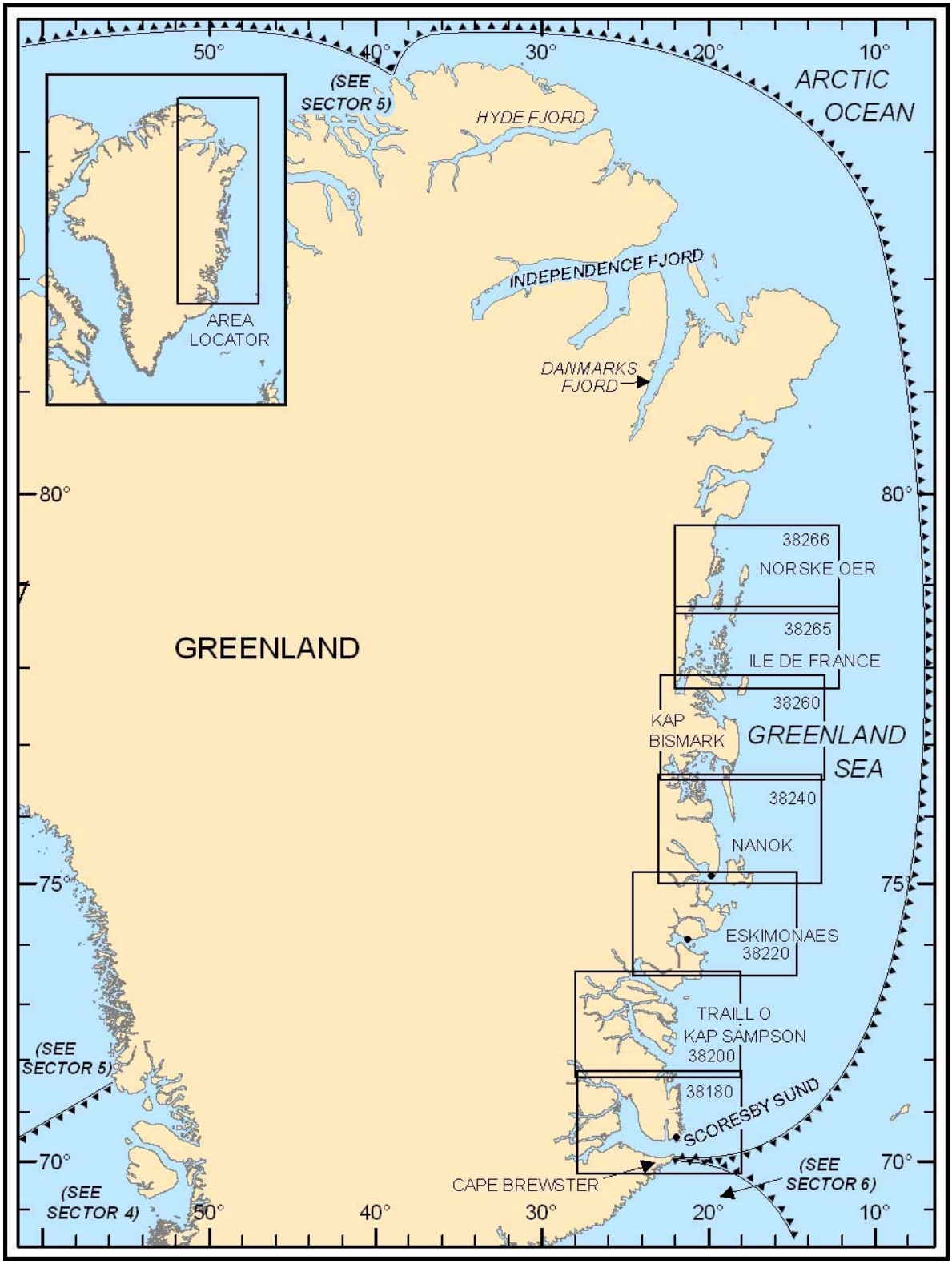
Romer Fjord (69°39'N., 23°36'W.) is entered between Akileqita, the E extremity of Henry Land, and the S end of Turner O, an island 6 miles NE. It extends 8 miles NE. Turner Sund, a narrow passage 8 miles long, separates the island from the mainland and leads to Deichmann Fjord.

Deichmann Fjord is entered between the E extremity of Turner O, and the S extremity of Manby Halvo, 5 miles NE. It extends 10 miles NW to Stenos Brae, a glacier at the head. Manby Halvo, a peninsula, extends nearly 10 miles SE from a narrow isthmus which connects it to the mainland; two islets lie close off the NE side of this peninsula.

Stewart O (69°54'N., 22°50'W.), an island 950m high, lies 5 miles N of the NE extremity of Manby Halvo. It is reported to be a good landmark and it is seen from a distance of almost 30 miles. Dunholme, an islet, lies 3 miles ENE of the island.

An uncharted island, 2m high, was reported (1990) to lie about 2 miles ESE of Dunholme.

Kap Brewster (70°09'N., 22°03'W.) is located 20 miles NE of Stewart O. It is the NE extremity of Savoia Halvo, a narrow and bold peninsula with high cliffs, and the S entrance point of Scoresby Sund. Mountains, which gradually increase in height to over 1,200m, stand within the cape.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **7** — CHART INFORMATION

SECTOR 7

GREENLAND—EAST COAST—SCORESBY SUND TO KAP MORRIS JESUP

Plan.—This sector describes the E coast of Greenland from Scoresby Sund to Kap Morris Jesup, the N extremity of Greenland. The coastline trends in a N direction to Nordostrundingen, the E extremity of Greenland, and then NW to Kap Morris Jesup.

General Remarks

7.1 The area known as Kong Christian den X Land, lying between and including Scoresby Sund and Dove Bay, is markedly different in character from the regions to the S and N. The shore line, which has a N trend for about 400 miles, is broken into one of the largest and most complex systems of fjords, bays, and connecting channels to be found anywhere in the world. On either side of this fjord region, the coastline is more regular and the ice-free land is narrower. The strip of ice-free land, which lies at the back of the coastline, attains its greatest width in the vicinity of Scoresby Sund, where, according to reports (1940), it has a breadth of more than 150 miles. This ice-free land is composed of mainly rugged mountains, but on some of the islands and peninsulas, which face the open sea, the vegetation is luxuriant and there is a profusion of game.

The fjord region is considered to be the most easily-accessible portion of the E coast because the pack ice here usually lies farther offshore than it does to the S. It has long been believed that the pack is usually more scattered between the parallels of 73°N and 75°N than elsewhere along the coast, so that a landfall by vessels approaching from the E could be made more easily in these latitudes than farther S. However, since 1924, there have been a number of years when ice conditions have permitted vessels from Europe to proceed direct to Scoresby Sund instead of having to take the longer N route.

Winds—Weather.—See paragraph 6.1.

Scoresby Sund

7.2 Scoresby Sund is entered between Kap Brewster and Kap Swainson, 17 miles NNE, and extends W and NW for about 150 miles. The outer part of the sound, which is 20 miles wide and 68 miles long, lies between the entrance and Kap Leslie, the SE extremity of Milne Land, a large island. Here the sound divides into two branches. The S branch extends 25 miles WSW and then subdivides into Gasefjord and Fohn Fjord. Hall Bredning Inlet, the N branch, extends 40 miles NNW before subdividing into O Fjord and Nordvestfjord.

The shores of the sound are generally steep and often inaccessible. The greater part of the surrounding country is mountainous, with many peaks rising to heights of over 2,000m.

Scoresby Sund

The entrance to the sound is deep, with a least depth of 117m lying close to the N shore.

Ice.—Scoresby Sund is usually accessible by mid-August. Though the sound itself remains ice-free until early October, its approaches are affected by the arrival of the Greenland Sea pack ice in mid-September. During a severe season, the entrance to the sound may remain inaccessible throughout the summer, though the sound itself is ice-free. In a good year, the entrance to the sound may be clear as early as mid-June, but the earliest clearance within the sound has been late July. The best approach to the entrance is usually directly from the E, since the width of the Greenland Sea pack ice, as it breaks up, is narrower off the entrance than it is farther S.

Tides—Currents.—There is a regular tidal current of considerable strength in the sound, but apparently only near the surface. Objects with little draft are carried along with the tidal currents, while those with a deeper draft appear not to be affected.

The currents in the sound appear to be both surface and subsurface. A number of icebergs that were observed within Cape Brewster, were, in 3 days, carried out beyond the cape by the undercurrents.

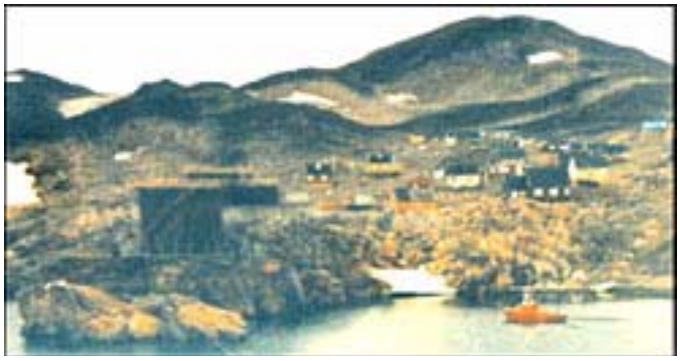
Aspect.—The S side of the outer part of the sound lies between Kap Brewster and Kap Stevenson, 60 miles WNW. It consists of a high basalt wall, with numerous small glacial tongues descending to the sea.

The outer part of the N shore of the sound lies between Kap Swainson and **Kap Hope** (70°28'N., 22°23'W.), 14 miles W. It is formed by the S side of Liverpool Land.

Hartz Vig is the E of two small indentations which are located between Kap Swainson and Kap Tobin, 4.5 miles WSW. A warm spring is located at the head of the W indentation. An Eskimo settlement is reported to be situated at Unnartoq, a point 1 mile WNW of Kap Tobin.

Ittoqqortoormiit—Scoresby Settlement (winter)

Rosenvinge Bugt (70°27'N., 22°05'W.) is entered between Unnartoq and Basaltnaes, a point 6.5 miles NW. This bay extends 5 miles NE. Amdrups Havn is a cove located 4 miles N of Unnartoq. A bank lying in the middle of the entrance to this cove has a least depth of 11m. Small craft can anchor in the cove, but the rocky holding ground makes the berth dangerous during squalls.



Ittoqqortoormiit—Scoresby Settlement

7.3 Scoresbysund (Ittoqqortoormiit) (70°29'N., 21°58'W.) is the Scoresby Settlement. It stands near the N entrance point of Amdrups Havn. The settlement contains a church, administrative buildings, and native houses.

Ittoqqortoormiit—Scoresby Settlement

The port and pilots can be contacted on VHF channel 13 or 16.

Range beacons, bearing 005°, indicate the approach to the anchorages located off the settlement. The anchorage berth for small vessels lies, in depths of 26 to 29m, 275m offshore. It is marked by the intersection of the approach alignment and the alignment, bearing 303°, of two beacons which stand close within the N entrance point of Amdrups Havn. A red house, with a prominent gable, is reported to stand close SW of the rear beacon. The anchorage berth for large vessels lies, in a depth of 29m, from 180 to 365m farther S. A small pier, suitable for boats, is situated at the settlement.

Hvalrosbugt, the inner part of Rosenvinges Bugt, affords anchorage, in a depth of 40m, good holding ground, in its NE part.

7.4 Hurry Inlet (70°37'N., 22°31'W.) is entered between Kap Hope and Kap Stewart, 4 miles W. It trends N for 25 miles; Fame Oer, a group of islets, lies near the head. A small vessel is reported to have anchored, in a depth of 24m, close E of the two small S islets. The channels lying between the other islets in the group are reported to be encumbered with rocks.

An anchorage berth, located near the head, is indicated by the intersection of the alignments, bearing 040° and 105°, of two pairs of range beacons which are situated on the E side of the inlet. Anchorage may also be obtained, in a depth of 40m, mud, with the S islet of Fame Oer bearing 056°, distant 2 miles. However, this berth is exposed as the wind nearly always blows up and down the inlet.

Jameson Land (71°00'N., 23°30'W.), an extensive tract lying between Hurry Inlet and Hall Bredning, is relatively low and undulating, with numerous short streams along its S and W coasts. It is light brown in color, differing from other coasts in the vicinity, which are rugged, mountainous, and dark brown.

Kap Hooker, the SW extremity of Jameson Land, is located 30 miles WNW of Kap Stewart. Anchorage may be obtained, in a depth of 26m, good holding ground, off the mouth of a river located 2 miles SE of the cape.

7.5 Hall Bredning, the N branch of Scoresby Sund, is entered between Kap Leslie and the W coast of Jameson Land. From Kap Leslie, the inlet extends in a NNW direction for about 40 miles to Sydkap, at its head. Charcots Havn, a bay, is located 9 miles N of Kap Leslie and affords anchorage. However, due to icebergs vessels should anchor only on the S side and within 0.5 mile of its entrance.

Bregnepynt, located 17 miles N of Kap Leslie, is the NE extremity of Milne Land. Bjorne Oer, a group of islands, lies between 5 and 16 miles N of this point and encumbers the entrance to O Fjord. Two islets, 2m high, are reported to lie about 2 miles seaward of Bjorne Oer.

Sydkap (71°17'N., 25°03'W.), the site of a former settlement, is located 24 miles NNE of Bregne Pynt. Two islands lie between 2 and 4 miles SE of the point. Nordostbugt, a wide bay, is located E of the point and forms the NE corner of Hall Bredning. Anchorage is reported to be available, in depths of 46 to 64m, between Sydkap and the islands off it. Anchorage is also reported to be available, in a depth of 58m, 550m off the site of the former settlement.

Gurreholm Station (71°15'N., 24°36'W.), a hunting station, stands on the E side of Nordostbugt, 11 miles E of Sydkap. Anchorage is obtainable, in depths of 18 to 27m, 275 to 365m offshore, W of the station.

Renland is a large promontory, the SE coast of which forms the NW side of Hall Bredning between O Fjord and Nordvestfjord. Scoresby Land is the tract of mainland located NW of Jameson Land that extends N from the inner end of Hall Bredning to Kong Oscars Fjord.

Nordvestfjord (71°30'N., 25°40'W.), entered between Sydkap and the E extremity of Renland, is an extension of Hall Bredning. It stretches 75 miles NW and is the deepest known fjord. A depth of 1,508m was reported to lie 50 miles NW of Sydkap.

North Bugt (Nordbugten) indents the N shore of Nordvestfjord about 30 miles within the entrance. During the month of October, a vessel anchored, in a depth of 80m, about 0.5 mile from the head of this bay. At the time, several icebergs were sighted outside the entrance but the bay itself was relatively clear.

Flyverfjord, located 47 miles within Nordvestford, extends 20 miles W, between Renland and Hinksland.

7.6 O Fjord (71°00'N., 26°12'W.) extends 30 miles SW from the NW part of Hall Bredning to Storo, an island, which is separated from the NW coast of Milne Land by Snesund. Rypefjord extends 15 miles NW from Storo. Harefjord leads WNW from the vicinity of Storo. Rode Fjord leads from Storo to Rode O, located off the W side of Milne Land.

The S branch of Scoresby Sund is entered between Kap Stevenson and Kap Leslie, 16 miles N. It extends 25 miles WSW to Gase Pynt, the E extremity of Gaseland, a promontory which divides the branch into Gasefjord and Fohn Fjord. Gasefjord extends nearly 50 miles WSW to a glacier at its head. Anchorage is reported to be obtainable in Mudder Bugt, on the S coast of Milne Land, 15 miles WSW of Kap Leslie.

Danmarks O, an island lying in the entrance to Fohn Fjord, is separated from the S coast of Milne Land by Ren Sund. Hekla Havn, a small bay, is located on the S side of the island. A vessel is reported to have obtained anchorage, in a depth of 38m, about 0.5 mile from the head of another small bay located 2.5 miles NE of Hekla Havn.

Scoresby Sund to Davy Sund and Kong Oscars Fjord

7.7 Liverpool Land (71°00'N., 22°00'W.) is a mallet-shaped peninsula which extends from Scoresby Sund to Kap Gladstone, 68 miles N. From Kap Swainson to Kap Gladstone, the coast presents a dark, rugged, and alpine appearance from seaward, with peaks rising steeply in precipitous cliffs. The whole interior of the peninsula seems to be covered with ice from which numerous glaciers flow. None of these reach the sea in the S part.

Kap Hodgson (70°33'N., 21°30'W.), 700m high, is located 9 miles NNE of Kap Swainson with Kap Lister, steep and easily identified, lying midway between them. Between Kap Hodgson and Kap Greg, 24 miles N, all the larger indentations have glaciers at their heads.

Raffles O, located 1.5 miles N of Kap Hodgson, is one of several islands which lie close off the coast between Kap Hodgson and Kap Greg. It has a peak jutting out into the sea and a rock, resembling a ruined castle, standing on its summit. The other main islands are, from S to N, Rathbone O, Majskaer, and Glasgow O.

Kap Hoegh (70°43'N., 21°33'W.), located 10 miles N of Kap Hodgson, is the E extremity of Sandbach Halvo, a rugged promontory. A conspicuous hunter's hut is reported to stand 1 mile W of the cape. Janus O, located 10 miles N of the cape, has warm springs on its S side. This island lies in Holloway Bugt, a small bay which indents the coast between Horsens Fjord and Kap Greg.

Kap Greg (70°57'N., 21°35'W.) is 600m high and steep. It is connected to the mainland by a narrow isthmus on which stands a hunter's hut. Randers Fjord and Mariager Fjord indent the coast 3 miles W and 4 miles NW, respectively, of the cape.

Kap Buddicom is located 7.5 miles NNW of Kap Greg. A mountain, 900m high, stands close within the cape and resembles a church.

Storefjord is entered between this cape and Kap Jones, 2 miles NNE. It extends 12 miles WSW between high mountain ranges. Depths in the fairway of this fjord are reported to be great and there are no known dangers. A bank, which is foul and should be avoided, is reported to extend 4 miles E from Kap Jones.

Kap Smith (71°15'N., 21°38'W.) is the SE extremity of an unnamed island which rises to a height of 777m. It is separated from the mainland, on the SW side, by Tvaersund and, on the NW side, by Campbell Sund.

Kap Topham is located 5 miles N of Kap Smith and forms the extremity of a narrow peninsula which separates Campbell Sund from Neild Bugt. It is a sharp point of bare rock with a peculiar stratification. Kap Hewitt is located 10 miles N of Kap Smith and a small islet lies off it.

7.8 Kap Gladstone (71°31'N., 21°53'W.), located 8 miles NNW of Kap Hewitt, is a bold headland which forms the N extremity of Liverpool Land. Two islands lie close offshore, about 3 miles ESE of the cape.

Carlsberg Fjord is entered between Kap Gladstone and Kap Wardlaw, 12 miles N. It extends 26 miles SSW and narrows to a width of 2 miles near the head. Both sides of the outer part of the fjord are much indented.

A small bank, which has a least known depth of 51m, lies in the entrance to the fjord. This bank should be avoided ,as the depths on it are very irregular and it may contain dangerous pinnacle rocks.

Depths in the fairway of the fjord are deep; the least known depth of 46m lies about 3.5 miles from its head. A rock, with a depth of 2m or less, is reported to lie about 2.5 miles from the head.

During early September, a vessel anchored, in a depth of 55m, soft mud, off the delta of a river located on the W shore of the fjord. At this time, the fjord was clear of ice, except for a few small growlers.

Canning Land (71°40'N., 22°12'W.), an indented peninsula, separates the outer part of Carlsberg Fjord from Nathorst Fjord. Kap Wardlaw is its NE extremity. Two submerged rocks, reported to be dangerous, lie about 1.5 miles N and 2.5 miles NNE of the N extremity of this peninsula. A rock, with a depth of 15m, lies about 3 miles NNE of the same point. The area lying between these rocks and the coast is reported to be foul.

Nathorst Fjord (71°41'N., 22°30'W.) is entered between the N extremity of Canning Land and Kap Brown, 4 miles NW. The fjord extends 14 miles SSW and its entrance is encumbered by foul ground. Depot O, a small and flat island, lies in the inner part. A hunting hut stands close within each entrance point; a third hut stands on the E shore opposite Depot O. Kap Brown, 930m high, is a prominent reddish-brown headland.

Fleming Fjord is entered between Kap Brown and Kap Biot, 7 miles NNW. Its entrance is easily recognized by these two bold headlands. The fjord extends 17 miles SW and generally has deep depths in the fairway until near its head. A rock, with a depth of 7m, is reported to lie about 1 mile SE of Kap Biot. In several places on both sides of the fjord, the mountains rise very steeply and terminate in sharp peaks. During the month of August, anchorage was obtained by a vessel, in a depth of 58m, in a bay located 5 miles SW of Kap Biot. A vessel also anchored, in a depth of 75m, off the SE shore of the fjord, 9 miles within the entrance. At this time, the fjord was ice-free; however, during most years, it is reported to be filled with ice.

Davy Sund

7.9 **Davy Sund** (72°00'N., 22°00'W.), a large channel, is entered between Kap Biot and Kap Simpson, 14 miles NNE. It extends 12 miles NW and then becomes Kong Oscars Fjord. The tidal currents in the channel are reported to be of considerable strength.

Antarctics Havn, a bay on the S side of Davy Sund, is entered 12 miles NW of Kap Biot. No dangers are known to exist in this bay, but a shoal extends about 140m NW from its SE entrance point. The bay extends 3 miles SW to drying flats at its head. Karlsbak, a hunting station, stands at its S corner. Vessels can anchor, in a depth of 55m, good holding ground, near the head of the bay, with the NW entrance point bearing 005°.

Kap Simpson (72°07'N., 22°15'W.) is the SE extremity of Traill O, the SW coast of which forms the NE side of Davy Sund. The cape is formed by Vandyke Klipper, a stupendous cliff, which rises directly from the sea at an angle of 50° or upwards, to a height of 729m. This cliff is predominantly blue-gray and intersected by irregular strata of bright yellow and red.

Drommebucten (Drommebugten), a small inlet, is located on the N side of the channel, 8 miles WNW of Kap Simpson. The shore between is steep, with mountains which rise to heights of 1,020m.

Kong Oscars Fjord

7.10 Kong Oscars Fjord is entered between Antarctics Haven and Drommebugten.

Mesters Vig (72°08'N., 23°44'W.), a small cove, is located 13 miles NW of Antarctics Havn. It is unexamined but apparently shoals. Archers Oer, two small and low islands, are located close offshore, 2 miles N of the entrance to the cove. A channel, with a depth of 4m, lies between the W island and the mainland. A vessel is reported to have obtained anchorage, in a depth of 47m, off the entrance to Mesters Vig, close S of Archers Oer.

Nyhavn (72°16'N., 23°53'W.), a bay 2 miles wide at its entrance, is located 5 miles NW of Archers Oer. A beacon stands on the SE entrance point and four pairs of anchorage beacons stand on the W shore of the bay. An airfield is reported to be situated 1 mile S of the bay. Nyhavn was a former shipping port for a lead mine situated 8 miles inland. It is no longer used.

Ran Oer consists of two small islets which lie 5.5 and 7.5 miles NW of Archers Oer; a beacon stands on the SE and larger islet.

Menanders Oer, a chain of islets, extends 3 miles NNW from a small projection located 12 miles NW of Archers Oer. Vessels can anchor, in a depth of 35m, close SW of this projection; the berth is reported to be indicated by a pair of beacons.

Kap Petersons is located 6.5 miles from the NW extremity of Menanders Oer. Several islets lie close N and SE of this cape; a hunter's hut stands on the coast 1 mile SE of it.

Haslums Oer (72°28'N., 24°05'W.), a group of islands and rocks, lies close off a low projection on the NE side of the fjord, 31 miles NW of Drommebugten.

Holms Bugt, a small bay, is entered between Haslums Oer and Palisaderne, a low irregular-shaped peninsula, 3.5 miles N. A small islet lies close off the S end of this peninsula. Hawleys Rock, a submerged rock lying on a shoal, is located 3.25 miles NW of Haslums Oer. A rock, awash, and a small islet lie 1 mile SSW and 0.75 mile N, respectively, of Hawleys Rock. Caution is necessary in this area due to the possibility of pinnacles. Beacons stand at the head of Holms Bugt and in line, bearing about 083°, lead between Hawleys Rock and the rock, awash, SSW of it. Vessels can anchor, in a depth of 46m, about 0.75 mile offshore.

Segelsallskapets Fjord (72°26'N., 25°00'W.) is entered between Kap Petersons and Kap Lagerberg, 6 miles N. Its entrance is encumbered by a chain of islands and rocks which extends 5 miles NE from an unnamed point located 4 miles W of Kap Petersons. Beacons stand on some of these islands.

The fjord extends 12 miles SW to **Kap Maechel** (72°23'N., 25°16'W.), the NE extremity of Nathorst Land. It then divides into Alpe Fjord, which extends 20 miles SSW, and Forsblads Fjord, which extends 20 miles W. Inland of Kap Maechel, the land rises steeply to heights of over 2,000m. Arwidssons O, an island, lies close off Kap Maechel. It has been reported that vessels can anchor in the channel between the island and the cape.

7.11 Hammers O, an island 60m high, is located 1 mile NNE of Kap Lagerberg. Kap Dufva is located 8 miles N of Hammers O. Between Kap Dufva and Kap Alfred, 14 miles NW, the coast forms the SW side of Narhvalsund, the channel

which passes between Lyells Land and Ella O and leads to Kempes Fjord.

The E side of the inner part of Kong Oscars Fjord is bold, steep, and without prominent features or projections. The W and NW extremities of Traill O are each marked by a beacon.

Ella O (72°51'N., 25°00'W.), an island 1,360m high, is triangular in shape and mountainous. From Kap Harry, the SE extremity of the island, the S coast extends 10 miles NW in a steep, almost vertical line of cliff, 760 to 1,040m high, with the skyline being unbroken by glaciers or peaks.

Winter ice normally closes navigation from October to June. Fog often lies off the station when there is much drift ice in the fjord and sound.

Solitaerbugt, a bay on the NW side of Ella O, is sheltered from all except N winds. A scientific station, consisting of a large red building and two smaller buildings, stands on the shore of a cove at the head of the bay. The W entrance point of the cove is foul for 90m offshore, but elsewhere in the bay the depths are deep. Range beacons, in line bearing 178°, lead to an anchorage; the berth lies in a depth of 55m, 185m offshore. Vessels may also anchor slightly E of the range line, in a depth of 44m. Small craft can anchor, in depths of 5.5 to 7m, within the cove.

Maria O (72°57'N., 24°54'W.), an island, 269m high, is located 2 miles N of Ella O. Submerged rocks have been reported to lie within 0.5 mile of this island.

Shoal depths of 6m and 12m lie, in the fairway of the main fjord, 0.5 mile E and 1 mile NE, respectively, of the E extremity of Maria O. Ruths O, an island 530m high, is located 1.5 miles N of Maria O.

Kempes Fjord is entered NW of the W extremity of Ella O. It trends SW for about 15 miles to **Kap Hedlund** (72°44'N., 26°12'W.). The fjord then divides into three branches. Dicksons Fjord, the N branch, extends 20 miles WNW to Hisingers Gletscher at its head. Rohss Fjord, the W branch, extends 15 miles WSW to a sloping valley at its head. Rhedins Fjord, the S branch, extends 10 miles SSW to Wahlenbergs Gletscher at its head.

Antarctics Sund (73°06'N., 25°23'W.), entered N of Ruth O, extends 20 miles WNW between the NE coast of Suess Land and the SW coast of Ymers O. It connects the head of Kong Oscars Fjord with Kejser Franz Josephs Fjord.

Karl Jacobsens Bugt lies 3 miles NNE of Ruth O on the Ymer O coast. A reef, 3 miles N of Ruth O, extends 0.5 mile offshore and is steep-to on its SW side. In rough weather, it is reported that the sea breaks on the reef. A dangerous rock lies in mid-channel about 2 miles NW of the reef.

Davy Sund and Kong Oscars Fjord to Kejser Franz Joseph Fjord

7.12 Kap Moorsom (72°10'N., 22°07'W.) is located 4 miles NE of the N entrance point of Davy Sund. It is a short promontory formed by a sharp ridge which juts out from the NE end of Vandyke Klipper. An unnamed bay indents the coast between this cape and Kap Young, 6 miles N. Rock O, an island 80m high, lies close E of Kap Young and should be given a wide berth because of shoal water around it.

Mountnorris Fjord is entered between Kap Young and Kap Parry, 8 miles N. This fjord extends 16 miles NW to low land at its head, through which several rivers flow.

Vega Sund (72°37'N., 22°28'W.) is a narrow passage which separates Traill O and Geographical Society O. It is entered between an unnamed point, located 7 miles N of Kap Parry, and Kap MacClintock, 18 miles N. The passage extends 50 miles NW and W to its junction with Kong Oscars Fjord, opposite the N end of Ella O. Franklins O, an island 70m high, lies 5 miles SE of Kap MacClintock.

Kap Palander, marked by a beacon, projects from the S shore of Vega Sund 8 miles NW of its S entrance point. Nordenskiolds O, located 1 mile N of the cape, is the largest of a group of islands which lie close off the S coast of Geographical Society O; its S extremity is marked by a beacon.

Kap Hovgard (72°42'N., 22°36'W.) projects from the N shore of the passage, 12 miles W of Kap MacClintock. Malia Havn, entered W of the cape, affords sheltered anchorage for small vessels.

To the W of Kap Hovgard, the passage narrows considerably and is encumbered for 8 miles to the NW by Scott Kelties Oer, a group of islets, shoals, and rocks. Several drying patches lie between the N islet of this group and the N shore of Vega Sund. The fairway between the largest island of the group and the coast of Traill O, to the S, is indicated by two pairs of range beacons; the least depth on or near the range lines is reported to be 9m.

To the W of Scott Kelties Oer, no known dangers have been reported within Vega Sund. Osternaes, a point on the S side of the passage, is located 4 miles W of the NW islet of the group and is marked by a beacon.

Vessels, entering the passage from Kong Oscars Fjord, can anchor, in a depth of 46m, with a hunting station (Sverresborg), which stands on the shore close N of the NW islet of Scott Kelties Oer, bearing 074°, distant 0.5 mile.

7.13 Kap Mackenzie (72°55'N., 21°55'W.), formed by a basalt cliff 150m high, is the NE extremity of Geographical Society O. Except for Kap Mackenzie, the E coast of the island is low and rises gradually to a range about 10 miles inland. Cambridge Bugt, a bay located at about the middle of this section of coast, has a group of islets lying in its entrance. A rock, with a depth of 2m, lies about 4 miles SE of Kap Mackenzie. A shoal, with a depth of 46m, was reported (1976) to lie about 14 miles ENE of the same cape.

Sofia Sund is approached between Kap Mackenzie and Kap Wijkander, the E extremity of Ymers O, 23 miles NW.

La Place Oer, a group of islets and rocks, lies between 6 and 11 miles NW of Kap Mackenzie, on the S side of the approach. Several small islets and rocks lie off the coast between La Place Oer and Kap Mackenzie.

Brochs Oer, a group of islands and islets, lies in the approach 9 miles NW of La Place Oer. Borgoen, the largest island of this group, is located 5.5 miles SE of Kap Wijkander. A rock, awash, and a flat islet lie 2 miles and 3.75 miles, respectively, SE of Kap Wijkander.

Caution is necessary in the approaches to Sofia Sund as uncharted dangers may exist.

Robertsons O, an island 158m high, lies close off the N coast of Geographical Society O, 6.5 miles SSW of Kap Wijkander. A beacon stands on its N end.

Sofia Sund is entered from the E between Kap Humboldt, lo-

cated 5 miles SW of Kap Wijkander, and the N end of Robertsons O. The entrance channel is narrow and deep with tidal currents which attain rates of up to 3 knots. The sound extends 28 miles WSW, between Geographical Society O and Ymers O, to its junction with Kong Oscars Fjord. The depths in its fairway are reported to be deep, with no known dangers.

Vessels may obtain anchorage close NE of Kap Humboldt, in a depth of 58m, with a hunting station standing 0.5 mile N of the cape bearing 313°, distant about 0.3 mile. When approaching the berth, vessels should keep in depths of more than 27m as a crescent-shaped reef fringes the shore abreast the hunting station.

It was reported (1941) that a vessel anchored during September, in a depth of 55m, sand, 1.5 miles W of Robertsons O, 0.5 mile off the S shore of the sound. At this time, several ice bergs, both grounded and floating, were observed near Robertsons O.

Ymers O (73°10'N., 24°30'W.) is a large mountainous island lying on the N side of Sofia Sund. It is almost cut into two parts by Dusens Fjord. The E part of the island is barren. However, the W end, particularly around Noa So, a lake located in the valley between the head of Dusens Fjord and the W coast, is rich in vegetation and animal life. The N part of the island, which is only about half the size of the S part, is called Gunnar Andersson Land.

Dusens Fjord is entered between Kap Wijkander and Kap Grah (Graah), the E extremity of Gunnar Andersson Land, 8 miles NW. It extends 35 miles W to within 5 miles of the W coast of the island. Vinteroer, a group of islands, lies in the entrance to the fjord. A channel, 1.5 miles wide, leads between Kap Grah and the largest island of the group and has depths of 20 to 24m. The fjord narrows about 5 miles from its head and navigation farther W is restricted to boats.

It is reported that anchorage can be obtained about 5 miles from the head of the fjord, close E of the point at which it narrows. Within the islands of the Vinteroer group, the holding ground is good and the shelter is reported to make excellent winter quarters, as the depths are sufficiently shoal to prevent icebergs from drifting in.

Kejser Franz Joseph Fjord

7.14 Kejser Franz Joseph Fjord is entered between Kap Grah and Kap Franklin, 16 miles E. This great fjord has a total length of almost 100 miles. It first trends WNW between the N coasts of Ymers O and the SW coasts of Gauss Halvo. Two branches, Nordfjord and Geologfjord, extend from the N side of the fjord, 30 miles within the entrance. Nordfjord extends N between Gauss Halvo and Strindberg Land and Geologfjord extends NNW between Strindberg Land and Andres Land. Antarctics Sund branches ESE from the fjord about 60 miles from its entrance and, about 8 miles farther W, Isfjord branches WNW. Finally, Kjerulfs Fjord branches S about 5 miles from the head of the main fjord.

From Kap Grah to Kap Petersens, 38 miles WNW, the S side of the fjord is steep and even with few indentations and no known dangers. Kap Petersens, the NW extremity of Ymers O, is comparatively low. A prominent red mountain, with a light stripe extending diagonally across its face, stands close S of the cape.

Blomsternbugten, a wide bay, is located between Kap Petersens and a point on the W coast of Ymers O, 6 miles SW. A hunting hut stands on the shore at the head of this bay. Vessels may anchor, in a depth of 60m, large broken stones, about 300m offshore, close S of the hunting hut. Vessels should approach the anchorage slowly on an E course, steering for a rectangle mark painted on the shore, as the depths decrease rapidly to 9m at about 45m from the shore.

Between Kap Franklin and the E entrance point of Nordfjord, 36 miles WNW, the N coast of Kejser Franz Joseph Fjord is formed by the SW coast of Gauss Halvo. Margrethedal, a prominent valley, extends NE from the coast 10 miles WNW of Kap Franklin. A river, which flows through this valley, enters the fjord through a small delta. A prominent hunting hut stands close W of this delta. Vessels can anchor, in a depth of 22m, mud and sand, 555m offshore, SW of the hut. Vessels should approach this anchorage with caution until the soundings indicate that the delta bank off the river has been reached.

Nordfjord (73°40'N., 24°17'W.) extends 14 miles N to Walter Hausen (Waltershausen) Gletscher at its head. A river enters the fjord 10 miles N of the entrance and depths of 18 to 27m are reported to lie close offshore near its mouth. A bank, with a least depth of 49m, lies in the entrance to the fjord and caution is required in this area as the depths are very irregular.

Moskusokse Fjord, an arm, is entered from Nordfjord at the E side of the head. It extends E, SE, and NE for a total distance of 35 miles between Gauss Halvo and Hudson Land. Mountains, up to 1,220m high, stand on each side of the entrance. Anchorage may be obtained close off the N shore of this fjord, about 7 miles within the entrance, and also 5 miles from its head.

Geologfjord (73°35'N., 24°40'W.) extends 34 miles NNW to Nunatak Gletsscher at its head. It passes between mountains which rise to heights of over 2,100m and show a variety of superbly-colored strata. Bjorne O, a small island, lies in the middle of this fjord, 3 miles within the entrance.

7.15 Andres Land (73°30'N., 26°00'W.), an extensive mountainous district, forms the N side of Kejser Franz Joseph Fjord between the entrance to Geologfjord and Kap Lapparent, 32 miles SW. The mountains consist of bright and multicolored strata; they are reported to be among the most exquisitely tinted in the entire fjord region.

Elenoras Bugt indents the NW side of Kejser Franz Joseph Fjord between 8 and 15 miles SW of the entrance to Geologfjord. It is reported that vessels can anchor close S of the mouth of a river that flows through a valley at the head of this bay.

Teufelsschloss (Djoevelslot), located 1.5 miles S of the S entrance point of Elenoras Bugt, is a striking formation that rises to a height of 1,520m. It is reported to be a colossal cubic rock with the towers and terraces resembling a ruined castle.

Isfjord (73°22'N., 27°00'W.) is entered between Kap Lapparent and the E extremity of Frenkels Land, 4 miles W. This fjord extends 24 miles NW to where Gerard de Geer Gletscher and Jaette Gletscher flow into its head. It is believed that most of the large icebergs in the main fjord come from these two glaciers.

Renbugten, an inlet, is located on the E side of Isfjord, 7.5 miles within the entrance. The cliffs rise steeply from the sea, on both sides of its entrance, to heights of 900m. It has been re-

ported that vessels anchored, in a depth of 37m, near the head of this inlet and, in a depth of 91m, 230m from the head.

Kejser Franz Joseph Fjord continues 24 miles W from the entrance to Isfjord and continues to the foot of Nordenskiold Gletscher.

Kjerulf Fjord (73°00'N., 27°23'W.) branches off the main fjord a short distance from the foot of Nordenskiolds Gletscher. It extends 11 miles SSW and terminates in mudflats. This fjord has been described as a veritable graveyard for icebergs which did not originate here but were driven in from Isfjord by wind or tide.

Kejser Franz Joseph Fjord to Gael Hamkes Bugt

7.16 Kap Franklin, located 21 miles NNW of Kap Mackenzie, is the SE extremity of Gauss Halvo and the N entrance point of Kejser Franz Joseph Fjord. Between this cape and Kap Bennet, 14 miles NE, shoal waters and reefs are reported to front the mouths of the many rivers which discharge along this stretch.

Bontekoe O (73°07'N., 21°20'W.), an island, 353m high, lies 15 miles ESE of Kap Franklin. An isolated shoal patch, with a depth of 12m, was reported (1954) to lie about 6 miles W of this island.

Mackenzie Bugt (73°26'N., 21°30'W.) is entered between Kap Bennet and the coast 6 miles NE. Depths of 12 to 55m lie in the bay, but the NW part is shoal. A submerged rock lies about 1.25 miles off the W side of the bay, midway between Kap Bennet and the head. Vessels can anchor, in depths of 20 to 37m, between 1 and 2 miles from the head and 0.5 mile off the NE shore. Ice conditions in the bay are controlled by the winds and tides.

Hold With Hope (73°35'N., 21°00'W.) is the name applied to a tract of land which lies between Foster Bugt and Gael Hamkes Bugt, 30 miles farther N. High hills, very prominent from offshore, form its SE side and large stretches of low land lie to the N and W of its SE end. Several hunting huts stand along the shore.

Kap Broer Ruys is located 6 miles NE of the S end of Hold With Hope and 22 miles NE of Kap Bennet. A group of mountains stands close within it. A long and narrow stretch of stony shore, which interrupts the coastal cliffs, is located SW of the cape.

Between the cape and Arundel O, 15 miles NNE, the coast recedes and the depths are comparatively shoal.

Holland O, a small island, lies 4 miles N of Kap Broer Ruys and 1.5 miles offshore. A submerged rock lies 1.75 miles N of the W extremity of the island. Depths of less than 5.5m are reported to lie between the island and the mainland. A shoal patch, with a least depth of 11m, lies 2.25 miles ENE of the island. Temporary anchorage was taken by a vessel, in a depth of 44m, close SE of this patch.

7.17 **Knudshoved** (73°43'N., 20°27'W.), a small tongue of land, is located 7 miles NNW of Holland O and forms the SW entrance to Carlshavn. A rock, with a depth of 4m, and an above-water rock, Irene O (Utburden), lie 1.75 miles and 4 miles, respectively, SE of the tongue.

Carlshavn, a small bay, is entered between Knudshoved and Kap Kraus, 4 miles NE. Several submerged rocks lie in its entrance and the inner part of the bay is very shoal.

Arundel O, a small and rocky island, lies 3.75 miles ESE of Kap Kraus. A rock, with a least depth of 10m, was reported (1977) to lie about 2 miles ESE of this island.

Home Forland (73°50'N., 20°30'W.) is a promontory which forms the NE part of Hold With Hope. Its E side extends from Kap Kraus to Kap James, 6 miles N. When seen from the NE, the promontory can be distinguished by two remarkable hummocks at its extremities. A hunting hut stands close N of Kap James.

Jackson O, an island, 283m high, lies 2 miles NE of Kap James. It has steep cliffs and slopes on the NE side with depths of 3.6m close inshore.

Gael Hamkes Bugt

7.18 **Gael Hamkes Bugt** (74°00'N., 20°00'W.), a large bay, is entered between Kap James and Kap Borlase Warren, 28 miles NE. It extends over 40 miles NW; its greater part is occupied by Clavering O. The bay is deep, with few obstructions to navigation.

Clavering O (74°15'N., 21°05'W.) is one of the best known and most frequently-visited places on the E coast of Greenland. From a distance, the island appears to consist of rugged mountain masses which fall abruptly to the sea on all sides. However, along much of the coast, there is a narrow strip of low land on which vegetation is abundant.

Finsch Oer, a group of islands, lies in the W part of Gael Hamkes Bugt between 13 and 17 miles NNW of Kap James. Store Finsch, 376m high, is the largest island of the group. It is indented by Hirdhavn, a small bay, on the N side. The entrance to this bay is encumbered by submerged rocks. A 5.5m shoal patch is reported to lie about 3.75 miles E of Store Finsch.

Submerged rocks are reported to lie in the passages between the other islands in the group; however, the depths in the passage lying between Store Finsch and Clavering O are deep.

Kap Borlase Warren (74°16'N., 19°23'W.), the N entrance point of Gael Hamkes Bugt, consists of a sharp projecting group of rocks. It is also the SE extremity of Wollaston Forland, an extensive peninsula. Anchorage is reported to be obtainable 0.4 mile offshore, 1 mile SW of the cape.

Herschell Bjerg, a mountain 683m high, stands 5 miles W of the cape and a main hunting station stands on the S extremity of Wollaston Forland.

Kap Breusing, the E extremity of Clavering O, is located 12 miles WSW of Kap Borlase Warren. Kap Mary, the SE extremity of Clavering O, is located 2 miles S of Kap Breusing and rises to a height of 563m, 1 mile inland. Dahls Skaer, a rocky islet 67m high, lies close offshore, 2 miles WSW of Kap Mary.

Dodemandsbugten (74°07'N., 20°52'W.), a slight indentation in the S side of Clavering O, is located 12 miles WSW of Kap Mary. A river valley, located at the head of this indentation, is rich in vegetation and stands out against the bare surrounding countryside. A hunting station stands 0.5 mile E of the river mouth. Anchorage may be obtained, in a depth of 37m, 0.5 mile from the head of the indentation.

7.19 **Eskimonaes** (Eskimonaesset) (74°05'N., 21°17'W.), the S extremity of Clavering O, is located 7 miles WSW of Dodemandsbugten. A dangerous submerged rock lies close S of the point.

Osthavn, on the E side of Eskimonaes, affords anchorage, in depths of 38 to 51m. The berth lies on the alignment, bearing 049°, of two white circles, which are painted on rocks at the NE entrance point, and 275m from the front mark. A boat landing is located at the NW corner of the harbor near the former site of a scientific station.

Vesthavn, on the W side of Eskimonaes, also affords anchorage, in a depth of 46m, 0.25 mile from its head. Range beacons, in line bearing 040°, indicate the berth. A boat landing is located at the E side of the head.

Eskimonaes settlement and a scientific station, with a flagstaff and radio masts, were formerly situated at the NW end of Osthavn.

Godthab Golf (74°06'N., 22°00'W.) is that part of Gael Hamkes Bugt which lies on the SW side of Clavering O, inside of Finsch Oer. The gulf is entered between Kap Stosch and Stromtangen, 6 miles NNE. From its entrance, 5 miles wide, just W of Finsch Oer, Godthab Golf widens to about 12 miles at its head.

Kap Stosch (74°04'N., 21°43'W.) is the NW extremity of Hold With Hope, which forms the S side of the gulf as far as Loch Fyne. A submerged rock lies close off the W side of this point.

Loch Fyne is entered between a point, located 5 miles SW of Kap Stosch, and Stromtangen, 2 miles farther W. It extends 22 miles SSE, between Hold With Hope and Hudson Land, to within 5 miles of the head of Moskusokse Fjord. Loch Fyne narrows to a width of 0.25 mile for a short distance, 6 miles within the entrance. The tidal currents in the narrows were reported to be quite strong.

Vessels can anchor, in depths of 9 to 15m, 3 miles SSE of Stromtangen and, in depths of 7 to 9m, 1.5 miles farther S.

7.20 Wordies Bugt (74°01'N., 22°15'W.) is entered between Stromtangen and Kap Ruth, 6 miles NW. The great Wordies Gletscher flows into the head of the bay; several mountains (nunataks) rise above it. Kap Ruth is the SE extremity of Jordanhill, a wide promontory which rises to a height of 1,410m.

Hansen Havn, located on the N side of Jordanhill, is entered between Kap Eva, 10 miles NNW of Stromtangen, and Kap Adam, 1 mile farther NW. Depths of 4m lie 0.75 mile E and 0.75 mile W of Kap Eva. The inlet extends 2 miles W and narrows to a width of 0.25 mile near the head where there is a depth of 14m.

Copelands Fjord (74°16'N., 22°02'W.), a narrow extension of Godthab Golf, is entered 4 miles NE of Kap Adam and extends 8 miles NNE. Kap Oetker, the W extremity of Clavering O, is located 1.5 miles within the entrance.

Granta Fjord is entered 5.5 miles within the entrance to Copelands Fjord and extends 7 miles W. A shoal, with a least depth of 2m, extends 0.75 mile N from its S entrance point and almost to the N shore of Granta Fjord. Within the entrance, there are depths of 33 to 84m.

Young Sund is entered between **Kap Breusing** (74°13'N., 20°06'W.) and the SW coast of Wollaston Forland, 4.5 miles NE. The sound extends 17 miles NNW, between Wollaston Forland and Clavering O, to its junction with Tyrolerfjord. Clavering Bugt, a wide bay, indents the coast between Kap Breusing and a point located 9 miles NNW. Basalt O, a small island 80m high, lies close off the N part of this bay.

Kap Berghaus, the SW extremity of Wollaston Forland, lies 4 miles N of Kap Breusing. A hunting hut stands on the cape.

Sandoen (74°15'N., 20°09'W.), an islet, is located 1 mile S of Kap Berghaus. It is completely covered with sand and gravel and is so low that drift ice piles up on it during winter storms. Depths of about 6m lie in the channel between the islet and Kap Berghaus. Vessels are advised to pass well S of this islet, as depths in its vicinity are very irregular.

7.21 Sandodden (Daneborg) (74°18'N., 20°13'W.), a hunting settlement and radio station, is situated 2 miles NW of Kap Berghaus. Anchorage is obtainable, in a depth of 18m, sand, good holding ground, 365m offshore. Ring bolts are available on the shore for securing sternlines. The settlement can be contacted by VHF. There are no pilots, but persons with local knowledge are available. Vessels up to 90m in length and 7m draft have used the anchorage.

Sandodden

Tide rises about 1.3m at springs and 0.9m at neaps. The dark period lasts from 3 November to 9 February; the midnight sun period lasts from 24 April to 18 August.

Zackenburg Bugt, a bay, is located 14 miles NW of Kap Berghaus. A hunting hut stands on its E side. A mudbank, the outer edge of which is steep-to, extends 0.5 mile from the mouth of a river lying at the head of the bay. Anchorage is obtainable, in a depth of 16m, 1 mile SW of the hunting hut, between 300 and 365m offshore. Caution is necessary when approaching the anchorage.

Tyrolerfjord (74°28'N., 21°11'W.) extends W from Young Sund for a distance of 16 miles. It passes between A. P. Olsens Land and Clavering O to **Kap Ehrenberg** (74°26'N., 21°46'W.). The fjord then turns NW for 12 miles and passes between A. P. Olsens Land and Payers Land to a river that drains Pasterze Gletscher. Rudis Bugt, wider than the fjord, branches S for about 4.5 miles to the N end of Revet.

Gael Hamkes Bugt to Hochstetterbugten

7.22 Between Kap Borlase Warren and Kap Berlin, 27 miles N, the coast is formed by the E side of Wollaston Forland, an extensive peninsula. The SE part of this peninsula is rugged and mountainous; its N part is still rugged, but much lower. Several hunting huts are reported to stand along this stretch of coast.

Pendulum Oer (74°37'N., 18°39'W.) lies close NE of Wollaston Forland and is separated from it by Claveringstraedt. It

consists of Sabine O and Lille Pendulum O, two large islands; Hvalros O and Bass Rock, two small islands; and several islets and rocks. An island about 220m long and 50m wide has been reported (2010) between Sabine O and Pendulum O, about 1 mile NE of Hansa Bugt. The island's longitudinal direction lies in a NE to SW direction.

Kap Wynn, located 15 miles NNE of Kap Borlase Warren, is formed by a precipitous cliff, 210m high. Several islets and rocks lie close off the cape.

Claveringstraedt is entered between Kap Wynn and Hvalros O, 3.5 miles ENE. The strait extends 6 miles WNW and then 8 miles N to its junction with Hochstetterbugten. A chain of rocks, above and below-water, extends N for about 1.5 miles from a position on the S shore of the strait, 3.5 miles NW of Kap Wynn. A depth of 26m lies close off the outermost rock.

Hvalros O (Walrus Island) (74°31'N., 18°49'W.) lies on the N side of the approach to Claveringstraedet. When viewed from E or W, the island resembles a walrus asleep on the ice. Depths of 9m and 14m lie in the middle of the channel that leads between this island and Sabine O.

Germania Havn, a small and almost circular harbor, is located at the SE extremity of Sabine O. Depths of 3.7m and less lie in the entrance. Griper Red, a roadstead lying close W of Germania Havn, affords anchorage, but there is little shelter from storms and, at times, the berths are dangerous because of ice. Vessels may anchor 1 mile offshore with the W entrance point of Germania Havn bearing 075°, the N end of Hvalros O bearing 104°, and Kap Wynn bearing 207°.

7.23 Lars Jakobsens Pynt (74°33'N., 19°12'W.), the SW extremity of Sabine O, is a long narrow peninsula which projects into Claveringstraedet to within 1 mile of the coast of the mainland. Heimlands Havn, an inlet, is located on the NW side of the peninsula. Two small islets lie close off its N entrance point. The inlet affords good anchorage, in a depth of 44m, with Lars Jakobsens Pynt bearing 128° and the outermost of the two small islets bearing 331°.

Pendulum Straedet leads between Sabine O and Lille Pendulum O. It extends NW for 7 miles and leads to Hochstetterbugten. A chain of islets and submerged rocks lies in the middle of the strait and extends 1 mile ENE from a position 3 miles SE of Kap Neumayer, the N extremity of Sabine O. Another chain, consisting of three small islets, lies 2.5 miles farther S and has very irregular depths in its vicinity.

Hansa Bugt (74°38'N., 18°47'W.), located 3 miles SE of Kap Neumayer, indents the E coast of Sabine O. It extends SW for 2 miles and is believed to be navigable; however, it has not been examined.

When navigating Pendulum Straedet, vessels are advised to favor the Lille Pendulum O side where there are no known dangers.

Lille Pendulum O (74°40'N., 18°30'W.) is considered to be an excellent landfall when approaching the mainland from SE. The island rises steeply on all sides and attains a height of 602m in the center. Hunting huts stand on its N and S sides. Kap Hartlaub, the NE extremity of the island, lies at the end of a steep and narrow promontory. Bass Rock, 142m high, lies 0.5 mile off this cape. A traveler's hut is reported to stand on the rock.

Hochstetterbugten

7.24 Hochstetterbugten, a large bay, is bounded on the S side by Pendulum Oer and Wollaston Forland, on the N side by Shannon O and Hochstetters Forland, and on the W side by the mainland. The principal entrance is from the E, between Lille Pendulum O and Shannon O, 17 miles N. The bay is also entered from the S by way of Claveringstraedet or Pendulum Straedet, and from the N by way of Shannon Sund.

Albrecht Bugt, a wide open bay, is entered between **Kap Berlin** (74°41'N., 19°25'W.) and Kap Schumacher, 12 miles W. An islet, with a submerged rock (position doubtful) lying near its E side, is located close E of Kap Schumacher. Another larger islet lies close NW of the cape.

Lindemans Fjord, entered 6 miles W of Kap Schumacher, extends 8 miles W between A.P. Olsens Land and Thomas Thomsens Land.

Kuhn O lies in the SW part of Hochstetterbugten. This island is separated from the head of the bay by Fligelys Fjord, which is unnavigable because of shoals in its narrowest part. Kuhn O is mountainous and its E coast is steep, but a valley extends N and S through the island. Several hunting huts stand along the shore.

Kap Hamburg, the S extremity of Kuhn O, is located 2 miles NNE of Kap Schumacher. Kap Maurer, a low and sandy cape, is located 11 miles NNE of Kap Hamburg and forms the E extremity of the island.

Anchorage is afforded, in a depth of 40m, mud, with a hunting hut, which stands 1.5 miles SSW of Kap Maurer, bearing 298°, and the SE extremity of the coast bearing 213°. During the approach to the berth from a position 5 miles N of Bass Rock, the current was observed to set SE at a rate of up to 3 knots.

Bastians Bugt, located on the E coast of Kuhn O, is an L-shaped indentation. It is entered between Kap Maurer and Kap Bremen, 8.5 miles NNW. The S side of this indentation is bordered by a flat foreshore with scanty vegetation. The N side is more rugged and made up of stony flats. Vessels can anchor, in a depth of 18m, about 180m off the mouth of a stream that discharges 0.75 mile SW of Kap Bremen.

Grandjeans Fjord (75°00'N., 21°30'W.) is entered between Kap Negri and Kap Buch, 5 miles NNE. It extends in a general W direction, with many turns, to Heinkels Gletscher at its head. The fjord separates Thomas Thomsen Land from C. H. Ostenfelds Land. Kap Buch is a steep headland and a good landmark from seaward; the land close W of it rises to a height of over 1,100m. Ullas O lies in the middle of Grandjeans Fjord, 4 miles within its entrance.

7.25 Freedens Bugt (75°01'N., 18°00'W.), a wide open bay on the S coast of Shannon O, lies between Kap Philip Broke and Kap David Gray, 12 miles W. Caution should be exercised when entering the bay. Depths decrease rapidly N of the line joining the entrance points and the bottom is irregular. A reef, with a depth of 2m (2009), lies 3 miles W of Kap Philip Broke. A number of streams flow into the bay. The greater depths are reported to be in the W part, close to Kap David Gray.

Anchorage has been obtained in several places within the bay; however, the recommended berth lies, in a depth of 33m, 1.25

miles E of Kap David Gray with the summit of Tellplatte, standing at a height of 196m, 3 miles N of the cape, bearing 350°.

Kap Tramnitz is located 7 miles WNW of Kap David Gray. Numerous short streams discharge along the coast between these capes.

Kap Rink (75°08'N., 19°37'W.), the SE extremity of Hochstetter Forland, is located 13 miles NW of Kap Tramnitz and forms the NW entrance point of the S end of Shannon Sund. A bank, with a least known depth of 29m, extends 2.5 miles SW and 3.5 miles SE from Kap Rink. Vessels are advised to stay at least 4 miles from this bank.

Nanok Approach

Nanok (75°09'N., 19°47'W.) (World Port Index No. 20), a hunting station, is situated 2.5 miles WNW of Kap Rink, near the head of a slight indentation. Vessels can anchor, in a depth of 55m, in an open roadstead lying 0.5 mile offshore, with Kap Rink bearing 093° and the hunting station bearing 017°.

Mainly due to the continual movement of pack ice S through Shannon Sund, it is not uncommon for a summer to pass without a vessel being able to reach the vicinity of Nanok.

Nanol Hochstetter Station

Kulhus (75°12'N., 20°00'W.), located 4.5 miles NW of Nanok, is the site of an abandoned scientific station. Anchorage is reported to be obtainable close offshore, abreast the site. An abandoned coal mine is situated close S of the former station.

Peters Bugt is entered between Karls Pynt, located 3 miles N of Kulhus, and Kap Klinkerfues, 9 miles WNW. Lauge Kochs Vig, located 2 miles N of Karls Pynt, is a small cove with a hunting hut at its head. Jonsbu, located 4 miles ENE of Kap Klinkerfues, is the site of a former radio and hunting station which was destroyed (1979). Anchorage is available, in a depth of 46m, with the SE extremity of the land near Kap Klinkerfues bearing 240° and the site of the former station bearing 356°. Safe anchorage may be obtained, in a depth of 55m, 180m off the mouth of a stream located 2 miles SW of Jonsbu.

Ardencaple Fjord (75°20'N., 21°00'W.) is entered between Kap Klinkerfues and Kap Reinhardt, 4 miles W. The fjord extends 15 miles NW to Kap Daly, where it forks. Smallefjord, the S fork, extends 18 miles WNW and Bredefjord, the N fork, extends NW for about the same distance. The shores of the fjord and its forks are steep and the depths in the fairways are deep throughout.

Caution.—A submerged rock lies about 2.7 miles S of Kap Kilinkfaus and 3.7 miles ESE of Kap Reinhardt, near the entrance to Ardencaple Fjord. A rock, with a depth of 2m, lies in the entrance of Ardencaple Fjord near position 75°14.7'N, 20°40.6'W.

Hochstetterbugten to Bessel Fjord

7.26 Shannon O has the least elevation of any large island off this part of the coast. When viewed from the E, it appears long and low, lying far out in the ice with a single moderately high plateau breaking its otherwise horizontal contour. Meyersteins Bjerg, 305m high, stands near the NE end of the island and is its highest point. A few hills stand on its E side, otherwise the island consists of muddy swamps. The whole island is of volcanic formation and abounds in traces of former Eskimo occupation.

The E coast of Shannon O extends 15 miles NNE from **Kap Philip Broke** (74°56'N., 17°37'W.) to Kap Pansch, the N extremity of a low peninsula.

Caution.—It was reported that several submerged rocks exist and they are indicated by growing kelp, off the S part of this coast.

A local magnetic anomaly was reported to exist off the E side of Kap Philip Broke.

7.27 **Frosnebugt** (75°07'N., 17°45'W.) is located at the S end of a large indentation which cuts deeply into the island between Kap Pansch and Kap Sussi, 11 miles NNW. A hunting hut stands on the coast 1.5 miles SSW of Kap Sussi. A cove located in the NW corner of the indentation is known as Nordenskiolds Bugt; it is divided into two parts by a spit which extends from the head. Several islets lie both outside and within the entrance to the cove.

Kap Borgen (75°26'N., 18°04'W.), located 8 miles NNW of Kap Sussi, is the N extremity of Shannon O. Sengstackes Bugt is entered between the cape and a 112m high headland, 7 miles SW.

Shannon Sund (75°12'N., 19°08'W.), entered between Kap Rink and Kap Tramnitz, extends 16 miles N. Both sides of the

sound present an even and regular appearance, broken only on the mainland side by the mouths of several rivers. A bank extends from Kap Rink; shoal depths are reported to lie close off this shore for about 10 miles N of the cape. Depths of 33 to 91m lie in the fairway and a mid-channel course may be safely followed through the sound. Vessels are advised to stay 3 miles from **Kap Copeland** (75°20'N., 18°57'W.), the NW extremity of Shannon Island.

7.28 Kap Oswald Heer (75°33'N., 19°24'W.) is a slight projection located 24 miles N of Kap Rink. A hunting hut stands 2 miles S of the cape.

Haystack, located 11 miles N of Kap Oswald Heer, is a small peninsula which extends 2 miles SE. Its N end is connected to the mainland by a narrow low isthmus, on which stands a trapper's hut. This peninsula rises to a height of 305m and is unmistakable, as there are no other prominent points or islands in the vicinity; a cairn stands on its summit.

Roseneathbugt (Roseneath Bugt) (75°43'N., 19°30'W.) lies between the W side of Haystack and the mainland. A hunting station, composed of several buildings, is reported to stand on the W side of the bay. Depths of 55m lie in the E part of the bay and decrease moderately towards the shore; however, abreast the hunting station, depths of 3 to 5m lie up to 0.5 mile offshore. During the month of August, a vessel anchored 0.75 mile from the W shore of the bay with the cairn on the summit of Haystack bearing 051° and the hunting station bearing 282°. The bay is reported to often remain frozen over throughout the year.

Bessel Fjord is entered between **Kap Mobius** (75°56'N., 20°01'W.) and Kap Beurmann, 8 miles NNE. It extends 33 miles W, between Hochstetter Forland and Adolf S. Jensens Land, to two bays at its head. Several islands, islets, and rocks lie in the entrance to this fjord and may best be seen on the chart. Trums O, the largest island, rises to a height of over 600m. Within the entrance, the fairways are deep throughout and the tidal currents are reported to attain rates of about 1 knot. Vessels can anchor, in a depth of 58m, sand, near the middle of the entrance to the S bay located at the head of the fjord. From the middle of the entrance to the bay, the depths decrease regularly from 91m to 9m, about 230m from the shore.

Vessels can also anchor, in a depth of 8m, within a bay located 2 miles W of Kap Beurmann.

Bessel Fjord to Kap Morris Jesup

7.29 Kong Frederik VII Land (Kong Frederik den VIII Land) extends from the N shore of Bessel Fjord to the middle of Independence Fjord, over 300 miles N. It includes Germania Land, Hertugen af Orleans Land, Lambert Land, and Kronprins Christian Land. In several places along this coast, the ice cap comes down to the sea and the ice-free land consists mainly of isolated promontories and mountain peaks. In many places, it has not been ascertained whether these promontories are connected to the mainland or are islands separated from the mainland by glacier-filled channels. Many areas remain unexamined.

Dove Bugt (76°30'N., 19°30'W.), a large bay, indents the coast between Kap Peschel, located 12 miles N of Kap Beurmann, and Kap Bismark, 35 miles NNE.

Store Koldewey O is a narrow island, 47 miles long, which fronts the E side of Dove Bugt. Its S extremity lies 21 miles E of the entrance to Bessel Fjord.

The bay may be entered by passing S or N of the island. The depths in the S entrance are generally deep. In the N entrance, the depths are more shoal, but are sufficient for most surface vessels. The W side of the bay is bounded by glaciers and mountains (nunataks); the N side is formed by the S coast of Germania Land. Numerous islets lie in the SW, W, and N parts of the bay and anchorage may be obtained in several places, though the depths are generally deep. During the months of August and September, open water may sometimes be found within the bay.

Kap Alf Trolle (75°56'N., 18°45'W.), a low point, forms the S extremity of Store Koldewey O. Troekpasset, a deep ravine, cuts across the island almost at sea level, 14 miles N of this cape. The land on the N side of this ravine rises to a plateau, over 670m high. Between Troekpasset and Berg Fjord, 27 miles N, there are no indentations or off-lying dangers.

Berg Fjord is a deep indentation in the N part of the W side of Store Koldewey O. This fjord extends 3.5 miles E and only a low, narrow isthmus separates its head from the E coast of the island. The entrance to the fjord may be identified by a peak rising to a height of 760m on the S side and another peak rising to a height of 305m on the N side. A yellow painted cairn stands on the summit of the S peak and is visible from the E, over the isthmus. A large island lies near the middle of the fjord; islets lie close off its W and N sides. Another island, with an islet on its SE side, lies E of the large island. Anchorage is obtainable between the large island and the N shore of the fjord, where depths of more than 64m have been reported; however, the bottom is mostly soft mud and the holding ground is poor. Tidal currents in the entrance to the fjord are reported to attain a rate of up to 2 knots.

7.30 Kap Helgoland (76°43'N., 19°09'W.), the N extremity of Store Koldewey O, lies 9 miles N of Berg Fjord and is high and steep. Three small islets, fringed by foul ground, lie 1.25 miles N of the N end of the island.

Kap Ullidtz (76°16'N., 21°42'W.), with a small island lying 1 mile E, is located on the W side of an inlet in the SW corner of Dove Bugt. A hunting hut stands near the cape. Soranerbraeen, a glacier, flows into the head of the inlet. Syttendemajforden, a narrow fjord, is entered 8 miles E of the cape and extends 13 miles SE.

Tvillingerne (76°17'N., 20°45'W.), an island, lies with Tommelen, a sharp peak, 671m high, forming its SE end, located 7 miles W of Kap Peschel.

Nanok O lies 1 mile NE of Tvillingerne; Orgelpiberne, located on the SE side this island, is a headland which rises to a height of 671m. Roon Bugt, a pronounced inlet, is entered between Orgelpiberne and Kap Belgen, 3.5 miles NNE. The inlet and an area extending 2.5 miles ENE including Christain Skaer, a submerged rock, is foul. Numerous ice bergs accumulate within this inlet and in the vicinity of its entrance points.

Godfred Hansen O (76°26'N., 20°55'W.), a large island, lies with its S end located at the W end of A. Stelling Sund. Gefions Havn is entered between a low point, which forms the S extremity of the island, and a conical peak, 1.75 miles E. Al-

borghus, a hunting station, stands on the W shore of this harbor. Gefions Havn is sheltered from all winds and deep water lies close inshore. Anchorage is available, in a depth of 82m, soft mud and good holding ground, 550m SSE of the hunting station. Anchorage is also available, in a depth of 30m, good holding ground, 180m from the head of the harbor.

7.31 Dronning Louise Land is located to the W of the W side of Dove Bugt. It is mountainous with peaks rising to heights of over 2,000m. Two huge glaciers, Storstrommen Gletscher and L. Bistrup Brae, meet on the E side of this area and cut off the various projections and islands, which form the W side of Dove Bugt, from the mainland.

Daniel Bruun Land, a triangular tract, is located E of Storstrommen Gletscher. Edvards O lies close SE of its S extremity. Spydodden, located 13 miles NNE of Edvard O, is the E extremity of this tract. Ringoen, lying 3.5 miles S of Spydodden, is the NE of numerous islets which front the SE coast of Daniel Bruun Land.

Borgfjorden (76°40'N., 22°00'W.) is entered between Kap Stop and the N extremity of Lindhard O. This fjord trends in a NW direction to the front of Bredebrae, a large glacier. Its entrance is completely barricaded by a mass of irregularly-shaped icebergs, which constantly drift out of the fjord from the glacier.

Kap Bismark (76°42'N., 18°36'W.) is located 7.5 miles E of the N end of Store Koldewey O. It is the S extremity of a tongue of land which projects 4 miles SSE from the S coast of Germania Land. A foul area, with a least depth of 29m, fronts this tongue of land and extends up to 1 mile offshore.

The N entrance to Dove Bugt lies between this cape and the NE coast of the island. It is divided by Lille Koldewey O into two main channels; Lille Baelt is the inner channel and Oresund is the outer one.

Lille Koldewey O (76°40'N., 18°43'W.) is, in reality, formed by two narrow islands which are separated by Roselob, a narrow channel. It extends 8 miles NNW from Kap Christian, located 5.5 miles S of Kap Bismark, to Kap Bornholm. Shoal depths are reported to extend up to 180m E and SE of Kap Christian.

Lille Baelt, entered between Kap Christian and the NE coast of Store Koldewey, 2 mile SW, has depths of 95 to 196m in its fairway. This channel is the clearest and least encumbered in the N entrance to Dove Bugt, but it is often blocked by ice after the other channels are clear.

Oresund, entered between Kap Christian and Kap Bismark, extends 7 miles NNW to Kap Bornholm, the N extremity of Lille Koldewey O.

J. P. Jacobsen O (76°40'N., 18°40'W.) is the outermost and largest islet of Simonsens Skaer, a group of islets and rocks which lie close off the E coast of Lille Koldeway O. Shoal depths extend up to 180m SE of the islet and a dangerous submerged rock lies 1 mile S of it. Maroussia O, marked by a cairn, is located 1 mile E of J. P. Jacobsen O; a rock, dangerous to navigation, was reported (1977) to lie about 180m N of this islet. Renskaeret, a rocky islet 15m high, is located 1.5 miles NE of J. P. Jacobsen O. A dangerous rock was reported (1977) to lie about 275m SSE of this islet. Two skerries are reported to lie between Maroussia O and Renskaeret.

Danmarkshavn (inner bay area)

7.32 **Danmarkshavn** (76°46'N., 18°45'W.), located 4 miles NW of Kap Bismark, is entered between Oster Havnenaes and Vester Havnenaes, 0.75 mile WNW. It extends 1 mile N and is sheltered from the prevailing NW winds by low and undulating hills which rise to a height of 180m. A radio and weather station stands on the N shore of the harbor. A reef extends from Vester Havnenaes and the depths are deeper at the E side of the entrance. Anchorage is obtainable, in depths of 16 to 27m, sand and gravel, with Vester Havnnenaes bearing 223°. Clear water is likely to be found in the harbor from July until the end of September. There are no pilots, but persons with local knowledge are available. Vessels of up to 70m in length and 8m draft have used the anchorage. It is reported that the radio station will, on request, send bearing signals to vessels proceeding to the harbor. The dark period lasts from 28 October to 12 February; the midnight sun period lasts from 21 April to 22 August.

Stormbugt (76°48'N., 19°00'W.), a name originally applied to the whole of Dove Bugt, is entered between **Wendels Pynt** (76°46'N., 18°50'W.) and Stormnaes, 5.5 miles NW. Stormnaes is a broad and stony point which projects about 0.5 mile S. The E part of the bay is generally deep with depths of over 64m. Terneskaeret, lying 1 mile E of Stormnaes, is the outermost of numerous islets and rocks which front the coast between that point and Stormkap, a point at the head of the bay, 2 miles ENE.

Snenaes, located 3 miles NW of Stormnaes, is the W entrance point of a small unnamed indentation. Winges Kyst is the name given to that stretch of coast between Snenaes and Lilli Snenaes, 7 miles NW.

Orienteringsoerne, a group consisting of three islands and five islets, extends from 1 to 12 miles SSW of the middle of Winges Kyst. Farsund, the channel between the N island and Winges Kyst, is navigable and deep.

Hvalrosodden (76°54'N., 20°09'W.), located 4.5 miles W of Lille Snenaes, is the site of a hunting station and former radio station. Anchorage is obtainable, in a depth of 51m, 0.5 mile

SSW of the station. Pladen O, lying 2.5 miles S of Hvalrosodden, is a narrow island with a submerged rock close N of it.

Morkefjord (76°55'N., 20°40'W.) is entered between **Vaedderhornet** (76°52'N., 20°35'W.) and Morkefjord Station, the former site of a meteorological station, 3 miles ENE. The fjord extends 17 miles W, almost to Storstrommen Gletscher. Kalven O, an island, lies close within the fjord entrance. Anchorage may be obtained 1 mile SE of Morkefjord Station, in a depth of 43m. However, it has been reported that S winds make this anchorage dangerous on account of ice. In such case, vessels may anchor N of the NW end of Kalven O.

7.33 Germania Land (77°00'N., 19°00'W.) is a large island or peninsula, heavily indented by fjords, which lies between the parallels of 76°38'N and 77°58'N. The land is the most extensive ice-free area in this part of NE Greenland. The S part of its W side is separated from the mainland by Storstrommen Gletscher; the N part of its W side is separated from the mainland by Kofoed-Hansens Brae, another large glacier. The W part of Germania Land forms a nearly level plateau with a height of about 800m, while its N and E parts consist of undulating areas with heights of 300 to 600m. During good years, it has been possible to reach the coast of Germania Land by the middle of August.

Joh. G Guildals (76°42'N., 18°32'W.), a small island, lies with S. Thomsens Pynt, its S extremity, located 0.75 mile E of Kap Bismark. An islet lies close off its N end. Yderbugt is entered between S Thomsens Pynt and Kap Udkiggen, the S extremity of Ornens O, 1.75 miles NNE. This bay extends 4 miles NNW and is encumbered with numerous islets and rocks.

Seventeen Kilometer Point (Syttenkilometernaesset) (76°49'N., 18°20'W.) is a point which terminates in a rocky knoll, about 12m high. Two small indentations lie between this point and Oksebladet, the SE extremity of a peninsula, 2.25 miles N. They are both fronted by islets and rocks. Kap Steensby, located 6 miles N of Seventeen Kilometer Point, is a promontory. A hunting hut stands on a knoll, close S of the cape; however, the existence of any provisions at this hut could not be confirmed (1974).

Micardbu, a hunting station and the site of a former meteorological station, is located 10 miles N of Kap Steensby. Anchorage is afforded, in a depth of 35m, about 0.5 mile offshore with the station bearing 313°. It is reported that the station is more easily seen from S as it is situated on the S side of an outcrop of rock.

Thomas Thomsens Naes (77°14'N., 18°23'W.), a point which projects 0.75 mile NE, is low and stony with an open bay on each of its sides. A hunting hut stands on its extremity and is sheltered by a large prominent rock; however, the existence of any provisions at this hut could not be confirmed (1974).

Kap Marie Valdemar is located 3 miles NW of Thomas Thomsens Naes. Rosio is the largest of several islets and rocks which lie within 0.5 mile N of the cape; it is bare and, when covered with snow, resembles an iceberg.

7.34 Skaerfjorden (77°25'N., 19°30'W.), a large bay with several arms extending from it, is entered between **Kajkap** (77°19'N., 19°03'W.) and Kap Amelie, 11 miles NNW. Kap Amelie is prominent and rises steeply to a height of about 500m. Flade Bugt, the S arm, is entered between Kajkap and Kap Li, 11 miles WNW, and extends 9 miles S.

C.F. Mouriers Fjord, at the SW end of Skaerfjorden, is entered between Kap Li and Kap Recamier, 2 miles NW. It trends W for about 7 miles from its entrance. V. Clausen Fjord is entered between Kap Recamier and Kap Ellen, 5 miles WNW, and extends 7 miles WNW; several islets and rocks lie off the entrance to this fjord.

Joinvilles O (77°29'N., 20°00'W.), an island, 335m high, lies in the middle of Skaerfjorden, with its S extremity located 3.5 miles NE of Kap Recamier. Theodolitskaer is the largest of a group of rocky islets that lie close off the SE end of this island. Penthievre Fjord is entered between Joinvilles O and Kap Amelie, 6 miles ENE, and extends 13 miles NW.

From Kap Amelie, the coast extends 8 miles NE to Depotnaesset and then 10 miles NNW to Kap Louise. Bjornest, a group of islets and rocks, extends 10 miles N from a position close N of Kap Louise.

Orleans Sund (77°48'N., 20°00'W.) is entered between Kap Louise and Kap Isabelle, 3.5 miles NNW; the latter cape is the SW extremity of Gamma O, an island in the Bjornest group which forms the N side of the sound. Formerly thought to be a fjord, the sound extends 27 miles NW, to the N extremity of Germania Land.

7.35 Duc d'Orleans Land (Hertugen af Orleans Land) (77°50'N., 22°40'W.) is the area of continental land lying immediately N of Germania Land and separated from it by Koefoed-Hansen Brae, a large glacier. **Pic de Gerlache** (78°36'N., 21°40'W.), a mountain 899m high, stands at the N end of Duc d'Orleans Land and is visible from the pack ice.

Ile de France (Qeqertaq Prins Henrik) (77°42'N., 17°50'W.), the largest and SE of the islands lying off Duc d'Orleans Land, presents an even skyline and may be identified from a considerable distance in clear weather. It rises to a height of 200m near the S end. Kap Sankt Jacques, the SW extremity of the island, is located 15 miles ENE of Kap Amelie. Kap Philippe, the SE extremity of the island, is located 7 miles ENE of Kap Sankt Jacques. During early August, a vessel anchored, in a depth of 55m, about 2 miles ESE of Kap Sankt Jacques with Kap Philippe bearing 073°. The depths in this area are reported to be regular and it is more ice-free, in good weather, than any other place off the island.

Iles Francais, a maze of islands and islets, extend N for 36 miles from the N end of Bjornesk (Gamma O) to Pariseroerne (Parisoer), a group of three small islands.

Jokelbugten is the large area that lies between Iles Francais (Francaises) and the mainland. The ice in this bay is reported to be occasionally aground or afloat. Hagans (Hagans) O is located 15 miles NW of the SE extremity of Gamma O. It is the central island of a group which lies in the S part of Jokelbugten.

7.36 Kap Kofoed (78°31'N., 18°34'W.), located 7 miles NE of Pariseroerne, is the E extremity of the S island of Franske Oer, a chain of islands and islets which extends 25 miles NNE.

Schnauder O (78°47'N., 19°40'W.) lies at the N end of Jokelbugten, abreast Zachariaes Isstrom, a great glacier which separates Duc d'Orleans Land from Lambert Land. Norske

Oer, consisting of a main island and two islets, lies 12 miles NE of Schnauder O; the main island rises to a height of 500m. During August 1933, a vessel succeeded in reaching Norske Oer, penetrating farther N on the coast of East Greenland than any previous vessel.

Belgica Bank (78°20'N., 15°00'W.) was discovered (1905) by the Belgica while on passage from Svalbard to Greenland. The least known depth on the bank is 46m and depths of 395 to 490m were found to lie between its W edge and the land ice. A depth of 46m was reported (1961) to lie about 60 miles NE of the shallowest part of the bank. A detached shoal, with a least known depth of 355m, is reported to lie about 180 miles ENE (76°10'N., 18°37'W.) of Shannon O.

7.37 Lambert Land (79°10'N., 20°20'W.), a large island or perhaps a glacier, is bounded to the S by Zachariaes Isstrom and to the N by Nioghalvfjerdsfjorden (Nioghalvfjerds Fjorden). It is steep and has heights of 700 to 978m on its NE side. A few islets lie close off its N and NE sides.

Bronlunds Grave (79°08'N., 19°12'W.), the E extremity of Lambert Land, is a hilly promontory which forms the E side of a fjord. Nioghalvfjerdsfjorden (Nioghalvfjerds Fjorden) is a large bay which lies between Lambert Land and Hovgaard O. It is entered between Bronlunds Grave and Kap Anna Bistrup, 33 miles NNE.

Hovgaard O is a large island, of which Kap Anna Bistrup is the SE extremity. Kap H. N. Andersen, the NE extremity of the island, lies 23 miles NNE of Kap Anna Bistrup.

Dijmphna Sund extends 40 miles W and SW. It is entered between Kap H. N. Andersen and Mellemukfjaeldet, 12 miles NNE; the latter is the SE extremity of Holm Land, a large mainland peninsula.

The N shore of the sound is formed by the outer part of the S coast of Holm Land and consists of steep cliffs.

Lynn O, a triangular island, lies close off the NW coast of Hovgaard O. Hekla Sund, a channel, lies between this island and the mainland.

Eskimonaesset (Eskimonaes), a low point, is located 30 miles NNE of Kap H. N. Andersen. Maage Brae, located 7 miles W of Eskimonaesset, is an active glacier which discharges icebergs into the outer part of Ingolf Fjord.

Ingolf Fjord (80°40'N., 16°55'W.) is entered between Eskimonaesset and Kap Jungersen, 12 miles N. It extends 50 miles W between Holm Land and Amdrup Land, the SE part of Kronprins Christian Land. Wegener Oer, consisting of three islets, lies off a projection on the S shore of the fjord, 13 miles WNW of Eskimonaesset. Spaerre Brae, a glacier, projects from the S shore, 25 miles within the entrance. Its N end floats close to the N shore of the fjord and it was formerly thought to form the head; however, in 1939, the fjord was found to continue W for 25 miles and end in two short branches.

Kronprins Christian Land is a broad peninsula that lies between Ingolf Fjord and Danmark Fjord. It extends 60 miles NE from **Kap Jungersen** (80°44'N., 15°55'W.) and narrows the gateway of the sea between Spitsbergen and Greenland. Flade Isblink, an ice cap, almost entirely covers the outer part of Kronprins Christian Land and is generally believed to be an independent formation, having no connection with the Greenland Ice Cap.

7.38 Sophus Muller Naes (80°55'N., 14°40'W.) is located 23 miles NE of Kap Jungersen. Henrik Kroyer Holme, consisting of three islets, lies 8 miles SSE of the point.

Antarctic Bugt is entered between Sophus Muller Naes and an unnamed point, 11 miles NE. The bay extends 9 miles NW and its SW shore is formed by the NE side of Amdrup Land. However, the ice of Flade Isblink covers the head and the NE shore of the bay.

Nordostrundingen (81°36'N., 12°10'W.), located 30 miles NE of Antarctic Bugt, is the E extremity both of Kronprins Christian Land and of Greenland. Throughout much of this stretch of coast, small icebergs, which are discharged from Flade Isblink, may be seen grounded some distance offshore. However, large icebergs, the size of those found in Scoresby Sund, are never encountered in this area, although there are numerous active glaciers.

A depth of 24m was reported (1961) to lie about 20 miles E of Nordostrundingen.

Erik S. Henius Land (81°45'N., 13°40'W.) is the name given to that part of the coast lying between Nordostrundingen and Nakkehoved, a narrow strip of land 25 miles NW. Flade Isblink covers Erik S. Henius Land both SE and W of Nakkehoved, which only remains uncovered due to its height of about 300m.

7.39 Wandel Hav (82°10'N., 17°00'W.), a great bight, is entered between Nakkehoved and Kap Eiler Rasmussen, 85 miles NW. The head of this bight contains the entrances to Danmark Fjord and Independence Fjord. Prinsesse Ingeborg Halvo, located 41 miles W of Nakkehoved, is a peninsula which lies on the E side of the approach to Danmark Fjord and rises to a height of 100m. **Nord** (81°43'N., 17°57'W.) is the former site of a radio and weather station.

Prinsesse Dagmars O, an island 90m high, lies with its S end close W of Prinsesse Ingeborg Halvo to which, it may possibly be connected. This island is the S of a group of three narrow islands which lie N and NW of the peninsula.

Kap Ringkjobing (81°33'N., 19°05'W.), located 15 miles SW of Prinsesse Ingeborg Halvo, is the W entrance point of a bay which extends 6 miles S. Several islets lie N and NW of the cape. The entrance to an unnamed fjord, which extends 15 miles S, lies between the cape and the end of a long narrow promontory, 10 miles NW. Prins Frederiks Oer, a group of islets, lies close off the promontory.

Kap Rigsdagen (82°04'N., 22°50'W.) is the NE extremity of Valdemar Gluckstadt Land, a broad peninsula which projects E and N and separates the outer part of Danmark Fjord from Hagen Fjord.

7.40 Danmark Fjord (81°10'N., 22°45'W.) is entered between Prins Frereriks Oer and Kap Kronborg, 10 miles W. It extends SSW for 75 miles to Fyens So, a large lake which is really an extension of the fjord, as they are connected by a narrow passage.

Between the entrance and Kap Viborg, 55 miles SSW, the SE shore of the fjord is low, little indented, and backed by a range of undulating hills which rise evenly a few miles inland. At Kap Viborg, the fjord narrows abruptly from a width of about 7 miles to a width of 4 miles.

Kap Kronborg (81°42'N., 22°20'W.), the NW entrance

point of Danmark Fjord, is a high and prominent hill. Jydske Aas, located close W of the cape, is an ice-covered ridge which extends across the peninsula nearly to Hagen Fjord; the remainder of Valdemar Gluckstadt Land is ice-free.

Kap Renaissance, located 23 miles SSW of Kap Kronborg, is the NE entrance point of a bay that indents the shore for 7 miles SW. Pinseskaeret, an islet, lies close N of the SW entrance point of the bay, abreast a winding valley. A river, which connects a chain of lakes in the valley, enters the fjord through a broad delta.

Hjaertefjaeldsdalen is the name given to the stretch of shoreline that extends 10 miles SW of Pinseskaerett. It is low, covered with gravel and shells, and fronted by a few islets.

The precipitous basalt slopes of Finske Alper form a straight and unbroken coastline between Hjaertefjaeldsdalen and the mouth of a river, 10 miles SSW.

Kap Holbaek, located 5 miles S of the river mouth, is an isolated peak; the S and E sides of the cape rise vertically from the water's edge to a height of 180 to 240m.

7.41 Independence Fjord (82°00'N., 31°00'W.), formerly thought to be a strait, is entered between Kap Rigsdagen and Kap Kjobenhavn, 20 miles N. It extends W and SW for 100 miles, with a general width of about 10 miles.

Hagen Fjord is entered between Kap Ludovika, located 16 miles W of Kap Rigsdagen, and Kap Peter Henrik, 12 miles W. It extends 13 miles S to Kap Bernhard and then 20 miles WSW to a glacier at the head. A cairn is reported to stand close S of Kap Peter Henrik. Kap Ludovika, a low and flat point, is the NW extremity of Valdemar Gluckstadt Land.

Astrup Fjord (81°55'N., 30°40'W.), which extends 5 miles S, is entered between Hugh Lee Gletscher, a glacial tongue, and Kap Bogebjaerg, 3 miles WSW. Several islets lie close within its entrance. J. C. Christensen Land extends between Astrup Fjord and Hagen Fjord.

Mylius Erichsen's Cairn (81°50'N., 32°40'W.) stands on the E side of Independence Fjord, 15 miles from the head. A river, which flows into a small bay lying close NE of the cairn, forms the boundary between Ubberup Land and Academy Land. Ubberup Land is the area lying W of Astrup Fjord. Academy Land is the area which lies SW of the river and forms the S shore of the fjord up to its head.

Academy Gletscher, a glacier located at the head, flows into Independence Fjord between Academy Land and Vildtland, a mountainous area. **Navy Cliff** (81°41'N., 34°02'W.) is a mountain which rises almost vertically; a cairn is reported to stand on its summit. Nansens Nunatakker, a group of mountains in the glacier, located at 16 miles S of Navy Cliff. This group rise to heights of about 900m; and other mountains (nunataks) stand on the E and W of them.

7.42 Jorgen Bronlund Fjord is entered between **Kap Harald Moltke** (82°07'N., 31°20'W.) and Kap Knud Rasmussen, 3.5 miles S. It extends NW and W for 10 miles to the head. Wandel Dal, a valley, extends W from the head of Bronlund Fjord to the head of J. P. Koch Fjord. Midsommer So, a large lake in the valley, is located 12 miles from the head of J. P. Koch Fjord and is connected by a river to the head of Jorgen Bronlund Fjord.

Heilprin Land (82°00'N., 35°00'W.), which lies on the N side of Independence Fjord, is located between Jorgen Bronlund Fjord and Marie Sophie Gletscher, 30 miles SW. Its central part is covered by an ice cap and the coastal strip is steep and mountainous. Marie Sophie Gletscher, a large glacier, flows into Independence Fjord between **Kap Schmelck** (81°49'N., 34°15'W.) and Kap Lundbohm, 1.5 miles S. Lyngeholmene Oer, a group of islets up to 60m high, lies between 3 and 5 miles E and NE of Kap Schmelck.

Kap Harald Moltke

Peary Land (82°30'N., 35°00'W.) is the extensive and only vaguely-defined area which forms the northernmost part of Greenland. The area was formerly thought to be an island; however, it was found to be a huge peninsula which is connected to the mainland by a narrow strip.

Its W boundary is said to be marked either by Victoria Fjord or by J. P. Koch Fjord. Its SW side is bounded by the Inland Ice Cap; the SE side is bounded by Independence Fjord. A large part of Peary Land, the northernmost land in the world, is ice-free.

7.43 Kap Eiler Rasmussen (82°35'N., 22°00'W.) is located 15 miles NE of Kap Kjobenhavn. It is a comparatively low point and forms the E extremity of Peary Land. Herlufsholmstrand is the name given to the area which lies between the coast and the mountains. The entire foreland of the cape is composed of shingle and only near the foot of the mountains does a thin layer of soil appear. Between this cape and Kap Henry Parish, 17 miles NW, the coast rises to a height of over 600m.

Kap Clarence Wyckoff (82°05'N., 24°10'W.) is located 7 miles NW of Kap Henry Parish. It is a broad point on which Clarence Wyckoff Bjaerg, a mountain, rises to a height of 850m. A small bay lies on the W side of the cape. Wyckoff Land lies between this bay and G. B. Schley Fjord, 5 miles NW.

G. B. Schley Fjord is entered between a point, marked by a cairn, and **Kap Isak Gluckstadt** (83°00'N., 25°40'W.), 7 miles NW. It extends 20 miles WSW, with several rivers flowing into the head. A short branch indents the N shore of the fjord 8 miles within the entrance. Hans Egede Land is the area lying between this fjord and Frederick E. Hyde Fjord, 15 miles NW.

7.44 Frederick E. Hyde Fjord (83°10'N., 30°00'W.) is entered between Kap John Flagler, located 10 miles N of Kap

Isak Gluckstadt, and an unnamed point, 10 miles NW. The fjord was reported to extend about 85 miles WSW to Nordpasset, a valley, which continues 9 miles W to the head of O. B. Boggild Fjord.

Nordkronen, a plateau 1,220m high, lies on the S side of the fjord. It contains many glaciers and is intersected by deep ravines with steep sides. Vistars Bjaerg, 2,010m high, rises from the plateau, 5 miles from its W end. This mountain is said to be the highest point in Peary Land.

Freja Fjord and Thor Fjord, two short branches, indent the S shore of Frederick E. Hyde Fjord 60 and 75 miles, respectively, within the entrance. Frigg Fjord, which indents the N shore opposite Freja Fjord, extends 11 miles NNW; two islets lie near its head. Drivhuset, a broad flat valley, extends for some distance NW from the head of Frigg Fjord.

7.45 Kap Bridgman (83°30'N., 27°45'W.) is located 5 miles N of the NW entrance point of Frederick E. Hyde Fjord. In its vicinity, the coast flattens into the sea and the beach is mainly covered with granite pebbles.

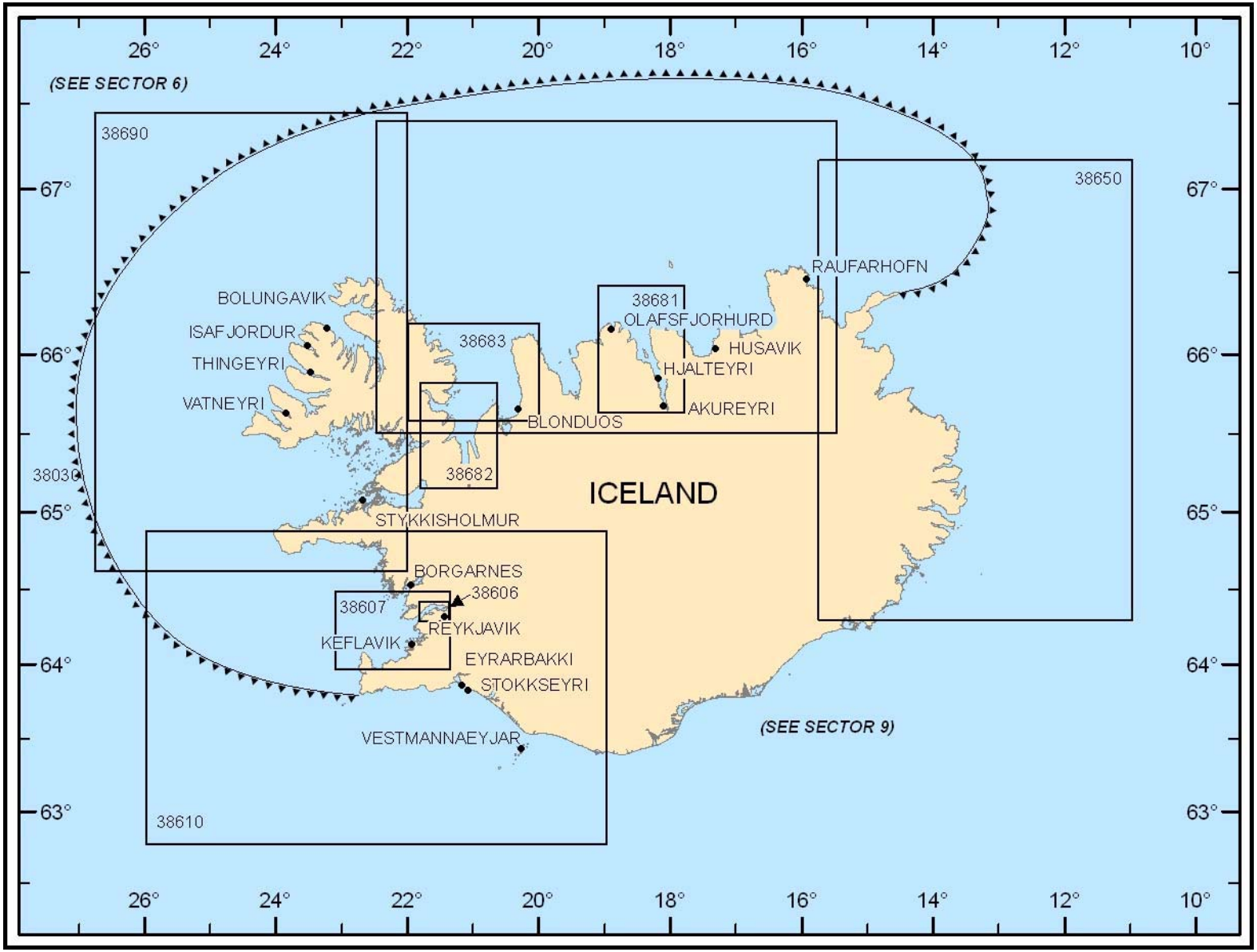
Between Kap Bridgman and Kap Morris Jesup, 45 miles WNW, the coast is backed by low gravel plains which extend to the foothills of Roosefelt Fjaeldene, an extensive range of mountains occupying the NE part of Peary Land. Daly Bjaerge, a chain of peaks standing to the S of Kap Bridgman, forms part of Roosefelt Fjaeldene.

Bliss Bugt, located 12 miles WNW of Kap Bridgman, is a fairly wide bay with a broad and flat foreshore. A river, which is reported to drain two glaciers, discharges into the head of the bay. Another river runs through a large delta system located close W of the head.

Constable Bugt, a fairly large indentation, is located 22 miles W of Bliss Bugt. Kaffeklubben, a small island, lies close offshore, 6 miles E of Kap James Hill, the E entrance point of Constable Bugt.

Kap Morris Jesup (83°40'N., 33°24'W.), a small projection, is the N extremity of Greenland.

Odaq O (83°40'N., 30°40'W.), a small island, lies N of Kaffeklubben and is the farthest N known land in the world.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **8** — CHART INFORMATION

SECTOR 8

ICELAND—WEST AND NORTH COASTS

Plan.—The descriptive sequence of this sector commences at Reykjanes, the SW extremity of Iceland. It trends N to Horn (North Cape) and then E to Langanes, the NE extremity of the island.

General Remarks

8.1 Iceland lies 150 miles E of Greenland, 400 miles NW of Scotland, and 600 miles W of Norway. Because of its location in the North Atlantic Ocean, Iceland is of extreme geographical and strategic importance.

The island of Iceland is a volcanic plateau. The interior is marked by numerous mountain ranges and its coasts are deeply indented by fjords and large bays.

The NW portion is almost severed from the main part of the island by large bays which indent the coast. The mountainous projections are cut by deep, narrow fjords. These fjords with dark walls of basalt rise almost perpendicular from the sea, reaching heights of 610 to 762m.

The W coast of the island affords some of the best harbors in Iceland. Reykjavik, the capital, is situated in a large bight N of Reykjanes.

The entire coast of the island is fronted by an extensive shelf, on which large fishing fleets assemble every year. This coastal shelf, as defined by the 200m curve, extends in some places from 40 to nearly 60 miles offshore. In some area the shelf drop indents close to the shore. These deeps are, from S to N, known as Jokuldjup, Kolluall, Vikurall, and Djupall.

Jokuldjup extends in a NE direction across the approach to Faxafloi to within about 13 miles of the N entrance point of the bay.

Kolluall, which roughly parallels Jokuldjup, extends to the S entrance point of Breidhafjordhur, a large bay lying N of Faxafloi. During fog, its depths are a useful guide. The bank, which separates Jokuldjup from Kolluall, is known as Jokulgrunn.

Vikurall, a smaller deep, penetrates 20 miles into the bank between the latitudes of 65°45'N and 66°00'N.

West and North Coasts of Iceland

Djupall, the N deep, is an isolated area within the limits of the bank. It extends in a SSE direction almost to the entrance of Isafjardhardjup, the N of the large fjords on the W coast of the island. During fog, this deep is also a useful guide.

For further information, refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Winds—Weather.—The winds are usually canalized within the deep fjords or are deflected along the coast. The cold air, which flows down the slopes of the island plateau, often develops into squalls which reach gale force near sea level. This activity is generally confined to the narrow coastal strip and the maximum force and frequency occurs at the entrances to the ravines. However, when storms are raging at sea, the fjords provide welcome shelter, but the amount of protection depends on the wind direction and the local topography.

Within the fishing area, lying NW of Iceland, about 80 per cent of gales blowing from NE or E, occasionally reaching hurricane force.

During the winter months, gales, from any direction, are very common over most of the region lying S of latitude 75°N. Some sections of this area are affected by prolonged gales, usually from the SW, which last for a week or more.

In the summer, gales are infrequent except over the area W of Iceland.

Ice.—The shores of Iceland are visited in certain years and at certain seasons, by drift ice which is carried down by winds and currents. The N coast of the island is seriously affected by this activity and the ice constitutes a hindrance to navigation in this area. As a rule, except in the most severe ice years, vessels can count on passing unhindered along the N coast after the end of May. The first ice is usually observed in the vicinity of Horn (North Cape). Recent studies have indicated that, after a protracted period of SW winds in the Denmark Strait, there is an increase in the amount of the East Greenland Current forced into the flow of East Iceland Arctic Current. Consequently, ice accumulates off the N coast of the island.

When large masses of ice are observed off Horn (North Cape), ice may be found along the W coast of the island. However, as a rule, the ice does not approach the Western Fjords (Vestfirdir). During very severe ice years with persistent N winds, ice has been observed within the entrances of some of these fjords.

Farther offshore, in the Denmark Strait, pack ice is usually present in varying amounts. During most of the year, it stays towards the Greenland side of the strait while the Icelandic side almost always remains clear inside the 180m line. It is only during unusual periods of persistent fresh or strong winds, from between W and N, that the ice is forced inside the 180m line. These rare occasions are most likely to occur in April or May when the ice is beginning to break up. The edge of the ice usually remains 40 to 60 miles off the W coast of Iceland until early June, when it recedes.

The ice, which drifts from the NW or W, is carried along the N coast of the island by the prevailing W current. At times, it seems as though the ice is approaching from NE, but ice from this direction never appears along the N coast before ice from the NW has reached Horn (North Cape). The ice, which is carried towards the coast as a result of protracted SW winds in the Denmark Strait, always remains for the longest period. Ice may also be forced against the N coast by NE winds but never in large packed masses.

When large masses of ice are carried unobstructed along the N coast and are met, at Melrakkasletta, by N storms, the ice is forced against the shore. However, it also continues to drift in an E direction until stopped by the peninsula of Langanes. If more ice is then forced from the W, it exerts a pressure on and adds to the mass. Consequently, the pack spreads to the N and NE until it can no longer be confined by the Langanes Peninsula. It is then carried S along the E coast by the polar current.

Fog.—Fog is an important weather element throughout this region. It is most frequent during the warmer season when navigation in the these waters becomes feasible. July is the month of most frequent occurrence. The fog is reported to be most dense and widespread over the colder water lying close to the ice areas. The least foggy section of Iceland is reported to be that located near the NW coast.

Fog conditions around Iceland are most intense during seasons when the pack ice encroaches on the N coast, lowering neighboring water temperatures.

Advection fogs are the preponderant variety throughout this area. These occur when warmer, moist air moves over colder surfaces. Such fogs are frequently extremely dense when the lower layers of the air are stable, causing intensification of the fog very close to the surface. Visibility from the upper portions of the ship may be excellent during such conditions. Fogs most frequently occur with air temperatures between -2° and 5°C and are most closely associated with the colder open water along the edge of the pack ice, especially in summer. When navigating Arctic waters during the open season, vessels can frequently detect the proximity of the ice pack by the observation of distant fog. This phenomenon occurs most frequently in this region because the temperature of the sea surface is always very cold close to the pack ice and winds from any seaward quarter will quickly have their moisture condensed on contact with this colder surface.

Caution.—Iceland has 20 volcanoes which have been active at one time or another since the island was inhabited. Reykjanes, the peninsula located in the SW part of the island, has frequently been disturbed by volcanic outbursts. In the sea surrounding this peninsula, islands have been alternately thrown up and submerged by submarine volcanic action.

Local magnetic anomalies have been experienced from time to time in the fjords and close off the coast of Iceland. Strong disturbances have been noted in areas offshore in which the depths were as great as 135m. Therefore, disturbed areas may exist in other places of similar and perhaps greater depths.

Abnormal magnetic variation of 5° to 19°E has been experienced over depths of 140 to 180m on the meridian of 26°20'W, between the latitudes of 64°54'N and 65°36'N.

Details of magnetic anomalies, which have been observed in the area, are given in their respective places in this sector.

Attention is drawn to the danger of ice accumulation on vessels, which increases to the W and N of the island. In certain weather conditions, this accumulation on the hulls and superstructures can be a very serious danger. These conditions are most likely to be encountered in the Denmark Strait from December to April.

Numerous fishing vessels may be encountered in the vicinity of Iceland.

Reports of mirages and displays of the aurora borealis are common in this area.

West Coast

8.2 Reykjanes (63°49'N., 22°42'W.), the SW extremity of Iceland, is a low, steep, rock strewn promontory. Reykjanes Light, a white concrete tower, 31m high, is located 1 mile N of Reykanes.

Courtesy of Jarrod M. Kushla

Reykjanes Light

Tides—Currents.—Between Reykjanes and Gardskagi, 16 miles N, the tidal currents, up to a distance of 3 miles offshore, flow N on the flood and S on the ebb. The S current is weaker than the N, but it is still stronger in these parts than on any other portion of the W coast. However, with strong gales from the S and SW, it may be decreased so as to run for only a couple of hours. The N current, being the stronger, is liable, in case of poor visibility, to carry a vessel farther N than was intended. The tidal currents turn at about the time of HW and LW on the shore or at about every sixth hour in fine weather.

Caution.—Vessels should not approach the coast between Reykjanes and Gardskagi too closely as there is always a heavy sea on the coastal shelf and, in bad weather, breakers may extend up to 1 mile offshore.

Karl, a high dark rock, is located 1 mile NNW of Reykjanes. It is separated from the coast by a narrow channel and, when seen from certain directions, resembles a church with a pointed tower.

Skalafell, 76m high, and Syrfell, 93m high, are two prominent hills which stand 1 and 2.5 miles, respectively, NE of Reykjanes.

Thordharfell, 161m high, and Sulur, 144m high, are two hills which stand close together, 7.5 miles NE of Reykjanes, and form an excellent landmark.

8.3 Keilir (63°57'N., 22°11'W.), a conspicuous mountain standing 14 miles inland, rises to a height of 378m and can be seen from S over the intervening hills. Keilir is sometimes mistaken for other peaks, especially when approaching from S, and care must be taken to avoid any confusion.

A light is shown from a tower, 31m high, standing 1 mile N of the S extremity of Reykjanes. A light is also shown from a tower, 5m high, standing on the S part of Reykjanes. It is reported that, when approaching from SE by day, the light tower standing on the S part of the promontory may be seen before the higher light tower as it seems to blend in with the hills.

Fuglasker is a chain of islets, rocks, and shoal patches which are separated from each other by deep channels. It extends SW from Reykjanes for about 40 miles and can best be seen on the chart. Areas to be avoided encompass these shoals and can be best seen on the chart.

Eldeyjarbodhi (63°29'N., 23°48'W.), the outermost of these dangers, is a small rocky patch, with a depth of less than 2m, which is always marked by breakers. A bank, with a least depth of 22m, lies about 11 miles SW of Eldeyjarbodhi and breaks in heavy weather.

Geirfugladrangur, a rock, awash, lies about 18 miles NE of Eldeyjarbodhi and is separated from it by a deep channel. Nearby depths are reported to be changing continually due to undersea volcanic action, the area should be avoided.

Geirfuglasker, located about 2.5 miles NE of Geirfugladrangur, is a group of rocks with depths of less than 2m on which the sea always breaks; these breakers are especially heavy during W or NW seas or swells.

Eldey, located 8 miles SW of Reykjanes, is a sheer-sided rock, 77m high. It is one of the largest gannet colonies in the world and the ledges on the sides and the entire top of the rock are white with guano from these birds.

Eldeyjardrangur, a large rock 4m high, lies 1 mile SW of Eldey. A ridge of submerged rocks extend from this rock almost to Eldey.

Courtesy of Jarrod M. Kushla

Eldey

Kletturinn (Kletturrin), a rock with a depth 3.3m, lies 5 miles WSW of Reykjanes and is the nearest danger to the mainland. The passage lying between this rock and the mainland is the one generally used. The other passages, although deep, should be avoided because of heavy tide rips which are especially dangerous during spring tides

Hafnarberg, a hill 40m high, stands on a promontory at the N

end of a bay, Stora Sandvik, 5 miles N of Reykjanes. Anchorage may be obtained, in a depth of 22m, sand, within the bay.

The coast N of Hafnaberg recedes to form a bight at the head of which is a foul inlet. A small settlement, with a prominent church, stands near the S entrance point of the inlet.

Anchorage is obtainable, in a depth of 24m, during winds from N to S through E, off the S side of the entrance to the inlet.

Stafnes (63°58'N., 22°45'W.) is located 10 miles N of Reykjanes. A light is shown from a tower, 11m high, standing on the point. Shoals and rocks extend up to 0.5 mile offshore in this vicinity. Five steel towers, 44m high, stand 1 mile NE of the point and an aeronautical radiobeacon is reported to be situated at this location. Four prominent dish antennas are reported to stand SE of the point. From seaward, the hangers and facilities of the airport, situated E of point, can be seen.

A local magnetic anomaly has been reported to exist between 2.5 and 5 miles W of Stafnes.

Hvalsnes, a settlement with a prominent church, is situated 1.25 miles N of Stafnes. Shoals and rocks extend up to 1 mile offshore in this vicinity.

8.4 Sandgerdi (Sandgerdhi) (64°02'N., 22°43'W.), a small trading and fishing harbor, is located 3 miles N of Hvalsnes. A reef, which dries, extends up to 1.25 miles offshore, close S of the harbor. It is marked by a lighted buoy at the seaward end and protects the harbor from the S and W.

Sandgerdi

A light, which indicates the approach channel, is shown from a tower on a dwelling, 19m high, standing at the NE corner of the harbor. The fairway, 50m wide, through the entrance is then indicated by pairs of lighted range beacons. Caution must be exercised as shoals lie close on either side of the channel. Local knowledge is advised. It is reported (1992) the entrance fairway and harbor have been dredged to a depth of 5.5m.

During offshore winds, anchorage may be obtained, in a depth of 20m, off the harbor.

Gardskagi (Gardhskagi) (64°05'N., 22°42'W.), located 2.5 miles N of Sandgerdi, is the S entrance point of Faxafloi, a large bay. The point is low and rocky and a reef extends 1 mile NW from it. A shoal patch with a depth of 13m, lies about 0.5 mile NW of the outer end of the reef.

A light is shown from a tower, 27m high, standing at the extremity of the point. Another light is shown from a lower position on the same tower. A racon is situated at this light structure.

Caution.—It has been reported that abnormal magnetic variations exist in a position about 4.5 miles NW of Gardskagi. A waverider buoy lies about 4.25 miles ENE of Sandgerdhi.

Faxafloi

8.5 Faxafloi (64°08'N., 22°40'W.), an extensive bay extending 25 miles E, is entered between Gardskagi and Malarrif, a point 48 miles NW. Its S shore is low, with several hills rising inland. Its E and N shores are backed by high mountains near the coast and Snaefellsjokull, a conspicuous snow-covered mountain, stands N of the N entrance point.

The depths in the greater part of the bay are less than 91m; three banks, Vestra-Hraun (Vesturhraun), Sydhrahraun, and Budhagrunn, lie in the bay.

Vestra-Hraun (Vesturhraun), a detached bank, lies between 6 and 16 miles N of Gardskagi. It has a least depth of 17m in itse N part.

Sydhrahraun (Sydrahraun) is a bank which lies between 7 and 12 miles NE of Gardskagi. A least depth of 10m is charted in its NW part. Areas to be avoided around Sydhrahraun can best be seen on the chart.

Budhagrunn, a detached bank of shingle and shells, lies about 30 miles N of Gardskagi. A least depth of 29m is charted in its S part.

Tides—Currents.—In Faxafloi, the tidal currents are regular. On the rising tide, the tidal current sets E along the S shore of the bay. Farther offshore, the trend is more to the NE, curving N and then NW. On the falling tide, these currents are reversed but the rate is considerably weaker. After N or NW gales, the ebb is strengthened and an onshore set may be experienced along the N and NE sides of the bay.

Local magnetic anomalies.—The magnetic compass is not a reliable guide in Faxafloi, particularly in its S part. The following information is compiled from observations reported by various vessels, the results of which have been found to be in general agreement.

On the track between Gardskagi and Reykjavik, in an area 2 or 3 miles square centered in position 64°08'N, 22°24'W, a local magnetic anomaly of up to 11°E has been experienced. Within this area, the compass needle was found to swing suddenly from 3°E to 8°E and then slowly until the maximum of 11°E was reached.

To the N of Reykjavik, an area exists in which the variation is W; a maximum deflection of 20° has been reported in the vicinity of the N extremity of Akrey Reef, about 1.5 miles NNW of Reykjavik.

Abnormal variation is also experienced in the inner approach to Hafnarfjordur; an anomaly of about 5.5° W occurs at a position 2 miles W of the outer breakwater, but, after quite a short distance, this anomaly changes to about 8°E. This latter anomaly then decreases regularly and ceases at a position about 1 mile from the breakwater. At a position between 365 and 550m farther inward, a W anomaly again occurs, which gradually reaches a maximum of 5.5°.

The following data is based on limited observation:

1. In the N part of Vester-Hraun, the compass needle was deflected 4°W.
2. Close N of the bank, which extends N from the island of Videy, the compass needle was deflected 8°E.
3. About 5 miles N of Grotta, the compass needle was deflected 8°E.

In an area about 4.5 miles WNW of Arkanes, between the latitudes of 64°19'N and 64°20'N and the meridians of 22°13'W and 22°21'W, the compass needle is reported to be deflected first one way and then the other. During one run, it was reported that a vessel, which was maintaining a good course by observations of the land, experienced the following deflections of the compass needle: first 4°E, then 3°W, next 13°E for a short time, and finally 4°W. A maximum W deflection of 10° has also been observed.

Abnormal variations have been observed in Hvalfjordur and its approaches, but in the N part of Faxafloi, magnetic disturbances have only been observed in the vicinity of Snaefellsjokull.

For further information, refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Caution.—During W gales, heavy seas are experienced on Vestra-Hraun and Sydhrahraun. These are especially dangerous to trawlers and small vessels.

Vessels are advised not to proceed inside of the 20m curve without local knowledge.

Large fishing fleets assemble each year on the coastal flat, indicated by the 180m line, in the vicinity of the bay.

Caution is necessary in thick weather, when proceeding N from Reykjavik or when crossing the entrance to the bay, as vessels are liable to be set towards the dangerous rocks fringing the coast NE of Vester-Hraun.

8.6 Keilisnes is located 12 miles ESE of Gardskagi. The coast between these two points recedes to form a bight. The shores of this bight are indented by a number of small coves which afford anchorage for small craft. These coves are mostly used by small vessels during the fine weather season for the loading of locally-cured fish. However, they are, for the most part, difficult to identify, as there are very few landmarks in the vicinity.

From Keilisnes, the coast trends generally ENE for 7 miles to the S entrance point of Hafnarfjordur.

Utskaler Church, standing 0.75 mile SE of Gardskagi Light, is a high conspicuous building surrounded by several large wooden houses. Gerdhar (Gardur), a trading and fishing station, is situated 0.5 mile SE of the church.

Varaos, a landing place, is located close SE of Gerdhar. Anchorage is obtainable, in a depth of 27m, close NE of Varaos; however, caution is necessary to avoid the reefs which extend offshore in this vicinity.

A few scattered fishing villages lie S of Varaos.

Holmsberg (64°02'N., 22°33'W.), a steep prominent cliff, stands 4 miles SE of Gardskagi. It is fronted by a reef; Stakkur, a steep-sided rock, 21m high, lies close offshore. A light is shown from a tower, 13m high, standing at the N end of the cliff.

Helquvik, a boat harbor protected by a breakwater, is located

Keflavik-Njarovik

Ilunypa, located 1 mile SE of Holmsberg, is a point which forms the N extremity of a small cove, at the head of which lies Keflavik. A conspicuous church, with a spire, stands in the middle of the town. It is reported that mooring buoys, for use by fishing craft, are situated in the cove.

Vatnsnes, the S extremity of this cove, is formed by a rocky promontory. A light is shown from a tower, 8m high, standing on the N end of this promontory.

8.7 **Keflavik** (64°00'N., 22°33'W.) (World Port Index No. 70) is a fishing center. The small harbor lies on the S side of the promontory.

Depths—Limitations.—There are concrete and wooden

piers with depths of 6 to 13m alongside. A mole that extends 230m S from the S side of Vatnsnes provides 165m of quay space, with depths of 7 to 13m alongside. Vessels up to 5,500 dwt and 118m in length have been handled. A quay, 55m in length, with a depth of 6m alongside, lies E of the root of the mole. Keflavik is equipped to handle tankers.

Pilotage.—The pilots (call sign: Keflavik Pilot) can be reached on VHF channels 12, 14, and 16. Pilotage is compulsory for vessels over 100 dwt and is available 24 hours. Messages can also be sent through Reykjavik (TFA). The pilot boards 1 mile off Vatnsnes.

Anchorage.—Winds are variable. Vessels may anchor in the middle of the outer part of the cove, in a depth of 27m. The bottom is clay and sand, and has good holding ground. Vessels should moor with two anchors. During times when the winds are from the NNE to SE, which blow with high velocity into the cove, the anchorage becomes dangerous. The cove should be avoided when the wind is a NE gale to avoid being driven onto the rocks.

Caution.—Although it may be clear at sea, lights in this vicinity may become obscured, particularly during the autumn, by dust clouds which may hang over the land.

8.8 Njardvik (Njardhvik) (63°59'N., 22°32'W.), a small bay, is located 1.25 miles S of Keflavik.

Ytri-Njardhvik, in the NW part of the bay, is a small fishing harbor protected by breakwater. A number of stone jetties lie within the harbor and are used by small vessels. A lighted buoy marks a spit which extends seaward from the end of the breakwater. A directional light leads toward the S breakwater.

Pilotage.—Pilotage is compulsory for vessels over 100 gross tons and is available 24 hours.

Anchorage.—Anchorage is obtainable, in a depth of 12m, fair holding ground, in the middle of the entrance to the bay; however, it is exposed to NE winds.

Keflavik Airfield is situated close W of Njardvik. An aeronautical lighted beacon is shown from the field. The tanks, buildings, and other facilities are conspicuous from seaward.

Vogavik, a shallow cove, is located 3.5 miles E of Njardvik. The shore between them is fronted by a long cliff, known as Vogastapi. The entrance to the cove is indicated by ranges. Anchorage is obtainable, in a depth of 29m, sand, under the lee of Vogastapi, but it is dangerous in N winds. Vogar, a small settlement with a shallow boat harbor, is situated at the NE side of Vogavik.

Gerdistangi (64°01'N., 22°21'W.) is located 2 miles NNE of Vogar. Rocks and shoals, extending up to 0.5 mile offshore, fringe the coast and the point. A light is shown from a tower, 10m high, standing on the point.

Keilisnes (64°02'N., 22°16'W.), a fairly conspicuous point, is located 2.5 miles ENE of Gerdistangi and is fronted by rocks and shoals. Kalfatjorn, a settlement, is situated about midway between these two points; a large church with a prominent tower stands on it.

Vatnsleysuvik, a rock-fringed bight, lies between Keilisnes and Hraunsnes, 3.5 miles ENE. Temporary anchorage, during S winds, can be obtained in the SW part of this bight; however, local knowledge is essential because of the presence of dangerous rocks.

8.9 Straumsvik (64°03'N., 22°03'W.), located 2.5 miles E of Hraunsnes, is a small harbor lying within a cove. Lambhagagrandi, a submerged reef, extends about 0.25 mile NW from the E entrance point. A mole, 365m long, extends W into the cove from close S of this reef. The entrance channel, 160m wide, is indicated by a lighted range and marked by buoys which may best be seen on the chart. A group of prominent silos stands at the root of this mole. The harbor is used by bulk vessels which serve the nearby aluminum works.

Straumsvik

It is reported that the harbor can accommodate vessels of up to 60,000 dwt; however, they are limited to lengths of 205m in winter and 215m in summer. The port is mainly used for the aluminium trade and the import of LPG, but also has a general and bulk cargo berth.

Pilotage is compulsory. Pilots, supplied from Hafnarfjordur, board about 1.5 miles NW of the entrance. The harbor can be contacted by VHF.

Large vessels can anchor, in a depth of 40m, good holding ground, about 5.5 miles NW of the entrance to the cove. Anchorage would be dangerous in N winds. For prominent mountains in the vicinity, see Reykjavik in paragraph 8.12.

8.10 Hafnarfjordur (64°04'N., 21°57'W.) (World Port Index No. 80) lies within a small fjord between Straumsvik and Melshofdi, the low SW extremity of the Alftanes Peninsula, 2.5 miles N. It is located 7 miles SW of Reykjavik. Hafnarfjordur harbor is sheltered by a breakwater. It lies at the head with the town rising behind it. The channel entrance is 150m wide and is 4 to 12m deep. The port handles imports of general cargo, timber, salt, oil, LPG, jet fuel,and marine diesel and exports of fish products, scrap, and general cargo.

Winds—Weather.—Prevailing winds are SE to SW. The fjord is exposed to W winds, which send in a fairly heavy sea, though its force is broken by the gradually shelving bottom. Winds from seaward generally blow with less force than those from off the land.

Ice.—Ice is never a hindrance to navigation and neither the fjord nor the anchorage freezes over.

Hafnarfjordur

Tides—Currents.—Tides rise about 4m at springs and 3m at neaps. The maximum tide rise is 4.5m.

Depths—Limitations.—The inner harbor is contained by two breakwaters; the N breakwater is 200m long, while the S breakwater is 400m long. The entrance to the harbor is 150m wide and 9m deep, with a soft clay bottom.

North Quay, in the N part of the harbor, is 245m long, with depths of 6 to 6.5m alongside; it is mainly used for general cargo and repairs.

South Quay, in the E part of the harbor, is 430m long with depths of 6 to 8m alongside; it is used by general cargo vessels.

Oseyrar Pier, in the S part of the harbor, is 130m long, with depths of 6 to 6.5m alongside its N side and 2.5 to 4m alongside its S side; it is mainly used by breakbulk, general cargo, and fishing vessels.

A finger pier, 70m long, has depths of 5.5 to 6.6m alongside.

Tankers discharge alongside an oil berth, 62m in length, at the inner side of the S breakwater. The berth has a depth of 9m alongside, with a soft clay bottom. A maximum arrival draft of 9.5m may be allowed. The oil pier has been widened (2009) and the inner water basin just inside of the breakwater has been reclaimed and established as a contiguous quay up to the base of the oil pier.

Tankers moor and start to lighter 2 or 3 hours before HW to lighten to 8m or less before LW. Tankers up to 27,350 dwt have entered the port.

Vessels are limited to a length of 190m and a draft of 8.5m, but tankers are allowed to have a draft of 9.5m.

There is a new breakwater and harbor area, Hvaleyri Harbor, W of the S breakwater, with a new berth, 200m long, with an alongside depth of 8 to 10m. It is used for breakbulk and general cargo.

Aspect.—An outer approach lighted buoy is moored about 1.25 miles SW of Melshofdi. The entrance channel is indicated by a lighted range, which may best be seen on the chart. A prominent beacon, 4m high, stands on a hummock, 126m high, located about 1 mile SSE of the town.

Pilotage.—Pilotage is compulsory for all foreign vessels and is available 24 hours. The pilot usually boards 1 mile SSE of the outer buoy. Smaller vessels and masters familiar with the port are invited to proceed to the inner buoy. The pilot can be contacted on VHF channel 14.

Vessels must notify the harbormaster's office of their ETA 96 hours and 24 hours prior to arrvial. Vessels must call the pilot on VHF channel 14, 2 hours prior to arrival with the details of any dangerous cargo and its quantity.

Tugs are available. The use of tugs is not compulsory.

Anchorage.—Vessels waiting for a pilot may obtain anchorage about 1 mile SSE of the Valhusagrunn Buoy (64°05'N., 22°05'W.).

Anchorage may be found in all weathers, except strong winds and waves from SW to NW. A good anchorage during W winds is found 1 mile E of Helguvik (64°01'N, 22°31'W).

Directions.—Vessels approach the harbor entrance on heading 095.5° in line with the directional light, which is best seen on the chart. The port anchor is dropped near the entrance of the breakwater and the vessel is swung, assisted by tug. As the stern enters the breakwater. The vessel is moored and brought along to berth, port side-to.

Caution.—Helgasker, a shoal patch which dries, lies on the S side of the entrance channel, about 1 mile W of the harbor entrance; it is marked by a lighted buoy. Vessels with a draft of 7m or greater are cautioned that shoals exist in position 64°04.7'N, 22°08.8'W, bearing 260° and 1.5 miles distant from Valhusagrunn Buoy.

A coastal bank fronts the N shore of the fjord; foul ground and shoal patches extend up to 1.25 miles SSE of Melshofdi. Valhusagrunn, an isolated shoal patch with a depth of 4.6m, lies 1 mile WSW of Melshofdi, near the W end of the bank.

In the outer approaches to the fjord, the alignment of the entrance channel lighted range leads over a depth of 8.6m, about 3 miles WSW of Melshofdi.

Due to isolated shoal patches in the outer approaches, vessels with drafts of over 7m should exercise caution.

A triangular restricted area has been established close S from the Hafnarfjordur breakwater entrance and extends 1 mile W, then S toward the entrance to Straumsvik. A submerged pipeline lies in this area.

8.11 Skerjafjordur (64°09'N., 22°01'W.) (World Port Index No. 90) is separated from Hafnarfjordur by the Alftanes Peninsula, which extends for 2 miles between Melshofdi and Eyri, its NE extremity. The town of Skerjafjordur, which forms a part of Reykjavik, is situated on the N side of the fjord.

Depths—Limitations.—In the inner part of the fjord, a T-headed pier, with a depth of 2.7m alongside its face, projects 338m from the NE shore. A submarine oil pipeline extends from the pier head and wires extend from its outer end N and NE to the shore. Vessels berth at HW heading SE. They use two anchors and secure to two stern mooring buoys. Vessels up to 6.6m draft can be handled.

A reef, with two extended shoals, runs seaward for 0.75 mile from the coast, located about 1 mile NNE of Melshofdi. Seltjarnarnes, 3.75 miles NNE of Melshofdi, is a peninsula which extends 1.75 miles NW and has two extremities at its seaward end.

Sudhurnes, the S extremity, is located 1 mile SW of Grotta. A reef extends NE from Sudhurnes and nearly connects it to

the islet. It is reported that a group of radio masts stand on the SE part of this extremity.

Numerous dangers lie in the approaches to Skerjafjordur and may best be seen on the chart.

Svidholtsbodhi, a shoal patch with a depth of 1.9m, lies about 1.5 miles NW of Melshofdi. Leirubodi, a shoal patch with a depth of 1.8m, lies about 0.75 mile NNW of Svidholtsbodhi. Jorundarbodi (64°08'N., 22°04'W.), a dangerous rock lying on a shallow patch, is located about 1.5 miles SW of Sudhurnes. Several shoal patches, with depths of 3.3 to 4.8m, lie up to 0.75 mile E and 0.5 mile NE of this rock.

Kerlingasker and Keppur are drying reefs which lie about 0.5 mile W and 0.75 mile SW, respectively, of Sudhurnes. The main entrance channel lies between these reefs and Sudhurnes.

Longusker, a narrow ridge of reefs, lies between 0.75 and 1.5 miles SE of Sudhurnes, on the E side of the entrance channel.

The entrance fairway is narrow and fringed with dangers. It is indicated by ranges and marked by buoys.

Aspect.—Grotta, an islet, lies on a reef which extends from the N of these two extremities. A light is shown from a tower, 23m high, standing on the islet.

Pilotage.—Pilotage is compulsory. Pilots can be contacted by VHF and come from Reykjavik. They will board in Reykjavik roadstead about 2 miles NNE of Grotta Light.

Courtesy of Jarrod M. Kushla

Grotta Light

Caution.—During bad weather, vessels cannot enter Skerjafjordur and must either stand off or anchor in Reykjavik roadstead.

Submarine cables lie in the fjord and may best be seen on the chart.

A restricted area has been established around a historical wreck in position 64°07'N, 21°57'W.

Numerous small craft may be encountered within the fjord.

Reykjavik (64°09'N., 21°56'W.)

World Port Index No. 100

8.12 Reykjavik, the capital of Iceland, is Iceland's major city. It is home to nearly half the country's population. The first people said to have inhabited Iceland were Irish Monks who probably settled there in the eighth century, but Ingolfur Arnarson is said to be the first known settler in Iceland. A chieftain from Norway, he arrived in Iceland with his family and dependents in 874. He built his farm in Reykjavik.

Reykjavik is a major port. There are two main harbor areas: the Gamla Hofnin and the Sundahofn.

Tides—Currents.—Tides rise about 4m at springs and 3m at neaps.

Depths—Limitations.—Gamla Hofnin (Old Harbor), protected by two breakwaters, is situated on the S side of Orfirisey. The entrance is 100m wide. The harbor is divided into Vesturhofn (West Harbor) and Austurhofn (East Harbor). Total quayage is 2900m, and 600m of the total is for small fishing vessels. The depth of Gamla Hofnin at its entrance is 6 to 8m (MLWS). It is best for larger vessels to berth at high tide. Vesturhofn is used for unloading small and large fishing vessels, for berthing bunker barges, and as a lay-up area for repairs. Austurhofn is a cruise ship berth, 170m long, at Midbakki, and a ro-ro terminal for the Akranes ferry. The Icelandic Coast Guard and the Icelandic Marine Research Institute both have bases here. The harbor is used for landing wet fish from small and medium-sized boats for auction. It is also used by deepsea trawlers for landing frozen fish.

Sundahofen is located SE of Laugarnes. The harbor has unrestricted access. The four sections of Sundahofen are Vatnagardar, Kleppsvik, Grafarvogur, and Eidsvik.

Vatnagardar, an open basin, has 780m of total quayage, and has 8m of water alongside. It is used mainly for handling containers and unitised cargo. There is a ro-ro berth and a berth to accomodate bulk carriers in Vatnagardar. The quay is also used in summer for cruise ships over 170m that are too large to berth in Gamla Hofnin.

Kleppsvik is the main quay in Sundalhafen. It is on the S side of the basin. The approach channel is 50m wide and has a depth of 7m (MLWS). The main quays are Holtabakki Quay, which is 250m long, with depths of 7 to 8m alongside, and Vogabakki Quay, which is 300m long, with a depth of 8m alongside. The berths are mainly used for handling containers. General cargo vessels, bulk carriers, and trawlers also use Kleppsvik.

A boat harbor lies S of Vogabakki Quay.

Grafarvogur is used for discharging and storing cement, gravel, and asphalt. The approach channel has been dredged to 4m (MLWS). There is a depth of 4.5m alongside.

Eidsvik serves as the State Fertilizer Plant. It has a deep water quay, with 7m of water alongside.

Vessels up to 50,000 dwt, 240m in length, and 8m draft have been accommodated within the port.

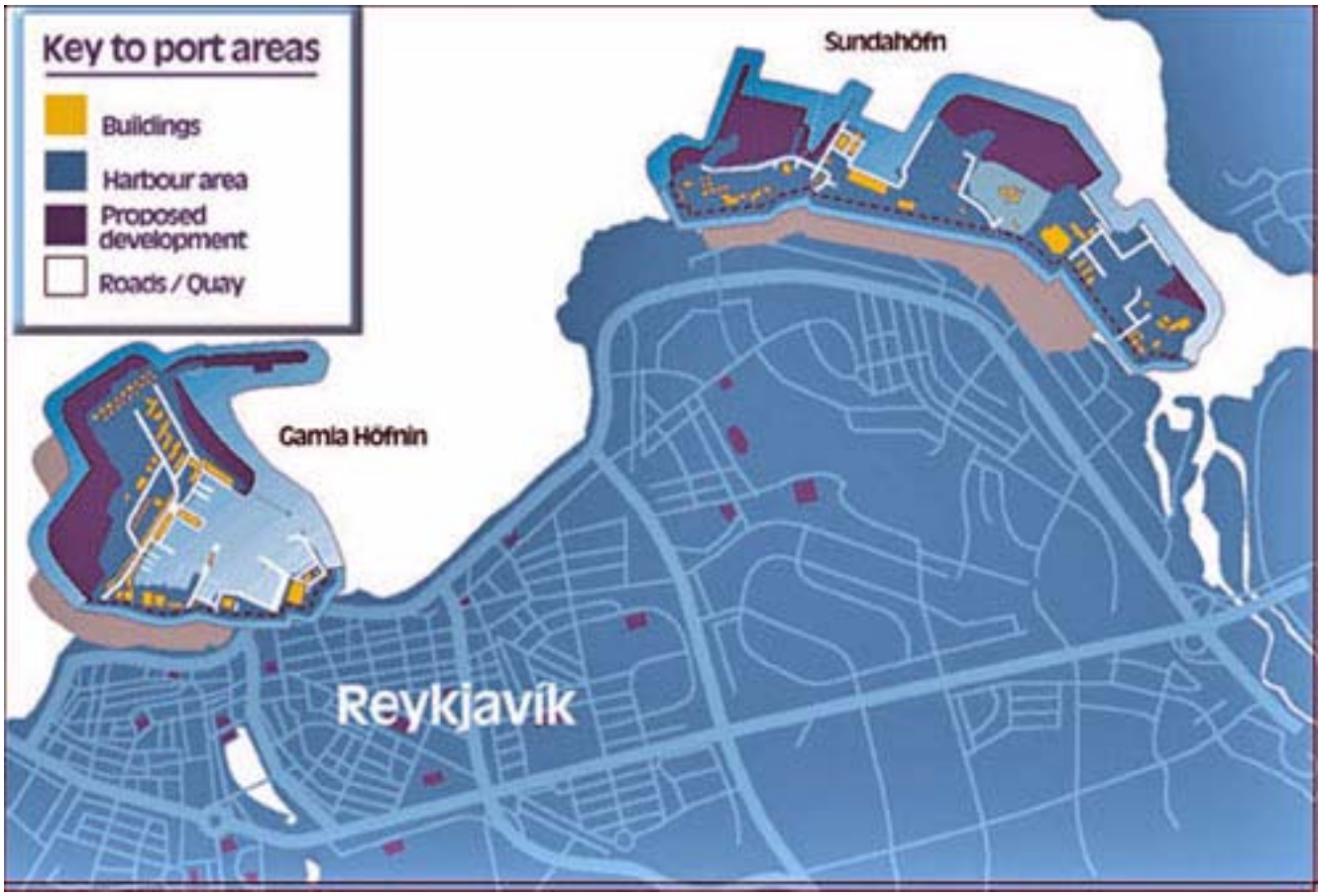
Two offshore tanker mooring berths lie within the port. They are serviced by submarine pipelines and are situated close NE of Orfirisey and close N of Laugarnes. Tankers up to 32,000 dwt, with a maximum draft of 12m, can be accommodated.

Aspect.—The harbor approach is unrestricted and ice-free all year round. Lighted ranges indicate the channels leading to the berths S of the open basin.

Akurey, an islet 7m high, lies 1.5 miles ENE of Grotta. It is surrounded by reefs and lies on the tongue of a bank, with depths of less than 5m, which fronts the NE coast of the Seltjarnarnes Peninsula. Another tongue of this bank extends 1

Courtesy of Jarrod M. Kushla

Panoramic view of Reykjavik



Reykjavik port diagram

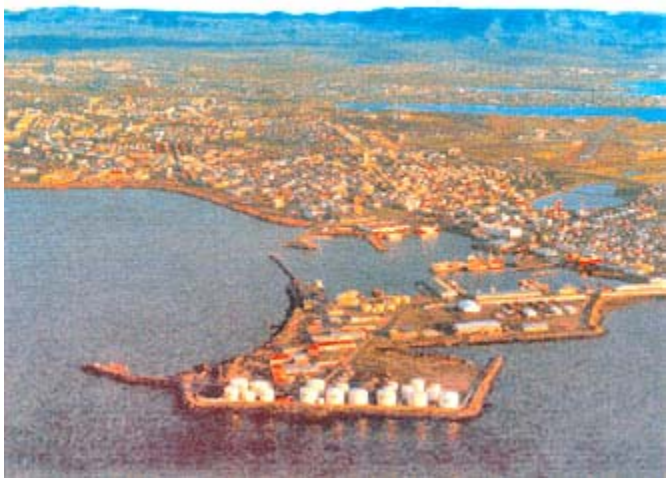
mile NE from Grotta. The bay entered between Grotta and Akurey is foul and should be avoided.

Akureyjarrif is the name given to the part of the bank which extends about 0.4 mile N of Akurey. It is marked by a lighted buoy. An isolated shoal patch, with a depth of 12.7m, lies about 0.75 mile NNE of Akurey.

Orfirisey is located 1 mile SE of Akurey; several drying reefs and shoals lie between them. A former islet, Orfirisey is now joined to the mainland and a breakwater extends 275m E from its E side.

Engey, 15m high, is located 1 mile E of Akurey. A reef, which dries in places, extends about 550m S from the S ex-

Reykjavik Harbor



Reykjavik Harbor

tremity of this island and is marked by a lighted buoy. A light, which indicates the approaches, is shown from a tower, 9m high, standing at the N end of the island. A racon is situated at the light tower.

Courtesy of Jarrod M. Kushla

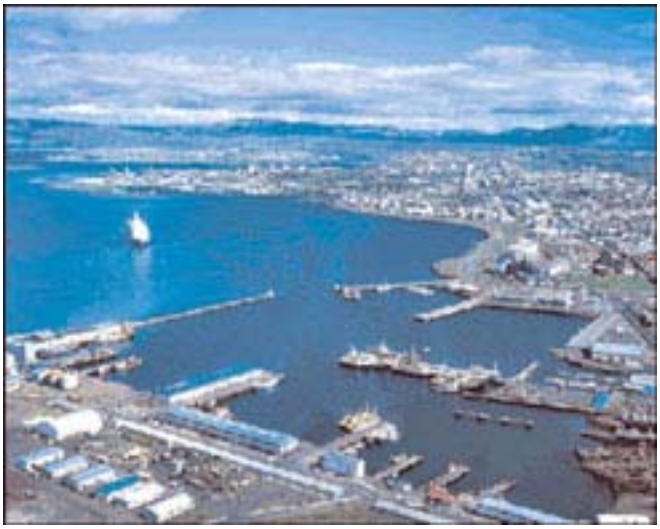
Reykjavik—Inner Harbor

Reykjavik from SW

Sundahofen—Reykjavik Container Terminal

Courtesy of Jarrod M. Kushla

View of Mount Esja from W



Reykjavik near Orfirisey from NE

Landakotskirkja (hilltop Catholic Church)

Engeyjarrif, the W entrance channel, leads between Akurey and Engey and towards City Harbor.

Videy is located 2.5 miles E of Akurey. Vidheyjarflak, a bank, extends about 1 mile N from the N coast of the island. Shoal depths of 6.8m and 2.2m lie about 0.75 mile NNW and 0.25 mile N, respectively, of the N end of the island. Several rocks and reefs front the W shore of the N part of Videy and are marked by a lighted buoy. Shallow water and a reef, marked by a lighted buoy, lie between the S end of the island and the mainland.

Vidheyjarsund, the E entrance channel, leads between Engey and Videy and towards Sundahofn.

Laugarnes, a prominent point, is located on the mainland, 1.5 miles E of Orfirisey. A spit, with drying rocks, extends about 0.4 mile N from the N side of this point and is marked by a lighted buoy. Skarfaklettur, a rock 10m high fringed by a reef, lies 550m E of the point.

Vifilsfell (64°02'N., 22°33'W.), a conspicuous mountain, 691m high, and Mount Esja, a conspicuous plateau, 851m high, stand 12 miles SE and 8 miles NE, respectively, of Reyk-

Sjomannaskolin Light (64°08'N., 21°54'W.) is shown from the conspicuous steeple tower, 32m high, of the nautical school which stands 1.5 miles SE of Orfirisey. It indicates the entrance channels.

A conspicuous church tower, Landakotskirkja, stands 1 mile SSE of Orfirisey.

A conspicuous block of flats and an oil installation, with a prominent chimney close SE, stand on Laugarnes.

An aeronautical lighted beacon (64°08'N., 21°55'W.) is shown from the top of a water tank standing on a hill about 0.75 mile SW of the nautical school. Vessels approaching from W have reported that this light is especially useful in poor visibility.

Vifilstadir Sanatorium stands about 4 miles S of Reykjavik and 11.25 miles NE of Keilir. It is reported to be very conspicuous from the outer W approaches.

Facilities at the airport, situated 1 mile S of City Harbor, stand prominent.

A tank farm is situated on the N side of Orfirisey.

A prominent silo stands on the N side of Vatnagardar basin.

A prominent reservoir is situated on the summit of a hill,

Sjomannaskolinn Light, Seaman's School

49m high, standing close S of the nautical school.

Lighted Buoy No. 7 is moored about 1.5 miles NW of Engey Island Light.

The entrance fairway in Vidheyjarsund is indicated by a lighted range, which may best be seen on the chart.

Pilotage.—Pilotage is compulsory for all vessels over 60m long, all vessels carrying hazardous or dangerous cargo, and for Hvahjordhur Terminal, Helguvik. Pilots board near Lighted Buoy No. 7 or at the anchorage.

The pilot station and pilot vessel can be contacted on VHF channels 12, 16, and 17.

Vessels should send their ETA 24 hours and 3 hours in advance through Reykjavik (TFA) to the harbor authorities and inform the harbormaster of any changes to the ETA. The harbor office must be contacted 3 hours before arrival on VHF channel 12 or 17.

Small craft owners are advised to contact the harbor control on VHF channel 12 before berthing.

Anchorage.—The best anchorage for large vessels is in the roadstead lying E of City Harbor. There are depths of 11 to 12m, sand and shingle over hard solidified mud; however, the holding ground is poor and the roadstead is exposed to N and E winds, which are frequently strong. More sheltered anchorage can be obtained, in depths of 9 to 14m, under the lee of Engey, but heavy gales from W raise a considerable swell at this is anchorage. Well-sheltered anchorage can be found in Eidhsvik (64°10'N., 21°50'W.) in depths of about 12.5m.

Caution.—Several dangerous wrecks lie within the entrance channels and may best be seen on the chart.

Submarine oil and gas pipelines, as well as submarine cables, lie within the port and may best be seen on the chart. A submarine pipeline (2008) crosses the channel nearest the pier area at Ellioaarvogur.

Several marine farms are reported to have been established along the coasts of the islands lying in the approaches.

A magnetic anomaly occurs at a position close N of the NE extremity of Akureyjarrif. It reaches a maximum of nearly 20°W. However, this anomaly is not experienced suddenly but increases regularly as the area is approached from N or W and then decreases regularly as the entrance to City Harbor is neared. A magnetic anomaly of about 8°E has also been experienced at about 2.5 miles N of this position.

An area centered in position 64°07.0'N, 21°57.2'W, about 0.3 mile SW of T-head fuel pier, is a restricted areas.

Sjomannaskolinn Light is partly obscurred by buildings and cranes from 158° to 162°.

8.13 Kjalarnes (64°14'N., 21°55'W.), the W extremity of the peninsula which forms the S entrance point of Hvalfjordur, is located 3.5 miles NNW of the N extremity of Videy. Kollafjordhur, the bight formed between these two points, extends SE and is indented by a number of fjords.

Eidsvik lies between the E side of Videy and Geldinganes, a peninsula extending from the mainland, 0.5 mile E. This fjord is clear of dangers except for a shoal area, with depths of less than 5m, which extends up to 365m offshore from the E side of the N part of Videy. A jetty, which serves a fertilizer plant, is situated on the S shore of the fjord. A lighted range, which can best be seen on the chart, is shown from close E of this jetty and indicates the entrance channel. A lighted buoy is moored about 0.4 mile NE of the NE extremity of Videy. Vessels may obtain anchorage, in a depth of 14m, about 550m NNW of the head of the jetty.

Caution.—A dangerous wreck, with 15.2m over it, lies close WNW of the NW extremity of Perney.

8.14 Lundey (64°11'N., 21°50'W.), a low and grass-covered islet, is located 1 mile NE of the N end of Videy. It is fringed by a reef. Perney (Therney), a low and grass-covered island, is located 0.75 mile E of Lundey.

Leiruvogur, a small shallow fjord, extends 2 miles E between Perney and Geldinganes. The greater part of this fjord dries at low water. Anchorage can be obtained by large vessels, in depths of 9 to 13m, in the outer part of this fjord, S of Perney.

Alfsnes, a small and rounded promontory terminating in a steep slope, lies on the N side of Leiruvogur.

Brimnes (64°12'N., 21°50'W.) a rounded promontory, is located 1.25 miles N of Lundey. It extends SW from the SW slopes of the Esja Range and terminates in a hill with a steep slope to seaward. Saltvik, a small bight, lies 0.75 mile E of Brimnes and is foul up to about 365m offshore. Within this bight, rocks extend up to 183m offshore, close E of two conspicuous waterfalls.

A narrow fjord extends 1.5 miles ENE from the E entrance point of Saltvik. An overhead power cable, with a vertical clearance of 8m, spans this fjord at a position about 2 miles E of Brimnes. Helgusker, a rock, which dries 3m, lies in the middle of the fjord in the vicinity of the cable. Anchorage may be obtained, in a depth of 9m, in the middle of the fjord, about 550m W of the cable.

Hofsvik, a bay, is entered between Brimnes and Kjalarnes, 2.5 miles NW. It is encumbered by shoals, rocks, and islets and should be avoided by vessels without local knowledge. Kjalarnes is fronted by numerous rocks and reefs. Shoal patches, with depths of 7m and 9m, lie up to 550m SW of the point.

Brautarholtsborg, 46m high, is a conspicuous crag standing about 1 mile NE of Kjalarnes; it resembles a ruined castle.

Caution.—A magnetic anomaly exists in a small area locat-

ed about 1.5 miles SW of Kjalarnes. A sudden anomaly of from 14° to 18°W has been experienced here. The variation is reported to be normal to the N of the area and up to 0.5 mile S of the area. However, farther S, anomalies of both E and W variation have been experienced. A local magnetic anomaly has also been reported to exist at a position about 5 miles N of Kjalarnes.

8.15 Hvalfjordur (64°16'N., 22°00'W.) is entered between Kjalarnes and Inri-Holmur (Inriholmur), a point and village 4 miles NNW. The fjord trends NE and E for 17 miles and is navigable for almost its entire length. It diminishes to a width of less than 1 mile at the narrows, about 12 miles above the entrance, then broadens at the head and forms several bays and inlets. There are several dangerous rocks in the fjord, particularly at the entrance and on the SE side of the outer part.

Mount Esja, on the SE side of the fjord, and Akrafjall, a prominent mountain, 643m high, standing 6.5 miles N of Kjalarnes, serve to identify the entrance of the fjord. Thufufjall, a conspicuous mountain, 533m high, stands near the head of the fjord. A prominent white building stands on the lower slopes 1.75 miles SW of its summit.

Tides—Currents.—Tidal currents in the entrance attain a rate of about 0.75 knot at springs. They are generally weaker towards the head. Tides at Grundartangi rise about 3.9m at springs and 2.9m at neaps.

Caution.—Several submarine cables lie within the fjord and may best be seen on the chart.

The wind may blow very strongly out of the fjord and, with E winds, very heavy squalls may come down from the mountains.

Numerous streams pour down the mountains on the SE side of the fjord and at the head. When the snow melts in the spring, these streams become torrents and bring down large amounts of shale and sand into the fjord.

Numerous small research buoys have been established within Hvalfjordur beginning near the lighted buoy at Hnausasker and extending about 10 miles NE. Research is expected to continue until 2012.

8.16 Galtarvikurhofoi, a small point on the N shore, is located about 7 miles NE of Innri Holmur, a village with a prominent church near the shore. Kuludalsa, a conspicuous farmhouse, stands 2 miles SW of Galtarvikurhofoi.

On the N side of the entrance a coastal bank, with reefs and rocks, extends up to almost 1 mile offshore. Heynesflogur, a rock with a depth less than 1.8m, lies at the outer edge of this bank, about 1 mile SE of Inriholmur. Shoal patches and rocks extend up to 1.5 miles offshore, close W of Inriholmur.

Hvaleyri (64°21'N., 21°44'W.), a low and rocky spit, projects about 0.5 mile into the fjord from the S shore, 8 miles NE of Kjalarnes. A light is shown from a tower standing on the N extremity of the spit and a prominent stack, 12m high, stands on the beach 0.5 mile SSW of it.

A coastal bank, with reefs and rocks, lies between Kjalarnes and Hvaleyri and extends up to 1 mile offshore. Hnausasker, a dangerous rock, lies at the outer edge of the bank, 4 miles NNE of Kjalarnes, and is marked by a lighted buoy. Andriosey, an islet 5m high, lies on the bank 1.25 miles N of Kjalarnes; it is fringed by rocks and a reef. Isolated shoal patches lie up to about 1.5 miles NW of this islet and are marked by a lighted buoy. Numerous submarine cables cross the fjord and can be best seen on the chart. Some are power cables and are marked by beacons. A road tunnel has been constructed beneath the fjord 4 miles NE of Kjalarnes.

8.17 Grundartangi (64°20'N., 22°41'W.) (World Port Index No. 105) is located on the N coast of Hvalfjordur Fjord in Faxafloi Bay, which is N of Reykjavik, 1.25 miles NE of Galtarvikurhofoi.

Grundartangi is ice-free throughout the year. The port consists of a rectangular land fill square extending from the shore with two berths. Berth A runs perpendicular to the shore line and is 120m long ,with a depth of 8m alongside. It handles bulk material imports and exports for the ferro-silicon plant. Berth B runs parallel to the shore line and is 250m long, with with a depth of 13m alongside. Alumina and other materials are discharged at this berth for the aluminium smelter plant.

Depths of 24 to 44m lie in the fairway of the fjord leading to the pier.

Pilotage.—Pilotage is not compulsory but pilots are available from Akranes. It is reported that vessels are limited to a draft of 7.5m at low water. Vessels up to 15,000 dwt and 161m in length have been accommodated at the pier. Pilots can be contacted by VHF channel 14.

Anchorage.—Vessels can obtain anchorage, in depths of 16 to 19m, with good holding found at Mariuhof, which is 1.5 miles E of Grundartangi Quay. Vessels should avoid the rocky ridge on the SW corner of Mariuholf and the foul ground between Mariuhofn and Mariusker.

8.18 Hofdi (64°22'N., 21°34'W.), a small peninsula, is located on the S side of the fjord, 4.5 miles ENE of Hvaleyri. Hvammsey, an island 30m high, lies close E of Hofdi and is joined to it by a stony ridge which dries.

Hrafneyri, a low and stony point, is located 1 mile NNE of Hvammsey. The channel between them forms the narrows and the fairway is reduced to a width of only about 550m. A rock, with a depth of 11m, lies on the S edge of the fairway in the narrows.

Saurbaer, a village with a prominent church, stands on the N shore of the fjord, 2.5 miles W of Hrafneyri. Brekka, a conspicuous farmhouse, stands 1 mile N of Hrafneyri.

Hvammsvik, a bay, is entered between the SE end of Hvammsey and Hvitanes, a rocky headland, 1.25 miles SE. The N part of this bay is encumbered by foul ground and rocks. Vessels can obtain anchorage, in depths of 15 to 17m, in the outer part of this bay.

8.19 Helguvik (64°24'N., 21°27'W.), a bay, is entered between Hrafneyri and the W extremity of Thyrilsnes (Pyrilsnes), a narrow peninsula, 2 miles SE. Thraetusker (Praetusker), the outermost of several rocks, lies about 1.25 mile ESE of Hrafneyri and is marked by a lighted buoy. Geirsholmi, a conspicuous islet 13m high, is located at the SE side of the bay, 0.75 mile ESE of Thraetusker (Praetusker). A shoal patch with a depth of 4.3m, lies about 0.5 miles NE of this islet.

Midsandur, an oil installation SW of Oliustodh (Oliustoo), is situated on the N shore of the bay and a jetty, 305m long, extends S from it. The head of the jetty is of dolphin construction and has

depths of 13.4 to 14m alongside. Vessels can anchor, in a depth of 15m, S of the jetty. A new arm is being constructed (2009) on the breakwater and will extend about 145m E of the head of the existing breakwater.

A tank farm is situated on the NE shore of the bay and is served by a pier, 360m long. Tankers up to 30,000 tons berth off the pier head using both anchors and stern moorings. They are berthed, bow outwards, during daylight hours only.

Brynjudalsvogur, at the head of the fjord, is entered between Hvitanes and the SW end of Thyrilsnes. A drying stony bank fringes the S shore of the bay and a conspicuous waterfall is situated close within the coast.

Botnsvogur, a shallow arm of Brynjudalsvogur, extends 2 miles NE; an overhead power cable, with a vertical clearance of 10m, spans the entrance. Its head dries up to about 0.75 mile offshore. The N and S shores of the arm are formed by steep mountain slopes and the prominent summit of Mulafjall, 333m high, stands 0.75 mile S of the head.

Caution.—Large magnetic disturbances have been observed within an area which extends E and W for 1 mile and across the whole breadth of the fjord SSE of Saurbaer. The greatest deflection observed was 30°.

In a position SE of Saurbaer, about 0.5 mile offshore, an anomaly of 24°E was observed; however, in a position about 0.25 mile ESE of this last position, an anomaly of 23°W was observed.

8.20 **Akranes** (64°19'N., 22°05'W.) is a small port and fishing center standing on a low and rocky spit. The harbor is located at the NW side of Krossvik, a bay entered between Ytriholmur, and Sudurflos, the S extremity of the spit, 1.75 miles W.

Tides—Currents.—Tides rise about 4m at springs and 3m at neaps.

Depths—Limitations.—There is a depth of 8.5m in the entrance. The main pier has 290m of total quayage with depths of 5.7 to 8.5m alongside. There are facilities for ferries and fishing vessels. Vessels of up to 8,800 dwt, 137m in length, and 7.9m draft have been accommodated in the harbor.

Numerous dangers front the entire stretch of coast between the entrance to Hvalfjordur Fjord and Akranes and may best be seen on the chart.

Holmur Ytri, an islet 5m high, is located about 185m offshore. It lies on a reef which extends SW for about 0.5 mile from Ytriholmur Point. Thjotur (Pjotur), a rocky and dangerous reef fringed by shoal water, lies about 1 mile SSE of Akranes Light and fronts the approach to Krossvik.

The channel leading between Thjotur (Pjotur) and the dangers fronting Ytriholmur is indicated by a lighted range, in line bearing 345°. However, it is difficult and should not be used by vessels without local knowledge.

The bay should be entered by the channel which leads between Thjotur (Pjotur) and Sudurflos. Its fairway is indicated by a lighted range, in line bearing 051°.

Aspect.—Akranes Light is shown from a prominent tower, 22m high, standing 550m within the S extremity of Sudurflos. Outer Lighted Buoy No. 11 is moored about 1.25 miles SW of the light tower.

A white tower stands on Sudurflos; a drying reef extends about 455m SSW from it.

Pilotage.—Pilotage is compulsory for foreign vessels. Pilots can be contacted by VHF and board in the vicinity of the outer lighted buoy. Local knowledge is necessary for a safe approach.

Anchorage.—Vessels may anchor, in depths of 14 to 17m, in the inner approach, about 640m SSE of the outer breakwater. The holding ground is good and the anchorage is well sheltered from winds off the land, from W through N to ESE. However, gales from other directions quickly raise a heavy sea in the bay.

Caution.—A dangerous wreck, with 8.8m over it, lies about 0.7 mile SSE of the Akranes S breakwater.

8.21 Lambhusasund, a small and shallow bay encumbered by rocks, is located between the drying reef, which extends SW from Sudurflos, and Vesturflos, a narrow spit, 0.5 mile W. Lighted ranges indicate the narrow entrance channel, but local knowledge is required. The bay is used as a boat harbor.

Between Akranes and a point on the shore, 6 miles NNE, the coast forms a bay, the shores of which are fronted with dangers extending, in places, up to 1 mile offshore. A shallow estuary, with a wide expanse of drying mud at the entrance, lies at the head of the bay.

Caution.—The area within 4 miles of the coast NE of Akranes is unsurveyed and should be avoided by vessels without local knowledge.

Mellaholmi, a low islet, lies on the foul coastal bank, 5 miles N of Akranes. Flesjur, a small islet 2m high, is located 1.75 miles NNW of Mellaholmi. It is surrounded by several rocks, awash, which form the outermost danger.

Alftanes (64°28'N., 22°10'W.) is located 10 miles N of Akranes. It is fronted by foul ground and dangers which lie up to about 1.25 miles offshore. Staumfjordhur, a trading station and boat harbor, is located 2 miles NW of Alftanes; entry requires local knowledge.

8.22 Borgarfjordhur is entered E of Alftanes and trends NE for 14 miles to where Hvita, a glacial river, discharges into its head.

Midhfjardharsker (Miofjaroarsker), an islet, 8m high, lies on the SE side of the entrance to the fjord, 2.5 miles NE of Flesjur. It is fringed by a drying reef and numerous dangers lie on the coastal bank to the E. It is reported that small vessels can anchor in the fjord, 0.5 to 2 miles N of this islet.

An extensive coastal shelf, foul with numerous uncharted rocks and shoals, lies on the N side of the approach to the fjord. This area must be avoided by vessels without local knowledge.

Lamasker (Lambasker), a group of rocks and reefs, lies 3 miles WSW of Midhfjardharsker. Graenholmi, a conspicuous islet 9m high, is located 1 mile WSW of Lamasker and is fringed by a reef. Both of these dangers lie on the S edge of the foul area.

Within the entrance of the fjord, both shores are low, fringed by numerous rocks and shoals, and backed by marshy grassland. On the SE shore, the grassland gives way to the steep cliffs of Hafnarfjall, a prominent mountain, standing 4 miles within the entrance.

The fjord can only be used by small vessels due to the shallow depths. Numerous rocks and dangers lie on either side of the fairway and extensive sand banks are located in the inner part.

8.23 **Borgarnes** (64°32'N., 21°56'W.), a settlement, is situated 6 miles NNE of Midhfjardharsker, near the extremity of a narrow peninsula which projects SSW from the NW side of the fjord. An island lies close off the extremity of the peninsula and is connected to it by a bridge. A quay, situated on the W side of the island, is 29m long and has a depth of 1.9m alongside. Vessels with drafts up to 3.5m and local knowledge can reach an anchorage area lying 365m S of the settlement. A submarine cable lies across the fjord in the vicinity of the settlement.

Ice.—The fjord never freezes except near the shore, but a considerable amount of drift ice from Hvita may be encountered in it. The ice is often of the black variety; therefore, small vessels should, proceed with caution in the winter season.

Tides—Currents.—Due to being the estuary of a large glacial river, the tidal currents in the fjord are, at times, considerable. They may attain rates of up to 6 knots in the narrow parts.

Caution.—Under certain circumstances, especially in February and August, the sea level may fall up to 0.6m below chart datum.

Local magnetic anomalies exist within the fjord.

8.24 **Thormodhssker** (64°26'N., 22°19'W.), a prominent islet 15m high, is located on the edge of the coastal bank, 3.75 miles W of Graenholmi. A light is shown from a tower, 23m high, standing on the islet. A racon is situated at the light tower.

Urdharbodhi (Uroarbooi), a shoal with a depth of 5.8m, lies about 1.25 miles S of Thormodhssker and is the outermost danger in this vicinity.

Sydhra Skogarives (Skogarnes) (64°48'N., 22°36'W.), a projection in the NE corner of Faxafloi, is located 22 miles NNW of Thormodhssker. The stretch of coast between has many small indentations and is fronted by numerous dangers which extend, in places, up to about 5 miles offshore.

Caution.—In this part of Faxafloi, vessels without local knowledge should not proceed into depths of less than 35m.

Akranes, located 13 miles NNW of Thormodhssker, is a narrow spit which extends 2.25 miles NW from the mainland. Dangers lie up to 4.25 miles seaward of this spit. A bay, which is unsurveyed, lies between the spit and Sydhra Skogarnes (Skogarnes), about 8 miles NW.

A trading station stands on Sydhra Skogarnes (Skogarnes). An anchorage, partly sheltered by rocks and shoals, lies off the station and can be used by small vessels with local knowledge. A channel, marked by beacons, leads to the anchorage and is reported to have a least depth of about 6.4m.

8.25 Geldinganes, a small projection on the N coast of Faxafloi, is located 10.5 miles W of Sydhra Skogarnes (Skogarnes). Breidhasker, a rocky islet fringed by dangerous rocks, lies 2 miles SSE of the projection.

Kirkjuholl, a settlement, is situated 2 miles W of Geldinganes. A light is shown from a tower, 6m high, standing at the settlement.

Budir, a small trading station, is situated 7 miles W of Kirkjuholl, at the NW corner of a small bay. This station is rarely visited, but anchorage is obtainable, in depths of 13 to 15m, about 1 mile SSE of it. The approach to the roadstead leads between a number of rocks and reefs; local knowledge is required.

Maelifell, a hill, 566m high, and Budhaklettur, a dome-shaped hill, 89m high, stand 2 miles NNW and 1.25 miles SW, respectively, of Budir. Both of these hills are prominent from seaward.

Breidhavik, a small bay, is located 4 miles W of Budir. Kirkjubodi, a shoal depth of 8.8m, lies in the E approach to this bay, about 1.5 miles offshore. Arnarstapi, a small settlement consisting of several farms, is situated on the W shore of the bay and is visible from seaward. A light is shown from a hut, 3m high, standing on a hill close S of the settlement. Stapafell, a prominent hill standing close NW of the settlement, has two peaks; a beacon is reported to stand on the lower one. Anchorage may be obtained, in a depth of 20m, good holding ground, about 0.5 mile E of the settlement. It should only be used during the summer months and local knowledge is required.

Caution.—Magnetic anomalies have been reported to exist in the approaches to Arnarstapi; the magnetic compass is not reliable in this area.

8.26 Hellnanes, located 8.25 miles WSW of Budir, is the W entrance point of Breidavik. A reef extends about 0.75 miles S from the point. Hellnagoltur (Goltur), a rock, lies about 1 mile E of the point. It only covers at the highest spring tides and is always marked by breakers. Hellnar, a modern settlement, is situated close N of the point and prominent from seaward.

Courtesy of Ed Jackson

The Snaefellsness Peninsula

Malarrif (64°44'N., 23°48'W.), the S extremity of Snaefellsnes and the N entrance point of Faxafloi, is located 4.5 miles W of Hellnanes. The coast between is fronted by rocks. A light is shown from a tower, 24m high, standing on this low point.

Londrangar, a remarkable group of rocks, lies close E of Malarrif. These rocks are high and steep and, on some bearings, resemble a church with a high tower.

Snaefellsnes is the W part of the great promontory which separates Faxafloi, on its S side, from Breidafjordur, on its N side.

Snaefellsjokull, a very conspicuous mountain, stands at the W end of Snaefellsnes, N of Malarrif. Its summit, which is always covered in snow, consists of two peaks; the W and highest peak attains a height of 1,446m. When the summit is clearly visible, it is an indication of fine weather; however, the forma-

Courtesy of Ed Jackson

North side of the Snaefellsness Peninsula

Snaefellsjokull

tion of clouds around the summit indicates that changing weather, usually a gale, is expected and will last as long as the summit remains clouded.

West Coast (Continued)

8.27 The main features of this stretch of coast are Breidafjordur (Breidhafjordhur) and Vestfirdir (NW Fjords), which are deeply indented by numerous fjords. Breidafjordur, a large bay lying N of Snaefellsnes, is much encumbered with dangers. In contrast, the rugged part of the coast N of Breidafjordur is deeply indented by numerous fjords which, being deep, well-sheltered, and easily accessible, contain some of the best harbors in the country. This coastal area is usually known by the comprehensive title of Vestfirdir (Northwest Fjords).

Winds—Weather.—Gales are moderately frequent, more so than on the SW coast, but fog is relatively infrequent. Ice is seldom a hindrance to navigation, and is not usually encountered S of 66°N.

Caution.—The coastal bank extends 40 to 60 miles offshore and is indented by a number of deeps. The fall at its edge is very steep. Large fishing fleets may be encountered on the bank, especially in depths of 55 to 75m.

Dritvik, a small cove, is located 3 miles NW of Malarrif. A reef, which breaks in heavy weather, extends about 0.5 mile SW from its W entrance point.

Holaholar, a conspicuous hummock 113m high, stands close to the shore, about 5 miles NW of Malarrif.

Beruvik, another small cove, is located 7 miles NNW of Malarrif. During E winds, vessels, with local knowledge, can obtain anchorage, in a depth of 25m, good holding ground, within this cove.

Svortuloft is the name given to the stretch of coast lying between Beruvik and Ondverdarnes. A light is shown from a tower, 12m high, standing on this stretch, 1.25 miles S of Ondverdarnes.

Ondverdarnes (Ondverharnes) (64°53'N., 24°03'W.), the NW extremity of Snaefellsnes, is located 12 miles NNW of Malarrif. The coast between is formed by steep cliffs and fringed by rocks. Its volcanic origin is indicated by many small volcanic cones, by its brown, red, and yellow color, and by its lack of vegetation. A light is shown from a tower, 7m high, standing on the point, but is obscured on some bearings.

8.28 Breidafjordur (Breidhafjordhur) (65°14'N., 24°20'W.), a large bay, is entered between Ondverdarnes and Bjargtangar, 40 miles NNW. It indents the W coast for a distance of about 45 miles and the shores are backed by high and conspicuous mountains. The S and N shores of the outer part of the bay are indented by a number of small fjords. The E part of the bay is filled with innumerable islets and rocks and is, therefore, mostly unsuitable for navigation; however, two of the most important trading stations within the bay, Stykkisholmur and Flatey, are situated there. Vessels proceeding to these stations require local knowledge.

Tides—Currents.—Within Breidafjordur, the flood tidal current sets N into the bay along the S shore. The ebb tidal current does the reverse.

Along the whole of the N shore, the S tidal current runs E; however, the N tidal current runs E to the E of Skorarbodar (65°24'N., 23°58'W.) and W to the W of it. At spring tides, the N current may attain a velocity of up to 4 knots in the vicinity of Latrabjarg.

In the W part of the bay, a portion of the S tidal current sets SE.

Courtesy of Ed Jackson

Kirkjufell

Aspect.—On the S side of the bay, in addition to

Snaefellsjokull, the following conspicuous hills and mountains may be observed:

1. **Enni** (64°54'N., 23°45'W.), a steep-sided mountain 417m high, standing on the coast N of Snaefellsjokull.
2. Bulandshofdi, a dark mountain, 323m high, standing close to the shore, about 8 miles NE of Enni.
3. Stod (Stodh), a coffin-shaped hill, 266m high, standing 3 miles ENE of Bulandshofdi.
4. Kirkjufell, a conical hill, 462m high, standing 2.5 miles E of Bulandshofdi.
5. **Bjamarhafnarfjall** (64°59'N., 23°00'W.), a mountain 573m high, with Helgafell, an isolated hill, 71m high, standing 8 miles ENE of it.

On the N side of the bay, the following hills and mountains may be observed:

1. **Kikafell** (65°31'N., 23°18'W.), a mountain, 610m high and Hagatafla, another mountain 603m high, standing 6.5 miles WSW of it.
2. Stalfjall, a mountain, 701m high, standing 8.5 miles WSW of Hagatala and Latrabjarg, a coastal ridge, attaining a height of 441m 15 miles WNW of it.

The following may be observed near the head of the bay:

1. **Dimunnarklakkar** (65°08'N., 22°36'W.), a hill with twin summits, standing on an islet and rising to a height of 71m.
2. **Klofningur** (65°13'N., 22°27'W.), a mountain, 494m high, and Tungumuli (65°11'N., 22°10'W.), a mountain, 640m high; both are very conspicuous.

Caution.—There is reason to believe that depths within the bay and the branch fjords at the head are decreasing and the land rising. Therefore, in many places depths less than those charted may be found.

Patches of foul ground lie in an area located about 31 miles NW of Ondverdarnes and may best be seen on the chart.

Several anomalies have been experienced in the area between Ondverdarnes and Bjargtangar. In an area bound by the parallel of 65°03'N, and between the meridians of 24°00'W and 24°20'W, large deflections have been observed with anomalies up to 22° both E and W.

8.29 Hellissandur (Sandur) (64°55'N., 23°54'W.), a trading station, is situated 4.25 miles NE of Ondverdarnes, at the head of a cove. Brimnes, the W entrance point, is fringed with reefs; a number of submerged rocks lie in the SW part of the cove. There is a small boat harbor which dries. Range beacons indicate the entrance fairway, but are reported to be difficult to identify. Anchorage may be obtained, in a depth of 20m, sand, off the cove. Local knowledge is required.

Anchorage, with good shelter from winds between SW to SE, may also be obtained, in depths of 22 to 27m, off the coast, about 2 miles SW of Brimnes. A conspicuous radio mast stands near the coast, 0.5 mile SW of Brimnes.

Rif (64°55'N., 23°50'W.), a low point, is located 2.5 miles ENE of Hellissandur. Several farms are situated on the point and Rifshovn, a small harbor protected by breakwaters, lies close S of it. Dangerous reefs front the harbor and is marked by a buoy. Taska, a drying reef, is marked by a lighted beacon. An entrance channel, dredged to a depth of about 3.5m, is indicated by lighted range beacons. The main quay berths is 320m in lengt,h with depths of 3 to 5m alongside. Two new breakwaters (2009) have been built at Rif. The first one is about 500m extension of Norougarour and the other is about 350m E of Suourgarour. A church, with a high tower, stands 1.5 miles SW of Rif.

Approaching Olafsvik

Olafsvik

From Rif to Snoppa, a point 3 miles ESE, the coast is fringed with dangerous reefs which extend up to almost 1 mile offshore.

8.30 Olafsvik (64°54'N., 23°43'W.), a trading station, is situated in the W corner of a wide bay which is entered between Snoppa and Vatnstangi, 3 miles ENE. At the W end of the station, there is a small enclosed harbor, which dries in its inner part. There are berths, for small vessels, with depths up to 5.8m alongside. A light is shown from a tower, 3m high, standing on the coast about 1 mile E of the station. Anchorage may be obtained, in a depth of 20m, at an outer roadstead off the harbor. The anchorage is exposed to N winds, which can create dangerous swells. Lighted range beacons indicate the channels leading to the harbor and the anchorage. However, reefs and shoals lie adjacent to the fairways and local knowledge is required.

Caution.—An anomaly of up to of 8°E has been observed over a small area in the approaches to Olafsvik.

Krossnes (64°58'N., 23°22'W.), a point fringed by steep-to reefs, is located 10 miles NE of Olafsvik. The coast between is fronted by rocks and shoals. A light is shown from a tower, 9m high, standing on the point. Shoals and rocks, over which the sea breaks, lie up to 1.5 miles N of Krossnes and are marked by a lighted buoy.

8.31 Grundar Fjordur (Grundarfjordhur) (65°00'N., 23°18'W.) is entered between Krossnes and Skarfatangi, 5 miles NE. The fjord extends SSE for 4 miles and affords anchorage, but local knowledge is required.

Skarfatangi is the N extremity of a peninsula which separates Grundar Fjordur from Kolgrafafjordur, to the E. The coast in the vicinity of this point is fronted by a bank, with depths of less than 5m, which extends up to 1 mile offshore.

Numerous shoals and a group of rocks lie within a dangerous area which extends 6 miles NNW from Skarfatangi; large vessels should not attempt to cross this area.

Eyrarfell, a mountain 352m high, rises close S of Skarfatangi and is prominent.

Melrakkaey, a low islet, lies in the center of Grundar Fjordur, 1.5 miles NE of Krossnes. It is steep-to on its E side but a reef extends up to 0.25 mile from the N side.

The shores of the fjord are generally sparsely inhabited. However, a settlement, with two jetties suitable for small craft, is situated in the SE corner, 3.75 miles SSE of Krossnes. A bay, with depths of mostly less than 5.5m, lies in the SW corner of the fjord. Grafarnes, a salient point, is located on the E side of this bay. A small settlement and a group of oil tanks stand on the point and two breakwaters extend seaward from close E of it.

Anchorage.—Good anchorage may be obtained, in a depth of 15m, good holding ground, in the SE part and off the E side of the fjord. Local knowledge is required, as reefs lie in the vicinity of the anchorages.

Caution.—During the summer, winds from seaward do not blow directly into the head of the fjord, but frequently raise a heavy swell. During S and SW winds, heavy squalls may come down from the mountains.

Marine farms have been established in Grundarfjordhur and may be floating or fixed structures. They are generally marked by buoys and beacons. The farms and moorings should be avoided.

8.32 Kolgrafafjordur (65°00'N., 23°03'W.) is entered E of Grundar Fjordur between the peninsula, on the W side, and the coast under the NW slopes of Bjarnarhafnarfjall, 1.5 miles E. Akureyjar, an island 19m high, lies 0.5 mile off the E entrance point and reefs lie between them. Brennubodhi, a drying rock with depths of less than 7m, lies 0.5 mile W of Akureyjar and in the entrance to Kolgrafafjordhur.

This fjord offers one of the best shelters in the whole of Breidafjordur, but it is little used because of the dangers in its approach. No directions can be given for entering Kolgrafajordur and local knowledge is required.

Hoskuldsey (65°06'N., 23°01'W.), a low islet, is located 11.5 miles NE of Krossnes and 5.5 miles N of the entrance to the fjord. It is one of the outer dangers in the SE part of Breidafjordur. A light is shown from a tower, 10m high, standing on the summit.

Between Kolgrafafjordur and Stykkisholmur, 9 miles NE, the coast is fronted by numerous islets, shoals, rocks, and reefs and should be avoided by vessels without local knowledge.

Ellidaey (65°09'N., 22°48'W.), an island lying near the outer edge of theses dangers, is located 6 miles ENE of Hoskuldsey. A light is shown from a tower, 8m high, standing on a hill in the E part of the island. A small harbor, with depths of 5 to 7m, is located at the S side of the island. It affords anchorage with good holding ground, but local knowledge is required.

8.33 Stykkisholmur (65°05'N., 22°43'W.), an important trading station, is situated 4.5 miles SSE of Ellidaey, on the N extremity of a much-indented projection. The station is situated on the S side of a small natural harbor which is formed between the mainland shore and three islands, Landey, Vadstakksey (Stakksey), and Sugandisey, lying close off it. Two entrance channels lead from W through the dangers fronting the coast to the harbor. One passes N of Vadstakksey (Stakksey), an island lying 2 miles S of Ellidaey; the other passes to the S of it. They are indicated by lighted ranges and beacons. Local knowledge is advisable, but the N entrance channel is recommended for those vessels without it. There is a wooden jetty, 30m long, with a depth of 5m alongside, in the harbor.Vessels may anchor, in depths up to 27m, sand, good holding ground, near the harbor E of the island, Sugandisey.

Styykkisholmur

Caution.—Caution must be exercised in the shallowest parts of the approach channels due to frequent changes taking place on the sea bottom.

Local anomalies have been reported to exist at positions in both the entrance channels. An anomaly of 11°W was observed in the N channel and one of 6°E was observed in the S channel.

8.34 Alftafjordur (65°02'N., 22°38'W.), an unsurveyed fjord, the entrance of which is obstructed by islets and rocks, indents the coast in a S direction close E of Stykkisholmur.

Hvammsfjordur (65°06'N., 22°20'W.) is the name usually applied to all the waters E of Stykkisholmur. However, properly speaking, the name belongs only to that part of the fjord that lies E of the chain of islets that encumbers its entrance, 3 miles E of **Hrappsey** (65°07'N., 22°36'W.). From its entrance, Hvammsfjordur extends E and NE almost 25 miles. The chain of islets, which encumbers the entrance to this fjord, lies on an extensive shoal area. Most of the channels which lead between these islets dry except for **Rost** (65°07'N., 22°31'W.), the principal channel. Hvammsfjordur can only be navigated by power vessels with drafts up to 5m. There are no safe anchorages and the fjord is characterized by baffling winds, strong tidal currents, eddies, and whirlpools.

Caution.—Vessels should not attempt to pass through Hvammsfjordur without local knowledge.

Tidal currents in the channels attain rates of 6 to 8 knots at neaps and even greater rates at springs.

Due to changes of the sea bottom, vessels can only pass through the channels at high water.

The depths in Rost may be less than charted.

8.35 The part of Breidafjordur which lies NE of a line joining Ellidaey and Kikafell (65°31'N., 23°18'W.) is encumbered with an immense number of islets, rocks, and shoals. These dangers lie in groups, with navigable channels leading between them.

Caution.—Due to changes of the sea bottom, sections of the channels may only be used at high water.

Only the main channels have been surveyed and these are so narrow and intricate that they may only be used with local knowledge.

8.36 **Flatey** (65°22'N., 22°55'W.), an island, 15m high, is located 14 miles N of Ellidaey. It is the largest and central island of a group lying in the NE part of Breidafjordur. A trading station is situated on its NW side. Reefs and small islets extend along the S side of the island and about 0.5 mile off it.

Klofningur, an islet fronted by reefs and shoals, lies about 0.5 mile W of the W end of Flatey. A light is shown from a tower, 9m high, standing on the islet. A racon is situated at the light tower.

The principal outer dangers lying between Ellidaey and Flatey are described below.

Gassasker, a small islet 9m high, is located 2.25 miles NNE of Ellidaey. Dangerous reefs lie close N of it.

Stagley (65°14'N., 22°51'W.), an islet 13m high, is located 5 miles N of Ellidaey. This islet is fringed by reefs and a beacon stands on it.

Bjarneyjar (65°16'N., 22°52'W.), a chain of islets and rocks 3.5 miles long, is centered about 6.5 miles SSE of Flatey.

Alasker (65°18'N., 22°56'W.), a drying reef with an islet on it, is located 4.25 miles S of Flatey

Brekar, a rock, awash, lies about 4 miles NW of Stagley.

Lagibodi, a shoal with a least depth of 1.9m, lies about 1 mile ESE of Brekar.

Oddbjarnsker (65°21'N., 23°09'W.), a prominent islet 11m high, is located about 6.5 miles W of Flatey. It is surrounded by foul ground. Another islet, 11m high, is located 2.25 miles NE of Oddbjarnsker and is fronted by rocks on its NE and SW sides.

Kroksfjardharnes (65°27'N., 21°57'W.), a trading station, is situated at the head of Breidafjordur. The main channel leading to it is approached between Gassasker and Stagley.

8.37 **Hagi** (65°30'N., 23°27'W.), a village, is situated on the N shore of Breidafjordur, 5.5 miles W of Kikafell. An anchorage roadstead, known as Hagabot, fronts the shore near the village and can be reached by small vessels. Channels lead through the reefs to the roadstead from the SW and from Flatey, but local knowledge is required.

Skor (65°25'N., 23°57'W.), the SW end of a short ridge, is located 13 miles WSW of Hagi. It rises above a cliff to a height of 700m and is prominent from E or W. A light is shown from a structure, 5m high, standing on Skor.

A dangerous reef extends 2 miles SW from Skor and shoal patches lie up to 3 miles WSW of the light structure.

Caution.—The coast between Kikafell and Skor is fronted by numerous islets, rocks, reefs, and foul areas. The areas N and W of Flatey have not been completely surveyed and breakers have been reported in several places.

At Skor, the N tidal current always runs strongly towards the shore. Consequently, because of the outlying dangers, extreme caution should be exercised in this area, especially in thick weather.

8.38 Raudhasandsbugur, a large bay, lies between Skor and Bjargtangar, 15.5 miles WNW. Raudisandur, two narrow sand spits, is located on the E side of the bay and almost encloses, Baejaros, a shallow area. Saurbaer, a small settlement, is situated at the N end of Baejaros. During N and E winds, good temporary anchorage may be obtained, in a depth of 10m, close off the E part of the bay. However, this area is reported to be seldom visited, as a heavy swell is quickly raised.

Bjargtangar (65°30'N., 24°32'W.) is the N entrance point Breidafjordurof. A light is shown from a dwelling, 6m high, standing on the point. The light is not visible from Breidafjordur when bearing less than 337°.

Caution.—With strong N winds and especially during the strength of the N tidal current, vessels should avoid approaching the vicinity of Bjargtangar, as a steep and tremendous sea is formed. The S tidal current, when running against a strong S gale, may also cause a heavy sea.

A dangerous race of great strength occurs off Bjargtangar. This is caused not only by the N tidal current, but also by the mass of water which is at the same time being emptied out of Breidafjordur. In this case, the resultant current sets out from the coast and boats are reported to have been saved by keeping quite close-in.

The shore in the vicinity of the point is fringed with reefs which extend up to 0.5 mile seaward. It should be given a wide berth.

Magnetic anomalies have been reported to exist in areas centered 22 miles NW and 5 miles W of Bjargtangar.

8.39 Between Bjargtangar and Ritur, 60 miles NE, the peninsula which forms the NW coast of Iceland is deeply indented by numerous fjords which are usually known by the comprehensive title of Vestfirdir or the Western Fjords. This peninsula is almost cut off from the rest of the Iceland and is joined to it by a neck of land about 6 miles wide.

The shores of the fjords, which run for considerable distances SE between high and steep coasts, are heavily indented by smaller fjords. A series of low points, consisting of shingle and sand, extend transversely across the fjords from one side and are the remains of terminal moraines of the Ice Age. Good harbors or anchorages lie behind these low points in almost all the fjords and are used extensively by the fishing fleets which operate off this coast.

These fjords are easily navigated by power vessels as few dangers exist and most of these are located close to shore.

Ice.—The fjords are practically free from polar ice, but they are not suitable for vessels to winter in. Ice, which forms on the surfaces of the fjords, often breaks adrift due to the influence of tides and swell.

8.40 Occasionally, in severe ice years and after persistent

N winds, the polar ice will approach the fjords. Under such circumstances, ice has been reported to fill the mouth of Sugandafjordur (66°08'N., 23°33'W.). It has also been observed at the entrance to Onundarfjordur and within Dyrafjordur.

Tides—Currents.—Off all the fjords on the NW coast of Iceland, the tidal current sets NE on the rising tide and SW on the falling tide. The flood sets in along the S side of the fjords and out along the N sides. The ebb runs in the reverse direction. How far into the fjords the tidal currents run in this manner differs, but it is often not more than 1 or 2 miles, for the surface stream inside the fjords is usually outgoing as a result of the discharge of fresh water from the rivers and streams. This naturally varies with the season of the year. The ebb tidal currents are always strongest along the N sides of the fjords and frequently cause eddies on their S sides, especially off salient points.

Up to a distance of about 2 miles from the coast, the flood current continues to run until about 1.5 hours after high water by the shore. It usually runs longer than the ebb current which is weaker. The greater the distance from shore the longer the interval between high and low water and the corresponding turn of the tidal current. At a distance of about 20 miles offshore, the N tidal current may continue for about 3 hours longer than close inshore.

Caution.—An area of foul ground patches, lying about 15 miles offshore, runs NE between Bjargtangar and Fjallaskagi and may best be seen on the chart.

8.41 Blakknes (65°38'N., 24°20'W.), a steep headland, is located 9.5 miles NNE of Bjargtangar. The coast between consists of grass-covered valleys running down to the sea between steep but not very high hills. There are several small bays with beaches located at their heads. The beaches are formed of yellow sand and are prominent from seaward.

Latravik, an open bay, lies between Bjargtangar and Bjarnarnupur, 2.5 miles NNE. Hvallatur, a small settlement, is situated in the NE corner of this bay. Anchorage can be obtained by small vessels with local knowledge, in a depth of 6m, sand, within the bay. Breidhavik, another open bay, lies N of Bjarnarnupur. Rocks fringe the shore. Dju'pibodi (Djupbodhi), a detached rock lies 0.7 mile offshore, and has a depth of 4.9m. Kollsvik, a small open bay north of Breidhavik, has good tempoarary anchorage during offshore winds, but local knowledge is required. A waverider buoy is moored 12 miles WNW of Blakknes.

Patreksfjordur (65°38'N., 24°08'W.) the S fjord of the Vestfirdir, is entered between Blakknes and Talkni, 6 miles E. The entrance has depths between 4.7 to 4.9m and the harbor has a depth of 6.4m at LW and 10m at HW. There is a quay.

Both of these entrance points are steep and from midway between them, the fjord trends SE for 12 miles. General depths in the approach are 22 to 37m, but, as is the case with several others of the Vestfirdir, the fjord contains a deep in which the depths increase to over 55m.Talkni is fringed by a submerged reef.

A light is shown from a stone tower, 14m high, standing at Olafsviti, on the S side of the fjord, 4.5 miles ESE of Blakknes.

Tunga, a small cove, is located on the S side of the fjord, 1.75 miles SE of Olafsviti Light. In the approach the depths decrease regularly from 20m to 11m, sand, at the entrance. Anchorage, well sheltered from S and SW winds, may be obtained in the cove with local knowledge.

8.42 Vatneyri (Patreksfjordur) (65°35'N., 23°59'W.) is situated on the NW side of the fjord, 3.5 miles SSE of Talkni. The settlement is closely backed by high mountains.

There is a small and well protected harbor. The entrance is 37m wide and indicated by a lighted range. There are depths of 3.5 to 5m alongside the quays and vessels up to 3,000 tons can be accommodated. A prominent radio mast and a building stand close E of the entrance. Pilotage is not compulsory, but local knowledge is advisable. Anchorage can be obtained, in depths of 14 to 16m, off the harbor.

Sandoddi (65°34'N., 23°59'W.) is located 6 miles SE of Olafsviti Light. In this vicinity, a sand bank extends up to 650m into the fjord from the SW shore. An airstrip and a conspicuous bridge, which crosses the mouth of a river, are situated near this point.

Caution.—Submarine cables lie across the fjord in the vicinity of Sandoddi.

Local knowledge is advisable as shoaling has been reported in a few places within the fjord.

A heavy breaking sea has been reported N and E of Blakknes with a light to moderate N wind against the tide. This can be avoided by keeping close into the headland, but caution is necessary to avoid uncharted rocks close inshore.

8.43 Talknafjordur is entered between Talkni and a point on the coast, 2.5 miles N. This fjord trends SE for 7 miles; its shores are steep. It is free from dangers, but only sparsely populated. There are two small settlements, a few isolated farms, and no roads.

A small cove, lying close S of a point, is located on the SW side of the fjord, 3.75 miles ESE of Talkni. A disused whaling station is situated in this cove.

Sveinseyri (65°37'N., 23°51'W.) (World Port Index No. 150), a shoal spit, projects S from the N shore of the fjord, 5.5 miles within the entrance. Its seaward end is marked by a lighted buoy. The fairway between this spit and the S shore has depths of 9 to 14m, but is only about 183m wide. It is indicated by lighted range beacons.

Tunga, a settlement, is situated 0.75 mile E of the spit. There is a small wharf used by fishing and coastal vessels. Anchorage is obtainable, in a depth of 20m, excellent holding ground, about 365m E of the spit.

Caution.—Local knowledge is advisable, as depths may be less than charted.

Submarine cables lie across the fjord at its narrowest part.

8.44 Kopanes (65°48'N., 24°07'W.), a point fringed by rocks, is located 9 miles N of Talkni. A light is shown from a structure, 6m high, standing on the point.

Caution.—A local magnetic anomaly has been experienced close N of Kopanes.

Arnarfjordur (65°51'N., 24°00'W.) is entered between Kopanes and Slettanes, a point 7.5 miles NE. This fjord is considerably larger than Patreksfjordur and steep mountains rise to heights of 610 to 762m on both of its sides. At the head, it is divided into two branches by Langanes, a peninsula. Depths in

the middle of the fjord are deep and range from 51 to 110m. Except off Kopanes and Langanes, the shores of the fjord are steep-to and free from dangers. A shoal sandspit extends about 1 mile NW from the W extremity of Langanes.

8.45 Bildudalur (65°41'N., 23°36'W.) (World Port Index No. 160), a trading station, is situated on the NW shore of a small cove, 14 miles SE of Kopanes. There is a T-head pier which extends 50m from the shore; its head has a berth 37m long, with a depth of 4.9m alongside. Vessels up to 2,500 tons have been accommodated. An L-shaped jetty projects 60m from the shore close SW of the pier.; it has a berth 46m long, with a depth of 4.9m alongside. A breakwater extends 130m SE from the shore close SW of this jetty.

A light is shown from a tower, 5m high, standing on the W extremity of Langanes, 2.25 miles NE of the station.

Anchorage can be obtained, in a depth of 11m, close SE of the jetty.

Caution.—Submarine cables lie in the fjord close N of the anchorage.

Heavy squalls frequently come down from the mountains and N winds are reported to send in a considerable sea.

8.46 Hafnarnes (65°55'N., 23°48'W.), the S entrance point of Dyrafjordur, is located 3 miles NE of Slettanes. The coast between is fringed with rocks.

Svalvogar Light is shown from a tower, 6m high, standing on the coast 1.25 miles SW of Hafnarnes.

Fjallaskagi, a low point, is located 5 miles N of Hafnarnes. A spit extends S from this point and, with onshore winds, vessels should not approach as the sea breaks up to 0.5 mile from it. A light is shown from a tower, 12m high, standing on the point.

Caution.—An area of foul ground patches, lying between about 20 and 40 miles offshore, runs NE from Fjallaskagi to Straumnes and may best be seen on the chart.

8.47 Dyrafjordur (65°57'N., 23°51'W.), which extends SE for 17 miles, is entered between Hafnarnes and Fjallaskagi. This fjord is considered to be the best for shipping, because it is wide, mostly clear of dangers. It is generally free from ice and is used extensively by trawlers operating off the coast. Excellent anchorages may be found in the many bays located along both sides of the fjord.

Aspect.—Skagafjall, a mountain range 700m high, rises behind Fjallaskagi on the NE side of the entrance.

Myrakollur, a peak 311m high, stands close to the N side of the fjord, about 8.5 miles SE of Fjallaskagi.

Sandarfell, on the S side of the fjord, rises to a height of 372m, 2.75 miles SE of Myrakollur.

Caution.—Strong E winds may lower the sea level in the fjord by up to 1.5m.

Submarine cables lie across the fjord SE of Thingeyri.

Heavy squalls come down from the mountains and blow out of the fjord. These squalls are generally stronger near the head.

8.48 Thingeyri (Pingeyri) (65°53'N., 23°29'W.) (World Port Index No. 170), a trading station, is situated on the S side of the fjord, about 8 miles within the entrance. A fishing harbor is situated close S of a low and flat point.

A light is shown from a tower, 5m high, standing on the point and a prominent church, with a spire, stands in the station.

A wooden pier, 110m long, projects from the shore near the trading station. It has a berth 30m long, with a depth of 6.7m alongside. This pier was reported (1975) to be unusable.

An L-shaped pier projects from the shore close S of the wooden pier. The berthing face on its seaward side is 56m long, with a depth of 5.5m alongside. On the inner side of this pier, there are two berths, each 33m long, with depths of 1.8 to 4m alongside.

Good anchorage may be obtained E of the harbor. However, anchorages for extended stays are preferable to the W of the harbor. The best berth, in a depth of 20m, excellent holding ground, is with the light tower bearing 305°. Small vessels may anchor closer inshore.

8.49 Onundarfjordur (66°06'N., 23°43'W.), entered 5 miles NNE of Fjallaskagi, extends 11 miles SE but its inner part, projecting 3.5 miles from the head, dries. The fjord is surrounded by mountain ranges, which rise precipitously; its S shore is broken by several valleys. It has not been fully surveyed; however, depths in the fjord are generally less than 37m, and, in most places, the holding ground is not good.

The entrance lies between a point, located 4 miles NNE of Fjallaskagi, and Saudhanes, 3.5 miles NE. The S entrance point is formed by the steep N slopes of Bardi, a mountain mass which rises precipitously to a height of 487m. A light is shown from Saudhanes and reefs extend up to 0.25 mile from the point.

Flateyri (66°03'N., 23°31'W.), a low and shingle-covered spit, extends 0.5 mile SSE from the NE shore of the fjord, 5 miles within the entrance. A trading station is spread out along the spit facing the small bay formed E of it. A light is shown from a building standing at the S end of the spit. A light is also shown at the head of the breakwater.

A quay projects fro m the E side of the end of the spit. Its head and N sides have berths 52m long, with depths of 3 to 5m alongside. A breakwater is reported (1990) to have been constructed. Anchorage may be obtained, in a depth of 15m, with the extremity of the spit bearing about 250°; however, the holding ground is poor, being composed of ooze.

Caution.—A submarine cable lies across the fjord in the vicinity of Flateyri.

Vessels anchoring off Flateyri must leave plenty of room for veering cable as the wind, at times, blows out of the fjord with great strength.

8.50 Sugandafjordur (66°08'N., 23°38'W.) is entered between Saudhanes and Goltur, a remarkable steep and flat-topped headland, 2.5 miles NE. The fjord indents the coast for 6.5 miles, but only its outer 2.5 miles are navigable. The inner section is obstructed by a sandbar which can be crossed by only small boats.

Sudureyri, a trading station, stands on a spit at the S side of the fjord, close W of the sandbar. Numerous fish drying sheds stand in the station. There is a small harbor protected by a breakwater and used only by fishing vessels. Cargo can be discharged alongside the breakwater in a depth of 2.4m.

Lighted buoys are moored 365m E and 820m ESE of the head of the breakwater. Lighted range beacons, in line bearing 133°, indicate the approach channel.

Anchorage may be obtained, in a depth of 8m, good holding ground, about 0.4 mile NW of the station. Good anchorage in the entrance to the fjord in offshore winds is off Stadhur, but W winds can raise a heavy sea.

Stigi (66°12'N., 23°28'W.) is located 4 miles NE of Goltur. Anchorage may be obtained in two coves, which are located along this stretch of coast, but they are not recommended as the sea is never calm.

Goltur Light is shown from a tower, 14m high, standing on the coast about 1.3 miles NE of Goltur.

Caution.—Abnormal variations of 4.5°W and 2°W of the normal were observed (1938) in positions located about 6 miles W and 5 miles N of Goltur Light.

8.51 Isafjardardjup extends for 30 miles in a SE direction and is the largest fjord of all the Vestfirdir. It is deep and surrounded by mountains which rise steeply from the shores. The SW side is indented by numerous narrow tributary fjords, some of which extend for a considerable distance S and SSW. Local knowledge is necessary for entering these tributary fjords.

The entrance lies between Stigi and Ritur, 12 miles NE, and is easily identified by two steep mountain ranges.

Approaching Isafjurdardjup

Stigahlid, on the S side, are steep mountain slopes which form the shore of the fjord for 5 miles E of Stigi.

Ritur is a steep headland, 480m high. It is easily identified by a deep notch, which is prominent from N and S, located near the NW extremity. Foul ground fronts this headland. Graenahlid is a mountain range which extends 5 miles E of Ritur and forms the N shore of the fjord.

Drangajokull, 924m high, is a huge glacier located 25 miles ESE of Ritur. It dominates the background.

Snaefjallaheidhi is a snow-covered and mountainous promontory which divides the main fjord, 9 miles within the entrance. Snaefjall, a peak 792m high, stands on this promontory.

Bjarnagnupur, a steep point, 422m high, is located 9.5 miles SE of Ritur. It is the W extremity of Snaefjallaheidhi.

Ice.—As this fjord is the first large opening to the S of Horn (North Cape), the polar ice often enters. It presses into the fjord in great masses and completely prevents navigation during the early months of the year, sometimes remaining until the end of July. Careful observations should be made of the ice and, as soon as a movement is seen in the pack, vessels should hasten S to beyond Patreksfjordur.

Tides—Currents.—The resultant of the N ocean current and the tidal current almost always sets in along the S side of the fjord. On the N side, the resultant current always sets out. Off Ritur, there is frequently a rapid tidal current which should be avoided by small vessels.

Caution.—Heavy squalls are frequent off the mountain slopes in the outer part of the fjord.

Because the fjord is deep, there are no anchorages in the main fjord. However, small vessels, with local knowledge, sometimes obtain temporary open anchorage on a narrow shelf at a few places along the shore.

8.52 Bolungavik (66°10'N., 23°14'W.), a trading station, is situated in the W corner of a small cove on the S side of the fjord, 6 miles E of Stigi. A light is shown from Osholar tower, 9m high, standing on the SE entrance point of the cove and a radio mast is situated near it. Tradharhorn, a prominent mountain 635m high, stands at the E end of Stigahlid, close W of the station. A breakwater projects 183m E from the shore at the station. Its S side has a berth, with a depth of 7m alongside, that is used by coastal vessels. Another breakwater extends NE from the shore and forms a sheltered harbor. This breakwater has berths for small craft on its inner face. It is reported that vessels up to 3,260 dwt and 81m in length have been handled.

Bolungavik

Hnifsdalsvik, a small cove, is located 3.25 miles SE of Bolungavik. A settlement and trading station, known as Hnifsdalur, is situated at the head of this cove. Reefs and foul ground front the E entrance point of the cove and it should not be approached.

Winds from NE, through E, to ESE, send a heavy sea into the cove.

A fish factory is situated close S of the E entrance point and a jetty, with berths for fishing vessels on its S side, extends 100m E from the shore.

Anchorage may be obtained, in depths of 11 to 13m, fine brown sand, within the cove, about 0.5 mile offshore. Vessels require local knowledge and this anchorage should only be used in the fine-weather season.

8.53 Skutulsfjordur (66°06'N., 23°05'W.), an inlet, is entered between Hnifsdalsvik, on the W side, and Arnarnes, 2 miles ESE. It trends SSE for 3.5 miles between high mountains to the drying flats at the head.

A light, indicating the approach, is shown from a tower, 6m high, standing on the extremity of Arnarnes. An aeronautical radiobeacon is reported to transmit from a mast, 91m high, standing close WSW of the light tower.

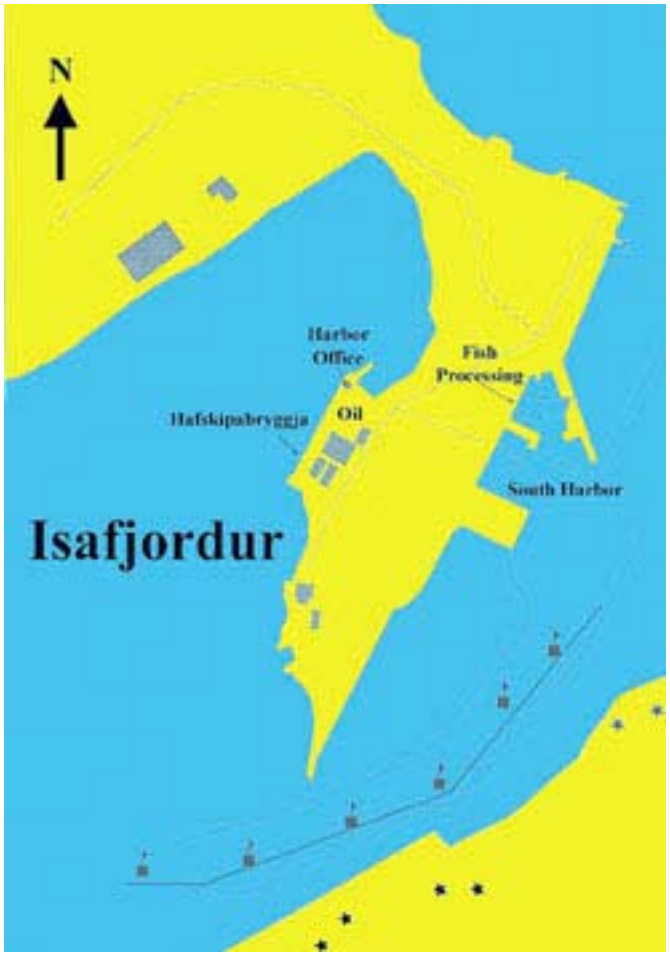
A reef, which dries, extends 230m N from Arnarnes and shoal depths of 5.5m or less extend up to 825m NNE and 548m NW from the point.

A small jetty, 24m long, is situated on the W side of the inlet, about 365m within the entrance; it is used by fishing vessels.

Caution.—Dangerous wrecks lie 2.5 and 4.75 miles N of Arnarnes. The S wreck is marked by a lighted buoy.

8.54 Isafjordur (66°04'N., 23°07'W.) (World Port Index No. 190), a fishing center, lies 1.75 miles within the entrance of the inlet and is situated on a spit which extends 640m SE, then 0.5 mile SW, from a point on the W shore. Isafjordur is approximately 120 miles N of Reykjavik.

In the vicinity of Isafjordur



Isafjordur

Winds—Weather.—The prevailing winds are NE and SW.

Very strong winds sometimes blow either up or down the inlet. The heaviest squalls appear to be those from SE.

Tides—Currents.—Tides rise about 2.2m at springs and 1.6m at neaps. The tidal current continures to set NE through the channel for approximately 2 hours after LW. The best time to pass through the channel is when the tidal current is weak and is setting in a contrary direction.

Depths—Limitations.—Sundahofn, a small harbor sheltered by breakwaters, is located close S of the elbow of the spit. There is a wooden wharf 55m long, with a depth of 4m alongside.

Sundin, a narrow channel, leads into Pollurinn. In places, the fairway is only 45m wide.

Asgeivssons Wharf, the main quay in Pollurinn, is 260m long, with depths of 5 to 6.6m alongside. Vessels of 7, 000 grt may berth alongside.

Sundabakki, a wharf, 220m long, with depths of 7 to 8m alongside, has been constructed at Sundahofn.

It has been reported (1999) that vessels up to 270m long, with a maximum draft of 8m, can be accommodated.

Aspect.—A shallow shoal extends 0.25 mile N from the NE elbow of the above-mentioned spit. Another shoal extends S from the S extremity of the spit to almost the opposite shore and forms Pollurinn, an enclosed harbor at the inner end of the

Courtesy of Ed Jackson

Isafjordur

inlet. The entrance channel is indicated by a number of lighted ranges. An airstrip is situated on the S side of the inner harbor.

Pilotage.—Pilotage is compulsory. The pilot boards 1 mile from the harbor.

The vessel's ETA is to be sent to Isafjordur Radio on VHF channel 16, 24 hours in advance, with the vessel's size, number of passengers, last port of call, port of destination, agent, and call sign.

The port may be contacted on VHF channel 12 or 16. Messages may be sent through Isafjordur Radio (TFZ).

Anchorage.—Vessels not entering Pollurinn may anchor, in depths of 12 to 14m, within the bay which lies between the N side of the spit and the W shore of the inlet. This anchorage does not freeze, but polar ice may enter. Vessels may obtain anchorage in Pollurinn as convenient, but the holding ground in the N part of the harbor is not reliable.

Caution.—A submarine cable extends across the inlet from the E side of the spit.

Dangers lie close to both sides of the fairway and local knowledge is required. The shoals frequently change and the range beacons are moved as necessary.

8.55 **Alftafjordur** (66°03'N., 22°58'W.) is entered between the steep coast curving S from Arnarnes and Kambsnes, the N extremity of a narrow promontory, 4 miles SSE of Arnarnes. It is narrow and extends 6 miles SSW. Kambsnes is fringed by a reef.

Sudavik, a trading station, is situated on the W side of the fjord, about 4 miles SSE of Arnarnes. It is fronted by a small harbor protected by breakwaters.

Langeyri, a small spit with a red house on it, projects from the shore, 0.75 mile S of Sudavik. Anchorage may be obtained, in a depth of 27m, good holding ground, about 185m offshore, close S of the spit. Local knowledge is required.

Kofri, a prominent mountain, 635m high, stands close SW of the spit.

Hattareyri, another small spit, projects from the SE shore, 2.5 miles SSW of Langeyri. Anchorage is obtainable, in a depth of 18m, close S this spit.

Seydisfjordur (66°02'N., 22°55'W.) is entered close E of Alftafjordur and extends 4.5 miles S. Its head is liable to freeze in winter. Tjaldtangi, the E entrance point, is the N end of a narrow promontory. Hestur, a prominent mountain, 546m high, stands 2.5 miles S of it.

Eyri (66°01'N., 22°55'W.), a settlement with a church and several houses, is situated on a small spit projecting from the W side of the fjord, 2.5 miles S of Kambsnes. Anchorage may be obtained, in a depth of 22m, good holding ground, close S of the spit. Local knowledge is required.

Vigur, a narrow islet, is located 1 mile NE of Tjaldtangi. A reef connects the islet to the point.

Hestfjordur is entered 2.5 miles S of Vigur and extends 6.5 miles SSW. Its entrance is encumbered by reefs and rocks, which extend S from Vigur, and the fjord can only be used by small boats.

Skotufjordur (66°03'N., 22°48'W.) is entered between Vigur and Ogurnes, a sharp point 1.5 miles E. It extends 7 miles S between steep mountains. It is deep but there are no trading stations within this fjord.

Caution.—Several submarine cables lie in the vicinity of Vigur and in the entrances to Hestfjordur and Skotufjordur.

8.56 Digranes is located 6.5 miles SE of Ogurnes. Between these points, the S shore of the fjord is generally steep, broken by several small bays and coves, and fronted by rocks and reefs.

Ogur, a settlement with a church and school, is situated within Ogurvik, a cove, located 1.25 miles SE of Ogurnes.

Aedey (66°05'N., 22°40'W.), a comparatively low island, is located 4.5 miles NE of Vigur. It is separated from the N shore of the fjord by a channel, less than 0.5 mile wide. A small islet, connected to the island by a reef, is located in the S part of this channel. A narrow passage, with a depth of 7.3m, leads between this small islet and the mainland. An overhead cable, with a vertical clearance of 14m, spans this passage.

A light is shown from a tower, 13m high, standing on the S end of Aedey.

Breidasker, a group of three dangerous rocks surrounded by foul ground, lies centered about 3.25 miles SSE of the S extremity of Aedey. Reefs extend from this group to the S shore of the fjord.

Mjoifjordur is entered between Digranes and Vatnsnes, 1 mile E. This fjord trends SSE for 10 miles, but only the first 3 miles are navigable. Its head freezes in winter. A low islet is located 3 miles within the entrance of the fjord and reefs extend from it to both shores. An overhead cable spans the fjord and several submarine cables lie across the fjord in the vicinity of the islet.

Reefs surround Vatnsnes and extend up to 0.5 mile N of the point.

Kaldalon, a small fjord, is entered 5 miles ESE of Aedey and branches NE from the main fjord. It is for the most part shallow and foul and should not be entered.

8.57 The head of Isafjordur is entered between Vatnsnes and Melgraseyri, 3 miles S of the entrance to Kaldalon. It curves gradually for 16 miles from SE to SW. Borgarey, an island 32m high, lies in the fairway, 1.5 miles ESE of Vatnsnes. It is steep-to except on its N side, where rocks extend up to 1 mile N. Vessels generally use the passage leading E of the island.

Vatnsfjordur, entered 2 miles SSE of Vatnsnes, is a small and shallow fjord of little importance.

Reykjarfjordur is entered 3.5 miles SSE of Vatnsnes and its entrance is encumbered by submerged rocks. A peninsula forms the E side of this fjord and steam, constantly rising from hot springs, may be always observed near its N extremity.

Isafjordhur, which forms the actual head of the main fjord, is entered E of Reykjarfjordur. Arngerdareyri, a small settlement, is situated on the E side of the fjord, about 2.5 miles S of the entrance to Reykjarfjordur. Anchorage may be obtained off the settlement, but the bottom shelves so steeply that a vessel 60m in length would have to anchor in a depth of over 46m. Vessels may therefore prefer to anchor, in depths of 18 to 22m, at the opposite side of the fjord.

Caution.—A submarine cable lies across the fjord, about 0.5 mile N of the settlement.

Local knowledge is required for proceeding to and anchoring off Arngerdareyri. It is reported that N winds do not blow hard in thr fjord, but S winds raise a heavy sea.

8.58 Jokulfirdir, on the NW side of Isafjardardjup, is entered between Bjarnagnupur and Slettaeyri, 4 miles N. It trends E for 15 miles to Hrafnsfjordur, at the head. Reefs and shoal water extend up to 275m S from Slettaeyri and a light is shown from the point.

Hesteyrarfjordur, Veidileysa (Veidhileysufjordhur), and Lonafjordur, three branch fjords, indent the N side of Jokulfirdir and Leirufjordur, a small branch, indents the S side.

During gales or when polar ice is coming down the coast, anchorage is obtainable within Hesteyrarfjordur. However, it is subject to strong E squalls and W winds raise a heavy swell. Anchorage is also available within Veidileysa but it is seldom used. Local knowledge is required for proceeding into and anchoring in these branches.

Ice.—In years of heavy incursion of polar ice, Jokulfirdir and the subsidiary fjords, except Hesteyrarfjordur, are liable to be filled with polar ice. Hesteyrarfjordur is kept clear of polar ice by tidal currents.

8.59 Horn is located 18 miles ENE of Ritur. The coast between is remarkable and consists of five high, steep, and salient points, separated by bays which have no great depths in them.

Caution.—In stormy weather or when the tidal current is opposed to the wind, heavy tide rips may extend seaward for several miles from the coast between Ritur and Horn. These tide rips are extremely dangerous to vessels of even moderate size and should be avoided.

An area of foul ground patches, lying between about 15 and 40 miles offshore, extends W, NW, and N of Straumnes and may best be seen on the chart.

Straumnes Lt

8.60 **Straumnes** (66°26'N., 23°08'W.), a high headland, is located 4.5 miles NNE of Ritur. A light is shown from a tower, 24m high, standing near the extremity of the headland. A waverider buoy is moored 5.5 miles W of the headland.

Caution.—An anomaly of up to 10°W has been observed in a position about 4 miles W of Straumnes. A deflection of 3.5°W was observed (1938) in a position about 3 miles NNE of Straumnes.

Adhallvik, a large bay, lies between Ritur and Straumnes and is free of off-lying dangers. Depths within it decrease regularly to the shores. A high and prominent slope of white sand, backed by a steep mountain spur, is located at the head. A derelict settlement is situated in a cove at the S end of the bay. Latravik, a cove, is located at the NE corner of the bay. During bad weather, fishing vessels find temporary anchorage in this bay as it is sheltered from all winds except those between SW and NW.

Kogur (Kogurnes) (66°28'N., 22°57'W.), a headland, is located 5 miles ENE of Straumnes and is similar to it. Two coves, in which temporary anchorage may be obtained, lie between these headlands.

The coast extending for 5 miles SE of Kogur is formed by the precipitous slopes of a mountain range and fronted by rocks.

Heljarvikurbjarg, a high headland with precipitous slopes on its NE side, is located 9 miles E of Kogur. A bay indents the coast between these two headlands and Hlodhuvik, a cove, lies at its head. During fine weather, anchorage may be obtained in this bay by vessels with local knowledge.

Goltur, a group of rocks, extends seaward from the N side of Heljarvikurbjarg. Sulnastapi, a detached rock a short distance from the shore, lies 1.5 miles SE of Haelavikurbjarg.

Horn (66°28'N., 22°28'W.) is a prominent headland. Its high cliffs rise steeply from the sea and drying rocks extend up to 365m seaward from the foot. A reef, on which the sea breaks, extends up to 0.25 mile W of the headland.

Caution.—An anomaly of 10° from the normal has been observed in a position about 4 miles N of Horn.

North Coast

8.61 The N coast of Iceland, between Horn and **Langanes** (66°23'N., 14°32'W.), is heavily indented, especially towards the W part where, it is steep and rugged. The coast is backed by high mountains and the bays and fjords penetrate for considerable distances into the land.

The fjords seldom freeze over, except at their heads, but drifting pack ice often interferes with navigation. Ice conditions as related to specific ports are discussed with each port. Fog is more common than on the W coast, occurring approximately 11 days per month.

The entire N coast is fronted by a succession of banks alternating with deeps which may best be seen on the chart. In most cases, the banks are submerged extensions of projections on the coast. The nature of the bottom varies considerably, being mostly sand, shells, and pebbles on the banks, and soft mud in the deeps, though boulders are to be found scattered about everywhere.

Tides—Currents.—At Horn, the warm current, which runs N along the W coast of Iceland, turns E and follows the N

coast. The flood tidal current sets in the same direction, so that on this coast, as on the W coast, the resultant of the E tidal current is markedly stronger than that of the W tidal current.

Caution.—At certain times of the year, numerous fishing vessels may be encountered in the vicinity of the banks which lie off this stretch of coast.

8.62 Kalfatindur, a high mountainous and narrow point, is located 1.5 miles SE of Horn. Rocks front this point which is backed by a prominent mountain, 532m high.

Hornbjarg Light

Hornbjarg Light (66°25'N., 22°23'W.) is shown from a tower connected to a dwelling, 10m high, standing on the coast, 2.5 miles SSE of Kalfatindur.

Drifandifoss, a high and conspicuous waterfall, is located 2.75 miles SE of Hornbjarg Light.

Bardi, a point fronted by rocks, is located 5 miles SSE of Hornbjarg Light. Smidjuvik and Bardsvik are small bays which lie, respectively, on the NW and S sides of this point.

Straumnes (66°20'N., 22°12'W.) is the SE entrance point of Bardsvik. It is foul for up to 2.5 miles offshore.

Between Straumnes and the entrance to Ingolfsfjordur, 21 miles SE, numerous bays and fjords indent the coast. However, all of their approaches are encumbered with shoals, reefs, and rocks which extend up to 10 miles seaward in places. Strandabrekar is the name given to the area fronting the coast in which these dangers lie. The fjords are also exposed to onshore winds and fill rapidly with ice.

Odinsbodi (Ooinbvooi), a rocky shoal over which the sea breaks, lies 12 miles ENE of Straumnes. It is the northernmost of the dangers within Strandabrekar.

Drangasker (66°14'N., 21°49'W.), a high rock, lies on foul ground about 2.5 miles offshore, 11 miles SE of Straumnes. It is surrounded by reefs, prominent, and can be easily identified.

Drangaskordh, a row of pointed peaks, stands on the NE end of a steep promontory, 14.5 miles SE of Straumnes. The peaks, which rise to heights of 372m, are rocky and very conspicuous from N or S.

Drangajokull, a prominent mountain, 930m high, stands 10 miles SSW of Straumnes.

Caution.—Vessels should give Strandabrekar, the area encumbered with dangers, a wide berth.

8.63 **Ingolfsfjordur** (66°02'N., 21°38'W.) is the westernmost harbor on the N coast of Iceland. It is entered between Seljanes and Munadarnes, the NW extremity of a small peninsula, about 1 mile NE. The fjord is 3.5 miles long; Eyri, a small trading station is situated on its E side, near the head.

A group of five small islets, surrounded by numerous rocks, extends up to 1 mile NNW of Munadarnes. Kalfatindar, a prominent mountain with two peaks, rises to a height of 645m near the middle of the small peninsula.

Selsker Light

Selsker (66°08'N., 21°32'W.), a steep-to rock, 5m high, is located 4 miles NE of Munadarnes at the SE end of Strandabrekar. Foul ground lies off its N and NE sides and shoal patches extend up to about 3.5 miles N of it. A light is shown from a prominent tower, 15m high, standing on the rock. A racon is situated at the light tower.

Ofeigsfjardharsker, a group of rocks, lies 3.5 miles W of Selsker. A reef extends 1 mile NE from the N end of the group. Hnuasker, a large rock marked by a beacon, is located at the E side of the group.

Vessels approaching the entrance to the fjord from E should steer to pass S of Selsker. Vessels entering the fjord require local knowledge.

A main wharf, 37m long, with a depth of 5.8m alongside, is situated at Eyri, the trading station. A pier extends 45m from the shore and has a depth of 8.5m alongside its head. Anchorage can be obtained, in a depth of 20m, good holding ground, off the head of the fjord.

It was reported (1991) that the trading station was deserted.

Caution.—A magnetic anomaly has been reported to exist within an area centered about 2 miles NE of Selsker.

8.64 **Krossnes** (66°03'N., 21°30'W.), the SE extremity of the small peninsula, is located 3.5 miles SE of Munadarnes.

The N and E shores of the peninsula are fringed by rocks.

Trekyllisvik, a small bay, is entered between Krossnes, and Reykjaneshyrna, 2.5 miles SE. A conspicuous isolated hill, 316m high, stands on Reykjaneshyrnala.

Illagrunn, a shoal with a least depth of 9.5m, lies in the approach to the bay, about 1 mile N of Reykjaneshyrnala. The sea is reported to break heavily over this shoal.

Arnesey, a small island fringed by a reef, is located close off the S shore of the bay, 2 miles W of Reykjaneshyrnala.

Nordhurfjordhur, an inlet, is located at the NW corner of the bay. Vessels, with local knowledge, can obtain anchorage, in depths of 8 to 9m, good holding ground, off a prominent detached rock at the N side of this inlet. This anchorage is sheltered from N and NE winds, but heavy squalls may occur during N gales, which alternate in direction as gusts from E or W of Kalfatindar.

In 1991, it was reported that a trading station with a wharf, 40m long, had been constructed on the N shores of the inlet.

8.65 Hunafloi (66°00'N., 21°00'W.), a large bay, is entered between Reykjaneshyrna and Rifsnes, the NW extremity of the Skagi Peninsula, 24 miles ENE. The bay extends S for more than 50 miles to the head of Hrutafjordur, its S branch. The W and S shores are indented by numerous branch fjords and small inlets, but the E shore has a comparatively even coast line. With the exception of Skagi, the shores of Hunafloi are mountainous.

Winds—Weather.—Winds from the N and NE are the most frequent in Hunafloi and are usually accompanied by fog.

Ice.—The drift ice, which appears first along the N coast of Iceland at Horn, is sometimes carried into Hunafloi by the strong current which enters the bay along the W side. Ice in small masses is frequently carried far in, even against a moderate gale. Sometimes navigation may be impeded well into the summer.

Tides—Currents.—The flood tidal current flows in along the W coast of Hunafloi and out along the E coast. The ebb tidal current, which is much weaker, takes the reverse course. The white glacier water, which is carried down the rivers and discharged into the bay, is always found, in summer, along the E side, frequently far out beyond Rifsnes.

Caution.—Navigation in the approaches and within Hunafloi is often difficult because of the frequent fogs, the irregularity of the bottom, and the unreliability of the magnetic compass in this area.

Abnormal variation has been reported to exist in areas lying about 6 miles NNE, between 10 and 15 miles ENE, and about 17 miles SE of Reykjaneshyna. Compass needles have been deflected from 10°W to 21°W of the normal, but in some places the magnetic compass appeared to be quite dead.

8.66 Hunafloi—West side.—Djupahlein (65°59'N., 21°20'W.) is located 3 miles SE of Reykjaneshyrnala. The coast between is fringed with rocks and reefs which extend up to 0.75 mile offshore. Gjogur Light is shown from a framework tower, 24m high, standing 0.5 mile N of the point. An aeronautical radiobeacon is situated 0.5 mile W of the light tower.

Orkin, a prominent mountain 634m high, stands 2.75 miles W of Gjogur Light.

Barmar, a detached reef with a least depth of 2.8m, lies about 2.25 miles ENE of Gjogur Light. Hornalsflaga, a rocky shoal with a depth of 4.3m, lies about 0.5 mile SW of Barmar.

Reykjarfjordur is entered between Djupahlein and Kambur, 2.25 miles SW. It is deep and extends 6 miles WSW. Reykjarfjardarkambur, a conspicuous mountain 549m high, stands on the S side of the fjord, 3.25 miles SW of Gjogur Light.

A small settlement, known as Gjogur, is situated 0.5 mile W of Djupahlein. Vessels, with local knowledge, can anchor, in a depth of 27m, close S of this settlement.

8.67 Djupavik (65°57'N., 21°34'W.) a fishing settlement, was situated on the S side of the fjord, near the head. A large herring oil factory stands at the settlement and three piers project from there, having depths of up to 6.1m alongside. In 1991, it was reported that the factory had closed and the settlement was deserted. A submarine cable crosses the fjord 0.75 mile E of Djupavik and is marked by beacons at the landing places.

Veidhileysufjordur is entered between Kambur and Byrgisvikurnes, 1.75 miles SE. It is mostly unsurveyed and seldom used. A chain of submerged rocks extends N from Byrgisvikurnes and Midhfardharbodhi, a shoal with a depth of 4.3m, lies in the middle of the entrance, close NW of the N end of the chain.

Byrgisvikurfjall, a conspicuous mountain 744m high, stands on the S side of Veidhileysufjordur, 4 miles S of Gjorur Light. Kolbeinsvikurfall, a prominent mountain 776m high, stands 1.5 miles S of Byrgisvikurfjall.

Bjarnarfjordur (65°46'N., 21°23'W.), a small fjord, indents the coast 10 miles S of the entrance to Veidhileysufjordur. The coast between is fronted by reefs and rocks extending up to 1 mile offshore. Sveinbjarnargrunn, an isolated shoal patch with a depth of 11m, lies about 3 miles offshore, 6.5 miles SE of Byrgisvikurnes.

Kaldbaksvik, a small inlet, indents this stretch of coast, 4 miles S of Byrgisvikurfjall; Kaldbakshorn, a mountain 508m high, stands near its S entrance point. A low and prominent waterfall is located at Asparvik, 3.75 miles S of Kaldbaksvik.

Bjarnarfjordur is shallow and both the approaches and the fjord are encumbered with small islets, rocks, and reefs, which may best be seen on the chart.

8.68 Bjarnarnes (65°45'N., 21°21'W.), a projecting point, is located on the S side of the entrance to Bjarnarfjordur. A prominent church, with a steeple, stands on the S side of the fjord, 2 miles WNW of the point.

Storibodhi, a large group of rocks and shoal patches, lies about 2.75 miles ENE of Bjarnarnes and is the outermost danger off the approach to Bjarnarfjordur. Thorkelssker, a rock marked by a beacon and radar reflector, lies 0.25 miles ENE of Bjarnarnes.

Malarhorn (65°41'N., 21°26'W.), a prominent point, is located 4 miles SW of Bjarnarnes and appears from seaward as a detached rock. A light is shown from a hut standing on the point. Baejarfell, a steep mountain 345m high, stands close NNW of the point.

Ingolfsgrunn, a group of three rocky shoals, lies between 5.5 and 6.5 miles ENE of Grimsey and is usually marked by breakers.

Dagmalagrunn, a rocky shoal with a least depth of 3.7m, lies

about 2 miles E of the N end of Grimsey. Trollesgrunn, a rocky patch with a depth of 10.6m, lies 1.25 miles SW of Dagmalagrunn and the sea breaks on it in heavy weather.

Svartafossdjup, a deep entrance channel, passes between Dagmalagrunn and Ingolfsgrunn.

Steingrimsfjordur, entered between Malarhorn and Smahamrar, 3 miles SSW, extends W and NW for about 11 miles. The natural beauty of the fjord is in sharp contrast to the dreary and barren N coast approach. Although the depths in this fjord are considerable, it is seldom used.

Holmavik (65°42'N., 21°41'W.), a small trading station, is situated in a cove on the W shore of the fjord, 6 miles W of Malarhorn. A small harbor, protected by a breakwater, fronts the station. A light is shown from a structure, 3m high, standing close WSW of the station. An L-shaped jetty, with a depth up to 6m alongside, encloses the harbor to the SW. Anchorage may be obtained off the station, in a depth of 33m, good holding ground, but local knowledge is required as rocks lie close to the berth.

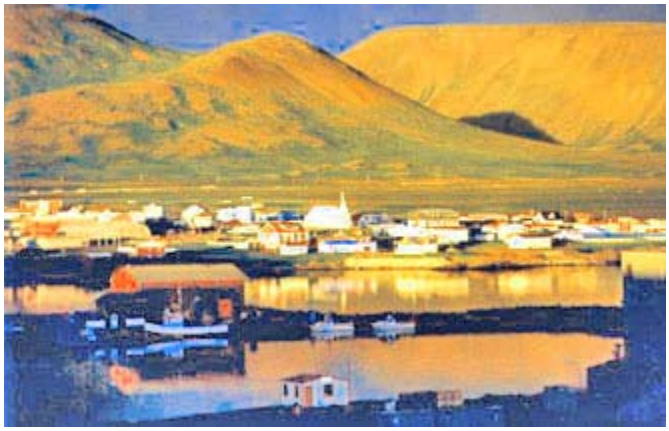
Anchorage may also be obtained, in depths of 26 to 38m, off Hrofberg, at the head of the fjord.

8.69 Hunafloi—East side.—Rifsnes (66°05'N., 20°26'W.), the E entrance point of Hunafloi, is the NW extremity of the Skagi Peninsula. A beacon stands on the point. Skallarif, a sandy shoal, extends up to 2.5 miles NW from the point. In heavy weather, the entire shoal covers with breakers.

Kalfshamar (Kalfshamarsnes), a projecting point with a cove on its S side, is located 4 miles S of Rifsnes. A light is shown from a tower, 16m high, standing near the extremity of the point.

Bjargarstapi, a large rock covered with guano, is located 2.75 miles SSE of Kalfshamar. It lies close to the N side of the mouth of a stream. A waterfall is located a short distance up this stream and is conspicuous from seaward.

Hofsgrunn, a rocky shoal patch with a least depth of 5.9m, lies centered about 2.25 miles WSW of Bjargarstapi. During stormy weather, the sea breaks over this whole patch.



Skagastrond

Skagastrond (65°50'N., 20°19'W.) (World Port Index No. 240) is situated on the S side of a small peninsula, 11.5 miles SSE of Kalfshamar. The peninsula is steep-to on its W side and very prominent. The trading station, sometimes known as Hofdhakaupstadhur, stands on the N shore of the bay formed by the peninsula. A settlement, known as Holanes, stands on the E shore of the bay and is prominent. The S part of the bay is encumbered by rocks.

A small harbor, suitable for small craft with drafts up to 3.7m, is formed by two jetties on the N side of the bay. The entrance fairway is indicated by range lights. A beacon stands on the SW end of the peninsula and a light is shown near it when a vessel is expected. Anchorage can be obtained, in a depth of 13m, good holding ground, 0.25 mile SSW from the SW end of the peninsula. However, this anchorage is not good in unsettled weather as there is no shelter from onshore gales.

Spakonufellsborg, a prominent coastal mountain, 646m high, stands 2 miles ENE of Skagastrond.

Solvabakki, a small settlement, stands 7.5 miles S of Skagastrond. The coast between is fringed, in places, with small islets, rocks, and shoals. Hafstadabodi, an isolated shoal with a depth of 6m, lies 1.5 miles offshore, about 2.5 miles SSW of Skagastrond. The sea breaks over it in heavy weather. Ytriey, an islet, is located close offshore, 3.5 miles S of Skagastrond.

A conspicuous high church building stands 0.5 mile inland, about 2 miles NNE of Solvabakki.

Hunafjordur (65°38'N., 20°34'W.), a bight open to the N, is entered between Solvabakki and Brandstangi, 8 miles WSW. The E and W shores of this bight are backed by mountains. The head consists of extensive sandflats formed by the silt of several rivers.

Rocks and foul ground fringe the shore to the N and NW of Brandstangi.

Blonduos (65°40'N., 20°18'W.) (World Port Index No. 230), a settlement, stands on both sides of a glacial river, 3 miles S of Solvabakki. A breakwater lies about 95m NNW of the concrete pier that extends 200m WSW from the shore close N of the mouth of the river. It has a berthing head 9m long, with a depth of more than 5m alongside the head and shoaling to less than 2m about 100m from the head.

Anchorage may be obtained, according to draft, in the roadstead off the settlement, but it is very exposed.

It is reported that a radiobeacon is situated about 2 miles N of Blonduos.

Selsker, a shoal patch that dries, stretches 1 mile seaward from the edge of the sandflats at the SW corner of Hunafjordur. Lambhusavik, a small cove, is located SW of Selsker and affords anchorage, in depths of 13 to 15m, close inshore to small vessels with local knowledge. During fresh onshore winds vessels should anchor farther out, in depths of about 26m, where the holding ground is good.

Trollakirkja, a snow-covered mountain, 829m high, stands about 10 miles inland of the head of Hrutafjordur and is very conspicuous.

8.70 Vatnsnes (65°40'N., 20°41'W.), a mountainous promontory, separates Hunafjordur from Hunafloi. It rises to high mountain ridges that falls in terraces to the sea. Brandafell, 743m high, stands 9.5 miles SW of Branstangi and is the highest of these mountains. A cove, open to the N, is located close W of the N extremity of this promontory.

Langasker, an above-water rock, lies on foul ground that ex-

tends 1 mile N of the N extremity of Vatnsnes. The N coast of this promontory is fronted by rocks and shoals.

Faskrudssker, an islet, is located 1.5 miles NNW of the N extremity of Vatnsnes. A shoal patch with a depth of 7.5m, lies about 0.5 mile N of it.

Caution.—An area, in which several dangers lie, extends up to 8 miles NNW, W, and SW of the N extremity of Vatnsnes. Vessels, without local knowledge, are advised to avoid this area.

8.71 Eversgrunn, a shoal with a least depth of 11m, lies about 6 miles NNW of Faskrudssker at the N side of the abovementioned area. A rock, with a depth of 2.7m, lies about 1.5 miles S of this shoal. Both of these dangers break heavily in N gales.

Fyllugrunn, a group of rocky shoals with a least depth of 2.8m, lies about 7 miles WNW of Faskrudssker at the W side of the above mentioned area. Tjarnarbodi, a rocky shoal with a least depth of 3.7m, lies about 1 mile SE of Fyllugrunn.

Illugasttadasker, a rocky shoal patch with a least depth of 0.6m, lies about 6 miles S of Fyllugrunn at the SW side of the above mentioned area.

Burfellsrenna is the deep entrance channel which passes between Fyllugrunn and Ingolfsgrunn.

8.72 Hunafloi—Inner section.—The inner section of Hunafloi is entered between Smahamrar, the S entrance point of Steingrimsfjordur, and the N extremity of Vatnsnes. The area fronting the shore on either side of the entrance to the fjord is foul. Vessels entering this section of the fjord require local knowledge.

Kollafjordur is entered between Kollafjardarnes (65°37'N., 21°21'W.), located 2.75 miles SE of Smahamrar, and Broddanes, 1 mile ESE. The fjord is unsurveyed and its entrance is encumbered with shoals and reefs. Broddanesey, an islet marked by a beacon, is located 0.5 mile N of Broddanes. Rocks and reefs, some marked by beacons, extend up to 1.25 miles N and NE of this islet.

Ennishofdi, a headland 263m high, stands on the E side of the entrance to Kollafjordur. Ennisstigi, a conspicuous solitary rock, is located at the NE extremity of this headland. Shoals extend up to 1 mile from the shore in the vicinity of this rock.

Bitrufjordur (65°29'N., 21°20'W.) is entered between Brekka, located 4.5 miles S of Ennishofdi, and Gudlaugshofdi, 2.5 miles SSE. The fjord extends 5.5 miles SW and its middle is considered to be deep and free of dangers. Ospakseyri, a settlement, stands near a spit on the NW shore at the head. There is a jetty for small craft. Vessels may anchor, with local knowledge, under the lee of Ospakseyri, in depths of 15 to 20m, or between the spit and the head of the fjord, in a depth of about 17m. The holding ground is good.

Gudlaugshofdi is a high and conspicuous point. Vigursker, a dangerous rocky shoal with a depth of 4.3m, lies 1.75 miles ESE of the point. Foul ground and rocks lie between this dangerous rock and the shore.

8.73 Hrutafjordur (65°29'N., 21°08'W.), a long and narrow fjord extending 19 miles S, forms the head of Hunafloi. It is entered between Gudlaugshofdi and Skarfatatangi, 5 miles ESE. A low and swampy valley is located at the head of the fjord. A river flows through this valley and discharges into drying mud flats which extend up to 1 mile from the head.

Prestbakki, a low point at the mouth of a small river, is located 9 miles S of the entrance, on the W side of the fjord. A prominent church and a house with a red roof stand near the point. Prestbakkaey, a small island with an islet close NW, is located 0.25 mile NE of the point.

To the S of Prestbakki, the shores of the fjord are fronted by rocks and reefs and the entrance channel is very narrow in places.

Bordeyri, a settlement, stands on the W side, 3 miles from the head. There is no jetty and cargo must be landed on a sandy beach. A submarine cable crosses the fjord; its landing places are marked by beacons.

Winds—Weather.—The sea breeze, which commences around noon, may send in a heavy sea.

Ice.—It is reported that the ice penetrates to the head of Hrutafjordur, but it is not likely to be dangerous because large pieces ground before they reach the inner part. However, ice may remain in the fjord for some time after the polar ice has left the N coast.

Balkastadanes (65°24'N., 21°02'W.) is a narrow and high projection which falls steeply to the sea on all sides. It separates Hrutafjordur from Midfjordur.

8.74 Midfjordur is entered between Heggsstadanes, the NE extremity of Balkastadanes and Anastadir, 2 miles ENE. The fjord extends 7.5 miles SSE. It is open to N winds and exposed to incursions of polar ice.

Hvammstangi (65°24'N., 20°57'W.), a trading station, stands on the E side of the fjord, 4 miles within the entrance. A jetty, 137m long, projects from the shore near the station and has a depth of 3.4m alongside its outer end. There is a small craft basin protected by a breakwater. It is reported that there is also a wharf, 50m long with a depth of 4m alongside. Range beacons indicate the approach and a conspicuous church stands close NE of the station. Anchorage is obtainable, in depths of 13 to 14m, off the station. Local knowledge is required. Anchorage is reported to be untenable in N winds.

Skard Light (65°29'N., 20°59'W.) is shown from a tower, 13m high, standing 1.25 miles N of Anastadir.

From Skard Light to the N extremity of Vatnsnes, the coast is fronted by rocks and reefs.

Skagata (66°07'N., 20°06'W.), the NE extremity of the Skagi Peninsula, is located 8 miles ENE of Rifsnes. The coast between is fronted with islets, rocks, and shoals which extend up to 1.5 miles seaward. The point consists of a small promontory and is high in comparison with the adjacent coast.

A light is shown from a tower, 9m high, standing on the point. A racon is situated at the light.

8.75 Skagafjordur (66°00'N., 19°50'W.) is entered between Skagata and Malmey, an island 15 miles ESE. The fjord extends SSE for 18 miles and then forms into two small separate bays at its head. Depths in the fjord are quite irregular and range from 119m at the entrance to 20m at the head. On its E side, flat-top mountains with no prominent feature are seen sloping toward a coastal plain. Two rivers, which empty into the small bays, flow through a wide valley located at the head of the fjord. These rivers form a large delta in the middle of

which a narrow and hilly ridge projects N and divides the head into the two bays. Several dangerous rocks and shoals lie in the entrance to this fjord.

Caution.—The polar ice is sometimes a serious obstacle to navigation in Skagafjordur.

Vessels approaching the fjord should give the dangers, which lie off the coasts on both sides of the entrance, a wide berth.

Abnormal variation exists within Skagafjordur and in a position about 5 miles NNW of Malmey. It is also reported that the magnetic compass needle is almost dead in the vicinity of Drangey, W of Malmey, and 1 mile SW of Hegranes Light. A rock on an isolated shoal has been reported (2009) to lie about 2.3 miles WNW of Hegranes Light.

8.76 Ketubjorg, located 6 miles SSE of Skagata, is a hummock, 121m high, which falls steeply to the sea. A prominent waterfall is located on its S side. A conspicuous white church stands at Keta, 1.5 miles N of the hummock.

Selvik, a cove, is located 5 miles SSE of Ketubjorg. A river flows through a gorge at its S side. Small vessels can anchor, in depths of 13m, sand, in the middle of the entrance to this cove. Small craft can obtain better anchorage, in a depth of 7m, closer to the shore.

Between Skagata and Selvik, the coast is fringed with rocks and shoals. Thursasker, a large low rock, is located 0.75 mile E of Ketubjorg.

Ingveldarstaoaholmi, a large and low rock, is located 0.5 mile offshore, 8 miles SSE of Selvik.

Tindastoll, a large mountainous mass, stands 2 miles W of the coast, 9.75 miles SSE of Selvik. It rises to a height of 990m and is very conspicuous.

8.77 **Malmey** (66°05'N., 19°32'W.), a high and narrow island, forms the E entrance point of the fjord. A hill, 156m high, stands at its N end and falls steeply to the sea. A light is shown from a tower, 10m high, standing on a hummock at the S end of the island.

A dangerous reef extends 1.5 miles N from the N end of the island. Malmeyjarbodhi, an isolated rocky patch with a depth of 15m, lies about 2.5 miles N of the N end of the reef.

Thordarhofdi, an isolated headland, is located 2 miles S of the S end of Malmey. It rises to a height of 202m and is prominent. A reef, which nearly dries, extends from the headland to the S extremity of the island.

Holmasker, a drying pinnacle rock with a depth of 20m close S, is located 3.5 miles W of the N end of Malmey.

Kvislarsker, a group of three drying rocks fringed by a shoal, is located 4 miles WSW of Malmey Light. Shoals, with depths of 13 and 28m, lie 1.5 and 3.5 miles, respectively, W of Kvislarsker. The sea breaks over these shoals in heavy weather. A rocky patch with a depth of 17m lies 2 miles NE of Kvislarsker.

Drangey, a conspicuous islet 183m high, is located in the middle of the fjord, 5 miles SW of Malmey Light. It has vertical sides and is fringed by a reef. A deep cleft, located at its center, is visible from the N. Kerling, a high and spindle-like rock, lies close off the SE extremity of this islet.

Hofsos, a small trading station, is situated in a cove, 4 miles SSE of Thordarhofdi. A small harbor, with an entrance 46m wide, is formed between a breakwater and a jetty. A wharf, 60m long, has depths of 3.5 to 6m alongside. Anchorage can be obtained, in a depth of 15m, about 185m SSW of the breakwater head, but it is open to NW winds and exposed to drift ice.

Kolkuos, a farm, is situated 4.5 miles S of Hofsos, at the mouth of a river. Anchorage can be obtained, in depths of 8 to 9m, offshore. There is no jetty and cargo is landed on an open beach. A patch with a depth of 20m lies about 3 miles NW of the farm.

Hegranes (65°46'N., 19°33'W.), a steep point, is located 5 miles SW of Kolkuos. It forms the N extremity of the narrow ridge that divides the head of the fjord into two small bays. A light is shown from a tower, 10m high, standing on the point.

Lundey, a grass-covered islet, 18m high, is located 2 miles ESE of Hegranes, in the center of the bay which lies on the E side of the point. This bay is less frequented and the few settlements here are of little importance. No information is available concerning the depths or navigation in this bay.

8.78 **Saudarkrokur**(Saudharkrokur) (65°45'N., 19°39'W.) (World Port Index No. 250), the most important settlement in the fjord, is situated in the SW part of the bay lying W of Hegranes.

Tides—Currents.—Tides rise about 1.3m at springs and 1m at neaps.

Depths—Limitations.—From the N side of the harbor, a breakwater extends 200m ESE, then an additional 200m SE, with a boulder breakwater spur extending a further 100m from the mole head. A 70m jetty extends E from the mole head and has depths of 5 to 9m depths alongside.

The main quay, situated on the S side of the breakwater, has a berth 200m long, with depths of 5 to 7m alongside. A basin for small craft is located close S of the breakwater.

The harbor can be contacted by VHF.

Aspect.—A prominent church stands in the S part of the settlement and an airstrip is situated S of it.

The approach to the harbor is indicated by a range which is formed by a beacon and the tower of the church. Lights are shown from these range marks when a vessel is expected.

A group of tanks stand in the vicinity of the root of boulder breakwater breakwater.

Pilotage.—Pilotage is compulsory. Pilots meet vessels at a point 400m from the harbor entrance.

Anchorage—Good anchorage can be obtained, in depths of 5.5 to 9.4m, sand, about 250m SE of the head of the breakwater.

Caution.—Winds from the N blow right into the fjord and frequently do considerable damage.

Silting in the harbor makes frequent dredging necessary.

8.79 Hrolleifshofdi, a detached and flat-topped hummock 87m high, stands on the coast, 2.75 miles ENE of the N end of Malmey. Malmeyjarfjordur, a small bay, is entered between the N end of the island and this hummock. Anchorage can be obtained, according to draft, within this bay by vessels with local knowledge.

Straumnes (66°05'N., 19°22'W.) is located 2.75 miles NE of Hrolleifshofdi. A light is shown from a tower, 9m high, standing on this point.

Hammersbodi and Reksbodi, two small rocky patches with

Saudarkrokur

depths of 15m, lie about 4 miles NNE and 4 miles NE, respectively, of Straumnes Light.

Haganesvik, a small cove, is located 5 miles E of Straumnes Light. It has easy access, but both entrance points are foul and should be given a wide berth. Anchorage can be obtained, in a depth of 8m, hard sand, within the cove, but it is exposed to N winds. Haganes, a trading station with a small pier, is situated on the SE shore of the cove.

Saudanes (66°11'N., 18°58'W.), a high and steep point, is located 9 miles NE of Haganesvik. The coast between is fronted by foul ground and backed by mountains which, in most places, fall steeply to the sea. A light is shown from a tower with a dwelling, 10m high, standing on the point. A radio mast stands near the tower.

Illvidhranjukur, the most conspicuous mountain along this part of the coast, rises to a height of 895m, 3.25 miles SSW of Saudanes.

Caution.—Abnormal variations have been reported in positions off the coast between Hrolleifshofdi and Saudanes. Compass deflections of up to 8°E have been observed.

8.80 Siglufjordhur (Siglufjordur) (66°10'N., 18°53'W.) is entered between Saudanes and Siglunes, 2.25 miles ENE. It extends 3 miles S and is flanked by high mountains which fall steeply to the sea. A shoal area, some parts of which dry, lies at the head. The fjord is an important center for the herring fishing industry and one of the best harbors of refuge, along the N coast of Iceland. All other fjords on the N coast is subject to polar ice incursions. Anchorage may be obtained temporarily anywhere in the fjord according to draught, but close S of Siglunes the bottom is rocky and holding ground is poor.

Caution.—Siglufjordur is notorious for the tremendous squalls that descend from the surrounding mountains.

Abnormal variations, up to 2°W of the normal, have been observed in an area lying between 1 and 2 miles N of Siglunes.

Siglunes, the E entrance point of the fjord, is a low and flat point which extends 1 mile NW from the foot of Nesnupur, a steep and conspicuous mountain. It is easily recognized, as there are no other similar points in the vicinity. A light is shown from a tower with a dwelling, 12m high, standing on the N slopes of Nesnupur, 1 mile ESE of the point.

Hellubodar, a rocky reef, extends about 0.25 mile WNW from the NW extremity of Siglunes. Its inner part dries and the outer part is fronted by a shoal. Vessels should give this reef a wide berth as it has been reported to extend farther W.

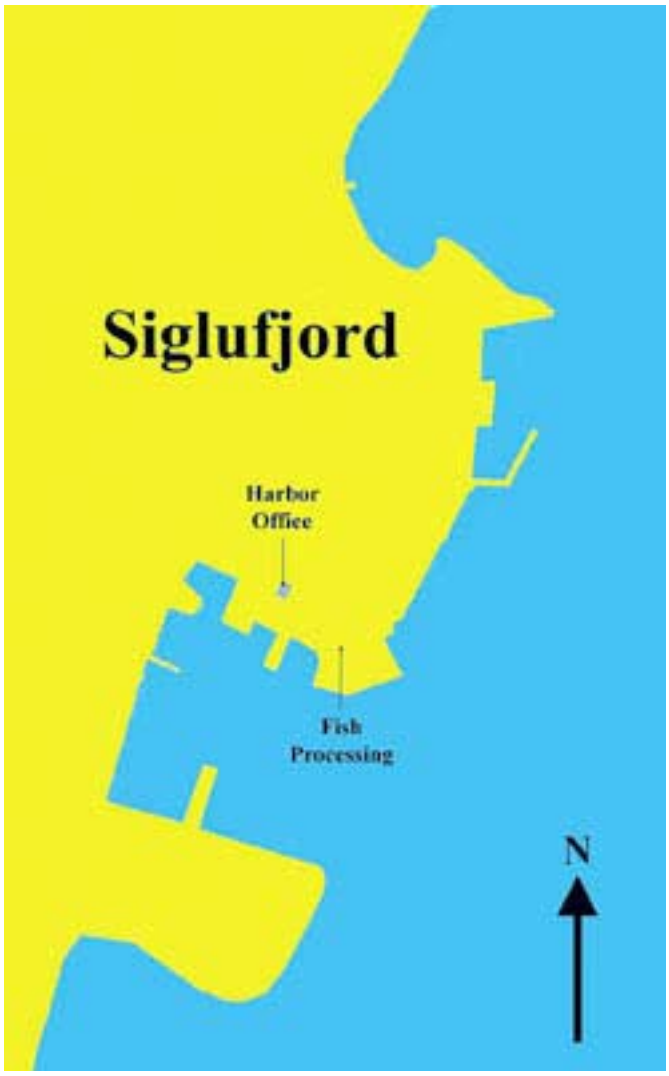
Selvikurnef, a small point, is located on the E side of the fjord, 2.25 miles S of Siglunes. A light, indicating the entrance channel, is shown from a tower, 8m high, standing on the point.

8.81 Siglufjord (Siglufjordur) (Hvanneyri) (66°09'N., 18°55'W.) (World Port Index No. 260), one of the largest herring fishery stations in Iceland, is situated on the W side of the fjord near the head.

It is subject to incursions of polar ice, but during summer, because of good access and position, it is one of the best harbors of refuge on the N coast of Iceland.

There are several piers and wharves inside the N mole.

Tides—Currents.—Tides rise about 1.6m at springs and



Siglufjord (Siglufjordur)

0.5m at neaps.

Depths—Limitations.—There are numerous small piers for the use of fishing vessels and four main quays.

Oldbrjotur is a breakwater that extends 120m SE from the NE extremity of the harbor and protects the berths on the E side of Hvanneyri. A light is located at the head of Oldbrjotur. The three northernmost main alongside berths are, as follows:

1. Brjoturinn, at the NE corner, is about 100m long, with depths of 4 to 5 m alongside.
2. Londunarbryggja Quay, close S, is 80m long, with a depth of 7.5 to 8.5m alongside. An L-shaped jetty lies close S and SW of Londunarbrygga, with inside depths of less than 5m and outside depths of 6 to 7m.
3. Baejarbryggja Quay, at the SE corner, has two berthing faces, the SE berth is about 100m long and the SW berth is about 65m long, both with a depth of 6 to 7m alongside.

Togarabruggja, close W of Baejarbryggja, is 60m long, with depths of 6m alongside. Vessels up to 3,540 dwt and 85m in length can be accommodated.

Ingvarsbryggja Quay, close W of Togarabruggja, is about 60m long, with a depth of 6m alongside.

Pilotage.—Pilotage is compulsory. Pilots may be contacted on VHF channel 24, 26, or 27, through Siglfjordur Radio, call sign TFX, or by radiotelephone. The pilot meets the vessel approximately 400m from the harbor entrance.

Anchorage.—Temporary anchorage can be taken, according to draft, anywhere in the fjord. Vessels may anchor, in depths of 25 to 30m, good holding ground, E of the fishery station. Gales from the N cause heavy seas, therefore vessels may seek anchorage in the small bay SW of Siglunes.

8.82 Eyjafjordur (66°10'N., 18°30'W.), an important herring fishing center, is the most populous and most frequented of the fjords on the N coast of Iceland. Akureyri, a large town, stands at the head.

The fjord is entered between Siglunes and Gjogurta, 14 miles ESE. It extends 33 miles SSE; both sides of the outer part are flanked by prominent mountains. Farther S, these mountains become lower and are separated by wide valleys which run down to the shores.

Kaldbakur, a conspicuous mountain 1,167m high, stands on the E side of the fjord, 10.5 miles SSE of Gjogurta. Arnfinnsfjall, another conspicuous mountain 854m high, stands on the W side of the fjord, 7 miles SE of Siglunes.

Winds—Weather.—As a rule, the winds blow in the direction of the fjord. Heavy mountain squalls are also frequent. In the summer, fairly regular land and sea breezes occur. The N winds, which are the most frequent and strongest, usually begin in the afternoon and last for a few hours. Occasionally at Akureyri, they attain a considerable force. The land breezes, which are seldom of great strength, begin between 0500 and 0600 and last only a short time.

Ice.—The fjord is open to incursions of polar ice which, during bad years, have penetrated its entire length.

Tides—Currents.—Along the N coast of Iceland, the E tidal current runs in along the W shores and out along the E shores of all the fjords; the W tidal current runs in the reverse direction. In Eyjafjordhur, the resultant tidal current is almost always outgoing as a result of the many rivers and great quantity of melted snow which discharge into it. During the spring thaw, the tidal current may be fairly strong, especially in the channel abreast Hrisey and in the vicinity of Latur. The ebb current is always strongest on the E side of the fjord, off the entrance of Eyjafjordhur.

Caution.—Vessels should exercise caution when passing by or approaching the entrance of this fjord as, at times, a strong flood current has been experienced.

Submarine cables lie across the fjord and may best be seen on the chart. A marine farm lies 1 mile NW of Akureyri.

Vessels are advised to pass W of Hrisey due to the strength of the resultant current on the E side of the fjord. A submarine cable lies across this passage between Hrisey Island and Halshofoi.

Abnormal variations, up to about 8°W of the normal, have been observed in the area off the entrance to Hedinsfjordur.

Abnormal variations, between 11°E and 3°W of the normal, have been observed in an area between 2 and 3 miles N of Hrisey.

8.83 Eyjafjordur—West side.—Hedinsfjordur is entered between Torfuvogar, located 2.75 miles SE of Siglunes, and Thorhildarvogur, 2 miles SE. The fjord extends 2.5 miles SSW and a narrow strip of boulders separates the head from a large lake that drains into it through a small channel. This fjord should only be entered in an emergency as it is entirely open, subject to frequent incursions of drift ice, and has very poor holding ground.

Brik, a small point at the foot of a mountain, is located 3 miles SE of Thorhildarvogur. A light is shown from a tower, 4m high, standing on this point.

Olafsfjordur is entered between Brik and a point, 1.75 miles SE. The fjord extends 2.5 miles SW and should only be entered in an emergency as it is subject to incursions of drift ice and the holding ground is not good.

Kleifar, a small settlement with a jetty for small craft, stands on the NW shore of the fjord. Vessels can obtain anchorage, in a depth of 9m, sand, off this settlement; the berth is indicated by range beacons.

Olafsfjordur (Olafsfjordhur) (66°05'N., 18°38'W.) (World Port Index No. 270), a trading station, is situated on the SE side of the head. A small harbor, with an entrance 70m wide, is protected by two breakwaters. The E breakwater is 170m long and has berthing quays on its inner side with depths of 4 to 6m alongside.

8.84 Dalvik (65°58'N., 18°31'W.) (World Port Index No. 280), a small trading station, is situated at the head of a wide bay, 7.5 miles S of Olafsfjordur. A prominent church, with a steeple, stands at the station and another church stands close WNW of it. A small harbor, with an entrance 45m wide, is protected by breakwaters. There is a total of 250m of main berthing space, with depths of 5 to 6m alongside. Anchorage can be obtained, in depths of 22 to 26m, 1.25 miles E of the N church. The harbor can be contacted by VHF. channels 16, 12 and 14.

Dalvik

Arskogssandur, a small settlement, is situated 5 miles ESE of Dalvik. It is fronted by a small pier and a breakwater from which a light is shown. It is reported that a ferry runs between this settlement and Hrisey.

Hauganes, a small settlement, is situated 1.75 miles SSE of Arskogssandur. A breakwater, with berths for fishing vessels on its inner side, projects from the settlement. Holl, a rock with a depth of 3.7m, lies about 500m ESE of the settlement.

8.85 Eyjaffjordur—East side.—Gjogurta, the E entrance point of the fjord, is the N extremity of a large mountainous projection which rises to a height of 738m, about 2 miles S. A light is shown from a tower, 4m high, standing on the point.

Latur, an isolated rock 11m high, rises vertically about 185m offshore, 3 miles SSW of Gjogurta. Latur Farm is situated on the coast, about 1 mile S of this rock. The shore of the fjord in the vicinity of Latur is fringed by a chain of rocks, some of which dry.

Hofdi (Hofoi), a bold headland 261m high, projects from the coast of the fjord, 12 miles SSE of Latur.

Grenivik, a trading station, is situated at the head of a small bay on the N side of Hofdi. A 260m long breakwater extends SSW into the bay. It has a 140m quay on the E side, with depths of 5 to 6m alongside. Temporary anchorage may be obtained, in depths of 18 to 27m, in the bay, but winds from between N and W raise a heavy swell. A submarine cable lies in this area and can be best seen on the chart.

It is reported (1992) that a fish factory with a pier has been constructed close N of Grenivik.

8.86 Hrolfssker (66°05'N., 18°25'W.), consisting of two small rocks, lies on a shoal in the middle of the fjord, 3.5 miles SW of Latur. A light is shown from a tower, 16m high, standing on the larger rock which is 6m high.

Hrisey (66°00'N., 18°23'W.), a narrow island, lies in the middle of the fjord, with its N extremity located 3.5 miles S of Hrolfssker. It has a high and steep coast, except in the SW part, where it slopes gradually to a flat beach. Reefs and rocks extend up to 183m N from the N extremity of the island. Longubodhi, a patch with a depth of 14.2m, lies about 1.25 miles NNW of the N extremity.

A light is shown from a tower, 9m high, standing near the E side of the island, 0.75 mile SSE of the N extremity.

Sydhstibaer, a trading station situated along the S end of the island, is fronted by several small jetties, with depths of 3.7 to 5.5m alongside. An airstrip is situated 0.5 mile NW of the station.

8.87 Eyjaffjordur—Inner section.—The inner section of the fjord is entered between Hauganes and Grenivik.

Between Hauganes and Hajalteyri lies Arnarnesvik, a small bay. Anchoring and fishing are prohibited in an area located in the green light sector N of Hjalteyri, close N of an unnamed point.

Hjalteyri (65°51'N., 18°12'W.), a settlement situated 5 miles SE of Hauganes, stands on a low sand bar which encloses a lagoon. A light is shown from a tower, 13m high, standing at the settlement. A racon was reported (1986) to be situated at the tower. A large herring factory with several piers fronts the settlement. The main wharf has a length of 30m and a depth of 5.5m alongside. Anchorage can be taken, in depths of 27 to 40m, close S of the settlement.

It was reported (1990) that the factory and settlement were closed down.

Horgargrunn, an extensive sandbank marked by a lighted buoy, lies off the mouth of the Horga River, 3.5 miles S of Hjalteyri. Caution is advised as this bank is reported to be extending seaward.

Four conspicuous radio masts stand close S of the river mouth.

Laufasgrunn, an extensive sandbank, lies on the E side of the fjord, 4.5 miles SSE of Grenivik. Caution is advised as it is reported to be extending farther S.

Gloesiboer, a small trading station, is situated 5.5 miles S of Hjalteyri. It is fronted by a pier, 82m long, with a depth of 4.6m alongside the outer end.

A conspicuous red and white pylon stands on the W shore, 1.5 miles SW of the station.

Svalbardseyri, a trading station, is situated on the E side of the fjord, 12.5 miles SSE of Grenivik. It stands on a low and flat spit that is fringed by a sandy beach. A light is shown from a tower, 8m high, standing on the end of the spit. A pier, with shallow depths alongside, projects from the S side of the spit. Good temporary anchorage can be taken, in depths of 10 to 20m, in the lee of the flat, about 185m offshore.

A hut with a flagstaff stands on the summit of a mountain, about 2.5 miles E of the station. It is reported to be prominent in clear weather. An aeronautical radiobeacon is reported to be situated about 0.5 mile N of the station.

Krossanes, a small trading station, is situated 3 miles SSE of Gloesiboer. A fish oil factory with a conspicuous chimney, stands at the station and is fronted by several small jetties with depths of 4m alongside.

A small boat harbor, protected by a breakwater, is situated close W of the mouth of the Glera River, 1 mile SE of Krossanes.

8.88 Akureyri (65°41'N., 18°05'W.) (World Port Index No. 310), one of the principal ports on the N coast of Iceland, is situated at the head of the fjord. The trade activity is considerable despite disruptions caused by ice that can last for several months during years when there are large incursions of polar ice.

Courtesy of Ed Jackson

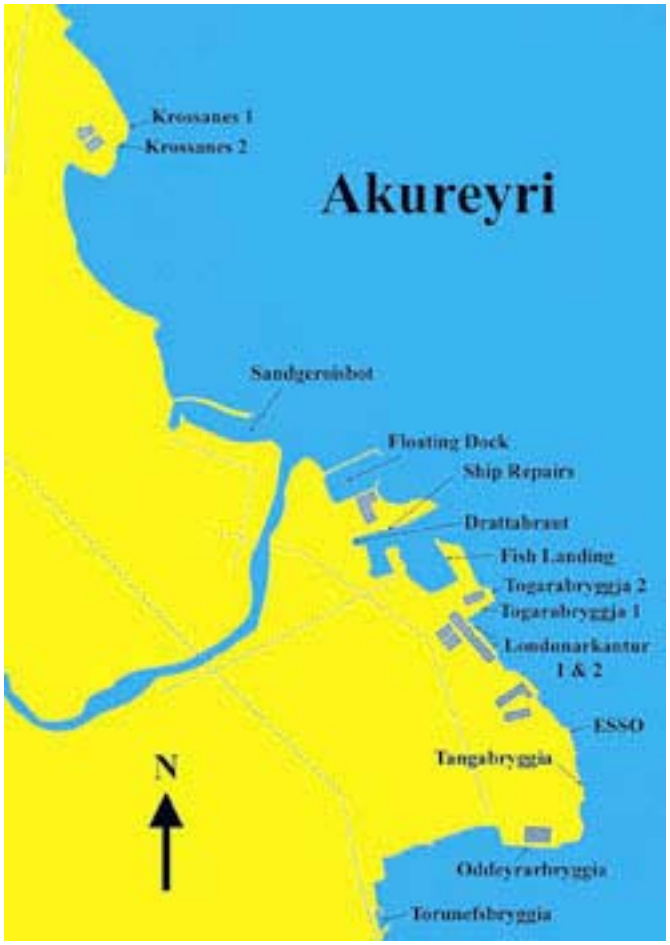
Akureyri

Tides—Currents.—Tides rise 1.7m at springs and 1m at neaps.

Aspect.—Oddeyri, a flat and sandy spit, projects from the W shore to within 0.5 mile of the E side of the fjord. Akureyri lies on and extends S of this spit. A light is shown from a framework tower, 12m high, standing on the SE extremity of this spit. Several prominent tanks stand in the vicinity of the SE end of the spit.

Courtesy of Ed Jackson

Approach to Akureyri



Akureyri

A conspicuous cathedral, with twin towers, stands 0.5 mile SW of the light tower. A prominent school, with a red roof, stands close S of the cathedral. A roadway was reported (1986) to be constructed across the head of the fjord.

Pilotage.—Pilotage is not compulsory but is available by arrangement with the harbormaster. The fjord pilot boards close S of Hrisey; the harbor pilot boards NE of Oddeyri.

The port can be contacted from 0800 to 1200 and from 1300 to 1700 on VHF channel 12 or 16.

Anchorage.—The holding ground in the port, being composed of soft and slimy mud, is poor. Anchorage may be obtained, in depths of 27 to 33m, under the lee of the spit.

8.89 Geldinganes (66°09'N., 18°01'W.), a hilly point, is located 6.75 miles ESE of Gjogurta. The coast between is high, steep, and fringed with rocks. Thorgeirsfjordur and Hvalvatnsfjordur, two bays, indent the coast, 3.25 and 5.5 miles, repectively, E of Gjogurta. Both are mostly foul and should be avoided.

In 1991, it was reported that a waverider lighted buoy is moored about 7 miles NNE of Gjogurta.

Caution.—Abnormal variations have been reported to exist in an area centered about 11 miles NNE of Gjorurta. A constant deflection of 16°E of the normal was observed within a radius of 8 miles of this position.

8.90 Grimsey (66°32'N., 18°00'W.), a grass-covered island, 104m high, is located 23 miles N of Geldinganes. It rises steeply on the E side and forms a wall of rock about 90m high. The W side slopes more gradually and is mostly bounded by cliffs up to 15m high. A light is shown from a tower, 10m high, standing on the S extremity of the island. A radiobeacon is situated close to the tower.

Flatasker and Hlidharstapi, two drying rocks, lie 1.25 miles and 0.7 mile respectively N of the light tower. A reef extends for a short distance S from it.

Eyjarfotur, a steep-sided islet, lies close E of the N extremity of the island. A rocky reef, which dries, extends about 275m NW from it.

Akureyri—Berths and Limitations

Berth	No.	Length	Depth at LW	Remarks
Krossanes	1	130m	6.5-9.0m	Oil, fish-oil meal, cement.
Drattarbraut	3	—	—	Slipway.
Slippkantur	4	275m	6-7.0m	Ship repairs.
Togarabrygja-1	6	110m	6.5m	General cargo and fish landing.
Togarabrygja-2	7	67m	6.5m	General cargo and fish landing.
Londunarkantur-1	8	65m	6.5m	Ice
Londunarkantur-2	9	75m	6.0m	Fish landing.
Esso-bryggja	10	—	—	Oil.
Tangabryggja	11	70m	8-11m	Cattle feed, general cargo.
Oddeyrarbryggja	12	140m	9.0m	General cargo, passengers.
Torfunefsbryggja	13	100m	3-5.5m	Passengers.
Austurbakki	—	170m	7.0m	Fish landing.

Tankers—At Oddeyri (KEA-bryggia) and Krossanes, there are oil berths with alongside depths of 5 to 6m.

Sandvik, a settlement, stands along the SW coast of the island. Prominent marks include a small gray church, two large white buildings, and two radio masts. A shallow harbor for fishing vessels, protected by a breakwater, fronts the settlement. Anchorage can be taken, in a depth of 18m, off the settlement, about 0.5 mile WSW of the church, but it is untenable in strong W and SW winds.

Holl (66°50'N., 18°09'W.), with a least depth of 14.9m, lies about 16 miles NNW of the N extremity of Grimsey.

Kolbeinsey (Mevenklint) (67°09'N., 18°41'W.) is a rocky islet 7m high lying about 23 miles NW of Holl. It is about 70m long and about 30 to 60m wide. The islet is surrounded by submerged and above-water rocks, especially at the NW end, where they extend almost 0.4 mile WNW.

8.91 Skjalfandi, a large bay, is entered between Geldinganes and Tjornes, 21 miles ENE. It extends S for 12 miles and is entirely open to the N. The coasts of the bay are mountainous, except for a large plain located at the head, through which flow two large rivers. With the exception of a minor traffic to Husavik, this bay is seldom visited. It is mostly deep, but polar ice penetrates to the head. Several rocks and reefs fringe the shores of the bay.

Caution.—Vessels should exercise caution when passing or entering Skjalfandi, as a strong flood current has been experienced.

Tjornes (66°12'N., 17°09'W.), a somewhat salient point, is located near the middle of the N side of a hilly promontory. A light is shown from a tower, 13m high, standing on the extremity of the point. Breidhavik, a small open bay, is located close W of the point and encumbered with rocks. Burfell, a conspic-

Grimsey Light

Grimsey

uous flat-topped mountain, 760m high, stands 9.5 miles S of Tjornes.

Flatey (66°10'N., 17°52'W.), a flat island 16m high, is located on the W side of the entrance to the bay, 3.25 miles E of Geldinganes. A light is shown from a framework tower, 8m high, standing in the middle of the E end of the island. A racon is situated in middle of the E end of the island. A small and shallow boat harbor is reported (1990) to be deserted.

Flateyjarsund, a channel with a least mid-fairway depth of 9.4m, separates the island from the mainland. A bank extending about 0.5 mile S of Flatey has depths of less than 5.5m. Several rocks lie close off the mainland on the SW side of this channel and during N gales, seas break right across its NW entrance. In N winds, anchorage can be taken under the lee of the island. The best berths, in depths of 12 to 14m, good holding ground, lie about 0.5 mile from the S shore of the island. During N gales, the anchorage may still be approached by the SE entrance. The tidal current in the channel sets NW on the flood tide and SE on the ebb tide.

Lundey (66°07'N., 17°22'W.), an islet, 41m high, is located about 1.25 miles off the E shore of the bay, 8 miles SE of Tjornes. A drying reef extends about 0.5 mile N from the N side of the islet and a chain of submerged rocks lies between the S side of the islet and the mainland. A light is shown from a tower, 6m high, standing on this islet.

Lundeyjarbreki, a shoal with a least depth of 3.7m, lies about 1.25 miles NW of Lundey. It is marked by heavy breakers in stormy weather.

Husavikurhofdi (66°03'N., 17°22'W.), with a high hummock on it, on the SE side of Skjalfandi, is the N entrance point of Husavik. A light stands near this point.

Husavik Light

8.92 Husavik (66°02'N., 17°20'W.) (World Port Index No. 320), a trading station, is situated in a small cove entered 3.25 miles S of Lundey and S of Husavikhurhofdi, on Husavik Promontory. The N entrance point of the cove, from which a light is shown, consists of a prominent hummock, 70m high.

Winds—Weather.—Prevailing winds are mainly SE.

Depths—Limitations.—A small harbor, protected by breakwaters, is situated in the N part of the cove. Two moles form the outer harbor; the entrance is 160m wide, with depths of 5.9 to 8.3m, gently shelving to the shore. The W mole extends 140m SSE from the root of the outer breakwater and has depths of 5.0 to 7.8m alongside.

The inner harbor lies N of the mole that forms the E side of the outer harbor entrance. The entrance to the inner harbor is 55m wide, with depths of 4.5 to 6.0m gently shelving to the shore. The E mole extends about 250m from the shore and has depths of 5.0 to 6.3m near its head. Vessels of up to 4,000 grt have been accommodated.

Pilotage.—Pilotage is not compulsory, but is available upon request. The pilot can be contacted on VHF channels 12 and 16. A pilot station is located about 2 miles E of Husavik, near position 66°02.6'N, 17°22.6'W.

Regulations.—The vessel's ETA is to be given to agent 72

Husavik

hours, 48 hours, 24 hours, and 12 hours prior to arrival. Cargo information, if applicable, is to be advised, together with any requirements which the master might need the agent to arrange.

Anchorage.—Anchorage can be taken, in a depth of 9m, sand, about 185m SW of the head of the W breakwater, but this position is exposed to WNW winds, which are dangerous.

Care must also be taken to avoid a 4.5m shoal patch which lies about 365m S of the harbor entrance. The approach to the roadstead is indicated by lighted range beacons.

8.93 Manareyjar (66°17'N., 17°07'W.), composed of two islets, is located 4.5 miles NNE of Tjornes and surrounded by rocks. Haey, the S islet, is the smaller but higher of the two. It is 39m high and a conspicuous large hole, which is best seen from SE or NW, pierces it. A light is shown from a structure standing on a red house on this islet.

Lagey, located 0.75 mile NW of Haey, is 22m high and the larger of the two islets. A rock, with a depth less than 2m, lies about 0.75 mile NW of this islet. The channel between Manareyjar and the mainland is mostly free of dangers and frequently used.

Eyjabrekar, a group of dangerous rocks, lies on a shoal patch about 2 miles N of Lagey. The channel between Manareyjar and Eyjabrekar should be avoided.

Isolated depths of 20m and 15.5m have been reported to lie about 5.5 miles N and 15 miles NW, respectively, of Eyjabrekar.

Caution.—Abnormal variations exist in an area lying between Manareyjar and the mainland. In some places the magnetic compass appears to be quite dead, while in others deflections of up to 34° from the normal have been observed.

Deflections of 17°E and 5°E of the normal have been observed in positions located about 3 miles and 6 miles, respectively, N of Eyjabrekar. A deflection of 9°E of the normal was also observed in a position about 3 miles farther N.

8.94 Axarfjordur (66°13'N., 16°45'W.), a wide bay open to the N, is entered between Tjornes and Raudhinupur, 23.5 miles NE. An extensive plain, through which several rivers discharge, is located at the head of the bay. Axarfjordur is subject to incursions of polar ice and is mostly only used by fishing vessels bound for Kopasker.

Caution.—Vessels should exercise caution when entering or passing Axarfjordur as a strong flood current has been experienced off the entrance.

Raudinupur, the NE entrance point, is a reddish-colored headland. It rises vertically from the sea to a height of 60m and is conspicuous as the surrounding land is low. A detached rock, which also rises to a height of 60m, stands close off the headland. A light is shown from a tower, 8m high, standing on the headland.

Caution.—Strong tidal rips, which are dangerous to small craft, sometimes extend for several miles N of Raudinupur.

Abnormal variations, up to 18°W of the normal, have been observed to the NW of Raudinupur. Over a small area, centered about 1 mile N of the headland, a deflection of 11°W of the normal was also observed.

Gefla, a prominent hill 209m high, stands on the E side of the bay, 5.5 miles S of Raudinupur.

Snartarstadhanupur, a detached hill 284m high, stands close to the E coast of the bay, 9.5 miles S of Raudinupur. It rises to a flat summit and is conspicuous.

Thverarhyrna, a prominent mountain 539m high, stands 4.5 miles inland, 12.75 miles S of Snartarstadhanupur. Its summit resembles a horn when viewed from certain directions. Sandfell, 524m high, and Hafrafell, 534m high, stand 2 miles and 6 miles, respectively, S of Thverarhyrna; they are also both prominent.

Gaesafjoll, a conspicuous mountain 881m high, stands 21 miles S of the head of the bay.

8.95 Kopasker (66°17'N., 16°27'W.) (World Port Index No. 330), a trading station, is situated on the E side of the bay, 12.5 miles S of Raudinupur. It stands on the N shore of a small cove which may be identified by a large farm building, with a white gable, standing in an extensive cultivated area, about 0.5 mile ESE of it. A light is shown from a tower, 14m high, standing at Grimshafnartangi, a point located 1 mile NW of the station. The approach channel is indicated by pairs of lighted range beacons.

A jetty, 110m long, extends SSE from the shore and is pro-

tected by a breakwater. A berth, 50m long, with a depth of 4m alongside, is situated at its outer end. A shoal extends S from the head of the breakwater.

Pilotage.—Pilotage is not compulsory but is available and recommended.

Anchorage.—Vessels can anchor, in depths of 6 to 7m, about 410m SSW of the head of the breakwater. However, a very heavy sea is raised by strong winds from between NW and SW. During summer, fishing vessels also anchor off the E shore of the bay.

8.96 Melrakkasletta (66°28'N., 16°15'W.) is an extensive projection that lies between Axarfjordur and Thistilfjordur. This projection consists, for the most part, of a large and low plain bounded on its E and W sides by mountains. The N side of the projection is low, much indented by small coves, and fronted by rocks.

Caution.—Vessels should give the N coast of Melrakkasletta a wide berth, especially when approaching it from the E as, in certain lights, the low land in the vicinity of Hraunhafnartangi, the NE extremity, does not show up against the higher background.

8.97 Haganes, a small point, is located 2.5 miles ENE of Raudinupur and a dangerous reef extends about 0.5 mile seaward from it.

Rifstangi, a salient point, is located 6 miles ENE of Haganes. It is the N extremity of Melrakkasletta and the N point of Iceland. A reef extends NNW for about 0.5 mile from this point. A disused framework light structure is reported to stand near the extremity of the point, but it is often obscured by dust clouds. Sigurdharstadhavik, a wide bay with marshes at its head, lies between Rifstangi and Haganes.

Hraunnnhafnartangi (66°32'N., 16°02'W.), a salient point, is located 4 miles E of Rifstangi. A light is shown from a tower, 19m high, standing on the point.

Asmundarrrstadhavik, a cove fronted by several islets, is located 2.25 miles SE of Hraunnnhafnartangi. It affords anchorage to small vessels with local knowledge.

Gegnisvik, a small cove, is located 2 miles SSE of Asmundarrrstadhavik. The coast between is fronted by Asmundastadhaeyjar, a group of dangerous rocks, which extends up to 1 mile offshore and is marked by a racon.

8.98 Raufarhofn (66°27'N., 15°56'W.) (World Port Index No. 340) is the northernmost port in Iceland with a harbor that is safe and easy to enter. There is a trading station and fish factory at Raufarhofn. It is situated on the shores of a small cove and is located S and close to Gegnisvik.

Tides—Currents.—Tides rise about 1.4m at springs and 1m at neaps.

Depths—Limitations.—A small craft basin, protected by a breakwater, is situated in the inner part of the harbor.

Hafnarbryggja Quay is 90m long, with depths of 5.5 to 6.6m alongside. Togarakantur Quay is 50m long, with a depth of 6.7m alongside. There is also 130m of berthing space, with a depth of 4m alongside. Vessels of up to 120m in length and 6.5m draft have been accommodated.

Aspect.—A promontory, 34m high, extends 550m S and

Raufarhofn

protects the harbor on its E side. A light is shown from a tower, 10m high, standing near the end of this promontory. A radiobeacon transmits from a position about 0.5 mile W of the light.

Holminn, an islet, lies close off the SW extremity of the promontory. A reef extends 250m SSE from this islet and provides further protection to the harbor. Baka, a shoal with a least depth of 1.5m, lies at the S extremity of the reef and is marked by a lighted buoy.

A dredged entrance channel leads to the quays and is indicated by lighted range beacons.

Pilotage.—Pilots are available for Raufarhofn. Pilotage is not compulsory, however entry to the harbor should not be attempted without local knowledge.

Anchorage.—Anchorage can be taken, in a depth of 10m, sand and shells, in the roadstead outside the harbor, slightly N of the entrance range.

Caution.—With onshore gales, the sea breaks right across the narrow entrance of the cove.

The entrance channel is liable to shoal.

8.99 Melrakkanes (66°24'N., 15°43'W.) is located 6.5 miles ESE of Raufarhofn; a rocky spit extends up to 0.5 mile NE from it. A light is shown from a tower, 12m high, standing on this point.

The coast between Raufarhofn and Melrakkanes is indented by four coves which are mostly foul. However, fishing vessels, with local knowledge, occasionally take temporary anchorage in some of them.

Faxasker, a shoal patch with a depth of less than 2m, lies 0.75 mile offshore, about 1.5 miles SE of Raufarhofn Light.

Thistilfjordur (66°20'N., 15°30'W.), a wide bay open to the N, indents the coast for 14 miles between the E side of Melrakkasletta and the NW side of the Langanes Peninsula. It is entered between Melrakkanes and Svinalaekjartangi (Karl) 21 miles E. Thorshofn, the only trading station in the bay, is situated on the E side near the head. A wide plain, traversed by numerous rivers, backs the head of the bay. A mountain range rises at the W side of this plain and extends N to Melrakkanes.

Caution.—Vessels should exercise caution when passing or entering Thistilfjordur as a very strong inset has been experienced off it.

Thistilfjordur is frequently entirely filled with ice.

8.100 Vidarfjall, a prominent peak, 410m high, stands 8 miles S of Melrakkanes. Ottarshnjukurand, another prominent peak, 456m high, stands 4 miles SW of Vidarfjall.

Svalbardhsnupur, a conspicuous peak 703m high, stands 12.5 miles SSW of Vidarfjall.

Raudhanes, a small promontory, is located on the W side of the bay, 8 miles S of Melrakkanes. It may be identified by two fairly high rocks, which lie close off it, and by an arch near its extremity. Kollavik, a small bay lying close N of this promontory, should not be entered without local knowledge.

Grenjanes, a point on the E side of the bay, is located 15 miles SW of Svinalaekjartangi (Karl). The coast between is fronted by foul ground and, in places, shoals and rocks extend up to 2 miles offshore. A shoal spit extends up to 1.75 miles NW of Grenjanes and a light is shown from a prominent tower, 20m high, standing on the point. It is reported that a stranded wreck lies close NW of the point.

Heidarhofn, a cove fronted by foul ground, is located about 3 miles ENE of Grenjanes. It is formed by a spit on the N side and a small projection on the S side, and affords anchorage to small craft with local knowledge.

Thorshofn (66°12'N., 15°20'W.), a trading station, is situated 3.5 miles S of Grenjanes. It stands on the shores of a cove at the E side of Lonafjordur, a small bay occupying the head of Thistilfjordur.

On the W side of the harbor, the remains of the outer breakwater, which collapsed in 1984, extend 220m SSW and should not be approached within 50m. A spur of this breakwater projects 60m SSE then 60m NE. A jetty, which forms the E side of the harbor, extends 70m S. There are depths of 3.3 to 5m within the harbor, with berths for fishing vessels. The approach is indicated by lighted range beacons.

Anchorage.—In the fine weather season, the cove may be considered a good anchorage, but the swell is heavy at times. Coastal vessels can anchor, in a depth of 10m, sand, very good holding ground, off the cove.

8.101 Fontur (Langanes) (66°23'N., 14°32'W.), the NE extremity of the Langanes Peninsula, is located 7.5 miles E of Svinalaekjartangi (Karl). The coast between forms a bight, within which temporary anchorage can be taken, in depths of 10 to 20m, near the head. This anchorage is frequently used by fishing vessels with local knowledge.

Langanes Light is shown from a round tower, 10m high, standing on Fontur.

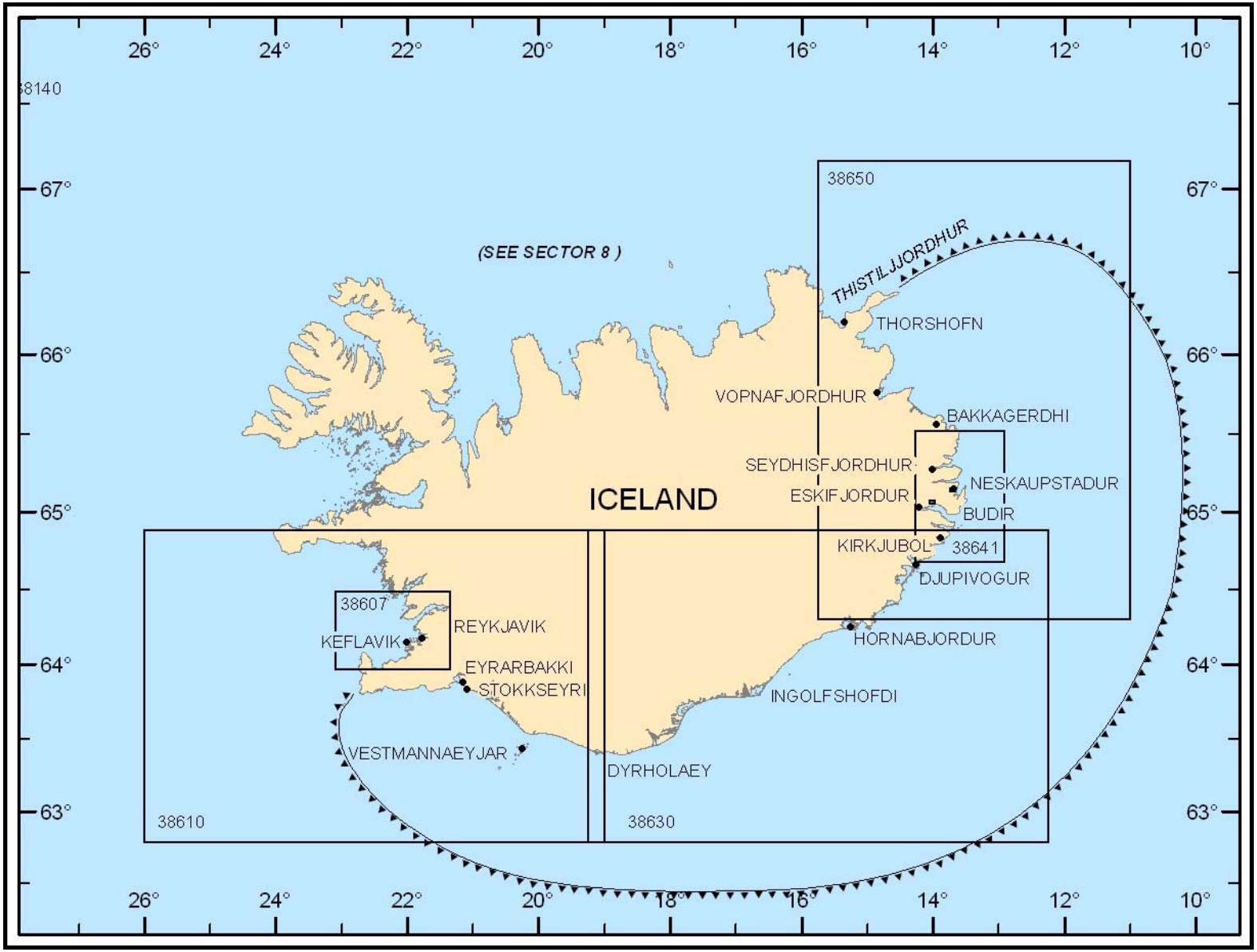
Langanes Light

Caution.—With good visibility, the rounding of the Langanes Peninsula presents no difficulties, but with low visibility every precaution must be taken, as this area has a deservedly bad reputation. Frequent thick fogs, strong tidal currents, and the unreliability of the magnetic compass have caused the loss of many vessels. Additional dangers and difficulties may be encountered due to the presence of polar ice or Langanesrost, an area of heavy overfalls, which may extend far out to sea even in calm weather.

In conditions of low visibility, vessels approaching from the W should endeavor to make a landfall at Svinalaekjartangi (Karl) or keep in depths of over 90m. If Langanes Light is observed, during a temporary clearing of the fog, vessels should steer a course to pass well clear of it, as there is usually a very strong set into Thistilfjordur.

Vessels approaching from the S or E in low visibility should keep in depths of over 90m and make allowance for the tidal currents that will usually set to the S.

A local magnetic anomaly has been observed in a position close E of Langanes Light.



Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR **9** — CHART INFORMATION

SECTOR 9

ICELAND—EAST AND SOUTH COASTS

Plan.—This sector describes the E and S coasts of Iceland from Langanes, the NE extremity of the island, to Reykjanes, the SW extremity.

General Remarks

9.1 The E coast of Iceland trends SSE, S, and then SW for more than 200 miles. Topographically, it may be divided into three parts.

The N part is located between Fontur and Kogur, 50 miles SSE, and indented by three large bays from the heads of which large valleys penetrate the island. The middle part is located between Kogur and Eystrahorn, 85 miles SSW, and indented by numerous deep and narrow fjords which are separated by narrow and mountainous peninsulas. The S part is located between Eystrahorn and Ingolfshofdi, 65 miles SW, and made up of two large bights which are separated by a point. From this S part of the coast, the land slopes upward to Vatnajokull, the largest glacier in Iceland. For more information, see Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

In respect to off-lying dangers, the E coast may be divided into two sections. The section lying to the N of Gerpir, the E extremity of Iceland, is comparatively free of off-lying dangers, but the section lying to the S is more or less fringed with rocks and islets which are a great hindrance to navigation, especially during poor visibility.

A succession of banks and deeps lies off the whole of the E coast and may best be seen on the chart. The deeps usually extend toward the larger bays and fjords.

Traffic Separation Schemes can best be seen on the chart.

East and South Coasts of Iceland

TRANSREP Ship Reporting System.—The TRANSREP Reporting System covers the eastern Area To Be Avoided (ATBA) located entirely within Icelandic territorial waters and is bounded by lines connecting the following positions:

1. Dyrholaey Light (63°24'08"N., 19°07'50"W.).
2. South of Surtsey Island (63°10'00''N., 20°38' 00''W.).
3. South of Reykjanes Point (63°40'54"N., 20°40'12"W.).
4. Southwest of Reykjanes Point (63°45'48"N., 22°44'24"W.).
5. Hullid Passage—Southeast section (63°47'00"N., 22°47'36"W.).
6. Hullid Passage—Northeast section (63°48'00"N., 22°48'24"W.).
7. Southwest of Litla Sandvik (63°49'12"N., 22°47'18"W.).
8. Off Sandgerdi (64°01'42"N., 22°58'18"W.).
9. Northwest of Gardskagi Point (64°07'12"N., 22°47'30"W.).
10. North of Gardskagi Point (64°07'20"N., 22°41'24"W.).
11. Gardskagi Light (64°04'55"N., 22°41'24"W.).

The Maritime Traffic Service Center can be contacted 24 hours on VHF channel 16 or 70.

The TRANSREP procedures are, as follows:

1. Participation in the TRANSREP Reporting System is mandatory for the following:
   a. Vessels calling in at ports located within the eastern Area To Be Avoided (ATBA) off the S and SW coast of Iceland.
   b. Vessels of less than 5,000 gross tons permitted to transit the eastern ATBA S of latitude 63°45'00"N when engaged on voyages between Icelandic ports and not carrying dangerous or noxious cargoes in bulk or in cargo tanks.
2. Participation is not mandatory for any warship, naval auxilliary, coast guard vessel, or other vessel owned or operated by a contracting government and used, for the time being, only on non-commercial service. Such vessels are, however, still encouraged to participate.
3. The Reporting System does not apply to fishing vessels with fishing rights within Iceland's Exclusive Economic Zone (EEZ) and research vessels.
4. The language used for communication shall be English, using the IMO Standard Marine Communication Phrases where necessary.
5. Notice of ETA—Vessels should report to the Icelandic Maritime Traffic Service, on VHF channels 16 or 70, 4 hours before entering the area, or when departing from harbors in Faxafloi Bay. Vessels leaving harbors within the ATBA shall report on departure.
6. Vessels unable to communicate on VHF channel 16 or 70 shall use MF DSC or INMARSAT.
7. The report shall contain the following information as listed in the table titled **TRANSREP Reporting Information**.
8. In the event of defect, pollution, or goods lost overboard, additional information may be requested
9. Following the reception of a report, the Maritime Traffic Service Center can, on request, provide:
   a. Information on navigational conditions.
   b. Information on weather conditions.

Note.—Detected and identified vessels are monitored by AIS, which in no way releases the master from the responsibility for safe navigation.

TRANSREP Reporting Information	
ID	**Information Required**
A	Vessel's name, call sign, and IMO number
C *	Position (latitude/longitude)
D *	Position (bearing/distance in relation to a landmark)
E	Course
F	Speed
G	Port of departure
H	Date, time, and point of entry into the system
I	Port of destination
K	Date, time, and point of exit from the system or departure from a harbor within the ATBA
L	Intended track within the ATBA
* Either C or D can be used.	

Caution.—Numerous fishing vessels may be encountered in the waters off the E and S coasts of Iceland.

East Coast

9.2 Fontur (Langanes) (66°23'N., 14°32'W.), described in paragraph 8.101, is the NE extremity of Iceland.

Budhahorn, a small point, is located 6 miles SW of Fontur. The coast between consists of a sheer cliff, 46 to 76m high, which forms the side of a plateau at the N end of the Langanes Peninsula.

Skalar, a small deserted settlement, stands on the shore of a slight indentation at the W side of Budhahorn. There is no harbor, but a shallow jetty, 18m in length, fronts the former settlement. Anchorage can be taken, in a depth of 10m, about 0.5 mile offshore. However, the holding ground is poor and the roadstead is very exposed.

Vatnnadalur, a wide and prominent valley, extends across the Langanes Peninsula in the vicinity of Skalar.

Kumbl, a small projection, is located 3 miles SW of Budhahorn. The coast between is steep and rocky.

Eidisvik (66°16'N., 14°51'W.), a wide bay, is entered between Kumbl and Fagranes, 6.5 miles SSW. A reef extends about 0.75 mile NE from a point on the shore located 1 mile N of Fagranes.

Eidhiskardh, a swampy valley, extends W across the Langranes Peninsula from close within the head of this bay. An extensive lake, at the E end of the valley, is separated from the bay by a narrow strip of land mostly formed by boulders.

This bay is used as a temporary anchorage by fishing vessels.

The best berth lies, in a depth of 15m, good holding ground, E of the N side of the valley, about 0.5 mile offshore.

Caution.—A local magnetic anomaly has been reported to exist in a position centered 5 miles ESE of Fagranes and another anomaly close E of Fontur. For more information, refer to Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

The sea area surrounding Langanes has a reputation for frequent fog, strong tidal currents, and the unreliability of the magnetic compass in the vicinity, all of which have contributed to the loss of many vessels. Additional dangers may be caused by the presence of ice.

9.3 Bakkafloi, a large bay, is entered between Fagranes and Digranes, 10 miles SE. The head consists of a low tract of land with two hilly projections, fringed by reefs, which divide it into three bights.

Gunnolfsvikurfjall stands on the N side of the bay, 5.5 miles SW of Fagranes. It rises to a height of 719m and is the highest hill in this area.

Finnafjordhur is the northernmost bight at the head of the bay. Gunnolfsvik, a small cove, in the NW part of this fjord affords anchorage, in depths of 22 to 26m, to vessels with local knowledge.

Midfjordur (Midhfjordhur), a bight with depths of 13 to 20m, is entered 3 miles SE of Finnafjordhur. A sandbank extends for a considerable distance offshore, at its head. This bight is seldom used for anchorage as it does not offer good shelter.

Bakkafjordur (Sandvik) is the southernmost bight and affords good anchorage, in depths of 15 to 20m, off its E shore to vessels with local knowledge.

Hofn, a small trading station, is situated at the E entrance point of Bakkafjordur, 2 miles SW of Digranes. A jetty projects 90m from the shore near the station and has depths of 5 to 7.7m alongside. However, during strong N or W winds, vessels cannot remain alongside.

It is reported (1990) that a small breakwater, with depths of 3 to 4m alongside, has been constructed about 1 mile S of the station.

Digranes (66°03'N., 14°44'W.) is the NE part of a broad headland. A light is shown from a conspicuous tower, 20m high, standing on the headland.

Strandhofn (65°54'N., 14°39'W.), a small settlement, stands on the coast, 9 miles SSE of Digranes. A radiobeacon is situated 0.5 mile N of the settlement.

Caution.—The magnetic compass is very unreliable within this fjord, especially off the S shore.

An anomaly of up to 20° has been observed in an area centered about 4 miles W of Svartnes.

9.4 Svartnes (65°47'N., 14°20'W.), a low projection, is located at the foot of a mountain range. Kollumuli, 601m high, stands close SW of Svartnes and is the NE extremity of this range.

Bjarnarey, a grass-covered island, 22m high, is located 0.5 mile E of Svartnes and surrounded by dangerous rocks. A prominent isolated rock, with vertical sides, stands on its N extremity. Foul ground extends up to 1.5 miles S of the island and also lies in the channel between the island and the coast. A light is shown from a stone building, 8m high, standing on the island.

Midhfjardharbodhi, a small pinnacle rock with a depth of 3.5m, lies in the middle of the entrance to the fjord, about 6.5 miles NW of Svartnes. It is marked by breakers in heavy weather. An isolated patch, with a depth of 18m, lies 2.5 miles ENE of the rock. Styrbjarnarrif, an isolated reef of stones with a depth of 7.5m, lies about 4 miles WNW of Svartnes. Thufugrunn, a shoal patch with a least depth of 8.5m, lies about 4.5 miles W of Styrbjarnarrif. The sea breaks heavily over it during NE gales.

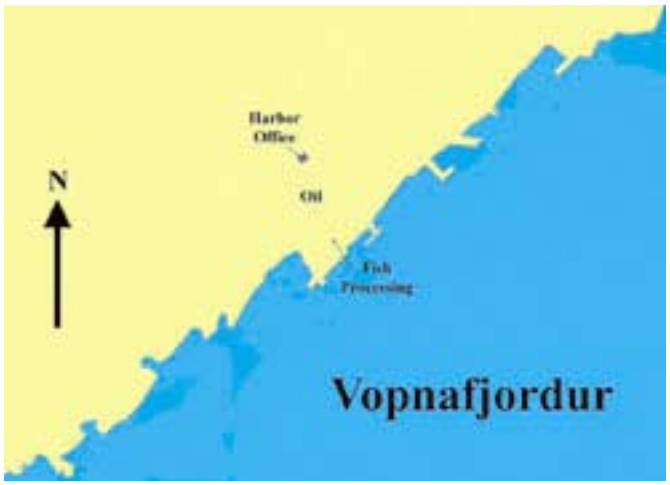
Kolbeinstangi, located 7 miles SSW of Strandhofn, is the low but distinctive extremity of a tongue of land which projects 4.5 miles NE from the head of the fjord. It is separated from the NW shore by a shallow lagoon. A light is shown from a tower, 20m high, standing 1.5 miles SSW of the point.

Leidharholmi, a grassy islet, lies close S of the light tower and is separated from the coast by a narrow and shallow channel.

Midholmi, a grass-covered island is joined to the mainland N by a breakwater and is one of a number of islands and reefs fronting Vopnafjordhur Trading Station at the head of the fjord. Hukkasker, which shows a light, and Hjalmarsbaka lie close SE and E, respectively, from Midholmi. Krossvikurlending, which shows a light, lies close W of Hukkasker. Reclamation work has been in progess since 2003 to join Midholmi to Skipholmi.

A spit, with depths of less than 5m, extends SSW from Hlassidh, a small island close S of Skipholmi. Helenufludh, a submerged rock with a depth of 1.7m, lies about 60m SW of the S tip of Skipholmi.

9.5 Vopnafjordur (65°45'N., 14°50'W.) (World Port Index No. 380) is a trading station. It is situated at the NW side of the head of the fjord. The harbor is subject to occasional incursions of polar ice.



Vopnafjordur

Tides—Currents.—Tides rise about 1.5m at springs and 1.1m at neaps.

Depths—Limitations.—Two L-shaped piers, with depths of 5.5 and 6.6m at their outer faces, front the station. There is also

a T-shaped pier and a number of quays with depths of 1 to 4.3m alongside. Vessels with drafts up to 3m can be accommodated. It is reported that vessels up to 4,550 dwt and 95m in length have been handled.

Vopnafjordur, open to the NE, is entered between Strandhofn and Svartnes, 10.5 miles SE. The depths in the fjord are very irregular, but a narrow deep, with depths of over 90m, extends to within 4.5 miles of the head. It has been reported that vessels may approach to within 0.5 mile of the shores in safety.

Aspect.—Several small islands and reefs are located within 600m of the shore fronting the station. Midholmi, the northernmost island, is grass-covered and joined to the shore at its N end by a causeway. It is reported (1990) that a breakwater has been constructed close W of this causeway. The fairway leading to the harbor and anchorages is indicated by three pairs of lighted range beacons. Local knowledge is required.

Pilotage.—Persons with local knowledge are available and recommended, especially for anchoring.

Anchorage.—There are no good anchorages in Vopnafjordur. However, the recommended anchorage berth lies, in a depth of 13m, about 0.25 mile S of the trading station; local knowledge is required.

Caution.—With S winds, the fjord is notorious for its squalls which descend from the mountains. They are more violent near the land than farther out in the fjord.

9.6 Heradsfloi (65°42'N., 14°10'W.), a wide bay open to the NE, is entered between Svartnes and Kogur, 15.5 miles SE. A low beach of black sand, located at the head, contrasts with the mountains at the NW and SE sides of the bay.

Within the head, a wide valley extends far inland and several rivers flow through it.

Caution.—Vessels entering this bay should exercise caution, as the beach appears to be farther away than it really is.

9.7 Kogur (65°36'N., 13°52'W.) is a steep point. A light is shown from a tower, 8m high, standing on a point 0.75 mile SE of Kogur. Submerged rocks lie about 0.25 mile N of Kogur and a shoal, with a depth of 10m on which the sea breaks, was reported to lie about 1 mile N of the point. Osfles, a group of above-water rocks, lies 1.5 miles NW of Kogur and is connected to the mainland SSE of it by a chain of submerged rocks.

Njardhvik, a small bay, is entered 2 miles SSE of Kogur and extends 1.5 miles W. Gunnarssker, a group of drying rocks, lies slightly N of the middle of the entrance and, with offshore winds, is not marked by breakers. A spit, with depths of 5 to 9m, extends about 350m N from Gunnarssker. This spit, along with a small reef fringing the N entrance point, makes the narrow channel lying N of Gunnarssker foul and, in heavy weather, there are breakers across it.

The bay should only be used as a temporary anchorage by small craft with local knowledge, as it is open to the E and subject to frequent incursions of polar ice.

9.8 Borgarfjordur (Borgarfjordhur) (65°33'N., 13°46'W.), located 2 miles SE of Njardhvik, is entered between Landsendi and Hafnartangi, 2.5 miles ESE. It extends 2.5 miles S and is completely open to N winds. The fjord never freezes over, but there may be considerable quantities of ice.

Alfaborg, a prominent four-sided hummock 41m high, stands a short distance W of the lowland which lies at the head of the fjord.

Galmur, a rock with a depth of 5.2m, lies about 0.25 mile NE of the Hafnartangi. A shoal, with a depth of 18m, lies 1.75 miles NE of Galmur. The sea breaks over this shoal during heavy weather.

Hafnarholmi, a flat and rocky islet, is located close offshore, 1 mile SSW of the SE entrance point. Small craft with local knowledge can anchor S of this islet. A jetty and a boat harbor are situated close S of a causeway which connects the islet to the mainland.

The E shore of the fjord is free from off-lying dangers, but the W shore is foul up to about 275m offshore.

Bakkagerdhi (65°32'N., 13°49'W.), a small trading station, is situated at the SW corner of an inlet which lies at the W side of the head. The approach fairway is indicated by pairs of lighted range beacons.

A jetty, with a depth of 6m at its head, extends 140m from the shore, close NW of the station. However, it was reported (1980) that this jetty had been damaged by ice.

Anchorage.—Vessels may anchor, in a depth of 10m, off the station. This anchorage may be used with local knowledge, but not during N winds or in bad weather.

Caution.—Small craft should exercise caution in the ice season as the ice within the fjord is often black and difficult to see.

9.9 Brunavik (65°32'N., 13°41'W.), a large cove, is located 2.5 miles E of Borgarfjordur. It is open to the N and sometimes used by fishing vessels with local knowledge. Temporary anchorage, in a depth of 11m, can be obtained, but the holding ground is poor. Two low islets lie close off the NW entrance point of the cove. The channel between them and the point has a least depth of 11m, but can only be used by boats.

Glettinganes (65°31'N., 13°37'W.), a salient point fronted by submerged rocks, is located 2.25 miles SE of Brunavik. A light is shown from a tower, 20m high, standing on the NE extremity of the point.

Breidavik and Husavik, two small bays, are located 3 miles and 6.5 miles, respectively, S of Glettinganes. These bays are open, encumbered with rocks, and unsuitable for even temporary anchorage.

Caution.—The coast in the vicinity of Glettinganes, Breidavik, and Husavik is fronted by rocks and a heavy race has been experienced offshore.

9.10 Lodmundarfjordur (65°21'N., 13°45'W.) is entered 10 miles SSW of Glettinganes. It extends 3.25 miles WNW between high and steep mountains and is free from dangers beyond 200m from either shore. The depths decrease regularly from 37m, at the entrance, to 11m about 650m from the head where a river discharge through a shallow lagoon almost enclosed by a tongue of sand. Fishing vessels use this fjord for temporary anchorage. The usual berth, in depths of 22 to 26m, is off the N shore.

Caution.—A considerable swell is raised by onshore winds, even when not blowing directly into the fjord.

This fjord is noted for the violence of the squalls within it, especially from N.

Skaelingur, a peak, 931m high, stands on the N side of Lod-

mundarfjordur. It is prominent and the summit resembles a pagoda.

9.11 Seydisfjordur (Seydhisfjordhur) (65°18'N., 13°40'W.) is entered between Borgarnes, the S entrance point of Lodmundarfjordur, and Skalanes, 2 miles SSE. This fjord is one of the most important centers of trade on the E coast of Iceland. It extends 8.5 miles WSW and is surrounded by steep mountains. General depths in the fairway are 37 to 90m and a trading station is situated at the head of the fjord.

Caution.—A disused submarine cable lies within the fjord and may best be seen on the chart.

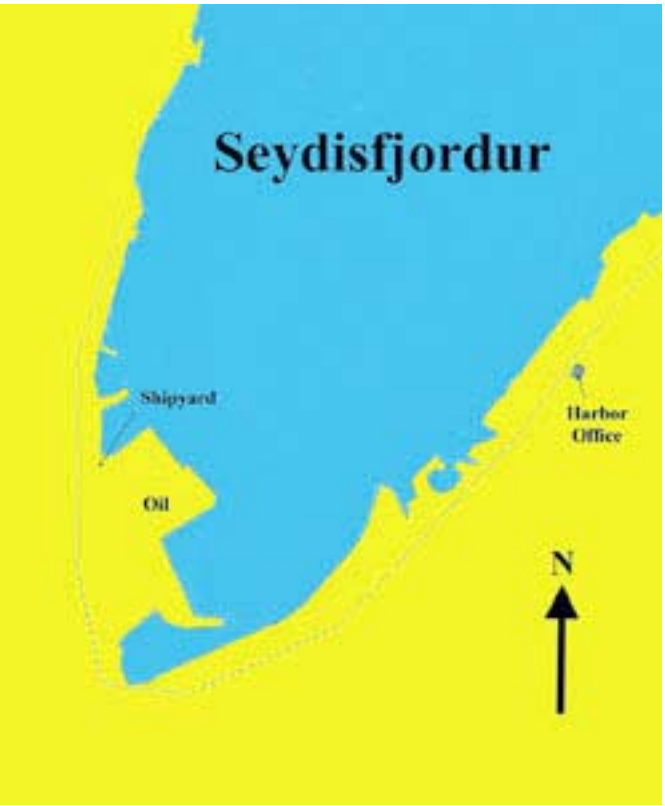
Occasionally, violent squalls descend from the mountains and are stronger off the S shore of the fjord.

9.12 Brimnes, a point fronted by foul ground, is located 1.75 miles SW of Borgarnes. A light is shown from a tower, 7m high, standing on the point.

Imslandhus, a prominent house fronted by a jetty, is situated on the S shore of the fjord, 1 mile from the head. Several oil tanks stand close SW of the house.

Vestdalseyri, a small trading station fronted by the ruins of a pier, is situated on the N side of the fjord, 1.5 miles from the head. A prominent farm house stands 2.5 miles NE of this station.

Skalanesbot, a small bay, is located on the S side of the fjord, close W of Skalanes. Its shores are fringed with foul ground. Anchorage can be obtained, in depths of 11 to 15m, good holding ground, in the SE part of this bay.



Seydisfjordur (Seydhisfjordhur)

9.13 Seydisfjordur Harbor (65°16'N., 14°00'W.) (World Port Index No. 400), a settlement, is located at the SW end of the fjord of the same name. It is divided into two sections by a river, the mouth of which is spanned by an iron bridge.

The port has a deep and well-sheltered harbor which is among the best in Iceland. There are two herring processing plants in the town. Regular passenger and car ferry connections operate to and from Scandinavia.

Depths—Limitations.—Fjardahofn Quay is 140m long, with a depth of 6.5m alongside. Engros Quay is 65m long, with a depth of 6.5m alongside. Baejarbryggja Quay is 45m long, with a depth of 6.5m alongside. Fiskuinnslubryggja Quay is 60m long, with a depth of 6.5m alongside. There are facilities for fishing, ro-ro, tanker, container, and ferry vessels.

A wreck, with a depth of 22m, lies almost in the middle of the fjord, about 1,000m NNE of the lighted beacon; it is marked by a lighted buoy.

Aspect.—Alda Church, a white building, stands in the settlement and is conspicuous. A lighted beacon stands 0.25 mile NE of the church.

Pilotage.—Pilotage is not compulsory, but is available and recommended. The harbor may be contacted on VHF channels 16 and 12.

Anchorage.—Vessels may attempt to anchor wherever the depths are less than 40m, off the settlement and clear of the wreck lying in the approach. Good anchorage may be obtained in Skalanebot, in depths of 11 to 15 m. The holding ground is good but a considerable swell is raised by NE winds.

Small vessels may obtain anchorage 0.7 miles WSW of Sorlastadharvik, which lies clos W of Hanefsstadhareyri, in a depth of about 26m, off a prominent building on the shore.

Small craft may anchor W of Gullsteinseyri, in about 20m, midway between Hanefsstadhareyri, with Brimnes in line with the extremity of Gullsteinseyri bearing about ENE. Storms blowing into the fjord do not raise much sea at these anchorages, but gales blowing out of the fjord may cause vessels to drag as the bottom slopes steeply.

Temporary fine weather anchorage may be obtained, in a depth of 37m, off Vestdalseyri, but it is not a safe anchorage as the bottom shelves so steeply that it is necessary to lay out hawsers to the shore.

9.14 Dalatangi (65°16'N., 13°34'W.), fronted by two small islets, is located 3.5 miles SE of the S entrance point of Seydisfjordur. It is the E extremity of a peninsula and conspicuous from N and S. A light is shown from a tower with a building, 10m high, standing on the point. A radiobeacon is situated at the light tower.

Caution.—One of the strongest tidal races on the E coast of Iceland runs in the vicinity of Dalatangi. A submarine cable lies in this area and extends approximately 150m ESE.

9.15 Dalafjall, 834m high, and Akurfell, 916m high, are two prominent mountains standing 1.25 miles WSW and 2.25 miles SW, respectively, of Dalatangi. The mountains are usually snow-free due to their steep sides.

Mjoifjordur (65°12'N., 13°46'W.), a narrow fjord, is entered between Steinsnes, located 3.75 miles SW of Dalafjall, and Hafnartangi, 1.5 miles S. It extends 10 miles W between steep and high mountains and is comparatively unimportant.

The depths in the fjord become less from 90m, at the entrance, to 42m, close to the head. A pipeline, submerged at high tide, is located W of the jetty and obstructs the approach.

Brekka, a small trading station with a shallow jetty, is situated on the N side of the fjord, 4 miles within the entrance. It is seldom visited except by fishing vessels. Anchorage can be obtained, in a depth of 40m, good holding ground, close off the station, but it is limited to small vessels with local knowledge as the depths increase rapidly towards the middle of the fjord.

Toarfjall, a prominent mountain 994m high, stands 3 miles ENE of Brekka.

Anchorage may also be obtained off Fjordhur, a deserted settlement at the head of the fjord, but it is also limited by the steeply shelving shore bank.

Caution.—A submarine cable lies across the fjord, about 1 mile E of the trading station.

Heavy squalls occasionally descend from the nearby mountains.

The fjord is liable to incursions of polar ice.

9.16 Nordfjardarfloi (Nordhfjardharfloi) (65°09'N., 13°36'W.), a large bay, is entered between Flesjartangi, located 0.75 mile SE of Hafnartangi, and Nordfjardharhorn, 3.25 miles ESE. The head of the bay is formed by two hilly projections which divide it into three branches, known as, Nordfjordur, Hellisfjordur, and Vidfjordur. The E side of the bay is formed by Bardhsnes, a hilly peninsula.

Flesjartangi, the NW entrance point, is fronted by foul ground which extends up to about 180m seaward. It rises steeply to the 609m high summit of Nipa, which stands 0.25 mile inland.

Nordfjardharhorn, the E entrance point, is the N extremity of Bardsnes. It is fronted by foul ground which extends about 650m N and NE. Two rocky islets lie close off the point; a detached rock, with a least depth of 5.9m, lies about 0.5 mile N of them; occasionally, this rock is marked by breakers. A light is shown from a metal tower, 4m high, standing on the point; it is obscured on some bearings.

Grunnbodhi, a shoal with a least depth of 8m on its SW end, lies about 0.5 mile NW of the point.

Fossbodi, a shoal with a depth of 16.5m, lies about 1 mile ENE of Nordfjardharhorn. Reykjabodi, a group consisting of three rocks with a least depth of 11.2m, lies 2 miles NE of Nordfjardarhorn. During heavy weather, the sea breaks over this group and vessels are advised not to pass between it and the point. Breakers were reported (1931) to have been observed between this group and the point.

Caution.—Frequent heavy tidal races have been experienced off Nordfjardarhorn.

Heavy squalls, which descend from Nipa, have been experienced close off Flesjartangi, especially when the wind is blowing out of the bay.

A local magnetic anomaly of 5°E has been reported to exist in a position about 0.5 mile ENE of Nordfjardharhorn.

9.17 Nordfjordur (65°08'N., 13°42'W.) is entered between Uxavogstangi, located 2.5 miles SSW of Flesjartangi and Hellisfjardarnes, 1.25 miles S. It extends 2.5 miles W between steep shores and is mainly used by fishing vessels.

Nordfjordur Light is shown from a tower, 8m high, standing on Uxavogstangi. A radiobeacon is situated at the light tower.

Hoflaugartindur, 930m high, and Bagall, 1,060m high, are two prominent peaks that stand 1.5 miles and 2 miles, respectively, WNW of the head of Nordfjordur.

9.18 Neskaupstadur (Nes) (65°09'N., 13°41'W.) (World Port Index No. 420), a trading and fishing station, is situated on the N side of Nordhjordhur, almost 1 mile W of Uxavogstangi. Several fish factories stand on the N shore between the station and the head of the inlet. An aeronautical radiobeacon is situated close W of the station.

The port can be contacted on VHF channel l6; messages can be sent through Neskaupstadhur (TFM).

Neskaupstadur and Norfjordur

Neskaupstadur

Depths—Limitations.—The main pier is 75m long and 75m wide, with depths of 6 to 10m alongside. Large vessels are berthed at its S side and smaller ones at the E and W sides.

There are two fueling piers with depths of 5.2m alongside.

Vessels of up to 4,450 dwt and 99m in length have been accommodated.

A new breakwater at the head of the inlet protects two quays and the boat harbor. One quay is 152m long, with depths of 6 to 7m alongside. A second quay is 112m long, with depths of 5.5 to 6m alongside.

Pilotage.—The harbor can be contacted on VHF channel 16, 23, 25, 26, or 27, call sign (TFM). There are no local pilots, but authorized pilots may be requested through Seydisfjordur.

Anchorage.—Anchorage may be obtained, in a depth of 35m, off the trading station, S of the church.

Caution.—This inlet is notorious for the heavy squalls which descend from the mountains surrounding it.

Hellisfjordur is entered 1.25 miles SSE of the entrance to Nordfjordur. It extends 1.75 miles WSW between steep mountain slopes and is deserted. A river flows into the head which is low and fronted by drying sand flats.

Vidfjordur is entered 0.75 mile SE of the entrance to Hellisfjordur. It extends 1.75 miles SSW and is deserted. The shores are mostly rocky except at the head which is low and fringed with sand and shingle.

Although free of dangers, these two inlets do not afford suitable anchorage as they are open to N winds and subject to frequent incursions of drift ice.

9.19 Gerpir (65°05'N., 13°30'W.), the E extremity of Iceland, is located 5.5 miles SSE of Nordhfardharhorn. The point may be identified by a steep and conspicuous hill, 477m high, standing on it. The shore in the vicinity of the point is fringed by rocks and a small islet.

Sandvik, a small bight, indents the coast on the N side of Gerpir. It is free from dangers although its shores are rocky in places. Fishing vessels use this bight for temporary anchorage as the holding ground is good, but it is completely exposed to onshore winds.

Dianabodi, a detached rocky patch with a least depth of 20m, lies 8 miles ESE of Gerpir.

Caution.—Several abnormal magnetic variations have been observed in the vicinity of Gerpir and Dianabodi, the greatest deflection being 22°E of normal.

Gerpifles and Mafastapar, two islets, are located close inshore, 0.75 mile S of Gerpir; they are useful landmarks by which to identify the point in thick weather.

Vadlavik (65°01'N., 13°36'W.), an open bay, is entered 4 miles SW of Gerpir. It is free of dangers, but the shores are fringed with rocks in places. Fishing vessels, with local knowledge, occasionally obtain temporary anchorage within this bay as the holding ground is good, but it is exposed to all onshore winds.

9.20 Reydarfjordhur (Reydharfjordhur) (65°00'N., 13°51'W.), the largest fjord on the E coast, is entered between Krossanes, located 1.75 miles S of Vadlavik, and Vattarnes, 4 miles SW. It extends for 10 miles in a general NW direction to Holmanes and then divides into two branches. Eskifjordhur, the N branch, extends NW for 2.5 miles; a trading station, of the same name, is situated near its head. Innri-Reydarfjordur, the W branch, extends W for 6 miles and Budareyri, a trading station, is situated near its head.

Reydarfjordur is about 2 miles wide at its narrowest part and surrounded by conspicuous mountain ranges which fall steeply to the sea. Some of these mountain peaks are among the highest on the E coast of Iceland.

Snaefugl, 757m high, stands on the N side of the fjord, 1.5 miles W of Krossanes. Holmatindur, 985m high, stands 2 miles NW of Holmanes and its summit resembles a pyramid. Both of these mountains are conspicuous from seaward.

Vattarnes, the S entrance point of the fjord, is the NE extremity of a peninsula. A light is shown from a tower, 12m high, standing on the point.

Vattarnestangi, a narrow tongue of land, extends about 0.25 mile N of the light tower and is fronted by rocks, foul ground, and a reef. It should be given a wide berth.

Krossanes, the N entrance point of the fjord, is backed close WNW by a prominent mountain, 603m high.

Vatnsbodi, a shoal with a depth of 5.5m, lies about 0.5 mile S of Krossanes and is nearly always marked by breakers. Laggi, an isolated rocky patch with a depth of 5.5m, lies about 0.75 mile offshore, 1.25 miles SW of Vatnsbodi.

Seley, a grass-covered islet, 21m high, is located 2.5 miles ESE of Krossanes. A light is shown from a tower, 14m high, standing at the W side of the islet, near its N end. A racon is situated at the light tower.

Holmur, a small islet fringed by foul ground and a reef, is located close N of the N end of Seley to which it is connected by a reef.

Eyjarsker, Midhsker, and Soetusker are three islets which extend in a line up to 0.75 mile SSW of the S end of Seley.

Sulnabodi, a patch with a depth of 20m, lies in mid-channel between Seley and Krossanes and is, at times, marked by breakers.

Directions.—The N channel, which lies between Seley and Krossanes, is almost 2.25 miles wide. It is free of dangers, except for Vatnsbodi and Sulnabodi, and the depths are mostly less than 45m, so vessels may anchor if necessary. The tidal currents are fairly strong, but set in the direction of the channel.

The E channel, which lies S of the dangers extending from the S end of Seley, is 2.75 miles wide, free of dangers, and the one most used.

The S channel, which lies between Skrudhur and Andey, is described in paragraph 9.24 with the approaches to Faskrudsfjordur.

Refsker, a long and narrow reef, extends 0.75 mile S from the N shore of the fjord, 3 miles W of Krossanes. Parts of this reef dry and a depth of less than 2m lies at its S extremity. It is always marked by breakers during E winds.

Svartasker, a dark rock, is located close off a steep and dark cliff, 4.75 miles W of Krossanes, where the coast turns NW. A beacon is reported to stand about 550m E of it.

Helgustadhir, a farm, is situated 3.25 miles NW of Svartasker, near a former mine.

Grima, a point on the S shore of the fjord, is located 7.25 miles NW of Vattarnes. A light is shown from a structure, 3m high, standing on the point.

9.21 Eskifjordur, the N branch of Reydharfjordhur, is entered between Holmanes, located 2.75 miles NW of Grima, and a small promontory on the coast, 1 mile NE. An extensive grassy valley penetrates W into the mountains from the head of this branch. The streams, which flow through this valley, discharge so much water into the head that the surface water is almost fresh and the strength of the ebb is increased accordingly.

Holmanes is fronted by foul ground and patches, with depths of 11m, lie up to 1 mile E of the point.

Mjoeyri, a steep-to and sandy spit, projects from the N side

of this branch, 1.25 miles N of Holmanes. A light is shown from a tower, 4m high, standing on its extremity. The spit lies 1 mile NW of Innstekkur.

9.22 Eskifjordur (Eskifjordhur) (65°04'N., 14°01'W.) (World Port Index No. 430), a trading station, is situated on the N shore of the branch, between Mjoeyri and the head. It is located on the E shore of N Reydarfjordur including Budareyri. It is mainly used by fishing vessels.

The waters of the fjord only freeze during exceptionally cold winters but, in years of heavy incusion, polar ice may penetrate to the waters in the vacinity of the trading station.

Depths—Limitations.—A number of shallow piers project at intervals from the shore abreast the trading station and are used by small fishing craft.

A main pier, 140m long, with depths of 5 to 6.3m alongside, projects from the shore close NW of a prominent oil tank.

Another main pier has berthing spaces of 70m on its S side and 90m on its N side, with depths of 6.2m to 8.9m alongside.

Vessels of up to 4,450 dwt and 96m in length have been accommodated.

Another jetty lies close W near the oil tanks, and has a berthing face of 20m and 40m on either side.

Anchorage.—Good anchorage may be obtained, in a depth of 40m, 650m or more NW of Mjoeyri and about 180m offshore. Anchorage can also be obtained, in a depth of 32m, off the two main piers at the station or, in depths of 33 to 40m, in the middle of the branch. The harbor can be contacted on VHF channel 12.

Caution.—The bottom consists of clay covered with soft mud; sufficient chain must be used to ensure that the anchor sinks through the mud and reaches the clay below it.

Strong squalls are occasionally experienced within Eskifjordur, especially when the wind is blowing out of the branch. These may occur without warning when the weather appears calm and settled. Therefore, larger vessels should always drop a hauling-off anchor when going alongside.

9.23 Innri-Reydarfjordur, the W branch of Reydharfjordhur, is entered between Holmanes and Eyri, 1.75 miles SSW. This branch decreases slightly in width as it extends between high mountains. A river flows through a valley into the head of this branch and carries silt which forms a narrow drying flat.

Storholmi, the southernmost and highest of a group of islets, is located 1 mile WSW of Holmanes and a drying rock lies 90m SW of it. With these exceptions, the shores of the branch are steep-to and, in most places, free of dangers.

Budareyri (65°02'N., 14°13'W.), a small trading station, is situated on the N side of the head. A church, with a red roof, is a prominent landmark.

Two wharves, about 50m and 30m long, are located in the poer; the latter wharf is adjacent to a group of storage tanks. An L-shaped jetty W of the river has a 60m long berth on its S side.

Anchorage.—Anchorage can be obtained, in depths of 20 to 30m, good holding ground, either on a bank lying between Storholmi and the mainland NW of it, or, in depths of 37 to 46m, about 0.25 mile off the N shore abreast the station.

9.24 Faskrudsfjordur (64°56'N., 13°48'W.) is one of the most important fishing ports on the E coast of Iceland and has several fish processing factories. The port includes Budir. The trading station and port are on the N side of the fjord of the same name at its end.

Faskrudsfjordur is much frequented by fishing vessels and at times many of them may be anchored off the shore between Mjoeyir and Budhir. There are five piers, approximately 25m long, which have depths of 4.6m. There are other small berths for fishing vessels as well.

Anchorage.—The first good anchorage is 0.25 miles W of Mjoeyri, close E of the mouth of a stream, in depths of 35 to 49m. The holding ground is poor and the bottom shelves steeply. Better anchorage may be obtained by small vessels off Budhir with the extremity of the land W of Vikussker bearing ESE and in line with Mjoeyri. The bottom is soft and the holding ground no better than at the anchorage W of Mjoeyri, but the bottom shelves more gradually.

Faskrudsfjordur is entered between Hafnarnes, located 1.5 miles S of Vattarnes and another point of the same name, 3 miles SW. The island of Andey is S of Hafnarnes off the N shore at the fjords mouth. The fjord extends WNW for 8.5 miles between steep and generally rocky shores. A valley extends W into the mountains from the head of the fjord which is low. Several rivers discharge into the head and form a delta with a wide expanse of sand and mud which dries.

A mountain range with some prominent peaks stands on the N side of the fjord. Halaklettur, a peak 573m high, stands close W of the N entrance point. Reydharfjall, a peak 597m high, stands 0.5 mile NW of Halaklettur and has a beacon on its summit. Lambafell, a peak 1,097m high, stands 2.5 miles N of the head of the fjord. A beacon is situated on its summit which is the highest of the range.

Skrudur, an islet 161m high, is located on the N side of the approach, 1.5 miles ESE of the N entrance point. It is an excellent landmark because of its shape, which resembles a haystack, and its height. However, the islet also obscures the navigation lights in the vicinity. A small islet lies close off the N side of Skrudur and a reef extends about 0.25 mile N from it. Another small islet lies off the N side of Skrudur. Einbui, a small drying rock, lies about 0.5 mile NW of the NW side of Skrudur.

Brokur, located 1.5 miles ENE of Skrudur, is a small chain of rocks, some of which dry. The northeasternmost rock of this chain is nearly always marked by breakers, but not so the southwesternmost rock. Two rocks (existence doubtful), with depths of less than 2m, lie 550m and 1 mile SW of the SW end of Brokur.

Andey, a low grass-covered islet, is located 0.75 mile S of the N entrance point of the fjord, to which it is connected by a shallow spit. A reef extends about 0.25 mile N from its N end, otherwise the islet is steep-to. It is reported to be not easily distinguished from seaward because of the high land behind it. Fles, formed by two rocks lying on a shoal patch, is located about 0.5 mile NNE of the N end of the islet.

Aedarsker, located 0.5 mile W of Andey, is a steep-to reef which is always partially visible. General depths of 22 to 24m lie between the reef and the islet.

Directions.—The channel lying between Skrudur and Andey may be used, but the tidal current runs both N and S

with great force and rates of 4 knots are not unusual. Tide rips may also be encountered throughout this channel. The fairway, which is narrowed to a width of about 0.75 mile, lies between Einbui and Fles. It is inadvisable to pass between Einbui and Skrudur.

Caution.—The passage between Brokur and Skrudhur should not be used as it is not free from dangers and the tidal current is very strong.

Local magnetic anomalies exist off the entrance to Faskrudsfjordur and the magnetic compass is very unreliable. The greatest anomaly, up to 22°E of normal, was observed in a position centered 3.5 miles SSE of Skrudur. An anomaly of 11°W was observed about 0.75 mile N of this position and deflections ceased altogether about 0.25 mile S of this position. An anomaly of 17°E was observed in a position about 4.75 miles E of Skrudur and another of 11° between Skrudur and the mainland.

9.25 Hafnarnes, the S entrance point of Faskrudsfjordur, is the N end of a mountain range. Gvendarnesfles, a low and rocky islet, lies about 600m off the coast, 1.5 miles SSE of the point. Snaefuglsbodi, an isolated shoal, with a depth of 9m, lies about 1.25 miles SE of this islet. A light is shown from a tower, 7m high, standing on Hafnarnes.

Mjoeyri (64°55'N., 13°58'W.), a small projection, extends S from the N side of the fjord, 2.25 miles ESE of the head. A light is shown from a tower, 4m high, standing on the S extremity of this projection.

Budir (64°56'N., 14°01'W.) (World Port Index No. 450), an important fishing and trading station, is situated on the N shore of the fjord, close to the head. Several fish factories stand along the shore fronting the station. Budir may be referred to as Faskrudhsfordur.

Depths—Limitations.—The fueling jetty has a berthing space of 80m, with a depth of 7.6m alongside. Fiokeyri Quay is 110m long, with a depth of 7m alongside. Hafskipabryggia Quay is 60m long, with a depth of 9m alongside. Five subsidiary jetties, each 25m long, have depths of 4.6m alongside. There are several other small jetties at the station which are used by fishing craft.

Anchorage.—Vessels may anchor off the N shore of the fjord. A fair berth, in depths of 35 to 49m, poor holding ground, lies about 0.25 mile W of Mjoeyri Light and close E of the mouth of a stream. Small vessels and fishing craft anchor closer in, all along the shore between Mjoeyri and Budir.

Caution.—Between Faskrudsfjordur and Eystrahorn, 35 miles SW, the coast is fronted with dangers, some lying up to 20 miles offshore.

Nyibodi (64°51'N., 13°26'W.), an isolated shoal with a least depth of 13m, lies about 8.5 miles ESE of Hafnarnes Light.

9.26 Stodhvarfjordhur (64°50'N., 13°55'W.) is entered between Landatangi, located 3.5 miles SW of the S entrance point of Faskrudsfjordur, and Kambanes, 1 mile S. Within the entrance, the shores of the fjord are clear and the depths decrease regularly from about 55m to the shore at the head. The shores are low but are backed by mountain ranges on either side. A narrow valley extends WNW from the head into the mountains. A river flows through this valley and discharges into a delta of swamp, sand, and silt.

Landatangi, the N entrance low point near Landaholl, is a small tongue of land which extends S and has a low grass-covered hummock standing at its extremity. A rock, with a depth of less than 2m, lies close S of the point. A light is shown from a building, 8m high, standing on the root of the point.

Flautagerdhisgrynnsli, a shoal patch with a depth of 6.4m, lies about 1.75 miles ESE of Landatangi.

Kambanes, the S entrance point, is backed by several prominent peaks. A light is shown from a tower, 11m high, standing on the SE extremity of the point. A beacon stands on the summit of a hill which rises close NW of the light tower.

Sulur, a mountain 664m high, stands 1.5 miles W of Kambanes and has three distinctive peaks. Thverhamarsfell, a peak 844m high, stands 2 miles NW of Sulur.

Fjardhbodhi, a shoal with a depth of 4m, lies 1 mile NE of Kambanes and is usually marked by breakers. A depth of 10.4m lies about 0.5 mile S of Fjardhbodhi and, during strong onshore winds, the whole area is reported to be filled with breakers.

Kirkjubol (64°50'N., 13°53'W.), a small settlement, is situated on the N side of the fjord, 1.5 miles WNW of Landatangi. An L-shaped jetty fronts the settlement; the berthing face is 30m long, with depths of 5.5m to 7m alongside. Vessels usually obtain anchorage, in depths of 35 to 40m, off the settlement, but there are no good berths within the fjord. A harbor light is located on a mole 185m ESE of the jetty.

Caution.—Faerabakur (64°46'N., 13°32'W.), a shoal with a depth of 6.3m, lies about 8.5 miles ESE of Kambanes and is marked by breakers in heavy weather. Grillir, a rock with a least depth of 22m, lies 2.5 miles ENE of Faerabakur. Alftindsbodi, a rock with a least depth of 17m, lies about 1 mile SSE of Faerabakur. Naggur, a rock with a depth of 13m, lies about 3.5 miles SE of Alftindsbodi.

9.27 Breiddalsvik (Breidhdalsvik) (64°46'N., 13°55'W.), a large bay, is entered between Kambanes and Streitishvarf (Stretishorn) (64°44'N., 13°59'W.), 6 miles SW. It contains good anchorages, but they are seldom used because of the frequent fog in this vicinity and the numerous dangers which lie both in the approaches and inside the bay.

A light is shown from a tower, 12m high, standing on a point near Streitishvarf. Satur, a peak, 715m high, stands 2 miles W of the light tower and is a prominent landmark.

Several small islets and rocks front Streitishvarf and lie up to about 0.5 mile offshore.

Hlada, an islet with a small rock lying close NE, is located 1 mile NE of Streitishvarf. A disused light tower, 13m high, stands on this islet. Fjardbodi, a shoal with a depth of 13m, lies about 2 miles E of Hlada; the sea has been reported to break over it in heavy weather.

Idhusker, an above-water rock surrounded by foul ground, is located 0.5 mile S of Kambanes. Rocks, awash, lie between this rock and the point. Hvopa, a small group of submerged rocks, lies 1.25 miles SSW of Kambanes. Larungar, a shoal with a depth of less than 2m, lies 1.25 miles S of Hvopa and is always marked by breakers.

Blotolfsbodi, a rock with a depth of 4.9m, is located 2.5 miles SE of Kambanes. It is the outermost of the dangers lying in the approach to the bay and is marked by breakers, even in fairly calm weather.

Meleyri, a long and narrow tongue of sand, projects S from

the NW corner of the bay and nearly encloses a lagoon, which mostly dries, at the head. Stapi, a small point, projects from the N shore of the bay, close E of the root of Meleyri.

The SW shore of the bay is fringed with islets, rocks, and shoals which extend, in places, up to 1.5 miles offshore. Hafnarey and Gunnhildarey, two of the larger grass-covered islets, are located 1.5 and 2 miles, respectively, NW of Hlada.

The N shore of the bay is fronted by several dangers. Rifsker, the principal one, is a narrow chain of rocks which extends 1.5 miles S from a point on the shore, 2 miles WSW of Kambanes. A beacon is reported to stand near the S extremity of this chain.

Selnes, a small projection, extends S from the N shore of the bay, close E of Stapi. A light is shown from a tower, 9m high, standing near the S extremity of this projection.

Breiddalsvik (64°47'N., 14°01'W.), a small trading station, is situated at the head of Selnesbot, a cove formed between Stapi and Selnes.

A rock, with a depth of less than 2m, lies in the middle of the entrance to the cove and is marked by a lighted buoy. The entrance fairway is indicated by a lighted range.

A breakwater extends 100m WSW from the SW side of the extremity of Selnes. A main L-shaped jetty close N of the breakwater projects 75m WNW from the shore. It has a berthing face 30m long, with depths of 4 to 6m alongside.

The fjord should be entered S of Larungar and Selnes Light indicates the approach channel; however, local knowledge is required.

Anchorage.—Good anchorage may be obtained, in depths of 11 to 15m, off the entrance to Selnesbot. However, this anchorage is open to E winds.

9.28 Krossnafir (Krossnes) (64°41'N., 14°11'W.), a point fronted by small islets and rocks, is located 5.5 miles SSW of Streitishvarf. The coast between is fronted by several dangers and should not be approached within 1 mile.

Berufjordur (64°42'N., 14°20'W.) is entered between Krossnafir and Bulandsnes, 3 miles SW. It extends 12 miles NNW between low and steep shores which are backed, in places, by grassy slopes. These rise steeply to the foothills of the mountain ranges which stand on either side of the fjord.

Tides—Currents.—Off Berufjordur, the tidal current is very strong and may attain a rate of up to 7 knots at springs. During the flood tide, it is SW; during the ebb tide, it is NE. During gales, both currents are subject to great variations.

Karlsstadhatangi, a point on the N shore of the fjord, is located 1.25 miles W of Krossnafir. A light is shown from a tower, 8m high, standing near the extremity of this point.

Bjarnarsker, a low islet marked by a beacon, is located about 1 mile off the N shore, 2.25 miles ESE of Karlsstadhatangi. Several dangers lie E, N, and W of this islet and vessels should not pass between it and the mainland.

Bulandsnes, the promontory forming the S entrance point of the fjord, is fronted by numerous small islets, rocks, and shoals which extend up to 2 miles S, 2 miles E, and 1 mile N of it.

Ketilsfles, formed by two rocky islets lying close together, is located 4.25 miles S of Karlsstadhatangi Light. It is the southernmost of the islets lying off the promontory. A light is shown from a tower, 12m high, standing on the S and larger islet of the two.

Lifolfssker, an irregular islet marked by a beacon, is the northeasternmost of the many dangers which lie in a group within 1 mile of the E extremity of the promontory.

The entrance channel of the fjord lies between Bjarnarsker and Lifolfssker.

Caution.—Kjoggur (64°39'N., 13°57'W.), an isolated shoal with a depth of 5m, lies 7 miles ESE of Krossnafir; the sea is reported to break over this shoal with any swell. Langsgrunn, a patch on which the sea breaks, lies about 2 miles SSW of Kjoggur and has a least depth of 11.2m.

Hvalsbakur (64°36'N., 13°17'W.), an isolated islet 5m high, is located 17.5 miles ESE of Kjoggur. It is the outermost danger and resembles the back of a whale. A radar reflector is reported to stand on this islet.

The many islets lying off Bulandsnes are not easily distinguished from seaward as they do not show up against the land behind them.

9.29 Bonda, a prominent hill 43m high, stands 0.75 mile within the extremity of Bulandsnes. It is reported (1990) that several conspicuous radio masts stand on this hill. Bulandstindur, a pyramid-shaped mountain 1,115m high, stands on the SW shore of the fjord, 5 miles W of Karlsstadhatangi Light. Dysin, a peak 1,156m high, stands 2 miles NNW of Bulandstindur.

Langitangi, the extremity of a small peninsula, is located 1 mile N of Bulandsnes and fringed with foul ground. Aedharsteinn, from which a light is shown, is located 1 mile WNW of Langitangi. Two small islets and a drying reef front this point. A small inlet, which is divided into three coves at the head, is entered between Langitangi and Aedharsteinn.

Inward of Aedharsteinn, the fjord is mostly free of dangers outside 200m of the shores; the depths in mid-channel vary from 37 to 55m.

Caution.—Submarine cables lie across the fjord about 1.75 miles NW of Aedharsteinn.

Djupivogur

9.30 Djupivogur (64°40'N., 14°17'W.) (World Port Index No. 470) is a trading station and is located in the southeasternmost cove at the head of the inlet entered between Langitangi and Aedharsteinn. It is at the entrance to Berufjordur. The port has a natural harbor, which is well sheltered, but narrow; cargo

Djupivogur

vessels may have difficulty maneuvering within the harbor.

The main quay is 60m long with depths of 5.2 to 5.5m alongside. There is also a small L-shaped jetty with a depth of 3m alongside.

The fairway is indicated by a lighted range and buoys; however, local knowledge is essential as several dangers lie adjacent to the channel.

District pilots may be obtained at Djupivogur.

Vessels can anchor, in depths of 13 to 15m, off the cove. Vessels up to 55m in length have anchored here. Gautavik, a bight, is located on the NE side of the fjord, 3.5 miles NW of Karlsstadhatangi Light. It affords anchorage, in depths of 8 to 10m, good holding ground.

9.31 Hamarsfjordur and Alftafjordur are two bays located SSW of Bulandsnes which extend inland for about 5 miles. They are almost enclosed at the seaward side by a chain of narrow tongues of sand, small islets, and rocks. Hamarsfjordur, the N bay is entered by Djupasund, a narrow passage lying close S of Bulandsnes. Small vessels, with drafts up to 3.4m, can enter this bay. However, local knowledge is required as the fairway is subject to change, the tidal currents strong, and the channel encumbered with rocks. A narrow channel, with a bar across it, leads into Alftafjordur, the S bay; however, the passage can only be used by small boats, with local knowledge, at high water.

Hvalsnes (64°24'N., 14°32'W.), located 16 miles SSW of Bulandsnes, is the S extremity of Eystrahorn, a mountain mass. A light is shown from a tower, 12m high, standing on the point. Smellur, a rock with a depth of less than 2m, lies 2.25 miles ENE of the point and, occasionally, the sea breaks over it. Hvitingar, a drying rock, lies 2 miles E of the point and a reef extends about 0.5 mile WSW from it. Brokur, a rock with a depth of 7m, lies 2 miles SE of the point and the sea usually breaks on it.

The coast between Bulandsnes and Hvalsnes is fronted by several dangers which can best be seen on the chart.

9.32 **Papey** (64°35'N., 14°10'W.), located 4.5 miles SE of Bulandsnes, is the largest island off the E coast of Iceland. A light is shown from a prominent tower, 8m high, standing on the summit of the island, near the center. From a distance, the island appears long and low with fairly steep sides, but at close range the coastal areas are seen as mostly indented. Attaeringsvogur, an inlet on the N coast of the island, is entered between two islets. Depths decrease within this inlet from 13m, at the entrance, to 3.7m, near the head. It affords temporary anchorage to small vessels with local knowledge. Selavogur, an inlet on the S coast of the island, is not suitable for anchorage.

Nyztibodi (Yztibodi), a rock that dries, lies 3.25 miles E of Papey. Heimastibodi, a patch with a depth of 2m, lies 1.75 miles ESE of Papey and is surrounded by foul ground. Flydrusker (Flydhrusker), a small rock which dries 1.2m, lies 1 mile NE of Papey and a submerged rock lies close NNE of it.

Svartasker, a steep-to and dark islet 6m high, lies about 0.5 mile NE of Papey. Steinbitssker, with a depth of less than 2m, lies 360m W of Svartasker.

Kallhofdhi, an islet 29m high, is located close off the N coast of Papey and Flatey, a low islet, lies close NW of it. The narrow channel between the two islets is deep and free of dangers, but the channels separating these islets from Papey are foul.

Arnarey, a grass-covered islet, lies 180m off the NW coast of Papey. It has three summits which stand in a NE to SW direction; the narrow channel between this islet and Papey dries. A rock, on which the sea generally breaks, lies 360m NW of the N extremity of Arnarey. Several other small islets lie close off the W coast of Papey and can best be seen on the chart.

Selsker, consisting of two comparatively high islets lying close together, is located 2.5 miles SSE of Papey.

9.33 **Lonsvik** (64°21'N., 14°46'W.), a wide bay, is entered between Hvalsnes and Brimnes, 12 miles SW. Its shore consists of a narrow tongue of sand and shingle which almost completely encloses Lonsfjordur and Papafjordur, two large lagoons.

Brimnes is the E extremity of Vestrahorn, a mountainous mass. Several small islets and rocks lie up to about 1 mile seaward of this point.

Lonsfjordur, the N lagoon, is entered by Baejaros, a narrow channel, located 6 miles SW of Hvalsnes. It can only be used during calm weather by small craft, with local knowledge, at slack water. The tidal currents are reported to attain rates of 3 to 4 knots. Tthe channel is liable to silt and has to be dredged at times.

Vigur, a narrow islet 14m high, is located 1.25 miles SSE of Baejaros. An above-water rock lies 650m W of its W side. In fair weather, small vessels may pass between the rock and the mainland.

Papafjordur, the S lagoon, is entered by Papos, a narrow and tortuous channel, located about 1 mile N of Brimnes. The least depth in this channel was reported (1950) to be 3m, but the sea level varies with the season and also from year to year. The tidal currents in the channel are very strong; the ebb current may attain a rate of 6 knots. At times, breakers are observed in the entrance to the channel over a group of rocks lying on its N side. Local knowledge is essential and it is ill-advisable for vessels with drafts of more than 2.4m to attempt to enter.

Stokksnes (64°14'N., 14°58'W.), a point, 14m high, is located 3 miles SSW of Brimnes. Even in calm weather, it is fringed by breakers up to 0.25 mile seaward. A light is shown from a tower, 20m high, standing near the extremity of the point. Two conspicuous spherical structures, painted white, stand at a radar station, close NE of the light tower. An islet is located 0.25

mile SW of the point and the passage between it and the mainland is foul.

Hornsvik, a small bay, lies close N of Stokksnes and, during good weather, affords temporary anchorage to vessels with local knowledge. Depths in the bay decrease regularly from 13m to 4m near the head and the bottom is fine black sand. An above-water rock, connected to the shore by a spit, lies near the middle of this bay, about 180m offshore.

9.34 Hornafjardaros (64°14'N., 15°11'W.), located 6 miles W of Stokksnes, is the common entrance channel leading to Hornafjordur and Skardsfjordur, two bays. It lies between Austurfjorutangi and Sudurfjorutangi, which shows a light.

Austurfjorutangi is the W end of Austurfjorur, which extends to Stokksnes and is the E part of the narrow tongue of sand fronting the bays. Sudurfjorutangi is the E end of Sudhurffjorur, which extends W and is the W part of the tongue.

Hvanney, a small and hilly peninsula, is located at the SE extremity of Sudurfjorutangi, at the W side of the entrance channel. A light is shown from a tower, 8m high, standing near the E extremity of this peninsula. A racon is situated at the light tower. A reef, with depths of less than 1.8m over its inner part and less than 5.5m over its outer part, extends up to about 200m NE of the light tower.

Several dangers lie in the approach to the entrance channel. Einholtsklettar, formed by two islets joined together, is located close S of Sudurfjorutangi and connected to it by a drying reef. Einholtsbodi, a rock with a depth of 3m, lies about 1 mile WSW of Hvanney Light and the sea breaks on it in bad weather. Sveinsbodi, a patch with a depth of 3.4m, lies 1 mile SSW of Hvanney Light; Skerjagrunn, with a depth of 5m, lies 1.25 miles SSE of it. Borgeyjarbodi, a detached rock with a depth of less than 2m, lies 1.75 miles E of Sveinsbodi. Hvanneyjarsker, formed by two islets, lies 0.5 mile ESE of Sveinsbodi and patches of foul ground lie close N and S of it.

Hellir, an island, is located 0.75 mile N of Hvanney. A light is shown from a tower, 6m high, standing on its E side.

Skardsfjordur and Hornafjordur are separated from each other by a hilly projection. They are little frequented because of the difficulty in navigating the entrance and the shallow channels inside them; local knowledge is essential.

9.35 Hornafjordur (Hofn) (64°15'N., 15°14'W.) (World Port Index No. 480) includes the port of Hofn, which may freeze during severely cold weather. It is a trading and fishing station, and is situated at the S end of the projection which separates Hornafjordur from Skardsfjordur.

Tides—Currents.—The tides rise about 1.2m at springs and 0.9m at neaps.

Depths—Limitations.—Hofn is fronted by many quays and wharves which are used extensively by fishing vessels; information on theze piers is given in the accompanying table. Vessels of up to 3,800 tons, 90 to 100m in length, and 5.5m draft have been accommodated.

Hornafjordur—Berthing Information		
Pier	**Length**	**Depth**
Alagarey East Quay	45m	5.5m

Hornafjordur

Hornafjordur

Hornafjordur

Hornafjordur—Berthing Information		
Pier	Length	Depth
Alagarey South Quay	75m	6.0m
Osland Quay	50m	6.0m
Krossey Quay	120m	5.5-6.3m
Iskantur Quay	40m	6.0m
Miikl-Trebryggja Quay	90m	4.0-6.0m
Braedslubryggja Quay	25m	6.0m

Aspect.—Several radio masts, some marked by red obstruction lights, stand near the station. The entrance channel is indicated by lighted range beacons.

Pilotage.—Pilotage is compulsory for vessels over 300 tons and recommended for all vessels without local knowledge. The harbor can be contacted by VHF channels 12 and 16.

Anchorage.—The best anchorage outside Hornafjardaros is reported to be, in a depth of 13m, with Hvanney Light bearing between 274° and 286°; the berth is reported to be uncomfortable but with good holding ground. An alternative berth lies closer in, between the same bearings of Hvanney Light, with Hellir Light bearing between 322° and 328°.

Inside the channel, anchorage may be obtained, in a depth of 5.5m, close to the NE side of Sudurfjortangi; however, the holding ground is not good, the swinging room is restricted, and the tidal current may attain a rate of up to 5 knots.

Caution.—The entrance channel is narrow and tortuous and shifting sand banks lie in the approach.

Navigation is not without danger and is at times very difficult due to the strong tidal currents causing a continual shifting of the off-lying sand.

9.36 Between Hornafjordur and Ingolfshofdi, 46 miles SW, the coast consists of fairly wide coastal plains separated by hills which descend to the water's edge and are backed by some of the highest mountains in Iceland. Still farther inland, the summits of the mighty group of glaciers, having the common name of Vatnajokull, may be seen in very clear weather. Lagoons, located in several places along this coast, were in all probability at one time bays or inlets which have been enclosed by the formation of narrow sandbanks.

Skinneyjarhofdi (64°14'N., 15°29'W.), a low and black island, is located 7.5 miles W of Hvanney. An isolated dangerous rock lies 1 mile offshore, about 3.5 miles E of this island. A sunken wreck, over which the depth was unknown (1968), and a shoal, with a depth of 3.4m, lie about 1 mile S of this isolated rock. Saevarholaklettu, a low islet, is located close inshore, about 3.5 miles WSW of Skinneyjarhofdi; a conspicuous hummock stands on the mainland, N of this islet.

Borgarbodi, a rock with a depth of 3m, lies about 3 miles ESE of Skinneyjarhofdi.

Myrabugur is the name given to the wide bight formed by the slight recession of the coast lying between Stokksnes and Ingolfshofdi, 51 miles SW. Several small and unnavigable breaks in the shore are located within the bight and can best be seen on the chart.

Styrmissker and Hestgerdhissker, 1 mile ENE, are two detached drying rocks lying about 1 mile offshore, 16 miles WSW of Hvanney Light. Halsasker, a drying reef nearly 1 mile long, is located 2 miles NE of Styrmissker.

Hrollaugseyjar (64°02'N., 15°59'W.), consisting of three islets, is located 4.25 miles offshore, 22.5 miles NE of Ingolfshofdi. A light is shown from a tower, 16m high, standing on the northeasternmost islet. A racon is situated at the light tower.

Tvisker, consisting of two islets, is located 4.5 miles offshore, 7.5 miles SW of Hrollaugseyjar. A reef, the outer end of which dries, extends about 0.5 mile S from Tvisker.

The channels lying inshore of Tvisker and Hrollaugseyjar are deep and free of dangers.

Ingolfshofdi (63°48'N., 16°38'W.), a headland 74m high, appears from seaward as a flat hummock; it is steep on the seaward side but slopes gradually toward the mainland. A light is shown from a tower, 10m high, standing on its E extremity. A shoal, with a depth of 17m, lies 3 miles S of the headland.

South Coast

9.37 Several shelters have been established along parts of the S coast of Iceland in case of shipwrecks. To aid persons in reaching these shelters or nearby settlements, guide posts have been erected, about 0.75 mile apart, on certain parts of this coast. After landing, persons should find the nearest guide post and continue according to the routes and directions that are given in various languages.

Medhallands Bugur (63°40'N., 17°20'W.), an open bay, is located between Ingolfshofdi and Myrnatangi, 45 miles SW. The shores of the bay are broken in several places by the outlets of rivers and streams. They are also fringed in some places by reefs and shoals. The whole of this coast is somewhat dangerous to approach, having no shelter of any kind. From seaward, it is difficult to make out the low coast against the high land and snow-covered glaciers of the interior. At times, it has not been visible until breakers were observed.

Anchorage.—Medhallands Bugur affords anchorage, but it is not advised as the bottom is composed of soft sand and, therefore, the holding ground is poor. Landing is very difficult on account of the surf and the sand bars which have formed along the coast.

Caution.—West of Ingolfshofdi, the W current sets strongly into Medhallands Bugur and makes the coast very dangerous.

9.38 **Skaftaros** (63°40'N., 17°47'W.), the estuary of a large glacial river, is located 31 miles WSW of Ingolfshofdi. During spring and summer, it discharges a great volume of turbid water and silt. The tidal currents are very strong within the estuary and during winter, it is generally filled with masses of ice. A light is shown from a framework tower, 20m high, standing 1.5 miles SW of the estuary. A racon is situated at the light tower.

A racon is also situated about 1 mile inland at Skaftafellsfjara, 17 miles W of Ingolfshofdi.

Skardsfjara is located 9.25 miles SSW of Skaftaros. A light is shown from a framework tower, 20m high, standing on the point. A racon is situated at the light.

Myrnatangi (63°28'N., 18°09'W.) is located 5.5 miles SW of Skardsfjara (Skardhsfjara), at the mouth of Kudafjot (Kudhafljot). The estuary has strong tidal currents and is often

filled with ice in winter. The lower reaches form a delta of islets and lagoons several miles in extent.

A light is shown from a tower, 18m high, standing at Alvidruhamrar, 4.5 miles W of Myrnatangi. A racon is situated at the light tower.

A beacon is reported to stand close to the highest part of the coast, 3 miles WSW of Alvidruhamrar Light.

Kotlutangi (63°23'N., 18°44'W.), the southernmost point of Iceland, is located 11 miles WSW of Alvidruhamrar Light. It is a flat stretch of land extending 2 miles S from Hjorleifshofdi, a detached hill, 220m high. This hill, which has a beacon standing on its summit, is reported to be very conspicuous from the SE.

Myrdalsvik (63°25'N., 19°00'W.), a small bight, is formed by an abrupt bend in the coastline, 8 miles W of Kotlutangi.

Reynisfjall, a narrow mountain, stands at the W side of the bight and rises steeply from the water's edge. A beacon stands on its S summit and a group of radio masts stands close within its S extremity. Hatta, a mountain 510m high, stands close E of the N end of Reynisfjall. Reynir, a village with a church, is situated on the W side of Reynisfjall.

Reynisdrangar, a small chain of narrow pinnacles, lies close inshore, S of Reynisfjall. The highest and largest, 65m high, is located close to the S end of the chain, but except when close-to, they cannot be distinguished from the coast behind them. A rock, with a depth of less than 2m, lies about 0.5 mile SSW of the largest pinnacle.

Reynisdranger—Rocks off the coast in the vicinity of Vik

Part of Reynisdranger from ashore

Vik

9.39 Vik (63°25'N., 19°01'W.) is a settlement at the head of Myrdalsvik. There is a conspicuous red-roofed church, with a white tower in the village. Vik does not have a harbor. Beause of the sand bars and the continous heavy swell off the settlement make landing a craft at Vik almost impossible. For this reason practically no fishing is done by the inhabitants, and the village is never visited by shipping.

During calm weather or during offshore winds, temporary anchorage may be obtained with good holding ground, in a depth of 13m, close E of the S extremity of Reynisfjall; local knowledge is essential.

9.40 Dyrholaey (63°24'N., 19°08'W.), located 3.25 miles W of Vik, is an isolated headland, 118m high. It terminates in a steep wall-like formation, which projects S from the coast; when viewed from E or W, it can be readily identified by two gate-like openings. A light is shown from a tower with a dwelling, 13m high, standing on the SW end of this headland.

Lundadrangur is the outermost and largest of several rocky pinnacles, 33 to 55m high, which are located within about 0.75 mile of the light tower.

Areas to be avoided begin at Lundadrangur and continue ESE to about 8 miles S of Surtsey Island, then continue ENE toward Reykjanes. These areas are best viewed on the chart.

A prominent church stands at Skeidflotur, 2.5 miles NW of Dyrholaey.

Myrdalsjokull, a large and flat glacier 1,400m high, is located 10 miles N of Dyrholaey. Eyjarfjallajokull, another large glacier, rises to a height of 1,670m about 19 miles NW of Dyrholaey and has two prominent peaks.

9.41 Markarfljot (63°32'N., 20°05'W.) flows, along with another river, into the sea through a delta, composed of shale and rubble, located 27 miles WNW of Dyrholaey. Many glacier rivers and streams drain into the section of coast between them. The shoreline is completely open to onshore winds and, except in calm weather, there is usually a heavy surf. Behind the beach, the land consists of low and swampy grassland which extends to the high foothills of glaciers. Vessels invariably give this section of coast a wide berth.

Petursey, a detached hummock 273m high, stands 5 miles NW of Dyrholaey; it is prominent, with a beacon standing on the summit. Eyvindarholar Church, a building with a spire,

Dyrholaey from E

Dyrholaey Light

stands 14 miles WNW of Dyrholaey and is conspicuous from offshore. Holtsos, a large tidal lagoon almost enclosed by a spit, is located 4 miles WNW of the church. Steinafjall, a plateau rises to a height of 600m, close N of Holtsos and is reported to be radar conspicuous.

Bakkafjara Light (63°32'N., 20°09'W.) is shown from a building standing 2 miles W of the Markarfljot delta. A racon is situated at the light structure.

9.42 Vestmannaeyjar (63°26'N., 20°14'W.) is a small group of islands and rocks approximately 16 miles SW of the Icelandic coast.

The group lies on an extension of the coastal bank, over which there are depths of less than 80m. The islands are especially subject to gales, often severe, which are most frequent in the winter months and predominantly from the E. The channel lying N of the group is used extensively by both eastbound and westbound vessels.

9.43 Vestmannaeyjahofn (Heimaey Harbor) (63°26'N., 20°17'W.) (World Port Index No. 510) is situated in the NE part of Heimaey and used mainly by fishing vessels.

Vestmannaeyjahofnr—Berthing Information		
Pier	**Length**	**Depth**
Binnabryggia Quay	127m	8.0m
Skai Quay	90m	7.0m
Fridarhofn Quay	210m	8.0m
Eldi Quay	150m	8.0m
Nausthamar Quay	150m	8.0m

Vestmannaeyjahofn (Heimaey Harbor)

Vestmannaeyjahofn (Heimaey Harbor)

Tides—Currents.—The tides rise about 2.7m at springs and 2m at neaps.

Depths—Limitations.—The depth at the harbor entrance between the breakwaters is 9.0m and at the depth approaches to the quays is 8.0m.

Vessels up to 5,000 dwt and 7m draft can be accommodated.

Aspect.—A breakwater, which formerly projected from the S side of the entrance, was mostly engulfed by the flow of lava from Helgafell (1973). Range lights indicate the narrow entrance fairway; a lighted buoy is reported to be moored 360m ENE of the entrance. The inner harbor is protected by Horgeyrargardhur, a mole which extends about 0.1 mile S across the reefs on the N side of the entrance. There is a light at its head.

Pilotage.—The port and the pilots can be contacted on VHF channel 12 or 16.

Pilotage is compulsory and is available 24 hours. Vessels should send request for a pilot at least 1 hour in advance through Vestmannaeyjar (TFV). Pilots board between Heimaey

and Bjarnarey Island except in SE gales, when the pilot will board to the N of Heimaey. Large vessels must enter at HW.

Anchorage.—Vessels may anchor, in depths of 28 to 34m, about 0.5 mile N of the harbor entrance. The holding ground is good, but the berth is exposed to W and N winds. Care should be taken to avoid the submarine cables and the pipeline which extends to the mainland.

When the wind is S and SE, anchoring is possible N of the harbor.

Caution.—Anchoring and fishing are prohibited within the submarine cable and pipeline area, which lies between and the mainland NE. Also, attention is drawn to a submarine cable that makes its landing close W of Heimklettur.

The harbor is liable to be congested with fishing vessels and turning room is restricted.

9.44 Heimaey (63°26'N., 20°16'W.), the largest and highest island of the group, lies with its N extremity located 5 miles SSW of Bakkafjara Light. Its N coast consists of volcanic, rocky cliffs that rise steeply from the sea to heights of about 280m. A light is shown from the E extremity of the island. Storhofdhi, the S extremity of the island, consists of cliffs, 120m high. A light is shown from a building, 7m high, standing on the cliff top.

The coastline of the island is almost completely fringed with foul ground. In addition, volcanic eruptions have taken place on Heimaey and formed several underwater obstructions.

Caution.—Numerous isolated patches of foul ground surround this group of islands and may best be seen on the chart. Submarine cables and pipelines lie between Heimaey and the mainland. Submarine cables also extend seaward from the S part of the island. These may best be seen on the chart.

9.45 Geirfuglasker (63°19'N., 20°30'W.), a steep-sided islet 58m high, is located 7.5 miles SW of the S extremity of Heimaey. A detached pointed rock and several others, which are nearly awash, lie on its S side. A light is shown from a tower, 3m high, standing on the summit of the islet.

Surtsey (63°18'N., 20°36'W.), a small island with two conical peaks, is located 3 miles WSW of Geirfuglasker and was formed by an active volcano which erupted in 1963. It is encircled by a bank, with depths of less than 73m, which extends up to 0.75 mile seaward. Shoals, with depths of less than 20m, lie on this bank and were formed by further volcanic action in 1965 and 1966. Vessels should give this island and bank a wide berth. Special permission is required from the Icelandic Nature Conservation Agency to land on this island. All shooting is prohibited within a 2,000m zone around the island.

Caution.—Anchoring is prohibited within the submarine cable and pipeline area, which begins approximately 7.5 miles SSE of Surtsey and continues SSE for 17. 5 miles.

Hellisey, a grass-covered islet, is located 2.75 miles SW of the S extremity of Heimaey. It rises to a height of 130m at the NE end and is fronted by dangerous rocks.

A group of islets and rocks, fronted by foul ground, extends up to 2.5 miles SW of Hellisey and vessels are cautioned against passing between the island and this group of dangers.

Sudhurey, a grass-covered islet, is located 1 mile SW of the S extremity of Heimaey. It has a conical summit at the center which attains a height of 160m. Several rocks lie close off its S side.

Alsey, an islet 143m high, is located 2 miles W of the SW extremity of Heimaey. Brandur, an islet 89m high, is located close S of Alsey and, when seen from E or W, appears as two islets. The narrow passage lying between Alsey and Brandur should not be used as it is foul. Three patches of foul ground, over which the sea breaks in heavy weather, are reported to lie about 1.5 miles SW of Brandur.

Breki, a rocky patch with a depth of 11m, lies about 1 mile N of Alsey. Thorsteinsbodhi, a patch with a depth of 21m, lies 3.5 miles W of Breki. The sea is reported to break over both of these patches in heavy weather.

9.46 Einidrangur, two small islets, 32m high, is located 8 miles W of Heimaey. Two rocks lie close N of it and several shoals lie in the vicinity.

Thridrangar, located 6 miles NW of Heimaey, consists of three rocky islets. The southernmost islet is the highest and attains a height of 39m. A light is shown from a tower, 4m high, standing on Thridrangar. Foul ground, shoals and a group of dangerous rocks extend up to 1.5 miles W of Thridrangar.

Faxasker, a small islet 9m high, lies 0.25 mile NNE of the NE extremity of Heimaey. Rocks and reefs extend for a considerable distance both NW and SE of Faxasker, but Faxasund, the narrow channel lying between Faxasker and Heimaey is clear with depths of 17 to 22m. A light is shown from a framework tower standing on the roof of a refuge hut at the center of Faxasker.

Ellidaey, a small island, is located 2 miles NE of Heimaey. It has a pronounced summit, 144m high, at the N end. A shoal patch, Rofubodi (Haeringsklakkur), with a depth of 12m, lies about 2 miles ENE of Ellidaey.

Caution.—Local magnetic anomalies have been reported to exist 4 miles NW and between 1 and 2 miles NE of Ellidaey.

Bjarnarey, a grass-covered islet 163m high, is located 1 mile SSW of Ellidaey. It is steep-to except on its N side, where a reef, on which the sea breaks, extends NNE for 0.25 mile. When the wind is against the tidal current, a race extending towards Ellidaey may be formed .

9.47 Loftstadhaholl (63°48'N., 20°54'W.), a dark and prominent knoll 13m high, is located close to the coast, 25 miles NW of Bakkafjara Light. A beacon stands on its summit, which is located 3 miles NW of Thjorsaros, the mouth of the Thjorsa River.

Knarraros Light (63°49'N., 20°58'W.) is shown from a tower, 22m high, standing 3 miles NW of Loftstadhaholl. A racon is situated at the light tower.

The coast between Bakkafjara Light and Knarraros Light forms the seaward end of an extensive, low valley, lying on the W side of the glacial areas of Eyjafjallajokull and Myrdalsjokull. Through this valley flow some of the largest glacial rivers in Iceland. There are very few landmarks, though some of the higher mountain peaks behind the coast may be observed.

Caution.—Several isolated patches of foul ground lie up to 22 miles seaward of this section of the coast and may best be seen on the chart.

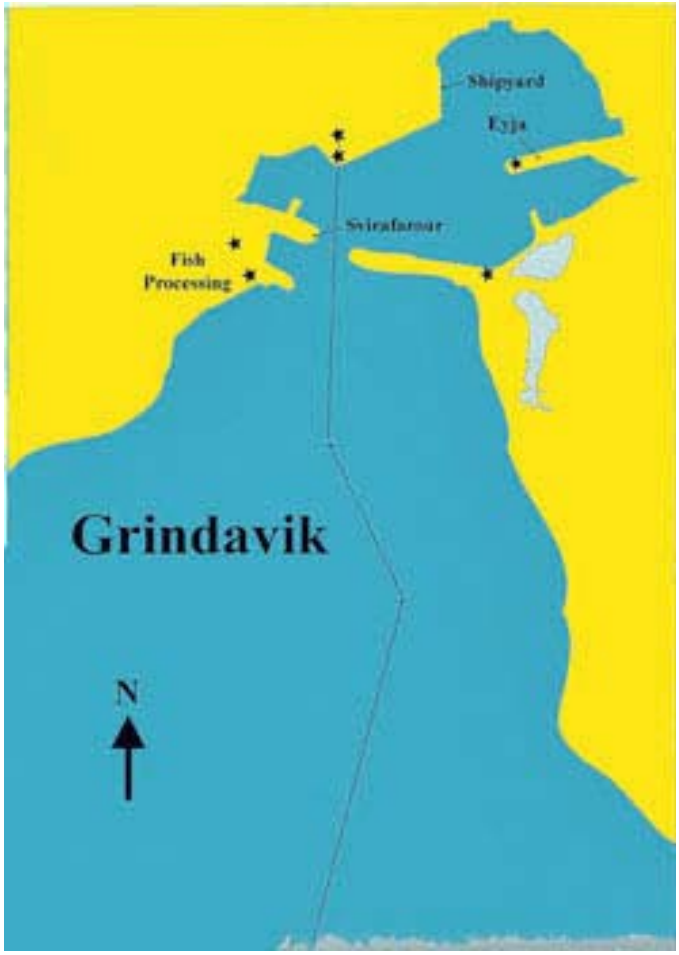
9.48 Stokkseyri (63°50'N., 21°05'W.), a small trading settlement, is situated 2.5 miles NW of Knarraros Light. The small harbor lies between the reefs and is used by fishing vessels. It has depths up to 3.7m in the outer part and 1.8m in the inner part. A concrete jetty, 100m long, has a depth of 2.1m alongside the head. Local knowledge is required. Temporary anchorage may be obtained outside the harbor in calm weather, but it is quite unsheltered.

Eyrarbakki (63°52'N., 21°09'W.), a small trading settlement, is situated 3 miles NW of Stokkseyri. A conspicuous church with a spire can be seen from seaward between the houses of the settlement. The small harbor lies between the reefs and is used by fishing vessels. Two shallow entrance channels lead into the outer harbor; local knowledge is required. There are depths of 3 to 5m in the outer part of the harbor. A jetty projects 180m from the E end of the outer harbor and has a depth of 1.2m alongside its head. At times, the reefs break without warning and the surf may be so heavy that it is impossible to enter the harbor. Temporary anchorage during good weather may be obtained, in a depth of 22m, good holding ground, outside the harbor.

9.49 Hafnarvik (63°52'N., 21°18'W.), a wide bay, indents the coast between Eyrarbakki and Hafnarnes, 5 miles W. Olfusa, a river, discharges into this bay at its E side. Thorlakshofn Light is shown from a tower, 8m high, standing on Hafnarnes, the W entrance point of the bay. During S gales, the sea breaks on a shoal spit which extends about 0.5 mile E from Hafnarnes.

Thorlakshofn

Thorlakshofn (63°51'N., 21°23'W.), a fishing station, is situated at the W side of the bay. The harbor is protected by two breakwaters which form an entrance 70m wide. There are depths of 6.2m. The minimum charted depth between the entrance and the main berth is 3.4m. A lighted range indicates the approach channel but local knowledge is required. An L-shaped pier has a depth of 5.5m alongside its head and the inner ends of both breakwaters are quayed. Vessels may anchor, in depths of 11 to 15m, good holding ground, outside the harbor.



Grindavik

Selvogur (63°49'N., 21°39'W.), a small settlement, is situated 8 miles WSW of Thorlakshofn. A light is shown from a tower, 15m high, standing at the settlement. A racon is situated at the light tower. A conspicuous church, with a small spire, stands at Strandar, 1.5 miles NW of the light tower. The coast between the light tower and the church is fringed with reefs which extend up to about 0.5 mile offshore. It is reported that breakers have been observed in an area lying 0.75 mile S of the light tower.

9.50 Herdisarvik (63°51'N., 21°47'W.), an open bay, is entered W of Selvogur. It affords temporary anchorage during offshore winds, but several rocks lie off the shores and local knowledge is required.

Caution.— A local magnetic anomaly, up to 4°E, has been observed off this part of the coast.

Krisuvikurberg Light (63°50'N., 22°05'W.) is shown from a tower, 5m high, standing on a stretch of steep and rocky coast, 11.5 miles W of Selvogur.

Hopsnes (63°50'N., 22°25'W.), a lava-strewn headland, is located 9 miles W of Krisuvikurberg Light. A light is shown from a tower, 6m high, standing on its S extremity.

Jarngerdharstadhavik, a small bay with rocky shores, is lo-

cated on the W side of Hopsnes. A rock, awash, lies off the edge of the shore, about 0.5 mile W of Hopsnes Light. A shoal, with a depth of 2.4m, lies at the outer end of a spit that extends about 0.25 mile SE from the NW shore of the bay. Temporary anchorage may be taken, in a depth of 15m, within the bay. However, the berth is exposed to winds between SE and SW, which raise a heavy swell, and local knowledge is required.

Grindavik approach

9.51 Grindavik (63°50'N., 22°27'W.), a small fishing station, is situated 1 mile NW of the S extremity of Hopsnes. The harbor is entered by a narrow channel, which is indicated by sets of lighted range beacons, and is protected by breakwaters. The inner W breakwater has berths on its N side with depths of 5 to 7.2m alongside. A jetty in the E side of the harbor is 170m long, with a depth of 7m alongside the head, reducing to 2m at the foot. Local knowledge is required. There are quays, with depths of 2.7 to 3.7m alongside, which are used by fishing vessels. Grindavik is a subport for Hafnarfjordur (see paragraph 8.10).

Grindavik

Two radio masts, conspicuous from seaward, stand at elevations of 200m and 256m, 2 miles NW of Grindavik.

DANISH

DANISH	English
A	
ankerplads	anchorage
B	
bjaerg	mountain
brae	glacier
bugt	bay
D	
dal	valley
F	
fjaeld	mountain
fjord	fjord
flak	shoal
G	
gletscher	glacier
grund	shoal
H	
halvo	peninsula
hav	ses
havn	harbor
holm	islet
I	
is	ice
K	
kap	cape
klippe	cliff, rock
kyst	coast
L	
lille	.little
lobet	channel
N	
naes	point
nord	north
nordre	northen
O	
o (oer, oerne)	island
odde	point
ost	east
oster, ostre	eastern
S	
skaer, skjaer	rock
so	lake
sondre	southern
store	great
strand	beach
strommen	stream
sund	sound
syd	south
T	
tangen	narrow point
V	
vest	west
vestern	western
vig	cove

GREENLANDIC (KALAALLISUT)

GREENLANDIC	English
A	
akuliariseq	lowland between two higher tracts
amitsuarsuk	a narrow, uncommon bay
angmagssalik	place where there are capelin
angmagssat	capelin (Mallotus villosus)
angmagssavik	place with capelin
anoritok	place that is always windy
aqitseq	without a name
auarkat	fiord with much color
E	
eqaluk	trout (Salmo alpinus)
I	
igdlo	Eskimo house
ikerasak	strait
ikermiut	inhabitants of strait
ikerssuaq	the great strait
iketeq	shallow water, shoal
ilua	inner, interior
iluileq	peninsula resembling an island
imeg	fresh water
inigssalik	a good place to live
inugsuit	cairns
isortoq	a muddy channel, muddy
iterdlak	a wide bay
itivdleq	a low, shallow place
ivnaq	precipice
K	
kangeq	a promontory
kangerdluara	a small fjord
kangerdlugssuaq	a large fjord
kangerdlugluk	small dangerous fjord
kangerujuk	promontory with several projections
kangikitsoq	a small headland
karrat	the extremity of something
kialineq	a hot place
kingigtit	high lands
kitdleq	seaward
kitsigit	the outermost island
M	
miut (suffix)	the inhabitants of a place
N	
nagtoralik	a place with eagles
napasorsuak	the big upright land
narssaq	a level place
naujatalik	a place with gulls
niaqoq	the head of a person
nuk	point, promontory
nuna	land
nunatak	land protruding from glacier
nunatsuk	little land
P	
pikiutdleq	low place, covered at high tide
puissoirtoq	where ice rises to the surface
putulik	place with a hole
Q	
qaqaq	mountain
qasigissat	the spotted seal
qasingortoq	the much faded one
qavdlunaq	white man
qeqertaq	island
qeqertarsuaq	large island
qipinguaq	that which is warped
qiteq	the middle one
S	
sangmissoq	that which can be seen from all sides
sarfaq	current
sermiligaq	fjord with several glaciers
sermilik	place with glaciers
sigssak	the shore
sioraq	sand or gravel
supertoq	the windy place
T	
takisseq	a dark island
taseq	a lake
taterakasit	nesting place of kittiwakes
taterat	kittiwake gulls
tugtilik	a place with reindeer
tunua	a back channel
U	
uivak	a cape to be skirted
umanaq	heart-shaped
upernarsuak	a good place to live in the spring
utorqaq	old

ICELANDIC

ICELANDIC	English
A	
a	river, stream
all	narrow deep channel
austur	east
B	
baer	farm
bakki	bank of a river
bard (bord)	verge, brink
bjarg	rock, cliff
bodhi (bodhar)	rock, awash or submerged
borg (borgir)	town, rocky hill
botn	head of a fjord
breidhur	broad, wide
breki	breaker
brekka	hillside, slope
bugur	bay, bight
D	
dalur	valley
djup	deep
drangur (drangar)	isolated rock or cliff
E	
ey (eyjar)	island
eidhi	isthmus
eyri	gravel or sand spit
eystri	eastern
F	
fell, fjall (fjoll)	mountain or hill
fjara	low tide, beach
fjordhur (firdhir)	fjord
fljot	large river
floi	large bay
foss	waterfall
G	
gardhurinn	mole
gerdhi	fence
gill	ravine, gulley
gja	fissure, rift
grunn	shoal bank
H	
hals	isthmus, long hill
hamar	precipice
heidhi	heath
hlidh	slope, mountain-side
hnjukur	peak
hofdhi	headland
hofn (hafnir)	harbor
holmi, holmur	islet
hop	landlocked inlet
hraun	lava field
hvammur	hollow
hvoll	hill
hyrggur	ridge
hyrna	peak
I	
innri	inner
J	
jokulsa	glacial river
jokull	glacier
K	
kaupstadhur	town
kirkja	church
klettur	rock, cliff
kollur	summit
L	
laxa	salmon river
leir	mud, clay
lending	landing place
litli	little
lon	inlet, lagoon
M	
muli	headland
myri	swamp
N	
nef, nes	point
nordhur	north
nupur	peak
nyrdhri	northerly
O	
oddi	tongue of land
os	river mouth
pollur	pool
R	
reykur	smoke

ICELANDIC	English
rif	reef

S

ICELANDIC	English
sandur	sand flat
skagi	large peninsula
skeidh	flat land
sker	reef, skerry
sljetta	plain
standhur	place, parsonage
steinn	stone
stor	great
strond	beach, shore
sudhur	south
sydhri	southerly

T

ICELANDIC	English
tangi	narrow point
tindur	peak

V

ICELANDIC	English
vardha	beacon
vatn	lake
vestri	western
vestur	west
vik	bay, cove
viti	lighthouse
vogur	bay, inlet
vollur (vellir)	fields

Y

ICELANDIC	English
ytri	outer

How to use the Index—Gazetteer

Geographic names of navigational features are generally those used by the nation having sovereignty and are listed alphabetically. Diacritical marks, such as accents, cedillas, and circumflexes, which are related to specific letters in certain foreign languages, are not used in the interest of typographical simplicity.

Geographic names or their spellings do not necessarily reflect recognition of the political status of an area by the United States Government. Positions are approximate and are intended merely as locators to facilitate reference to the charts.

To use as a Gazetteer note the position and Sector number of the feature and refer to the Chart Information diagram for the Sector. Plot the approximate position of the feature on this diagram and note the approximate chart number.

To use as an Index of features described in the text note the paragraph number at the right. To locate this feature on the best scale chart use the Gazetteer procedure above.

Index—Gazetteer

	Position °	'	°	'	Sec. Para
A					
AALUIARTIK	66	55 N	33	52 W	6.28
AAPPILATTOQ	60	08 N	44	18 W	1.6
AASIAAT	68	43 N	52	53 W	4.4
AEDEY	66	05 N	22	40 W	8.56
AGDLUMERSAT	62	48 N	50	18 W	2.14
AGGAS O	67	23 N	33	13 W	6.29
AGPAT	70	54 N	51	55 W	4.26
AGTORSSUIT	64	03 N	52	07 W	2.20
AKIA	60	40 N	46	13 W	1.22
AKRANES	64	19 N	22	05 W	8.20
AKUGDLIT	68	35 N	53	30 W	3.23
AKUREYRI	65	41 N	18	05 W	8.88
ALAKRATIAK FJORD	80	40 N	65	47 W	5.38
ALASKER	65	18 N	22	56 W	8.36
ALFTAFJORDUR	65	02 N	22	38 W	8.34
ALFTAFJORDUR	66	03 N	22	58 W	8.55
ALFTANES	64	28 N	22	10 W	8.21
ALLUITSUP PAA	60	28 N	45	34 W	1.17
AMANGA	66	14 N	37	36 W	6.16
AMANGAQ	65	46 N	36	58 W	6.23
AMDRUPS O	74	45 N	57	30 W	5.14
AMMASSALIK O	65	45 N	37	40 W	6.17
AMMASSIVIK	60	36 N	45	24 W	1.17
AMORSINGUAQ	60	57 N	48	06 W	2.4
ANDRES LAND	73	30 N	26	00 W	7.15
ANGISIT	60	38 N	46	43 W	1.30
ANGISSOQ	59	57 N	45	07 W	1.12
ANGISSUNGSUAK	63	57 N	51	45 W	2.19
ANGMAGSSALIK	65	36 N	37	37 W	6.19
ANGMARQUA	72	36 N	55	17 W	5.5
ANTARCTICS SUND	73	06 N	25	23 W	7.11
ARDENCAPLE FJORD	75	20 N	21	00 W	7.25
ARFERFIK	62	00 N	49	23 W	2.11
ARNARFJORDUR	65	51 N	24	00 W	8.44
ARPATSIVIK	60	47 N	45	55 W	1.22
ARSUK	61	10 N	48	27 W	2.7
ARSUK FJORD	61	06 N	48	21 W	2.6
ARSUK O	61	09 N	48	22 W	2.6
ASTRUP FJORD	81	55 N	30	40 W	7.41
ATA SUND	69	40 N	50	55 W	4.16
ATANGMIK	64	48 N	52	11 W	3.3
AUGISSUNGUAQ	63	57 N	51	45 W	2.19
AUGPILAGTOQ	60	08 N	44	18 W	1.6
AUGPILAGTOQ	72	53 N	55	36 W	5.7
AVARQAT KANGERLUA FJORD	61	17 N	42	55 W	6.4
AVATDLEG	60	43 N	47	15 W	1.34
AVATDLERSSUAQ	59	49 N	43	35 W	1.3
AVATDLIANGUAK	60	43 N	47	22 W	1.36
AVATDLINGUAQ	60	43 N	47	22 W	1.36
AVATLEK	60	41 N	47	04 W	1.33
AXARFJORDUR	66	13 N	16	45 W	8.94
B					
BAKKAFJARA LIGHT	63	32 N	20	09 W	9.41
BAKKAGERDHI	65	32 N	13	49 W	9.8
BALKASTADANES	65	24 N	21	02 W	8.73
BANCROFT BUGT	78	47 N	70	16 W	5.34
BELGICA BANK	78	20 N	15	00 W	7.36
BERUFJORDUR	64	42 N	14	20 W	9.28
BILDUDALUR	65	41 N	23	36 W	8.45
BITRUFJORDUR	65	29 N	21	20 W	8.72
BJARGTANGAR	65	30 N	24	32 W	8.38
BJARNARFJORDUR	65	46 N	21	23 W	8.67
BJARNARNES	65	45 N	21	21 W	8.68
BJARNEYJAR	65	16 N	22	52 W	8.36
BJORLINGS O	76	43 N	72	33 W	5.20
BJORNBUGT	66	04 N	35	55 W	6.25
BLACK REEF	68	06 N	31	58 W	6.30
BLAKKNES	65	38 N	24	20 W	8.41
BLONDUOS	65	40 N	20	18 W	8.69
BLOSSEVILLE KYST	68	44 N	26	20 W	6.33
BOLUNGAVIK	66	10 N	23	14 W	8.52
BONSALL OER	79	10 N	66	39 W	5.35
BONTEKOE O	73	07 N	21	20 W	7.16
BORGARFJORDUR	65	33 N	13	46 W	9.8
BORGARNES	64	32 N	21	56 W	8.23
BORGFJORDEN	76	40 N	22	00 W	7.31
BREDEBUGT	69	17 N	50	59 W	4.16
BREDEFJORD	60	46 N	46	47 W	1.33
BREIDAFJORDUR	65	14 N	24	20 W	8.28
BREIDDALSVIK	64	46 N	13	55 W	9.27
BREIDDALSVIK	64	47 N	14	01 W	9.27
BREIDHAFJORDHUR	65	14 N	24	20 W	8.28
BRIMNES	64	12 N	21	50 W	8.14
BRONLUNDS GRAVE	79	08 N	19	12 W	7.37
BRUNAVIK	65	32 N	13	41 W	9.9
BUDAREYRI	65	02 N	14	13 W	9.23
BUDIR	64	56 N	14	01 W	9.25
BYLOT SUND	76	30 N	69	30 W	5.21
C					
CAIRN PYNT	78	31 N	72	29 W	5.34
CAMP LLOYD	66	58 N	50	57 W	3.13
CANNING LAND	71	40 N	22	12 W	7.8
CAPE BURNIL	66	32 N	53	34 W	3.15
CAPE LAWRENCE	80	21 N	69	35 W	5.37
CAREY OER	76	47 N	72	58 W	5.20
CASS FJORD	80	05 N	64	32 W	5.36
CHRISTIANSHAAB	68	49 N	51	11 W	4.13
CLAVERING O	74	15 N	21	05 W	7.18
COMANCHE BUGT	65	02 N	40	18 W	6.13
COPELANDS FJORD	74	16 N	22	02 W	7.20
CROZIER O	80	30 N	67	11 W	5.38
D					
DALATANGI	65	16 N	13	34 W	9.14
DALLAS BUGT	79	05 N	68	00 W	5.35
DALVIK	65	58 N	18	31 W	8.84
DANEBORG	74	18 N	20	13 W	7.21
DANELLS FJORD	60	51 N	43	09 W	6.3

	Position °	'	°	'	Sec. Para
DANMARK FJORD	81	10 N	22	45 W	7.40
DANMARKSHAVN	76	46 N	18	45 W	7.32
DANNEBROGS O	65	18 N	39	34 W	6.14
DAVY SUND	72	00 N	22	00 W	7.9
DECEPTION O	67	37 N	32	54 W	6.29
DEPOT O	82	30 N	50	30 W	5.45
DIGRANES	66	03 N	14	44 W	9.3
DISTANT CAPE	83	10 N	46	05 W	5.47
DJUPAHLEIN	65	59 N	21	20 W	8.66
DJUPAVIK	65	57 N	21	34 W	8.67
DJUPIVOGUR	64	40 N	14	17 W	9.30
DODEMANDSBUGTEN	74	07 N	20	52 W	7.18
DOVE BUGT	76	30 N	19	30 W	7.29
DRONNING LOUISE O	60	21 N	43	15 W	6.2
DROWN BUGT	76	52 N	70	48 W	5.24
DUC D'ORLEANS LAND	77	50 N	22	40 W	7.35
DUNDAS FJELD	76	34 N	68	53 W	5.22
DYRAFJORDUR	65	57 N	23	51 W	8.47
DYRHOLAEY	63	24 N	19	08 W	9.40

E

EGEDESMINDE	68	43 N	52	53 W	4.4
EGGERS ISLAND	59	51 N	44	02 W	1.3
EIDISVIK	66	16 N	14	51 W	9.2
ELDEYJARBODHI	63	29 N	23	48 W	8.3
ELLA O	72	51 N	25	00 W	7.11
ELLIDAEY	65	09 N	22	48 W	8.32
EQALUGAARSUIT	60	37 N	45	55 W	1.31
ERIK DEN RODES O	65	47 N	36	18 W	6.25
ERIK S. HENIUS LAND	81	45 N	13	40 W	7.38
ESKIFJORDUR	65	04 N	14	01 W	9.22
ESKIMONAES	74	05 N	21	17 W	7.19
ETAH	78	19 N	72	36 W	5.33
EYJAFJORDUR	66	10 N	18	30 W	8.82
EYRARBAKKI	63	52 N	21	09 W	9.48
EYRI,	66	01 N	22	55 W	8.55

F

FAERABAKUR	64	46 N	13	32 W	9.26
FAERINGE NORDHAVN	67	40 N	53	34 W	3.20
FAERINGEHAVN	63	42 N	51	33 W	2.18
FASKRUDSFJORDUR	64	54 N	13	48 W	9.24
FAXAFLOI	64	08 N	22	40 W	8.5
FINNEFJELD	65	16 N	52	09 W	3.2
FISKEFJORD	64	43 N	52	08 W	3.3
FISKEMESTERENS HAVN	66	01 N	53	28 W	3.11
FISKENAES FJORD	63	05 N	50	41 W	2.15
FLATEY	65	22 N	22	55 W	8.36
FLATEY	66	10 N	17	52 W	8.91
FLATEYRI	66	03 N	23	31 W	8.49
FONTUR	66	23 N	14	32 W	8.101
FREDERICK E. HYDE FJORD	83	10 N	30	00 W	7.44
FREDERIKSDAL	60	00 N	44	39 W	1.6
FREDERIKSDAL	60	00 N	44	40 W	1.11
FREDERIKSHAAB UMANAK	61	46 N	49	36 W	2.11
FREDERIKSHAABS GLACIER	62	29 N	50	19 W	2.13
FREDERIKSHAABS ISBLINK	62	29 N	50	19 W	2.13
FREDERIKSHAB	62	00 N	49	40 W	2.12
FREEDENS BUGT	75	01 N	18	00 W	7.25
FROSNEBUGT	75	07 N	17	45 W	7.27

G

GAEL HAMKES BUGT	74	00 N	20	00 W	7.18
GARDHSKAGI	64	05 N	22	42 W	8.4
GARDSKAGI	64	05 N	22	42 W	8.4
GEIRFUGLASKER	63	19 N	20	30 W	9.45
GELDINGANES	66	09 N	18	01 W	8.89
GEOLOGFJORD	73	35 N	24	40 W	7.14
GERDISTANGI	64	01 N	22	21 W	8.8
GERMANIA LAND	77	00 N	19	00 W	7.33
GERPIR	65	05 N	13	30 W	9.19
GIESECKES ISFJORD	73	37 N	56	00 W	5.9
GLETTINGANES	65	31 N	13	37 W	9.9
GODFRED HANSEN O	76	26 N	20	55 W	7.30
GODTHAB GOLF	74	06 N	22	00 W	7.19
GRAAHS FJORD	63	24 N	41	17 W	6.9
GRAAHS OER	65	09 N	39	39 W	6.14
GRAEDEFJORD	63	18 N	51	06 W	2.16
GRANDJEANS FJORD	75	00 N	21	30 W	7.24
GRIFFENFELDS O	62	58 N	41	30 W	6.8
GRIMSEY	66	32 N	18	00 W	8.90
GRINDAVIK	63	50 N	22	27 W	9.51
GRIVEL BUGT	68	32 N	27	40 W	6.33
GRONNE EJLAND	68	50 N	51	55 W	4.12
GRONNEDAL	61	14 N	48	06 W	2.8
GRUNDAR FJORDUR	65	00 N	23	18 W	8.31
GRUNDARTANGI	64	21 N	21	47 W	8.17
GUNNBJORNS FJELD	68	55 N	29	52 W	6.32
GURREHOLM	71	15 N	24	36 W	7.5
GYLDENLOVES FJORD	64	10 N	41	00 W	6.11

H

HAFNARFJORDUR	64	04 N	21	57 W	8.10
HAFNARNES	65	55 N	23	48 W	8.46
HAFNARVIK	63	52 N	21	18 W	9.49
HAGI	65	30 N	23	27 W	8.37
HAKLUYT O	77	26 N	72	42 W	5.25
HALL BASIN	81	25 N	63	00 W	5.40
HALVDANS FJORD	63	14 N	41	20 W	6.8
HANSA BUGT	74	38 N	18	47 W	7.23
HASLUMS OER	72	28 N	24	05 W	7.10
HEILPRIN LAND	82	00 N	35	00 W	7.42
HEIMAEY	63	26 N	20	16 W	9.44
HEIMAEY HARBOR	63	26 N	20	17 W	9.43
HELGUVIK	64	24 N	21	27 W	8.19
HELHEIMFJORD	66	18 N	37	42 W	6.16
HELLISSANDUR	64	55 N	23	54 W	8.29
HENDRIK O	82	03 N	53	18 W	5.43
HERADSFLOI	65	42 N	14	10 W	9.6
HERBERT O	77	25 N	70	29 W	5.25
HERDISARVIK	63	51 N	21	47 W	9.50
HERTUGEN AF ORLEANS LAND	77	50 N	22	40 W	7.35
HJALTEYRI	65	51 N	18	12 W	8.87
HOFN	64	15 N	15	14 W	9.35
HOLD WITH HOPE	73	35 N	21	00 W	7.16
HOLL	66	50 N	18	09 W	8.90
HOLMAVIK	65	42 N	21	41 W	8.68
HOLMSBERG	64	02 N	22	33 W	8.6
HOLSTEINSBORG	66	55 N	53	42 W	3.17
HOME FORLAND	73	50 N	20	30 W	7.17
HOPSNES	63	50 N	22	25 W	9.50
HORN	66	28 N	22	28 W	8.60
HORNAFJARDAROS	64	14 N	15	11 W	9.34
HORNAFJORDUR	64	15 N	15	14 W	9.35, 9.39
HORNBJARG LIGHT	66	25 N	22	23 W	8.62
HOSKULDSEY	65	06 N	23	01 W	8.32
HOVGAARDS KYSTLAND	74	43 N	56	55 W	5.14
HRAPPSEY	65	07 N	22	36 W	8.34
HRAUNNNHAFNARTANGI	66	32 N	16	02 W	8.97
HRISEY	66	00 N	18	23 W	8.86
HROLFSSKER	66	05 N	18	25 W	8.86
HROLLAUGSEYJAR	64	02 N	15	59 W	9.36
HRUTAFJORDUR	65	29 N	21	08 W	8.73
HUNAFLOI	66	00 N	21	00 W	8.65
HUNDE EJLAND	68	52 N	53	07 W	4.5
HURRY INLET	70	37 N	22	31 W	7.4
HUSAVIK	66	02 N	17	20 W	8.92
HUSAVIKURHOFDI	66	03 N	17	22 W	8.91
HVALEYRI	64	21 N	21	44 W	8.16
HVALFJORDUR	64	16 N	22	00 W	8.15
HVALROS O	74	31 N	18	49 W	7.22
HVALROSODDEN	76	54 N	20	09 W	7.32
HVALSBAKUR	64	36 N	13	17 W	9.28
HVALSNES	64	24 N	14	32 W	9.31
HVALSUND	77	19 N	70	40 W	5.25
HVAMMSFJORDUR	65	06 N	22	20 W	8.34
HVANNEYRI	66	09 N	18	55 W	8.81

I

IGALIKO	60	59 N	45	26 W	1.26
IGALIKO FJORD	60	44 N	45	45 W	1.26
IGALIKU	60	59 N	45	26 W	1.26
IGALIKUP KANGERLUA	60	44 N	45	45 W	1.26

	Position °	'	°	'	Sec. Para
IGARDLUT	60	15 N	45	38 W	1.16
IGAUSSAQ	61	53 N	49	29 W	2.11
IGDLUKASIK	60	02 N	44	51 W	1.13
IGDLULIK	74	21 N	56	43 W	5.11
IKARDLUK	60	30 N	46	05 W	1.20
IKASAK	65	51 N	36	53 W	6.24
IKATEQ	65	38 N	37	57 W	6.16
IKEQ CHANNEL	59	55 N	43	50 W	1.3
IKERASAK	70	32 N	51	30 W	4.24
IKERMIT	64	49 N	40	17 W	6.13
IKERMIUT	65	46 N	53	20 W	3.7
IKERSAUQ	60	46 N	46	47 W	1.33
IKERSSUAQ	65	30 N	39	38 W	6.15
IKERSUAQ	66	36 N	34	30 W	6.27
IKERTIVAQ	65	30 N	39	38 W	6.15
IKERTIVAQ	66	36 N	34	30 W	6.27
IKKATTEQ	65	38 N	37	57 W	6.24
ILE DE FRANCE	77	42 N	17	50 W	7.35
ILERTAKAJIK	63	27 N	41	09 W	6.9
ILIMAUSSAQ MOUNTAIN	61	00 N	45	56 W	1.23
ILULISSAT	69	13 N	51	06 W	4.15
INDEPENDENCE FJORD	82	00 N	31	00 W	7.41
INGLEFIELD BREDNING	77	26 N	68	00 W	5.28
INGOLF FJORD	80	40 N	16	55 W	7.37
INGOLFSFJORDUR	66	02 N	21	38 W	8.63
INGOLFSHOFDI	63	48 N	16	38 W	9.36
INNAARSUIT	73	12 N	56	02 W	5.7
INUARUGDLIGAQ	60	21 N	45	38 W	1.16
INUGSULIK BUGT	74	19 N	57	00 W	5.11
INUKAVSAIT	71	15 N	52	19 W	4.25
ISAFJORDUR	66	04 N	23	07 W	8.54
ISBOJORN	76	44 N	73	03 W	5.20
ISCENTRALEN NARSARSSUAQ	61	09 N	45	25 W	1.33
ISERTUP KANGERTIVA	65	38 N	39	07 W	6.15
ISFJORD	73	22 N	27	00 W	7.15
ISIP ILUA	65	38 N	38	18 W	6.15
ITILLEQ	59	51 N	44	02 W	1.3
ITIVDLIARSSUP KANGERDLUA	70	49 N	51	00 W	4.27
ITSAKO	71	41 N	53	52 W	4.28
ITTERAJIK	66	04 N	37	44 W	6.17
ITTOQQORTOORMIIT	70	29 N	21	58 W	7.3
IVIANGIT	64	01 N	51	36 W	2.22
IVIGTUT	61	12 N	48	11 W	2.7
IVNARSSUIT	73	12 N	56	02 W	5.7
J					
J. P. JACOBSEN O	76	40 N	18	40 W	7.31
JAKOBSHAVN	69	13 N	51	06 W	4.15
JAKOBSHOLM	64	04 N	51	55 W	2.20
JAMESON LAND	71	00 N	23	30 W	7.4
JOH. G GUILDALS	76	42 N	18	32 W	7.33
JOHAN MOLLERS SKAER	63	46 N	51	53 W	2.19
JOHAN PETERSENS FJORD	65	52 N	38	15 W	6.16
JOINVILLES O	77	29 N	20	00 W	7.34
JULIANEHAAB	60	43 N	46	02 W	1.24
K					
KAJKAP	77	19 N	19	03 W	7.34
KAKADOKAK	66	38 N	52	52 W	3.15
KAKATSAAK	66	33 N	53	09 W	3.15
KAKATSIAK	65	01 N	51	30 W	3.3
KANAJORMIUT	60	24 N	45	13 W	1.15
KANGAATSIAQ	68	18 N	53	28 W	3.22
KANGAMIUT	65	50 N	53	21 W	3.8
KANGARSSUK	69	16 N	53	51 W	4.5
KANGARSSUK	72	00 N	55	37 W	5.2
KANGARTIK	65	49 N	37	01 W	6.24
KANGATSIAQ	68	18 N	53	28 W	3.22
KANGEQ	60	11 N	45	25 W	1.15
KANGEQ	64	06 N	52	03 W	3.2
KANGEQ	69	43 N	51	24 W	4.18
KANGEQ	77	16 N	69	06 W	5.28
KANGEQ PENINSULA	72	27 N	55	05 W	5.5
KANGERDLIKAJIK	63	27 N	41	09 W	6.9
KANGERDLUARSSUQSSUAQ	66	14 N	53	37 W	3.14
KANGERDLUK	71	37 N	52	00 W	4.29
KANGERDLUK FJORD	60	10 N	43	38 W	1.7
KANGERDLULUK	61	05 N	43	08 W	6.4
KANGERLUARSORUSEQ	63	42 N	51	33 W	2.18
KANGERLUARSORUSEQ FJORD	63	42 N	51	33 W	2.17
KANGERLUGSSUATSIAK	66	22 N	35	46 W	6.26
KANGERLUSSUAK	68	22 N	32	14 W	6.30
KANGERLUSSUAQ	66	58 N	50	57 W	3.13
KANGERLUSSUAQ	68	22 N	32	14 W	6.30
KANGERSUAK KUJALLEK	59	47 N	44	05 W	1.10
KANGERSUATSIAQ	72	22 N	55	34 W	5.4
KANGERTITTIVATSIAQ	66	22 N	35	46 W	6.26
KANGIGDLEQ	71	37 N	52	00 W	4.29
KANGILINGUIT	61	14 N	48	06 W	2.8
KAP ABERNATHY	76	41 N	69	16 W	5.24
KAP AGASSIZ	79	08 N	66	10 W	5.35
KAP ALEXANDER	78	10 N	73	09 W	5.30
KAP ALF TROLLE	75	56 N	18	45 W	7.29
KAP ATHOLL	76	23 N	69	38 W	5.19
KAP BERLIN	74	41 N	19	25 W	7.24
KAP BISMARK	76	42 N	18	36 W	7.31
KAP BORGEN	75	26 N	18	04 W	7.27
KAP BORLASE WARREN	74	16 N	19	23 W	7.18
KAP BREUSING	74	13 N	20	06 W	7.20
KAP BREVOORT	81	59 N	60	17 W	5.42
KAP BREWSTER	70	09 N	22	03 W	6.35
KAP BRIDGMAN	83	30 N	27	45 W	7.45
KAP BRYAN	81	07 N	64	00 W	5.39
KAP BRYANT	82	20 N	55	15 W	5.43
KAP C CHRISTIANSEN	67	13 N	33	22 W	6.28
KAP CHRISTIAN	59	47 N	44	05 W	1.10
KAP CLARENCE WYCKOFF	82	05 N	24	10 W	7.43
KAP COPELAND	75	20 N	18	57 W	7.27
KAP CORT ADELAER	61	50 N	42	05 W	6.5
KAP COSTER	68	58 N	25	27 W	6.34
KAP DALTON	69	24 N	24	10 W	6.35
KAP DAN	65	31 N	37	11 W	6.23
KAP DEICHMANN	68	03 N	32	02 W	6.29
KAP DESOLATION	60	44 N	48	10 W	2.2
KAP DUDLEY DIGGS	76	10 N	68	49 W	5.19
KAP EDVARD HOLM	67	51 N	32	11 W	6.29
KAP EGEDE	60	11 N	45	25 W	1.15
KAP EHRENBERG	74	26 N	21	46 W	7.21
KAP EILER RASMUSSEN	82	35 N	22	00 W	7.43
KAP GLADSTONE	71	31 N	21	53 W	7.8
KAP GREG	70	57 N	21	35 W	7.7
KAP GUDBRAND TORLAKSEN	65	15 N	39	41 W	6.14
KAP GUSTAV HOLM	66	34 N	34	21 W	6.28
KAP HARALD MOLTKE	82	07 N	31	20 W	7.42
KAP HATHERTON	78	28 N	72	34 W	5.33
KAP HEDLUND	72	44 N	26	12 W	7.11
KAP HEGGEMAN	67	04 N	33	27 W	6.28
KAP HELGOLAND	76	43 N	19	09 W	7.30
KAP HILDEBRANDT	66	48 N	33	54 W	6.28
KAP HODGSON	70	33 N	21	30 W	7.7
KAP HOEGH	70	43 N	21	33 W	7.7
KAP HOMMOCK	83	22 N	41	31 W	5.48
KAP HOPE	70	28 N	22	23 W	7.2
KAP HOPPE	59	56 N	43	15 W	1.4
KAP HORRING	65	38 N	37	38 W	6.20
KAP HOVGARD	72	42 N	22	36 W	7.12
KAP IRMINGER	68	05 N	30	56 W	6.31
KAP ISAK GLUCKSTADT	83	00 N	25	40 W	7.43
KAP J.A.D. JENSEN	68	10 N	29	49 W	6.32
KAP J.C. JACOBSEN	68	06 N	30	30 W	6.31
KAP JACKSON	80	03 N	67	03 W	5.37
KAP JAPETUS STEENSTRUP	66	16 N	35	05 W	6.26
KAP JOHNSTRUP	68	28 N	28	02 W	6.32
KAP JUNGERSEN	80	44 N	15	55 W	7.37
KAP KANE	83	27 N	40	05 W	5.48
KAP KOFOED	78	31 N	18	34 W	7.36
KAP KRONBORG	81	42 N	22	20 W	7.40
KAP LOUIS USSING	67	18 N	33	18 W	6.28
KAP LUPTON	81	41 N	61	53 W	5.41
KAP MACKENZIE	72	55 N	21	55 W	7.13
KAP MAECHEL	72	23 N	25	16 W	7.10
KAP MELVILLE	76	03 N	64	01 W	5.16
KAP MIDDENDORFF	82	40 N	47	30 W	5.45
KAP MOBIUS	75	56 N	20	01 W	7.28
KAP MOHN	83	17 N	43	24 W	5.48
KAP MOLTKE	63	29 N	40	47 W	6.9
KAP MOORSOM	72	10 N	22	07 W	7.12
KAP MORRIS JESUP	83	40 N	33	24 W	5.49, 7.45
KAP MORTON	81	12 N	63	26 W	5.40

	Position °	'	°	'	Sec. Para
KAP MOSTING	63	41 N	40	30 W	6.10
KAP MURDOCH	76	08 N	61	52 W	5.16
KAP NANSEN	68	13 N	29	26 W	6.32
KAP NORDENSKIOLD	66	08 N	35	36 W	6.26
KAP OSWALD HEER	75	33 N	19	24 W	7.28
KAP PARRY	77	01 N	71	22 W	5.24
KAP PAYER	83	08 N	46	30 W	5.47
KAP PHILIP BROKE	74	56 N	17	37 W	7.26
KAP POUL LOVENORN	64	28 N	40	09 W	6.13
KAP POWELL	77	54 N	71	54 W	5.30
KAP RAVN	68	25 N	28	15 W	6.32
KAP RIGSDAGEN	82	04 N	22	50 W	7.39
KAP RINGKJOBING	81	33 N	19	05 W	7.39
KAP RINK	68	22 N	28	38 W	6.32
KAP RINK	75	08 N	19	37 W	7.25
KAP ROBERTSON	77	48 N	71	26 W	5.26
KAP RYDER	69	04 N	25	07 W	6.34
KAP SALOR	82	56 N	48	05 W	5.46
KAP SAVARY	68	36 N	27	03 W	6.33
KAP SCHMELCK	81	49 N	34	15 W	7.42
KAP SEDDON	75	21 N	58	39 W	5.14
KAP SHACKLETON	73	47 N	56	50 W	5.9
KAP SIMPSON	72	07 N	22	15 W	7.9
KAP SKJOLD	63	07 N	41	12 W	6.8
KAP SMITH	71	15 N	21	38 W	7.7
KAP STANTON	82	13 N	57	18 W	5.43
KAP STEEN BILLE	62	01 N	42	05 W	6.6
KAP STEPHENSEN	68	25 N	28	31 W	6.32
KAP STOSCH	74	04 N	21	43 W	7.19
KAP SUMNER	81	54 N	60	41 W	5.42
KAP THORVALDSEN	60	40 N	47	54 W	1.39
KAP TORDENSKJOLD	61	25 N	42	22 W	6.5
KAP TORFAEUS	64	42 N	40	24 W	6.13
KAP TUPINIER	68	45 N	26	19 W	6.34
KAP TYRCONNEL	77	31 N	68	36 W	5.28
KAP ULLIDTZ	76	16 N	21	42 W	7.30
KAP VEDEL	68	30 N	27	38 W	6.32
KAP WALKER	75	48 N	59	45 W	5.16
KAP WANDEL	66	19 N	34	52 W	6.27
KAP WARMING	67	01 N	33	43 W	6.28
KAP WASHINGTON	83	31 N	38	50 W	5.49
KAP YORK	75	54 N	66	27 W	5.17
KARMAT	60	44 N	46	55 W	1.33
KARRAT O	71	30 N	53	00 W	4.28
KARRATS FJORD	71	30 N	53	40 W	4.28
KASIT	59	58 N	43	26 W	1.4
KEFLAVIK	64	00 N	22	33 W	8.7
KEILIR	63	57 N	22	11 W	8.3
KEILISNES	64	02 N	22	16 W	8.8
KEKERTARSSUAK	63	54 N	51	29 W	2.19
KEKERTARSUAK	71	32 N	53	13 W	4.29
KEKERTAT OERNE	60	35 N	47	34 W	1.36
KIATAQ	64	22 N	40	32 W	6.12
KIGATAQ	72	05 N	55	50 W	5.3
KIGTAJIK	65	51 N	37	05 W	6.22
KIGTORQAT LIGHT	63	56 N	51	35 W	2.19
KIGTORSAQ	73	56 N	56	45 W	5.10
KINALITA MOUNTAIN	60	34 N	45	39 W	1.19
KINGAQ	66	38 N	53	26 W	3.16
KINGARTAK	72	05 N	55	50 W	5.3
KINGATSIAQ	66	10 N	53	36 W	3.14
KINGIGTOK	61	30 N	49	07 W	2.9
KINGIGTORTAGDLIT	73	02 N	56	55 W	5.7
KIRKJUBOL	64	50 N	13	53 W	9.26
KITAK	65	32 N	38	45 W	6.15
KITDLIAT	68	17 N	53	45 W	3.21
KITSIGSUARSSUIT	68	52 N	53	07 W	4.5
KITSIGSUT	67	47 N	53	59 W	3.20
KJALARNES	64	14 N	21	55 W	8.13
KJERULF FJORD	73	00 N	27	23 W	7.15
KJOGGUR	64	39 N	13	57 W	9.28
KNARRAROS LIGHT	63	49 N	20	58 W	9.47
KNOFFELD	62	00 N	49	23 W	2.11
KNUDSHOVED	73	43 N	20	27 W	7.17
KOBBERMINEBUGT	60	51 N	48	14 W	2.3
KOGUR	65	36 N	13	52 W	9.7
KOLBEINSEY	67	09 N	18	41 W	8.90
KOLGRAFAFJORDUR	65	00 N	23	03 W	8.32
KONG OSCAR HAVN	65	37 N	37	37 W	6.20
KOPANES	65	48 N	24	07 W	8.44
KOPASKER	66	17 N	16	27 W	8.95
KORNOK	64	32 N	51	06 W	2.23
KOTLUTANGI	63	23 N	18	44 W	9.38
KRAEMER O	68	12 N	31	51 W	6.30
KRAULSHAVN	74	07 N	57	04 W	5.11
KRISUVIKURBERG LIGHT	63	50 N	22	05 W	9.50
KROKSFJARDHARNES	65	27 N	21	57 W	8.36
KROSSNAFIR	64	41 N	14	11 W	9.28
KROSSNES	64	41 N	14	11 W	9.28
KROSSNES	64	58 N	23	22 W	8.30
KROSSNES	66	03 N	21	30 W	8.64
KUANIT ISLAND	62	14 N	49	53 W	2.13
KUK	73	43 N	56	13 W	5.9
KULHUS	75	12 N	20	00 W	7.25
KUNGMIUT	65	51 N	37	00 W	6.24
KUNGNAT	61	13 N	48	26 W	2.6
KUTDLEK	61	31 N	42	13 W	6.5
KUTSEQ	60	41 N	42	47 W	6.3
KUUMMIIT	65	51 N	37	00 W	6.24
KVANEFJORD	61	59 N	49	44 W	2.11
L					
LAFAYETTE BUGT	80	27 N	66	47 W	5.38
LAKSEBUGT	69	18 N	53	56 W	4.6
LAMBERT LAND	79	10 N	20	20 W	7.37
LANGANES	66	23 N	14	32 W	8.101
LANGEBUGT	69	51 N	51	09 W	4.18
LARS JAKOBSENS PYNT	74	33 N	19	12 W	7.23
LILLE KOLDEWEY O	76	40 N	18	43 W	7.31
LILLE PENDULUM O	74	40 N	18	30 W	7.23
LILLE TUGTUTOQ	60	45 N	46	48 W	1.35
LINDENOW FJORD	60	27 N	43	17 W	6.2
LITTELTON O	78	21 N	72	52 W	5.33
LIVERPOOL LAND	71	00 N	22	00 W	7.7
LODMUNDARFJORDUR	65	21 N	13	45 W	9.10
LOFTSTADHAHOLL	63	48 N	20	54 W	9.47
LONSVIK	64	21 N	14	46 W	9.33
LUNDEY	64	11 N	21	50 W	8.14
M					
MACCORMICK FJORD	77	39 N	70	00 W	5.26
MACKENZIE BUGT	73	26 N	21	30 W	7.16
MALARHORN	65	41 N	21	26 W	8.68
MALARRIF	64	44 N	23	48 W	8.26
MALIGIAQ	69	27 N	54	14 W	4.6
MANAREYJAR	66	17 N	17	07 W	8.93
MANIITSOQ	65	25 N	52	55 W	3.6
MANITSOQ	65	28 N	52	57 W	3.5
MANUSSAQ	76	45 N	69	54 W	5.24
MARIA O	72	57 N	24	54 W	7.11
MARKARFLJOT	63	32 N	20	05 W	9.41
MARMORILIK	71	08 N	51	17 W	4.25
MARRAQ	63	26 N	51	15 W	2.16
MATO LOB	60	45 N	46	45 W	1.27
MCCORMICK BUGT	78	14 N	72	48 W	5.33
MEDHALLANDS BUGUR	63	40 N	17	20 W	9.37
MELLEMFJORD	69	46 N	54	52 W	4.7
MELRAKKANES	66	24 N	15	43 W	8.99
MELRAKKASLETTA	66	28 N	16	15 W	8.96
MELVILLE MONUMENT	75	46 N	59	25 W	5.14
MESTERS VIG	72	08 N	23	44 W	7.10
METEORITE O	76	03 N	65	00 W	5.17
MEVENKLINT	67	09 N	18	41 W	8.90
MIKI FJORD	68	08 N	31	30 W	6.31
MISUGTOQ	65	58 N	37	05 W	6.22
MJOEYRI	64	55 N	13	58 W	9.25
MJOIFJORDUR	65	12 N	13	46 W	9.15
MOGENS HEINESEN FJORD	62	23 N	42	30 W	6.6
MOLLERS O	66	55 N	53	45 W	3.17
MORIUSAQ	76	45 N	69	54 W	5.24
MORKEFJORD	76	55 N	20	40 W	7.32
MORRIS BUGT	80	08 N	67	04 W	5.37
MUDDERBUGTEN	69	41 N	52	00 W	4.17
MYLIUS ERICHSEN'S CAIRN	81	50 N	32	40 W	7.41
MYRDALSVIK	63	25 N	19	00 W	9.38
MYRNATANGI	63	28 N	18	09 W	9.38

	Position °	'	°	'	Sec. Para
N					
NAAJAT	59	52 N	44	57 W	1.12
NANOK	75	09 N	19	47 W	7.25
NANORTALIK HAVN	60	07 N	45	12 W	1.14
NANUSEQ FJORD	60	29 N	43	13 W	6.3
NAPASSORSSUAQ FJORD	61	42 N	42	30 W	6.5
NARSALIK	61	39 N	49	19 W	2.10
NARSAQ	60	55 N	46	03 W	1.32
NARSAQ KUJALLEQ	60	00 N	44	40 W	1.11
NARSARSUAQ	61	09 N	45	26 W	1.33
NARSSAQ	60	55 N	46	03 W	1.32
NARSSAQ	70	26 N	54	05 W	4.18
NARSSARSSUAQ	61	09 N	45	26 W	1.33
NATDLUARSUK	70	39 N	54	36 W	4.19
NATERNAQ	68	20 N	52	00 W	3.22
NATHORST FJORD	71	41 N	22	30 W	7.8
NATSILIVIK	77	10 N	70	52 W	5.25
NAUJARTALIK	60	46 N	48	15 W	2.2
NAUJAT	59	52 N	44	57 W	1.12
NAUJAT	73	09 N	55	51 W	5.7
NAUTSARSORFIK	61	43 N	48	38 W	2.9
NAVY CLIFF	81	41 N	34	02 W	7.41
NERERNAQ	65	41 N	37	18 W	6.22
NES	65	09 N	13	41 W	9.18
NESKAUPSTADUR	65	09 N	13	41 W	9.18
NIAQORNAP	60	44 N	46	35 W	1.31
NIAQORNARSSUK	68	14 N	52	52 W	4.19
NIAQORNAT	70	48 N	53	40 W	4.21
NIAQUNGUNAQ	64	43 N	52	08 W	3.3
NIGERTULUK	66	16 N	35	02 W	6.26
NJARDHVIK	63	59 N	22	32 W	8.8
NJARDVIK	63	59 N	22	32 W	8.8
NORD	81	43 N	17	57 W	7.39
NORDFJARDARFLOI	65	09 N	13	36 W	9.16
NORDFJORD	73	40 N	24	17 W	7.14
NORDFJORDUR	65	08 N	13	42 W	9.17
NORDLIGE KITSISSUT	59	57 N	45	12 W	1.12
NORDOSTRUNDINGEN	81	36 N	12	10 W	7.38
NORDRE APUTITEEQ	67	48 N	32	16 W	6.29
NORDRE STORO	62	08 N	49	45 W	2.13
NORDVESTFJORD	71	30 N	25	40 W	7.5
NORSSAERSERFIK	61	43 N	48	38 W	2.9
NORTH STAR BUGT	76	34 N	68	52 W	5.22
NORUJUK	69	39 N	51	50 W	4.10
NUGARSSIK	65	38 N	37	20 W	6.21
NUGATSIAQ	71	32 N	53	13 W	4.29
NUGSSUTA	70	39 N	54	36 W	4.19
NUK	60	15 N	44	10 W	1.7
NUK	61	28 N	42	19 W	6.5
NUK	68	45 N	51	19 W	4.13
NUK	69	39 N	51	50 W	4.10
NUKAGPIAQ	65	30 N	51	51 W	3.5
NUKAJIK	65	33 N	38	33 W	6.15
NULUK	73	33 N	55	58 W	5.9
NUNARSSUAQ	60	01 N	45	12 W	1.12
NUSSAQ	70	26 N	54	05 W	4.18
NUTARMIUT-IKERASAARSUK	73	32 N	56	26 W	5.8
NUUSSUAQ	74	07 N	57	04 W	5.11
NYEBOE LAND	81	55 N	58	20 W	5.42
NYHAVN	72	16 N	23	53 W	7.10
NYIBODI	64	51 N	13	26 W	9.25
O					
O FJORD	71	00 N	26	12 W	7.6
ODAQ O	83	40 N	30	40 W	7.45
ODDBJARNSKER	65	21 N	23	09 W	8.36
OFFLEY O	81	18 N	61	51 W	5.40
OLAFSFJORDUR	66	05 N	18	38 W	8.83
OLAFSVIK	64	54 N	23	43 W	8.30
OLRIK FJORD	77	12 N	67	35 W	5.26
ONDVERDARNES	64	53 N	24	03 W	8.27
ONUNDARFJORDUR	66	06 N	23	43 W	8.49
ORLEANS SUND	77	48 N	20	00 W	7.34
OTTE KRUMPEN FJORD	63	57 N	40	40 W	6.10
OUTER BUOY	64	05 N	22	05 W	8.10
P					
PAAMIUT	62	00 N	49	40 W	2.12
PAGGIVIK LIGHT	60	37 N	46	11 W	1.23
PAPEY	64	35 N	14	10 W	9.32
PARKER SNOW BUGT	76	09 N	68	37 W	5.18
PATREKSFJORDUR	65	38 N	24	08 W	8.41
PATREKSHOFN	65	35 N	23	59 W	8.42
PEABODY BUGT	79	37 N	65	10 W	5.35
PEARY LAND	82	30 N	35	00 W	7.42
PENDULUM OER	74	37 N	18	39 W	7.22
PERDLERDIUP KANGERDLUA	71	02 N	51	30 W	4.25
PIC DE GERLACHE	78	36 N	21	40 W	7.35
PITUFFIK	76	32 N	68	52 W	5.23
POKULUFIK	74	15 N	57	30 W	5.11
PORSILD GRUND	69	19 N	51	53 W	4.10
PORT OF THULE AIR BASE	76	32 N	68	52 W	5.23
PRINS CHRISTIAN SUND	60	04 N	43	02 W	1.5
PROVEN	72	22 N	55	30 W	5.4
PRUDHOE LAND	78	00 N	71	00 W	5.30
PUIAGTOQ FJORD	61	17 N	42	55 W	6.4
PUKULUGFIK	74	15 N	57	30 W	5.11
PUTO	66	07 N	53	10 W	3.10
Q					
QAANAAQ	77	28 N	69	18 W	5.27
QAERSUT	70	44 N	52	38 W	4.21
QAGSSIARSSUK	61	09 N	45	31 W	1.33
QAGSSIMIUT	60	47 N	47	10 W	1.36
QAGSSIT	67	00 N	54	08 W	3.17
QALLUMIUT	60	42 N	45	22 W	1.17
QAQARSSUATSIAQ KUJATDLEQ	62	02 N	49	33 W	2.11
QAQATOQOQ	66	38 N	52	52 W	3.15
QAQATSIAQ	66	33 N	53	09 W	3.15
QAQORTOQ	60	43 N	46	02 W	1.24
QARMAT	60	44 N	46	55 W	1.33
QASIGIANNGUIT	68	49 N	51	11 W	4.13
QASIGISSAT	65	34 N	37	41 W	6.18
QASSIARSUK	61	09 N	45	31 W	1.33
QASSIMIUT	60	47 N	47	10 W	1.36
QEQERTARSSUAQ	63	54 N	51	29 W	2.19
QEQERTARSSUAQ	71	32 N	53	13 W	4.29
QEQERTARSSUAQ	72	15 N	55	20 W	5.4
QEQERTARSSUAQ	77	25 N	70	09 W	5.25
QEQERTARSSUATSIAIT	63	05 N	50	41 W	2.15
QEQERTAT	71	00 N	52	15 W	4.26
QEQERTAT	77	30 N	66	42 W	5.29
QEQERTAT OERNE	60	35 N	47	34 W	1.36
QERNERTOQ	59	58 N	43	26 W	1.4
QERNERTUT	60	54 N	48	07 W	2.4
QINGERTIVAQ	66	03 N	37	12 W	6.22
QINGMUT	63	36 N	51	33 W	2.17
QIPA	66	10 N	37	50 W	6.16
QIPISARGO	61	01 N	47	52 W	2.5
QORNOQ	64	32 N	51	06 W	2.23
QUARATIT	76	19 N	69	21 W	5.19
QULLIMIUT	60	42 N	45	22 W	1.17
QUTDLEQ	61	31 N	42	13 W	6.5
QUTDLIGSSAT	70	05 N	53	00 W	4.17
R					
RAUFARHOFN	66	27 N	15	56 W	8.98
RAVNEOER	63	58 N	51	53 W	2.19
RAVNEOERNE	63	58 N	51	53 W	2.19
RAVNS STORO	62	43 N	50	23 W	2.14
REDEKAMMEN MOUNTAIN	60	53 N	45	45 W	1.23
REPULSE HAVN	82	06 N	59	08 W	5.42
REYDARFJORDHUR	65	00 N	13	51 W	9.20
REYKJAVIK	64	09 N	21	56 W	8.12
RIF	64	55 N	23	50 W	8.29
RIFKOL	67	58 N	53	47 W	3.21
RIFSNES	66	05 N	20	26 W	8.69
ROBESON CHANNEL	81	57 N	60	47 W	5.41
RODEBAYNAESSET	69	21 N	51	01 W	4.16
ROMER FJORD	69	39 N	23	36 W	6.35
ROSENEATH BUGT	75	43 N	19	30 W	7.28
ROSENVINGES BUGT	70	27 N	22	05 W	7.2
ROST	65	07 N	22	31 W	8.34
ROTTEN	68	52 N	53	25 W	4.5
RYDERS OER	74	39 N	57	40 W	5.13

	Position °	'	°	'	Sec. Para
S					
SAARLOQ	60	32 N	46	02 W	1.21
SAATTUT	70	49 N	51	39 W	4.27
SABINE OER	75	30 N	60	13 W	5.15
SAGDLIARUSEQ	63	38 N	40	37 W	6.10
SAGIARUSEK	63	38 N	40	37 W	6.10
SANDERSONS HOPE	72	43 N	56	11 W	5.5
SANDGERDHI	64	02 N	22	43 W	8.4
SANDGERDI	64	02 N	22	43 W	8.4
SANDODDEN	74	18 N	20	13 W	7.21
SANDOEN	74	15 N	20	09 W	7.20
SANDUR	64	55 N	23	54 W	8.29
SANERUT	61	00 N	48	20 W	2.4
SARDLOQ	60	32 N	46	02 W	1.21
SARFARTOK POINT	66	31 N	52	03 W	3.12
SARKAK	70	01 N	51	57 W	4.18
SARPAKAJIK	65	37 N	37	31 W	6.21
SARPAQ	65	52 N	37	47 W	6.17
SARQAQ	70	01 N	51	57 W	4.18
SATUT	60	55 N	48	18 W	2.4
SATUT	63	42 N	51	36 W	2.17
SAUDANES	66	11 N	18	58 W	8.79
SAUDARKROKUR	65	45 N	19	40 W	8.78
SAUNDERS O	76	34 N	69	43 W	5.21
SAVIGSIVIK	76	01 N	65	05 W	5.17
SCHADES OER	71	23 N	53	51 W	4.28
SCHNAUDER O	78	47 N	19	40 W	7.36
SCORESBY SETTLEMENT	70	29 N	21	58 W	7.3
SEGELSALLSKAPETS FJORD	72	26 N	25	00 W	7.10
SELSKER	66	08 N	21	32 W	8.63
SELVOGUR	63	49 N	21	39 W	9.49
SERFARSSUIT	70	20 N	54	23 W	4.7, 4.17
SERFARTORSSUAQ	64	06 N	51	38 W	2.22
SERMERSUT	61	16 N	48	50 W	2.9
SERMILIGAAQ	66	00 N	36	28 W	6.25
SERMILIGAQ	66	00 N	36	28 W	6.25
SERMILIK FJORD	63	29 N	51	12 W	2.17
SERMITSIAK	63	21 N	50	19 W	2.16
SEYDISFJORDUR	65	18 N	13	40 W	9.11
SEYDISFJORDUR	66	02 N	22	55 W	8.55
SEYDISFJORDUR HARBOR	65	16 N	14	00 W	9.13
SHANNON SUND	75	12 N	19	08 W	7.27
SHERARD OSBORN FJORD	82	15 N	52	06 W	5.44
SIGLUFJORDHUR	66	10 N	18	53 W	8.80
SIGLUFJORDUR	66	09 N	18	55 W	8.81
SIGLUFJORDUR	66	10 N	18	53 W	8.80
SIMIUTA LIGHT	64	03 N	51	38 W	2.19
SIMIUTARSSUP IKARDLUE	68	11 N	53	58 W	3.21
SINGARNAQ	72	35 N	55	46 W	5.5
SIORAGDLIT	68	30 N	53	36 W	3.22
SIORAK	61	21 N	48	59 W	2.9
SIORAPALUK	77	47 N	70	42 W	5.26
SISIMIUT	66	55 N	53	42 W	3.17
SKAERFJORDEN	77	25 N	19	30 W	7.34
SKAFTAROS	63	40 N	17	47 W	9.38
SKAGAFJORDUR	66	00 N	19	50 W	8.75
SKAGASTROND	65	50 N	20	19 W	8.69
SKAGATA	66	07 N	20	06 W	8.74
SKALO	71	52 N	55	36 W	5.2
SKANSEN	69	26 N	52	26 W	4.10
SKARD LIGHT	65	29 N	20	59 W	8.74
SKERJAFJORDUR	64	09 N	22	01 W	8.11
SKINNEYJARHOFDI	64	14 N	15	29 W	9.36
SKJOLDUNGEN	63	20 N	41	30 W	6.8
SKOR	65	25 N	23	57 W	8.37
SKORARBODAR	65	24 N	23	58 W	8.28
SKOTUFJORDUR	66	03 N	22	48 W	8.55
SKUTULSFJORDUR	66	06 N	23	05 W	8.53
SMALLESUND	61	33 N	49	16 W	2.10
SMITH SOUND	78	24 N	73	30 W	5.32
SOKONGENS BUGT	68	40 N	26	40 W	6.33
SONDE STORO	62	03 N	49	42 W	2.13
SONDRE KANGEQ	61	21 N	48	59 W	2.9
SONDRE STROMFJORD	66	02 N	53	32 W	3.10
SONNTAG BUGT	78	00 N	72	26 W	5.30
SOPHUS MULLER NAES	80	55 N	14	40 W	7.38
SORTSKAER	68	06 N	31	58 W	6.30
SPANIOLO	65	18 N	52	48 W	3.5
STAFNES	63	58 N	22	45 W	8.3
STAGLEY	65	14 N	22	51 W	8.36
STEWART O	69	54 N	22	50 W	6.35
STIGI	66	12 N	23	28 W	8.50
STODHVARFJORDHUR	64	50 N	13	55 W	9.26
STOKKSEYRI	63	50 N	21	05 W	9.48
STOKKSNES	64	14 N	14	58 W	9.33
STORMBUGT	76	48 N	19	00 W	7.32
STOROEN	70	43 N	51	48 W	4.24
STRANDHOFN	65	54 N	14	39 W	9.3
STRAUMNES	66	05 N	19	22 W	8.79
STRAUMNES	66	20 N	22	12 W	8.62
STRAUMNES	66	26 N	23	08 W	8.60
STRAUMSVIK	64	03 N	22	03 W	8.9
STYKKISHOLMUR	65	05 N	22	43 W	8.33
SUGANDAFJORDUR	66	08 N	23	38 W	8.50
SUGAR LOAF	74	01 N	56	58 W	5.10
SUKKERTOPPEN	65	25 N	52	55 W	3.6
SUKKERTOPPEN ICE CAP	66	13 N	52	02 W	3.10
SUKKERTOPPEN ISKAPPE	66	13 N	52	02 W	3.10
SVARTENHUK POINT	71	41 N	55	53 W	5.2
SVARTNES	65	47 N	14	20 W	9.4
SVEINSEYRI	65	37 N	23	51 W	8.43
SYDHRA SKOGARIVES	64	48 N	22	36 W	8.24
SYDKAP	71	17 N	25	03 W	7.5
SYDPROVEN	60	28 N	45	34 W	1.17
T					
TAKISSEQ	65	00 N	39	50 W	6.14
TALERUA	60	33 N	45	55 W	1.21
TALERULIK	64	59 N	52	22 W	3.4
TASIILAQ	65	36 N	37	37 W	6.19
TASILAP NUA	65	35 N	37	34 W	6.20
TASILARTIK	65	38 N	37	25 W	6.21
TASIUSAQ	73	22 N	56	00 W	5.8
TASIUSAQ BUGT	73	12 N	55	30 W	5.8
TASIUSSAQ	60	50 N	45	43 W	1.25
TATERAT	61	14 N	42	38 W	6.4
THALBITZERS NAES	76	03 N	60	58 W	5.16
THANK GOD HAVN	81	38 N	61	48 W	5.40
THINGEYRI	65	53 N	23	29 W	8.48
THISTILFJORDUR	66	20 N	15	30 W	8.99
THOMAS THOMSENS NAES	77	14 N	18	23 W	7.33
THOMS O	75	43 N	60	36 W	5.15
THORLAKSHOFN	63	51 N	21	23 W	9.49
THORMODHSSKER	64	26 N	22	19 W	8.24
THORSHOFN	66	12 N	15	20 W	8.100
THORSTEIN ISLAENDER	60	46 N	48	26 W	2.2
THULE	77	28 N	69	18 W	5.27
TINDINGEN	61	30 N	49	07 W	2.9
TINGMIARMIUT FJORD	62	39 N	42	43 W	6.7
TINITEQILAAQ	65	54 N	37	48 W	6.17
TJORNES	66	12 N	17	09 W	8.91
TOQULINEQ	60	05 N	43	06 W	6.2
TORGILSBU	60	33 N	43	13 W	6.3
TORSSUKATAK	69	56 N	51	00 W	4.18
TOVQUSSAQ	64	53 N	52	10 W	3.2
TOVQUSSAQ BANKE	64	25 N	53	25 W	3.2
TOVQUSSAQ HAVN	64	52 N	52	12 W	3.4
TUAPAIT	60	07 N	45	11 W	1.13
TUGSAQ	73	03 N	56	08 W	5.7
TUGTORQORTOQ	73	40 N	56	58 W	5.9
TUGTULIPALUK	75	34 N	58	23 W	5.15
TUKINGASSRASSUAQ LIGHT	64	00 N	51	42 W	2.19
TULUVARTALIK	62	29 N	50	19 W	2.14
TUVSSAQ	73	03 N	56	08 W	5.7
TVILLINGERNE	76	17 N	20	45 W	7.30
TYROLERFJORD	74	28 N	21	11 W	7.21
U					
UGSSUGTUSSOQ	65	38 N	39	07 W	6.15
UJARASUGSSUK	69	52 N	52	27 W	4.17
UMANAK	74	01 N	56	58 W	5.10
UMANAK HARBOR	70	41 N	52	09 W	4.23
UMANAQ	65	16 N	52	35 W	3.4
UMANAQ ISLAND	60	35 N	46	08 W	1.21
UMANARSSUAQ	60	56 N	42	38 W	6.4
UMANARSUK	60	56 N	42	38 W	6.4
UMANAT	65	52 N	53	24 W	3.9
UMIGTUARTIVIT	65	54 N	38	00 W	6.16

	Position °	'	°	'	Sec. Para
UMIIVIITAA	64	20 N	40	12 W	6.11
UNAMAI	60	43 N	47	40 W	1.37
UNAMAQ	60	43 N	47	40 W	1.37
UPERNAVIARSUK	60	45 N	45	54 W	1.25
UPERNAVIK	72	46 N	56	09 W	5.6
UPERNAVIK	72	47 N	57	20 W	5.1
UPERNAVIK ISFJORD	72	53 N	55	20 W	5.7
UPERNAVIK KUJALLEQ	72	09 N	55	32 W	5.4
UTTORSIUTIT	62	30 N	42	09 W	6.7
UUMMANNAQ	70	41 N	52	09 W	4.23
UVTORTIUTIT	62	30 N	42	09 W	6.7
V					
VADLAVIK	65	01 N	13	36 W	9.19
VAEDDERHORNET	76	52 N	20	35 W	7.32
VATNEYRI	65	35 N	23	59 W	8.42
VATNSNES	65	40 N	20	41 W	8.70
VEGA SUND	72	37 N	22	28 W	7.12
VESTER EJLAND	68	37 N	53	32 W	4.2
VESTMANNAEYJAHOFN	63	26 N	20	17 W	9.43
VESTMANNAEYJAR	63	26 N	20	14 W	9.42
VIK	63	25 N	19	01 W	9.39
VOPNAFJORDHUR	65	45 N	14	50 W	9.5
W					
WALRUS ISLAND	74	31 N	18	49 W	7.22
WANDEL HAV	82	10 N	17	00 W	7.39
WATKINS FJORD	68	15 N	31	55 W	6.30
WENDELS PYNT	76	46 N	18	50 W	7.32
WILCOX HEAD	74	29 N	57	31 W	5.12
WOLSTENHOLME FJORD	76	38 N	68	30 W	5.22
WORDIES BUGT	74	01 N	22	15 W	7.20
Y					
YDERO	60	41 N	47	04 W	1.33
YMERS O	73	10 N	24	30 W	7.13