

PUB. 146
SAILING DIRECTIONS
(ENROUTE)



NEWFOUNDLAND,
LABRADOR,
AND HUDSON BAY



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SEVENTEENTH EDITION

Preface

Pub.146, Sailing Directions (Enroute) Newfoundland, Labrador, and Hudson Bay, Seventeenth Edition, 2017, is issued for use in conjunction with Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas. Companion volumes are Pubs. 141, 142, 143, 145, 147, and 148.

Digital Nautical Charts 18 and 28 provide electronic chart coverage for the area covered by this publication.

This publication has been corrected to 25 February 2017, including Notice to Mariners No. 8 of 2017. Subsequent updates have corrected this publication to 3 October 2020, including Notice to Mariners No. 40 of 2020.

Explanatory Remarks

Sailing Directions are published by the National Geospatial-Intelligence Agency (NGA) under the authority of Department of Defense Directive 5105.60, dated 29 July 2009, and pursuant to the authority contained in U. S. Code Title 10, Chapter 22, Section 451 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 the initial letters of the 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).

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

1. Toll free: 1-800-362-6289
2. Commercial: 571-557-5455
3. DSN: 547-5455
4. DNC web site: <https://dnc.nga.mil>
5. Maritime Domain web site: <https://msi.nga.mil>
6. E-mail: navsafety@nga.mil

7. Mailing address: Maritime Safety Office
National Geospatial-Intelligence Agency
Mail Stop N64-SFH
7500 Geoint Drive
Springfield VA 22150-7500

New editions of Sailing Directions are corrected through the date of publication shown above. Important information to amend material in the publication is available is updated as needed and available as a downloadable corrected publication from the NGA Maritime Domain web site.

NGA Maritime Safety Office Web Site

<https://msi.nga.mil>

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 meridional 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.

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.

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 these web sites and expressly disclaims any liability for errors and omissions in the contents of these web sites.

International Ship and Port Facility Security (ISPS) Code.—The ISPS Code is a comprehensive set of measures to enhance the security of ships and port facilities developed in response to the perceived threats to ships and port facilities in the wake of the 9/11 attacks in the United States. Information on the ISPS Code can be found at the International Maritime

Organization web site:

International Maritime Organization Home Page

<http://www.imo.org>

Lights 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.

National Ocean Claims.—Information on national ocean claims and maritime boundary disputes, which have been compiled from the best available sources, is provided solely in the interest of the navigational safety of shipping and in no way constitutes legal recognition by the United States. These non-recognized claims and requirements may include, but are not limited to:

1. A requirement by a state for advance permission or notification for innocent passage of warships in the territorial sea.
2. Straight baseline, internal waters, or historic waters claims.
3. The establishment of a security zone, where a state claims to control activity beyond its territorial sea for security reasons unrelated to that state's police powers in its territory, including its territorial sea.

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

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

Telephone and Facsimile Numbers.—Within this publication, the international telephone and facsimile numbers provided as contact information contain the minimum digits necessary to dial. Please note that these contact numbers do not include additional digits or special characters, such as (0) or (+), which may be required when dialing. The necessity of such digits and characters depend upon numerous factors and conditions, such as the user's geolocation and service provider. Mariners are advised to consult their communications equipment and service provider manuals for guidance.

Time.—Time is normally expressed as local time unless specifically designated as Universal Coordinated Time (UTC).

Time Zone.—The Time Zone description(s), as well as information concerning the use of Daylight Savings Time, are included. The World Time Zone Chart is available on the Internet at the web site given below.

Standard Time Zone of the World Chart

https://www.cia.gov/library/publications/the-world-factbook/graphics/ref_maps/physical/pdf/standard_time_zones_of_the_world.pdf

U.S. Maritime Advisory System.—The U.S. Maritime Advisory System is a streamlined inter-agency approach to identifying and promulgating maritime security threats. The system replaces Special Warnings to Mariners (State

Department), MARAD Advisories (Maritime Administration), and Marine Safety Information Bulletins (U.S. Coast Guard) and consists of the following items:

1. U.S. Maritime Alert—Provides basic information (location, incident, type, date/time) on reported maritime security threats to U.S. maritime industry interests. U.S. Maritime alerts do not contain policy or recommendations for specific courses of information.
2. U.S. Maritime Advisory—Provides more detailed information, when appropriate, through a "whole-of-government" response to an identified maritime threat.

Maritime Administration (MARAD)—U.S. Maritime Advisory System

<https://www.marad.dot.gov/environment-and-safety/office-of-security/msci>

Winds.—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.
- Japanese 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 Site, as follows:
 1. Bonavista Home Page, Town of
<http://www.bonavista.net>
 2. Canadian Government Information on the Internet—Newfoundland and Labrador Municipal Information
<http://igci.gc.ca/m-NF-e.html>
 3. Canadian Lighthouses and Links
<http://www.geocities.com/Heartland/Ranch/7165/lighthouses.html>
 4. Geological Survey of Canada-Terrain Sciences
<http://sts.gsc.nrcan.gc.ca/landf.htm>
 5. Happy Valley-Goose Bay, Labrador Home Page
<http://www.happyvalley-goosebay.com>
 6. Historic Lighthouses of Newfoundland
<http://www.ucs.mun.ca/~dmolloy/lighthouse.html>
 7. Jens Haven Memorial School
<http://www.k12.nf.ca/jenshaven/jhms-ind.html>
 8. Listings Newfoundland—Avalon Region Photo Gallery
<http://listingsca.com/Newfoundland/Avalon-Region>
 9. Newfoundland 1997/00—Photos by Tony
<http://www.wright-photo.com/newfound.htm>
(E-mail: tony@wright-photo.com)
 10. Newfoundland and Labrador Travel and Tourism

- <http://www.wordplay.com>
11. Newfoundland Interactive
<http://www.nfinteractive.org>
 12. Newfoundland Lighthouses
<http://www.lorneslights.com/NF/index.html>
 13. OmniTRAX, Inc.
<http://www.omnitrax.com/port-fac.shtm>
 14. Photos Saint-Pierre and Miquelon
<http://clmarciniak.free.fr/photo/index-e.htm>
 15. Places in Newfoundland and Labrador, Canada
<http://www.mun.ca/library/cns/comm.html>
 16. Rongevaer's Atlantic Crossing (Photos—Halifax to St. John's)
<http://sextonsoftware.com/Rongerrvaer/Rongerrvaer.htm>
 17. Southeastern Aurora Development Corporation
<http://jig.entnet.nf.ca/aurora>
 18. St. Anthony, Newfoundland Home Page
<http://stanthony.hypermart.net>
 19. St. John's Port Authority
<http://www.sjpa.com/english.htm>
 20. Transport Canada—Harbors & Ports (Atlantic Region)
<http://www.tc.gc.ca/atl/marine/divestiture.menu.htm>
 21. Unofficial Newfoundland Links Page, The
<http://web.cs.mun.ca/~dylan>
 22. Welcome to Bell Island
<http://bellisland.net>

Date of Change: 3 October 2020	
Notice to Mariners: 40/2020	
Sector	Paragraphs
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Sector 4	Paragraphs 4.12, 4.17, 4.34, and 4.52
Sector 5	Paragraphs 5.11 and 5.14
Sector 6	Paragraphs 6.2, 6.3, 6.14, 6.19, 6.47, and 6.50
Sector 7	Paragraphs 7.1, 7.9, 7.10, 7.16, 7.47, and 7.78
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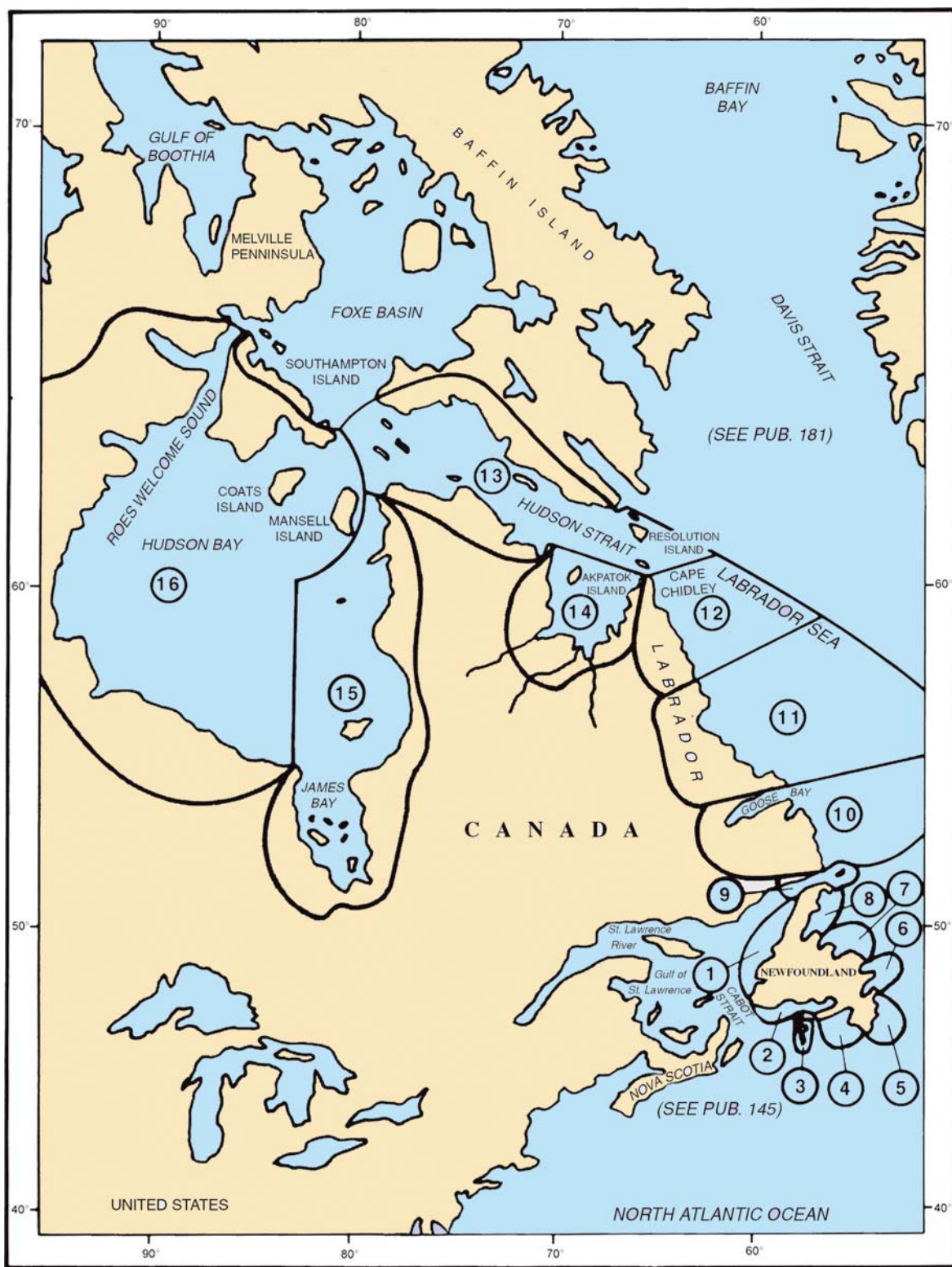
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Notice to Mariners: 48/2018	
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Notice to Mariners: 12/2018	
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Sector 3	Paragraph 3.5
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Sector 7	Paragraphs 7.39, 7.50, 7.78, 7.81, and 7.90
Sector 8	Paragraphs 8.17, 8.28, and 8.46
Sector 9	Paragraph 9.11
Sector 10	Paragraphs 10.1, 10.9, 10.25, 10.96, and 10.149
Sector 12	Paragraphs 12.1, 12.6, and 12.9
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Sector 15	Paragraphs 15.11, 15.12, 15.20, 15.40, 15.54, 15.64, and 15.67
Sector 16	Paragraphs 16.7, 16.9, and 16.52



SECTOR LIMITS—PUB. 146

Conversion Tables

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

Abbreviations

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)
gt	gross 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	VLOC	Very Large Ore Carrier
Lo-lo	Lift-on Lift-off	FSO	Floating Storage and Offloading
NGL	Natural Gas Liquids	FSU	Floating Storage Unit
		FPSO	Floating Production Storage and Offloading

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	SBM	Single Buoy Mooring
NAVSAT	Navigation Satellite	SPM	Single Point Mooring
ODAS	Ocean Data Acquisition System	TSS	Traffic Separation Scheme
CBM	Conventional Buoy Mooring System	VTC	Vessel Traffic Center
MBM	Multi-Buoy Mooring System	VTS	Vessel Traffic Service

The following abbreviations may be used in the text:

CALM Catenary Anchor Leg Mooring

Miscellaneous

AIS	Automatic Identification System	MMSI	Maritime Mobile Service Identity Code
COLREGS	Collision Regulations	No./Nos.	Number/Numbers
IALA	International Association of Lighthouse Authorities	PA	Position approximate
IHO	International Hydrographic Organization	PD	Position doubtful
IMO	International Maritime Organization	Pub.	Publication
		SOLAS	International Convention for Safety of Life at Sea
IMDG	International Maritime Dangerous Goods Code		
LOA	length overall	St./Ste.	Saint/Sainte
UKC	Under keel clearance	ISPS	International Ship and Port facility Security

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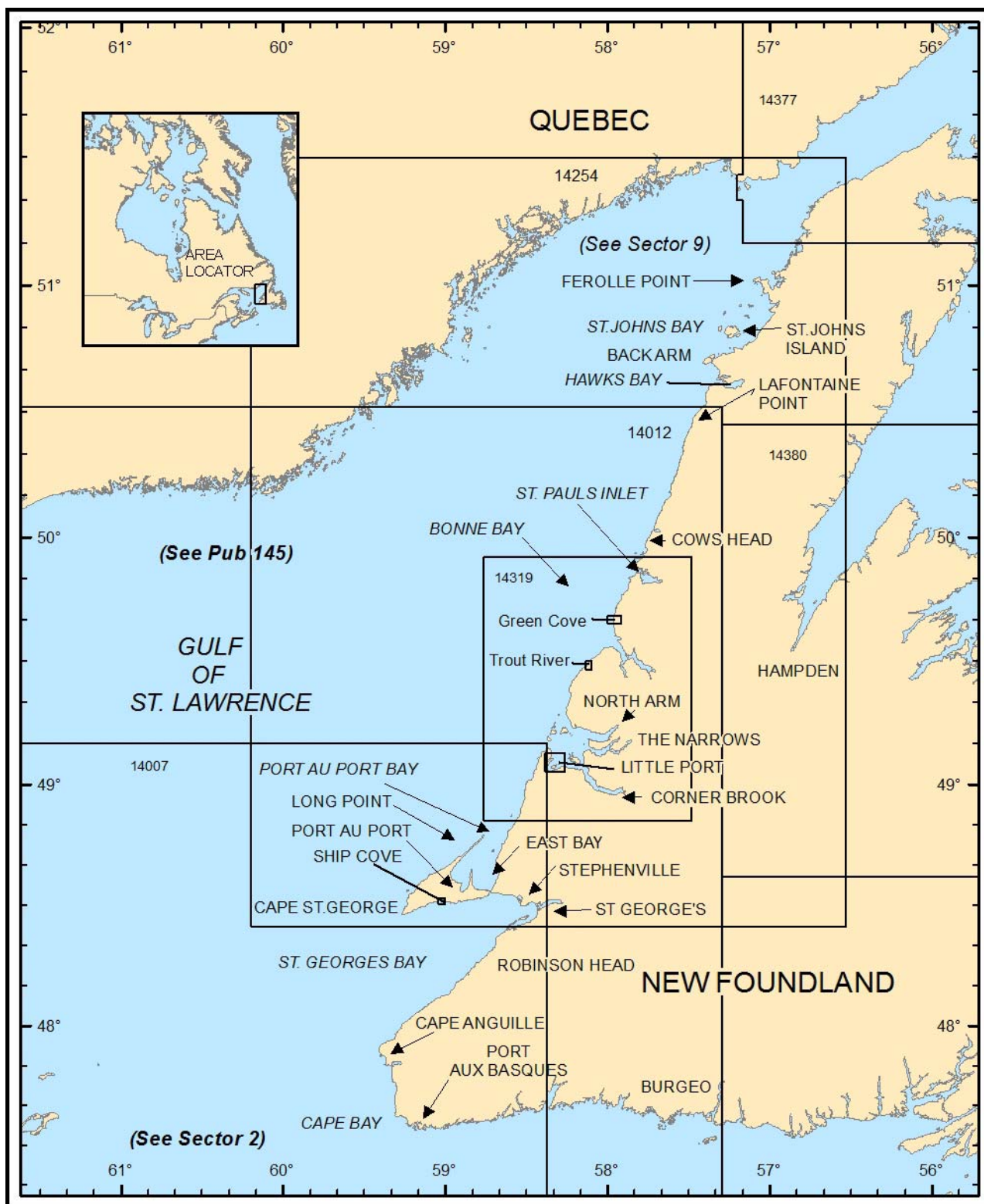
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Additional chart coverage may be found in NGA/DLIS Catalog of Maps, Charts, and Related Products (Unlimited Distribution).

SECTOR 1 — CHART INFORMATION

SECTOR 1

NEWFOUNDLAND—WEST COAST—FLOWER'S ISLAND TO CAPE RAY

Plan.—This sector describes the coast from Flower's Island (51°18'N., 56°45'W.), at the W entrance of the Strait of Belle Isle, to Cape Ray, the SW extremity of Newfoundland.

General Remarks

1.1 Winds—Weather.—Winds on the coast of Newfoundland are affected by the topography and tend to be strongest in and out of inlets and harbors.

From November to January, the average wind velocity at St. George's is 18 knots; in summer the velocity falls to about 13 knots. Winds average strongest throughout the year at approximately 1500. In winter the winds average lightest from 0300 to 0400, and in summer are lightest at about 0600. From October to February, gales blow an average of 4 days a month.

The annual precipitation at St. George's is 90mm, and at Point Riche it is 130mm. From December to March, most of the precipitation falls as snow. Snow also falls on several days in November and April, and on 1 or 2 days in October and May. The snow usually occurs in the cold NE winds of depressions; it may also occur with W to NW winds, at times with blizzard-like intensity.

The average number of foggy days at St. George's is 25. June and July have an average of 5 foggy days each; the average from October to January is 1 day each month. Point Riche averages 13 days a year with fog.

Ice.—The extent to which the W coast of Newfoundland is affected by Arctic drift ice which passes through the Strait of Belle Isle in January is at present unknown. River ice, gulf ice, and Arctic drift ice are mixed together to form the covering of the Gulf of St. Lawrence, but the proportions are indeterminate. The last section of the gulf to close and the first to open is the coast from Cape Ray N to the Bay of Islands. Northwest winds close the ice on this coast while SW winds open a lane of water inshore. The ice usually clears the first half of May, but may remain much later.

A portion of the ice setting E through the Gulf of St. Lawrence appears to split on Cape St. George, the main body passing into St. George's Bay and toward Cabot Strait, and the remainder generally setting NE, especially in March and April. The ice setting toward Cabot Strait sometimes causes a block between Cape Ray and Cape North, on Cape Breton Island, about 56 miles SW.

A Canadian icebreaker operates in the Gulf of St. Lawrence during the ice season.

The coast from the Bay of Islands to Cape Ray is the last area in the Gulf of St. Lawrence to fill with ice, and the first to open.

In Canadian waters, the Canadian Coast Guard publication *Ice Navigation in Canadian Waters* should be consulted.

Tides—Currents.—On the W coast of Newfoundland, the ebb current generally sets NE and the flood current SE. The current is scarcely appreciable from Cape St. George to the Bay of Islands, but then to Point Riche it may be considered constant, with a velocity of about 1 knot. It is stronger nearer the land and, in the vicinity of bays and inlets, is deflected by the inset and outset of the tidal currents. It is of greater than usual force before a SW wind begins, but a strong NE wind causes it to slacken and even turn SW.

In the area W from the Strait of Belle Isle to a line drawn S from the Eskimo Islands, Quebec to Point Riche, the currents are variable and uncertain, being intermediate between the above current and the tidal currents of the strait. In the W part of this area, the velocity is usually less than 1 knot, and rarely more than 1.5 knots, but toward the entrance of the strait it increases. A current sometimes sets strongly onshore about Flower's Cove from the vicinity of Greenly Island to the NE.

A NE current of 1 knot usually runs between Point Riche and the Bay of Islands, about 100 miles SSW. This current is influenced by tidal currents which are NE on the rising tide and SW on the falling tide. The current is stronger than usual before a SW wind begins. In strong NE winds the current slackens and sometimes reverses. The current is stronger near the land than farther out, and in the vicinity of bays and inlets is deflected by the inset and outset of the tidal currents.

Aspect.—From the entrance of the Strait of Belle Isle to Bonne Bay, about 110 miles SSW, the coast is dominated by the Long Range Mountains. This continuous range rises steeply from the coastal plain to the highest elevations in Newfoundland. Gros Morne, 808m high, one of the highest elevations of the range and of Newfoundland, overlooks Bonne Bay.

The coastal plain at the base of the mountains rises gradually from the sea in elevations seldom exceeding 91m. The plain is crossed by numerous streams which flow in wide shallow valleys and spread into broad lakes. Many of the lakes reach the sea.

The W coast between Bonne Bay and St. George's Bay, about 35 miles SSW, is deeply dissected and characterized by a series of isolated uplands separated by deep fjords and valleys. Bonne Bay and the Bay of Islands are typical fjords penetrating far inland and enclosed by steep to, sheer cliffs which rise nearly 305m. Corner Brook, one of the largest ports in Newfoundland, is situated in the Bay of Islands.

Mountains of the area between Bonne Bay and the Bay of Islands include Mt. St. Gregory, 683m high, on the N side of the Bay of Islands; Blow Me Down, 645m high, on the S side of the Bay of Islands; Lewis Hills, rising to 815m between the Bay of Islands and Port au Port Bay; and Table Mountain, 299m high, at the head of Port au Port Bay. These mountains are notable for their steeply rising sides and level to gently rolling upper surfaces.

Ice Navigation in Canadian Waters

http://www.ccg-gcc.gc.ca/Ice_home/IcePublications/Ice-Navigation-in-Canadian-waters

The Southern Long Range Mountains extend NE from near Cape Ray toward the central part of Newfoundland. The abruptly rising Table Mountain, 518m high, is the SW termination of this range. The Anguille Mountains, which rise to 536m on the S side of St. George's Bay, are separated from the Southern Long Range Mountains by the wide valley of the Great Codroy River.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

Regulations.—In Canada, it is permissible for private interests to provide aids to navigation for their own use. The requirements for the color and shape of private buoys, as well as their placement and use, are the same as those for buoys provided by the Canadian Coast Guard.

Vessels of 500 gt or more are required to contact the Canadian Coast Guard Traffic Center at St. John's via radiotelephone for information regarding navigation in the waters off Newfoundland and Labrador.

Flower's Island to St. John Bay

1.2 Flower's Island (51°18'N., 56°45'W.) has a conspicuous disused lighthouse standing on it.

The **New Ferolle Peninsula** (51°01'N., 57°06'W.), partially wooded, rises near its center to a ridge, 24m high, on which there is a cairn.



New Ferolle Light

The Highlands of St. John rise behind the SE shore of **St. John Bay** (50°52'N., 57°08'W.). In this range, North Summit rises to 492m and South Summit rises to 483m; both peaks are conspicuous and are surmounted by cairns.

Gros Morne (49°36'N., 57°47'W.) is a notable peak rising to a height of 808m.

Two conspicuous hills rise directly on the coast. Of these, Parsons Pond Hill, 143m high, rises in position 49°59'N, 57°44'W. Berry Hill, wooded and dome-shaped, rises to a height of 145m in position 49°37'N, 57°56'W.

A conspicuous cliff, 305m high, lies about 1 mile NNE of **Cape Saint Gregory** (49°24'N., 58°15'W.); the cliff terminates in a series of white rocky hills.



Gros Morne

1.3 Mount St. Gregory (49°19'N., 58°12'W.), the highest coastal elevation between Bonne Bay and the Bay of Islands, rises to 686m about 2 miles ENE of **North Head** (49°19'N., 58°16'W.); from the W, the mountain appears as three distinct peaks, but from S it shows as a single, sharp peak.

Round Head (48°38'N., 59°03'W.), which from the NW appears as a smooth dome noticeably higher than the land N or S, is the culmination of the land which rises gradually from Long Point.

Conspicuous on the mainland stretch of coast are **Mount Virgin** (49°05'N., 58°24'W.), an isolated pillar, and **Bear Head** (49°01'N., 58°30'W.), which from the S appears as a crouching animal.

Table Mountain (48°33'N., 58°43'W.), at the head of Port au Port Bay, appears as the end of the high land to the N when viewed from sea, SE across the Port au Port Peninsula.

The most prominent feature between Cape St. George and Cape Ray is **St. George's Bay** (48°21'N., 58°40'W.).

Navigation off the W coast of Newfoundland is unimpeded by offshore islands or shoals.

Caution.—Vessels approaching the steep-to islands that lie across the entrance of the **Bay of Islands** (49°13'N., 58°10'W.) from the W should use caution.

1.4 Flower's Ledges (51°18'N., 56°45'W.), parts of which dry up to 1.5m, extend about 0.5 mile NW and about 0.7 mile W from Flower's Island. Tidal currents set strongly over the ledges. Pillot Bank, with a depth of 10.1m, is located about 1.8 miles WSW of Nameless Point.

Flower's Ledges can be avoided by keeping the houses on the W side of **Bear Cove** (51°16'N., 56°46'W.) open W of the Seal Islands and having them bear 177°. This leads W of Flower's Ledges.

Flower's Cove is entered between **Capstan Point** (51°18'N., 56°45'W.) and a point about 0.5 mile S, extends 0.7 mile NW to its head. Rocky Island is a rocky islet situated close within the entrance to Flower's Cove. The island is connected to the N shore by a shallow bank. Flower's Cove Light shown on the island from a white square tower at an elevation of 5.5m. The light is at the island's center. The light has been inactive since

1970 and is in deteriorating condition.

The village of Flower's Cove is situated on the shores of the cove.

Depths—Limitations.—Flower's Cove has charted depths of 1.9 to 5.1m.

Aspect.—The white building and spire of the church which stands about 0.3 mile E of Capstan Point are conspicuous.

A pair of lights in range are shown from the SE shore of Flower's Cove; this range leads into the cove in a least depth of 4m.

Anchorage.—Anchorage for small vessels is available, in a depth of 5.2m, at approximately 0.2 mile W to WSW of Rocky Island Light.

Caution.—A rock, with a depth of 3m, lies about 0.7 mile N of the entrance range, in a position about 0.8 mile WNW of Capstan Point.

1.5 The Seal Islands is a group of four small islands and some rocks lying on the side of the approach to Flower's Cove. The W island is composed of white rock, the E and largest island is grass-covered and houses stand on it.

Seal Ledges, with two drying heads, borders the Seal Islands for about 0.5 mile on their N side to a distance of about 0.2 mile offshore. A reef, with depths of 6.9 to 8.7m, connects the E end of Seal Ledges with a shoal off Capstan Point.

Rocky Island (Harbor Rock) lies in the middle of Flower's Cove, close within the entrance. A shoal flat connects Rocky Island with the N side of the cove. Depths of 4.5m are found between Rocky Island and the cove's S entrance point.

Mariners are cautioned that cod traps are often moored in the entrance to Flower's Cove.

A conspicuous black cliff close S of **Bear Cove Point** (51°16'N., 56°46'W.) marks Deadman's Cove, where there is a settlement.

Anchorage.—Small vessels can anchor, in about 5.1m, mid-channel, with Harbor Rock bearing 242°, distant 0.2 mile.

1.6 St. Barbe Bay indents the coast between **Anchor Point** (51°14'N., 56°49'W.) and St. Barbe Point, about 1.7 miles SSE.

St. Barbe Harbor (51°12'N., 56°46'W.) is entered between Harbor Point and Stony Point, about 0.2 mile E. A pair of lights in line mark the entrance from Stony Point.

Ice.—St. Barbe Bay freezes late in November or during December. The ice breaks up about the middle of May. Vessels entering or leaving St. Barbe during the ice season should be aware that wind and tidal currents can combine to cause sudden and dramatic changes in ice pressure at the entrance to the bay. Ships have become beset here. Caution is recommended.

Tides—Currents.—Spring tides rise 1.2m; neap tides rise 0.9m.

Tidal currents continue to run in the harbor fairway until 1 hour after HW and LW by the shore.

Depths—Limitations.—St. Barbe Bay has general depths of 10.9 to 18.3m, but its N part is shoal in several places. General depths in the outer part of St. Barbe Harbor are 5.5 to 9.1m.

St. Barbe Harbor has one public wharf with a length of 90m. The wharf's N side has alongside depths of 4.3 to 6.7m; the S side has alongside depths of 5.2 to 6.7m. A ramp at the inner

end of the S side serves a car ferry berths. Close S of the ferry terminal is a small private wharf.

Anchor Point, the N entrance point of the bay, has Anchor Ledge, parts of which dry, extending about 0.4 mile SW from it.

Ice Point, 0.8 mile SE of Anchor Point, is fronted by shoals extending as far as 0.3 mile offshore.

Winter Flat, a rocky flat with a least depth of 3m, lies about 0.3 mile SE of Ice Point. Two 3.6m shoal heads lie about 0.2 mile E and SE, respectively, of the flat, and an 8.7m patch lies about 0.3 mile W of it.

Anchor Cove, located close E of Anchor Point, is a small cove. The passage into the cove is 30m wide. There is a public wharf, 24m long, with depths of 5.8 to 6.1m at the outer end, on the N shore of Anchor Cove.

Winter Cove, about 1 mile ESE of Ice Point, is completely open; reefs encumber its entrance. Rocks and shoals extend as far as 0.3 mile offshore between Winter Cove and Stony Point, about 0.8 mile S.

Shoals extend about 0.5 mile WNW from Harbor Point, the W entrance point of St. Barbe Harbor.

The shores of St. Barbe Harbor are bordered by shoal flats.

Aspect.—The white houses on the shore of Anchor Cove, directly E of Anchor Point, are a good mark for the area, which is very low and largely wooded.

The W side of St. Barbe Harbor is indented by Traitant Cove, which is shoal..

Anchorage.—Anchorage can be taken, in 7.8m, mud. The anchorage is rather confined, but the holding ground is good.

Directions.—Vessels steer to pass in depths of not less than 11m between Winter Flat and the shoals extending WNW from Harbor Point. Follow the range lights on Stony Point and then steer in mid-channel into the harbor and the anchorage.

Caution.—Foul ground extends from the N shore of St. Barbe Bay to a distance of 0.4 mile in places.

St. Barbe Point must be given a berth of at least 0.2 mile. Ferries transit the Strait of Belle Isle to and from St. Barbe and Blanc Sablon, Quebec daily.

1.7 Pound Point (51°11'N., 56°49'W.) is located 1.5 miles SSW of St. Barbe Point.

Current Island, 32m high, lies about 0.3 mile SW of Pound Point. A piled-stone beacon, surmounted by a pole, stands near the SW end of the island.

Sainte Genevieve Bay is entered between Current Island and Cape Saint Genevieve, about 2.5 miles SSW. The bay is encumbered with many rocks and shoals, however, it affords anchorage to small craft. The channels are intricate and narrow; local knowledge is necessary.

Ice.—Sainte Genevieve Bay freezes late in November, or during December, and the ice breaks up in the middle of May.

Tides—Currents.—The mean HW interval at Sainte Genevieve Bay is 10 hours 33 minutes; spring tides rise 1.2m.

Depths—Limitations.—South Pass has a least depth of 5.5m in the fairway. There are depths of 1.8 to 5.5m in Middle Pass, about midway between Current Island and Gooseberry Island, about 0.5 mile S. Middle Pass is suitable for vessels drawing not more than 4m.

Aspect.—The E side of Sainte Genevieve Bay is low and wooded; it has no distinguishing features.

Anchorage.—Vessels loading pulpwood anchor in Sainte Genevieve Bay, gravel, good holding ground, laying out stern moorings to piers ashore.

1.8 Seal Point (51°07'N., 56°53'W.) lies about 0.8 mile SW of Cape Sainte Genevieve. Grelee Point is about 0.8 mile S of Seal Point.

Caution.—Gooseberry Island, 26m high, lies 0.5 mile S of Current Island and is covered with grass. Foul ground extends 0.25 mile W of the N end of Gooseberry Island, and a detached 3.6m patch lies 0.25 mile farther W. A 3.6m shoal lies about 0.8 mile W of Gooseberry's S islet, with a 5.5m patch about midway between. Porpoise Rock, awash at LW, lies on a 0.9 to 3.6m reef which extends S from the same islet. Reefs front the entire E side of Gooseberry Island; detached shoals lie E of the reefs.

1.9 Entry Islet, 2.4m high, lies about 0.7 mile S of Gooseberry Island, on a drying ledge and shoal which extend 275m N from the islet and 820m W from it. Entry Islet, composed of shingle topped with a sparse vegetation, is difficult to identify. A detached 3.6m patch lies nearly 1 mile WNW of Entry Islet; patches 1.8 to 5.5m lie nearly 0.5 mile NE and SE of the islet.

Southwest Point (51°08'N., 56°50'W.), the N extremity of a 1 mile long narrow projection of the S shore of Sainte Genevieve Bay, lies 0.35 mile S of Entry Islet, connected to it by drying ledges.

Cape Islet, nearly 1 mile WSW of Southwest Point and about 0.4 mile NE, is 2.7m high. The islet consists of flat rocks, coarse grass, and debris. Shoal patches of 5.5m or less lie within 0.35 mile N of Cape Islet.

Pond Cove, between Southwest Point and Cape Islet, is encumbered with shoals and completely open.

Cape Sainte Genevieve, the S entrance point of Sainte Genevieve Bay, should be given a berth of at least 0.5 mile. A shoal, with a depth of 0.9m, was reported (1988) to lie 1.2 miles N of the cape.

Middle Pass and South Pass, the deeper channels leading into the bay, are narrow and intricate and should not be attempted without local knowledge.

1.10 Old Ferolle Harbor (51°05'N., 56°53'W.) lies between Grelee Point and Grave Point, nearly 3 miles SSW. It is fronted by several islands and rocks. The coast is densely wooded. The islands and headlands are in general bare, but difficult to distinguish.

Tides—Currents.—The HW interval at full and change in Old Ferolle Harbor is 9 hours 46 minutes; spring tides rise 1.5m.

Depths—Limitations.—Northern Pass is 275m wide and 3.6 to 5.1m deep in the fairway. At the S end of the passage, 1 mile S of Grelee Point, there is a bar which divides the harbor into two parts. Small vessels can cross the W side of the bar with local knowledge. Southern Pass has charted depths of 9.1 to 10.9m in the fairway, which is indicated by a lighted range. Old Ferolle Harbor has depths of 7.3 to 18.3m.

Caution.—Drying reefs and shoal flats, on which lie several rocky islets, extend in places nearly 0.5 mile N and NW from the NW half of Old Ferolle Island, connecting its N end with Fish Islet, 0.25 mile farther N. Drying reefs and shoals also ex-

tend as far as 275m NW and 0.3 mile SSW from the SW end of Old Ferolle Island, connecting that end with Entrance Island about 228m farther S.

A 5.5m shoal lies offshore about 1.3 miles W of the beacon on Entrance Island, and another 5.5m patch lies 1 mile WSW of the beacon.

A detached 5.5m patch lies in the entrance of Northern Pass, about 0.3 mile SSW of Grelee Point.

A well-defined shoal flat extends a few meters E from the E extremity of Fish Islet.

Shoals extend 0.1 mile SW from Entrance Island; a drying reef extends 0.1 mile ENE from the same island.

A 5.5m patch lies close N of the fairway of Southern Pass, and a 4.5m patch lies close S of the fairway. Additional shoals extend SW to Grave Point from the 4.5m patch.

A shoal borders the W side of Old Ferolle Harbor to a distance of about 150m offshore in places; the E side of the harbor is similarly bordered to a distance of 0.1 mile offshore in place, as far S as the **Debon Peninsula** (51°04'N., 56°54'W.).

Northern Pass is suitable for small vessels only. It is reported that vessels have experienced a local magnetic anomaly in this area.

1.11 Brig Bay (51°04'N., 56°54'W.), at the S end of Old Ferolle Harbor, is entered between Grave Point and Front Point, about 0.5 mile E.

Aspect.—Woody Hill, 0.65 mile SW of Grave Point, is the highest elevation in the coastal hills. A bare patch on its NW face helps identify it from seaward.

Mount St. Margaret, about 4 miles SE of Woody Hill, is also conspicuous.

Northwest of Woody Hill, the coast is densely wooded, and the islands and headlands are bare and difficult to distinguish. The numerous fishing houses are whitewashed and very conspicuous.

Old Ferolle Island, 23m high, is fairly even in outline, and is covered with flat stones, grass, and moss. There are a few dead trees on its higher parts and its NW side is bare.

Fish Islet (51°06'N., 56°53'W.) is 6.4m high and grass-covered. A few houses stand on its E part.

Range lights stand on the SE side of Old Ferolle Harbor, about 0.5 mile ESE of Entrance Island. The lights lead through Southern Pass in a least depth of 9.1m.

Three range beacons stand close SW of Grave Point. The beacons lead through Old Ferolle Harbor. These beacons should not be depended upon. A flag-staff stands close SE of the center range beacon.

A beacon stands on Entrance Island. There is also a beacon on the S extremity of Old Ferolle Island. The beacons lead into Brig Bay.

Depths—Limitations.—An L-shaped public wharf, 27m in length with an alongside depth of 4.3m, is located on the W shore of Brig Bay. A private wharf in the bay has a length of 22m and alongside depths of 5.2m alongside.

Between Grave Point and Dog Peninsula Point, about 3.3 miles WSW, the coast is low and difficult to identify.

Anchorage.—Vessels anchor in the S part of Old Ferolle Harbor, in 10.9 to 16.4m, with the Debon Peninsula bearing 122°. Anchorage farther NE, in about 12.8m, may be had with the mouth of the outlet of Grand Pond bearing 077°.

Anchorage may be taken by small vessels in the N extension of Old Ferolle Harbor, in 9.1 to 10.9m, mud.

Vessels can anchor in Brig Bay, in 11m, mud, good holding ground; the bay is entered between Grave Point and Front Point, about 0.4 mile ENE.

1.12 The Dog Peninsula (51°03'N., 56°59'W.) is faced with cliffs in contrast with the dark wooded hills inland. A conspicuous beacon stands 320m NE of Dog Peninsula Point.

Saint Margaret Bay is entered between Dog Peninsula Point and Black Point, about 1.6 miles SW.

Ice.—Saint Margaret Bay freezes late in November or in mid-December. The ice breaks up around mid-May.

Depths—Limitations.—There are depths of 14.6 to 18.3m in the W half of Saint Margaret Bay where Fisherman Cove, on the S side of the Dog Peninsula, and South Cove, in the S part of the bay, afford anchorage.

1.13 Saint Margaret Bay—North side.—Fisherman Cove, entered between the Dog Peninsula and a point a little more than 1 mile SE, has depths of 9.1 to 18.3m in its outer part. The cove shoals quickly to its head where drying ledges border the shore. Sheltered anchorage, in 14.6 to 18.3m, sand and gravel, can be taken in the cove, but during NW winds a heavy swell develops.

1.14 Saint Margaret Bay—South side.—South Cove, entered between Rock Point and Black Point, about 1.4 miles W, has general depths of less than 7.3m. A rocky shoal, with a depth of 4.5m, lies in the middle of the cove, about 0.4 mile within the entrance points. Eastward of this shoal is a channel about 182m wide and 7.9m deep. Small vessels entering South Cove should use this channel and anchor, in 7.3m, near the head of the cove. Larger vessels can anchor off the entrance of South Cove, in 12.8 to 14.6m, mud. This anchorage should be avoided in strong NW to N winds when much swell is produced.

Black Point, the SW entrance point of Saint Margaret Bay, lies about 0.7 mile NW of Entrance Point. Black Point is low, bare, and rocky, and is backed by a flat thickly-wooded ridge.

An offshore rocky shoal, with a least depth of 4.5m, lies about 0.5 mile ENE of Entrance Point; several shoal patches, with depths of 8.2 to 9.1m, lie within 0.75 mile E and 0.25 mile SE of the 4.5m depth.

Directions.—New Ferolle Point (51°02'N., 56°57'W.), open N of Black Point and bearing 284°, leads about 200m N of the 4.5m depth, and close to or over some of the 8.2 to 9.1m shoal patches.

1.15 New Ferolle Cove (51°01'N., 57°04'W.) affords anchorage, in a depth of 5.5m, near its head. The anchorage is somewhat protected by a 4.5m shoal in the entrance of the cove. Houses, conspicuous from the NE, stand on the shores of the cove.

New Ferolle Point is the NE extremity of the New Ferolle Peninsula, an anvil-shaped projection of the mainland. The peninsula is partially wooded and rises near its center to a 24m high ridge, surmounted by a cairn. New Ferolle Peninsula Light is shown from a white tower approximately 0.4 mile NE of Ferolle Point.

Jehenne Banks (51°03'N., 57°04'W.) is a rocky patch with a depth of 5m. The tidal currents set strongly over the banks.

St. John Bay

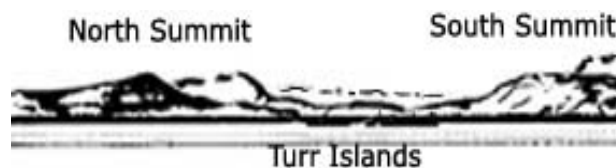
1.16 St. John Bay is entered between Ferolle Point (51°01'N., 57°06'W.) and Barbace Point, about 20 miles SW.

Ice.—St. John Bay fills with northern ice and freezes in December or January. The ice breaks up in May. During severe winters, the ice extends from Ferolle Point to Point Riche (50°42'N., 57°25'W.).

Depths—Limitations.—North of Saint John Island, the general depths in St. John Bay are 18 to 37m. South of the island, the general depths are 18 to 73m. Throughout the bay there are scattered shoal heads of 3.3 to 9.1m.

St. John Bay—North Part

1.17 The Twin Islands (50°54'N., 57°17'W.) are two low flat grass-covered islets. A few fishermen's huts stand on the N islet.



The Twin Islands from NW from near Garbett Shoal

Garbett Shoal lies about 1.5 miles E of the Twin Islands. This shoal has a least depth of 5.1m, while Rupert Jones Shoal, about 1.2 miles NE of the Twin Islands, has a least depth of 7.9m.

James Island, about 6.25 miles SSW of Ferolle Point, is table-topped, rocky, and grass-covered.

The Fox Islands, the NE islands in St. John Bay, are two flat grass-covered islands. Breton Reef, parts of which uncover, extends about 1 mile SW of Fox Islands.

Old Boy Shoals lie about 1.3 miles SSW of Ferolle Point, with depths of 7.3m. Gibson Shoal, farther SSW, depth 7m.

The Whale Islands are several low flat grassy islands lying between 2 and 2.75 miles S of the Fox Islands. Dolmen Island, the westernmost of the Whale Islands, has a conspicuous cliff, 6.1m high, at its E end.

Maldigues Bay, foul, lies between Ferolle Point and Long Point, about 3.5 miles SE. The shores of Maldigues Bay are low and bordered by limestone ledges as far as 1.5 miles off its N shore. During strong E winds, anchorage, in 10.9 to 14.6m, stones, can be obtained S of the limestone ledges. When approaching the anchorage, care must be taken to avoid Old Boy Shoals.

Castors Harbor, a shallow inlet with a depth of less than 7.3m, is entered between Yellow Point and Castor Point, about 1.5 miles S. Banks and shoals extend off either side of the harbor, making the channel intricate and dangerous. Only small vessels with local knowledge can find shelter here.

The Bar, a rock which dries 0.3m, lies in the middle of the harbor and is scarcely visible except at LW, when there is no

difficulty in rounding its S end.

Hinman Shoal (50°54'N., 57°03'W.) has a least depth of 8.2m.

Cap Testu Bank, with a least depth of 7.3m, lies 1 mile SSW of Hinman Shoal.

St. John Bay—South Part

1.18 Turret Point (50°50'N., 57°13'W.), the N extremity of St. John Island, is distinguished by a circular mound on the coast nearby. Foul ground extends nearly 2 miles E from Turret Point, terminating in Reculoux Shoal, a 4.5m patch.

Turret Bay, in the middle of the N side of Saint John Island, is entered between Turret Point and a 5.5m high islet lying about 0.8 mile W. Turret Bay affords good shelter for small vessels with local knowledge. Temporary anchorage, in 21.9m, can be obtained off the entrance of the bay.

The Menhir is a conspicuous rock, 3.6m high, standing on the W extremity of St. John Island. The W side of St. John Island should be given a berth of at least 0.3 mile.

1.19 St. John Harbor (50°48'N., 57°15'W.) indents the SW side of St. John Island between Pigasses Point and Photograph Point, about 0.5 mile SE.

Tides—Currents.—Tidal currents are inappreciable in St. John Harbor.

Depths—Limitations.—Depths in St. John Harbor decrease gradually from over 37m in the entrance to 9.1m and 10.9m at the head, about 1.3 miles E.

Anchorage.—Temporary anchorage for small vessels can be obtained in Sesostris Bay, 0.25 mile E of The Fox, in 16.4 to 24m, sand and mud.

Small vessels can anchor in The Haven, in 9.1m, mud. Vessels over 30m in length are recommended to haul into The Haven. The holding ground and shelter is good; in heavy W gales the swell rolls in.

Temporary anchorage for small vessels can be obtained in Sesostris Bay 0.25 mile E of The Fox, in 16 to 24m, sand and mud. Small vessels can anchor in The Haven, in 9.1m, mud. The holding ground and shelter is good. During heavy W gales, a swell rolls into The Haven.

Caution.—O'Rourke Shoal, with a least depth of 9.1m, lies about 1.5 miles WSW of Photograph Point.

Seal Rocks, 2.1m high, lie on the SE side of a reef which extends more than 0.35 mile WSW from a position about 0.8 mile SW of Photograph Point.

Coombe Rock, a 5.5m rocky patch, lies about 1 mile S of Seal Rocks.

Coral Bank, on which there is a least depth of 10m, lies on the S side of the entrance of St. John Harbor.

Rocks and shoals extend about 182m W and SW from Photograph Point.

Close within Photograph Point, the S side of St. John Harbor is bordered by a shoal 45m offshore.

The Fox, a rock awash, lies on a flat, about 45m offshore, in a position about 0.8 mile E by S of Pigasses Point.

The N side of the harbor is bordered by shoal flats extending a short distance offshore.

About 0.3 mile E of Pigasses Point, however, the flats extend 230m offshore.

1.20 Good Bay (50°49'N., 57°13'W.), situated on the SE side of St. John Island, is fronted by Round Head Island and affords sheltered anchorage with good holding ground. The bay is entered from the NE or the S.

Tides—Currents.—The MHW interval is 10 hours 30 minutes; spring tides rise 2.2m and neap tides rise 1.6m.

Tidal currents are slight and quickly influenced by strong winds.

1.21 Islands and dangers in the SW approach to Good Bay.—Square Rock, about 6.1m high, lies about 0.8 mile ESE of Photograph Point, about 275m offshore. The passage between Square Rock and St. John Island is deep. Depths of less than 9.1m extend about 0.3 mile E and W, and about 235m S, from Square Rock.

Evangeline Rock, a 3m shoal head, lies about 0.6 mile S of Square Rock.

Horn Island (50°48'N., 57°15'W.), 7.6m high, lies about 0.6 mile NE of Square Rock and close offshore. Horn Spit, with a least depth of 1.8m, extends about 275m ENE from Horn Cap Island. Depths of less than 9.1m continue 0.25 mile NE and SE from the spit.

Cornish Patch, with a least depth of 10.9m, lies about 0.2 mile SE of Horn Island.

Shoal flats extend 230m SW and 0.35 mile S from Round Head Point on Round Head Island. Round Head Rock, with a depth of 0.9m, lies near the SE extremity of the S projecting flats. A shoal, with depths of 7.3 and 9.1m, lies centered about 0.5 mile ESE of Well Point. The shoal extends 0.75 mile in a NE-SW direction.



Round Head bearing 067°

1.22 Islands and dangers in the NE approach to Good Bay.—Hare Island lies with the SW extremity nearly 1 mile WNW of Flat Point. Shoals, on which there is a rock awash and a least depth of 1.8m, extend about 0.2 mile SW from the SW end of Hare Island.

Passage Shoals lie between the above shoals and the NE extremity of Round Head Island. There is a least depth of 1.5m on these shoals, but a deep passage lies on either side of them; the E passage is wider.

Bayot Shoal, with depths of 1.2 to 8.2m, lies centered 0.25 mile N of the N end of Hare Island. The shoal extends about 0.3 mile in a NE-SW direction.

Directions.—The beacons on Horn Island and Flat Point, lead between Bayot Shoal and Reculoux Shoal.

Black Point, lying about 2 miles SW of Barbace Point, open NW of Round Head, also leads between the above-mentioned shoals.

North Summit (50°47'N., 56°57'W.) of the Highlands of Saint John, in line bearing 091° with the middle of the western-



North Summit of the Highlands of St. John in range 091° with the middle of the westernmost Turr Island

most Turr Island (50°50'N., 57°07'W.), leads N of Bayot Shoal.

1.23 South side of Good Bay.—Round Head, a conspicuous hummock, rises to 30m in the S part of Round Head Island, about 0.4 mile NE of Round Head Point.

Falaise Shoal, with a least depth of 3.2m, lies close off the N side of Round Head Island, in a position about 0.4 mile S of the beacon on Flat Point.

Directions.—Horn Island (50°48'N., 57°15'W.), open a little off the foot of Round Head Hummock, leads NW of Falaise Shoal.

1.24 North side of Good Bay.—Well Point (50°48'N., 57°14'W.) is the N entrance point of Good Bay, at its W end. Two anchorage beacons stand on the point.

Well Bay, a small indentation of Good Bay, is entered close N of Wells Point and has depths in the middle of 9.1 to 10.9m. Two beacons stand on the shore about 0.5 mile NE of Well Bay.

Barred Bay indents the N side of Good Bay at its E end. Sheep Islet, 1.5m high and grassy, lies in the W part of Barred Bay. A drying reef extends 0.2 mile SE from Sheep Islet. The reef adjoins a shoal, which in turn is connected to Flat Point. Depths on the shoal are 0.9 to 3.2m.

Flat Point (50°49'N., 57°12'W.) is the N entrance point of Good Bay at its E end. A beacon stands on the point.

Anchorage.—Anchorage can be obtained, in about 27m, good holding ground, with the beacons 0.5 mile NE of Well Point in line bearing about 008°, and the beacons on Well Point in line about 253°. Vessels can also anchor to the NE, in depths of 35 to 46m. A large vessel should moor open hawse E.

St. John Bay—South Part (continued)

1.25 Heavy squalls sweep down from the Highlands of St. John (50°44'N., 57°01'W.) upon this section of coast.

The **Turr Islands** (50°50'N., 57°07'W.) are two rocky grass-covered islets lying about 3.5 miles NNE of Fish Point.

Bustard Cove (50°44'N., 57°14'W.) affords temporary anchorage in poor holding ground. The cove is open to the NW, and its E side is bordered by reefs and shoal water to 0.5 mile offshore.

1.26 Back Arm—East approach.—Savage Island, 14.9m high, lies a little more than 1 mile E of Barbace Point. Savage Island is grass covered; a few houses stand on its S part. Shoal flats, with depths of 9.1m or less, extend about 0.4 mile NE, and the same distance W, from the N end of the island. Sauvageon Rock, 0.3m high and composed of boulders, lies near the middle of the W projecting shoal in a position about 0.3

mile WSW of the N end of Savage Island. A narrow 6.1m channel, which leads to Old Port au Choix, passes about 90m off the SE side of Savage Island. The channel passes close NW of shoal flats, which extend nearly 0.5 mile from the mainland SE.

A continuous reef, with depths chiefly less than 5.5m, extends for 0.8 mile SW from the S end of Savage Island. Round Islet, grass-covered and 2.4m high, lies on the reef in a position about 0.3 mile SW of Savage Island. The channels leading to Old Port au Choix pass on the NW and SE sides of the reef.

Anchorage.—Anchorage, in 10.9 to 16.4m, can be obtained in a position about 0.3 mile SSE of the S end of Savage Island. The anchorage is sheltered from all but NE winds.

1.27 Back Arm—West approach.—Barbace Point (50°44'N., 57°21'W.) is the SW entrance point of St. John Bay. A shoal flat extends about 275m NW from Barbace Point. Fishing nets are usually set off Barbace Point and should be avoided.

Shoal Flats border the shore between Barbace Point and the W entrance point of Old Port au Choix to 135m in places. A bank, with irregular depths of 7.3 to 18.3m, extends about 0.5 mile NE from the central portion of this shore. The bank extends about 0.5 mile in a NW-SW direction.

Temporary anchorage can be obtained, in 20.1m, gravel, about midway between Savage Island and Barbace Point.

1.28 Back Arm (Old Port au Choix) (50°43'N., 57°21'W.) is entered between the point 0.8 mile SE of Barbace Point and an islet, 0.6 mile high, lying close offshore, 0.4 mile farther SE.

Local knowledge is essential for entering this harbor.

Ice.—Back Arm freezes about December 15; the ice breaks up about May 20. However, the arm has been blocked as late as June 9. Drift ice arrives about mid-January and leaves about May 15.

Depths—Limitations.—The channel between Querre Islet and Ardent Rock, about 68m wide, has a least depth of 8.2m in the fairway; the channel between Querre Islet and off-lying rocks and shoals of the mainland SE is about 115m wide and has a least depth of 7.9m in the fairway. The channel between the shoal flats off the NW side of the arm and the shoals bordering the SE shore is about 182m wide and has depths of 9.1 to 16.4m.

The harbor is primarily a fishing port. The Fisheries Marine Wharf has three parts with alongside depths of 3.4 to 4.9m. There is a public wharf at the S end of the harbor, close W of the marine complex, with an outer face having a length of 34m and a least depth alongside of 4m. At the SW side of the harbor there is another public wharf, 73m long, with a least depth of 4.4m alongside. The wharf of a fish plant adjacent to this public wharf is 55m long, with an alongside depth of 2.4m.

Querre Islet, about 0.8 mile SW of Savage Island, lies in middle of the entrance of Back Arm. Querre Islet is 6.1m high, and extends about 320m in a NE-SW direction.

Ardent Rock, 0.6m high, lies about 160m NW of the SW end of Querre Islet. Ardent Rock is connected to the Port au Choix Peninsula W by a shoal flat.

Ardent Tail, on which there are depths of less than 1.8m, extends about 0.1 mile NE from Ardent Rock. A lighted buoy is moored close E of Ardent Rock.

Shoal flats, parts of which dry, extend from 90 to 640m off the NW side of the arm. The SE side of these flats is nearly steep-to, and a red spar buoy is moored near this extremity.

Shoals border the SE shore of the harbor.

A lighted whistle buoy, equipped with a radar reflector, is moored about 0.8 mile NE of Barbace Point.

Range lights in line 224° are shown from the head of Back Arm. The passage between Querre Island and Ardent Rock is very narrow and extreme caution should be exercised when turning onto the range.

Port au Choix Light stands on the N end of Querre Island.

Anchorage.—Anchorage can be obtained, in 7m, 0.15 mile NE of the head of Back Arm.

1.29 The Pointe Riche Peninsula (50°42'N., 57°26'W.) is composed of terraced flat gray rocks. Several crosses are erected on its summits and slopes.

Point Riche is the W extremity of the Pointe Riche Peninsula. The point is marked by a light. Two radio towers are situated 0.5 mile inland of Pointe Riche Light.

Pointe Riche Rock, with a depth of 1.8m, lies about 0.4 mile NW of Pointe Riche (Riche Point) (50°42'N., 57°25'W.); in heavy weather, the sea reportedly breaks on this rock and on some 12.8m patches located 1 mile SW of Pointe Riche.

Directions.—Round Head (50°48'N., 57°13'W.) well open NW of Black Point (50°43'N., 57°24'W.), and bearing about 054°, leads NW of Pointe Riche Rock.

Ingornachoix Bay

1.30 Ingornachoix Bay is entered between Point Riche and Spirit Point (Eboulement Point), about 5.8 miles SSE.

Ingornachoix Bay—Outer portion—North side.—Vessels should use caution when approaching the shore between Gargamelle Cove, about 2 miles E of Pointe Riche, and Two Hills Point, about 4 miles SSE.

Temporary anchorage, with offshore winds, in 18.3m, can be obtained NNW of Two Hills Point, clear of the shoals.

Ingornachoix Bay—Outer portion—South side.—Spirit Point (Eboulement Point), the S entrance point of the bay, has a conspicuous white house on its seaward side; the house, a one-story structure, is the only house visible from seaward. In thick or heavy weather, Spirit Point (Eboulement Point) should be rounded in depths of at least 46m.

1.31 Ingornachoix Bay—Inner portion.—Keppel Island, 35m high, lies in the middle of the common entrance of the three inner branches of Ingornachoix Bay. The W side consists of a bare blackish cliff.

Port Saunders (50°39'N., 57°17'W.) is entered between Two Hills Point and Saunders Point, about 0.5 mile SE.

Ice.—Port Saunders freezes late in November. The ice breaks up between April 20 and May 10.

Tides—Currents.—The MHW interval at Port Saunders is 10 hours 26 minutes; spring tides rise 2m and neap tides rise 1.7m.

Depths—Limitations.—A public wharf, 32m long, with an alongside depth of 3.7m, is located about 0.4 mile ENE of Two Hills Point. An L shaped public wharf extends 130m with an outer end of 65m in length and an alongside depth of 3.4m. The



Port Saunders Light

NE and SW faces have alongside depths of 3.8m. A light (round mast) is located on the outer end of the wharf.

Aspect.—On the S side of the branch, the land is flat and low, having gradually descended from Hawkes Bay to the S. The granite at Hawkes Bay becomes limestone at Port Saunders.

Two Tree Hill (50°39'N., 57°18'W.), a wooded hill with a double summit, 75m high, rises over the N side of the branch in a position about 0.8 mile NE of Two Hills Point; there is a fire tower and a conspicuous red framework tower nearby.

A church with twin spires stands on the N side of the entrance of Port Saunders; another church with a single spire stands about 0.5 mile NE of the first church.

A hut stands on the S shore about 0.4 mile E of Saunders Point.

There is a hospital in the settlement.

A marine service facility is available at Port Saunders.

Anchorage.—Anchorage, in 12.8 to 26m, can be taken inside the entrance of Port Saunders and between the entrance and Montaignac Rock.

Anchorage can also be obtained S of Dunlop Spit, in 10.9m.

Caution.—Montaignac Rock, which dries 0.9m, lies about 1 mile ENE of Saunders Point, and 0.2 mile off the S shore.

Dunlop Spit, whose extremity has a depth of 0.3m, extends about 0.3 mile SSE from Kent Point, a point about 1.7 miles E of Two Hills Point.

1.32 Keppel Harbor (50°38'N., 57°17'W.) is entered between Saunders Point and Keppel Point, about 0.8 mile SE. It may be approached from either side of Keppel Island.

The head of the harbor is shoal for about 0.5 mile; shoals, which extend 0.1 mile offshore in places, border the harbor shores.

Anchorage, in 20.1m, mud or sand, can be taken in the N approach to Keppel Harbor, between Morue Spit and Saunders Point.

Hawkes Harbor (50°37'N., 57°18'W.) is entered between Keppel Point and the shore about 1 mile SW. The NE side of the harbor is formed by the SW side of a peninsula, of which Keppel Point is the NW extremity and Lossieux Point, 1.4 miles SE, the S extremity.

Tides—Currents.—The tidal currents are strong in Hawkes

Harbor and set strongly over the shoal flat between Lossieux Point and Robinson Island.

Depths—Limitations.—The fairway of Hawkes Harbor ranges in width from 550m at its mid-section to 180m at its S end. Depths of 10.9 to 35m are charted.

Anchorage.—Anchorage, in 22 to 35m, can be obtained with the SW end of Robinson Island bearing 129°.

Anchorage can also be obtained in the middle of Hawkes Harbor, about 0.8 mile SSE of Keppel Point, close W of the range line, in a depth of 27m.

Caution.—From Keppel Point, the N side of Hawkes Harbor trends about 1.3 miles SE to Lossieux Point. Flats extend as far as 275m off the N portion of this shore. Marine farms may be encountered in the vicinity Keppel Island, NE of Keppel Point; caution is advised.

Robinson Island, the N entrance point of Hawkes Bay, lies about 0.3 mile SSE of Lossieux Point, connected to it by a shoal flat with a greatest depth of 4.2m. Flats also extend 91m SW, and 365m E from Robinson Island.

1.33 Hawkes Bay (50°37'N., 57°13'W.) is entered between Robinson Island and the shore SW.

Tides—Currents.—The MHW interval at Hawkes Bay is 10 hours 50 minutes; the mean range is 1.2m and the spring range is 1.6m.

During flood tide, the current from the Torrent River sets toward the N shore.

Depths—Limitations.—Most of Hawkes Bay has depths of 18 to 37m; the controlling depth is 10.9m.

1.34 Hawkes Bay—South shore.—Ourson Point (50°37'N., 57°15'W.) lies about 0.8 mile ESE of Robinson Point.

Cible Point lies about 1.7 miles E of Ourson Point; a yellow cliff close S of Cible Point is conspicuous.

Gull Point lies about 0.5 mile ENE of Cible Point.

The Torrent River enters Hawkes Bay about 1 mile ENE of Gull Point.

A wharf, in ruins, extends from a long breakwater close N of the Torrent River. A conspicuous blue water tank, at an elevation of 51m, stands close E of the wharf; oil tanks stand adjacent to the water tank.

Caution.—A dolphin lies close S of the wharf; it is in an advanced state of disrepair and has protruding pipes. Mariners should exercise caution in this vicinity.

1.35 Hawkes Bay—North shore.—Cook Bank, with a least depth of 2.4m, lies 1.25 miles ENE of Robinson Island; the ruins of an abandoned whaling factory stand close NE of Cook Bank.

Aspect.—A pair of range lights is shown from the S shore of Hawkes Bay, in a position SSE of Robinson Island; the lights in line bearing 137°24' lead through Hawkes Harbor.

A red conical buoy is moored on the SW side of the 137°24' range, in a position 0.2 mile SW of the SW extremity of Robinson Island.

A lighted buoy is moored about 180m S of Robinson Island.

Anchorage.—Anchorage can be obtained, in 13 to 37m, in the W part of Hawkes Bay. In the E part of the bay the current from the Torrent River may be sufficiently strong to keep a ves-

sel riding athwart a good breeze.

Vessels loading pulpwood anchor, in 7.3m, off Gull Islet and lay out stern moorings to ringbolts on the islet.

1.36 Burntwood Point (50°34'N., 57°24'W.) lies about 4.3 miles SW of Spirity Point. A green bank, close within Burntwood Point, rises gradually in wooded ridges to 76m. The coast between Spirity Point and Burntwood Point is thickly wooded.

Bad Bay is entered between Burntwood Point and a point about 2.5 miles S. The bay is completely open and affords no shelter; its shores are bordered by shoal flats and should be given a berth of 0.5 mile. A conspicuous yellow cliff, 24m high, stands on the N side of the mouth of the Ponds River, a stream entering the head of Bad Bay. Temporary anchorage, in 18.3m, can be obtained off the mouth of this river. Heavy seas make this coast unapproachable in strong SW to N winds.

La Fontaine Point (50°29'N., 57°28'W.) lies about 4 miles SW of Bad Bay. About 0.8 mile S of La Fontaine Point, a high-topped bank displays a steep face, which is conspicuous when seen from the SW.

Table Point (50°22'N., 57°33'W.) lies 7.5 miles SSW of La Fontaine Point. It is bordered by low rocky ledges and backed by gradual wooded slopes.



Daniels Cove Light

Daniels Cove (50°14'N., 57°35'W.) lies on the N side of a small point. A breakwater, 75m long, shelters a small basin from NW winds. Daniels Cove Light is exhibited at an elevation of 16m from a tower 5m in height situated on the E side of the entrance to Daniels Cove.

Cliffy Point, rocky and backed by a bank 18m high, lies about 2.3 miles SSW of Daniels Cove Light. Close S of Cliffy Point there is a white stony beach backed by a green bank; then the rocky coast then trends SSW for about 1.3 miles to Eastern Head, 14m high, rocky and bare on top.

1.37 Portland Creek (50°11'N., 57°37'W.) is entered from the head of Portland Cove, close S of Eastern Head.

Tides—Currents.—The mean range at Portland Creek is 1.1m; the spring range is 1.4m.

Depths—Limitations.—The 5m curve extends in places more than 0.3 mile offshore between the creek and a point about 2.5 miles SSW.

Aspect.—**Gros Pate** (50°12'N., 57°25'W.), about 8 miles E of Eastern Head, rises 645m. Gros Pate is truncated and has nearly vertical sides; the range of which it is a part continues about 4.5 miles NNE, terminating at East Hill, a 659m summit, about 8.8 miles inland.

Portland Hill (50°09'N., 57°37'W.), 2 miles S of Eastern Head, is thickly wooded and rises to 162m. Portland Hill is wedge-shaped when seen from the SW.

Anchorage.—Anchorage, in about 7.3m, mud and sand, poor holding, can be taken off the mouth of the stream draining Portland Creek Pond.

1.38 The Arches (50°07'N., 57°40'W.), lying about 2 miles SSW of the point W of Portland Hill, are detached masses of Limestone, honeycombed by the sea, and standing on a sandy beach.

Sandy Bay (50°02'N., 57°43'W.) affords temporary anchorage to vessels with local knowledge. The entrance to Parsons Pond, at the S end of the bay, is over a bar with a depth of 1.2m. A light is shown from the S entrance point to Parsons Pond.

A steep clay bank, conspicuous from seaward, extends inside the beach for 1 mile along the coast between Sandy Bay and Lower Head, about 5 miles SSW.

Shallow Bay (49°57'N., 57°45'W.) is entered between Low Head and Downes Point.

Depths—Limitations.—Shallow Bay has irregular depths of less than 9.1m.

The bay is fronted by Evangeline Banks, a series of rocky patches with a least depth of 3.7m.

White Rock Islets, lying close W of Downes Point and connected to it by a drying bank, extend about 0.5 mile N into the S entrance of Shallow Bay. White Rock Islets are a chain of drying and above-water rocks, the highest of which, 9.1m, lies near the middle of the chain. The SW part of the chain extends about 0.8 mile SW, sheltering Cow Head Harbor, the next bay S.

Steering Island, sparsely covered with coarse grass, lies about 1.8 miles W of Downes Point; islets and rocks, which dry, extend about 0.3 mile W, N, and NE of the islet.

Aspect.—The shores of Shallow Bay are backed by wooded flats and marshes.

Anchorage.—The best anchorage for small vessels in Shallow Bay is N of Downes Point, in about 6.4m, close to the edge of the 5m curve. This position is defined by the whole of Steering Island (49°55'N., 57°50'W.) and its rocks bearing about 256°, just open N of the NE grassy White Rock Islet.

1.39 Parsons Pond Hill (49°59'N., 57°44'W.), a conspicuous hill, rises 140m about 5 miles NNE of Cow Head.

Cow Head is a peninsula, densely wooded on its S and W sides and partially cleared on its NW side, connected with the mainland by an isthmus of sand and stones. The NW side of the peninsula is steep. Rocks which dry extend from its SW extremity for a short distance.

Cow Head Light is exhibited from a white tower, 8m high, which stands near the NW extremity of the peninsula (light is not in use but currently maintained as a historical site).



Cow Head Light

Cow Head Harbor (49°55'N., 57°50'W.), entered between Downes Point and the NE extremity of Cow Head about 1.25 miles SW, affords anchorage for small vessels drawing less than 3m, in depths from 4.6 to 6.4m, but in heavy weather there is not much shelter. The entrance channel is also narrow and tortuous between the rocks and local knowledge is essential. A small settlement stands on the shores of the harbor.

Cow Head has an L-shaped breakwater-wharf, 153m long and 52m in length at the outer face, with depths 3.4 to 4.3m alongside, which extends from the NE extremity of the peninsula.

Tides—Currents.—Inshore between Cow Head and Lobster Cove Head, about 20 miles SSW, there is usually a N current which attains a maximum velocity of 1.5 knots.

Caution is necessary in the vicinity of Steering Island (49°56'N., 57°50'W.) in thick weather or at night, but by keeping in depths of over 37m, a vessel will pass 0.5 mile W of the dangers.

The tidal currents are strong between Steering Island and the mainland. The N and stronger current sometimes attains a velocity of 2 knots. The duration of the N current is much longer than that of the S current.

1.40 Cow Cove (49°55'N., 57°48'W.), on the S side of Cow Head, has depths of 7 to 18m in its outer part. Its inner part has depths of 9.1m or less for almost 0.5 mile from its head. Cow Cove affords shelter from winds E of NW. During the N gales prevalent in spring and autumn, good anchorage, in 7.3 to 18.3m, can be obtained. In all W winds, a heavy swell

rolls in and renders the anchorage unsafe.

Between Cow Head and Lobster Cove Head, a distance of 20 miles, the mountains behind the coast, broken by steep gorges, present a very rugged barren aspect from seaward.

St. Pauls Bay is entered between **St. Pauls Point** (49°52'N., 57°50'W.) and Broom Point, about 3.25 miles SSW. The bay is open and anchorage here is unsafe in the strong, frequent breezes. Depths in the bay range from 9.1 to 18.3m.

Western Brook enters the sea through a sandy beach close SE of **Broom Point** (49°50'N., 57°53'W.). Shoals with depths of less than 5.5m border the sandy beach as far as 640m offshore. The sea is frequently discolored to the edge of the shoals by the outlet of Western Brook.

The Brandies (49°58'N., 57°54'W.) are a group of shoals which are steep-to on their WNW side. The sea usually breaks on The Brandies' shallowest part, which has a depth of 3.7m, with a swell from the WNW.

Western Brook Hill, a conspicuous wedge-shaped summit, rises to 553m about 4 miles ESE of Martin Point (49°46'N., 57°54'W.). The hill rises on the S side of a gorge, both sides of which appear almost vertical.

The coast from Martin Point to Gun Point, nearly 3 miles SSW, consists of a boulder beach backed by a low wooded bank; it is bordered by a shoal bank extending about 0.4 mile offshore. Numerous rocky shoals also front this part of the coast, including Gun Point Shoals.

Directions.—Martin Point, in line bearing 206° with Gun Point (49°43'N., 57°57'W.), leads through the passage between The Brandies and the coast.

1.41 The Whaleback (49°46'N., 57°56'W.), a narrow ridge of sunken rocks, has depths of 2.7 to 3.7m. A small mushroom-shaped rock that dries 1.2m lies in the middle part of The Whaleback.

Directions.—Parsons Pond Hill, in line with the E part of Cow Head and bearing 037°, leads NW of the shoals between Broom Point and Gun Point.

1.42 Crag (49°32'N., 57°58'W.), 591m high, on the S side of the entrance of Bonne Bay, open W of Green Point and bearing 179°, leads W of the above-mentioned shoals.

Green Point (49°41'N., 57°58'W.) is a projecting flat-topped grass-covered cliff. Green Cove, located close S of Green Point, is shallow and unfit for anchorage. Between Green Point and Lobster Cove Head, 4.75 miles S, the coast is low and bordered by a stony beach, from which a shoal bank extends as much as 0.1 mile offshore.

Berry Head, about 2.5 miles S of Green Point, is a slight projection off which overfalls and tide rips frequently occur when the ebb is running strongly out of Bonne Bay.

Berry Hill, conspicuous from seaward, rises to 145m about 1.4 miles NE of Lobster Cove Head. Berry Hill is dome-shaped and wooded.

Lobster Cove Head (49°36'N., 57°57'W.) is the NW extremity of a broad promontory faced with red cliffs, 10.6m high. A light is shown from a white tower on the headland.

Bonne Bay

1.43 Bonne Bay is entered between Lobster Cove Head

and Western Head, nearly 4 mile SW.

Winds—Weather.—East gales, which are infrequent in Bonne Bay, are generally accompanied by thick rainy weather. In strong E winds, violent squalls blow down from the mountain gorges.

Southwest winds prevail in June, July, and August. Northwest winds prevail in the autumn, but there have been occasional short intervals of E winds.

Ice.—Bonne Bay never freezes until the drift ice appears, generally about mid-January. The bay is then completely closed by thick ice until about mid-April, when the drift ice disappears. However, ice on the coast occasionally blocks the bay until the end of June. The first vessel arrives early in May, and the last leaves at the end of December.

Tides—Currents.—Overfalls and tide rips frequently occur off the N side of the entrance of Bonne Bay.

Depths—Limitations.—In the N approach to Bonne Bay, depths of 14.6 to 37m are found on the tail of the rocky coastal bank extending W from Green Point. Bonne Bay has mid-channel depths of 110 to 146m in its outer 6 miles, 46 to 128m in South Arm, and 37 to 230m in East Arm. The Tickle has a least depth of 42m in mid-channel and 11.9m in its W approach.

Aspect.—The shores of Bonne Bay rise steeply to high timbered hills. A conspicuous range of mountains extends N from Deer Arm. About 3 miles NNE of the head of Deer Arm, Gros Morne (49°36'N., 57°48'W.) rises to a height of 774m.

Bonne Bay—Outer Part—Northeast Side

1.44 Rocky Harbor (Roche Harbor) is entered between Lobster Cove Head and Salmon Point, a narrow bare slate point about 1.5 miles SSE. There are landing places for boats and a small wharf, in ruins, at Rocky Harbor.

Depths—Limitations.—There are general depths of 9.1 to 18.3m in the middle of Rocky Harbor.

A flat ledge of stones and boulders, which dries 0.3m to 1.2m, extends about 0.4 mile NW into the harbor from a point about 0.4 mile NE of Salmon Point. Foul ground borders this ledge and extends 0.25 mile from its W side.

The remaining shores of Rocky Harbor are, with the exceptions of The Bottom and Bear Cove, entirely bordered by rocky ledges and foul ground which extend 360m offshore in places.

Anchorage.—Anchorage, in 10.9 to 12.8m, can be obtained off the S shore of Rocky Harbor with the SW extremity of Lobster Cove Head bearing 305°, and Salmon Point in line bearing 215° with the point 0.35 mile NE of it. The anchorage is good except in strong winds between SW and NW, when a heavy sea is raised.

Directions.—Rocky Harbor may be entered with the N summit of Gros Morne,

Salmon Point is a narrow bare slate point; from it the coast, consisting of slate cliffs backed by thickly-wooded hills, trends about 3.8 miles SE to Wild Cove Head. Wild Cove Head is dark, rocky, and wooded. An extensive stony flat borders the shore between the S side of Wild Cove Head and Norris Point.

Sandy Head (49°31'N., 57°53'W.), 23m high, is located 0.5 mile SE of Wild Cove Head. The point is conspicuous, appearing steep, bare, and sandy from the W. Norris Point lies just under 0.5 mile SE of Sandy Head. Sandy Head and Norris



Courtesy of Gregory M. Dodds

Bonne Bay

Point are the W and S extremities, respectively, of a peninsula which rises on its E side to a wooded conical peak.

The Tickle is the narrow channel leading into East Arm between Norris Point and Gadds Point, 0.5 mile to the SSE. There is temporary anchorage in good weather, in depths of 11 to 12.8m, about 0.4 mile WSW of Gadds Point.

Bonne Bay—Outer Part—Southwest Side

1.45 Midway between Western Head and Eastern Head, about 1.5 miles E, a rock dries 0.6m about 230m offshore. Vessels should give the shore in the vicinity of the drying rock a berth of at least 365m.

Between Eastern Head and Woody Point, about 4.5 miles SE, the land rises in high, wooded cliffs and steep slopes to a conspicuous, vertical cliff. The vertical cliff terminates 0.75 mile inland at Crag, rising 1.75 miles SSE of Eastern Head. A perpendicular rock, 268m high, rises about 0.8 mile NE of Crag and overlooks the shore. The rock is conspicuous from the N and E. The shore between Eastern Head and a position about 0.8 mile from Woody Point may be closely approached; thence to Woody Point, the shore is fronted by shoal flats. Woody Point is marked by a light shown from a white tower.

The settlement of Woody Point stands in the vicinity of the point.

Anchorage.—Temporary anchorage, in 21.9 to 37m, can be obtained about 0.4 mile S of Woody Point. However, the bank on which these depths lie is narrow and steep, and the bay itself is subject to sudden and violent squalls during strong winds.

Submarine cables are laid between Woody Point and Norris Point. Anchorage is prohibited in this area.

Bonne Bay—Inner Part

1.46 The Tickle, the channel leading to East Arm, lies between Norris Point and Gadds Point, about 0.3 mile SSE. The Tickle has a least width of 0.2 mile between the 9.1m curves. It is clear of dangers except for a patch, with a depth of 0.3m, about 320m WSW of Norris Point and a rocky ledge extending 90m S from Norris Point.

Gadds Point, the S entrance of The Tickle, is a rounded steep-to headland. The point is marked by a light shown from a skeleton tower.

Tides—Currents.—The MHW interval near The Tickle is 10 hours 30 minutes.

Tidal currents generally set fairly through The Tickle, in and out of East Arm. During spring tides, the current attains a considerable velocity.

1.47 Gadds Harbor, on the SE side of Gadds Point, affords



Woody Point Light



Lobster Cove Head Light

anchorage for small vessels, close inshore.

Neddy Harbor is entered between Burnt Point, lying about 640m ENE of Norris Point, and Shoal Point, about 0.5 mile farther NE. Neddy Harbor, which has depths of 10.9 to 12.8m, mud, in its inner portion, is the most convenient and probably the best anchorage in Bonne Bay. It is sheltered from all except SE winds. In SE winds, severe squalls occur and a sea quickly rises. Vessels of any size should moor, for the space within the harbor is limited.

Bonne Bay—Inner Part—East Arm

1.48 The land on either side of East Arm is high. Parts of the NE side of the arm are bare and stony, but the SW side is densely wooded. A conspicuous, conical peak (49°30'N., 57°46'W.), 651m high, rises in stony slopes from the NE side, about 4 miles within the entrance.

East Arm—Northeast side.—Deer Arm is the N projection of East Arm. There is no anchorage in Deer Arm. Seal Cove, on the NE shore of East Arm, 1.5 miles E of Tuckers Head, provides anchorage for vessels. In strong W winds, the squalls are heavy and the resulting sea is inconvenient.

South of Seal Cove a deep narrow passage leads into South East Arm. This basin provides sheltered anchorage, in a depth of 24m.

East Arm—Southwest side.—Shag Cliff, about 0.8 mile E of Gadds Point Light, on the S side of the entrance to East Arm, is a grey cliff, 119m high. Storehouse Point, about 0.5 mile E of Shag Cliff, is a low grassy projection. Tuckers Head, located on the SW side of the arm, 4 miles SE of Storehouse Point, rises to an elevation of 128m. A boat wharf is situated at Lomond Cove, about 0.4 mile SE of Tuckers Head; wharf ruins extend about 10m NW of the outer end of the wharf.

Caution.—Aquaculture facilities, marked by buoys, have been established in Deer Arm and East Arm.

Bonne Bay—Inner Part—South Arm

1.49 South Arm winds about 4 miles S from abreast Woody Point. Around the head of South Arm, the shores are low and flat. A drying mud flat, the edge of which is very steep-to, extends nearly 0.5 mile from the head of the arm. Anchorage can be obtained, in 37 to 46m, near the head of the arm, but it is not recommended because of the heavy squalls which occasionally occur.

Tides—Currents.—In South Arm, the direction of the ebb current is not regular, apparently being checked by the current through The Tickle.

Western Head (49°33'N., 58°01'W.), the S entrance point of Bonne Bay, appears from the W as the N termination of the high land to the S.

Between Western Head and Cape Saint Gregory, about 13 miles SW, lie occasional steep slopes and conspicuous red cliffs from low grass-covered headlands. In summer the bright green grass of the headlands contrasts strongly with the spruce-covered hills above.

Trout River Rock, a 24m patch, lies 2.25 miles WNW of the N entrance point of Trout River Bay. Fishing vessels anchor near the patch in good weather.

Trout River Bay, whose N entrance point lies 5.75 miles SW of Western Head, is about 0.5 mile wide at its entrance, and extends 0.5 mile SE to its head. The bay has general depths of 12.8 to 16.4m in its entrance and 5.5m or less for 0.5 mile from its head.

Trout River Light is shown on the S entrance point of Trout River Bay.

Anchorage, in 16.4 to 18.3m, can be obtained off the middle of the entrance of Trout River Bay. Small vessels can anchor farther in, but there is usually a heavy ground swell during on-shore winds.

Big Cove Head lies about 2 miles SW of Trout River Bay. A rocky 18.3m patch lies about 0.8 mile WSW of the head. Fishing vessels frequently anchor on the patch in good weather.

Heavy weather produces a very confused sea in the vicinity of **Cape Saint Gregory** (49°24'N., 58°14'W.) and small vessels should keep at least 2 miles offshore. Near Rencontre Cove, lying about 1 mile NNE of Cape Saint Gregory, a conspicuous cliff, nearly 305m high, recedes a little from the coast and terminates in a series of white, rocky hills.

Chimney Cove Head, a slight projection, 158m high, with a perpendicular cliff on its SW side, lies about 6 miles S of Cape Saint Gregory. The E side of Chimney Cove Head is a conspicuous green slope.

Chimney Cove lies close S of Chimney Cove Head. Vessels can anchor, in 21.9 to 25.6m, off Chimney Cove during SSW winds.

North Head, a red earth cliff, lies about 4 miles S of Chimney Cove. Mt. St. Gregory rises to 686m about 2 miles ENE of North Head. This mountain shows three distinct summits from the W, but from the S appears as a single sharp peak.

The Bay of Islands

1.50 The Bay of Islands is entered between North Head and South Head, about 11 miles SSW.

Ice.—The arms of the Bay of Islands generally freeze be-

tween December 20 and January 20. The ice breaks up suddenly between April 20 and May 10. Drift ice clears away early or late in May, according to the season.

Tides—Currents.—No set rule has yet been found for the action of the tidal currents in the Bay of Islands. Limited observations made a number of years ago showed that during May, June, and July the surface current in Humber Arm set almost continuously seaward, while an undercurrent set in the opposite direction. The W surface current was split by Woods Island and attained a velocity of nearly 1.5 knots over the shoal off Peter Point on Woods Island. The SE current converged to Humber Arm around Woods Island, its velocity decreasing on the surface as it neared the Humber River.

Tidal currents through the narrows of Goose Arm attained a velocity of 2 knots at springs. The time of the turning of the currents was irregular with respect to HW. It varied with the direction of the wind and the amount of water flowing into the head of the arm from the currents.

Close to all shoals and banks, and especially at Vesuvius Rock off the NW end of Woods Island, the current occasionally attained a velocity of 1.5 knots. It was scarcely perceptible 0.3 mile from these features.

Depths—Limitations.—Channels with more than 16.4m lead between the islands in the entrance of the Bay of Islands. In the outer part of the bay, the depths range from 28m to over 183m; in the arms, depths range from 37m to over 183m.

Aspect.—A conspicuous cascade falls over dark cliffs about 0.5 mile S of North Head.

The Green Handkerchief is a grassy patch on a cliff about 1.25 miles S of North Head. This conspicuous patch is bright green in summer and yellowish in spring and autumn.

Lark Mountain rises to 431m about 2 miles S of Southern Head.

Blow-Me-Down, 645m high, rises on the S side of the bay at the NW end of a high range of mountains which trends SE. Blow-Me-Down drops almost vertically from its summit.

Caution.—In autumn, large numbers of herring nets are laid in the arms of the bay and around Woods Island, which lies at the entrance of Humber Arm. The nets are always laid parallel to the shore and usually in a depth of 5.5m.

Islands and Dangers in the Entrance of the Bay of Islands

1.51 Brandies Rocks (49°17'N., 58°17'W.), which break in a slight swell, lie about 1.8 miles SW of North Head.

Gregory Island (49°17'N., 58°18'W.), 76m high, is the northernmost of the islands in the entrance to the Bay of Islands.

Saddle Island lies about 5 miles SW of North Head; a 45.7m high square pillar, conspicuous from the E or W, stands on the NW side of the island.

Green Island (49°14'N., 58°20'W.), located about 0.8 mile S of Saddle Island, rises to a round hill 133m high.

Hen Island, rising to a round hill 71m high, lies about 0.5 mile SW of Green Island.

Tweed Island (49°13'N., 58°20'W.), 221m high, lies 0.75 mile S of Green Island. Little Shag Rock, 2.7m in elevation, lies E of the SE extremity of Tweed Island. A dangerous shoal, with a least depth of 2.1m, lies near mid-channel between

Tweed Island and Green Island.

Grassy Island and Hat Rock lie on foul ground at the SE end of Tweed Island. Vessels with local knowledge can obtain temporary anchorage, in 16.4 to 21.9m, in a cove between Grassy Island and Hat Rock or, in 14.6 to 20.1m, off the cove W of Hat Rock. West winds, however, quickly cause a heavy sea.

Guernsey Island lies about 2 miles N of Southern Head. A cairn stands about 320m SE of the summit of the island; a few trees stand at its SE end.

Pearl Island lies about 1 mile E of Guernsey Island; four pillars, the highest 182m, stand on the N side of a deep valley lying on the NE side of the island.

Cloue Patches consist of several sunken rocks lying within 1 mile SW of Shivery Point, the N extremity of Pearl Island.

Shag Rocks consist of two groups lying within 1.25 miles SE of the SE extremity of Pearl Island.

The Bay of Islands—Outer Part—North Shore

1.52 North Head (49°19'N., 58°15'W.) is a red earth cliff, 16.4m high, fronting a marshy plateau at the foot of Mt. St. Gregory. The plateau is usually green in summer.

Beverly Head lies about 1.7 miles S of North Head. Davis Cove is entered about midway between The Friar, a 12.2m high rock, lying about 1 mile SSE of Beverly Head, and the 4.5m high Lower Gull Rock, lying about 0.5 mile farther SSE. Davis Cove is frequented by fishing vessels in summer.

Crabb Point, about 5.5 miles SSE of North Head, rises in dark cliffs to a small wooded hill, 65m high.

Buck Head is located 2 mile E of Crabb Point. Parkes Rock, an 8.2m shoal, lies about 1 mile SSE of Buck Head.

Stowbridge Head, the N entrance point of North Arm, lies about 4.3 miles ESE of Crabb Point; it is a square mound, 26m high, rising on the W end of a small shingle beach. A few houses stand on the beach.

White Scrape is a conspicuous mark on a steep, 305m hillside, about 0.8 mile NW of Stowbridge Head.

The Bay of Islands—Outer Part—South Shore

1.53 South Head (49°09'N., 58°22'W.) rises in steep black cliffs from several pinnacles of light-colored rock at its base. The Monkey, the highest of these, is 33m high. In S or W winds, heavy squalls sweep down on the head from the Murray Mountains to the S. A light is shown from the headland.

White Point, marked by a light, is located 0.75 mile ESE of South Head.

Lark Harbor is entered between Fleming Point, about 2.3 miles ESE of Southern Head, and Tortoise Point, about 0.7 mile SSE. Tortoise Point is the N extremity of a promontory of which Tortoise Mountain, 240m high and wooded, is the highest point. A light is shown from the point.

Depths in the entrance of Lark Harbor are over 55m. At the bend of the harbor the depths are 7.3 to 10.9m; in the inner harbor depths reach 9.1 to 21.9m.

There is a public wharf extending 27m from shore to an outer end 27m long, with depths of 3.4 to 4.3m alongside.

Shoals and drying flats extend W to the head of Lark Harbor from a position 0.25 mile SE of Low Point. The foul ground reaches 0.25 mile offshore in places. Similar ground fronts the

opposite S shore to a distance of 230m offshore in places. A rock, 1.8m high, lies close off Pinnacle Point, a point 0.35 mile SW of Tortoise Point.

Anchorage.—Anchorage, in 18.3m, can be taken in the outer part of Lark Harbor, with Rocky Point bearing 156° and the 1.8m rock off Pinnacle Point bearing 058°. Another anchorage, in 11.9m, is in the inner harbor, about 595m S of Low Point, where the holding ground is good.

East winds send in a little sea to the above-described anchorages. During S and SW winds, heavy squalls sweep down from the mountains.

1.54 York Harbor is entered between Tortoise Point and the coast at the foot of Blow-Me-Down, about 3.5 miles SE. Governor Island lies about in the middle of the bay and the small Seal Island lies 0.25 mile E.

A sand spit extends about 275m NW from Sword Point (Sand Point), the W extremity of Governor Island. Depths of less than 10.9m extend almost 0.5 mile NNW from the shore 0.5 mile ENE of Sword Point, and for about the same distance SW from the shore 0.5 mile S of Sword Point. Seal Island is nearly connected with the E extremity of Governor Island by a bank. Rocks, awash, extend about 180m E from Seal Island; a depth of 10.9m lies 0.5 mile E of the island. Between this depth and the rocks, awash, there is a depth of 4.5m, close S of which 7.9m is charted.

Sheltered anchorage, in 10.9 to 20.1m, can be obtained in York Harbor, between the SW end of Governors Island and the mainland. During S winds, heavy squalls sweep down from Blow-Me-Down.

1.55 East of York Harbor, the coast rises in a steep wooded slope to the base of Blow-Me-Down Cliffs. Blow-Me-Down Brook flows into the sea about 1.5 miles E of York Harbor. A small yellow rock, 2.4m high, lies about 0.4 mile W of the mouth of Blow-Me-Down Brook, close off the coast. Temporary anchorage can be taken about 0.3 mile off the mouth of the brook.

Frenchman's Cove is entered about 3.5 miles E of York Harbor, it is steep-to on its W side but its SE side is bordered by sandflats and boulders.

There is an L-shaped public wharf, 52m long, with an outer face 21m in length and an alongside depth of 9.6m. A private wharf, 19m long at its outer face and with alongside depths of 2.3 to 3.7m, is close S of the public wharf.

Anchorage, in 20.1 to 24m, mud, can be obtained off the shingle flat at the head of the cove. Pilots for Corner Brook are boarded off Frenchman's Cove. The MHW interval at Frenchman's Cove is 9 hours 50 minutes; the mean range is 1.1m and the spring range is 1.4m.

Frenchman's Head (49°04'N., 58°10'W.), the SW entrance point of Humber Arm, rises to an earth cliff, 14m high. Several conspicuous, detached, conical peaks from 315 to 320m high rise about 2 miles SSW of Frenchman's Head. A light is shown about 0.5 mile SE of Frenchman's Head within the entrance to Humber Arm.

Outer Part of the Bay of Islands—East Shore

1.56 Woods Island (49°06'N., 58°12'W.) is located close

outside of the entrance to Humber Arm, with Peter Point, its SE end, located about 5 miles E of Seal Island. The island is partially wooded; a range of hills, 75m high, is at the NW end. A light shown from the SW side of the island.

Woods Island Harbor (49°06'N., 58°13'W.) indents the SW side of Woods Island. The harbor is available only to small craft.

The **Puffin Islands** (49°07'N., 58°14'W.) are two islands, 23 and 27m high, that extend over 0.5 mile NNW of the NW point of Woods Island. Outer Shag Rock (Black Rock), a dark islet 6.1m high, lies about 0.8 mile E of the NW Puffin Island.

Sleep Island, 22m high, lies almost 0.3 mile off the W side of Woods Island.

Man O'War Shoal, a dangerous sunken rock with a depth of less than 1.8m, lies a little more than 0.5 mile NW of the NW Puffin Island (49°08'N., 58°14'W.).

Vesuvius Rock (49°08'N., 58°15'W.) has a depth of 0.5m, 275m SE of which there lies a shoal with a depth of 3m.

Directions.—Woman Point, on the N Side of Middle Arm about 3 miles within the entrance, open N of Black Head, leads N of Man O'War Shoal.

1.57 Between **Northern Head** (49°09'N., 58°07'W.) and North Arm Point, about 1.8 miles N, the coast is striped with quartz in places.

Eagle Island (49°10'N., 58°09'W.) consists of steep cliffs composed of striped vertically-striped red and gray rock. A conspicuous mass of sandstone projects from the shore near the N end of the island.

Fisherman Rock, with a depth of 0.6m, lies nearly 0.8 mile SSW of North Arm Point.

Middle Arm Point (49°08'N., 58°09'W.) is formed of small steep-to cliffs rising to a wooded range, 19m high. A pinnacle rock and a waterfall are located close S of the point. A light is shown from the point.

The Bay of Islands—North Arm

1.58 North Arm is entered between **Stowbridge Head** (49°13'N., 58°05'W.) and North Arm Point, about 2 miles SSW. Small vessels can obtain anchorage, in 26m, in the middle of North Arm Cove, lying close E of North Arm Point, but the anchorage is not good. Depths decrease quickly near the shore. Only small vessels can anchor conveniently in the inner part of North Arm.

The Bay of Islands—Middle Arm

1.59 Middle Arm is entered between Northern Head and Black Head, about 1.5 miles SSW. Black Head is located about 0.8 mile ENE of Middle Arm Point.

Penguin Head (49°09'N., 57°59'W.), about 5 miles E of Northern Head, rises to a bare gray hill, 319m high. At Penguin Head, Middle Arm divides into Penguin Arm and Goose Arm. The N side of Middle Arm rises to steep-to gray cliffs, backed by densely wooded hills, the most conspicuous of which is Old Woman Head, rising to an elevation of 317m.

Jennings Cove, about 2 miles ESE of Black Head, affords anchorage, in 18.3 to 25.6m, in the middle of the cove. However, the shores of the cove are foul and 180m from the head the depths shoal rapidly.

Cox's Point is the E entrance point of Jennings Cove and the W entrance point to Cox's Cove.

Cox's Cove lies about 1 mile SE of Jennings Cove. Temporary anchorage, in 29m, can be obtained in Cox's Cove, but a considerable sea sets in during E winds.

Parkes Cove, about 1.5 miles SE of Cox's Cove, affords anchorage is 31m, about 0.4 mile offshore. The depths decrease gradually from the anchorage to the shoal flats extending off the beach.

Goose Arm is entered between Penguin Head and Long Point, about 0.7 mile SW. Anchorage, in about 26m, can be obtained 275m off the head of the cove, but the holding ground is not good.

Penguin Cove, on the N side of Goose Arm, about 0.8 mile E of Penguin Head, is clear of dangers. Anchorage, in about 25.6m, can be obtained 275m off the head of the cove, but the holding ground is not good.

An unnamed cove in the S shore of Goose Arm, about 2.8 miles ESE of Long Point, is marked by two conspicuous land-slides in the red cliffs of its shores.

The Narrows constricts Goose Arm to a width of about 180m. They are formed between Raglan Head, rising almost vertically from the shore on the SE side to a summit, 329m high and a peaked hill, 186m high, on the NW side.

Sugar Loaves (49°12'N., 57°49'W.), several detached summits, rise about 2.3 miles NE of William Wheeler Point. One summit, 252m high, is a good landmark for navigating The Narrows.

Penguin Arm is entered on the N side of Penguin Head. The arm is very deep and free of dangers. There is no anchorage except for small craft.

The Bay of Islands—Humber Arm

1.60 Humber Arm is entered between McIvers Point (49°05'N., 58°08'W.) and Frenchman's Head, about 1 mile SW. Strong winds blow up and down the arm.

Ice.—Humber Arm freezes about December 26 and clears at the end of April. The first vessel arrives about May 12 and the last leaves about January 1.

1.61 Humber Arm—North side.—McIvers Island, a bare rock 4.6m high, lies about 0.8 mile SE of McIvers Point. **Rattler Brook** forms a conspicuous waterfall about 0.7 mile SE of McIvers Island. Anchorage, in about 37m, can be obtained 0.3 mile offshore, between McIvers Island and Rattler Brook.

Big Head (49°03'N., 58°07'W.) is a conspicuous gray-faced steep cliff that rises to a dark wooded hill.

Gillams Brook enters the head of **Gillams Cove** (49°01'N., 58°04'W.). Small vessels can anchor, in 21.9m, with the SW extremity of the land S of the cove bearing 158° and the mouth of the brook bearing 038°.

Meadows Point lies about 4.5 miles SE of Big Head. It is low and flat, rising gradually to a hill, 61m high. A light is shown from the point.

Anchorage can be obtained in the entrance of **Petipas Cove** (48°59'N., 57°59'W.), in 24 to 37m, sand and mud, very good holding ground. This is the anchorage for Corner Brook and is stated to be the best in Humber Arm. However, the edge of the

shelf is steep-to and, in N winds, the anchorage becomes unsuitable.

1.62 Humber Arm—South side.—Benoit Cove lies about 3.5 miles SSE of Frenchman's Head. A large warehouse stands near the E part of the cove. A church with a small tower is situated at Voy's Beach, 1.8 miles SSE of Frenchman's Head. Benoit's Cove is entered 1.7 miles SSE of the church. Behind the cove is a deep valley. A private fish plant and wharf is located in Benoit's Cove. The wharf has a pier extending 13.5m from the shore to a depth of 4.7m alongside a 8.4m long outer end. Anchorage, in 18.3 to 31m, can be obtained about 180m offshore in the cove.

Caution.—A submarine cable lies in the vicinity E of Benoit Cove and N of Fox Point.

Halfway Point lies about 1 mile SE of Fox Point, the E entrance point of Benoit Cove. The best anchorage in the NW part of Humber Arm can be obtained, in 18.3m, about 0.2 mile offshore between Fox Point and Halfway Point, or in 37m, 0.3 mile offshore.

Bannatyne Cove (48°58'N., 58°02'W.) is separated from Pleasant Cove on the E by a blunt point. Small vessels with local knowledge can anchor, in 18.3m, about 180m off Bannatyne Cove and Pleasant Cove.

Petries Point is the E entrance point of Pleasant Cove. A white church building with two spires, is conspicuous in the village on Petries Point.

1.63 Humber Arm—Head.—Tucker Point (48°59'N., 57°56'W.) lies about 0.8 mile W of Hughes Brook. Wild Cove lies in the middle of the head of Humber Arm. Vessels with local knowledge can obtain good anchorage, in 16.4m, with Hughes Brook bearing 038° and the extremity of the N shore of Wild Cove bearing 105°. About 180m NE of this position there are depths of 9.1m. The currents setting out of Hughes Brook and the Humber River keep a vessel anchored in this position broadside onto a fresh W breeze.

Caution.—A submarine cable and a dangerous sunken wreck lie in the vicinity of the above-mentioned anchorage.

Corner Brook (48°57'N., 57°57'W.)

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1.64 The port of Corner Brook is situated on the S side of the head of Humber Arm in the Bay of Islands, approximately 21 miles from South Head; it consists of a city with a small natural harbor.

The Corner Brook waterfront extends along the S shore of Humber Arm for approximately 5.2 miles W from Humbermouth. There are no off-lying shoals near the approaches. There is wharfage operated by the Harbor and Ports Directorate, Transport Canada for general cargo, in addition to private wharves for handling forest products, cement, oil, and caustic soda. Approximately 3,187,000 tons of cargo are handled annually.



Corner Brook

Winds—Weather.—Corner Brook is sheltered by the surrounding hills; in summer, strong winds are rare.

Fog seldom penetrates the Bay of Islands beyond Frenchman's Head.

The average rainfall at Corner Brook is 762mm a year, with the rainy season occurring from September to November.

All wharves are exposed to NW gales. Small vessels should seek shelter from these gales in Pettipas Cove. It is recommended that vessels drop an anchor when coming alongside the berths.

Ice.—The navigation season of Corner Brook is dependent upon ice conditions in the Gulf of St. Lawrence; however, cargo is moved regularly from Corner Brook through the Gulf of St. Lawrence all winter with Canadian Coast Guard icebreaker assistance. Past opening and closing dates for the port are, as follows:

1. Earliest opening—March 19.
2. Latest opening—May 9.
3. Earliest closing—January 3.
4. Latest closing—February 11.

The Bay of Islands has occasionally been kept open by government icebreakers until the port of Corner Brook is closed. However, no local icebreaker service is available. The maximum ice thickness is 0.6m. In recent years, ice has not closed Humber Arm to navigation.

Tides—Currents.—The spring tidal rise at Corner Brook is 2.0 to 2.3m; neaps rise 1.5m.

The strength of the current is said to vary with the wind direction. A strong seaward current, greater in strength than the tidal current, has been noted in an E wind. In the Curling area

of Corner Brook, a 4 knot current was reported; in the Humbermouth area, a current of 3 knots was reported.

Depths—Limitations.—Depths in Humber Arm, off the port of Corner Brook, range from 73 to 110m. At the Corner Brook Anchorage in Pettipas Cove, the depths are 24 to 35m. At the anchorage off Curling, the depths are 14.6 to 37m. At the anchorage off Humbermouth, the depth is 46m.

A spit extends about 230m NNW into Humber Arm from a position near the W end of Bowaters Wharves in the central section of Corner Brook. The spit is 2.4m high and 55m wide.

For detailed berthing information, see the table titled **Corner Brook—Berth Information**.

Aspect.—Among the structures at Corner Brook, conspicuous from seaward are:

1. The Anglican Church, a white building with brown roof and spire, situated in the E end of Curling.
2. The 55m chimney of the Bowaters Mill.
3. A church situated 366m SE of the mill chimney.

A diamond-shaped white daymark is visible on the roof of a shed situated close E of Bowaters Wharves.

Pilotage.—Pilotage is compulsory. Vessels requesting a pilot should send their ETA to the Atlantic Pilotage Authority (see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for more information). Confirm or amend ETA no less than 4 hours before arrival. It is reported that during the ice season the pilot boards by tug about 1 mile from port. The pilot station is located at Frenchman's Head. The pilot boards in position 49°04'09.6"N, 58°09'15.0"W.

Regulations.—Vessels should fly their state flag from the stern and the Canadian flag at the mast.

Corner Brook—Berth Information			
Berth	Length	Depth	Remarks
Corner Brook Pulp and Paper Mill Terminal			
Wharf No. 01	112m	10.7m	General cargo, passengers, ro-ro, pulp, paper, and forest products. Vessels loading normally berth starboard side-to.
Wharf No. 02	112m	10.7m	General cargo, passengers, ro-ro, pulp, paper, and forest products.
Wharf No. 03	112m	10.7m	General cargo, passengers, ro-ro, pulp, paper, and forest products.
Wharf No. 04	178m	4.9m	General cargo, passengers, ro-ro, pulp, paper, and forest products. Vessels loading normally berth port side-to.
Corner Brook Port Terminal			
Transport Canada Wharf	361m	10.4m	Petroleum, chemicals, bulk, general cargo, containers, sulfur, caustic soda, and salt.
Holcim-Corner Brook Terminal			
North Star Cement Wharf	10m	—	Cement.
Barry Seafood			
Seafood Wharf	100m	—	Seafood.
Ultramar Terminal			
No. 01	18m	6.7m	Clean products.
No. 02	—	9.1m	Clean products.

Contact Information.—See the table titled **Corner Brook—Contact Information.**

Corner Brook—Contact Information	
Corner Brook Port Authority	
Telephone	1-709-634-6600
Facsimile	1-709-634-6620
E-mail	info@cornerbrookport.com
Telephone	http://www.conerbrookport.com
Harbormaster	
VHF	VHF channels 16, 11, 12, 14, 19A, and 24
Telephone	1-709-637-4282
Facsimile	1-709-639-1076
Pilots	
Call sign	Pilot Corner Brook
VHF	VHF channel 16
Terminal Manager	
Telephone	1-709-639-8961
Ice Information Officer	
Telephone	1-709-772-2678 1-709-772-5369

Anchorage.—Masters are requested to contact local pilots regarding anchorage, as a submarine cable enters the waters of Humber Arm at Wild Cove and continues out of the bay through French-man's Head and South Head.

There are good anchorages in the outer bay. The best anchorage at Curling, in 14.6 to 29m, mud, lies about 180m off Baggs Wharf, situated about 0.3 mile ESE of Spruce Point.

A moderate-sized vessel can ride here to about 2.5 shots of chain, but it is advisable to moor if the season is late or the stay prolonged.

The most convenient anchorage in Corner Brook Harbor is off Pettipas Cove, in depths of 24 to 35m. The holding ground of sand and mud is good. Small vessels are advised to seek shelter here.

Anchorage off the wharves in central Corner Brook can be taken, in 55 to 73m, stiff mud, about 0.3 mile N of Western Terminals Wharves. Two large vessels can be accommodated. The holding ground is excellent, except in E winds. There is anchorage close inshore for one vessel, in 28 to 37m, in the small bay close N of Western Terminals.

Vessels anchor off Humbermouth, in 46m.

The anchorages off the central and E parts of Corner Brook are strongly affected by winds and current, and by ice from the rivers entering Humber Arm.

Caution.—A submarine cable, lying in an ENE-WSW direction, fronts the wharves at Corner Brook at a distance of 0.5 mile; it continues to a position at the head of Humber Arm, about half-way between Wild Cove and Hughes Brook.

A dangerous sunken wreck lies about 0.5 mile SSE of Tuck-

er Point.

Corner Brook to Port au Port Bay

1.65 South Head (49°09'N., 58°22'W.) was previously described in paragraph 1.53.

Devil Head, about 1.8 miles SW of South Head, rises 248m in perpendicular black cliffs, contrasted by the grass-covered slopes inland. A fog signal is sounded, May to November, from a white building on Devil Head.

Little Port (49°07'N., 58°25'W.) is entered between Bara Point and Little Port Head, 230m W. Little Port affords anchorage for small vessels, in depths from 5 to 13m, sand and mud. Winds between the ESE and SSW cause violent squalls, and N winds send in a sea. The entrance of Little Port is dangerous for vessels in the spring and fall.

A light is shown from a circular tower on Little Port Head.

Virgin Mountain (Mount Virgin) (49°05'N., 58°25'W.) appears as a prominent isolated column and rises to an elevation of 488m.

Bear Cove (49°01'N., 58°28'W.) indents the coast and is open to the N and W. White Rocks are a group of rocky islets, 9.4m high, lying about 0.5 mile offshore, 1 mile NE of Bear Head. The islets are difficult to distinguish against the yellowish cliffs on the coast. Temporary anchorage can be obtained in Bear Cove, in 16.4 to 18.3m, during offshore winds. The anchorage position is about 0.3 mile NNE of White Rocks.

1.66 Bear Head (49°01'N., 58°29'W.) rises as a vertical cliff to 386m. From the S, Bear Head resembles a crouching animal and is very conspicuous.

Between Bear Head and Fish Head, nearly 4 miles S, the coast consists of somewhat broken cliffs which become higher and steeper as the land rises within. The cliffs are steep-to and may be closely approached in good weather, but in stormy weather there is a heavy sea in the area.

Between Fish Head and the Serpentine River (Coal River), about 0.5 mile SE, the coast forms a small bight in which the conspicuous and detached Frail Rock rises 24m. Shoals, with depths of less than 9.1m, extend about 0.5 mile off the mouth of the Serpentine River. In good weather, anchorage can be obtained off these shoals, but even with SE winds, there is a heavy ground swell which becomes a heavy sea when the wind shifts to the W.

Two rounded summits rise ESE of Bear Head; both summits are conspicuous from seaward.

Rope Cove indents the coast in position 48°55'N, 58°31'W. Depths of 6.1m, stones and boulders, lie 0.4 mile offshore between 0.65 mile and 1.35 miles SSW of the N entrance point of Rope Cove.

Mount Barren rises to 701m in the Lewis Hills, about 2 miles SSE of Rope Cove. The mountain has a conspicuous cliff on its seaward side. A conspicuous, detached peak, which appears conical from the W, rises to 466m about 0.8 mile N of Mount Barren.

Bluff Head (48°47'N., 58°37'W.), the E entrance point of Port au Port Bay, rises to 497m. Bluff Head is a very conspicuous headland with a vertical cliff on its seaward side. Deep gullies are formed in the hills sloping down from the headland. In offshore winds, very violent squalls are prevalent near Bluff

Head.

1.67 Dangers in the northeast approach to Port au Port Bay.—Shag Island (48°52'N., 58°35'W.) lies about 6 miles NNE of Bluff Head; its SW end should be given a berth of at least 180m. North of the island, fair anchorage can be taken, in 21.9m. Shag Island Light is shown near the NE end of the island.

Long Ledge parallels the mainland in the vicinity of Shag Island. The middle part of this ledge dries; on it are some detached patches of boulders from 0.9 to 1.8m high. Breakers can be seen on the ledge, except possibly at spring tide in calm weather. In NW winds, good anchorage can be obtained under the lee of Long Ledge, in 14.6 to 18.3m.

Directions.—Mount Virgin well open NW of Bear Head and bearing 045°, leads NW of Long Ledge, in 18.3 to 24m.

The lights on Broad Cove Point (48°46'N., 58°39'W.), in line bearing 136°34', lead about midway between Long Ledge and Long Point to the SW, in a least depth of 10.9m.

The conical peak N of Mount Barren (48°53'N., 58°29'W.), in line bearing 072° with the middle of Shag Island, leads S of the SW end of Long Ledge, in 10.9 to 12.8m. This range must be used with caution, for if extended, it leads over Round Reef.

Round Reef, which has a least depth of 1.3m and breaks in heavy weather, lies with its 8.8m S extremity about 2.4 miles E of the 9.1m SW extremity of Long Ledge.

The conical peak N of Mount Barren, in line bearing 076° with the NE extremity of Shag Island, leads N of Round Reef.

The W extremity of Bear Head, in line bearing about 030° with the inner summit of Little Port Head, leads SE of Round Reef.

Bluff Head is a very conspicuous headland presenting a vertical cliff to seaward and rising to 497m. A light is shown about 1 mile SW of the summit of Bluff Head.

Port au Port Bay

1.68 Port au Port (48°34'N., 58°46'W.) is entered between Bluff Head, on the mainland, and Long Point, 5.5 miles W.

Ice.—Port au Port Bay generally freezes early in January and the ice breaks up toward the end of April. Drift ice does not enter the bay to any extent, and never inside of Fox Island, which 3 miles within the entrance.

Tides—Currents.—Near the NW shore of Port au Port Bay, at the entrance, the ebb current sets NE and at times attains a velocity of 2 knots at springs. Then it changes to W across the shoal depths known as The Bar, which extend 1 mile NE from Long Point. Outside The Bar, the ebb current continues W.

The flood current sets along the W side of the 4.5 mile peninsula at the head of the bay, directly into Head Harbor. The velocities of both flood and ebb are strong enough to cause a heavy cross sea during contrary winds.

In the passage between Fox Island and the mainland, 1.5 miles E, the flood current sets S and the ebb N across Fox Tail, a reef extending 2 miles N from Fox Island.

Depths—Limitations.—The outer half of Port au Port Bay is principally encumbered with Fox Island and its reef, plus French Bank and American Bank, two additional reefs. However, a 16.4m channel leads past Fox Island into East Bay and a 10m channel leads between French Bank and American Bank

into West Bay.

A sandy shoal, with depths of less than 9.1m, extends N and NE from the 4.5 mile peninsula at the head of Port au Port Bay. There are scattered depths of 9.7 to 12.8m between the extremity of this shoal and the S end of American Bank.

East Bay has depths of 37m extending to less than 0.7 mile from Port au Port village at the head of the bay. West Bay has general depths of 16.4m; Head Harbor has general depths of 6.1 to 7.3m in its central port. Shoal flats extend off the NW entrance point of East Bay, and a small rocky patch lies off the NE entrance point of West Bay.

Aspect.—A radio tower, from which obstruction lights are shown, stands at an elevation of 210m, about 2 miles SW of Rocky Point, the W entrance point of West Bay. Three other radio towers, at elevations of 218 to 265m, stand close N and E of the lighted tower.

Between **Two Guts Pond** (48°39'N., 58°40'W.), the mouth of which lies about 2.5 miles SSE of Road Point, and the head of East Bay, about 5 miles SSW, is a conspicuous plateau which rises to 381m. The plateau falls gradually to the Fox Island River to the N, and to the S terminates in Table Mountain. Table Mountain, 361m high, rises about 1.8 miles ENE of the isthmus at the head of the bay; it appears as the end of the high land to the N when viewed from sea across the Port au Port peninsula.

A dome, conspicuous from seaward, stands about 1.3 miles SE of Black Head.

The Roman Catholic Church of Port au Port, which has a conspicuous spire, stands about 0.5 mile W of the isthmus.

Two lights, in line bearing 136°34', stand on Broad Cove Point (48°46'N., 58°39'W.). The range leads from seaward in a least depth of 10.9m between the shoals SW of Long Ledge and the shoals NE of Long Point. A light is exhibited from a position 3 miles SSW of Broad Cove Point.

Long Point Light lies about 5 miles WNW of Broad Cove Point.

Fox Island River Light is shown from a square tower situated on the north side of the river entrance.

A lighted buoy is moored about 2.5 miles N from the N extremity of Shoal Point (48°38'N., 58°50'W.).

Caution.—It was reported (2008) that silting has occurred in Fox River Channel. Mariners are cautioned that local knowledge is necessary and should exercise caution when navigating in this area.

Port au Port Bay—Outer Portion—East Side

1.69 Between the **Fox Island River** (48°42'N., 58°40'W.) and Road Point, the shore is bordered by shoals which extend as far as 0.7 mile offshore. North of the shoals anchorage can be taken, in 18.3m, mud, about 1.3 miles bearing 106° from the S extremity of Fox Island.

Fox Island, 44m high, lies about 2.5 miles SW of Broad Cove Point; grassy slopes on the W side of the island contrast markedly with dark clumps of spruce on the summit. Within 0.5 mile NNE and 1 mile W of the island, there are several dangerous rocks. A stranded wreck lies 0.25 mile NE of Fox Island, on the edge of a shallow bank, in about 5.5m. Good anchorage, in 20.1 to 24m, mud, can be obtained a short distance ENE of the shingle beach on the SE side of Fox Island. This

anchorage should not be used in strong SE to SW winds, for they cause a heavy sea, especially during the flood current.

Fox Tail, a reef, extends about 2 miles N from Fox Island.

Directions.—The W summit of Bear Head ($49^{\circ}01'N.$, $58^{\circ}30'W.$), in line bearing 025° with the W end of Shag Island, leads SE of Fox Tail in a least depth of 16.4m. This range also leads through the channel between Fox Island and the shoals off the mouth of the Fox Island River in a least depth of 20.1m.

Port au Port Bay—Outer Portion—West Side

1.70 In uncertain weather, vessels should not anchor off a position 7.5 miles SW of Long Point, since the holding ground is better farther S. Southeasterly and SW winds cause a choppy sea.

French Bank is centered about 1 mile SSE of Long Point. American Bank lies on the W side of the centerline of Port au Port Bay.

Port au Port Bay—Inner Portion

1.71 East Bay is entered between Road Point and Shoal Point, about 6.5 miles WSW. Though shelter is afforded from gales between the NNE and ESE, the probability of the wind shifting to the S and W renders East Bay insecure.

East Road, close SW of Two Guts Pond, is probably the best anchorage in East Bay during strong NE to SE winds. But, if the wind shifts S with a falling barometer, it is prudent to shift to West Bay.

Anchorage off Port au Port is not secure. Although the bottom is mud, a heavy sea sets in during N winds because of the considerable depths close offshore.

A sand flat extends 2.5 miles NNE from Shoal Point.

Anchorage.—The only secure anchorage in Port au Port Bay is in Piccadilly Bay (Head Harbor), where moderate-sized vessels can find shelter. West Bay affords shelter during SW and NE gales. East Bay affords shelter from gales between the NNE and ESE, but the probability of the wind shifting to the S and W renders it insecure.

West Bay is entered between Shoal Point and Rocky Point, about 4.7 miles W. Northeast gales raise a heavy sea in the bay, especially against the ebb tidal current. The middle of the bay affords the best anchorage for large vessels in Port au Port during SW and NW gales, for though the sea is heavy, it is not so short as in East Bay; the stiff mud bottom is good holding ground.

Moderate-sized vessels can anchor in Head Harbor. The holding ground is good and the anchorage is secure, even in strong NE winds.

1.72 Long Point ($48^{\circ}47'N.$, $58^{\circ}46'W.$) is the N extremity of the Port au Port Peninsula. The NW coast of this peninsula between Long Point and Clam Bank Cove, about 12.8 miles SW, is bordered by rocky ledges and boulders; a heavy surf usually breaks on it. For the first 1.5 miles, it is treeless and covered with grass, then it is thickly wooded and rises in a gentle slope. Clam Bank Cove has a stony beach and some shelter for landing boats.

The coast for 1 mile SW of Clam Bank Cove consists of low cliffs, then clay cliffs gradually increase in height to 70m, de-



Long Point

creasing again at Three Rocks Point.

Between Clam Bank Cove and Three Rocks Point is Round Head, a long ridge with three distinct peaks. The middle and highest peak, which rises to 253m, is perpendicular on its seaward side.

Low Point is a slightly rounded projection about 3.5 miles SW of Three Rocks Point. **Cow Rocks** ($48^{\circ}35'N.$, $59^{\circ}10'W.$) are a group of rocks fronting Low Point and almost 0.3 mile offshore; the NE rocks are 2.7m high.

Cow Rocks, bearing 216° and open NW of Cape Cormorant, leads NW of the dangers extending from Three Rocks Point.

Red Island, faced on all sides by red cliffs, lies about 1 mile NW of Cape Cormorant.

A light is situated on the NW side of the island and exhibited from a pyramidal skeleton tower, with a white daymark.

The Ridge is a reef connecting Red Island with the mainland about 1.8 miles ESE. It has depths of 2.7 to 4.6m. There are considerable overfalls on The Ridge, especially in strong W winds; in heavy weather it breaks over nearly its whole extent.

Vessels of suitable draft can cross The Ridge in fine weather by steering with Crow Head in range 045° with Low Point.

The tidal currents set strongly over The Ridge, with the flood setting NE and the ebb setting SW.

Red Island Road, on the N side of The Ridge, affords good anchorage, in 20.1 to 26m, in winds S of SW. The bottom is mostly sand, with mud in places. The best berth for a large vessel is in 26m, with the NE end of Red Island bearing 278° , and the cliffs about 2 miles SSW of Cape Cormorant bearing 200° .

A heavy ground swell indicates strong W winds in this locality. In winds N of SW, a heavy sea sets into the anchorage and it is then imprudent to remain.

Cape Cormorant is a perpendicular limestone cliff, about 213m high, which rises inland to a conical summit, 354m high.

Big Cove, with an entrance about 1.5 miles wide, indents the coast midway between Cape Cormorant and Cape St. George.

St. George's Bay

1.73 Cape St. George ($48^{\circ}28'N.$, $59^{\circ}16'W.$) is the SW extremity of the Port au Port Peninsula.

St. George's Bay (48°27'N., 58°47'W.) is entered between Cape St. George and Cape Anguille, 34.5 miles SW. With the exception of Saint George's Harbor, the bay is entirely without sheltered anchorage. Because of prevailing W winds a swell generally rolls in, which in a gale quickly becomes a heavy sea.

Winds—Weather.—Fog is not uncommon in spring after the ice has disappeared, but it is neither as thick nor as lasting as the fog on the S part of Newfoundland.

Ice.—St. George's Bay fills with constantly moving river ice which may fill the bay as early as early January, or as late as February. The bay generally clears between April 10 and 25, although it has been full of ice during May. Steady S and SE winds have occasionally cleared the bay of river ice altogether. The inner portion of St. George's Bay is generally frozen over between December and April, but in some years it is ice-free. The head of the bay occasionally freezes.

Tides—Currents.—The flood tide sets into the bay at 0.5 knot, but the main flood current sets to S off the entrance. During strong SE winds, the flood tidal current sets into the bay at 1 knot.

Depths—Limitations.—The outer part of St. George's Bay has depths of 37 to 147m. A 16.4 to 37m bank, 4 to 9 miles wide, crosses the bay SSE from a general area on the N shore about 15 miles E of Cape St. George. Depths increase E of the bank to 92m, and decrease to 37m in the entrance of the head of the bay. The head shoals evenly to the 10.9m curve. Saint George's Harbor has depths of 7.3 to 16.4m.

St. George's Bay—North Side

1.74 Between Cape St. George and Marches Point, about 6 miles ENE, the bottom offshore is rough and fit only for temporary anchorage in good weather.

Marches Point (March Point), which is fronted by a stony beach, is low and flat. The green of Marches Point contrasts noticeably with the dark wooded hills behind. A conspicuous hill, divided by a deep gully, rises to 233m about 1 mile NE of Marches Point. The W part of the hill is thickly wooded, but the E part is bare.

Sheaves Head, about 2.8 miles ENE of Marches Point, is about 15m high. It is a steep cliff. Sea Mouse Rocks are three rocky patches lying offshore between Marches Point and Sheaves Head.

Lower Cove is entered W of Pigeon Head (48°31'N., 59°01'W.), a conspicuous perpendicular bluff, 33m high. A small 7m patch, about 0.5 mile W of Pigeon Head, lies in the middle of the entrance of Lower Cove; the patch is marked by a lighted buoy. Vessels can obtain temporary anchorage inside the 7m patch, but the ground is rough and a heavy swell sets in when the wind is WNW.

A limestone quarry and loading operation is located about 0.8 mile NW of Pigeon Head. The quarry is a large light-colored scar appearing against the dark landscape and is conspicuous from seaward. The loading pier has a total length of 301m including dolphins. The berth can accommodate vessels with a maximum draft of 12.8m at LW.

Ship Island lies about 2 miles E of Pigeon Head. A rocky patch, with depths of 6.1 to 9.1m, extends from 200 to 640m SW of Ship Island, but passage between should not be attempted.

Isthmus Bay lies on the S side of the short, narrow isthmus joining the Port au Port Peninsula and the mainland. The bay is frequently used as an anchorage, but the holding ground is uncertain and a heavy swell sets in during winds from WSW. Depths in the bay shoal gradually from 10.9m in the entrance. The Port au Port Roman Catholic Church, which has a conspicuous spire, stands about 0.8 mile W of the head of the bay.

Gravels Bank, with depths of less than 18.3m, extends about 3.5 miles S from the head of Isthmus Bay. The least depth on the bank is a 10.6m stony patch lying about 2.5 miles SE of the spire at Port au Port. Slight tide rips show on this patch at springs.

Romaines Brook, which dries at its mouth, enters St. George's Bay about 3 miles E of the Port au Port church spire. On the E side of the brook's entrance, an outcrop of gypsum is conspicuous when the sun shines on it. Two conspicuous detached whale-backed summits, the higher 332m high, rise about 2 miles N of the mouth of Romaines Brook. A bridge crosses the brook about 180m from its mouth.

Blanche Brook lies about 4 miles E of Romaines Brook. Stephenville Airport lies close E of the mouth of Blanche Brook. Five towers are centered about 0.5 mile NE of the mouth at Blanche Brook. An aeronautical light lies nearly 0.8 mile ENE of the center tower. In addition, obstruction lights are shown in the vicinity of the lights just described.

Stephenville and Port Harmon

1.75 Stephenville (48°32'N., 58°32'W.) (World Port Index No. 1810) and Port Harmon are situated within Shallow Lagoon, separated from St. George's Bay by a barrier beach. Port Harmon forms the harbor of Stephenville. It is open year round but navigation may be restricted from December to March by weather conditions. General cargo vessels and tankers use the port.

About 0.7 mile NNW of Indian Head, a dredged channel cuts through the barrier beach and leads about 1.5 miles NNE to a turning basin and wharf on the E side of Stephenville. The entrance of the dredged channel is protected by a piled-stone breakwater projecting nearly 0.8 mile SSW from the N side of the cut.

The town of Stephenville stands on the coast W of Blanche Brook. From the mouth of Blanche Brook to Indian Head, about 3 miles SSE, a narrow beach fronts Port Harmon, an extensive and shallow lagoon.

Ice.—Though the port is open year around, operations are curtailed from December to March, inclusive, because of high winds and seas.

Depths—Limitations.—The channel leading into Stephenville Pond is 72m wide and 1.5 miles long. The channel has a controlling depth of 10m and leads to a turning basin having a controlling depth of 9.2m.

A vessel with a maximum draft of 8.2m is the largest vessel that can be accommodated. There are daylight sailings only.

The Newsprint Mill Site, a dolphin berth, can accommodate vessels with a maximum loa of 183, with a maximum draft of 5.5m. It has been reported (2020) this berth is closed.

The quay at Port Harmon has a length of 293m and an alongside depth of 9.2m. A maximum vessel draft of 8.2m can be accommodated. Breakbulk, containers, steel goods, liquid cargo,

project cargo, and heavy cargo are handled.

Aspect.—Hills rise steeply to over 152m on the SE side of the lagoon; four aviation warning lights are situated on the higher elevations of these hills. About 11 mile NE of Indian Head a conspicuous peak rises to 698m.

Lighted Buoy XS is situated about 0.8 mile SSW of the entrance, from the NW side of which a stone breakwater extends 400m SSW. The breakwater light is shown on its outer end.

A lighted buoy is moored close off some drying rocks which extend nearly 90m SE from the breakwater head. Stephenville Channel Light is shown on the W side of the channel, about 365m NNE of the breakwater light. A similar light is shown on the W side of the channel, 0.4 mile farther NNE.

Behind the wharf on the NE side of the basin there are two lighted range beacons. The beacons, in line bearing 024°, lead from Lighted Buoy XS into and through the dredged channel, and into the turning basin, but a ship should keep slightly E of the alignment when passing the head of the breakwater to ensure clearing the shoal water extending 90m SE from it.

Pilotage.—Pilotage is compulsory. The pilot boards in position 48°29'40"N, 58°33'00"W. Pilots should be requested from the Atlantic Pilotage Authority at least 12 and 4 hours prior to arrival. Confirmation of ETA should be made 12 hours and 4 hours prior to arrival.

Regulations.—Port Harmon, which forms the harbor of Stephenville, is a Public Harbor administered by the Canadian Ministry of Transport. It is open all year round, but navigation may be restricted from December to March by weather conditions.

Contact Information.—See the table titled **Port Harmon—Contact Information**.

Port Harmon—Contact Information	
Port Harmon Authority	
Telephone	1-709-643-5626
	1-709-643-9500
Facsimile	1-709-643-6130
E-mail	info@portharmon.com
Web site	http://www.portharmon.com
Pilots	
VHF	VHF channels 11 and 16
Telephone	1-877-272-3477
Facsimile	1-866-774-2477
E-mail	dispatch@atlanticpilotage.com
Web site	http://www.atlanticpilotage.com

Anchorage.—The holding is poor and vessels are exposed to the prevailing W wind.

Caution.—Great care must be used in navigating the entrance channel, especially with W winds.

Booms of logs are often being towed within the harbor and mariners are warned that floating and partly-submerged logs may be encountered at any time.

A submarine pipeline extends 0.4 mile SSW from the shore close SE of the entrance.

Indian Head (48°30'N., 58°32'W.) is a conspicuous cliffy headland, 58m high. The headland gradually rises to a conical wooded peak, 192m high, about 1.4 miles NNE.

St. George's Bay—South Side

1.76 Cape John (47°58'N., 59°18'W.), nearly 5 miles NE of Cape Anguille, is the rocky N entrance point of Snakes Bight, a 2.5 mile wide indentation. In ESE to S winds, vessels can anchor in Snakes Bight, in 29 to 33m.

Old Bone-em, a needle-pointed rock, 40m high, lies about 2.8 miles NE of Cape John. Old Bone-em is close offshore and is distinctly seen only from a direction nearly parallel with the coast.

Johnsons Cove indents the coast about 14.5 miles NE of Cape Anguille. Conspicuous bare cliffs, 384m high, overlook the N side of Johnson Gulch, a gully which extends inland from Johnsons Cove.

Lewis Point (48°06'N., 59°05'W.) appears as the tangent of the coast on E bearings. Lewis Rocks, two detached rocks, with the E one being 6.1m high, are located about 365m NE of the point.

Gulls Nest Rock, 16m high, stands close to the coast, about 2.8 miles NE of Lewis Point. The Spout Falls is a conspicuous waterfall about 1 mile E of Gulls Nest Rock.

Highland Church, on the coast 1.75 miles NE of Shoal Point (48°09'N., 58°57'W.), is a conspicuous white building with a small, square tower.

Plaster Cove is entered between Shoal Point and Highland Church. About 0.8 mile NE of Shoal Point, an outcrop of gypsum is conspicuous. The N part of Plaster Cove has shoal depths of 6m, 545m offshore, but WSW of these depths good anchorage can be obtained, in 10.9 to 18.3m, during offshore winds. The bottom is soft in places. A small, stony 6.9m shoal lies about 0.7 mile NNW of Highland Church.

1.77 Between River Brook (48°11'N., 58°53'W.) and Crabbes Brook (Crab Brook), about 2 miles NE, the coast is composed of low cliffs backed by steep slopes. This section of the coast should be given a berth of 0.75 mile.

Crabbes Brook Village is situated on both shores of Crabbes Brook, just within the entrance. There is a conspicuous white church with a red roof on the SW shore of the brook.

A conspicuous church (48°15'N., 58°47'W.) stands in a village on the NE side of the entrance of Robinson Brook.

Robinson Head (48°16'N., 58°48'W.), about 0.8 mile NE of Robinson Brook, rises on its N side to a flat-topped summit, 74m high. The W summit of Robinson Head is a peak of white sand, with grass and stunted trees on its landward side. The conspicuous face of the slope shows alternate patches of white sand and brushwood.

Bank Head (48°22'N., 58°41'W.) rises to a conspicuous cliff, 45m high, about 0.5 mile S of the head. Several summits of the range, about 12 miles inland, are conspicuous. One saddle-shaped summit, 538m high, rises about 15.5 miles SSE of Bank Head.

St. George's Bay—Head

1.78 Cairn Mountain (Steel Mountain), 306m high, is a conspicuous mass of ironstone rising about 4.5 miles SE of Turf Point (48°26'N., 58°28'W.). Rugged broken ridges continue NE from Cairn Mountain. Conspicuous in the ridges is a white patch about 3 miles NE of Cairn Mountain.

Flat Island is a low ridge of stones and shingle. It lies on the S side of the approach to the head of St. George's Bay. In foggy weather, vessels should keep in depths over 22m. Harbour Point, its NE extremity, is marked by a light. Flay Bay lies between Flat Island and the coast SE.

Saint George's Harbor (48°27'N., 58°27'W.) (World Port Index No. 1820) occupies the outer 0.75 mile of Flat Bay. Flat Island protects Saint George's Harbor from the W and NW. The central part of Flat Island for a distance of 1.75 miles has been eroded away and offers no protection from the sea at HW. The harbor is normally navigable from the beginning of May until the end of December.

Tides—Currents.—The MHW interval at Saint George's Harbor is 9 hours 49 minutes; spring tides rise 1.5m and neap tides rise 1.1m.

At spring tides, the tidal currents run with some strength at the anchorage SE of Harbor Point.

Depths—Limitations.—There are depths of 12.8 to 18.3m at the entrance of Saint George's Harbor, shoaling evenly to 5.5m at the steep-to edge of the shoal water in Flat Bay, about 0.8 mile within the entrance. The 5m curve, which lies 180m off Turf Point, extends as far as 670m off the shore between Turf Point and the pier at Saint George's.

The Flintkote Jetty is about 230m long and has berths on either side. The E side has depths of 5.2 to 11.6m; the W side has depths of 7.6 to 12.5m. An L-shaped government wharf situated in St. George's may be used by small craft. A submerged crib, with a depth of 8.7m, lies about 174m, bearing 261°, from the outer end of the wharf.

Aspect.—A church at Sandy Point Village has a low white spire and stands in a grove of trees 0.75 mile WSW of Harbor Point.

The Saint George's Village church stands about 1 mile SW of Turf Point. The church is painted yellow and has a red roof and a low square tower.

Another church, gray and white, with a small yellow dome and clock beneath, stands about 0.3 mile E of the Episcopalian Church.

A light is shown on the head of the Flintkote Jetty, which is situated at Turf Point, the S entrance point to Flat Bay.

A light is shown on the head of St. George's Wharf, about 0.7 mile SW of Turf Point.

St. George's range lights are shown close SW of the government wharf. In line bearing 179°, they lead in the approach channel, which is marked by two pairs of buoys. There are depths of 1.2m about 180m NNW, and 0.9m about 0.2 mile NW, of the head of the wharf; a vessel must adhere to the range line until the inner pair of buoys has been passed, when course must be altered E to proceed alongside the face of the wharf.

Pilotage.—If required, a pilot can be obtained by the Flintkote Company of Canada Ltd.; 5 hours notice is required.

Anchorage.—Anchorage can be obtained anywhere N of Harbor Point, within a reasonable distance of shore. However,

in strong W winds, a heavy sea sets in; during fresh E winds violent squalls blow off the land.

Easily-accessible anchorage may be taken SE of Harbor Point, in 10.9 to 18.3m, stiff mud, good holding ground.

Small vessels with local knowledge anchor off Turf Point.



Cape Anguille Light

1.79 **Cape Anguille** (47°55'N., 59°24'W.) rises steeply to a sharp summit, 187m high. The land within the summit, after forming a slight hollow, rises again to a range of high hills. The NE side and summit of this range are thickly wooded, but the W and S sides have been cleared and are covered with dead stumps and grass. A light is shown about 1 mile S of the cape.

The summit and NE side of Cape Anguille are thickly wooded, but the W and S sides are cleared.

Between Cape Anguille and Beach Pointe, about 2 miles S, the coast rises steeply to the W end of the Anguille Range. Clearings on the lower slopes contrast noticeably with dark trees about and sometimes below.

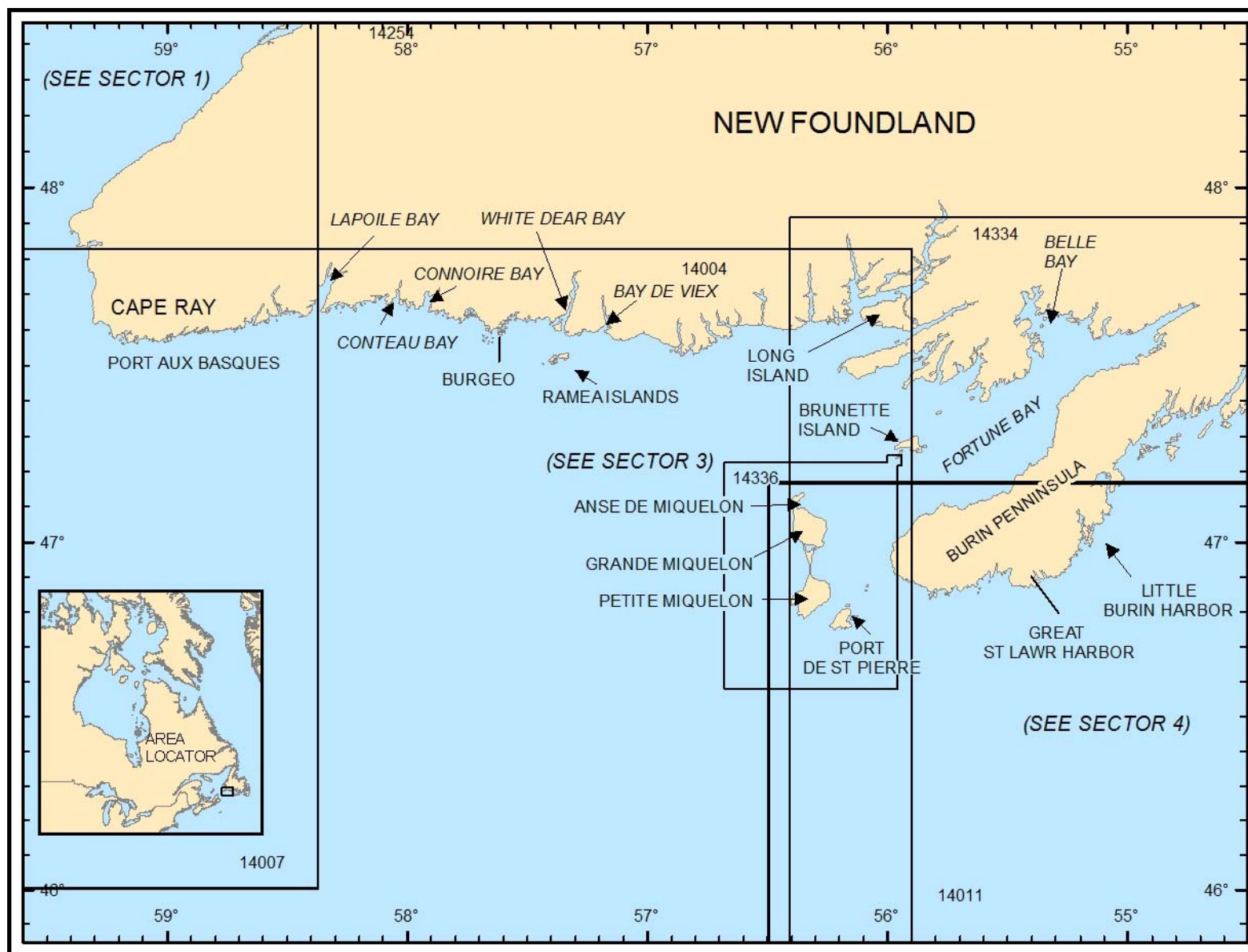
Codroy Island, 10.9m high, lies about 0.2 mile SW of Beach Point. Numerous buoyed fishing nets are usually moored along the coast of Codroy Island. On the E side of the island is a small harbor, where fishing vessels with local knowledge anchor. Codroy Light is shown on the S extremity of Codroy Island. The fairway lighted buoy is moored 0.45 mile ESE of the light.

Codroy Road is entered between the S end of Codroy Island and Stormy Point, about 2 miles SSE. Codroy Road affords anchorage, in 9 to 18m, stones. A swell nearly always rolls in from seaward and in W winds the anchorage is insecure. The MHW interval at Codroy Road is 8 hours 50 minutes; the mean range of tide is 0.8m and the spring range is 1.1m. The flood current is usually N, while the ebb current is usually S. Heavy tide rips are frequent between Codroy Island and Cape Anguille. In stormy weather, a heavy, confused sea makes up in this locality.

Stormy Point is a narrow reddish-colored cliffy projection which should be given a berth of 0.5 mile.

The Grand Codroy River is entered about 1.5 miles E of Stormy Point. A conspicuous steeple stands on the S side of the river entrance. A submarine cable is located in the vicinity of the south side of a small bridge that crosses the mouth of the Grand Codroy River.

The Little Codroy River lies about 0.8 mile E of **Larkin Point** (47°46'N., 59°20'W.). Small vessels with local knowledge anchor off the mouth of the river in offshore winds.



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

SECTOR 2 — CHART INFORMATION

SECTOR 2

NEWFOUNDLAND—SOUTH COAST—CAPE RAY TO POINT CREWE

Plan.—This sector describes the S coast of Newfoundland, from Cape Ray, on the NE side of Cabot Strait E, to Point Crewe, on the SE side of Fortune Bay entrance.

Cape Ray to Port aux Basques

2.1 Cape Ray ($47^{\circ}37'N.$, $59^{\circ}18'W.$), the SW extremity of Newfoundland, is 15.2m high, rising to 49m within. Table Mountain rises abruptly and attains an elevation of 579m in a position about 6 miles NNE of the cape. Cook Stone, a small peak, 478m high, rises near the S end of the mountain. Sugarloaf, a conspicuous conical hill, 244m high, rises nearly 1 mile SW of Cook Stone. Two smaller conical hills rise between Sugarloaf and the coast.

Cape Ray Light, a tall white octagonal tower, is situated 0.1 mile from the cape.



Cape Ray Light from S, distant 2 miles

Tides—Currents.—The tidal currents between Cape Ray and Ile Saint-Pierre are felt from 10 to 15 miles offshore. It sometimes happens that the inshore tidal current is running in one direction while the tidal current 5 to 6 miles offshore is running in the opposite direction. This should be borne in mind by vessels of low power desiring to make the passage through Cabot Strait in the shortest possible time.

The flood tidal current between Cape Ray and Cape La Hune is irregularly W, and continues 2 to 3 hours after HW along the shore. At Cape Ray this current is variable, generally setting into the Gulf of St. Lawrence, sometimes attaining a velocity of 2 knots within a short distance of the cape. West of the Penguin Islands, the flood current is W and the ebb is E.

The currents in Fortune Bay are irregular, especially near Brunette Island and the Plate Islands. The flood tidal current is usually W on the N side of Fortune Bay and E on the S side.

The current on the S coast of Newfoundland sets NW between Ile Saint-Pierre and Cape Ray and passes around Cape Ray into the Gulf of St. Lawrence. In normal weather this current is felt at a distance of 10 to 15 miles, or even farther, from Cape Ray. The rate varies in August from 0.5 to 1.5 knots about 13 miles W of the cape. This current is not constant, but appears to have no relation to the rise and fall of the tide.

Ice.—The waters in the vicinity of Cape Ray are the last to fill with ice, and the first to open with a passable channel into the Gulf of St. Lawrence. Fortune Bay is seldom frozen over.

Aspect.—The coast in the vicinity of Port aux Basques is comparatively low, with elevations up to 70m near the shore. East of Port aux Basques, elevations are higher. Conspicuous from the offing, from the W to E, are **Garia Peak** ($47^{\circ}47'N.$,



Cape Ray Light

$58^{\circ}32'W.$), the Highland of Grand Bruit, and the **Blue Hills of Couteau** ($47^{\circ}50'N.$, $58^{\circ}02'W.$). The Highland of Grand Bruit is a steep cliff, surmounted by a cairn of stones, rising to 308m in a range of hills about 2 miles NNE of Grand Bruit Harbor. The Blue Hills of Couteau, about 8 miles N of Couteau Bay, are two conspicuous bluffs, 580 and 562m high, respectively, which are part of extensive ranges extending E and W.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

Caution.—A submarine cable is located about 1.3 miles NE of Cape Ray in the vicinity of Cape Ray Cove.

2.2 Between **Connoire Head** ($47^{\circ}35'N.$, $57^{\circ}55'W.$) and Cape La Hune, about 43 miles ESE, conspicuous coastal features, from W to E, are Richards Head, near the port of Burgeo; Woody Island, in the entrance of White Bear Bay; Gull Hill

and Copper Island, in the Ramea Islands; and West Point and Cape La Hune, at the entrance of La Hune Bay.

A group of red cliffs are very conspicuous in the sunlight on the coast between **Hare Bay** (47°37'N., 56°31'W.) and **Facheux Bay** (47°38'N., 56°20'W.). Marine farms are charted in Facheux Bay, Caution is advised.

The coast between Cape Ray and Enragee Point, about 4 miles SE, should be given a berth of at least 1.5 miles by large vessels due to off-lying rocks and shoals.

Brandies Rock, nearly awash, on which the sea breaks, is located about 1 mile W of Cape Ray Light and 0.5 mile west of Bird Island. Snook Bank, with a depth of 11m, lies 0.75 mile SSW of Cape Ray. Barachois Rock, with a depth of 2.7m, lies about 1 mile offshore, 2 miles SE of Cape Ray. Halibut Rock lies 1.25 miles SSE of Barachois Rock. The rock dries 0.9m.

Enragee Point (47°35'N., 59°13'W.) is low and bordered by rocks. The bay close E of the point affords sheltered anchorage, in depths of 6.1 to 12.2m, except from wind and swell from the SE through S to SW. Jersey Rock, with a depth of 2.7m, lies about 0.5 mile SE of the point. Durant Rock, with a depth of 3.7m, lies NE of Jersey Rock.

Durant Island lies about 1 mile ESE of Enragee Point. Duck Island lies about 0.5 mile SE of Durant Island. Anchorage can be taken in the channel between Durant Island and Duck Island, in 5.5 to 7.3m, sand. Vessels approaching this anchorage should steer in mid-channel between the islands.

Fail Rock, with a depth of 4.6m, is located about 0.5 mile SE of Duck Island. Yankee Shoal, with a depth of 7.3m, lies 1 mile SE of the same island. Mouse Rock, with a depth of 1.8m, is located about 1.5 miles E of Duck Island.

Pig Island (47°34'N., 59°09'W.), 6.1m high, lies in the entrance of Motherlake Bay; this bay can be entered between Pig Island and the mainland to the W, and affords sheltered anchorage to small vessels with local knowledge.

2.3 Approaches to Port aux Basques.—West Rock, with a depth of 7.9m, lies about 0.8 mile SW of Channel Head, which is the S entrance point of Port aux Basques Harbor. Southeast Rock, a rock with a depth of 9.8m which breaks in heavy weather, is located about 0.5 mile E of the head. It is marked by a lighted buoy. Little Bay Shoals lie on the E side of the approach to the port, about 1.3 miles ESE of Channel Head. The shoals contain two rocks 0.6 and 0.9m high.

Shoal Point, the E entrance point to the harbor, lies about 0.5 mile NNE of Channel Head. Pot Rocks, awash at LW, lie 0.35 mile ESE of Shoal Point. They break on all but very calm days. During the months of June and July, many salmon fishing nets are set in the approaches to the port.

Graveyard Point, marked by a light, lies 0.5 mile NW of Channel Head. Middle Baldwin Rock, with a least depth of 1.8m, lies about 0.1 mile NE of Graveyard Point Light. East Baldwin Rock, which dries 0.9m, lies about 245m E of Middle Baldwin Rock. These rocks are marked by buoys.

Port aux Basques (47°34'N., 59°08'W.)

World Port Index No. 1795

2.4 The harbor of Channel-Port aux Basques has been used for shipping since 1898. Port aux Basques is located on the tip of the SW coast of Newfoundland, about 8 miles ESE of Cape Ray. It consists of a town with a small natural harbor. Port aux Basques is primarily a transfer point for goods and passengers between Newfoundland and Nova Scotia. The port is entered between Channel Head and Shoal Point, about 0.5 mile N. Marine Atlantic is the sole shipping company operating from the harbor, with the Canadian Coastguard, oil tankers, cruise ships, and other occasional shipping companies harboring.

Ice.—Port aux Basques is seldom frozen over and navigation, as a rule, is open all year; however, the harbor is sometimes blocked by drift ice, which comes in with SW winds in February and March. The harbor has only been frozen over once in the 44 years preceding 1956.



Port aux Basques Light (on Isle)

Tides—Currents.—The MHW interval at Port aux Basques is 9 hours 00 minutes; springs rise 1.7m and neaps rise 1.1m.

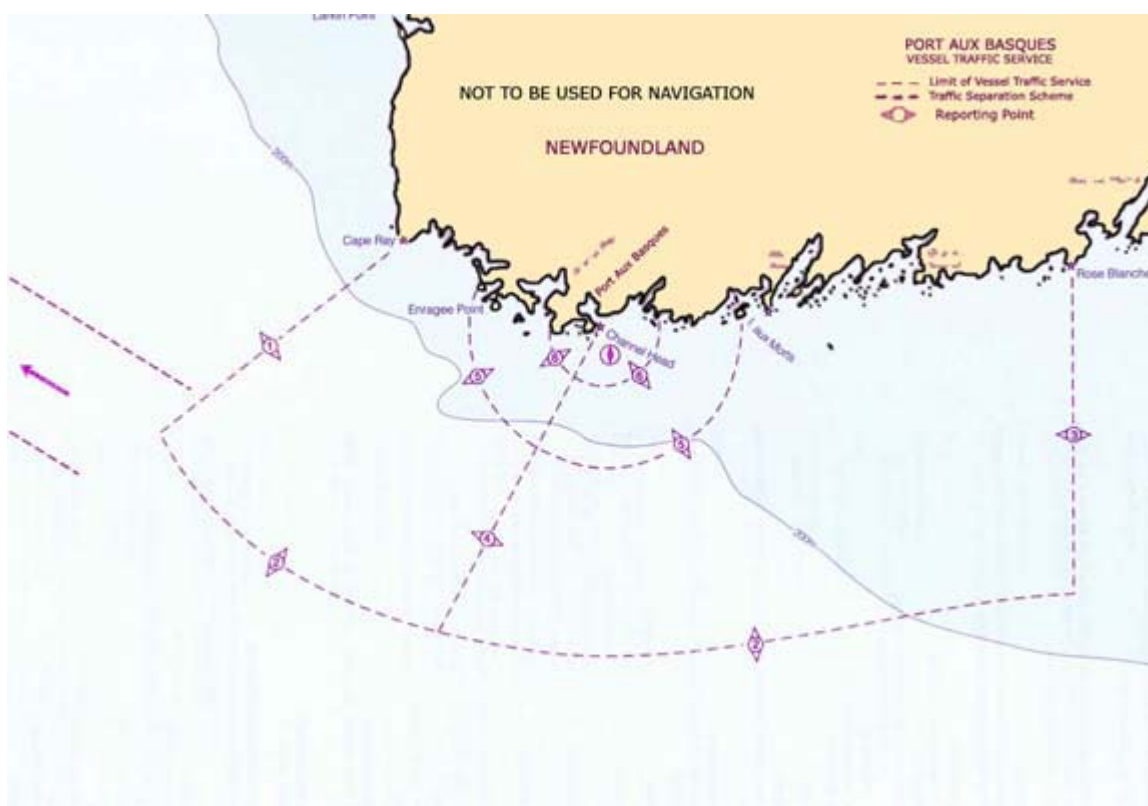
A 1 knot current has been reported in the harbor.

Depths—Limitations.—A depth of 18.3m can be carried through the harbor to the commercial port, but there are lesser depths on either side of the leading line and towards both sides of the buoyed channel.

Vessels up to 7,036 dwt and 119m in length can enter the port.

Port aux Basques—Berth Information			
Berth	Length	Depth alongside	Remarks
Ferry Terminal			
East Wharf	192m	6.4m	General cargo
Middle Wharf	122m	6.7m	General cargo
West Wharf	—	5.8m	General cargo

Port aux Basques—Berth Information			
Berth	Length	Depth alongside	Remarks
Government Jetty (inner end)	52m	3.7m	—
Government Jetty (inner end)	90m	4.9m	—
Marine Atlantic Terminal			
South Wharf	169m	7.3-9.1m	Ro-ro, general cargo, passengers, and petroleum products
North Wharf	166m	6.4m	Ro-ro, general cargo, passengers, and petroleum products



Port aux Basques Vessel Traffic Service

Without local knowledge, it is not advisable to enter Port aux Basques when Southeast Shoal is breaking because of the heavy sea that will be running between the S breakwater and Baldwin Rocks, where the channel narrows. Vessels are liable to sheer with a heavy following sea. The channel narrows again off Vardys Island and must be navigated with caution; a depth of 6.7m exists about 130m SW of Vardys Island Light (47°35'N., 59°08'W.).

Two Canadian National Railway wharves used for general cargo and freight are situated on the W side of the commercial port opposite Fords Island. It is used to load rail traffic by means of a lift ramp at the N end.

The main Marine Atlantic Terminal is situated N of Vardys Island at Fords Island. There are three wharves. The E wharf, lying in an ENE direction from the shore, is 192m long, with a

least depth of 6.4m alongside. The center wharf has a length of 122m, with a least depth of 6.7m alongside. The W wharf is made from a number of concrete dolphins. Four dolphins span a length of 137m in a W direction; three dolphins span a length of 53m in a NW direction. The least depth off these dolphins is 5.8m. For berth information see the table titled **Port aux Basques —Berth Information**.

The public wharf SW of Vardys Island is 70m long and 9.1m wide. The outer 46m of this wharf has a least depth of 4.9m alongside. Close S of this wharf, there is another public wharf, 52m long, with a least depth of 3.7m alongside the NW face.

Aspect.—Table Mountain and Sugarloaf Hill are conspicuous in the approach to Port aux Basques.

The land around the harbor is barren and rocky in appearance.

Flagstaff Hill, at the head of the harbor, is 66m high and the highest feature in the locality. Three towers, marked by obstruction lights, stand on Flagstaff Hill.

Channel Head (47°34'N., 59°07'W.), the E extremity of a small rugged island lying close to the shore, is the W entrance point of the harbor. A light is shown at an elevation of 29m from a white tower on Channel Head. An overhead power cable, with a vertical clearance of 10m, crosses Channel Gut close W of Channel Head.

The village of Channel-Port aux Basques is conspicuous from seaward. It is situated on the peninsula which forms the SW side of the harbor. A church with twin spires, situated about 0.6 mile WNW of Channel Head, is conspicuous from sea. Limited supplies of gasoline, diesel fuel and fresh water are available at Channel-Port aux Basques.

Range lights are shown in the port, with the front light situated about 500m NW of Vardys Island Light and the rear light situated on Flagstaff Hill, about 230m NW of the front light. These range lights and Vardys Island Light, in line bearing 300.5°, lead through the entrance and in mid-channel of the fairway off the S breakwater.

Pilotage.—Pilotage is available but not compulsory for merchant ships. Pilots should be requested from the Atlantic Pilotage Authority (see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for more information). Notice of ETA should be given 12 hours and 4 hours prior to arrival. The pilot boards in position 47°33'00"N, 59°07'00"W.

Vessel Traffic Service.—The Port aux Basques Vessel Traffic Service (Port aux Basques VTS) operates in the approaches to Port aux Basques between **Cape Ray** (47°37'N., 59°18'W.) and Rose Blanche Point (47°36'N., 58°42'W.) and is mandatory for the following vessels:

1. Vessels of 20m or more in length.
2. Towing vessel where the tow is 20m or more in length or the overall length of the vessel and tow is 54m or more.
3. Air cushion vessels of 8m or more in length.

While transiting the VTS area, vessels are to maintain a continuous listening watch on VHF channel 11. The vessel's ETA should be sent by the ship's agent to ECAREG Canada (facsimile: 1-709-772-5369) 96 hours prior to arrival; the VTS should also be notified 12 hours in advance at the zone limit. Port aux Basques Traffic can be contacted on VHF channels 11.

The limits of the VTS area and the positions of the reporting

points are best seen on the chart.

Vessels should note that the Port aux Basques VTS requirements are separate from the requirements for the Eastern Canada Vessel Traffic Services Regulations (ECAREG). Further information on ECAREG can be found in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas.

Anchorage.—Port aux Basques affords anchorage in the area E and SE of Fords Island, in 14.6 to 20.1m, mud. The holding ground is bad until the channel between Vardys Island and Pikes Island is well open to a vessel proceeding NW into the anchorage. The best berth, in 18.3m, lies about 275m N of Vardys Island Light. Berth No.1 has been discontinued.

Port aux Basques—Contact Information	
Port Authority	
Telephone	709-695-3107
Web site	http://www.portauxbasques.ca/harbour.asp
Harbormaster	
Telephone	709-695-7975
Facsimile	709-695-9485
Pilots	
VHF	VHF channel 16
Vessel Traffic Service	
VHF	VHF channel 11
Telephone	709-695-2133 (Officer-in-Charge)
	709-695-2167 (Operations)
	709-695-2168 (NOTSHIP Desk)
Facsimile	709-695-7784
MMSI	003160018
E-mail	safety.portauxbasques@innav.gc.ca
Canadian Coast Guard	
Telephone	709-695-2167
Facsimile	709-695-7784
E-mail	voj001@attmail.com

Port aux Basques Vessel Traffic Service Reporting Points		
Number	Name	Description
1	Cape Ray	Line bearing 232° from Cape Ray Light to the limit of Canadian territorial waters
2	Southern Limit	Line joining position 47°30.0'N, 59°32.5'W and position 47°23.6'N, 58°41.5'W following the boundary of Canadian territorial waters
3	Rose Blanche	Line bearing 180° from Rose Blanche Point Light to the limit of Canadian territorial waters
4	Ferry Track	Line bearing 209° from position 47°33.0'N, 59°07.5'W
5	Five miles off Channel Head	An arc 5 miles from Channel Head Light

Port aux Basques Vessel Traffic Service Reporting Points

Number	Name	Description
6	Two miles off Channel Head	An arc 2 miles from Channel Head Light

Directions.—From the pilot station, vessels should approach the harbor on a N course between Channel Head and Southeast Shoal (47°34'N, 059°07'W). A depth of 18.3m can be carried through the harbor to the commercial port, but there are much shallower depths either side of the range line and towards both sides of the buoyed channel. The buoyed channel can be followed through the inner part of the harbor.

Caution.—Without local knowledge it is not advisable to enter Port aux Basques when Southeast Shoal is breaking due to heavy seas that will be running between the S breakwater and Baldwin Rocks, where the channel narrows. Vessels are liable to sheer with a heavy following swell. The channel narrows again off Vardys Island and must be navigated with caution, a depth of 6.7m exists, 131m distant bearing 236.5° from Vardys Light Tower.

The channel between Middle Baldwin Rock and the breakwater close E of Graveyard Point should be navigated with caution because the navigable widths between the 5m and 10m curves are only 75m and 45m, respectively.

Vessels should proceed with caution when passing between Fords Island and a vessel berthed at the wharf because of the narrow channel.

The buoys cannot be relied upon during the winter months; when the presence of ice renders it necessary, the buoys are removed.

2.5 Little Bay Head lies about 1 mile E of Shoal Point. Little Bay and Butter Harbor, each with anchorage for small vessels, lie close N of Little Bay Head.

Margaree Harbor lies N of **Black Rock** (47°34'N., 59°04'W.). Small vessels with local knowledge can take anchorage in Margaree Harbor. The harbor is entered SE of Margaree Point, which is marked by a light. A church spire with elevation of 29m in the settlement on the mainland is conspicuous from seaward.

Isle aux Morts Harbor is entered between **White Head** (47°34'N., 59°02'W.) and a point about 2.5 miles ENE. The harbor, which affords anchorage to small vessels with local knowledge, is approached by three passages, of which Middle Passage and Western Passage are narrow and intricate. Local knowledge is essential for these passages. Small vessels drawing less than 6.1m can navigate Western Passage. Ships entering the harbor normally use Eastern Passage. This passage is marked by buoys and range lights.

A light is shown from Pitmans Island.

Coney Head is a white cliffy bluff lying about 2 miles E of the E entrance point of Isle aux Morts Harbor. Butterpot Hill is conspicuous and rises 82m about 1.5 miles NNE of Coney Head. Southwest Rock is a 1.8m rock lying about 0.8 mile SW of Coney Head.

Caution.—Submarine cables extend 12.7 miles E from a position near the harbor entrance S of Rose Blanche, passing close S of Middle Stick Shoals, to the entrance to La Poile, S of Ireland Island.

2.6 God Bay is entered between Coney Head and Stickland Point, about 2 miles ENE. The Burnt Islands are the numerous islands and rocks which front and partially fill God Bay. Of the smaller islands of the group the most conspicuous are Colombier Islet and Little Colombier Islet, rocky islets, 8.2m and 10.6m high, respectively, which mark the W side of the entrance channel. The White Islets are conspicuous with their summits of white rock; they lie on the E side of the entrance channel, about 0.8 mile S of Stickland Point. The harbor affords good sheltered anchorage to vessels of moderate size with knowledge. Range lights are shown from Great Brunt Island; a fog signal is sounded from Colombier Islet.

Grandy Sound lies in the NE part of a bight which indents the coast between **Stickland Point** (47°36'N., 58°53'W.) and a promontory about 2.5 miles E. The entrances are narrow, intricate, and only suitable for small vessels with local knowledge. Harbor Island lies with its W extremity about 0.3 mile E of Stickland Point. In heavy weather, the area between Colombier Islet and the W extremity of Harbour Island is a mass of breakers. Anchorage can be taken inside Harbour Island, in depths of 9.1 to 10.9m; the holding ground is not good and the space is limited. A wharf extends 42m to a depth of 3.6m alongside from the SW shore of the arm close NW of Harbour Island.

Caution.—A submarine pipeline extends from a water tank 0.5 mile NE of Stickland Point to the shore about 0.4 mile NW.

Tinker Island (47°36'N., 58°48'W.), 6.1m high and the westernmost of the Baziels Islands, consists of large blocks of shale and granite. A single block stands on the summit of the island at an angle of 45°.

Green Island, rather conspicuous, is 6.4m high and covered with grass; it lies about 1.8 miles ENE of Tinker Island. The Barasway is entered close to the N of Green Island; in its N part, there is a conspicuous waterfall.

Mull Face Bay is entered ENE of Green Island. The bay affords confined anchorage to small vessels, in a depth of 7.3m. Local knowledge is required. Yankee Rocks, the highest being 3.4m high, are a group of rocks lying close off the W side of the entrance to Mull Face Bay. Green Island Sunkers, consisting of several rocks and ledges on which the sea usually breaks, lie SE and SW of Green Island.

2.7 Rose Blanche Harbor lies about 2 miles E of Mull Face Bay, it is fairly easy to access. Thin ice occasionally forms in the harbor; however, when gulf ice is pressed in by SW winds, it becomes a serious obstruction. A church spire in the village is conspicuous from seaward. Hopkins Island lies on the W side of the approach to the harbor; it fronts West Arm, an inlet which affords anchorage to small vessels with local knowledge. Rose Blanche Harbor affords sheltered anchorage, in 14.6 to 16.4m, sand, to vessels with local knowledge; the space is limited and vessels over 61m in length must moor. Vessels should not to anchor in the cable area, best seen on the chart, near Rose Blanche Point.

Rose Blanche Shoals, numerous sunken rocks with depths of 3.7 to 5.5m, on which the sea breaks heavily, lie on the W side of the entrance to the harbor, from 0.5 to 1 mile SW of Rose Blanche Point.

An abandoned lighthouse stands on Rose Blanche Point.



Courtesy of David Malloy

Rose Blanche Point—Abandoned Lighthouse

Cain's Island is almost connected with the W side of Rose Blanche Point by rocky islets; the entrance to Rose Blanche Harbor lies W of this island. A light is shown from the W side of the island. An overhead cable, with a least vertical clearance of 12.2m, crosses from the N part of Cain's Island E to the mainland.

Hopkins Island, located about 0.3 mile WNW of Cain's Island, is 30m high and of the same rocky nature as the adjacent coast, from which its N end is separated by a narrow channel. Duck Island, 18m high and covered with grass, lies almost 0.3 mile SW of Hopkins Island. Shag Rocks, a group of rocky ledges, the highest being 5.2m, lie almost 0.3 mile S of Duck Island.

Harbor Le Cou is approached between **Net Cove Point** (47°37'N., 58°41'W.) and Fish Head, about 0.8 mile ENE. Shark Cove Head, a sharp conspicuous hill, rises to 49m about 0.3 mile WNW of Fish Head. Harbor Le Cou affords anchorage to small vessels, in depths of 14.6 to 20.1m.

Bay Le Moine is entered between Fish Head and a point about 0.5 mile E. Several islands and rocks lie off the E entrance point. Gull Island, lying S of the E entrance point, is composed of red rock and is 10m high. A lighted buoy is moored 0.5 mile SSW of Gull Island.

2.8 Major Rock, a sharp pinnacle with a depth of 1.8m, lies about 0.2 mile WNW of Gull Island. Black Rock, 1.2m high, is located about 0.1 mile S of the same island. Black Rock Shoal, a 5.5m patch, lies about 0.2 mile SW of Black Rock.

Dublin Cove is located on the W side of Bay Le Moine, about 0.75 mile NE of Fish Head. Dublin Cove Rocks, 0.6m high, lie close NE of the E entrance point of Dublin Cove. Bay Le Moine Rock, with a depth of 1.2m, lies nearly in the middle of the channel, nearly 0.5 mile NE of Dublin Cove Rocks. The

Red House, a conspicuous rock 6.1m high, faced with red cliffs, lies close to the W side of the bay, about 0.4 mile NNE of Bay Le Moine Rock. Vessels can anchor at the head of Bay Le Moine, in 26m or less. Depths shoal rapidly near the head of the bay. Small vessels can anchor in Dublin Cove, in 10.9 to 40m.

2.9 Seal Island Head (47°37'N., 58°36'W.), a conspicuous red bluff, lies about 2 miles NE of Bay Le Moine. Small vessels with local knowledge can anchor, in 12.8m on the NE side of Seal Island Head.

Big Seal Island (47°37'N., 58°35'W.), about 0.5 mile E of Seal Island Head, is 40m high and is mostly covered with grass and moss. Offer Seal Island, located about 0.2 mile S of Big Seal Island, is 16m high. Black Rock, 1.8m in elevation, lies about 0.1 mile S of Otter Seal Island.

Edge of Ground, a rock with a depth of 4.6m, lies about 0.4 mile SE of Offer Seal Island. Seal Island is 11m high and covered with grass. It has two rocky mounds near its NW end. Shoals and rocks extend about 0.8 mile seaward of Wreck Island.

Caution.—Vessels without local knowledge should not close the coast between Bay Le Moine and Seal Island Head within a line of bearing with Wreck Island in line 071° with Black Rock, S of Offer Seal Island.

2.10 Little Garia Bay is entered between **Berry Point** (47°38'N., 58°35'W.) and Slammer Point, about 0.8 mile NE; Berry Point is a low peninsula composed of red cliffs. Firm-ages Head, a conspicuous bluff, 55m high, has the appearance of an island, about 0.3 mile WNW of Slammer Point. Large vessels can anchor off Pigeon Island, near the head of the bay, in 24m, during offshore winds. Small vessels can obtain good anchorage, in 8.2m, in the basin at the head of the bay.

Directions.—Garia Bay, suitable only for small vessels, is entered between a point lying in position 47°38'N, 58°33'W and a point about 1 mile ENE. Deer Island and the islets and rocks S divide the entrance of Garia Bay into two channels. Western Channel has general depths of 20.1m in the fairway. Eastern Channel is only suitable for small vessels. North of Round Island, about 3 miles within the entrance, the bay is suitable only for small vessels.

Ship Cove Hill (47°40'N., 58°32'W.), a conspicuous headland, 47m high, lies on the E side of the bay about 1.5 miles within the entrance. Vessels of moderate draft can take anchorage, in 12.8m, E of Spruce Island, about 1.5 miles within the entrance, in an area which is about 0.2 mile wide. Small vessels may obtain good anchorage here.

Vessels without local knowledge should pass outside the dangers between Garia Bay and La Poile Bay; at night, they should not approach within the 90m curve.

Indian Island lies close SE of the E entrance point of Garia Bay; the SW extremity of the island is marked by a white cliff.

Black George Head, 43m high, and Crafty Head, 43m high, are conspicuous headlands lying about 1 and 1.5 miles E, respectively, of the E entrance point of Garia Bay.

Tides—Currents.—Close inshore the tidal currents are quite perceptible, but outside depths of 37m, during a survey in the spring and summer, a W current was observed.

2.11 La Poile Bay is entered between the E entrance point of **La Plante Harbor** (47°39'N., 58°25'W.) and Eastern Point, the SW extremity of a promontory about 2 miles E.

Dangers lie within 1.5 miles of Eastern Point, on the E side of the approach to La Poile Bay. The outermost are several rocks surrounding Ireland Island, which lies on a ledge 1 mile SSW of Eastern Point.

Ice.—Little Bay occasionally freezes in February, but the ice seldom remains long.

La Poile Harbor freezes over about February 10 and the ice disappears about March 20; although blocked at intervals, generally between March 1 and 20, navigation has not been impeded more than six spring seasons during the past 50 years.

Northeast Arm freezes over during severe weather. Field ice rarely arrives, but when forced in by S winds, it becomes a serious obstruction. The bay is cleared by NW winds.

Tides—Currents.—The MHW interval at La Poile Bay is 9 hours 00 minutes; spring tides rise 1.8m.

Aspect.—A light is shown on **Ireland Island** (47°38'N., 58°22'W.). Another light is shown on Christmas Head, about 2.75 miles NNW of Ireland Island Light.



Ireland Island Light

Lighted Whistle Buoy QE2, fitted with a radar reflector, is moored 0.75 mile WSW of the light.

Anchorage.—Anchorage can be taken, in 21.9m, gravel, S of the entrance of North Bay.

Northeast Arm affords good anchorage, in 18.3 to 25m, mud.

La Poile Harbor affords anchorage to small vessels, in 20.1m, mud, about 0.8 mile within the entrance.

Little Bay affords anchorage to small vessels, in 18.3m, mud and sand, with 320m of swinging room off the settlement. Small vessels can also anchor, in 28m, off the entrance of Little Bay; however, the space is limited by Tooth Rock and exposed to SW winds.

There are public wharves at La Poile Harbor and Little Bay.

Caution.—Breakers have been reported (1995) about 0.8 mile SE of Ireland Island.

2.12 Old Man Hill (47°42'N., 58°16'W.), a 209m peak, faced with a cliff, rises about 5 miles NE of the E entrance point of La Poile Bay. For about 1 hour after noon, the sun casts a shadow, which resembles the figure of an old man, on the face of the hill.

A rock, with a least depth of 2.8m, lies 0.6 miles E of the SE tip of **Jacques Island** (47°39'N., 58°20'W.).

Roti Colombier is a conspicuous bare rock, 19m high. It lies about 4 miles E of the entrance to La Poile Bay. There are many shoals and dangers proceeding from La Poile Bay E towards Grand Bruit Harbor and Cinq Cerf Bay. These dangers are best seen on the chart.

Offer Island (47°38'N., 58°14'W.), 6.7m high, southernmost of these islands, lies about 5.8 miles ESE of Eastern Point. The island is marked by a light.

2.13 Grand Bruit Harbor (47°40'N., 58°14'W.) lies about 1.5 miles N of Offer Island. A small settlement stands on the shores of the harbor.

Depths—Limitations.—A government wharf, 37m long, with depths of 5.6 to 6.4m alongside, stands on the E side of Grand Bruit Harbor; a drying rock lies about 40m N of the government wharf. A second wharf, 16m long at its face and with depths of 3.6 to 4.3m alongside, stands on the W side of Grand Bruit Harbor.

The harbor, though narrow, affords excellent shelter in 12.8m.

Aspect.—A waterfall at the head of the harbor is visible from seaward. A conspicuous church, with a tower and a red roof, is situated close E of the waterfall.

The entrance to the harbor lies between Eastern Rock, close off the SW extremity of an island forming its E side, and another above-water rock close off the coast 92m SW. A line of rocky patches, with a least depth of 4m, extends 0.75 mile SE from the entrance point, terminating in White Rock. A causeway connects the island to the coast N.

Hares Ears, two sharp peaks 37m high, dominate the coast 0.5 mile SW of the entrance to Grand Bruit Harbor.

2.14 Cinq Cerf Bay (Western Head) (47°41'N., 58°09'W.) is entered between and a point about 2.5 miles E. The E entrance point is bordered by rocks and shoals extending nearly 0.5 mile offshore to White Ground, with a depth of 4.1m. Bags Head lies on the NW side of the bay, about 1.3 miles NE of Western Head; it rises to a conspicuous dark wooded cone, 57m high. A white patch is visible on the side of a hill about 0.4 mile ENE of the headland. Culotte, near the head of the bay on the NW side, affords the only sheltered anchorage in the bay. A vessel can anchor, in 10.9 to 14.6m, mud, good holding ground.

Flat Island (47°39'N., 58°07'W.), the outermost islet in the approach to Cinq Cerf Bay, is a bare rock 7m high, located about 1.3 miles SW of the E entrance point. Black Rock, 3.4m high, lies 0.5 mile W of the E entrance point.

Bags Head (47°41'N., 58°08'W.), located in the middle W side of the bay, rises to a conspicuous, dark, wooded cone, 57m high.

Devil Head, a steep bluff rising to an elevation of 85m, lies about 1.8 miles ENE of Bags Head.

Anchorage.—The only sheltered anchorage in the bay, in depths of 11 to 14.6m, mud, is in the cove between Devil Head and Woody Island, 0.3 mile SW.

2.15 Couteau Bay is entered between **Deepwater Point** (47°40'N., 58°05'W.) and the SW extremity of Captain Island, about 1.5 miles E. Numerous islets, rocks, and shoals encumber the bay and its approaches; these are best seen on the chart.

The Blue Hills of Couteau, N of the bay, are excellent landmarks in clear weather. Shag Roost Point, on the NW side of the bay about 0.5 mile NNE of Deepwater Point, rises to a conspicuous hill, 38m high, faced by a cliff. Captain Island rises in two main hills; white rocks on the island contrast with the dark

vegetation. Otter Point Settlement is situated on the N side of Duck Island, close E of Captain Island; a flagstaff in the settlement is visible from seaward.

Anchorage.—There is anchorage near the head of the bay, in depths of 9.1m to 16.5m, but a swell sets in with S and W winds. For small vessels, there is excellent anchorage in the channel N of Captain Island. Local knowledge is required.

Directions.—Connoire Head (47°39'N., 57°55'W.), open S of Shag Island (47°39'N., 58°00'W.) bearing 085°, leads S, and the extremity of the W shore of Couteau Bay, open W of the NW Couteau Flat Rock (47°40'N., 58°03'W.) bearing 009°, are clearing marks which lead W of Copper Duck Rock (47°39'N., 58°04'W.).

2.16 A chain of islands, rocks, and shoals extends about 1 mile S from **Horses Head** (47°40'N., 58°01'W.). Shag Island, the southernmost, is a conspicuous white rock, 12.8m high.

The only passage available to vessels without local knowledge is that between Black Rock and Man Rock. A heavy swell is prevalent in the passage during or after S or W gales. A vessel should approach with Baggs Head bearing 315° and seen midway between the SE extremity of the promontory forming the NW side of Couteau Bay and Black Rock of Cinq Cerf Bay to the W, which leads SW of Copper Duck Rock. When the conspicuous 38m high hill over Shagroost Point bears 017° and is seen midway between Man Rock and Black Rock of Couteau Bay, a vessel should maintain this bearing until past Man Rock, then keep about 0.2 mile off the W side of the bay until Horses Head and the SW extremity of Captain Island are in line bearing 123°, N of the 5.5m rock off Shagroost Point. From here, vessels can steer to make good a course for the head of the bay.

Couteau Colombier Island, a conspicuous square rock, 15m high, lies about 1.8 miles WNW of Shag Island. On SE bearings, Couteau Colombier Island resembles a human profile.

Colombier Shoal, with a depth of 1.8m, lies just over 1 mile WSW of Shag Island. Other shoal depths lie between Colombier Shoal and Horses Head, 1.5 miles NNE.

2.17 Muddy Hole Bay is entered between **Otter Point** (47°40'N., 58°00'W.) and Muddy Hole Point, about 1.1 miles E. A small boat cove lies in the NE part of the bay. The bay affords anchorage, in 20.1 to 21.9m, during offshore winds; the holding ground is not good.

The Painter (49°39'N., 58°00'W.), a rock with a depth of less than 1.8m, lies about 0.8 mile SSE of Otter Point.

Directions.—The westernmost house on the shore of the boat cove, in line bearing about 008° with the passage between a 6.1m islet and the mainland nearly 0.5 mile S of the cove, leads E of The Painter; the S extremity of Couteau Colombier Island in line bearing 277° with Winging Rock, about 0.2 mile N of Shag Island, are clearing marks which lead S of The Painter.

Connoire Bay is entered between Muddy Hole Point and Connoire Head, about 2.8 miles E. Muddy Hole Point rises to a conical hill 30m high and is fringed with above-water and sunken rocks which extend as far as 0.4 mile offshore. Connoire Head is conspicuous by reason of a white rock at its base and its isolation. Its summit, with dark stunted trees, rises to an

elevation of 53m. The MHW interval at Connoire Bay is 8 hours 40 minutes; spring tides rise 1.7m. Anchorage can be taken, in about 18.3m, during offshore winds, wherever convenient, in the outer part of the bay; the anchorage is open to the SW. Northeast Arm affords good shelter to vessels drawing less than 5.5m.

The summit of Baring Island (47°38'N., 57°52'W.), in range bearing 098° with the S extremity of Wreck Island (47°39'N., 57°53'W.), are clearing marks which lead S of the dangers extending from Muddy Hole Point.

The summit of Connoire Head, well open SW of Wreck Island and bearing 310°, leads SW of the dangers lying off the coast between Connoire Head and Bay Point, about 5.5 miles ESE.

2.18 Wreck Island (47°39'N., 57°53'W.), 14m high and located 1.3 miles E of Connoire Head, appears low and green. Baring Island, 16m high, reddish-white, and rocky, lies 1 mile ESE of Wreck Island.

Middle Brook (47°38'N., 57°50'W.), an inlet open to the SW, indents the coast NE of Baring Island. Anchorage can be taken, in 21.9m, off Middle Brook, midway between Baring Island and Green Island, about 1 mile ESE.

Green Island lies 1 mile SE of Baring Island. Green Island Rocks, a small group of above-water rocks, are located 0.35 mile WSW of the island. The coast between Green Island and Barasway Point, 2 miles ESE, is foul, with several coves. Depths of less than 1.8m extend up to 1 mile offshore.

Doctor Harbor (47°37'N., 57°47'W.), close E of Barasways Point, is available only to small vessels.

Richards Head (47°37'N., 57°37'W.) is a conspicuous saddle-topped hill rising 104m about 2.8 miles NE of **The Sandbanks** (47°36'N., 57°40'W.).

Barasway Bay is entered between Barasway Point and Little Barasway Head, about 4 miles E. The bay is useless as anchorage because of the islets, rocks, and shoals that encumber it. In heavy weather, it is a mass of breakers.

The Jumper is a rock, awash, lying on uneven ground in the middle of the entrance, 2.75 miles WSW of Little Barasway Head. Mile Rocks are 4m high with rocks and shoals all around which occupy a considerable part of the center of the bay.

Aspect.—Little Gut Head lies on the NE side of Barasway Bay about 1 mile NW of Little Barasway Head. It is the SW extremity of a sharp conical hill.

Norman Head (47°38'N., 57°42'W.) located 0.5 mile N of Little Gut Head, is a bare-topped mound, 28m high. A shingle beach, 3m high, terminating in a grassy mound, extends 2 miles W from Norman Head.

Caution.—A magnetic anomaly has been reported (1994) to exist in Barasway Bay, N of the area between West Flat Island and Barasway Point. Mariners should exercise caution in this area.

The Burgeo Islands

2.19 The Burgeo Islands front the coast as far as 2.5 miles offshore due S of The Sandbanks. The islands, composed of rock, show white where bare, with the exception of Round Island and Harbour Island in the W group, which are dark.

Caution.—Local knowledge is required for navigation of

the Burgeo Islands.

A submarine cable extends from the W side of Boar Rock, then SW past Miffel Island, then W to the vicinity of Rose Blanche Point, 40 miles W of the Burgeo Islands. Another cable is laid from Boar Island, and extends SW to the Burgeo Islands, then WNW to the entrance of Couteau Bay.

The Burgeo Islands—Western Group

2.20 There are numerous islands and dangers in the W group of the Burgeo Islands. These islands and dangers are best seen on the chart. Only the outermost and more important of the numerous islands and dangers will be described.

Cornelius Island lies nearly 2 miles SE of Little Gut Head. It lies close offshore and is the northwesternmost Burgeo Island. Two coves almost divide the island into two parts, the E of which is higher.

Galloping Moll, a rock which dries 0.3m, lies about 0.8 mile W of Cornelius Island. A bank, with a least depth of 9.6m, lies about 0.8 mile further W. These are the outer dangers on the NW side of the Burgeo Islands.

West Flat Island, the westernmost Burgeo Island, is located about 1.8 miles SW of Cornelius Island. It is a bare rock, 8m high, with two flat summits. Burgeo Flat Island Light is shown near the NE extremity of the island.

Offer Shoal and Clam Bank, which lie about 1.3 miles SW of West Flat Island, with depths of 7.3m and 14.6m, respectively, are the outermost dangers on the W side of the Burgeo Islands. The sea on Offer Shoal and those lying up to 1.3 miles E.

Round Island lies about 0.8 mile E of West Flat Island. It is generally steep-to and has cliffs on all sides.

Harbor Island lies close SE of Round Island. Some dark islets and rocks extend 0.25 mile NE from the island. All of these have steep cliffs on their W and SW sides and slope E. The Louse Box is a remarkable summit at the W end of the island.

Duck Island lies about 0.5 mile ESE of Harbour Island. It is one of the larger islands in the W group and is low and flat.

Miffel Island is the southernmost Burgeo Island. It is located about 1.8 miles SSE of Harbor Island and is conical in shape. Fortune Rock, with a depth of 8m, located 0.25 mile E of the island; Whales Back, having a depth of 9.1m over it; and the shallowest head of uneven ground 0.5 mile W of it, are the outermost dangers on the S side of the Burgeo Islands. The sea breaks on Whales Back in bad weather; with the wind against the tidal current there is a heavy sea in this locality.

Colombier Island is the E island of the W group and is located 1.5 miles NNE of Miffel Island. It is prominent, with a double summit.

The Burgeo Islands—Eastern Group

2.21 Round Shag Island, 19m high, lies about 3.3 miles

ESE of West Flat Island.

Rencontre Island, about 0.8 mile NE of Round Shag Island, is the largest of the Burgeo Islands. The summit, at the W end, 82m high, is a conspicuous truncated cone, covered with dark foliage. Gull Island lies about 0.5 mile W of Rencontre Island. It is on the NE end of a 0.5 mile long bank with a least depth of 2.2m.

Venils Island lies about 0.2 mile NE of Rencontre Island. A cove on the SE side of Venils Island affords good shelter to small vessels in 6.4m. Venils Shoal, with a least depth of 4.9m, and Boar Island Rock, 1.5m high, lie 0.3 and 1.5 miles E, respectively, of Venils Island.

Boar Island (47°36'N., 57°36'W.) is the easternmost of the Burgeo Islands. The S part is wedge-shaped, 61m high. Boar Island Rock dries 1.5m and lies 1.2 miles SE of the island. A light is shown from a white tower on the summit of the island.

Burgeo Village (47°36'N., 57°37'W.) is situated on the SE part of Grandy Island. The land in the vicinity of the village, where denuded of the stunted trees common to this coast, appears gray and almost even in outline; but on closer approach, the rugged and contorted nature of the country, with its many hills and deep ravines, becomes apparent.

Eclipse Island, 10m high, lies about 410m WSW of Furber Point; the island is covered with bushes.

Burgeo (47°36'N., 57°37'W.)

2.22 The port of Burgeo indents the SE part of Grandy Island between Furber Point and Franks Island, about 0.3 mile W. The port is situated NW of Ramea Island.

Ice.—The port of Burgeo is never frozen over, but it is occasionally blocked for a few days by ice from the outer coves, which moves off in February and March. Northern ice appears only at intervals, arriving generally between the middle of February and the middle of March, and seldom remaining more than 2 or 3 weeks. Vessels frequent the port all year round.

Tides—Currents.—The MHW interval at the Burgeo Islands is 8 hours 32 minutes. The range of tide is 1.2m; the spring range is 1.9m.

The direction of the tidal currents off the port of Burgeo is greatly influenced by the prevailing winds. The W current attains a velocity of 1.5 knots after a prevalence of E winds, but the E current seldom attains a velocity of more than 1 knot.

Depths—Limitations.—The port of Burgeo may be considered a safe harbor for vessels up to 1,500 gt.

The wharves and warehouses of the port are situated in the Ship Dock, a small cove close NE of Franks Island. The port consists of a village with a very small natural harbor. There are three government berths, two public berths, and the National Fish Products Wharf. For additional detailed berth information see the table titled **Burgeo—Berth Information**.

Burgeo—Berth Information			
Berth	Length	Depth	Remarks
Burgeo Public Wharfs			
South Quay	44m	3.0-5.0m	A ro-ro ramp, with a width of 9m, is located at the inner berth and is being used by a ferry service to Ramea.

Burgeo—Berth Information			
Berth	Length	Depth	Remarks
Center Quay	52m	3.0-3.9m	Ro-ro passengers and bunkers.
North Quay	25m	5.0m	Reported in disrepair (2020).
Fishermans Wharf			
L-shaped pier	19m	5.0m	Fishing and bunkers.
Fish Products Wharf			
Main Quay	64m	5.8m	Breakbulk, fishing vessels, and bunkers.

Pilotage.—Pilotage is not compulsory; however, a licensed pilot is available if desired. A pilot can be arranged by giving 24 hours notice to Pilots, St. John's. The pilot will board off St. John's or off Burgeo, provided the vessel's local agent arranges for a boat to embark the pilot.

Regulations.—A Canadian Coast Guard Lifeboat, the CCGS W.G. George (call sign: CG3064), is stationed about 1 mile SE of the Fish Products Wharf at Short Reach and operates within a 100-mile radius. The station maintains a daily radio watch from 0830 to 1630 on VHF channels 16 and 51. Contact can be made through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

Contact Information.—See the table titled **Burgeo—Contact Information**.

Burgeo—Contact Information	
Port Authority	
E-mail	contactus@newfoundlandlabrador.com
Web site	http://www.newfoundlandlabrador.com

Anchorage.—Vessels can anchor ENE of Furber Point, but care must be taken to avoid the detached shoals N and S. The S anchorage limit is with **Grip Head** (47°36'N., 57°40'W.) bearing 266° and open N of **Morgan Island** (47°36'N., 57°37'W.); the N limit is with Furber Point bearing about 250°.

Small vessels can anchor off Burgeo Village, in 24m, mud, and near the head of Short Reach, an inlet in the NE part of Grandy Island, in 15.5m, mud.

Small vessels can also find shelter in the outer part of Mercer Cove in the SW part of the island.

Caution.—An abandoned submarine cable lies S and E of Smalls Island, T the W side of Boar Island. The channel between Burgeo Port and Short Reach is spanned by a bridge, with a vertical clearance of 4m, connecting Furber Point with Smalls Island.

2.23 The Ha-ha is an inlet entered between **Aldridge Head** (47°37'N., 57°35'W.) and Grip Island, about 0.4 mile NW. The inlet is clear of dangers.

Buffetts Island, about 0.4 mile NE of Aldridge Head, is 28m high.

Kings Harbor, adjacent to the W side of Kings Head, affords anchorage, in 16.4m, to small vessels.

Kings Head (47°38'N., 57°34'W.), which rises to a height of

130m, separates Kings Harbor from Bay De Loup to the E.

Bay De Loup is entered between the SW extremity of Kings Head and Bay De Loup, about 1 mile SE. The most convenient anchorage in Bay De Loup is off the houses at Seal Brook, on the NW side of the bay, in 8.2 to 12.8m, sand. Small vessels can anchor with good shelter, in 18.3m, off Blow-me-Down, on the NW side of the bay; the depths decrease gradually from this position to about 8.2m near the head of the bay.

Bay De Loup Point, marked by a light, is the S extremity of an island 68m high which is connected with the mainland at LW. Bay De Loup Rock, with a depth of 2.1m, lies 0.2 miles SSE of Bay De Loup Point.

Western Point (47°37'N., 57°31'W.) consists of a series of rocky hummocks faced with cliffs. Western Point Rock, with a depth of 4.1m, lies about 0.1 mile off the point. White Island Shoal, with a depth of 6.9m, lies about 0.4 mile WSW of the same point.

Red Island lies in the middle of a bay which indents the coast between Western Point and a point nearly 1.3 miles E. The island divides the bay into Northwest Arm and Northeast Arm. Red Island is divided into two parts by a low neck of land; the S part is a flat-topped hill, with a white summit, 99m high; the N part is a wooded cone, 115m high. The outer cliffs of the island are reddish in color.

Doctor Harbor, at the head of Northeast Arm, affords sheltered anchorage, in depths from 7 to 9m, but the entrance is only 46m wide and local knowledge is required. Anchorage can also be had in Northwest Arm, N of some rocks 5.8m high, about 0.5 mile within the entrance, in depths from 15 to 17m. Small vessels can anchor in Northwest Arm and Northeast Arm, in 14.6 to 16.4m and 7.3 to 9.1m, respectively.

Turks Head (47°38'N., 57°27'W.), about 2 miles E of the mouth of Northeast Arm, is a steep bluff with a rugged background. Anderson Rock, which dries about 2.1m and is steep-to, lies about 0.8 mile SE of the head. Offer Sunker, with a depth of 0.3m and steep-to, lies about 0.3 mile SSE of Anderson Rock. Anderson Sunkers, two rocks awash, lie 0.4 mile W of Anderson Rock.

Gull Island is the outermost of a group of cliffy islets lying close to the coast about 1 mile WSW of Turks Head. These islets, being the same color as the coast, are hard to distinguish. Several shoals, with depths of 7.3 to 12.8m, lie within 1 mile S of Gull Island; the sea breaks on them heavily in bad weather.

2.24 Northwest Head (47°37'N., 57°25'W.), about 1.5 miles ESE of Turks Head, is rugged and faced with cliffs.

Woody Island, 65m high and conical in shape, is very con-

spicuous; it is almost connected by a shoal bank with Northwest Head, close N. White Island, 42m high, located about 0.3 mile SW of Woody Island, shows up in contrast to Woody Island.

White Bear Bay is entered between Northwest Head and West Point, about 3.3 miles SE. Bear Island, in the entrance, rises steeply on its S and E sides, but gradually on its other sides. The summit, a dark wooded cone, 183m high, rises on the S side where the cliffs are white and bare for some distance above the sea. At Northwest Brook, about 0.8 mile N of Blow-me-Down Point (47°43'N., 57°25'W.), there is a conspicuous waterfall.

Anchorage.—Fair anchorage, in 24m, during winds from the NE through E to SSW, can be taken about 275m SW of the islets extending W from Deer Island, off the NW side of Bear Island. A heavy swell sets into this anchorage when the wind is from the SW to W.

Large vessels can anchor, in 14.6m, about 4 miles from the head of White Bear Bay. The anchorage position is about 0.4 mile off Blow-me-Down Point, with that point bearing 208°. The holding ground is good, and the anchorage is sheltered.

Bear Head (47°35'N., 57°20'W.), 0.75 mile ESE of the E entrance point of White Bear Bay, is steep and bluff-faced with dark cliffs, rising to 160m. A rock, with a depth of 1.2m, lies about 0.2 mile SE of the head.

Directions.—Vessels drawing 6.4m and approaching from the W should pass S of Miffel Island through the position on the coastal track 5 miles due S of West Flat Island. At this position, vessels may steer NE to pass SE of Fortune Rock, Round Shag Island and the other islands of the group to the NE, being careful to avoid Venils Shoal, Boar Island Rock, and Boar Island Shoal, then steer with Richards Head bearing between 279° and 307°, to pass N of Boar Island and to the anchorage off the port.

Vessels approaching from the E may leave the coastal track at the position N of the Ramea Islands.



Ramea Harbor

Off-lying Islands and Dangers

2.25 The **Ramea Islands** (47°31'N., 57°23'W.) are a group of islands and rocks lying with their NE extremity about 3 miles S of Bear Head. They consist of two large islands and numerous smaller islands, islets, rocks, and shoals lying on the N part of the bank with depths of less than 90m.

There are more rocks and shoals on the S side of the bank. Grandfather Bank is the outermost and is located near the S edge with a depth of 24m. Offer Shoal, 1 mile N of Grandfather Bank, with a depth of 14.6m and a group of rocks about 1.8 miles NW of Grandfather Bank of which the shallowest is Tom Cod Rock, with a depth of 5.5m, are the more important of the others.

Ramea Southeast Rocks and Ramea South Bank lie SE of the Ramea Islands.

There are a number of sheltered anchorages for small vessels among the Ramea Islands, but all require local knowledge.

Great Island, the NE and largest of the group, is bold, and rises abruptly on that side to rugged hills. **Gull Hill** (47°32'N., 57°22'W.) is the highest; its steep E side makes it conspicuous from the S. Small vessels with knowledge can obtain sheltered anchorage at the head of Eastern Harbor on the S side of the island.

Fish Head and Bonnel's Point are the NE and SE extremities, respectively, of Great Island. Between them, the E coast of the island is fringed with islets and rocks. A lighted buoy is moored 0.5 mile ESE of Fish Head.

Caution.—A submarine cable lies approximately 3.5 miles N of Fish Head and continues NW about 10 miles to Boars Island.

2.26 There are more islets, rocks, and shoals that front the S coast of Great Island. The outermost are Black Rock, 4m high, located about 1 mile SSW of Bonnel's Point; Copper Island, a prominent bare cone, 31m high, 1.75 miles SW of the same point; and Bad Rock, an above-water rock at the extremity of a rocky shoal 0.3 mile W of Copper Island. A lighted buoy is moored about 1 mile SSW of the rock. The channels N and W of Copper Island are only navigable with local knowledge.

Northwest Island lies with its NE extremity about 320m NW of the W extremity of Great Island. Small vessels with local knowledge can anchor, in 11.9m, off Ship Cove or, in 20.1m, off Muddy Harbor on the SE side of the island. About 183m of swinging room are available at each of these anchorages. Ship Cove is only frozen over when N ice is present, but during a period of 20 years this ice arrived but four times between the end of February and the middle of April.

A light is shown on Northwest Head, the SW extremity of Northwest Island. Close by there is a white square building with a red roof from which a fog signal is sounded. A conspicuous water tower lies about 183m inland approximately 1 mile NE of the headland.

Ramea Southeast Rocks, located about 4 miles SE of Great Island, consist of two above-water rocks about 90m apart. A sunken rock, with a depth of 0.3m, lies about 0.3 mile E of the E rock.

Ramea South Bank, about 5.5 miles S of Great Island, has a least depth of 5m.

The Penguin Islands

2.27 The Penguin Islands, a group of several islands and rocks, lie about 16 miles ESE of the Ramea Islands. Harbour Island is the easternmost and largest of the group; a cove provides shelter to small vessels, but a heavy sea rolls in with SE

winds.

A light is shown from the E end of Harbour Island. Un-charted shoals, with depths of less than 9.1m, were reported, in 1984, to lie about 1.2 miles SSW of Harbor Island Light.

Several above and below-water dangers lie between Ramea Island and the Penguin Islands, and E of the Penguin Islands. Grey River Bank, about 7.5 miles WNW of Penguin Island, has least depths of 6.4m over Eastern Rock, at the SE end of the bank, and 11m on Jack Shoal, in the center of the bank.

Grey River Rocks, consisting of above and below-water rocks, is located about 6.3 miles NW of Gannet Island, the NW island of the Penguin Islands.

Mile Rock, 1.2 miles ENE of Harbour Island, with a depth of 2.7m, is steep-to.

About 5.5 miles E of the Penguin Islands is Pinnacle Shoal, with a least depth of 7.3m. Watch Rock, with two rocks awash at LW, are located about 5.8 miles E of the Penguin Islands.

Caution.—Uncharted depths of less than 9m were reported 2 miles S of the Penguin Islands in 1984.

2.28 Fox Island (47°35'N., 57°18'W.), 94m high, lies about 1.8 miles E of Bear Head. It is separated from the mainland by a narrow channel. Fox Island Rock, 5.5m high, is located about 0.4 mile S of Fox Island.

Coppett Harbor (47°36'N., 57°16'W.) is open to S winds and the entrance is encumbered by numerous islands and rocks. A narrow neck of land on the E side of the harbor, upon which a small settlement is situated, separates Coppett and Mosquito Harbors.

Mosquito Harbor is entered about 1.8 miles ENE of Fox Island through a channel 90m wide. Inside the entrance channel the harbor opens into a basin which affords complete shelter, but the depths are from 37 to 64m. Small vessels can take anchorage, in 21.9m, near the W end of the basin off a cove.

Caution.—Vessels should not navigate within the area enclosed by any line joining Fish Island Shoal (47°35'N., 57°19'W.) Fox Island Rock (47°34'N., 57°18'W.), and West Black Rock (47°35'N., 57°18'W.).

2.29 Bay De Vieux is entered between West Point, about 1.5 miles E of Mosquito Harbor entrance, and East Point, about 1 mile farther E. Vessels can anchor, in 12.8 to 21.9m, within 0.5 mile of the head of Bay de Vieux. Small vessels can anchor, in 14.6m, near the head of **Dog Cove** (47°36'N., 57°09'W.) or, in 16.4 to 21.9m, at the head of **The Nook** (47°38'N., 57°10'W.).

The Grey River is entered about 3 miles ESE of Bay de Vieux. The shores of the inlet in many places rise precipitously to hills from 229 to 305m high. The debris from these hills lies quite close to the shores and must be avoided.

A light is shown on Grey River Point, the W entrance point of the inlet; a lighted buoy is moored about 0.5 mile S of Grey River Point.

Tides—Currents.—The tidal currents run in the direction of the Grey River entrance channel and attain a velocity of 2 knots at springs. Small vessels should not attempt to leave the Grey River when the wind is against the tidal currents, because a confused sea is soon made up.

Anchorage.—Good anchorage can be obtained in **Jerts Cove** (47°35'N., 57°07'W.), in 12.8 to 18.3m, mud. Good an-

chorage can also be obtained, in 9.1 to 16.4m, mud, in **Frenchman Cove** (47°37'N., 57°05'W.). Vessels can obtain good anchorage, in 12.8 to 14.6m, in the outer part of **Southeast Arm** (47°36'N., 57°05'W.).

Seal Rocks lie about 0.5 mile SE of the E entrance point of the Grey River, and although 5.5m high, are not easily distinguished against the dark coast. More above-water rocks exist off both entrance points of the Grey River.

Gulch Cove, about 4 miles ENE of the Grey River entrance, affords anchorage to a small vessel, in 9.1 to 12.8m.

The Gulch Cove Islands, two in number and 0.2 mile apart, the W one being 29m high, lie about 3.5 miles E of Seal Rocks and 1 mile offshore. Numerous rocks surround them. The westernmost, which dries 0.3m, lies about 0.4 mile WSW of the W island; this rock is steep-to within 91m.

2.30 Cape Island, flat and rugged, lies about 4.5 miles ESE of the Gulch Cove Islands. Cape Rocks lie about 2.5 miles offshore between the Gulch Cove Islands and Cape Island. Shoal and uneven ground extends 1.3 miles from these rocks in all directions except to the S.

La Hune Bay is entered between **West Point** (47°32'N., 56°53'W.) and the W extremity of Cape La Hune, about 0.4 mile SE. West Point is the SE extremity of the peninsula, which rises to a conspicuous cone, 212m high. The seaward sides of the peninsula are composed of rugged cliffs; the E side rises to steep bluffs.

Ice.—La Hune Bay freezes over about December 1; the ice disappears by April 1. The ice breaks up easily and is no obstacle to coastal vessels, which come and go all year round.

Tides—Currents.—The MHW interval at La Hune Bay is 8 hours 30 minutes; the mean range of tides is 1.3m, the spring range is 1.9m.

Anchorage.—Northeast Cove (47°37'N., 56°52'W.) affords anchorage, in 26m, about 275m offshore. Small vessels can anchor, in 21.9 to 28m, good holding ground, in **Deadman Cove** (47°33'N., 56°52'W.). Small vessels can also anchor, in 20.1 to 24m, mud, at the head of the bay.

Caution.—Marine farms and associated vessel traffic may be encountered in the vicinity of Devil Bay, Little Bay, and Rencontre Bay.

2.31 Cape La Hune (47°32'N., 56°52'W.) has three peaks, the SW of which is a conspicuous cliff, 173m high. A light is shown from Cape La Hune.

Cape Cove, close E of Cape La Hune, affords anchorage, in 16.4 to 20.1m, but it is open to the SE.

Aviron Bay is entered between **Long Point** (47°32'N., 56°51'W.) and Aviron Point, about 1.5 miles E. Vessels can anchor, in 10.9 to 12.8m, exposed to S winds, off the sandy beach at Wild Cove, close N of Long Point. Small vessels with knowledge can anchor off the settlement at Cul-de-Sac, close NE of Wild Cove. Larger vessels can find sheltered anchorage, in 9.1m, sand, about 0.2 mile SSE of Battery Point in Cul-de-Sac. Small vessels can anchor, in 29 to 37m, in **Northeast Cove** (47°37'N., 56°32'W.) or, with local knowledge, in 7.3m, in the small basin at the head of the bay.

Nick Power Point, about 1.8 miles ENE of Aviron Point, is the E entrance point of Nick Power Cove; the cove affords anchorage to small vessels.

2.32 Francois Bay (Fransway Bay) is entered between **West Point** (47°33'N., 56°45'W.) and East Point, about 0.4 mile NNE. A light is exhibited from a square tower on West Point.

Francois (47°35'N., 56°46'W.), a settlement, stands on the E side of the head of Francois Bay. Francois is overlooked by the Friar, a cliffy hill, 207m high, with landslips extending to the shore. There is a government wharf, 11m long, with a depth alongside of about 6.7m. On the wharf, there is a transit shed and fish bait depot. A community wharf, 21m long with a depth of 2.7m alongside, is situated close N of the government wharf.

Anchorage.—Anchorage is available within 0.2 mile from the head of the bay, in depths of 26 to 40m.



Francois Light

Caution.—During strong winds, the wind funnels down the steep cliffs surrounding the settlement with a force that tends to blow ships off the wharf when docking.

2.33 Chaleur Bay, entered between West Point and Gull Island, about 0.7 mile NE. Cooper Cove, on the W side of the bay about 2.8 miles NW of West Point, and affords anchorage, in 16.4 to 26m, about 0.2 mile off its sandy beach. Small vessels can anchor, in 12.8 to 26m, mud, from 0.3 to 0.6 mile off the head of the bay.

Chaleur Harbor (47°35'N., 56°41'W.) is entered between Bill of Lance Cove Point and Hares Ears Point, about 0.8 mile E. **Lance Cove** lies in the NW part of the harbor; small vessels can anchor in the cove, in depths of 5 to 11m. It is exposed SE.

Hares Ears Rock, with a depth of 1.5m, lies about 0.1 mile offshore 0.2 mile ESE of Hares Ears Point.

New Harbor is entered about 0.3 mile SW of **New Harbour Island** (47°36'N., 56°40'W.). Small vessels can anchor in New Harbor, in 27m, about 183m from its head. It is open ESE. There is another anchorage E of the head of the harbor off a small cove, in a depth of 9m.

New Harbour Island is marked by a light.

Directions.—The Bill of Lance Cove Point (47°35'N., 56°41'W.), open S of Hares Ears Point (47°35'N., 56°41'W.) and bearing 280°, leads S, and the W entrance point (47°37'N., 56°38'W.) of Devil Bay and open E of Pinchgut Point

(47°35'N., 56°40'W.) and bearing 026°, leads E of Hares Ears Rock (47°35'N., 56°40'W.) and Lower Rock (47°35'N., 56°40'W.).

2.34 Rencontre Bay is entered between New Harbour Island and the W entrance point of Devil Bay, about 1 mile NE. Little Bay branches off to the N about 1.5 miles the NE entrance point. Little Bay is too deep for anchorage; its W entrance point to Ironskull, a conspicuous hill, 328m high, with a conspicuous white spur visible from the S. Sugarloaf, another conspicuous hill, 393m high, rises about 0.5 mile N of the head of Little Bay. High Lookout, a hill on the S side of Rencontre Bay, rises about 1.8 miles WNW of New Harbour Island. Anchorage can be taken, in 18.3m, from 0.15 to 0.2 mile offshore at the Barasway, about 0.8 mile W of High Lookout. Small vessels can anchor off The Cove, close W of High Lookout or at the head of the bay.

Devil Bay is entered immediately E of the NE entrance point of Rencontre Bay; a small vessel can anchor close offshore.

Hare Bay is entered between Western Head (47°37'N., 56°32'W.) and Eastern Head, about 0.5 mile E. Northwest Arm, at the head of the bay, provides the best anchorage on the S coast of Newfoundland. Bob Lock Cove indents the E side of the bay, about 1.5 miles N of Eastern Head. The S entrance point of the cove is a conspicuous round hill, 188m high, the seaward side of which is faced with cliffs.

Tides—Currents.—The MHW interval at Hare Bay is 8 hours 38 minutes. The mean tidal range is 1m; the spring range is 1.3m.

Anchorage.—Anchorage can be taken, in 9.1 to 16.4m, mud, ESE of the first narrows of Northwest Arm; the holding ground is good. Anchorage can be taken, in 9.1 to 14.6m, mud, S of the low wooded projection at the head of Morgan Arm. Small vessels with local knowledge can anchor within the second narrows of Northwest Arm.

2.35 Eastern Head, between and Lower Shoal Point, about 4 miles E, the coast consists of alternate red and gray-colored cliffs, the red being very conspicuous in the sunlight. Horse Brook, a conspicuous waterfall, flows into a small cove, about 1.5 miles W of Lower Shoal Point.

Richards Harbor, entered between Lower Shoal Point and a point nearly 0.5 mile ENE, affords temporary anchorage to small vessels with local knowledge. Shoal Point Rock, with a depth of 8.2m, lies about 0.3 mile S of Lower Shoal Point.

Muddy Hole, about 1.5 miles ENE of **Fish Head** (47°36'N., 56°24'W.), is a small vessel harbor.

Dragon Bay, entered between Western Head (47°37'N., 56°20'W.), of Facheux Bay, and a point about 0.5 mile SW, affords anchorage to small vessels with local knowledge.

Facheux Bay is entered between Western Head and Eastern Head, about 0.5 mile E. A conspicuous white stripe marks a cliff on the N side of Warren Cove, about 1.8 miles N of Western Head. Black Otter Rub, a small projection, 3m high, on the W shore about 3.5 miles N of Western Head, is a good mark. Brent Cove, about 1 mile N of Black Otter Rub, affords good anchorage, in 10.9 to 18.3m, close within the entrance points, to vessels with local knowledge. Allen Cove, opposite Brent Cove, affords anchorage, in 14.6 to 16.4m, about 0.2 mile within the entrance points, to vessels with local knowledge. Ves-

sels with local knowledge can also anchor, in 10.9 to 18.3m, close S of the narrows. Warren Cove and Dennis Arm, nearly 3 miles N of Western Head, afford anchorage to small vessels with local knowledge.

Halibut Rocks, about 2 miles SE of Eastern Head, are two rocks 1.5m high. They are surrounded by sunken rocks. There are other dangers in the vicinity that can be seen on the chart.

Mosquito Harbor is entered between the E extremity of **Mosquito Island** (47°37'N., 56°15'W.) and the SW entrance point of Bonne Bay, about 0.5 mile E. The harbor affords anchorage to small vessels with local knowledge.

Bonne Bay indents the coast between a point about 0.8 mile E of Mosquito Island and **Bonne Bay Head** (47°38'N., 56°13'W.), about 1.3 miles NE. Bonne Bay is best entered between Taylor Island and Middle Island. Taylor Rock and Hardy Rock on the SW side, and the foul ground off Middle Island on the NE side of the channel must be carefully avoided. Rocky Passage, between Taylor Island and the mainland W, is available only to small vessels with local knowledge. Buffet Tickle, the narrow passage between Saddle Island and the mainland, is only suitable for small vessels. Bonne Bay Harbor, completely sheltered from all winds, indents the W side of Bonne Bay W of the N end of Taylor Island. Anchorage can be taken, in 24 to 31m, sand, in Bonne Bay Harbor. Small vessels can anchor at the head of the bay.

Bay D'Espoir

2.36 Dawson Point (47°38'N., 56°10'W.) Bay D'Espoir is entered between a position about 2 miles ENE of Bonne Bay Head, and a position about 2 miles ESE of Western Head of Long Island.

The head of Bay D'Espoir generally freezes over about the end of December, and clears again toward the end of April.

Bay D'Espoir—Entrance

2.37 Saddle Island (47°38'N., 56°10'W.), on the W side of the entrance, rises to two conspicuous hills, the S of which is conical and 74m high.

Great Jervis Harbor (47°39'N., 56°11'W.) lies W of Great Jervis Island, which lies midway between Dawson Point and the N entrance point, nearly 1 mile N. Dawson Point is the E extremity of an island separated from the mainland by Push Through, a narrow passage.

Tides—Currents.—The MHW interval at Great Jervis Harbor is 8 hours 55 minutes; the mean range of tide is 1.1m, the spring range is 1.4m.

The tidal currents in Great Jervis Harbor are barely perceptible and greatly influenced by the prevailing winds.

Anchorage.—Vessels can anchor, in 16.4 to 29m, mud or gravel, SW and S of Pearl Island. Small vessels can anchor SW of Fishesnose Point; in the channel N of Great Jervis Island; or in Man of War Cove on the W side of the N entrance point. Vessels can also anchor off the entrance to the Barasway at the W end of the S part of Great Jervis Harbor, in a depth of 26m.

Directions.—The best entrance to the harbor is the passage S of Great Jervis Island. The passage N of Great Jervis Island is only suitable for small vessels.

Caution.—A rock, with a least depth of 2.1m, lies about 0.3

mile W of the N entrance of Push Through and about 137m offshore. Rocks lie close off Fishesnose Point, nearly 1 mile WNW of Dawson Point. Dory Rock, which dries, lies close W of a point on the W side of Great Jervis Island, about 0.3 mile NE of Fishesnose Point. The Brothers, which dry 0.9m, lie on a shoal flat extending about 250m NNW from the NW end of Great Jervis Island. Pearl Island, in the NW part of the harbor, close off the head, is bordered by shoals.

Bay D'Espoir—North Arm

2.38 Manuel Arm, the southernmost cove on the W side of the N arm, is entered about 1 mile N of the N entrance point of Great Jervis Harbor. Manuel Arm affords no anchorage except for fishing vessels.

Stanley Cove, which indents the W shore about 0.4 mile NNW of Old Harry (47°41'N., 56°09'W.), a pinnacle rock, affords anchorage to small vessels, but offers little protection.

Birchy Cove indents the W shore about 1.5 miles N of Old Harry. Vessels can anchor, in 20.1 to 26m, about 0.2 mile off a small projection in the middle of the head of the cove.

Little Cuiller Bay is entered close N of the N entrance point of Brichy Cove. A vessel can anchor, in 15.5 to 18.3m, in the bay, but it is exposed to E winds.

Great Cuiller Bay is entered between Great Cuiller Point, the N entrance point of Little Cuiller Bay, and Sugarloaf Island, about 0.4 mile NNW. A conspicuous white patch, resembling a church with a spire can be seen on the S side of Great Cuiller Point. Anchorage can be taken, in 12.8 to 18.3m, W of some rocks which lie 135m off the S side of the bay about 0.8 mile W of Great Cuiller Point.

Cul-de-Sac, with anchorage for a small vessel, is entered between Cul-de-Sac Point, about 0.5 mile NNE of Sugarloaf Island, and North Bay Head, about 0.4 mile NE. Anchorage is available close SE of a narrows near its head, in depths from 7 to 11m.

Goblin Head (47°41'N., 56°07'W.), the E entrance point of the N arm, is a steep bluff, 197m high, which shows the profile of a face on some bearings.

North Bay Head (47°45'N., 56°08'W.), the W entrance point of North Bay, rises in cliffs to an elevation of 183m, and has a conspicuous white stripe on its SW side.

Anchorage.—Vessels can anchor, in 11.9m, mud, in mid-channel in North Bay, 0.2 mile S of **Indian Point** (47°52'N., 56°10'W.); or in 8.2m, mud, W of Indian Point.

A small vessel can anchor, in 12.8 to 20.1m, in the entrance of **First Brook** (47°46'N., 56°08'W.).

A small vessel can proceed up North Bay as far as **Dogberry Rock** (47°52'N., 56°10'W.).

Vessels can anchor, in 12.8m, mud, N of the islet (47°47'N., 56°03'W.) in East Bay.

Small vessels can anchor nearer the head of East Bay or near the head of **Northwest Cove** (47°47'N., 56°04'W.).

Bay D'Espoir—East Arm

2.39 Patrick Harbor and Harbor Le Gallais, each with anchorage for small vessels, lie about 1 and 2 miles E, respectively, of Grip Island.

2.40 Day Cove (47°41'N., 55°56'W.), on the W side of the N end of Little Passage, affords anchorage to small vessels.

Dollond Bight, about 3 miles NE of **Brimball Head** (47°42'N., 55°54'W.), affords open anchorage, in 24 to 37m. The bight is clear of dangers with the exception of Taylor Islet, 2.7m high, and Taylor Islet Rocks, which extend a short distance off the N entrance point.

Simmonds Barasway, close N of Dollond Bight, affords anchorage, in 18.3m, close within the entrance.

Gull Cove lies close N of Simmonds Barasway; small vessels can anchor in the cove.

2.41 The Little River entrance lies about 1.8 miles NE of Ingram Point. Vessels can anchor, in 26m, off the entrance. Only small vessels can navigate the river. The tidal currents in the Little River attain a velocity of 3 knots.

Riches Island lies between the NE end of Bois Island and the entrance of the Little River. Vessels can anchor E of Riches Island, in 12.8m, mud, good holding ground.

May Cove, the head of which dries, lies close W of **May Head** (47°44'N., 55°53'W.). A vessel can anchor, in 13.7m, in May Cove. A 7.9m patch lies in the middle of the entrance to the cove.

Dawson Passage lies between **Dawson Point** (47°46'N., 55°52'W.) and the W side of Riches Island, about 0.3 mile E. Vessels using Dawson Passage should hug the E shore as that is where the greatest depths are.

Lampidoes Passage lies between Bois Island and the shore NW. Vessels are cautioned not to use Lampidoes Passage during NW or SE winds; at such times very violent squalls sweep through the passage.

Pomley Cove and Northwest Cove, on the NW side of Lampidoes Passage about 3.5 miles and 5 miles NE, respectively, of Western Head (47°42'N., 56°03'W.), afford anchorage to small vessels.

2.42 Roti Bay indents the NW side of Lampidoes Passage near its E entrance. The bay is entered between **Roti Point** (47°47'N., 55°52'W.), about 0.8 mile NNW of Dawson Point, and the shore 320m W. A rock, which dries 0.6m, lies nearly in mid-channel about 0.8 mile NW of Roti Point. The passage into Roti Bay is 135m wide between the shoals on either side, and has a least depth of 6.4m. Vessels can anchor, in 28 to 39m, about 0.3 mile within the entrance or, in 26 to 31m, mud, NW of the drying rock.

A light is shown on the E extremity of the headland of which Roti Point is the W extremity.

Directions.—The SW side of Riches Island opens NE of the W side of the entrance of Roti Bay, leads NE of the above-mentioned drying rock. A buoyed channel leads from near the drying rock into the inner part of Roti Bay. No convenient passage SW of the rock exists.

2.43 Arran Cove indents the E side of the E arm between **Peyton Point** (47°47'N., 55°49'W.) and Little Crow Head, about 1 mile N. The S side of the cove is bordered by shoal flats which extend a short distance offshore, but the N side is clear of dangers, except for a rock close offshore, about 0.8 mile E of Little Crow Head. Anchorage can be taken, in 21.9m, about 0.8 mile E of Little Crow Head, or in less depths farther

in the cove.

Crow Head, about 0.3 mile NNW of Little Crow Head, is a conspicuous cliff, 220m high.

Ship Cove is entered 3.75 miles NNE of the light on Roti Point between Clarke Head and Cluett Head 1 mile farther NNE.

There is a government jetty on the SW of Ship Cove about 0.7 mile within the entrance. It is 108m long and 9m wide, with a depth alongside of 7.3m.

The Conne River is entered about 3.5 miles NNE of Crow Head. The channel narrows to a width of 0.1 mile about 1 mile within the entrance; then the depths are suitable only for small vessels. Vessels anchor close within the entrance of the Conne River, in 10.9m, mud, good holding ground, but caution is advised because the depths decrease suddenly from about 37 to 10.9m.

An overhead cable, with a vertical clearance of 12.2m, spans the narrows at the entrance to the river. A submarine cable also crosses the narrows.

Swagger Cove, which indents the W side of the arm about 1.5 miles N of **Cluett Head** (47°52'N., 55°49'W.), dries out to its entrance; but anchorage can be taken, in 9.1m, mud, on the flat extending off the entrance.

Cock and Hen Cove, a small drying cove on the W side of the arm, is entered W of a point 0.5 mile NW of **Weasel Islet** (47°54'N., 55°47'W.). The point, bearing about 331°, marks the SW limit of the anchorage at the head of Eastern Arm. Depths of 10m, mud, exist on this bearing, but they increase to 37m, mud, about 0.2 mile SW.

Hermitage Bay—North Side

2.44 Hermitage Bay is entered between Western Head, the SW extremity of Long Island, and **Pass Island** (47°29'N., 56°12'W.), the NW entrance point of Fortune Bay, about 8.5 miles SSW.

Head Rock, 3.7m high, lies about 0.2 mile SSE of Western Head. Long Island Rock, 3m high, is located 0.5 mile SW of the same point.

Grassy Island, located 1.5 miles ESE of Western Head, rises to an elevation of 82m. Tinker Rock is an islet located about 0.2 mile S of the E end of Grassy Island. A light is shown from Tinker Rock.

Round Harbor, with anchorage for small vessels, indents the coast about 4 miles ESE of Western Head.

Piccaire Harbor (Picarre Harbor) is entered between Miller Point, about 6.8 miles ESE of Western Head, and a point about 0.2 mile SE. The SE entrance point rises to Crow Nest, a hill 88m high.

Depths—Limitations.—The harbor trends about 0.8 mile N to a point where it narrows to less than 92m, with depths that are very shoal. Inside the narrows the harbor opens into a deep basin.

Anchorage.—Vessels can anchor close within the harbor entrance, in depths of 18 to 22m. Small vessels can anchor as far as the narrows.

Directions.—Buffet Point, on the W side of the harbor, about 0.5 mile N of Miller Point, leads into the harbor W of the dangers.

Caution.—Crazy Betty, a drying rock, lies about 0.1 mile

NW of the SE entrance point. A 4.9m patch lies 0.15 mile S of the same point. Mad Moll, a rock which dries 0.6m, lies about midway between the point and the patch.

An overhead telephone cable, with a vertical clearance of 4.6m, crosses the narrows which are less than 45m wide and fronted by a bar with a least depth of 1.8m. The harbor terminates close N of the narrows in a wide basin called Northwest Arm.

2.45 Gaultois Harbor, near the SE extremity of Long Island, is entered between **West Head** (47°36'N., 55°54'W.), about 1.5 miles E of Piccaire Harbor, and Krant Point, nearly 0.2 mile farther NE.

Ice.—Field ice arrives at Gaultois Harbor about the middle of February and leaves toward the end of March. The harbor seldom freezes over, except during severe winters with calm weather, and the ice generally breaks up in a few days.

Depths—Limitations.—The channel between Goose Rock and the W shore is about 68m wide, with charted depths of 7.3 to 10.9m.

Several islets and dangers lie in the harbor entrance, which opens into a small deep basin. A rock, with a depth of 0.9m, lies close S of West Head. Several islets and rocks extend about 230m SW from Krant Point, the SW of which, Goose Rock, is 2.7m high. Whale Islet, with shoals extending about 70m W, is 3m high and lies about 92m WNW of Krant Point.

Submarine cables exist between West Head and a cove close W of Big Black Head, 171m high, 1.25 miles SE.

There is a government wharf of irregular shape at Gaultois. It has two berthing faces, with one face 30m long and a second face 28m wide, with depths alongside of 4.5 to 5.4m. Adjacent to the government wharf is a fish plant wharf, 68m long, with a least depth alongside of 3.7m.

Aspect.—Gaultois Harbor Light is situated near West Head.

The entrance channel is marked on the E side by a lighted buoy moored close SW of Goose Rock and by a buoy 90m W of Whale Islet.

Anchorage.—Vessels can anchor, in 44m, mud, in the basin, or secure to moorings which are laid between Whale Island and the W shore of the harbor. If anchoring, vessels must avoid fouling the moorings. A pipeline is laid from a position 0.1 mile NNW of West Head, E and NE for 90m. Vessels should not anchor in this vicinity.

Directions.—Whale Island, open E of West Head, leads E of the rock close S of West Head. After passing this rock, a vessel should keep West Head close aboard, then proceed into the harbor.

2.46 Little Passage is the deep channel between the E side of Long Island and the mainland, and connects Hermitage Bay with Bay D'Espoir, 5.5 miles NNW. L'Anse a Flamme, with anchorage for small vessels, lies on the W side of the passage, about 0.5 mile NW of Margery Head, the W entrance point at the S end. Two islands, The Matchums, lie in the fairway about 1 mile NNW of Margery Head; the channel passes W of them. Middle Island, 9.1m high, lies about 3 miles NW of Margery Head; it can be passed on either side. Little Island lies about 0.5 mile N of Middle Island. The navigation channel between Little Island and Long Island is only 137m wide. Deer Cove, with a conspicuous waterfall, lies on the E side about 1 mile W

entrance point at the N end.

Northwest Cove and Salmonier Cove, each with anchorage for small vessels, indent the coast about 4.5 and 8.5 miles ENE, respectively, of Passage Point, the E entrance point at the S end of Little Passage.

Hermitage Bay—Southeast Side

2.47 Grole Western Cove, about 3 miles ENE of Pass Island, affords anchorage to vessels with local knowledge, in 16.4m. A light is shown from Grole Point, close E of Grole Western Cove. Fish Rocks lie 0.2 mile offshore, close W of the W entrance point of Grole Western Cove.

Fox Island (47°34'N., 55°58'W.), marked by a light, is located about 0.5 mile off the S shore of the bay, about 6.5 miles ENE of Grole Western Cove. Fox Island Rock (Black Rock), 10m high, is located 0.3 mile NE of Fox Island. A light is shown from the rock.

Hermitage Cove indents the SE side of the bay, about 1 mile E of Fox Island. The MHW interval at Hermitage Cove is 8 hours 35 minutes; the mean range of tides is 1.4m and the spring range is 2.1m. Vessels with local knowledge can take good anchorage, except during N gales, about 0.4 mile off the head of the cove, in 14.6m. The approach to the inner harbor has a least depth of 2.1m. Between the two breakwaters, the channel is only 24m wide. A prominent microwave tower stands on the hill west of Hermitage Cove.

Little Fox Island, 29m high, lies 1.2 miles ENE of Fox Island. Connaigre Shoal, a rock with a depth of 1.2m, lies about 0.6 mile E of Little Fox Island. A light is shown from Little Fox Island.

Furby Cove, Olive Cove, and Hardy Cove indent the SE side of Hermitage Bay, about 5.5, 10, and 12.8 miles ENE, respectively, of Fox Island. Small vessels with local knowledge can anchor in these coves.

Fortune Bay

2.48 Fortune Bay is entered between **Pass Island** (47°29'N., 56°12'W.) and Point Crew, about 35 miles SSE. Pass Island Tickle, the passage between Pass Island and the peninsula, is about 228m wide and has a least depth of 7.3m. Vessels with local knowledge can anchor, in 11.9m, sand, in Pass Island Tickle. The berth is off the house in the middle of Pass Island, but it is open to the S. There are many islands in the approach and in the bay, which extends for about 65 miles in a NE direction. The shores are indented by many bays and harbors. At the head of the bay are two long narrow inlets, the NW of which is Long Harbor. Fortune Bay is generally deep with depths over 183m. In many places the depths near the shore are as deep as in the middle of the bay. Currents in the bay are irregular, especially in the vicinity of the Plate Islands and Brunette Island. Fortune Bay is seldom frozen over, although some of the harbors in the bay freeze over. Marine farms, feed barges, and vessel traffic associated with the aquaculture industry may be encountered in these areas.

Fortune Bay—Entrance

2.49 **Brunet Island** (Brunette Island) (47°16'N.,

55°59'W.), the largest island in the approaches, lies with Northwest Head, its W extremity, 21 miles N of Crew Point. Several of the hills on the N end of Brunette Island appear as separate islands when seen from a distance seaward. Because of its elevation, Mercer Head Light, at the SE extremity of the island, is often obscured by fog when the land below is visible.

Mercer Cove, entered close W of Mercer Head, has general depths of 6.4 to 12.8m. The entrance is about 0.3 mile wide. Harbour Shoal, an 8.2m patch, lies 0.3 mile SW of the SE entrance point. Harbour Rock dries 1.8m and lies in the middle of the cove; it may be passed on either side.

The MHW interval at Brunette Island is 8 hours 53 minutes. The mean range of tides is 1.3m; the spring range is 1.9m.

Mercer Cove affords good sheltered anchorage, in 5.5 to 10.9m, NE of Harbour Rock.

Vessels with local knowledge can anchor, in 10.9 to 24m, sheltered from S and W winds, in the bight W of Little Cape, the E extremity of Brunette Island. Rocks at the head of the bight and a 4.5m patch about 0.8 mile W of Little Cape must be avoided.

The Little Brunette Islands, comprising Duck Island, Puffin Island, and Bird Island, are located between 0.5 and 1.5 miles S of the W part of the Brunet Island.

The **Plate Islands** (47°12'N., 56°03'W.), together with numerous rocks and shoals, are the SW dangers in the approaches to Fortune Bay.

Connaigre Rock, located 7.5 miles N of Northwest Head and 3 miles S of Connaigre Head on the N shore of Fortune Bay, has a depth of 2.7m.

Sagona Island lies about 5.3 miles NE of the N extremity of Brunette Island. A small inlet at the SW end of Sagona Island affords shelter to fishing vessels.

Caution.—It is recommended when anchoring to maintain a distance of 1 mile from charted dangers of less than 18.3m as it is reported that the sea will break on them in heavy weather.

Vessels should not anchor near submerged cables in Fortune Bay, best seen on the chart. Cables also lie in the vicinity of Connaigre Head, extending SW to close N of Brunette Bank, and continuing about 66 miles NW past Cape La Hune to the Burgeo Islands.

Fortune Bay—North Side

2.50 Pass Island, 84m high, is separated from the W extremity of the long peninsula separating Connaigre Bay and Hermitage Bay by Pass Island Tickle. This passage is 229m wide, with depths of 7.3m. During spring tides, a tidal current of 3 to 4 knots sets through the tickle. It is difficult to navigate the passage during strong winds. Fog is prevalent during the summer months. Local knowledge is necessary. An overhead cable, with a vertical clearance of 25.9m, spans the tickle from the NE side of Pass Island to the mainland. Three submarine cables are also laid in this vicinity.

A group of islets and shoals extends nearly 1.5 miles WSW from Pass Island.

Connaigre Bay is entered between **Basse Terre Point** (47°28'N., 56°07'W.) and Connaigre Head, about 8 miles ESE. Black Rock, detached and 0.3m high, lies in the entrance of the

bay, about 4 miles E of Basse Terre Point. Shag Rocks, 7.3m high, lie in the middle of the entrance to the bay. Eastern Point and Dog Cove Head lie on the NW side of the bay, about 3 and 7.5 miles ENE, respectively, of Basse Terre Point.

Blow-me-down Head rises to 211m about 3.5 miles ENE of Dog Cove Head. Partridge Cove lies on the W side of Blow-me-down Head. Great Harbor Bight lies on the SE side of the bay, about 5.5 miles NE of Connaigre Head. Great Island, 147m high, lies in the middle of the bay, about 5 miles NNE of Connaigre Head. Little Island, 82m high, is located close NE of Great Island.

Great Harbor Bight affords anchorage to vessels with local knowledge, in 18.3m, about 0.2 mile off the head of the bight. Vessels entering this bight should keep close to the SE shore.

Partridge Cove affords anchorage to vessels with local knowledge in 9.1m, but is open S.

Small vessels can anchor in Salmonier Cove at the head of the bay; however, this is the only anchorage, except for boats, above Great Harbor Bight.

Directions.—Seal Islet, SW of Pass Island, well open S of Basse Terre Point and bearing 282°, leads close S of Black Rock. Blow-me-down Head, well open SE of Dog Cove and bearing 057°, leads SE of the rocks and shoals between Eastern Point and Dog Cove Head.

The beach of Saltwater Cove in Harbor Breton, open S of **Western Head** (47°27'N., 55°49'W.) and bearing 059°, leads SE of **Offer Rock** (47°27'N., 55°51'W.).

Deadman Bight is located between Connaigre Head and Western Head, nearly 5 miles ENE. Offer Rock, with a depth of 3.4m, lies about 2 miles WSW of Western Head.

2.51 Harbor Breton is entered between Western Head and Eastern Head, about 1.3 miles E. Brook Point lies on the E side of Harbor Breton, about 2.3 miles N of Eastern Head. Harvey Hill rises 173m on the W side of Northeast Arm, about 1.75 miles NNE of Brook Point. Rocky Point, the S entrance point of Southwest Arm, lies nearly 1.8 miles NNE of Western Head. Thompson Beach, the inner S entrance point of Southwest Arm, lies about 0.3 mile WNW of Rocky Point. Harbor Rock, a 4.5m patch, lies about 0.1 mile NNE of Thompson Beach. The town of Harbour Breton is situated on the shores of the SW arm. A church with a spire, a hospital, and dental services are located in the town. Fishing is the main industry. The harbor is navigable for all of the year.

Ice.—Drift ice arrives at Harbor Breton about the end of February and leaves about the end of March. During a period of 30 years there was but three occasions when the mail steamer was unable to reach the anchorage. Harbor ice occurs between the beginning of January and the middle of April, but as a rule, only the heads of Southwest Arm and Northeast Arm freeze over.

Tides—Currents.—The MHW interval at Harbor Breton is 8 hours 52 minutes. The mean range of tides is 1.7m; the spring range is 2.1m.

Depths—Limitations.—The entrance of the harbor is crossed by a bar. A channel, with a least depth of 5.5m, leads over the bar.

For berthing information, see the table titled **Harbor Bret-**



Harbor Breton

on—Berth Information

Harbor Breton—Berth Information			
Berth	Length	Depth	Remarks
Public Quay (W)	38m	4.4m	Breakbulk.
Public Quay (E)	150m	3.5m	Breakbulk.
Fish Plant Quay (W)	60m	4.3m	Breakbulk and fishing vessels.
Fish Plant Quay (E)	53m	4.3m	Breakbulk and fishing vessels.

Aspect.—Jerseyman Head, the N entrance point of Jerseyman Harbor, is a conspicuous promontory faced with red cliffs; it lies about 2.3 miles N of Eastern Head.

A lighted buoy is moored close N of Harbor Rock.

A light is shown on Rocky Point.

Anchorage.—Large vessels must anchor, in about 31m, NNE of Har; a good scope of chain should be used to avoid dragging during the squalls which prevail during strong breezes in the summer. Small vessels can anchor in Southwest Arm or Jerseyman Harbor.

Directions.—Brook Point, in line bearing 015° with Harvey Hill, leads E of the shoal flats off Rocky Point.

Caution.—A submarine cable in the entrance of Harbor Breton extends between Western Head and Eastern Head; the

cable continues SE for 5.3 miles, then 3.6 miles, passing close N of Burnette Bank, then continuing ENE for about 17.5 miles.

A cable extends SE from the vicinity of Eastern Head, passing between Little Sagona Island and Saint John’s Island, then continuing 14.5 miles to White Point Rocks.

2.52 Great Bay de L’Eau is entered between Eastern Head and St. Johns Head, about 4.5 miles ESE. Devils Island, about 5 miles inside the entrance, divides the bay into two channels, the E of which is clear of dangers. Millers Passage, the W channel, has a least depth of 2.1m.

Little Bay indents the NW shore about 4 miles NE of Eastern Head. On Little Bay Head, the E entrance point to Little Bay, there is a white light tower, no longer in use.

Little Devils Island lies on a shoal flat extending about 320m N from N side of Devils Island. Northeast of Little Devils Island, the inner part of Great Bay de L’Eau is known as Old Bay. A foul area, dangerous to navigation, is located about 0.6 mile SW of Little Devils Island. Caution is advised.

Anchorage.—Anchorage can be taken off the W side of Little Bay, in 11 to 29m, avoiding a sunken rock close off the W entrance point. Anchorage can also be taken, in 18 to 22m, at the head of Old Bay.

Shag Rock Bank, on which there are numerous shoals and rocks, occupies most of the E side of the S part of Great Bay de L’Eau. **Shag Rock** (47°27’N., 55°36’W.) is an islet composed of a flat rock, 12m high, nearly connected at its SW end with Gull Rock, a pinnacle 20m high.

A light is shown from the NE entrance point of Coomb’s Cove, 1.2 miles E of Shag Rock.

St. Johns Bay (St. John Bay) is entered between St. Johns Head and a point 2.5 miles SE. St. Johns Bay affords anchorage in moderate depths during offshore winds. The best berths are near the channel leading to St. Johns Harbor in the N part of the bay.

St. Johns Island, 130m high, lies in the middle of the entrance to the bay.

2.53 Boxey Point (47°24'N., 55°36'W.) is the SE extremity of a promontory which rises to an elevation of 94m; the points of this promontory are bordered by sunken rocks and should not be approached within 0.25 mile. A light is shown from Boxey Point.

Boxey Rock, with a depth of 0.9m, lies about 0.4 mile SSW of Boxey Point. Vessels should not attempt to pass inside Boxey Rock.

Directions.—The houses on the W side of Boxey Harbor, about 2.8 miles NNE of Boxey Point, open E of Friar Head, nearly 1 mile NNE of Boxey Point, and bearing 016°, leads E; and the S end of St. Johns Island, in the entrance of St. Johns Bay, open S of Shephard Rock, about 1 mile WSW of Boxey Point, and bearing 283°, leads S of Boxey Rock.

2.54 Boxey Harbor is entered between the W extremity of **Boxey Harbor Head** (47°24'N., 55°36'W.), which is 60m high and located 2.75 miles NE of Boxey Point, and the coast 0.5 mile W. On the W side of the entrance there is a breakwater which was reported to be in poor condition in 1973. The small settlement of Boxey stands on the W side of the harbor. Anchorage is available in this harbor, in depths of 7 to 8m, fine sand.

Directions.—Shag Rock, bare and 4m high, lies 0.3 miles E of Boxey Harbor Head. A rock, with a depth of 0.7m, lies about 0.1 mile S of Shag Rock.

English Harbor West is entered about 2 miles ENE of Boxey Harbor Head. It is only suitable for small vessels.

Blue Pinion Harbor is entered about 6 miles NE of Boxey Point. Anchorage can be taken at the head of the harbor, in 9.1 to 28m, but the harbor is open to the S. Vessels should anchor near the E side to avoid a shoal extending 0.15 mile off the W shore about 0.8 mile N of the W entrance point.



St. Jacques Island from S

2.55 St. Jacques Harbor, entered about 1.3 miles E of Blue Pinion Harbor, is clear of dangers except for a small spit extending off the E entrance point. **St. Jacques Island** (47°28'N., 55°25'W.), 50m high, lies about 0.4 mile SE of the E entrance point of St. Jacques Harbor. Good sheltered anchorage can be taken, in 7.3 to 31m; however, kelp grows in the NW part of the harbor in depths of 16.4m or less and the bottom is rocky. A

light is shown at the SE end of St. Jacques Island.

Belle Bay is entered between St. Jacques Island and Long Point, about 12.5 miles ENE.

Belle Bay—West Side

2.56 Belleoram Harbor, about 3 miles N of St. Jacques Island, is a snug harbor for small vessels. A light is shown at an elevation of 10.5m from a red tower with a white horizontal band, situated on Beach Point, the east entrance point to Belleoram Harbor. The outside shore of Beach Point has been reinforced as a breakwater.

Chapel Island lies with its S extremity about 2.3 miles E of Beach Point, the E entrance point of Belleoram Harbor. Farmers Cove, at the NE end of Chapel Island, affords anchorage to small vessels. The pier on the S end of the peninsula has been extended about 52m. The E side of the wharf is 50m long and has depths of 4.4 to 4.7m alongside. The W side of the wharf has depths of 2.1 to 4.5m alongside. A light is shown from the mast at the outer end of the Public wharf.

Corbin Bay is entered between Bob Head, about 2 miles NW of Chapel Island, and Corbin Head, about 1.5 miles N. The bay is indented by three arms, all of which afford anchorage, in 12.8m.

Numerous rocks and shoals lie in the channel between Long Island and a promontory 0.5 mile NW; they include Barrow Rock, which lies nearly in mid-channel and is 5m high. The promontory is fronted by Thrum Cap, a steep islet 26m high, and **Lord and Lady Island** (47°35'N., 55°23'W.), 23m high.

Ducie Rock, awash, lies 0.3 mile N of Lord and Lady Island and is marked on its N side by a lighted buoy fitted with a radar reflector. More rocks extend 0.5 mile W from Ducie Rock.

Vessels with local knowledge can anchor off Pools Cove or off the mouth of the river at the head of North Bay, both of which lie at the head of Belle Bay.

Belle Bay—Northeast Side

2.57 Hare Harbor indents the shore about 0.5 mile NW of Long Point; it can only accommodate fishing vessels.

Mal Bay is entered between Woody Head, about 2 miles NNW of Long Point, and Mal Bay Island, about 1.8 miles farther WNW. This bay affords anchorage to vessels with local knowledge. Caution is necessary because the depths at the head of the bay decrease rapidly from 42 to 9.1m.

The Rencontre Islands lie off the NE side of Belle Bay. Vessels with local knowledge can anchor off a village situated on the mainland NE of the E extremity of the largest Rencontre Island. This anchorage is sheltered by the two southeastern-most Rencontre Islands.

Belle Harbor (Belle Island Harbor) indents the NE shore about 3.5 miles WNW of the W extremity of the largest Rencontre Island. Doctor Island lies on the E side of the entrance. Belle Harbor affords anchorage to vessels with local knowledge, in 14.6 to 31m, near its head, but the depths decrease suddenly. Small vessels can anchor in Doctor Cove.

Lally Head is the SW extremity of a promontory about 5.3 miles W of the W extremity of the largest Rencontre Island. Lally Cove lies on the S side of the promontory, sheltered by Lally Cove Islet off its entrance. Lally Back Cove lies on the N

side of the promontory. These coves are only suitable for boats, but vessels with local knowledge can anchor off Lally Back Cove, in 26 to 29m.

East Bay Head, the common entrance point of North Bay and East Bay at the head of Belle Bay, lies about 2.5 miles N of Lally Head. East Bay affords good anchorage to vessels with local knowledge. The anchorage is off the mouth of a river that flows into the head of East Bay.

Fortune Bay—Southeast Side

2.58 Between **Point Crew** (46°55'N., 55°58'W.) and Dantzic Point, about 5 miles N, the coast is indented by great Dantzic Cove, which has poor holding ground and is located about 1 mile S of Dantzic Point.

Fortune Head, located 7.5 miles NE of Dantzic Point, has steep cliffs with a hillock at the W end of the headland. A light is shown about 0.8 mile WSW of Fortune Head.

Fortune Harbor (47°05'N., 55°50'W.) lies at the mouth of Fortune Barrasway, about 0.5 mile ESE of Fortune Head.



Fortune Harbor

Depths—Limitations.—Fortune Gut is a dredged channel with a least depth of 4.9m in 1985. This channel leads SW between breakwaters on the W side and public wharf on the E side, where it is about 45m wide, into a dredged basin with depths from 5.2 to 7.3m in 1985.

A marine service center is located at the SE end of Fortune Barasway. Due to silting, the service center is best approached by favoring the E side of Fortune Barasway. From a point near the W end of the marine service center, a rock breakwater extends 76m in a N direction. Adjacent and parallel to the E side of the breakwater, a floating wharf extends 100m, forming a small boat mooring area. Three floating wharves, 33m long, extend E from the previous float-in wharf. A light is shown from a mast on the E end of the outermost of the three floating wharves.

Numerous wharves exist on the E side of the basin. They provide 525m of berthing space with depths alongside ranging from 2.5 to 5.6m.

Fortune Terminal lies on the NE side of Fortune Harbor. It is made up of an inner berth and an outer berth. The inner berth is 110m in length and handles ro-ro, passengers, vehicles, and rail. The outer berth is 82m in length and predominantly han-

dles fishing cargo.

Aspect.—A light is shown on the outer end of the outer W breakwater and from the NE end of the public wharf.

A lighted buoy is moored about 0.2 mile NE of Fortune Harbor Breakwater Light.

Anchorage.—Anchorage can be taken in good weather by vessels with local knowledge, in 10.9 to 18.3m, outside the harbor, but the bottom is smooth rock, very bad holding ground. The best berth is in 12.8m, well toward Fortune Head.

Grand Bank Head is a steep headland, 54m high, lying about 3.3 miles NE of Fortune Head. Admiral Cove, on the E side of Grand Bank Head, affords temporary anchorage, in 9.1 to 18.3m.

Caution.—Submarine pipelines are laid across the harbor entrance; one of them extends about 0.2 mile N, where it is marked by an orange buoy.

Mal Bay, located NE of Fortune Bay, contains a marine farm, which can best be seen on the chart.

Grand Bank Harbor (47°06'N., 55°45'W.)

2.59 Grand Bank Harbor, a small narrow basin lying on the SE side of Fortune Bay, about 14.5 miles NE of Point Crew, is entered between Western Pier and Eastern Breakwater, on the E side of Bouilli Point, about 1 mile SE of Grand Bank Head. Western Breakwater affords protection to the harbor entrance between Western Pier and Eastern Breakwater. The port is open all year.



Grand Bank Harbor (aerial)

Ice.—Grand Bank Harbor rarely freezes over. Drift ice arrives at the end of February and leaves early in April. Grand Bank Harbor is open for navigation throughout the year.

Tides—Currents.—The MHW interval at Grand Bank Harbor is 8 hours 39 minutes. Spring tides rise 2.1m; neap tides rise 1.5m.

Depths—Limitations.—Depths in the Grand Bank Harbor approach and anchorage are deep. A depth of 5.8m can be carried in the fairway of Grand Bank Gut, the channel between Western Pier and Eastern Breakwater.

A 2,400-ton vessel is the largest that has entered the harbor.

A breakwater extends E for 80m from Western Pier into Grand Bank Gut. The E wharf, at the S entrance to Grand Bank

Harbor has been extended S for 50m.

Grand Bank Harbor—Berth Information

Berth	Length	Depth
Government Pier	73m	4.3m
Fish Wharf	75m	4.9m

Aspect.—Two lights, in line bearing 244.5°, are shown from the W side of the harbor and lead into the harbor.

Lighted Buoy VG is moored about 0.8 mile ENE of the harbor entrance.

Lights are shown on the E extremity of Western Breakwater, on the head of Western Pier, and on the N extremity of Eastern Breakwater.



Grand Bank Light at Eastern Breakwater

Pilotage.—Pilotage is not compulsory but is recommended for mariners without local knowledge. A pilot can be arranged by giving 24 hours notice to Pilots, St. John's. The pilot will board off St. John's (47°33'42"N., 52°37'54"W.) or off Grand Bank Harbor if the vessel arranges for a boat to embark the pilot.

Contact Information.—The Port Authority can be contacted, as follows:

1. Telephone: 1-709-832-0255
2. E-mail: hagrandbank@nf.aibn.com

Anchorage.—Vessels with local knowledge can anchor, in 18m, but the holding ground here has been reported bad.

2.60 Grand Beach Point (47°09'N., 55°31'W.) is frequented by fishing vessels during the spring season. Scott Rock, with a depth of 7.6m, lies about 0.6 mile NW of the point. A submarine cable extends from Grand Beach and continues NW toward Brunette Island.

White Point, located 3.5 miles NE of Grand Beach Point, is formed of bare granite.

Frenchman Cove, about 4 miles NE of **White Point** (47°11'N., 55°28'W.), affords anchorage to small vessels with local knowledge.

The coast between White Point and the entrance to Garnish

is fronted by rocks extending as much as 2 miles offshore. White Rock, with a depth of 5.2m, lies at the NE extremity of these rocks.

Garnish Harbor is a small vessel harbor lying about 1 mile NE of Frenchman Cove. A light is shown from the outer end of the Garnish breakwater.

Caution.—A slight outflow from a nearby river has been reported (1999) in the entrance channel to Garnish Harbor.

2.61 Between the entrance to Garnish Harbor and Point Enragee (Rose Point), 9.5 miles to the N, the coast is fronted with several rocks and shoals.

Charleys Rock, with a depth of 4m, is located about 0.7 mile offshore, about 4 miles NNE of Garnish Light. Tilt Rock, with a depth of 1.4m, is located 0.5 mile offshore, about 2 miles farther NNE. Hay Shoals extend nearly 1 mile W from Scott Point, located about 1.3 miles S of Point Enragee.

Grand Jersey Cove (Grand Jervey Cove), about 0.5 mile E of **Grand Jersey Head** (Grand Jervey Head) (47°28'N., 55°07'W.), affords open anchorage to vessels with local knowledge, in 26m.

Fortune Bay—Head

2.62 North side.—The head of Fortune Bay is entered between **Miller Head** (47°29'N., 55°07'W.) and Long Point, the NE entrance point of Belle Bay, about 5.4 miles NNW.

Long Harbor is entered between Long Harbor Point, nearly 1 mile E of Long Point, and a point about 1.8 miles ENE. Anderson Cove indents the W shore of Long Harbor about 1.5 miles N of Long Harbor Point. Woody Island lies on the E side of Long Harbor, about 3.5 miles NNE of Long Harbor Point. Tickle Head is a cliffy headland, 21m high, lying on the W side about 4 miles within the entrance of Long Harbor. Grundy Cove indents the W shore about 0.8 mile N of Tickle Head. **Herring Island** (47°40'N., 55°04'W.), 37m high, lies close off the W shore, about 1.5 miles NNE of Tickle Head. Southeast Bight and Doughball Cove indent the E side of Long Harbor, about 2 and 2.5 miles NE, respectively, of Herring Island.

Tides—Currents.—The MHW interval at Long Harbor is 8 hours 50 minutes. Spring tides rise 2.1m; neap tides rise 1.7m.

The tidal current is reported to flow past Tickle Head with a velocity of 3 knots at times. Off Woody Island, the greatest velocity of the ebb current is 1.25 knots, while that of the flood current is 0.5 knot. The ebb current at the anchorage N of Doughball Cove has sufficient strength to keep a vessel broadside to a strong breeze.

Anchorage.—Anchorage may be obtained by small vessels on the W side of Anderson Cove, in 10.9 to 26m.

A vessel can anchor S of the narrows at Tickle Head, but completely exposed to the strength of the tidal currents, in 12.8 to 14.6m.

A vessel, depending on its length, can anchor, in 10.9 to 21.9m, in Grundy Cove.

A vessel can anchor in Southeast Bight, in 10.9 to 20.1m, or in mid-channel N of Doughball Cove, in 10.9m or less.

Directions.—A vessel entering by the passage E of Black Rock and Gull Island should keep close to Gull Island in depths of 9.1 to 12.8m. If using the W passage, keep near the W shore in a depth of 26m. A vessel should keep in mid-chan-

nel through the narrows at Tickle Head. The dangers SE of Gull Rock should be buoyed and passed close SE because the fairway is only 0.15 mile wide, then steer a mid-channel course for the anchorage N of Doughball Cove.

2.63 Big Conne, an open bay, is entered between Conne Big Head, about 2.7 miles ENE of Long Harbor Head, and a point 1 mile farther E; anchorage is available at the head of the bay, in 16.4 to 31m. Little Conne, a cove on the W side of Big Conne, is suitable for fishing vessels. Shag Rock, 7m high, lies about 230m S of the E entrance point of Big Conne. Shoals lie within 230m SW of Shag Rock.

Femme Harbor indents the coast between the E entrance point of Big Conne and a point 2 miles E. Petticoat Island, Smock Island, and several islets and dangers lie in the outer part of the harbor.

Tides—Currents.—The MHW interval at Femme Harbor is 8 hours 35 minutes; spring tides rise 2.1m, neap tides rise 1.5m.

Depths—Limitations.—Depths of 10.6 to 18.3m prevail in the fairway of the channel between Petticoat Island and Smock Island.

Anchorage.—Anchorage can be taken, in 8.2 to 33m, sand and mud, in Northwest Arm of Femme Harbor.

Directions.—Femme Harbor is entered W of Petticoat Island. Vessels should pass between Petticoat Island and Smock Island and through the narrows of Northwest Arm. The passage E of Petticoat Island can be used only by small craft with local knowledge.

A vessel entering the harbor should, as soon as the W harbor channel begins to open, keep near Smock Island to avoid the sunken rocks extending off the NE part of Petticoat Island and Drew Rock. From abreast Drew Rock, a mid-channel course can be steered until near Black Duck Hole, an inlet on the E side of the N end of the entry channel. Care should be taken to avoid Druid Rock, which has a depth of 0.3m over it, and lies opposite Black Duck Hole. This rock and the shoal area extending 100m S reduce the width of the fairway between them and the E shore to 100m. Vessels may steer between the buoy and the E shore in a least depth of 7.3m in Northwest Arm, an open basin beyond.

Caution.—Drying and sunken dangers extend 370m NW and 230m SW from the SW extremity of Smock Island. Shoals

lie between the N extremity of Smock Island and the shore of the harbor.

Drew Rock, which dries 0.9m, lies about 0.1 mile E of the N extremity of Smock Island. Drew Rock marks the outer edge of shoals extending about 90m from the E shore of the harbor.

Northward of Smock Island, the harbor narrows to a least width of about 137m; then it opens out into Northwest Arm, about 0.5 mile N of Smock Island. Shoals extend a few meters off both sides of the narrows, but the fairway has depths of 7.3 to 14.6m in it. A rock, with a depth of 0.3m, lies nearly 90m offshore on the W side of the N end of the narrows.

2.64 New Harbor, about 1 mile ENE of the E entrance point of Femme Harbor, affords shelter to small vessels.

Little Bay de L'Eau, about 3 miles NE of Femme Harbor, affords anchorage to small vessels.

English Harbor East (English Harbor) is entered between Western Head, about 1.5 miles E of Little Bay De L'Eau, and Eastern Head, about 0.5 mile ENE. Rocks lie off both entrance points, but otherwise the outer part of the harbor is clear of dangers. The inner part of the harbor is shoal and very narrow in places. Good anchorage can be taken, in 7.3 to 18.3m, in the outer part of the harbor, sheltered from all but S winds.

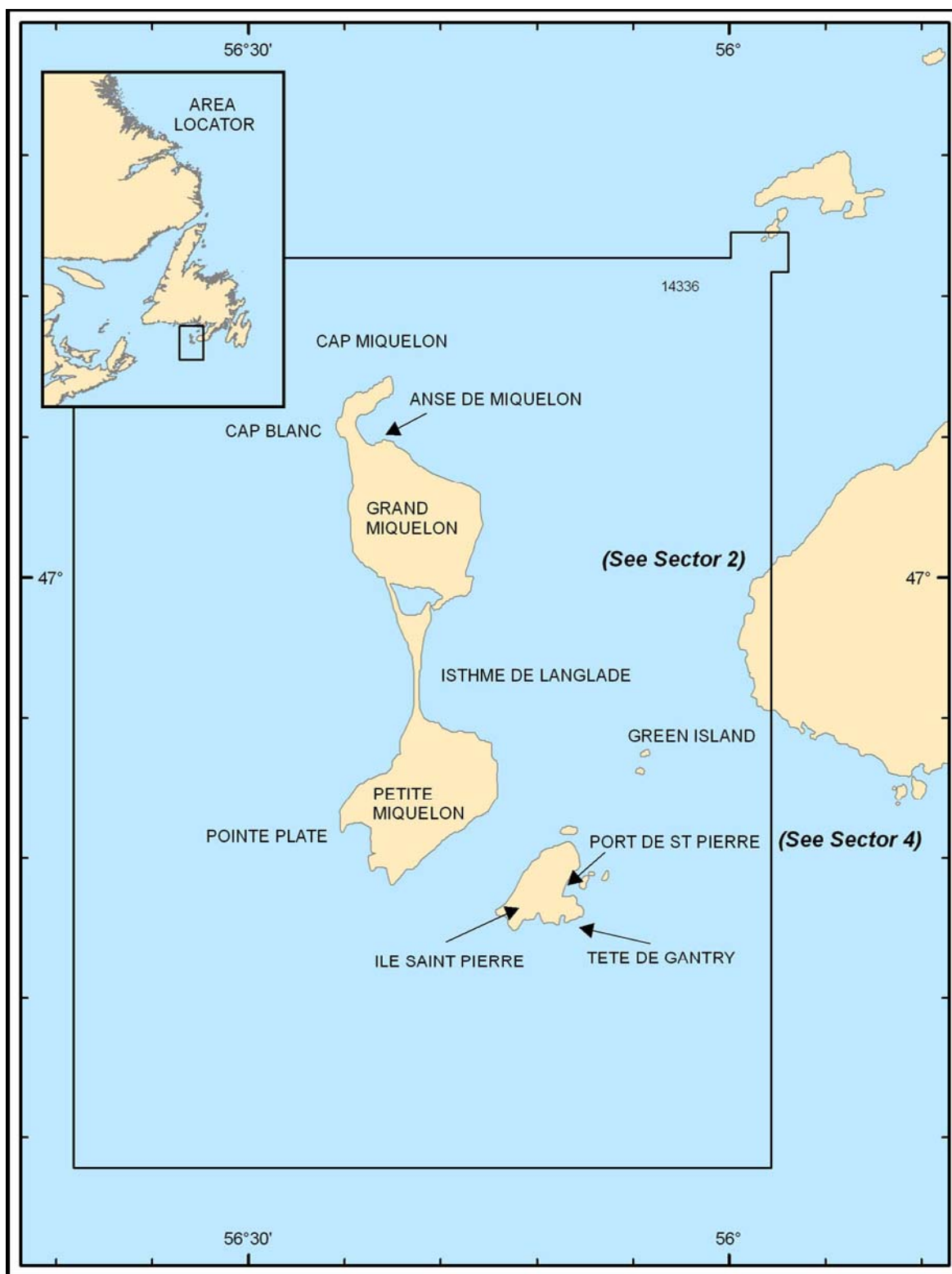
Grand le Pierre Harbor, which indents the coast about 4.5 miles ENE of Eastern Head, affords good anchorage, in 7.3 to 14.6m. The MHW interval at Grand Le Pierre Harbor is 9 hours 10 minutes. Spring tides rise 2.1m; neap tides rise 1.5m.

The head of Fortune Bay is steep-to and clear of dangers. Anchorage can be taken, in 12.8 to 16.4m, off the settlement of **Terrenceville** (47°40'N., 54°44'W.), with a conspicuous red house bearing 140°. A submarine cable leads ashore in the vicinity of the anchorage at Terrenceville.

2.65 Southeast side.—**Langue de Cerf Cove**, in the bight S of **Langue de Cerf Point** (47°31'N., 54°58'W.), affords anchorage, in 29m, sheltered from all but WSW to N winds.

Jack Fountain Cove, which indents the coast about 2 miles E of Langue de Cerf Point, affords anchorage to small vessels, in 12.8m.

East Bay, entered between **Ragged Point** (47°33'N., 54°53'W.) and a point about 0.8 mile NNW, is divided into two arms.



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

SECTOR 3 — CHART INFORMATION

SECTOR 3

ILE SAINT-PIERRE AND ILE MIQUELON

Plan.—This sector describes Ile Saint-Pierre, Petite Miquelon, and Grande Miquelon, in that order.

General Remarks

3.1 Ile Saint-Pierre and Ile Miquelon, together with several adjacent islets, are rugged masses of rock. Collectively the area of 242 square kilometers forms a territory of France and they are located 10 miles S of Newfoundland coast.

In 1992, Ile Saint-Pierre and Ile Miquelon were granted a 24-mile exclusive zone by the international tribunal with a 200-mile EEZ having 10.5-mile wide corridor running S of Ile Saint-Pierre.

Ile Saint-Pierre appears arid, irregular from the approaches. The N and NW parts of the island are mountainous and visible from 30 miles offshore. The highest peak, on the N part of the island, attains an elevation of 206m. The SE part is low, but Tete de Galantry, the SE extremity, is conspicuous. Grand Colombier, an island off the N extremity of Ile Saint-Pierre, appears well-detached from the extremity when seen from the NE. Port de Saint-Pierre provides the necessary supplies and port facilities for the French fishing fleet.

Ile Miquelon consists of Petite Miquelon (Ile Langlade) and Grande Miquelon. Petite Miquelon is almost entirely bordered by rugged cliffs, which are particularly steep along the SE side, from Pointe du Ouest (Cap Coupe) to Cap a Ross. Several hills on the N part of Petite Miquelon are over 152m high, but its general appearance is flat. Petite Miquelon and Grande Miquelon are joined together by the Isthme de Langlade, a narrow tongue of land nearly 6.5 miles long. Grande Miquelon, the N part of Ile Miquelon, has a rugged outline; its hills attain elevations of over 244m. A peninsula at the N of Grande Miquelon is connected to the island by a low isthmus; the peninsula appears detached when seen from a distance. A conspicuous hill rises over Cap Miquelon (Cap du Nid a l'Aigle), the N extremity of the peninsula.

Winds—Weather.—Off Newfoundland, the sea is one of the most confused on the planet. Foggy weather, wind squalls, and snow are frequent in the archipelago. Sudden squalls can be expected in Passe a Henry and under the high parts of the coast. Ile Saint-Pierre has an annual average of 70 to 80 days with fog. Late in the fall and during the winter the wave height generally exceeds 1.5m, reaching 6m offshore. During winter storms the wave height can reach 15m. In the summer, the storms are less frequent and less violent. The largest percentage of wave height greater than 4m is during the months of December and January. Abnormal refraction can cause an exaggerated elevation or dip in the apparent horizon. Mariners should be cognizant that a distant fog bank can create a false horizon.

Ice.—Ile Saint-Pierre and Ile Miquelon are occasionally affected by the St. Lawrence pack, which spreads from Cabot Strait during February, March, and April. In some years the ice spreads W from Cape Race, completely blocking the harbors

on the S coast of Newfoundland as far W as Ile Miquelon.

Tides—Currents.—Extreme caution should be used when navigating the W side of Miquelon due to the currents. This is especially true of the Isthme de Langlade and in the vicinity of Pointe Plate (Plate Point), the SW extremity of the island. Numerous vessels have shipwrecked near the latter point. A particular danger near Miquelon appears to be the current setting toward the shore on the E side of the great bays in the S coasts of Newfoundland. In foggy weather, if the water appears whitish, it is an indication that a vessel is very close to the Isthme de Langlade.

The currents close to the shores of the islands attain rates of up to 3 knots and usually set NNW, but the direction is occasionally reversed. The flood current sets NE in La Baie channel and turns to the SE about 1 hour and 15 minutes after HW. Sometimes the NE current persists, with diminished strength, until the following HW.

Depths—Limitations.—The islets and shoals, which fringe all but the NW side of Ile Saint-Pierre, render the near approach difficult and dangerous. Vessels approaching Ile Saint-Pierre from the S during thick weather should remain in depths of over 64m. Vessel, unless compelled by circumstances, should avoid approaching Tete de Galantry in thick weather.

Vessels bound for Port de Saint-Pierre and approaching Pointe Plate from the S during thick weather can, by sounding, identify the N and NW edge of Saint Pierre Bank and the submarine valley between Saint Pierre Bank and the bank on which Ile Saint-Pierre and Ile Miquelon lie. In this manner, vessels can ascertain their position for making Pointe Plate. The S side of Petite Miquelon can be approached to a depth of 20.1m. When the Pointe Plate fog signal or the lighted whistle buoy S of Pointe du Ouest has been identified, vessels can make good a course to round Pointe du Ouest. Pointe du Ouest is the best point to make during poor visibility, but care must be taken not to confuse it with Cap Bleu (Cap d'Angeac), about 1.8 miles NW.

Signals.—Signals which may be displayed on Ile Saint-Pierre and Ile Miquelon, in addition to the normal signals for indicating that a port is closed, are, as follows:

1. Three red balls, hoisted vertically, by day and three red lights, displayed vertically, at night signify that the port is closed.
2. The appropriate signal from the International Code of Signals by day, and three green lights displayed vertically at night signify that obstructions exist in the fairway; vessels should proceed with caution and conform to any signals received from the port authority.

Caution.—A firing exercise area lies within the French territorial waters offshore of Saint-Pierre and Miquelon. The area is bounded by lines joining the following positions:

- a. 47°00'N, 56°35'W.
- b. 47°00'N, 56°30'W.
- c. 46°55'N, 56°35'W.
- d. 46°55'N, 56°30'W.

Operating times are published in the Notices to Mariners, at which time vessels or crafts are prohibited from navigating in the area.



Tete de Galantry Light

Ile Saint-Pierre—South Side

3.2 Tete de Galantry (Galantry Head) (46°46'N., 56°09'W.) is a conspicuous headland. A light is shown on the summit of the headland.

Tete du Petit Havre (46°45'N., 56°11'W.) is a conspicuous peninsula; its S extremity, Pointe Blanche, is marked by a square rock.

Anse a Ravenel indents the S side of Ile Saint-Pierre, about 1 mile NW of Pointe Blanche. The bay affords shelter during off-shore winds. The head of the bay is formed by a conspicuous beach of fine sand. The bay has not been blocked by ice since 1924.

Caution should be exercised when anchoring in Anse a Ravenel, due to the existence of a number of abandoned submarine cables. Their positions can best be seen on the chart.

Pointe du Diamant, the S extremity of Ile Saint-Pierre, lies about 2 miles W of Pointe Blanche.

Les Grappinots, rocks with a least depth of 10.7m, lie about 0.5 mile SE of Tete de Galantry Light. Basse de l'Indre, with a depth of 2.4m, lies about 183m SE of Cap Noir. Basse des Grappins, located 1 mile SSE of Tete de Galantry Light, has a least depth of 8.2m.

Basse de la Tournioure, with a least depth of 3.4m, lies about 0.6 mile SW of Pointe Blanche. Basse a Bonniere, a rock with a least depth of 5.5m, lies 1.2 miles SSW of the same point. There are several other shoals in this area that can be seen on the chart. Basse de la Marne (Marne Shoal), with a least depth of 3.7m, lies 1.1 miles S of Pointe du Diamant.

Ile Saint-Pierre—Northwest Side

3.3 La Baie is the deep danger-free channel between Ile Saint-Pierre and Ile Miquelon. During thick and persistent fog, vessels can take temporary anchorage in the channel; the NW side is preferred because of submarine cables which lie within 2 miles of the NE end of Ile Saint-Pierre, on the SE side of La Baie, and N and S of Miquelon, where they run W towards Cape Breton Island.

Pointe de Savoyard lies 1.2 miles NW of Pointe du Diamant. The coast between these two points is bordered by many rocks and shoals. A lighted buoy is moored about 0.8 mile SW of Pointe de Savoyard.



In the vicinity of St. Pierre

Pointe a Henry, the N extremity of Ile Saint-Pierre, lies 4.3 miles NE of Pointe de Savoyard.



Pointe Plate and Colombier

Grand Colombier is a rugged rocky islet, 148m high, located about 0.4 mile N of Pointe a Henry, from which it is separated by Passe a Henry. Petit Colombier, a rock 7.3m high, lies close off the NE side of Grand Colombier. Ariege, a rock with a depth of 1.5m, is located close off the NW side of Grand Colombier. Basse du Colombier, with a depth of 3.6m, lies about 0.4 mile NE of Petit Colombier. Abnormal magnetic deviations have been observed N of Grand Colombier.

Ile Saint-Pierre—East Side

3.4 Pointe a Henry (46°49'N., 56°10'W.) is a white cliff. **Cap a l'Aigle** (46°48'N., 56°09'W.), close SE of Cap Blanc, has a building with a conspicuous white roof standing about 300m WNW of its extremity.

Port Saint Pierre (46°47'N., 56°10'W.)

World Port Index No. 1750

3.5 Port Saint Pierre is formed in a bight which indents the greater part of the E coast of Ile Saint-Pierre between Cap Rouge, nearly 1 mile SE of Pointe a Henry, and Cap Noir, 2.75 miles S. Ile Saint-Pierre is bordered by off-lying islets and dangers which afford protection and shelter for Port de Saint-Pierre.

The port is 11 miles off the S coast of Newfoundland and consists of a roadstead in which lies in Passe du Nord-Est, together with Nouveau Port, the outer harbor, and Le Barachois, the inner harbor. These are both protected by breakwaters. The port is normally used by French fishing vessels.

Winds—Weather.—Port Saint Pierre Roadstead is exposed

to strong NE winds.

Ice.—Port Saint Pierre is rarely obstructed by ice during the winter months. Drift ice appears in February and disappears in April. Port de Saint Pierre can be entered throughout the year.

Tides—Currents.—The MHW interval in the channels of Port Saint Pierre is 8 hours 23 minutes; spring tides rise 2m and neap tides rise 1.5m.

The tidal currents are irregular close offshore. A short distance to seaward the current almost constantly sets NNW and has little affect by the feeble tidal currents of the area. The flood current sets in through Passe du Sud-Est and Passe aux Fletans, and sets out through Passe du Nord-Est. The ebb current reverses this procedure. In Passe du Sud-Est the ebb current is stronger than the flood current.

The currents in Port Saint Pierre Roadstead are very weak and greatly influenced by the winds. The flood current sets toward the entrance of the inner harbor at a mean velocity of 0.4 knot during spring tide. The average velocity of the ebb current is 0.6 knot. The current obtains its maximum velocity 2 hours before HW and LW.

The current can attain a rate of up to 2 knots.

Depths—Limitations.—Quai de Frigorifique is on the NW side of Passe du Nord-Est, 0.3 mile SW of Cap a l'Aigle. For berth information refer to table titled **St. Pierre—Berth Information**.

Aspect.—The low rocky islets E of Port Saint Pierre are difficult to distinguish from the coast by vessels approaching from the E and SE. Tete de Galantry, on the S side of the entrance, was previously described in paragraph 3.2 and is conspicuous. A conspicuous rock lies about 91m off the SW extremity of **Ile aux Vainqueurs** (46°49'N., 56°08'W.).

A church on Ile aux Marins is prominent.

St. Pierre—Berth Information

Berth	Length	Depth	Remarks
Commercial Terminal			
Wharf No. 01	170m	—	General cargo.
Wharf No. 02	134m	—	General cargo.
Wharf No. 03	90m	—	General cargo and ro-ro.
Fish Plant Wharf			
Roselys Berth	120m	—	Fishing vessels.
Aconit Berth	85m	—	General cargo.
Lobelia Berth	123m	—	General cargo.
Customs Terminal			
Fortune Berth	75m	—	Passengers.
Mimosa Berth	72m	—	Passengers.
Douane Berth	49m	—	Passengers.
Marine Institute Terminal			
l'Alysse Berth	50m	—	General cargo.
Deep Water Terminal			
Deep Water Quay	100m	10.0m	Liquid cargo. A maximum draft of 9.5m can be accommodated.

A television tower, 41m high and marked by red obstruction lights and having an elevation of 132m, stands close to the coast, 0.75 mile NNW of the church. Several storage tanks close SW of the tower are prominent.

A white rock near the coast, about 1 mile WNW of the church, is conspicuous.

A radio tower, with an elevation of 80m and painted in red and white bands, stands in a group of radio towers, 1.25 miles WSW of the church, on the W side of the town of Saint-Pierre. These towers are marked by red obstruction lights.



Pointe aux Canons Light

Pilotage.—Pilotage is compulsory for all vessels with a length of 35m and over not registered in St. Pierre and Miquelon, except for warships leaving Port Saint Pierre. Notice of ETA should be sent to the harbor office and pilots 18 hours in advance. Large fishing and trading vessels should send an ETA 24 hours prior to arrival, advising the vessel's ETA, tonnage, and length. Pilot confirmation should be made by telephone 1 hour prior to arrival at the Fairway Lighted Buoy. If radio contact cannot be established, display the International Code signal for a pilot and sound four prolonged blasts on the whistle or siren.

The outside limits of the harbor is made of lines drawn to Cap à Gordon and to Cap Rouge from the Fairway Lighted Buoy 0.5 mile NNE of Île aux Pigeons. Generally, pilots will board in position 46°48'20"N, 56°07'48"W. In bad weather pilots board 0.5 mile within roadstead. The pilot station also provides towing services.

Regulations.—Port de Saint-Pierre is an organized quarantine station. All vessels liable to quarantine must display a yellow flag. Any vessel which has, or has had during the voyage, one or more cases of plague, cholera, or yellow fever on board, must display the appropriate signal of the International Code of Signals.

Bills of Health are not required for vessels whose country of origin lies N of latitude 40°N, unless there is an epidemic in the country of origin.

Vessels are examined by the Lieutenant of the Port or by his agents (Pilots or Customs officials), who act as Sub-officers of Health. Boarding hours are between 0600 and 1800 from 1 April to 30 September, and 0800 to 1600 for the rest of the year. The examinations may be carried out after the above hours.

The Health Officer's boat displays a yellow flag or yellow pendant. The Health Officer will grant pratique or refer the matter to the Medical Officer.

If pratique is not granted, the vessel will be berthed by a pilot in a quarantine anchorage.

Contact Information.—See the table titled **Saint Pierre—Contact Information.**

Saint Pierre—Contact Information	
St. Pierre and Miquelon Port Authority	
VHF	VHF channels 12 and 16
Telephone	508-417-332
	508-411-200
Facsimile	508-417-334
Harbormaster	
VHF	VHF channel 12
Telephone	508-410-974
	508-551-321 (mobile)
Facsimile	508-417-334
Pilots	
VHF	VHF channels 12 and 16
Telephone	508-552-124 (mobile)
Facsimile	508-414-046
E-mail	pilote975@hotmail.com

Anchorage.—Port de Saint-Pierre Roadstead affords anchorage, in 10.9 to 29m, well-sheltered from all but strong NE winds. The best anchorage berth, in 20.1m, gray sand and mud, lies with the N extremity of Cap à la Che'vre (46°48'N., 56°08'W.) in line bearing 083° with Cap à Gordon and the W extremity of Ile au Massacre bearing 197°. If the roadstead is crowded, vessels should moor with two anchors aligned in a NE-SW direction to ensure swinging room.

Large vessels intending to remain only a short time in the roadstead should anchor, in 33m, with the N extremity of Ile aux Pigeons in line bearing about 109° with Rocher Hache, and with Gros Nez open E of Cap à Baudry and bearing about 171°. A large vessel has anchored, in 35m, sand, bearing 080° distant about 640m from Rocher Petit St. Pierre.

Anse de Miquelon affords good anchorage, in depths of 7 to 11m, good holding ground.

Anchorage in the roadstead is unsafe for large vessels in strong NE winds.

It has been reported (1988) that the anchorage is insecure, even with moderate winds; engines should be kept on standby.

Vessels must avoid anchoring over old moorings, one anchor of which lies about 320m NW of Le Fletan and the other about



St. Pierre—Customs House

228m farther NW.

Directions.—Two channels, Passe du Nord-Est and Passe aux Fletans, lead into Port Saint Pierre. Passe du Nord-Est is the deeper channel and is the one usually used by large vessels. Passe aux Fletans is rarely used except by fishing vessels.

Passe du Sud-Est, formerly the SE passage into Port Saint Pierre, has been permanently closed to navigation.

Entry or departure from the Inner Harbor at night is permitted to a vessel with a pilot on board.

Vessels entering Pass du Nord-Est from the lighted whistle buoy NNE of Ile aux Pigeons should make good a course of 235°, which will lead to the pilot station in the roadstead. Basses du Cap Rouge, on the W side of Passe du Nord-Est, should be avoided. Les Canailles, Ile aux Pigeons, and the NW side of Ile aux Marins, which from the SE side of Passe du Nord-Est, should be given a berth of at least 0.1 mile. A depth of 10.9m in the fairway W of Les Canailles should be avoided. Vessels approaching from the S or SE should, after identifying the light on Tete de Galantry, proceed to the lighted whistle buoy moored close SE of Grande Basse. From the latter position, vessels should proceed to the lighted whistle buoy moored about 0.5 mile NNE of Ile aux Pigeons and enter the roadstead as previously directed.

Caution.—Caution should be taken to avoid Tete Sud de Gelin, which has a depth of 9.4m.

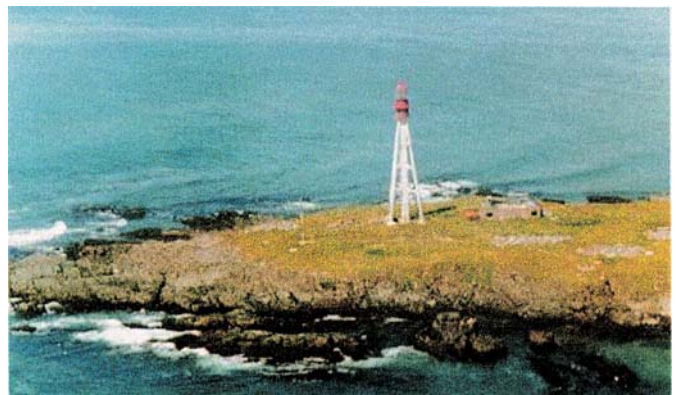
Petite Miquelon—West Side

3.6 Pointe du Ouest (46°47'N., 56°21'W.) is the best point to make during poor visibility, but care must be taken not to confuse it with Cap Bleu (Cap d'Angeac), about 1.8 miles

NW.

Pointe Plate (6°49'N, 56°24'W.) is marked by a light. Mariners are cautioned that numerous vessels have been wrecked near Pointe Plate because of the irregular currents and tidal currents. Mariners should give the point a good berth, especially during thick or foggy weather.

A depth of 10.3m lies about 1.5 miles SW of Pointe Plate.



Courtesy of Berenice Cormier-Saint Pierre
Pointe Plate Light

Petite Miquelon—East Side

3.7 Anchorage can be taken off any part of the shore of Petite Miquelon, depending on the wind and weather, in 10 to 29m. The best anchorage is found off the mouth of the Belle



The Isthme de Langlade

Riviere (46°54'N., 56°18'W.), in 11.9m, sand.

Vessels navigating off the W side of the Isthme de Langlade must take great care because of the strong N and NW currents, which have caused a number of shipwrecks. In foggy weather, the whitish appearance of the water affords an indication that the vessel is very near the Isthme de Langlade.

The Isthme de Langlade is a tongue of land connecting Petite Miquelon with Grande Miquelon. Its S part is very narrow; its N part is almost entirely occupied by Grand Barachois, a basin with a narrow entrance on its SE side, which is only available to small boats.

Grande Miquelon—West Side

3.8 Cap Blanc (47°06'N., 56°24'W.), marked by a light, lies 6 miles NNW of the NW corner of Grand Barachois. **Le Calvaire** (47°07'N., 56°23'W.) is a conspicuous 74m high hill.

Veaux Marins (47°02'N., 56°31'W.), a group of above-water and sunken rocks, the highest of which is 1.8m high, lie 6 miles SW of Cap Blanc. Several rocky shoals, with depths of 7 to 15.2m, lie NE of Veaux Marins. Hautdfond Briand, with a depth of 3.3m, lies about 2.4 miles SSW of Cap Blanc.

Cap du Nid a l'Aigle, the N extremity of Grande Miquelon, is dominated by Le Cap, a remarkable hill, 158m high.

Caution.—Vessels are advised not to navigate between Veaux Marins and Grande Miquelon.

Grande Miquelon—East Side

3.9 Anse de Miquelon (47°06'N., 56°22'W.) is entered between Ponte a la Loutre (47°08'N., 56°21'W.) and a point about 2 miles S. Spring tides rise 2m and neap tides rise 1.5m. Le Calvaire and Le Chapeau, a hill rising 90m nearly 1 mile SE of the S entrance point, are good landmarks from the approach. A church stands in the village at the head of the cove. Anse de Miquelon affords anchorage, in 7 to 11m, good holding ground.



Cap Blanc Light

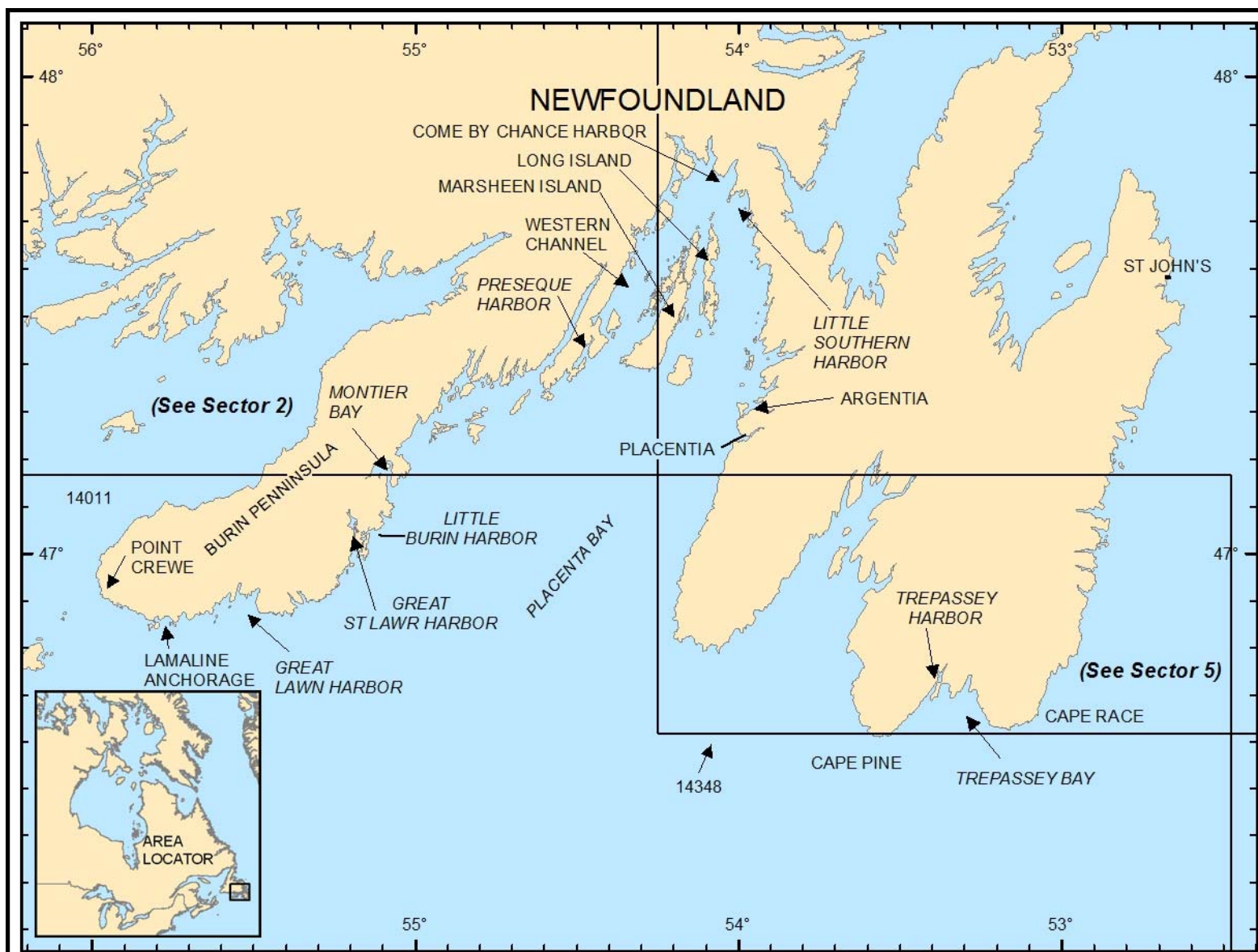
Depths—Limitations.—The Miquelon Power Plant has one berth designated as Berth 01. It has a length of 72m and handles petroleum and general cargo.

Pilotage.—Pilotage is compulsory within the Anse de Miquelon for all vessels of more than 35m in length.

Caution.—It is not advisable to anchor in Anse de Miquelon during strong NE or E winds.

Vessels lying at the anchorage should be ready to weigh anchor immediately.

Numerous submerged rocks and shoals, whose positions can best be seen on the chart, exist E of Anse a Miquelon for about 7 to 10 miles. Caution should be exercised when approaching this area.



SECTOR 4 — CHART INFORMATION

SECTOR 4

NEWFOUNDLAND—SOUTH COAST—POINT CREWE TO CAPE RACE

Plan.—This sector describes the S coast of Newfoundland from Point Crewe to Cape Race (46°39'N., 53°04'W.). The description of Placentia Bay begins on the W side; then, the E side, the channels leading to the head, and the head of the bay are described.

General Remarks

4.1 Tides—Currents.—The currents off the S coast of Newfoundland, between Point Crewe and Cape Race, have a velocity of less than 1 knot; as a rule, they are irregular in direction, and having such a low rate of progression, are readily influenced by the wind. The tidal element in these currents is almost invariably present in some form, more or less distinct; it is not possible, therefore, to maintain an arbitrary distinction between "constant currents" and "tidal currents", so the term "current" is used to denote all horizontal movement of the water.

The current frequently sets NW, W of Cape Race, with a velocity of about 1 knot in the offing, but it is variable in velocity and direction, and affected greatly by the prevailing wind. It generally runs in upon the E side of the great bays indenting the S coast of Newfoundland, and out on their W sides. It is influenced in the offing by the winds, and near the shore by the tidal currents.

It was noticed that between May and September, at a distance of over 5 miles from the land, no current at any time exceeded 1 knot in any direction. The current was chiefly tidal within about 5 miles from the land and set in two opposite directions alternately, but the farther from the land the greater the tendency for the direction of the current to veer through a complete circle.

The current sets NW along the S coast from Cape Race toward Placentia Bay; that is to say, when a long average is taken, the set is more frequently in that direction than in any other. The current sets inward at certain times of the tide on the E side of Saint Marys Bay, and inward as a whole on the E side of Placentia Bay. The velocity of these drafts does not exceed 1 knot at a distance of 5 miles from the land, but close to the headlands, the velocity of the current may be greater.

Observations were taken at various stations off the S coast of Newfoundland between May and September. The stations off Trepassey Bay were located 8 miles SW and 16 miles SSW of Cape Race, respectively. These stations were so near the SE extremity of Newfoundland that they came within the influence of the Labrador Current wherever its direction was deflected W by wind disturbance. This was made evident by the change of the temperature of the water. The tidal influence was dominant in the steadiest weather, in May and July, and in complete accord with the results obtain farther W. The resultant directions of flood and ebb currents were, at the inner station, WNW on the flood and NE on the ebb. The W set continued for 25 per cent longer than the E, indicating the tendency of the water to make W on the whole.

These stations were occupied in August and September, immediately after times of disturbance of the current. There was then a greater tendency to a NW and SW set, due apparently to reflow toward that quarter after the displacement of the Labrador Current by heavy W winds. The NW set continued, at the inshore station, for 9 hours out of each tidal period of 12 hours 30 minutes. The tidal influence was more easily overcome at the outer station by the tendency to veer completely around. The period in which this veer took place was much the same as farther W; the current veered completely around the compass in 46 hours, or in a period of 15 hours 30 minutes on the average. The SW current was strongest and deepest because of the disturbance referred to; it was strongly felt to a depth of 54.9m. This affords confirmation of the opinion that the veer in this period is caused by a dominant movement in one direction, combined with the tidal period.

The usual direction of the flood at a station 7.5 miles SW of Cape Pine was between the N and NW and of the ebb, SE. The tidal character was marked by the fluctuation in velocity; it always strengthened at half tide, maximum 0.82 knot, and fell to below 0.3 knot at the slack and turn of the tide. The observations showed very little appreciable indraft into the bay. As the current veered in direction, the set, NE into the bay, took place only during 13 per cent of the total time. From this position, the water set, on the whole, WNW across the mouth of Saint Mary's Bay, rather than into the bay. The current was thin and weak in the center of the bay, and appeared to be dominated by the wind. It had no relation to the tide, and the velocity did not fall at the turn of the tide, but remained uniform at about 0.5 knot.

The limiting directions between which the current was found to veer, about 5 miles S of Lance Point, were N and W, the general resultant being across the end of the headland between Saint Mary's Bay and Placentia Bay, and not outward from Saint Mary's Bay as would be expected if there were any indraft of the E side.

The influence of the tide is distinct about 16 miles offshore at Cape Pine, and SW of the cape. The dominant direction in which the water set was, in general, between WNW and NNW. The set toward Saint Mary's Bay was infrequent; there can never be much indraft toward that bay at this offing. The velocity of the current never exceeded 0.73 knot in any direction, and even that was exceptional; it usually ranged between 0.5 and 0.6 knot.

Observations made about 5.5 miles WSW of Cape Saint Mary's, outside the line of headlands E, and with the E shore of Placentia Bay opened up, showed that the current was distinctly tidal in character, being NNE into the bay during the flood, and ESE along the general line of the coast during the ebb; its velocity always rose to a maximum at half tide, when it amounted to nearly 1 knot, and fell to 0.5 knot at about the turn of the tide. The highest of the maximum was 0.9 knot at springs. When current sets into Placentia Bay along the W shore, it sets out of the bay on the E side. Currents of 2 to 3

knots are encountered in the bay during and in the approach of SE gales; 1.25 knot currents are also experienced during periods of good weather. Great care should be taken when navigating in this area. Currents are erratic and are not consistent with the tides. When passing off the entrance to Placentia Bay, the set is more often into the bay than out of it.

The set into Placentia Bay NE continued for a longer time, and was stronger than the set ESE; the NE set continuing for 15 hours 30 minutes, with a velocity of 0.9 knot at half tide, the ESE for only 9 hours 30 minutes with a velocity of 0.6 knot during the tidal day.

It would thus appear that any W tendency which the body of the water may have along the S coast from Cape Race to Placentia Bay does not continue W of Cape Saint Mary's. There is no set here W of a NNW and SSE line; the water appears to turn at this cape, and to set inward into the bay. There is no constant indraft, however, but a fluctuation with the tide.

The flood current in the middle of Placentia Bay, at the S end of Merasheen Bank, appears to have almost any direction, which may be due to its meeting the large body of water at the head of its bay; the ebb is very constantly WSW toward the W side of the mouth of the bay. Strong currents are encountered in the middle of the bay as well as along its sides.

The flood current appears to strike somewhat squarely on the coast about 8 miles E of St. Lawrence Harbors, giving rise to onshore and irregular directions; the ebb is constantly W. The general movement of the water is outward on the W side of Placentia Bay.

It appears that as far out as 25 miles SSW of Cape Saint Mary's, the more usual direction of the set is NE, or inward toward the E side of Placentia Bay. The velocity was not in any case as much as 1 knot, and did not exceed 0.77 knot. It is a general characteristic of these currents that they are less affected by the tide as the distance from the shore increases. Pronounced currents, the directions of which were erratic, have been encountered 10 to 15 miles W of Cape St. Marys.

The current does not show any remnant of tidal influence about 28 miles S of St. Lawrence Harbors, nor does it indicate any indraft into Placentia Bay.

The following information, which is considered reliable, was obtained from inshore fishermen who work in the localities mentioned.

The current is usually WNW and ESE within a few miles of the coast between Cape Saint Mary's and Cape Race during fine weather; the former current is the stronger of the two. The current has, at times, run WNW for 3 days continuously, slackening only at the turn of the tide. A weak set ESE occurs only during the ebb; any strong set ESE is an indication of bad weather. The current is stronger outside the line of the headlands than within the bays; any inward set toward the bays will occur during the flood, while the general set in the offing is WNW. A N set past the headlands on the E side of Saint Marys Bay and Trepassey Bay may thus occur during the flood. The current veers completely around the compass at a distance offshore as far as Lamb Rock.

The set of the current off Cape Saint Mary's and around Saint Marys Cays is more frequent and stronger in a NNW direction and often runs against the wind. During the flood, the normal set of the current is NNW, veering E as the flood slackens and setting ESE during the ebb for a short period of time.

Tidal currents, with the flood and ebb in the two directions, prevail along the shore between Cape Saint Mary's and Placentia Road. This is close to the shore and strictly a local feature within the bay; it has little to do with the general trend of the water from Cape Saint Mary's toward the middle of the bay.

The current, on the W side of Placentia Bay, runs along the shore NE and SW within 2 or 3 miles of the land. It turns with the tide, but in moderate weather, it runs longer and stronger SW. It is also stronger on the surface than below it. It is thus evident that the water sets inward on the E side of Placentia Bay, and outward on the W side.

During the summer, bad weather usually comes from the SE and blows itself out in that direction, but later on, during the autumn, the wind shifts around to the NW before the storm is over. Along the S coast, from Cape Saint Mary's to Cape Race, it is only during the ebb tide that there is a weak set ESE. Any strong set ESE or SSE is a sign of bad weather. The fishermen regard this as an unfailing indication, and at once head for shelter. The set of the current is thus toward the point from which the wind is about to come.

Off Cape Saint Mary's, the set is much more N than S, and it will often continue N against a strong NE wind. However, if there is a strong set ESE or SSE, a gale from the quarter will follow. Off Saint Shotts, on the E side of Saint Marys Bay, it runs strongly SE before an E wind comes up. Also, during the 24 hour period before a NE or N wind begins, it runs strongly NW or N for 6 to 7 hours at a time, instead of 5 hours during the flood, which is usual there. Outside the line of the capes the current is ESE before bad weather, which comes from that direction in the summer. If after the wind begins to blow, the current continues to run into the wind, it indicates that the gale will be heavy.

The current is strengthened during strong NE winds in Placentia Bay, although the wind blows directly out of the bay. The current then runs strongly N into the E side of the bay, and on the W side it runs steadily SW and scarcely slacks at all with the tide, as at other times. On the W side of this bay a reversed set, NE, is a sign of bad weather.

The actual direction of the current is necessarily modified by local conditions, and guided by the trend of the coast, but the greater the scope and freedom the current has the more directly it appears to set toward the coming wind.

Pilotage.—Pilotage is compulsory in Placentia Bay. Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, Baltic Sea, North Sea, and the Mediterranean Sea for further information.

Point Crewe to St. Lawrence Harbors

4.2 Point Crewe (46°55'N., 55°59'W.) rises to a 45m hill a short distance inland. A flagstaff and a group of houses stand near the extremity of the point. Sugarloaf Rock, 8.2m high and conspicuous, lies close W of the point. Point Crewe Shoal, with a depth of 11m, is located 1.1 miles SW of the point.

Green Island (46°53'N., 56°05'W.), 47m high, lies nearly midway between Point Crewe and Ile Saint-Pierre. A light is shown from the NE side of the island. The Little Green Islands lie to the S of Green Island; *Enfant Perdu* is the S islet, located

1.2 miles S of Green Island. A rock, which dries 0.9m, lies about 6 miles SSE of Green Island.

Cock Bank (46°50'N., 55°59'W.), with a depth of 12.8m, lies 4.5 miles S of Point Crewe. **Gulnare Bank**, with a least depth of 21.9m, is located 2.5 miles SW of Cock Bank.



Cape Chapeau Rouge

Cape Chapeau Rouge (46°54'N., 55°22'W.), rising 228m to Chapeau Rouge Mount, a conical hill on the SW side of the entrance of Great St. Lawrence Harbor, about 7 miles SW of Corbin Head, is conspicuous from the offing.

Caution.—Vessels approaching Cape Pine (47°37'N., 53°32'W.) and Cape Race from the W during thick weather should sound frequently and remain in depths of over 55m.

4.3 Lamaline Ledges front this part of the coast as far as 3 miles offshore. Vessels are cautioned not to navigate among the shoals on the Lamaline Ledges without local knowledge. At night, this part of the coast should not be approached to a depth of less than 73m.

Flagstaff Point (46°53'N., 55°53'W.), about 4.4 miles SE of Point Crewe, is a conical hillock, 7.9m high. Piercey Hill, wooded and 30m high, stands near the coast 1 mile NE of Flagstaff Point; it has a double summit.

Directions.—The W extremity of the coast in the vicinity of **Danzic Coves** (46°59'N., 55°58'W.), well open W of Point Crewe, leads between Cock Bank and **Gul-nare Bank** (46°49'N., 56°02'W.) and W of the Lamaline Ledges. Cape Chapeau Rouge, well open S of **Lamaline Shag Rock** (46°50'N., 55°50'W.), leads S of all the Lamaline Ledges except **Western Ground** (46°49'N., 55°51'W.). **Offer Island** (46°51'N., 55°37'W.), open S of **Shag Rock** (46°50'N., 55°45'W.), leads S of Western Ground.

4.4 The Lamaline Anchorages, consisting of Lamaline Road, Lamaline Bay, and Lamaline Harbor, lie within the S extremity of Morgan Island and Point aux Gauls, about 3.3 miles E. High water, full and change, at Lamaline Anchorages is 8 hours 25 minutes; spring tides rise 2.2m and neap tides rise 1.7m. Lamaline Road affords anchorage, in depths of 7 to 11m,

but it should only be used temporarily because a swell always rolls in. Lamaline Harbor is suitable only for fishing vessels in summer, although small vessels with local knowledge anchor N of Allan's Island.

Directions.—A vessel approaching Lamaline Bay from the S should steer with the highest Berry Hill in line with Strand Rock, which leads through the fairway and into the bay.

Vessels approaching the bay from the E should steer with **The Bread Box** (46°51'N., 55°50'W.) open SW of Allan's Island; this bearing leads S of the dangers SW of Shag Rock.

A vessel entering from between Frank Rock and John Walsh Shoal should steer with the highest Berry Hill just open W of Barred Island until Taylor Bay Point is in line with Point Rock; this course passes close W of a 10.7m patch. Vessels may then make good a NW course until the highest Berry Hill is in line with Strand Rock.

Offer Rock (46°48'N., 55°47'W.), with a depth of 10.4m, lies 2.5 miles S of the light on Allan's Island. Western Rock, with a depth of 25.6m, is located 1 mile W of Offer Rock.

Directions.—Offer Island, open S of Shag Rock, leads about 1 mile N of Offer Rock.

Taylor's Bay, entered between Squid Point (46°51'N., 55°44'W.) and Taylor's Bay Point, about 1.3 miles E, affords anchorage during offshore winds to vessels with local knowledge, in depths of 11 to 15m.

A rock, with a depth of 0.6m, lies on the E side of the entrance to the bay.

4.5 Lord's Cove (46°52'N., 55°40'W.) is located 1.5 miles NE of Taylor's Bay Point. There is an L-shaped public wharf, with a depth 3.4m at its outer end, on the W shore of the cove.

Sand Cove Head lies 1.5 miles E of Lord's Cove. The **Lawn Islands** (46°52'N., 55°37'W.) consist of Middle Island, Offer Island, and several above-water and sunken rocks, about 1.5 miles SSE of Sand Cove Head. Middle Island, the NE and higher, is 50m high, and Offer Island, steep and black-faced on its S side, is 32m high. Southeast Rock, awash, lies 0.35 mile E of Offer Island. Southwest Rock, with a depth of 3.3m, is located nearly 0.8 mile SW of the same island. A lighted buoy is moored 0.1 mile W of Southwest Rock.

Ragged Head (46°54'N., 55°34'W.) is the S extremity of a promontory rising to an elevation of 43m. The Colombier Islands consist of two conical islets; the larger and higher rises to 66m and is located 0.6 mile SSW of Ragged Head.

Great Lawn Harbor is entered between **Black Head** (46°55'N., 55°53'W.), marked by a light, and East Head, about 1 mile NE. The settlement of Lawn is situated on the E shore of the harbor. An L-shaped public wharf is 42m long, with along-side depths of 3.9 to 5.3m. Black Hill, 158m high and conspicuous, stands about 2.5 miles N of East Head. The harbor affords well-sheltered anchorage, in a depth of 15.5m.

The MHW interval at Great Lawn Harbor is 8 hours 05 minutes. The mean range of tide is 1.6m; the spring range is 2.1m.

The harbor seldom freezes over.

Ragged Rock and Vestal Rock, each a 1.8m patch, lie about 0.3 mile S of Black Head and 0.4 mile SSW of East Head, respectively. Murphy Rock, with a depth of 0.9m, lies 0.1 mile off the E shore, about 0.3 mile from the head of the harbor.

Directions.—The E extremity of the W shore of Great Lawn

Harbor, open E of Blow-me-down Point, about 0.6 mile N of Black Head and bearing 010°, leads close E of Ragged Rock. Black Hill, just open W of the E side of the harbor leads W of Vestal Rock and into the harbor.

4.6 The coast between East Head and Duck Point, 1.25 miles to the E, is indented with Back Cove, Tiller Cove, and Duck Cove. Drunkards Point separates Duck Cove and Tiller Cove. A lighted buoy is moored about 0.3 mile S of Drunkards Point.

Little Lawn Harbor is entered between **Duck Point** (46°55'N., 55°30'W.) and Little Lawn Point, about 1 mile SE. Vessels with local knowledge can anchor in the harbor, in 9 to 26m, rock, during offshore winds.

From Little Lawn Point, the coast trends SSE 1.5 miles to Lawn Head. **Chambers Point** (46°53'N., 55°26'W.), 2 miles E of Lawn Head, appears as a separate island from the S. Shoal Cove, entered between Hares Ears, almost 1 mile E of Chambers Point and Red Head, 0.6 mile ENE, offers little shelter.

Ferryland Head (46°52'N., 55°23'W.), distinct and separate from the shoreline, is the W entrance point to Placentia Bay, rising to a height of 49m.

St. Lawrence Harbors

4.7 St. Lawrence Harbors indent the coast between **Cape Chapeau Rouge** (46°53'N., 55°22'W.) and Sculpin Point, about 1.5 miles ENE. The SW inlet is named Great St. Lawrence Harbor; the NE inlet is named Little St. Lawrence Harbor. Both harbors afford anchorage.

4.8 **Great St. Lawrence Harbor** (46°55'N., 55°24'W.) is located on the S coast of Newfoundland, about 24 miles E of Point Crewe; the port consists of a village and a very small natural harbor with berthing facilities. With the closure of the fluor spar mine, fish processing is the main activity.

Ice.—Great St. Lawrence Harbor seldom freezes over enough to prevent anchorage; however, ice occasionally drifts in from the E.

Tides—Currents.—High water, full and change, at Great St. Lawrence Harbor is 8 hours 30 minutes; spring tides rise 2.1m and neap tides rise 1.2m.

It was reported that seiches may occasionally be experienced; as a result, strong currents of very short duration, with

velocities of from 4 to 5 knots in either direction, can be expected.

Depths—Limitations.—A saltwater intake pipe extends about 300m in a SE direction from the SE corner of the fish plant wharf at Shingle Point.

For berthing information see the table titled **Great St. Lawrence Harbor—Berth Information**.

Aspect.—Cape Chapeau Rouge is the SW entrance point of Great St. Lawrence Harbor. Chapeau Rouge, a conspicuous conical hill, rises to an elevation of 228m, about 0.5 mile W of the cape.

Middle Head (46°54'N., 55°21'W.) is a conspicuous headland. Rocks and shoals extend between 0.65 mile SE and 0.5 mile SW of the headland. Point Rock is the shallowest, with a depth of 7.3m. Middle Head Light is shown from a white building situated on the headland.

A conspicuous radio mast lies 1.5 miles NW of Cape Chapeau Rouge.

Three radio masts stand about 1.8 miles NW of Middle Head. These are marked by red lights.

Pilotage.—Pilotage is not compulsory, but local pilots are available and can be arranged by giving 24-hour notice to Pilots, St. John's. The pilots board off St. John's in position 47°33'42"N., 52°37'54"W or off the entrance to Great St. Lawrence Harbor, if a boat can be arranged to embark the pilot. However, all docking and undocking operations are the responsibility of the ship's master.

Anchorage.—The harbor affords anchorage, in 18.3 to 37m, within its entrance, but S gales send a heavy sea into the outer part of the inlet.

Anchorage can also be taken, in 21.9m, off Herring Cove, but this position is not recommended during S winds, because heavy squalls are experienced.

Small vessels can take anchorage NW of Shingle Point in 4.2m.

4.9 **Little St. Lawrence Harbor** (46°55'N., 55°21'W.) is entered between Middle Head and Sculpin Point, about 0.8 mile ENE. Large vessels can take temporary anchorage in Little St. Lawrence Harbor, in 20.1m or more, but a heavy swell runs in during S winds. Small vessels can take anchorage at the head of the harbor, N of a peninsula, in 4.5 to 7.3m, mud. A vessel proceeding to this anchorage should favor the SW side of the inlet in order to avoid Harbor Rock.

Great St. Lawrence Harbor—Berth Information

Berth	Length	Depth	Remarks
Fish Plant Wharf	41m	5.7m	Located at the N end of Shingle Point.
Wharf	98m	3.0-3.9m	The outer section has a length of 88m with an alongside depth of 3.8m and an 8m width.
Public L-shaped wharf	60m	5.7m	Located 0.1 mile NW of Shingle Point. The wharf's SW face has an alongside depth of 5.2m.
Eastern Side			
Fishermans Wharf	7.7m	3.9m	Located opposite Shingle Point. A 3m high round mast light is exhibited from the end of the wharf.

The coast is foul between **Sauker Head** (46°54'N., 55°17'W.) and Bass Point, about 1.8 miles NE; it should be given a berth of at least 0.8 mile.

Placentia Bay

4.10 Placentia Bay (47°03'N., 54°34'W.) is entered between Ferryland Head and Cape Saint Mary's, about 43.5 miles ESE.

A distinctive characteristic of Placentia Bay is the straightness of the charted 200m line on the E side of its S part, where it gradually converges with the coast over a distance of 35 miles from a position 14 miles W of Cape St. Mary's. This line marks the E edge of a trough lying on both sides of the center line in which there are general depths over 183m. The soundings obtained across this trough in low visibility can provide useful navigational information. There are numerous off-lying dangers in the NW part of this trough and at its N end. It contains numerous islands, inlets, sounds, bays, and harbors of which Argentia Harbor, on the E side, Burin Harbor, and Mortier Bay, on the W side, of the bay, and Arnold's Cove and Come By Chance at the head of the bay are the most important. Merasheen Island, Long Island, and Red Island divide the fairway into three channels. These islands are visible up to 25 miles on a clear day. Eastern Channel, between the E side of the bay and the E sides of Red Island and Long Island, is the widest and the least obstructed by shoals. Central Channel, between the W sides of Red Island and Long Island and the E side of Merasheen Island, is narrow. Western Channel, between the W side of Merasheen Island and the W side of the bay, is somewhat obstructed by shoals, islets, and rocks. A ferry operates between Argentia and Sydney, Nova Scotia during the summer months.

Winds—Weather.—Southwest winds prevail in Placentia Bay during the summer months; NW winds prevail during the winter months.

Fog is generally very dense on the E side of Placentia Bay, especially about the headland of Cape Saint Mary's during SW winds. Although fog may prevail in the bay, vessels approaching from the W can usually sight the Avalon Peninsula at a safe distance, when the winds are in an E quadrant. At such times, visibility will usually be reasonable along the shore of the peninsula, because the wind will then be offshore. Fog, with no clear strip along the Avalon Peninsula, is very probable during a SW wind.

Vessels are advised to delay entry into Placentia Bay during SW gales and thick weather until conditions improve. Vessels should not venture into the bay until sure of its positions.

Ice.—Placentia Bay sometimes has a considerable amount of ice early in February, but it is seldom completely filled before the middle of that month; S and SW winds are necessary to drive the ice in. Soon after the ice from the E has rounded Cape Saint Mary's, the combined action of the tidal current and the indraft on the E side of the bay carries it as far as the **Iona Islands** (47°25'N., 53°57'W.) and occasionally as far as **Come by Chance Point** (47°48'N., 54°03'W.). The bay freezes over at times.

Pilotage.—Pilotage is compulsory in the N waters of Placentia Bay. Pilots should be requested from the Atlantic Pilotage Authority 12 hours prior to arrival at the pilot boarding po-

sition. The ETA should be confirmed 3 hours prior to arrival. The pilot boarding station is off Argentia, near Lighted Buoy PCC, in position 47°20'00"N, 54°06'18"W. The pilot vessel can be contacted on VHF channels 12 and 16.

Vessels departing from, or making a move within, the required pilotage area must request pilotage from the Atlantic Pilotage Authority 12 hours in advance and confirm the request 4 hours prior to departure or movement.

Vessel Traffic Service.—The Placentia Bay Vessel Traffic Service (Placentia Bay VTS) operates in Placentia Bay and its approaches. Participation is mandatory for the following vessels:

1. Vessels of 20m or more in length.
2. Towing vessel where the tow is 20m or more in length or the overall length of the vessel and tow is 54m or more.
3. Air cushion vessels of 8m or more in length.

All vessels are to maintain a continuous listening watch, as follows:

1. Sector 1—VHF channel 14.
2. Sector 2—VHF channel 12.

Vessels must report to Placentia Traffic on the appropriate VHF channels when passing the charted Reporting Points.

Vessels should note that the Placentia Bay VTS requirements are separate from the requirements for the Eastern Canada Vessel Traffic Services Regulations (ECAREG). Further information on ECAREG can be found in Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas.

Caution.—Mariners are warned to exercise special caution when navigating in Placentia Bay and vicinity because former surveys and early editions of charts may be inaccurate. Position fixing by sounding on such charts should not be attempted.

Vessels should not approach the E side of Placentia Bay within depths of less than 73m except in clear weather.

Traffic movements may be restricted when the following vessels are underway:

1. A tanker of 50,000 gt and over.
2. A vessel carrying dangerous cargo.
3. A vessel considered to be navigating with difficulty.

Concentrations of fishing vessels are likely to be encountered in Placentia Bay.

Submarine cables lie S of Jude Island, N of Big Shoal, and E of Merasheen Bank; continue across the Traffic Separation Zone and pass close S of Come by Chance Light; and continue E to the Argentia Peninsula at the entrance of Argentia Harbor. A submarine cable crossing Placentia Bay is laid close SE of the pilot boarding station. The cable is laid into the Argentia Harbor about midway between Moratties Sholas and Roache Point. Inside the harbor it is laid close off the shoreline from Low Room Point to Sandy Cove. Caution is advised in this area. The chart should be consulted.

Placentia Bay—West Side

4.11 From Sculpin Point, the coast trends E for about 1.4 miles to Sauker Head. Bass Point, about 1.8 miles NE of Sauker Head, rises steeply to a hummock, 79m high.

Corbin Head, 1.6 miles farther NE, is wedge-shaped and rises to an elevation of 143m. It is faced with cliffs and steep-to. Various dangers and foul ground extend 0.35 mile from the

coast between Sculpin Point and Corbin Head.

Corbin Harbor, suitable only for small vessels, is entered between Miller Head, about 0.6 mile N of Corbin Head, and Long Point, about 0.8 mile N. Miller Rock, with a depth of 4m, lies nearly 0.4 mile ESE of Miller Head. Old Harry, a rock which dries 0.6m, is located 0.35 mile E of Long Point. A light is shown from Long Point. Vessels approaching this harbor should steer with Goat Island bearing 301° and just open S of Long Point, which leads between Miller Rock and Old Harry to the entrance of the harbor.

Corbin Island, 76m high, lies about 0.4 mile off the coast, about 1 mile NE of Long Point. Little Burin Island, 61m high, is located about 0.6 mile NNE of Corbin Island. A light is shown on the E end of the island.



Little Burin Island Light

Caution.—An overhead power cable, with a vertical clearance of 30m, crosses the channel between Little Burin Island and the mainland.

Fish Rock, with a depth of 4.3m, lies about 0.2 mile S of Corbin Island. Irish Ledge, a rocky shoal with a depth of 14.9m, is located 0.25 mile SSE of Fish Rock. Offer Rock, with a depth of 16.5m, lies about 0.8 mile E of Fish Rock.

Emberly Rock, with a depth of 7.6m, is located 0.75 mile SE of Little Burin Island Light. Popes Rock, with a depth of 6.7m, lies about 0.2 mile E of Little Burin Island Light. Bugdens Rock, with a depth of 10.1m, is located 0.4 mile ENE of the same light.

The description of the W side of Placentia Bay continues in paragraph 4.15.

Burin Harbors

4.12 Burin Harbors (47°03'N., 55°10'W.) indent the coast between Long Point and Western Head, about 8.8 miles NE. The harbors include Burin Inlet, Great Burin Harbor, Ship Cove, and Little Burin Harbor, which afford good shelter to vessels of all sizes.

Ice.—Burin Harbors freeze occasionally, during severe winters, from the middle of February until early in March, but ice seldom interferes with the anchorages. Ice occasionally drifts in to the coast from the E.

Tides—Currents.—The MHW interval at Burin Harbors is 8 hours 35 minutes; spring tides rise 2.2m and neap tides rise 1.5m.

Regulations.—A Canadian Coast Guard Lifeboat, the CCGS W. Jackman (call sign: CBG3086) is stationed at the Canadian Coast Guard Search and Rescue Base located about 0.1 mile W of the S end of Simmons Island. The station maintains a daily radio watch from 0830 to 1630 local time on VHF channels 16 51. Contact can be made through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

Directions.—Dodging Head (47°00'N., 55°09'W.), the SE extremity of Burin Island, is a conspicuous bluff rising to a conical hill about 91m high. A light is shown from the summit of the hill; because of the elevation of the light, is often obscured by fog, when the coast below is clear.

The S extremity of Woody Island (47°01'N., 55°11'W.), with Shalloway Head (47°00'N., 55°11'W.), leads SW of Cockle Rock (46°59'N., 55°10'W.).

Bras Point (47°03'N., 55°09'W.), in line with the S extremity of Iron Island (47°02'N., 55°07'W.), leads SW of Whitehorse Rock (47°02'N., 55°06'W.).

Pardy Point (47°03'N., 55°09'W.), in line with the N extremity of Iron Island, leads N of **Galloper Rock** (47°02'N., 55°06'W.) and **Whitehorse Shoal** (47°02'N., 55°07'W.).

The N extremity of **Simmons Island** (47°02'N., 55°10'W.), in line with Pardy Point, leads about 0.1 mile S of **Brandy Rocks** (47°03'N., 55°07'W.).

Burin Inlet is entered between the W entrance point (47°01'N., 55°11'W.) of Whale Cove and a point on the mainland, 0.45 mile WSW. This inlet trends N for about 5 miles. Woody Island, 30m high, lies in the entrance to the inlet about 0.8 mile WNW of Shalloway Island Light. The inlet should be entered by the channel W of Wood Island. Stag Rock, which dries 0.6m, lies near the center of the fairway, about 1 mile N of Woody Island. The rock is marked by a light.

Caution.—A submarine cable is laid across Burin Inlet, from Spoon Cove to the opposite shore.

4.13 Sugarloaf Island (47°03'N., 55°07'W.) lies close to the E side of the inlet, about 2.5 miles N of Woody Island.

Good anchorage is available, in 23.8 to 27.4m, mud, about 0.4 mile S of Sugarloaf Island. Vessels may also anchor 0.4 mile NW of the same island in 16.5m.

Burin Passage lies between Shalloway Island, Burin Island, and Pardy Island, and the mainland to the W. The S entrance is between Shalloway Island Light and Neck Point, 0.25 mile NNW. The N entrance lies between Pardy Point, the N point of Pardy Island, and Bras Point, about 0.5 mile NNE. The sides of the passage are steep, making a good lee from E and W winds. Mine Rock, with a depth of 2.7m; Oven Rock, with a depth of 1.5m; and Hooper Rock, with a depth of 3.5m, lie about 0.1 mile off the E side of the passage.

Great Burin Harbor, between the SW end of Burin Island and Shalloway Island, is suitable only for small vessels with local knowledge.

Ship Cove is entered between **Troak Point** (47°02'N., 55°10'W.) and a point about 0.3 mile NNE. Ship cove provides two public wharfs. The wharf at the head of the cove is 90m long with depths of 5.0 to 7.3m. Burin Public Wharf, 47m long

with a depth of 7.6m, is located N of Troak Point. A conspicuous chapel stands about 0.1 mile SW of Troak Point. Ship Cove affords anchorage, with good shelter, in 12.8 to 24m, sand or mud. The holding ground in the E part of the cove is poor; vessels should moor, rather than anchor, during a strong breeze.

4.14 Little Burin Harbor (47°03'N., 55°10'W.) indents the W side of Burin Passage between the N entrance point of Ship Cove and George Point, on the mainland 0.4 mile N. Little Burin Harbor affords anchorage in 14.6 to 16.4m, mud. Two buildings, located on a point about 0.4 mile W of George Point, in line bearing about 287°, serve as an aid in entering the channel, although it should be noted that the range passes over the extreme S edge of a 4.2m depth. The harbor entrance channel is very narrow being 61m wide, local knowledge is essential for entering the harbor.

On the S side of the harbor, the wharf on the E side of the fish plant is 116m long, with depths of 6.0 to 7.2m alongside; the wharf on the W side is 60m long, with depths of 3.8 to 6.3m alongside and the N side is 111m long with depths 4.7m to 5.8m.

Aspect.—A light is shown from the NE end of Little Burin Island.

Lighted Whistle Buoy PBC is moored 1.1 mile S of Little Burin Island Light.

Port au Bras, entered close W of Bras Point, affords good shelter to small vessels.

Iron Island, consisting of two islets close together, lies in the N approach to the Burin Harbors, 0.9 mile E of Pardy Point. A light is shown from the S of the two islets.

Brandy Rocks, with a depth of 0.3m and on which the sea always breaks, are located about 0.5 mile NNE of Iron Island. Galloper Rock, with a depth of 2.4m, lies about 0.6 mile E of the same island. There are many other shoals in this area that can be seen on the chart.

Placentia Bay—West Side (continued)

4.15 Little Mortier Bay (47°04'N., 55°06'W.) is entered between Western Head and Eastern Head, about 1.3 miles NE. The head of Little Mortier Bay is indented by Mortier Arm, on the W, and by Fox Cove, on the E. Mortier Arm is suitable only for fishing vessels. Fox Cove affords good, but confined anchorage, in 18.3m, mud.

A vessel entering Little Mortier Bay should keep in mid-channel to avoid Gob Rock and Breakheart Rock, on the N side, and Western Rock, on the S side, respectively.

Harbour Shoal, with a least depth of 9.5m, lies in the middle of the entrance to Little Mortier Bay.

Caution.—Mortier Rock, with a depth of 7.3m, lies on Mortier Bank, 5 miles ESE of Iron Island. This bank, with depths of less than 18.3m, extends about 0.8 mile SSW of Mortier Rock; a 10.1m patch lies near its S extremity. Western Hummock, with a least depth of 13.7m, is located 0.6 mile NE of Mortier Rock. Outer Hummock, with a least depth of 14.3m, is located about 0.6 mile ENE of Mortier Rock. Eastern Hummock, with a depth of 14.9m, lies 1.5 miles NE of the same rock. Eastern Rock, with a depth of 18m, is located about 3 miles NE of Mortier Rock; a 17.1m shoal lies 0.75 mile farther NE. A submarine cable entering Mortier Bay from the E ex-

tends near mid-channel and ends at Spanish Room. Caution is advised. The chart should be consulted.



Croney Island

4.16 Croney Island (47°06'N., 55°04'W.) lies close to the coast; this island is conical-shaped and conspicuous, with steep cliffs on its N side.

Tides Cove Point (47°06'N., 55°04'W.) rises to an elevation of 69m about 0.4 mile NNW of Croney Island. The point is marked by a light.

Tides Cove and Duricle Cove lie about 0.5 mile W and 0.75 mile NW, respectively, of Tides Cove Point. Both coves are open, but afford good anchorage during offshore winds to vessels with local knowledge, in 12.8 to 24m.

Beau Bois Cove, with good anchorage, in 3.6m, for fishing vessels, lies about 0.8 mile NNW of **Blow-Me-Down** (47°08'N., 55°05'W.). Local knowledge is required.

Mortier Bay, within which lie Spanish Room, Little Bay, Cashel Cove, and Creston Inlet, is entered between **Go By Point** (47°09'N., 55°06'W.) and Duck Rock, an islet 4m high, about 0.7 mile ENE. The entrance channel into Mortier Bay is about 0.2 mile wide between **Harbour Rock** (47°08'N., 55°05'W.) and **Pick Ledge** (47°08'N., 55°04'W.), and about 0.4 mile wide between Go By Point and Duck Rock. Go By Point and Duck Rock are marked by lights. The general depths in Mortier Bay are considerable.

There is a measured distance of 1 mile with running courses, 007°15' and 187°15'. This measured distance is on the E side of the entrance channel to Mortier Bay. Each end is marked by a pair of beacons.

Spanish Room, lying in the NE part of the head of Mortier Bay, affords restricted anchorage, in 10.6m, off a settlement on the E shore, close within the entrance.



Little Burin Harbor

Cashel Cove, at the head of Mortier Bay, affords anchorage, in 10.9 to 18.3m, mud.

Caution.—A submarine cable leads from the NE part of the head of Mortier Bay, near Spanish Room, then SSE across the center of the Bay and continues E seaward.

4.17 Little Bay (47°10'N., 55°07'W.) is entered about 0.8 mile WNW of Big Head. Seal Rock, which dries 0.9m, lies 0.25 mile WNW of Paddy Head, the E entrance point of Little Bay, to which it is nearly connected by shoal flats. A rock, 3.9m high, lies close off the W entrance point of the bay. Vessels with local knowledge can anchor, in 14.6m, mud, close within the W entrance point, where Little Bay is about 0.2 mile wide. Fish farming is carried out, and its equipment is established off the W entrance point and at the head of Little Bay, also off the S shore of Mortier Bay, about 0.8 mile to less than 1 mile W of the entrance to Little Bay. The equipment is supported by buoys and secured by anchors. The ends are marked by orange cautionary buoys.

Creston Inlet is entered between the W entrance point of Little Bay and a point nearly 1 mile WNW. Vessels can anchor in the mouth of the inlet, in 10.9 to 16.4m, mud.

For berthing information, see the table titled **Little Bay**—



Tides Cove Point Light

Berth Information.

Little Bay—Berth Information		
Berth	Length	Depth
Public Wharf	36m	5.8m
Cow Head Oil Rig Servicing Base	300m	—
Marystown Shipyard		
North Berth	137m	7.3m
South Berth	73m	6.1m
Fishery Products Wharves		
West Wharf	60m	5.5m
East Wharf	55m	10.7m

A local magnetic anomaly has been reported in Mortier Bay close N of the N entrance point of Creston Inlet.

Skiffsail Point lies about 0.8 mile ENE of Duck Rock. From this point the coast, which consists of dark steep-to cliffs backed by wooded hills, trends NNE for about 1 mile to the entrance of Rock Harbor.

Rock Harbor (47°10'N., 55°02'W.), encumbered with rocks and shoals, is suitable only for fishing vessels.

4.18 Jean de Baie Head (47°11'N., 55°02'W.), a well-defined landmark, rises to a round hill about 1 mile NE of the E entrance point of Rock Harbor.

There are numerous rocks and shoals extending off the coast near Jean de Baie Head and Skiffsail Point. These are best seen on the chart.

Between Jean de Baie Head and **Marticot Island** (47°20'N., 54°35'W.), 19 miles NE, the coast is fronted by numerous islands, rocks, and shoals. Of the islands, Flat Island, Jude Island, Oderin Island, and Long Island are the largest. These islands are separated from each other and from the mainland to the W and N by relatively deep channels.

Jean de Baie Bank, located 10.5 miles ESE of Skiffsail Point, is small in extent and has a least depth of 18m. Big Shoal, with depths of less than 36.6m and a least depth of 10.4m near its SW extremity, extends 3 miles NE from a position 0.5 mile N of Jean de Baie Bank.

Oderin Bank is an extensive bank with a least depth of 9.4m near its SW extremity, 14 miles E of Skiffsail Point. Eastern Rock, with a depth of 11.6m, lies on the NW edge of Oderin Bank, nearly 6 miles SSE of Long Island. Joe Rock, with a depth of 23.8m, lies on a small bank near the middle of the channel between Oderin Bank and the dangers S of Jude Island.

4.19 The Jean de Baie Islands (47°11'N., 55°01'W.), which lie close off the coast about 0.8 mile NE of Jean de Baie Head, are two gray islets.

D'Argent Bay (47°14'N., 55°00'W.), a large bight, is located between the Jean de Baie Islands to the S, and Red Harbour Head, a steep cliff with a hole through its base, 5.75 miles NNE.

Jean de Baie is entered between **Dock Point** (47°13'N.,

55°03'W.) and a point nearly 1 mile NW. The bay affords good anchorage to vessels with local knowledge, in 18.3m, during winds from the SE through W to N.

Woody Island (47°13'N., 55°02'W.), 8.2m high and wooded, lies about 0.5 mile NNE of Dock Point.

Jean de Baie Harbor, suitable only for fishing vessels, is a shallow basin entered between the NW entrance point of Jean de Baie and Galton Point, about 0.5 mile NE.

The Pinnacle is a 1.5m rock located 2.25 miles NNE of Jean de Baie Head, with a 3.7m rock nearly 0.5 mile SSW. Paddle Rocks are two heads with a least depth of 6.1m. Stanley Rocks are a group of above and below-water rocks, of which the S rock dries 1.2m. The latter are marked on the SE side by a lighted buoy.

Closer inshore there are more dangers including Black Rock, which dries 2.4m, lying 3.5 miles NNW of Jean de Baie Head, and Big Shoal, about 0.5 mile NE of Black Rock, with a least depth of 7.6m.

The above-described dangers can best be seen on the chart.

Red Harbor is entered between **Red Harbor Head** (47°17'N., 54°59'W.), a steep cliff with a hole through its base, and the coast, 0.75 mile W. Vessels with local knowledge can anchor, in 10.9 to 12.8m, off some houses on the W shore. This anchorage is sheltered from all but winds from the SE to S, which cause a heavy swell. A light is shown from Red Harbor Head.

4.20 West Broad Cove and East Broad Cove, on the S and N sides, respectively, of **Broad Cove Head** (47°19'N., 54°56'W.), afford good anchorage to vessels with local knowledge. The better anchorage is in West Broad Cove, in 18.3m, but exposed to S winds. The anchorage in East Broad Cove is in 12.8 to 21.9m, with the best holding ground lying toward the W shore.

Gull Rock, 3m high and white against a dark background, lies close to the coast about 0.5 mile NW of the N extremity of Broad Cove Head.

A group of islands exist from the coast between Broad Cove Head and the entrance to Bay de l'Eau, 5 miles NE. The channels between the principal islands and those separating them from the coast are moderately deep and free from dangers, except for the one between Jerseyman Island and Gull Island, the two SW islands, which is foul.

Jerseyman Island (47°20'N., 54°54'W.) is relatively flat and wooded, rising abruptly from the sea to a height of 78m. Numerous rocky shoals, with depths from 3 to 11m, extend approximately 0.8 mile SSE from the island.

Gooseberry Island (47°22'N., 54°52'W.) is located about 0.4 mile N of Petticoat Island, the middle of the group which is 55m high. There is a least depth of 11m in mid-channel between them. Shoals, with a least depth of 3.7m, extend 0.35 mile N of Gooseberry Island.

Cross Island is the E and largest island of the group. It has a height of 181m and rises to two prominent hills covered with moss near its center; the N hill is small and flat while the S hill is a sharp peak.

A shoal, with a least depth of 4.3m, lies about 1 mile E of the S extremity of Cross Island, 0.75 mile off the SE coast which is fringed with rocks.



Woody Island

4.21 Rushoon Harbor is entered between **Nipper Head** (47°21'N., 54°55'W.) and the coast, about 0.8 mile W. The harbor affords good sheltered anchorage to small vessels with local knowledge, in 4.5 to 9.1m. A breakwater, 53m in length and marked at its outer end by a light, extends from the E side, close N of Nipper Head.

Jigger Cove is entered between Nipper Head and Rushoon Head, about 0.5 mile SE. A rock, 0.6m high, lies off the entrance of Jigger Cove about 0.3 mile NW Rushoon Head. Vessels with local knowledge can anchor, in 13.7m, mud, outside Rushoon Harbor, WSW of the above rock, with the E entrance point of the brook which flows into the head of the harbor bearing 004°, and open W of Nipper Head. Anchorage can also be taken close off the beach at Jigger Cove in a position NNE of the rock.

Baine Harbor is entered about 1.4 miles NE of Rushoon Head. Several small white houses stand at the entrance and a white wooden church stands on a small hill on the N side, close within the entrance. A draft of 3.6m can be carried over the bar, which extends across the channel from the rugged NE entrance point. Vessels are cautioned not to attempt to enter Baine Harbor without local knowledge.

Boat Harbor is entered between **Boat Harbor Head** (47°23'N., 54°50'W.) and Deep Cove Head, about 1.8 miles W. Boat Harbor trends, with deep water, about 3 miles NNE, thence divides into two arms. The NW arm affords the only anchorage to vessels of moderate size, in 33m, but the depths decrease rapidly 0.2 mile from the head of the arm.

4.22 Bay de l'Eau is entered between Boat Harbor Head and Bay de l'Eau Head, about 0.5 mile SE. The depths decrease suddenly in mid-channel from 33 to 12.8m, about 2 miles within the entrance; then anchorage is available, in 10.9 to 12.8m, mud, for about 0.8 mile.

Little Harbor, entered about 1 mile E of Bay de l'Eau Head, is suitable only for fishing vessels. A church spire is conspicuous on the E side of the bay.

Gallows Harbor is entered between a low boulder-fringed point forming the NW extremity of the island on which **Gallows Harbor Head** (47°22'N., 54°47'W.) is located, and Sams

Head, nearly 0.5 mile N. The harbor affords anchorage, in 12.7m, mud, about 0.1 mile off the entrance to St. Joseph's Harbor.

Gallows Harbor Island, 60m high, lies off the middle of the entrance to Gallows Harbor; its S side is steep-to, while shoal water borders its E and N sides.

Near its head, Gallows Harbor divides into two arms, Jigging Cove to the W and St. Joseph's Harbor to the E.

Jigging Cove is entered between Sams Head and Deadman Head, about 0.6 mile WSW. Anchorage is available for small vessels with local knowledge in the cove, in 10.9m, mud, with good shelter.

Directions.—The 181m summit of Cross Island, seen behind the rocks of Mouse Island (47°22'N., 54°48'W.), leads S of the 4.2m shoal off the entrance of Jigging Cove. Little Gallows Harbor, entered between Gallows Harbor Head and a point about 0.5 mile ENE, affords anchorage to small vessels with local knowledge, in 9.1 to 14.6m, sheltered from all winds between W and WSW.

Cape Roger Island, 67m high, lies 0.5 mile SE of Gallows Harbor Head. Shoals, with depths of 9.1m or less, extend up to 0.2 mile from the island, and a 2.7m rocky patch lies 0.35 mile NE in the middle of the approach to Cape Roger Bay.

Cape Roger Bay is entered between the NE entrance point of Little Gallows Harbor and Cape Roger, about 1 mile ESE. Cape Roger is a steep cliff forming the SW termination of a conspicuous moss-covered headland, 152m high. This headland rises close to the coast, about 1 mile NE of the cape. Cape Roger Mountain, which rises to an elevation of 372m about 10 miles inland, is conspicuous from the outer part of the bay. A swell rolls across the entrance of Cape Roger Bay, even when it is calm seaward and especially after prevailing S winds.

A 2.7m rocky patch lies about 0.2 mile SE of the W entrance point of the bay.

The channel between a group of rocks, about 0.6 mile N of Cape Roger and the E shore, should not be attempted. The W shore in the vicinity of Harbor Island, about 1.8 miles N of Cape Roger, should be given a berth of at least 0.1 mile.

Large vessels with local knowledge can anchor anywhere in Cape Roger Bay, above Harbor Island, in 7.3 to 18.3m, mud. Small vessels with local knowledge can anchor, in 3.6m, between Harbour Island and the W shore.

Hay Island, 30m high, lies close to the coast, about 0.8 mile ENE of Cape Roger.

Woody Island (47°22'N., 54°42'W.) is located about 0.6 mile NNE of Hay Island.

Nonsuch Inlet, entered between Woody Island and Nonsuch Head, about 1 mile E, divides into Southwest Nonsuch Arm and Northeast Nonsuch Arm. The Shag Islands, lie close E, about 0.4 mile WNW of Nonsuch Head. Shoals, with least depths of 1.5m and 3.4m, lie about 0.5 and 0.8 mile NNW of Shag Island.

4.23 The Burnt Islands, two in number, lie on the W side of Nonsuch Inlet and front Southwest Nonsuch Arm. An inlet on the S side of the S island affords shelter to fishing vessels. Rocks, which dry 1.5m and 3.3m, lay in the fairway leading to the narrows between the E shore of the inlet and the Burnt Islands themselves. Aside from these rocks, there are general depths of over 9.1m. A submarine cable leads across the chan-

nel between the island and the mainland.

Vessels can take good anchorage, in 10.9 to 16.4m, sand and mud, and sheltered from all but S winds in a cove on the E side of the inlet. The basin in Southwest Nonsuch Arm affords sheltered anchorage, in 20.1m, mud. Vessels of moderate length can anchor in the cove on the NW side of Northeast Nonsuch Arm, in 9.1m; however, caution is advised because less depths are charted in the cove. Small vessels can anchor as convenient to within 0.25 mile from the head of Northeast Nonsuch Arm. All of these anchorages require local knowledge.

Petit Fort Harbor is entered between White Point, about 0.8 mile NNE of Nonsuch Head, and Eastern Head, about 0.3 mile E. A rock, with a depth of 3.6m, lies in mid-channel, about 0.4 mile NNW of Eastern Head and is marked by a buoy. Petit Fort Cove lies on the W side of the harbor, about 0.5 mile N of White Point. A rock, with a depth of 1.8m, marked by a port hand spar buoy, lies close E of the S entrance point of Petit Fort Cove.

Vessels with local knowledge can anchor, in 9.1 to 18.3m, N of the 3.6m rock. The holding ground is poor and the swinging room is limited. Small vessels with local knowledge anchor N of two wooded islets lying close off the W shore, nearly 1 mile N of White Point. This anchorage is sheltered from all winds.

Caution.—A submarine cable leads from the W bank of Petit Fort Harbor across Paradise Sound, joining at a point at Southeast Bight, 3.25 miles E of Eastern Head. Marine farms may be encountered in a cove about 0.2 mile NW of White Point. Caution is advised.

4.24 Paradise Sound is entered between **Sound Island** (47°23'N., 54°37'W.) and Red Cove Head, about 2 miles SSE. Small vessels with local knowledge can anchor in Southeast Cove, about 1.3 miles NE of Red Cove Head; in Gilberts Cove, about 5 miles N of Red Cove Head; or at the head of the sound.

South East Bight (47°24'N., 54°35'W.) is located on the E side of the sound, 2.5 miles NNE of Red Cove Head. There is a public wharf, 57m long, with depths of 3.2 to 4.3m alongside its W and E sides.

Anchorage.—Anchorage is available in the cove about 0.2 mile NE of the S entrance point, in about 18.3m.

Marticot Island lies about 0.4 mile from the coast 1.5 miles SSE of Red Cove Head. The island consists of two parts connected by a low marshy isthmus. A light is shown from the SE side of the island.

Gull Rocks, a group of precipitous rocks, lie close off the SE extremity of Marticot Island. Gull Shoal, with a depth of 4.9m, lies about 0.2 mile S of Gull Rocks.

Larkin Shoal, with a depth of 6.1m, is about 2 miles W of Marticot Island Light. Bill White Rock, with a depth of 5.2m, lies 0.6 mile SW of Larkin Shoal.

Long Island Bank, a 7.3m patch, lies about 1 mile SW of Bill White Rock. Middle Shoal has a least depth of 8.8m and is located 1.6 miles SW of Marticot Island Light. Western Grounds, with a least depth of 10.1m, lies 1.2 miles SSW of the same light.

Marticot Cove, on the N side of the isthmus connecting the two parts, is bordered by a narrow ledge of rocks. A rock, with a depth of 2.1m, lies in the entrance to the cove. There is anchorage, in a depth of 14.6m, near the entrance to this cove, sheltered from W winds.

4.25 Fox Island (47°21'N., 54°36'W.) is separated from the NW side of Marticot Island by a channel about 0.2 mile wide, and it is almost connected to the W entrance point of Paradise Harbor at LW. A rock, with a depth of 2.4m, lies in the channel between Fox Island and Marticot Island; a vessel navigating this channel should pass N of this rock.

Directions.—The summit of Marticot Island open S of Fox Island leads S; and a conspicuous peak at Paradise Sound open W of Red Cove Head and leads W of the 3.6m rock lying 0.5 mile NW of Fox Island.

Paradise Harbor indents the coast about 0.5 mile NE of Fox Island; it is encumbered with rocks and islets. Anchorage, in 20.1m, sheltered from all winds, can be taken S of the harbor. Occasionally, Paradise Harbor will freeze over in winter, but the ice is usually thin and does not prevent anchorage.

Little Paradise Harbor is entered about 0.5 mile NE of Paradise Harbor. The entrance channel is about 90m wide between shoal flats on either side. There is a least depth of 7m over the bar. After crossing the bar, the depths immediately increase to 22m. Vessels with local knowledge can anchor, in 15.5m, in the N of two coves in the harbor; however, only 275m of swinging room is available.

Little Boan Cove, about 1 mile NE of Little Paradise Harbor, is suitable only for fishing vessels.

Great Bona Cove lies at the head of an inlet entered between the NE entrance Point of Little Bona Cove and Eastern Head, about 1.3 miles E. Small vessels with local knowledge can take temporary anchorage in Great Bona Cove, in 20.1m, sheltered from all winds except those from the SE through S to W. Large vessels can anchor farther out, in from 20.1 to 24m.

Eastern Head is the extremity of a narrow precipitous promontory terminating in a peaked rock, off which a shoal bank extends nearly 0.1 mile.

The Gull Islands are a group of conical rocks, 48m high, lying about 1 mile WSW of Eastern Head, off the entrance of the inlet containing Great Bona Cove; the islands are fringed with above-water and sunken rocks, and should not be approached within 0.2 mile.

Black Rock is small, bare, steep-to, and 9.4m high; it lies nearly 0.9 mile S of Eastern Head. The Sunker, a rock with a depth of 3m, lies about 0.4 mile SW of Black Rock. Heptige Rock, with a depth of 7m, is located 0.75 mile SW of Black Rock. rises 190m to a sharp conspicuous peak close to the coast, about 1.3 miles NE of Eastern Head.

White Sail, a conspicuous white patch on the cliffs, is located about 0.5 mile NE of White Sail Head.

4.26 Presque Harbor (47°24'N., 54°28'W.) is entered between Harbor Head and a point about 0.8 mile E. The entrance channel is intricate and about 90m wide between the many rocks which encumber it. This harbor is recommended only to vessels with local knowledge.

Winds—Weather.—Presque Harbor is difficult to approach. Vessels should be prepared for squalls that come down from the hills and through the valleys with great violence when the wind is strong.

Ice.—During severe winters, Presque Harbor occasionally freezes, but the ice is usually thin and does not interfere with anchorage.

Depths—Limitations.—There are two channels leading to

Presque Harbor. They are entered SW and NE of foul ground lying between Middle Rock, 0.75 mile SE of Harbor Head, and Eastern Rock, 0.25 mile NE. The better channel is the SW channel through which a depth of 8.2m can be carried. The NE channel has a least depth of 7m and cannot be used in bad weather.

Middle Rock is a bare flat rock, 9.1m high, lying in the middle of the approach to Presque Harbor, about 0.5 mile SSW of the E entrance point. Middle Rock is steep-to on it E and N sides, but a shoal, with a depth of 6.1m at its extremity, extends 0.2 mile SW from the rock. Several sunken dangers lie between Middle Rock and the E entrance point of the harbor.

There is a disused red and white square light tower standing on the N end of Middle Rock.

Western Rocks, two bare islets 3.6 and 3.9m high, lie about 0.4 mile SSW of Middle Rock. These rocks, which are steep to on their E sides, lie about 0.1 mile apart from N to S, with no passage between them. Eastern Rock lies about 0.2 mile NE of Middle Rock, with foul ground between it and Eastern Sunker, and which dries 0.3m, lies 0.2 mile NE of Eastern Rock. Eastern Ridge, with a least depth of 10.9m, lies about 0.5 mile ESE of Eastern Rock.

Coppaleen Rock, which dries 2.1m, lies nearly 0.1 mile off the E side of Harbor Head, with which it is nearly connected by a reef. This rock can be approached to within 90m on its SE side. Harbour Rock, a small flat rock 3.3m high, lies close off the N extremity of Harbor Head Mad Cap Shoal, marked on its S extremity by a buoy, painted red, and dries 0.6m.

Goat Island, a moss-covered island with a flat summit, 33m high, lies on the NE side of the inner part of the entrance channel. A clear channel, 60m wide, separates the island from the mainland E. A rock, with a depth of 3.3m, lies at the outer end of a shallow spit extending 0.2 mile N from the N extremity of Goat Island. The Little Goat Islands, 19.2m high, are two square islets and a small rock lying close S of Goat Island. Shoals extend a short distance S and a group of rocks extends about 0.3 mile W, respectively, from the Little Goat Islands. The SW rock of this group has a depth of 0.9m and lies close to a drying rock.

A shoal patch, with a depth of 5.2m, lies in the middle of the SW arm of Presque Harbor, about 0.8 mile SW of the N extremity of Harbour Head. This patch lies on a rocky bank, with depths of less than 18.3m, and about 0.1 mile in extent. The E entrance point of Saint Kryans Harbor, at the head of the NE arm of Presque Harbor, is foul for a short distance offshore.

Pilotage.—Local knowledge is essential.

Anchorage.—Large vessels can anchor, in 46m, off a conspicuous house near the head of the NE arm of Presque Harbor. Anchorage can also be taken, in 28 to 31m, off Southwest Beach. Small vessels can anchor, in 12.8 to 20.1m, mud, in Saint Kryans Harbor, where the holding ground is good. Small vessels can also anchor in Northwest Cove, but the holding ground is bad.

Directions.—Presque Harbor can be entered by either of two channels. The best channel leads E of Western Rocks. The other channel, which leads NE of Middle Rock, is intricate and untenable during poor weather.

A vessel approaching the harbor should steer with Goat Island well open E of Western Rocks, passing about 100m E of Western Rocks. Vessels should keep the two Western Rocks in

line, astern, until Harbor Rock is open NW of Coppaleen Rock, then make good a course to pass 0.1 mile ENE of Coppaleen Rock and 100m ENE of Harbor Rock.

Placentia Bay—Islands and Dangers off the West Side

4.27 Spicer Rock, which has depth of 14.9m, lies at the N end of the channel; a 14.6m patch lies about 1.75 mile E of the rock. The channel just described can best be seen on the chart.

Saddle Back Islet (47°13'N., 54°47'W.), rugged and black, with grass on its summit, is 33m high; this islet is conspicuous from the SE.

Jude Island lies with its S extremity about 1.5 miles NNW of Saddle Back Islet. The N side of the island consists of a bold cliff with red stripes near the E end. Jude Harbor, on the W side of Jude Island, affords anchorage, in 18.3 to 21.9m, sand and mud, to vessels with local knowledge. This anchorage is sheltered from winds from the N through E to S, but a heavy swell sets in during W winds. Hay Cove, also on the W side of Jude Island, affords anchorage, in 16.4 to 18.3m, sand, and sheltered from E winds, to vessels with local knowledge.

4.28 The **Flat Islands** (47°16'N., 54°55'W.) lie midway between Jude Island and the W coast. They consist of two large and numerous smaller islands and rocks lying with Copper Island, the SW island, and Yardie Island, the NE island, lying about 4.8 and 8.5 miles NE, respectively, of Jean de Baie Head. The channels between the islands are foul, except those between Flat Island and Davis Island, close SW, for which local knowledge is required.

Oderin Island, 78m high, lies N of Jude Island, from which it is separated by a passage nearly 0.5 mile wide. This passage is clear of dangers and should be used by vessels wishing to pass inside the group.

Copper Island (47°15'N., 54°57'W.) has two summits, the SW of which is a conspicuous cone, 41m high.

Roche Peak is a conspicuous sharp hill rising 62m near the W extremity of Flat Island.

4.29 Flat Island Harbor, between Davis Island and Flat Island, affords good anchorage, in 12.8 to 16.4m, mud; however, only small vessels can enter the harbor because of the narrow and obstructed approach channels. The harbor may be approached from either side. Within the entrance channels, the harbor is about 0.8 mile wide; the depths shoal rapidly toward the head of the harbor.

Flat Island Cove, on the NE side of Flat Island, affords good anchorage, in 14.6m, mud, to vessels with local knowledge. The anchorage is sheltered from all but N and E winds.

Yardie Island lies 0.75 mile ENE of Flat Island, with some small islands between them. The island is 42m high with rocks and ledges extending up to 0.12 mile NE and 0.5 mile SW from the island.

The channel between the Flat Islands and their off-lying dangers is from 0.5 to 1 mile wide. Except for a few patches in the S part with depths from 17.4 to 33m, the channel is deep, shoaling to about 27.5m at the N and in the E approach to this end; however, there are depths of only 11.9 to 18.3m.

4.30 Oderin Harbor (47°18'N., 54°48'W.), an inlet on the W side of Oderin Island, is entered between Spurrier Point, the NW extremity of the island and Chimney Rocks, about 0.2 mile SW.

Aspect.—A church, with a spire, stands on a point extending from the N side of the harbor near the head.

Anchorage.—Anchorage can be taken by vessels with local knowledge inside the small islet close off Spurrier Point or, in 12.8m, in Ship Cove, close E of the two islets. Small vessels can anchor, in 5.5 to 7.3m, at the head of the harbor.

Directions.—Vessels entering Oderin Harbor should steer an ESE course to pass between the islet SW of Spurrier Point and Chimney Rocks. When the two islets E of Spurrier Point open SE of the islets SW of Spurrier Point, alter course ENE to enter the harbor, keeping to the N side of the fairway. Care should be taken to avoid the 1.8m patch, 0.25 mile SE of Spurrier Point and Breeches Rocks.



Oderin Harbor (reported inactive 2010)

Caution.—Chimney Rocks have a least depth of 1.2m. An islet, 3.6m high, lies close SW of Spurrier Point. It was reported that a rock, which dries at LW, lies close off the SE extremity of islet. Two islets, 1.8m and 3m high, respectively, lie close to the N side of the harbor, about 0.2 mile E of Spurrier Point. A rock, which dries 1.2m, lies close E of the islet. A rock, which dries 1.8m, lies about 0.3 mile SE of Spurrier Point. A 1.8m patch lies about 0.1 mile WNW of the latter rock. Breeches Rock, with a charted depth of 0.3m, lies near the middle of the fairway, about 0.5 mile ESE of Spurrier Point.

Placentia Bay—East Side

4.31 From Cape St. Mary's, the coast trends in a general NNE direction for 26 miles to Point Verde, the S entrance point of Placentia Road. This coast line is bordered by many off-lying rocks and shoals. Numerous coves along the coast are fronted with gravel beaches suitable for small boat landings. In reduced visibility, vessels should generally not approach to within depths of less than 73m. The coast is 30 to 152m high, and the headlands are steep.

Saint Brides (46°55'N., 54°11'W.) is located in the SE corner of Distress Cove, 6 miles N of Cape St. Mary's. A breakwater, with light shown from the S end, affords shelter to a small craft harbor; with the inner side serving as a wharf.

Caution.—Nest Rock, on which the sea generally breaks, with a depth of 2.7m, lies about 4 miles W of Distress Cove. Perch Rock, a 4.6m patch, is located 1.1 miles SSW of Nest Rock.

Cuslett Rock, a patch with a least depth of 1.8m, is 1.5 miles offshore and 9 miles N of Cape St. Mary's. Patrick's Rock, a 2.4m patch, lies 1.5 miles off Patrick's Cove, which lies 13.5 miles NNE of Cape St. Mary's. Other shoals between Cuslett Rock and Patrick Rock can be seen on the chart.

Goose Shoal, a rocky 7.3m patch, lies 2.35 miles N of Patrick's Cove. The Virgin Rocks, consisting of four black above-water rocks, the highest of which is 5.5m, lie 1.5 miles offshore, about 6 miles SSW of Point Verde.

Girdle Rock, which dries 2.1m, is located 1 mile SSW of the highest of the Virgin Rocks. False Girdle, a rocky 1.8m shoal, and South Rock, with a depth of 3m, lie 0.35 mile SE and 0.6 mile S, respectively, of Girdle Rock.



Point Verde Light—approach (replaced by skeletal tower)

Gibraltar Rock, with a least depth of 1.8m, lies 1.35 miles WSW of Point Verde. A lighted buoy is moored about 0.2 mile SW of the rock.

4.32 Placentia (47°15'N., 53°58'W.) is a fishing port with a very small natural harbor located on the E side of Placentia Bay, about 26 miles NNE of Cape Saint Mary's. Placentia Road is entered between Point Verde and Crevecoeur Point, about 1.4 miles NE.

Ice.—Placentia Road is filled with drift ice by winds from the SW to NW. Northeast winds clear the roadstead. Northeast Arm of Placentia Harbor occasionally freezes between early January and early February, and breaks up between the end of March and early in April. During severe winters, the ice has not broken up before May 1.

Tides—Currents.—High water, full and change, at Placentia Harbor is 8 hours 30 minutes; spring tides rise 2.1m and neap tides rise 1.5m.

The tidal currents in the narrow entrance of Placentia Harbor attain velocities of 4 knots, local knowledge is essential for the passage.

Depths—Limitations.—Placentia Harbor is entered from



Point Verde Light (new skeletal tower)

the NE end of Placentia Road through Placentia Gut, a narrow passage 73m wide with a least depth of about 3.0m. Both entrance points, Town Point on the N, and Fort Point on the N, are low.

At Jerseyside, on the N side of the harbor, the E wharf is 36m long, with depths of 2 to 6.7m along both sides. The W wharf has an L-head, 25m long, with a least depth of 2.7m alongside. The public wharf at Placentia, 100m long, with a least depth of 3.9m along its northernmost 55m, is situated close SE of Placentia Gut.

Privecoeur Shoal, with a least depth of 5.5m, lies 0.5 mile WSW of Crevecoeur Point.

Aspect.—The hills in the vicinity of Placentia Harbor are detached, rounded, and higher than the tableland of Cape Saint Mary's. Signal Hill and Castle Hill rise 115m and 103m, respectively, on the N side of Placentia Road.

A television tower, with an elevation of 268m, stands on the S side of Placentia Road, in a position about 1.5 miles E of Point Verde.

A church, large and conspicuous, with a round red-topped tower surmounted by a white cross, stands about 0.4 mile S of Town Point. Range lights, in line bearing 091.1°, are shown from the E shore of Placentia Road.

Pilotage.—Local knowledge is essential in the narrow entrance of Placentia Harbor because of the tidal currents.

Signals.—A vertical lift bridge spans Placentia Gut from Town Point to the N shore. The channel under the bridge, when the bridge is raised, has a vertical clearance of 21m. Vessels requiring the bridge to be opened during daylight hours should contact the bridgmaster on VHF channel 10 or by telephone at (709) 227-2154. If contact is not made, then three long blasts should be sounded. Passage under the bridge is normally prohibited between sunset and sunrise but the bridge can be raised during this period provided 12 hours notice is given to the bridgmaster or the Department of Highways at St. John's.

Anchorage.—Northeast Arm affords sheltered anchorage, in 5.5 to 9.1m, mud. The best berths are on the NW side of the arm somewhat clear of the tidal currents.

Caution.—Vessels having drafts greater than 3m should avoid entering Placentia Harbor. Mariners proceeding into the harbor should plan to arrive at Placentia Gut near high water

slack. The hills along both arms are detached, rounded, and high in elevation, creating a tunnel effect for NE and SE winds. Strong NE winds can make mooring unsafe within the harbor.

Vessels are warned not to anchor in the cable area on the N side of Placentia Road. Cables are also laid in the vicinity of Moll Point, 0.75 mile NW of Crevecoeur Point.

Due to the action of wind and currents, the bottom in Placentia Road has been shifting. Depths S of the leading line may not be as charted.

4.33 From Crevecoeur Point, the coast trends in a general N direction for about 4.5 miles to Latine Point.

Moll Rock lies about 1.8 miles NW of Crevecoeur Point and has a depth of 1.8m. There is a 4.6m patch lying nearly 0.5 mile W of Moll Rock. This is the outermost danger in the S approach to Argentia Harbor.

The Deadman, a rock, awash, lies 0.5 mile offshore, about 0.8 mile SSW of Latine Point.

Argentia (47°18'N., 53°59'W.)

World Port Index No. 1710

4.34 Argentia is located on Argentia Peninsula on the E side of Placentia Bay, about 30 miles NNE of Cape Saint Mary's. Argentia Harbor is approached between Latine Point, the NW extremity of Argentia Peninsula, and Fox Island.

The port is open year round. Major cargo handled at the port include containers, salt, scrap metals, fish petroleum, chemicals, explosives, and cement.

Argentia is also used as a supply base for the tendering of offshore drilling platforms and very large crude carriers (VLCC) when required.

Winds—Weather.—West winds prevail at Argentia from December to March, inclusive; SW winds prevail from April to October. The largest number of storms, with winds of about 40 knots, occur from December to March; however, winds of similar velocity occur in September and November.

Precipitation, which averages 100cm per year, is fairly evenly distributed throughout the year, being lightest in April and May. Fog, which averages 84 days per year, is more prevalent when winds are SW. The probable lowest winter and highest summer temperatures are -17.8° to 15.6°C, and 21.1°C, respectively.

Heavy squalls occur under Isaac Heads (47°19'N., 53°57'W.) with S and W winds. Vessels in the area S of Isaac Heads have experienced noticeable swells, with winds of from 40 to 50 knots.

Ice.—Argentia Harbor freezes over SW of **Cairn Head** (47°18'N., 53°58'W.) only during severe winters, which occur about every 6 to 8 years. At such times this part of the harbor freezes early in February and breaks up early in April. Northern ice, brash, and small floes arrive in March and remain 3 or 4 weeks. Entry into the harbor throughout this period can be effected with the assistance of an icebreaker or by a reinforced vessel.

Placentia Sound and Ship Harbor freeze and break up at the same time as Argentia Harbor. The areas affected in Placentia Sound and Ship Harbor lie E of **White Point** (47°18'N., 53°55'W.) and **Coxhill Point** (47°18'N., 53°53'W.), and NE of



Argentia Harbor

Sugarloaf Point (47°21'N., 53°53'W.) and **Conway Cove** (47°22'N., 53°54'W.).

Tides—Currents.—The MHW interval at Argentia Harbor is 8 hours 09 minutes; spring tides rise 2.2m and neap tides rise 1.6m.

Currents in Argentia Harbor are variable according to wind direction. Tidal currents are weak.

Special precaution should be taken to allow for a strong N set of about 3 knots in the approach channel, when S winds prevail, in order to avoid being set onto **Moratties Shoal** (47°21'N., 53°58'W.).

With SW winds of 40 to 50 knots, noticeable swells have been experienced in the area S of Isaac Heads. With prevailing S and SW winds, the current typically sets to the NE.

Depths—Limitations.—For berthing information see the table titled **Argentia—Berth Information**. For additional information, the Harbor and Ports Directorate may be contacted.

Lighted Whistle Buoy PCC is moored on the 64m patch 4.9 miles W of Latine Point.

The N side of the approach channel is bordered by Moratties Shoal, with a least depth of 1.3m. When S winds prevail, there is a strong N set of about 3 knots toward the shoal.

Results of a 1985 survey indicate that depths in the approaches to, and within Argentia Harbor and Placentia Sound, are generally 1.8m less than charted.

Lighted Buoy A2 is moored 1.4 miles N of Latine Point; several other lighted buoys mark the S and W sides of the channel.

Aspect.—The land in the vicinity of Argentia is low-lying. Scattered hills rise from 152 to 274m within a 10 mile radius of

the harbor. The ground is rather rough and rocky; forest cover is light and interspersed with numerous small lakes and bogs.

Argentia—Berth Information			
Berth	Length	Depth	Remarks
Fleet Dock			
No. 1	150m	—	General cargo.
No. 2	155m	—	General cargo.
No. 3	120m	—	General cargo.
Marine Atlantic Argentia Ferry Terminal			
No. 5	20m	5.5-7.5m	Ro-ro and general cargo.
No. 6	20m	—	General cargo.
No. 7	185m	10.9-13.3m	General cargo.
Navy Dock			
No. 8	105m	7.4-11.0m	General cargo.
No. 9	105m	7.4-11.0m	General cargo.

The Argentia Peninsula, triangular in shape and marshy, rises to an elevation of 23m; it consists of gravel deposits faced by sand cliffs, 9.1 to 12.2m high. The shoreline of the Argentia Peninsula is reported to have gradually changed over a period of years because of the action of the sea.

Two checkered water tanks are situated in the vicinity of the airfield. A control tower is situated about 0.2 mile SW of the N water tank.

Pearce Peak, with an elevation of 148m, rises about 0.8 mile SW of Broad Cove Point on the SE side of the harbor.

Isaac Heads, two remarkable conical heads, 99 and 129m high, rise close E of Isaac Point.

Fox Island, 0.5 mile long, rises to a height of 77m. It is partly wooded. A few disused concrete structures are on the E end of the island.

Placentia Sound is entered between Isaac Point and Broad Cove Point. Samson Point, which rises to about 15m, divides the sound into two parts; Fox Harbour is to the N.

Fox Harbour, which is shallow, lies to the N of Samson Point. A rock, awash, lies in the middle of the entrance to Fox Harbor.

Above White Point, the S part of the sound gradually narrows to its head. The land behind the N shore of the sound is high; some of the hills have elevations of 107 to 183m.

Do not anchor in the vicinity of the abandoned submarine cable laid in Placentia Sound.

Ship Harbour (47°21'N., 53°54'W.) is entered between Isaac Point and Ship Harbour Point, 2 miles to the NNE.

An area, with a radius of 0.4 mile, shown on the chart, was previously used as an ammunition handling berth. Anchorage is not recommended in this vicinity.

Pilotage.—Pilotage is not compulsory, but a licensed pilot is available if required. The pilot boards off Argentia in position 47°20'00"N, 054°06'29"W. Pilot messages may be forwarded through the nearest Canadian Coast Guard radio station or direct through St. John's Traffic Center (VHF channel 11) and Placentia Traffic (VHF channels 12 and 14).

Contact Information.—See the table titled **Argentia—Contact Information**.

Argentia—Contact Information	
Port Authority	
Telephone	709-227-5502
Facsimile	709-227-5592
E-mail	contactus@portofargentina.ca
Web site	http://www.portofargentina.ca
Placentia Bay VTS	
VHF	VHF channel 14
Atlantic Pilotage Authority (Halifax)	
Telephone	877-272-3477
Facsimile	877-745-3477

Anchorage.—Anchorage is prohibited in and near the channel, between the N coast of the Argentia Peninsula and Fox Island, 2.5 miles NNE of Latine Point.

Anchorage is also prohibited in the vicinity of the abandoned submarine cable in Argentia Harbor.

Anchorage can be obtained in Sandy Cove, in a depth of 22m, mud. Elsewhere, the holding ground, generally of rock, mud, and sand, is poor.

Vessels at anchor must be prepared to get underway on short notice if heavy winds are forecast because of the generally poor holding ground of the harbor area.

Placentia Bay—Approach Channels

4.35 Western Channel leads between the W side of Placentia Bay and the W side of Merasheen Island. It is described beginning in paragraph 4.36.

Central Channel leads between the E side of Merasheen Island and the W sides of Red Island, Great Seal Island, and Long Island. It is described beginning in paragraph 4.43.

Eastern Channel is entered between Ragged Point, the S extremity of Red Island, and Fox Island, about 8 miles E. It is described beginning in paragraph 4.45.

Placentia Bay—Western Channel

4.36 **Western Channel—West side.—Brook Rock**, with a depth of 3m, lies 1.25 mile NNE of **Long Point** (47°26'N., 54°26'W.).

Grandy Point (47°27'N., 54°24'W.) is the name of a small town on the shores of a cove. The cove affords good sheltered anchorage, except during N winds, in 7.3m, to small vessels with local knowledge.

Valen Harbor (47°28'N., 54°23'W.), at the S end of Great Isle of Valen, is protected by Little Isle of Valen, Dutch Cap, and the Canary Isles. The harbor is available only to small vessel with local knowledge. The entrance, although clear of dangers, is only 45m wide. Port and starboard spar buoys mark a channel leading to the harbor. The channel lies between the Canary Isles and Mussel Bank, which lies close E. Valen Harbor occasionally freezes over, but the ice is usually thin, and anchorage can generally be taken. On the E side, close S of the entrance to the inner basin, is an L-shaped public wharf. It extends 15m from the shore to an outer end 15m in length, with a depth of 6.4m alongside.

Storehouse Cove, close N of Wadman Point, the SE extremity of Great Isle of Valen, terminates in a small bight which provides good shelter to small vessels.

4.37 **Oliver Cove** (47°28'N., 54°25'W.) indents the coast about 1.3 miles NW of Grandy Point. Oliver Rock, 3.6m high, lies close to the bluff which forms the SE entrance point of the cove. Small vessels with local knowledge can anchor in the cove, in 18.3m, sheltered from the offshore winds.

Clatise Harbor (Clattice Harbor) is entered between **Clatise Harbor Head** (Clattice Harbor Head) (47°30'N., 54°25'W.) and Gunning Point, about 0.4 mile N. The harbor divides into Southwest Arm and Northwest Arm at Northwest Head, about 1.3 miles within the entrance. Vessels with local knowledge can anchor anywhere in Northwest Arm of Clatise Harbor, in 29 to 33m. Small vessels can anchor in a cove at the head of Northwest Arm, in 10.9 to 14.6m.

Skipppers Brook (47°35'N., 54°22'W.) forms a conspicuous waterfall.

Chambers Island (Burgeo Island) (47°37'N., 54°19'W.) rises to a sharp conspicuous peak, 127m high. Vigors Island fronts a cove on the W side of Chambers Island near the N extremity. Small vessels with local knowledge can take good an-

chorage in the cove, in 26m. The NW side of Vigors Island should be given a berth of 0.1 mile.

Davis Cove (47°38'N., 54°20'W.) provides anchorage to small vessels with local knowledge during offshore winds. At the head of the cove is a conspicuous waterfall.

Little Sandy Harbor, Civil East Cove, and Great Sandy Harbor lie in a bight which is entered between **Nan Point** (47°40'N., 54°19'W.) and a point about 1.3 miles NNE.

Bell Island (47°40'N., 54°18'W.), 45m high, lies nearly 1 mile E of Nan Point. A conspicuous, inverted bell-shaped rock, 6.1m high, stands close to the SW extremity of Bell Island.

Ship Island, about 0.5 mile N of Bell Island, has a 76m summit near the middle of its NW side. The cliffs at the N end of Ship Island have several white patches. A rock, awash, lies about 0.1 mile off the middle of the E side of Ship Island. The E extremity of Chambers Island, open SE of the SE extremity of Ship Island, are clearing marks which lead SE of the rock, awash, when in line bearing 204°.

4.38 Little Sandy Harbor entrance lies about 0.5 mile NW of Nan Point. Great Sandy Harbor entrance lies about 0.3 mile NW of the N entrance point of the bight. Bell Island, Ship Island, and Green Island lie off the entrance of this bight.

Civil East Cove, between the entrance of Little Sandy Harbor and Great Sandy Harbor, is a small cove protected by Civil East Island. A rock, with a depth of 1.8m, lies in the middle of the cove. Great Goat Island, 13.7m high, lies about 0.1 mile S of the S entrance point of cove; a rock, awash, lies close off the SW extremity of Civil East Island.

Vessels with local knowledge can take anchorage, in 10.9 to 12.8m, open to SE winds, about 0.2 mile offshore between Nan Point and the entrance of Little Sandy Harbor, or in 8.7 to 10.9m, good holding ground, open to winds from then SE to S, between Civil East Cove and the entrance of Great Sandy Harbor. Civil East Cove affords anchorage, in 4.5m, to small vessels with local knowledge.

Western Cove (47°42'N., 54°13'W.) is entered close N of Western Cove Head, between West Point and James Point, about 0.6 mile NE. Shoals extend about 0.2 mile NE from West Point. A rock, with a depth of 2.1m, lies about 0.1 mile E of the same point. The beach at the SW head of Western Cove, open N of West Point and bearing 258°, leads N of the rock.

Vessels with local knowledge can anchor, in 37m, in the SW part of Western Cove or, in 24 to 31m, in the NE part of the cove, according to the direction of the wind.

Bar Haven, the shores of which are steep-to, lies close NE of Western Cove. Bar Haven affords anchorage to small vessels with local knowledge, in 10.9 to 14.6m, except during E winds. Tobins Point, the E entrance point, must be rounded closely. An anchorage area lies about 1 mile E of Tobins Point.

4.39 Western Channel—East side.—Permission to dump in the dumping area charted in position 47°23'N., 54°24'W must be obtained from the Port Authority at Argentina.

Pond Head Sunkers, two rocks with a depth of less than 1.8m and on which the sea always breaks, lie about 0.3 mile SSW of **Margaret Point** (47°25'N., 54°22'W.).

Virgin Cove is entered nearly 1 mile E of **Breakheart Point** (47°27'N., 54°19'W.). The Leal Rocks are a group of sunken and drying rocks lying close offshore. The shores of Virgin

Cove are composed of steep cliffs over which flows a conspicuous cascade. Vessels with local knowledge can anchor in the cove, in 12.8m, during offshore winds.

Merry Harbor (47°32'N., 54°13'W.) is entered about 6.3 miles NNE of Breakheart Point. Two flat nearly-connected islets, 2.4m high, lie close off the S entrance point; two small islets also lie close off the N entrance point. The harbor is entered between these pairs of islets. Excellent anchorage, in 7.3 to 10.9m, is available to vessels with local knowledge; however, heavy squalls sweep over the harbor during SE gales.

The Ragged Islands are a group of numerous islands and dangers extending along the W side of Merasheen Island; several clear passages among the islands can be used only by vessels with local knowledge.

Jean de Gaunt Island lies with its SW extremity about 5.3 miles NNE of Breakheart Point; a conspicuous hill, steep near its summit, rises 118m on the E side. Large vessels with local knowledge can anchor, in 26 to 29m, between a cove on the NE side of Jean de Gaunt Island, and the Creve Islands to the E. Marine farms may be encountered in the area within 1 mile S through SE of the S tip of Jean de Gaunt Island. Caution is advised.

4.40 Brandies Shoal (47°32'N., 54°18'W.), a rocky patch, which dries 0.3m and on which the sea usually breaks, lies about 1.3 miles W of the NW extremity of Jean de Gaunt Island. The two W rocks of this patch dry 0.9m. Forked Duck Rock, with two small pinnacles, is 0.9m high and lies nearly 1 mile N of Galton Island, the latter about 0.3 mile N of the NW extremity of Jean de Gaunt Island. Western Sunker, with a depth of 1.2m, lies about 0.4 mile SW of Forked Duck Rock.

Directions.—The E extremity of West Island of the White Islands (47°36'N., 54°16'W.), in line with the E extremity of Green Islet of the same group, leads W of Brandies Shoal, Forked Duck Rock, and Western Sunker.

Shag Island (47°35'N., 54°15'W.), 23m high, is conspicuous.

Tacks Head (47°35'N., 54°13'W.), the most conspicuous headland on Kings Island, rises in steep bluffs to a sharp peak, 128m high, about 2 miles ENE of Shap Island.

New Harbor Head, about 1 mile N of Tacks Head, is a conspicuous square wooded headland, 40m high.

The islands lying near **North Tilt Island** (47°38'N., 54°10'W.) are difficult to distinguish.

4.41 Merasheen Island—South side.—Merasheen Harbor is entered between **West Head** (47°24'N., 54°22'W.) and Cross Point, about 0.3 mile E. Cross Point Shoal, with a depth of 4.9m, and Big Shoal, an 8.8m patch, lie 0.5 and 0.75 mile S, respectively, of Cross Point. Several shoals lie SE and SW of the above-mentioned dangers. These shoals are not dangerous during good weather; however, the sea breaks on some of them during bad weather, causing a confused sea in the approach to Merasheen Harbor.

The entrance of Merasheen Harbor, about 0.1 mile wide, is encumbered with rocks and shoals. The channel into the harbor is marked by three spar buoys and a lighted buoy. Access to the harbor is impossible during and after SW gales, which create a heavy sea.

Anchorage.—Anchorage is available to small vessels, how-

ever, Soldiers Point, a narrow 9.4m promontory, divides and restricts the available space.

Space Cove Head, about 0.5 mile ESE of Cross Point, is 128m high and appears dark when seen against the lighter background.

Red Rock and Blue Rock, so named because of their distinctive coloring, comprise the **Dirty Rocks** (47°23'N., 54°17'W.), two pinnacles, 10m high, lying about 0.2 mile offshore nearly 1 mile W of the SE extremity of Merasheen Island.

Placentia Bay—Central Channel

4.42 Merasheen Island—East side.—Redland Slide (Redland Scrape) (47°24'N., 54°15'W.), a conspicuous slip in the cliffs, lies about 0.5 mile NE of the SE extremity of Merasheen Island.

Big Sunker, a rock with a depth of 0.9m, and Little Shoal, with a depth of 1.5m, lie close off the SE extremity of Merasheen Island.

Indian Harbour (47°29'N., 54°12'W.) lies close N of Southwest Head, located about 5 miles NNE of Redland Slide. Southwest Island, 57m high, lies in the middle of the harbor entrance. The better passage is N of the island. There is good anchorage for small craft at the head of the harbor.

Rose au Rue Island (Rosiru Island) (47°30'N., 54°10'W.), 146m high, with its S point 0.75 mile NE of Southwest Island, is separated from Merasheen Island by a narrow passage. Bird Island is an islet lying E of Rose au Rue Island. Rose au Rue Sunker, which dries 0.3m, lies near the S extremity of a bank which extends S from Bird Island.

Duck Rocks, two small bare rocks, lie 0.4 mile N of Bird Island.

Rose au Rue Point (Rosiru Point) (47°32'N., 54°09'W.), about 1.3 miles NNE of the N extremity of Rose au Rue Island, should be given a berth of 0.1 mile to avoid the rocks that extend from it.

Merchant Cove (47°34'N., 54°09'W.), about 1.5 miles N of Rose au Rue Point, can accommodate one or two small vessels with local knowledge.

Dog Harbor, close N of Merchant Cove, is clear of dangers; vessels with local knowledge can anchor, in 10.9 to 28m.

Little Butler Island lies about 0.1 mile offshore, 0.9 mile NNE of Dog Harbor Head. Butler Island is separated from Merasheen Island by a narrow channel and lies close N of Little Butler Island.

The Castles (47°37'N., 54°07'W.), consisting of two rocks 1.2 and 4.3m high, lie on a bank 0.4 mile offshore and nearly 1.5 miles NNE of Butler Island. The S rock is square.

Great Brule Harbor (47°39'N., 54°08'W.) has Brule Shoal, with a least depth of 7m, lying about 0.4 mile E of the S entrance point. A shoal, with a least depth of 4.9m, is located about 0.25 mile SSW of Brule Shoal. Foul ground fronts the S shore of the harbor. Vessels with local knowledge can anchor in the harbor, in 10.9 to 21.9m. There are depths of 2.7m at the head of the harbor.

Little Brule Harbor (47°40'N., 54°08'W.) lies between the peninsula forming the N part of Merasheen Island and a group of islands lying about 0.2 mile off the E side of the peninsula. Big Island, 43m high, is the largest of the group. Batts Island

lies about 0.1 mile N of Big Island. Several rocks and shoals extend about 0.6 mile N from Big Island. Big Rock, the southeasternmost, lies 0.25 mile E of the N extremity of Big Island. Little Brule Harbor is entered from the N, close to the Merasheen Island shore, in order to avoid the dangers off Big Island. Vessels with local knowledge can anchor, in 14.6 to 18.3m, in the harbor, sheltered from all but N winds.

4.43 Central Channel—East side.—A gray spot, on the SW slope of the S summit of **Red Island** (47°23'N., 54°10'W.), has the appearance of smoke or a small cloud when seen from the W. The Tolt, a sharp conical hill, rises 220m about 1.5 miles farther N; a white stripe extends more than halfway down its NW side.

Southwest Cove Head (47°23'N., 54°13'W.) is also known as Blue Point because of the bluish color of the land in its vicinity during good weather.

Goat Island, capped with stunted trees at its N end, lies close N of Red Island. Goat Island Sunker, which dries 0.6m, and several other rocks lie to the SW of Goat Island.

Great Seal Island lies with its S extremity about 3 miles NE of the N extremity of Red Island; it should be given a berth of a least 0.1 mile.

The Little Seal Islands are a group of islets located about 0.5 mile SSW of Great Seal Island. Seal Island Rocks, with a least depth of 13m, lie just over 0.5 mile S of the Little Seal Islands.

Iron Island (47°28'N., 54°05'W.), bluff, flat-topped, and steep-to, is located about 1.3 miles E of Great Seal Island. Ironskull Rock, marked by a light, lies nearly 0.5 mile SE of Iron Island. Iron Island Bank, lying SW of Iron Island, has a least depth of 12.8m located nearly 4 mile SW of the island.

Buffett Head (Buffet Head) (47°29'N., 54°05'W.), the S extremity of Long Island, is a conspicuous perpendicular cliff, 91m high, which rises to Ironskull Hill, 183m high, about 1 mile N.

Barren Island (47°31'N., 54°07'W.) lies with its S extremity about 2 mile NNW of Buffett Head; its W side is fronted by shoals and should be given a berth of 0.75 mile.

Port Royal Arm is entered close E of the N extremity of Barren Island. Three islets restrict the entrance of Port Royal Arm to one channel between the two S islets and the S side of the harbor. A vessel should keep in mid-channel to avoid a rock lying off a point about 0.2 mile NE of the S entrance point. Vessels can anchor in the harbor, in 35 to 39m, mud, with good shelter and good holding ground. Small vessels with local knowledge can anchor in the N arms of the harbor; however, a short sea sets into the NE arm during S winds. Caution is necessary in using this channel as marine farms may be encountered in Port Royal Arm.

Green Island, 9.4m high and fringed with sunken rocks, lies about 0.4 mile NW of the N entrance point to Port Royal Arm.

Spencers Cove is entered between Long Beach Point, 6.4 miles NNE of Green Island, and a point 0.75 mile NNE.

Long Island Point, marked by a light, is the N extremity of Long Island.

Cheese Island, 44m high, lies 0.6 mile NNW of Long Island Point. The Jerseyman, a rock, is located 0.35 mile S of Cheese Island. Bread Island, 70m high, conical and wooded, lies 4 mile NNE of Cheese Island.

Placentia Bay—Eastern Channel

4.44 Buffett Harbor (Buffet Harbor) (47°31'N., 54°04'W.) is entered between the N side of Dicks Island and the shore about 0.8 mile N. The harbor divides into three arms within the entrance. The W arm, which forms the harbor proper, has a church and a number of houses on the shore at its head. The entrance to it is clear of dangers.

The current usually sets S past Buffet Harbor, then toward the E side of Placentia Bay. Buffet Harbor partially or completely freezes over every second or third winter from about the end of February to the first of April. Northern ice rarely appears in the harbor.

Shoals, with depths of less than 5.5m, extend about 90m off the N side of Dicks Island. Shoals, with depths of less than 1.8m, extend 135m N from the NW extremity of Dicks Island and 90m off the NW side. Shoals, with depths of less than 5.5m, extend about 90m off the inner N entrance point of the harbor. Seal Rock, which dries 7.3m, lies close off the W entrance point of the S arm. A detached 3m shoal lies in the fairway of the NE arm.

Vessels with local knowledge can anchor, in 31 to 37m, immediately within the entrance of Buffet Harbor. The arms of the harbor are available only to small vessels.

Buffett Island, conical, is located about 0.5 mile E of the entrance to Buffett Harbor. The island is marked by a light. Mathew Rock, on which the sea does not break, lies about 0.3 mile N of Buffett Island. Buffett Bank, with a least depth of 17.4m, is located 0.75 mile ENE of Buffett Island.

Collett Cove (47°34'N., 54°05'W.) affords fair anchorage, in 9.1 to 18.3m, sand. Collett Cove Island, 15.2m high, lies close off the S entrance point of the cove.

Haystack Harbor (47°38'N., 54°04'W.) is formed W of a wedge-shaped peninsula, 78m high. Haystack, a 15m rock, lies about 0.8 mile NNE of the NE extremity of the peninsula. The entrance of Haystack Harbor is clear of dangers in mid-channel. Vessels with local knowledge can take good anchorage in the harbor, in 9.1m, sheltered from all winds. A light is positioned from a skeleton tower with a red and white rectangular daymark on Hatstack.

4.45 Eastern Channel—East side.—Long Harbor Head, a steep wooded headland, lies almost 1.8 miles N of Ship Harbor Point. Between these headlands, the coast is indented by Big Seal Cove and Little Seal Cove, both of which are shoal.

Fish Rock, 3m high, lies about 1.5 miles NW of Fox Island.

The **Iona Islands** (47°25'N., 53°58'W.) are divided into two groups. The S group consists of Merchant Island, Burke Island, Hole in the Wall Island, King Island, and several islets; the N group consists of Harbour Island, North Green Island, East Green Island, Gull Island, and several islets and rocks.

Merchant Island (47°24'N., 53°57'W.), 94m high, is conical and conspicuous from the S because of a large white patch on its summit. Hole in the Wall Island has a hole in the cliff on its NE side. Red Island Shoal lies about 2.8 miles W of the island.

Long Harbor and Saint Croix Bay are approached through a large inlet which is entered between **Long Harbor Head** (47°23'N., 53°55'W.) and Saint Croix Point, about 2.5 miles N. Tom Power Lookout, a conspicuous conical hill, rises 171m,

about 1.8 miles NE of Saint Croix Point. Large vessels can anchor in Long Harbor, in 18.3m, off the E end of the channel which leads between **Crawley Island** (47°25'N., 53°52'W.) and the N shore.

A wharf, 488m long, is located about 1.2 miles E of Crawley Island. A dolphin extension, 38m long, is joined to the outer end of the main structure by a catwalk. There is a least depth of 10.7m along the outer 213m length of the N side. A stranded wreck, about 100m long and 29m wide and showing masts, is located alongside the inner part of the S side of the wharf, about 120m ENE of the dolphin; there is a least depth of 12.2m alongside the remaining 100m of the wharf extending SW of the wreck. Small vessels can take anchorage, in 8.7m, mud, in the E part of the channel. Vessels can take good anchorage, in 20.1m, from 0.3 to 0.75 mile off the head of Saint Croix Bay.

Located in the middle of the entrance are two islets. Shag Rocks is the E and larger. A light is shown from the W islet.

A large phosphorous plant is situated at Rattling Brook Cove, near the head of the harbor on the S side. A conspicuous chimney is situated at the plant. The plant has a wharf about 488m long, with a dolphin extension 38m long joined to the wharf by a catwalk. The outer 213m on the N side of the wharf has a least depth of 10.7m alongside.

Bald Head (47°27'N., 53°56'W.) is a cliffy headland rising to a conical mound, 37m high. The N side of Bald Head is indented by Moany Cove. Small vessels can anchor, in 10.9m, sand, during offshore winds, near the SW side of Moany Cove; the holding ground is good.

4.46 The Brine Islands are a group of several islets and rocks extending about 1.5 miles N from a position about 0.5 mile SW of Bald Head. The only easy passage through the Brine Islands lies between **Woody Island** (47°27'N., 53°57'W.) and the next islet NW; vessels using this passage should keep in mid-channel.

The Grassy Islands, the highest of which is 16.7m, are the N part of the Brine Islands and lie from 0.25 to 0.75 mile N of Woody Island. A channel, about 0.3 mile wide, leads between the Grassy Islands and Bald Head. Vessels using this channel should exercise care to avoid **Hog Rock** (47°27'N., 53°57'W.). Blue Shag Island, the N of the Brine Islands, is 4.5m high and derives its name from the distinctive bluish-gray rock of which it is formed.

The Trinny Cove Islands front the E side of Eastern Channel, between **Corbin Head** (47°29'N., 53°56'W.) and Red Cove Head, about 2 miles NNE. Passage among the Trinny Cove Islands is not possible; the passage E of the group should not be attempted without local knowledge. A passage, 0.7 mile wide, leads between the Trinny Cove Islands and the Brine Islands to the S.

Grassy Island (47°30'N., 53°57'W.), the northwesternmost and most conspicuous of the Trinny Cove Islands, is 9.1m high, flat, grassy, and lies about 1 mile E of Red Cove Head.

Fair Haven (Famishgut) is entered between **Fair Haven Point** (47°31'N., 53°55'W.) and the mainland, about 0.3 mile S. Foul ground, including a black islet, 2.4m high, extends 135m off Fair Haven Point. Fair Haven Island lies about 340m W of Fair Haven Point. Two detached reefs, with depths of 2.1 and 3.9m, lie 0.3 and 0.4 mile W, respectively, of Fair Haven Island. The approaches to Fair Haven are encumbered with

sunken rocks and shoals that lie as far as 1.5 miles W of the entrance. An above-water rock lies about 0.1 mile off the NW side of the inlet, about 0.5 mile within the entrance.

Anchorage.—Fair Haven affords anchorage, in 14.6m, off a cove on the SE side, sheltered from winds between the SW and WNW.

Directions.—Shag Roost, a conical islet 18.3m high, shows white against the coast, about 0.8 mile N of **Burnt Head** (47°33'N., 53°54'W.).

4.47 Northwest Rock (47°34'N., 53°56'W.) dries 0.3m. Several sunken rocks and shoals, with depths of 8.2 to 10.6m, lie within 0.6 mile NNE of Northwest Rock. Vessels must pass W of this group of dangers.

Pinchgut Point, about 2.8 miles NNW of Burnt Head, is long, narrow, and sloping, with a rock, drying 1.5m, close off its W side. Great Pinchgut is a bay lying close E of Pinchgut Point; sunken dangers lie as much as 0.25 mile offshore in places, and it affords no shelter.

Brennan Point (47°37'N., 53°56'W.) lies about 1.5 miles N of Pinchgut Point. A range of hills rise to an elevation of 206m within Pinchgut Point and Brennan Point; from the S the range has the appearance of a square hummock over the flat coast. Little Harbor Island, flat-topped and 13m high, lies about 1 mile offshore, midway between Pinchgut Point and Brennan Point. Large vessels should not attempt to pass between Little Harbor Island and the mainland E.

Allen Shoal, a rock with a depth of 1.5m, lies about 0.5 mile SW of Little Harbor Island. Big Sunker Rocks, a rocky patch with a least depth of 1.2m, lies 0.35 mile NW of the same island.

4.48 La Manche is a bay entered between a point about 1.5 miles NNE of **Island Cove Head** (47°40'N., 53°57'W.) and La Manche Head, about 0.5 mile WNW. The land in the vicinity consists of high barren ranges of hills, rising to a 187m summit, surmounted by a cairn at the head of the bay. Vessels with local knowledge can anchor in the bay, in 10.9 to 12.8m, gravel, sheltered from winds from the NW through N and E to S.

Little Southern Harbor is entered between the NW extremity of the peninsula separating it from La Manche and the SE extremity of Butler Head, about 0.4 mile NNW. Winging Rocks are two barren rocks, with respective heights of 1.5 and 9.1m, lying in the approach to Little Southern Harbor. A lighted bell buoy is moored about 0.2 mile SE of Winging Rocks. South Rock, on which the sea breaks, lies 135m S of the SE extremity of Butler Head. The entrance points and the shores of the harbor are fringed with shoals but can be safely approached to within 0.1 mile. A 145m breakwater (2009) exists in the inner harbor about 1 mile NNE of Winging Rocks.

4.49 Great Southern Harbor is entered between Butler Head and Goose Head, about 2.3 miles NNW. The shores of the harbor are steep-to and slope down from ranges of wooded hills. Duck Island, 14.3m high, lies in the S part of Great Southern Harbor, about 0.5 mile N of Butler Head. Seal Islet, 9.7m high, lies about 0.5 mile NE of Duck Island. A rock, with a depth of 1.8m, and a sunken rock lie close together about 0.2 mile S of Seal Islet. Vessels using the passage between Duck Island and Seal Islet should keep Duck Island close aboard.

Goose Island, 19.2m high, lies about 0.1 mile W of Goose Head; the channel between has depths of 2.7m.

Tommy Sharp Rock, an islet which dries 1.8m, lies close off the NW shore of the harbor, about 0.5 mile NE of Goose Head.

Great Southern Harbor is open and the holding ground is poor; however, vessels with local knowledge can anchor, in 10m, S of Tommy Rock or in 9.1 to 16.4m, nearer the middle of the harbor. The former anchorage is the best.

Caution.—A submarine cable is laid across Great Southern Harbor.

4.50 Arnold's Cove, entered between **Goose Head** (47°45'N., 54°00'W.) and Bordeaux Island, about 1.3 miles WNW, has general depths of 7.3 to 16.4m.

Bordeaux Island is bluff, wooded, and 42m high. A conspicuous vein of quartz runs down the cliffs near the S extremity of the island. Bordeaux Gut is a narrow, shallow channel separating the island from the mainland. The island is marked by a light.

Adams Head, a flat-topped barren mound, rises 32m near the SW end of the NW side of Arnold's Cove. Round Rock, which dries 1.8m, lies 0.2 mile E of Adams Head. Lighted Buoy EA is moored about 0.4 mile S of Round Rock.

Arnold's Cove affords anchorage to large vessels with local knowledge, in 9.1 to 12.8m, sheltered from all but winds from the S to W. Small vessels can take anchorage, in 6.4 to 9.1m, sheltered from all winds.

There are four piers at Arnold's Cove with depths alongside ranging from 1.2 to 5.4m.

A light is shown from the head of the W pier.

Placentia Bay—Head

4.51 Come By Chance Bay (47°48'N., 54°01'W.) is entered between Bordeaux Island and Come By Chance Point, about 3 miles N. Powderhorn Hill rises 318m about 5.5 miles NNE of Come By Chance Point. Jonathan Lookout, an isolated conical hill, rises 217m about 1.8 miles NW of Powderhorn Hill. This range of hill gradually decreases in elevation toward the marsh at the North Harbor.

The harbor comprises all the waters at the head of Placentia Bay N of lines drawn W for 10 miles from La Manche Head (47°41.2'N, 053°58.0'W) through Long Island Point to Hames Point, on the E side of Bar Haven Island, and from Carrol Point (47°44.6'N, 054°14.1'W), on the N side of Bar Haven Island, NW for 0.5nm to the S side of La Plante Cove on the mainland.

4.52 Come By Chance Harbor (47°48'N., 54°01'W.) (World Port Index No. 1715), the site of a deep-water oil terminal, includes all waters N of a line drawn in a 096° direction from Long Island Point Light (47°42'N., 54°05'W.) to the E shore of Placentia Bay, and a line drawn in a 296.5° direction from the same light to the W shore of the bay.

Winds—Weather.—The prevailing winds are from the SW in the summer and NW in the winter.

Fog is experienced regularly in April, May, June, and July, the latter two months being the worst. The fog is usually associated with a S wind.

There is no shelter afforded on the N, E, and S sides of the great dock and only a nominal amount on the W side.



Come by Chance Harbor—NLT Terminal at Wiffen Head

Tides—Currents.—Local pilots report that the range of tide is between 1.7 and 2.5m, which can increase if the wind has been blowing from the S for any length of time.

Observations made at numerous points in Come By Chance show the wind as the dominant factor in horizontal water movements, with the tide and fresh water influence being secondary. Off the oil refinery wharf, the flow is generally weak and at other points the rates are from 0.2 to 0.6 knot, with a maximum rate of 1 knot. The direction of flow is variable.

Depths—Limitations.—The oil refinery terminal is L-shaped and extends about 0.5 mile offshore.

Berth No. 1 and Berth No. 2 are fitted with compression fenders and are marked at each end by lights. A doppler system has been installed on the wharf to assist in berthing.

Whiffin Head is a low point lying nearly 1.5 miles NNE of

Adams Head. Fox Head, lying 1.1 miles NNE of Whiffin Head, is also a low point with rocky ledges and shoal water extending W for over 0.1 mile. An isolated shoal patch lies on the SE extremity of Big Shoal, situated 2.5 miles SSW of Come By Chance Point, least depth 20m. It is marked by a lighted and buoy. Woody Island Shoal, with a depth of 17.4 m, lies about 4 miles WSW of Come By Chance Point. Close N of Whiffin Head, the Newfoundland Transshipment Terminal extends 378m from the shore. Loading Platform 1, the N berth, and Loading Platform 2, the S berth, are 310m long. The terminal's two loading platforms have a deck elevation of 5.9 m. The remaining dolphins have a deck elevation of 5m. A depth of 19.9m is situated about 170m W of the NE end of the terminal. A private buoy marking a depth of 17.8m is located 0.3 mile NW of the NE end of the terminal.

Come By Chance Harbor—Berth Information

Berth	Length	Depth	Maximum Vessel			Remarks
			LOA	Draft	Beam	
North Atlantic Refining Terminal						
No. 1	132m	30.5m	442m	27.4m	50.0m	Clean products, crude oil, and dirty products. Dolphins extend the berthing length to 470m.
No. 2	82m	14.6m	259m	13.1m	36.6m	Aviation fuel, chemicals, clean products, and dirty products. Dolphins extend the berthing length to 390m.

Come By Chance Harbor—Berth Information						
Berth	Length	Depth	Maximum Vessel			Remarks
			LOA	Draft	Beam	
NTL Terminal Whiffen Head						
No. 1	111m	20.0m	280m	17.2m	49.0m	Crude oil. Dolphins extend the berthing length to 380m.
No. 2	96m	20.0m	280m	17.4m	49.0m	Crude oil. Dolphins extend the berthing length to 380m.

Crude carriers up to 159,000 dwt use this facility. Two escort and docking tugs with fire fighting capabilities are permanently on station. The tank farm has large crude oil storage tanks that are conspicuous from seaward.

A T-head jetty extends 0.2 mile NW from shore close N of Whiffen Head. It is a crude oil terminal with two loading platforms. For more detailed information on these berths, see table titled **Come By Chance Harbor—Berth Information**.

Aspect.—Range lights are shown near the shore, about 1 mile NE of the oil terminal wharf. The lights in line bearing 039°57' lead into the berth at the oil terminal wharf.

Pilotage.—Pilotage is compulsory. Pilots board in position 47°20'00"N, 54°06'30"W. Vessels should send their ETA 12 hours and 2 hours before arrival. The ETD should be sent 12 hours and 2 hours prior to departure.

Pilotage operations at Come-By-Chance and Whiffen Head are supported by three SmartBay inshore weather buoys. The pilots of Atlantic Canada and the Canadian Marine Pilots' Association used this as part of a deployment of inshore weather buoys for Halifax, Saint John, and the Strait of Canso, collectively referred to as SmartATLANTIC. Weather buoys significantly enhance the safety and efficiency of tanker operations because they enable high resolution forecasting of weather and sea state conditions through the practical application of real-time data about wave heights, wave direction and period, current velocity, air and water temperature, and wind velocity.

Regulations.—Vessels operating within the harbor limits of Come By Chance are advised that no vessel shall navigate at a speed exceeding 7 knots. Vessels over 50,000 dwt are restricted to daylight sailing only. Tankers must be in possession of valid Non-Canadian Ships Compliance Certificate. All tankers calling must be capable of closed loading and closed gauging. There are no facilities to handle dirty ballast at the terminal and therefore, only segregated ballast tankers will normally be accepted. Requests for acceptance of non-segregated ballast tankers will be reviewed on a case-by-case basis and, if accepted, will be required to retain onboard all ballast in cargo tanks. Only clean ballast from Segregated Ballast Tanks (SBT) will be allowed to be discharged into the sea at the terminal. Ballasted tankers must arrive with sufficient ballast to meet the SBT requirements of MARPOL 73/78 Regulations.

All tankers calling "CBC" with persistent oil onboard require a tug escort from Placentia Bay to the port entrance; two tugs are required for docking and undocking vessels of 65,000 dwt. There are 2 x 5,600hp cycloidal propelled tractor tugs available at the port. Both tugs are capable of tethered escort duties for loaded tankers up to 326,000 dwt. In addition 2 x 4,000 hp docking tugs will be made available to provide berthing/unberthing assistance if required.

Vessels should send their ETA to the terminal 72 hours, 36

hours, and 24 hours prior to arrival.

The following pollution precautions must be adhered to:

1. Pollution prevention equipment for handling small oil spills should be readily available.
2. Scuppers must be plugged.
3. Accumulations of water on deck must be drained carefully. Scupper plugs must be replaced immediately after water has been drained. A vessel crew member must be in attendance at the location where water is drained from the deck to the sea.
4. In the event of any cargo leakage occurring, operations must be stopped until the cause has been ascertained and the defect remedied. The terminal must be advised immediately.
5. Insert gas scrubber overboards must be monitored for significant water discoloration. Any noticeable discoloration must be immediately rectified or, failing this, the load/discharge operation may be stopped until the problem has been resolved.
6. Smoke emissions must be kept to a minimum. Excessive emissions may result in the terminal stopping loading/discharging operations until the problem has been resolved. Soot blowing is prohibited.
7. No garbage shall be discharged overboard from the ship. However, garbage and hazardous garbage disposal can be arranged on behalf of the ship through its agent.

Vessel Traffic Service.—Placentia Bay Traffic System is managed by a Vessel Traffic Management Center operated by the Canadian Coast Guard, located in Argentia. Participation is mandatory for the following:

1. Vessels of loa 20m or more.
2. Towing vessels where the tow is 20m or more in length, or the overall length of vessel and tow is 45m or more.
3. Air cushion vessels of 8.0m or more in length.

Contact Information.—See the table titled **Come By Chance Harbor—Contact Information**.

Come By Chance Harbor—Contact Information	
Vessel Traffic Service	
Call sign	Placentia Traffic
VHF	VHF channel 14 (Sector 1)
	VHF channel 12 (Sector 2)
Port Authority	
Telephone	704-772-4154
Facsimile	704-772-5127

Come By Chance Harbor—Contact Information**Pilots**

VHF	VHF channels 12 and 16
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Harbormaster

Telephone	709-463-8528
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Oil Terminal

VHF	VHF channels 6, 11, 12, 14, and 16
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Telephone	709-463-8811
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Facsimile	709-463-8076
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Anchorage.—Anchorage is available in Come By Chance Bay, in 29m or less, about 1 mile within the N entrance point. The prevailing SE winds, and the open approaches, combine to make this anchorage unsafe.

Anchorage AA (47°43'N., 54°02'W.) lies off the S end of Bordeaux Island, about 1.25 miles S of the light, in depths in excess of 100m and with a least depth in the swing area of 40m, rock. This anchorage is used by crude oil carriers, only in an emergency.

Anchorage BB lies off Woody Island (47°46'N., 54°12'W.), nearly 2 miles SSE of Sound Island Light (47°47'N., 54°10'W.), in a depth of about 70m, with a least depth in the swing area of 52m, rock and shingle. This anchorage is used by crude oil carriers.

Anchorage CC (47°43'N., 57°10'W.) lies WNW of Whiffen Head on the E shore of Come By Chance Bay, in a depth of about 35m, with a least depth in the swing area of 35m, gravel and mud. This anchorage is used by crude oil carriers.

Anchorage DD (47°47'N., 54°01'W.) lies close NNE of Anchorage CC, in a depth of about 30m, with a least depth in the swing area of 14m, soft mud and stones. This anchorage is used by product carriers.

Anchorage EE lies N of Whiffen Head, in a depth of about 25m, with a least depth in the swing area of 25m, rock. This anchorage is used by product carriers of less than 10,000 dwt.

All of the above anchorages are best seen on the chart.

Directions.—The port is approached through the TSS, in the S part of Placentia Bay, and then through Eastern Channel, on the E side of Placentia Bay; depths are typically deeper than 200m. A two-way route exists extends between Red Island and the head of Placentia Bay. The channel is marked by red and green lighted buoys. The harbor is entered closed W of Bordeaux Island (47°45'N, 054°02'W). For vessels proceeding to the deep-water oil terminal, tugs will meet the vessel off Bordeaux Island, about 4 miles from the berth. If berthing on the W side of the wharf, the vessel is topped parallel to the berth and then maneuvered alongside with tug assistance. On the E side the vessel may berth port or starboard side-to with alongside assisted by tugs. To facilitate berthing, a Doppler system is installed on the wharf.

Caution.—The shore between Southern Head (47°48'N., 54°04'W.) and South Point, about 1.3 miles NW, should be given a berth of a least 0.15 mile because of sunken rocks which fringe it. There is a potential for icebergs, growlers, and bergy bits to drift as far S as the coast of Newfoundland and Placentia Bay, They are unlikely to drift to the head of Placentia Bay or

close to Whiffen Head.

4.53 Southern Head (47°48'N., 54°04'W.), a wooded promontory which rises to a height of 38m, is located just over 0.5 mile WNW of Come By Chance Point. South Point lies about 1.3 miles NW of Southern Head.

North Harbor is entered between South Point and North Harbor Point, about 1 mile NW. North Harbor Point is marked by a light. A rock, with a depth of 0.9m, and a reef, with a depth of 10.9m, lie about 90m S and 550m SSW, respectively, of North Harbor Point. An islet, 1.2m high, lies close off the E side of the harbor, about 0.4 mile N of South Point. Emberley Point, about 0.8 mile N of South Point, is marked by a white house. The shores of a cove, close N of Emberley Point, are fringed with rocks as far as 0.1 mile offshore. Sall the Maid Islet, 21.3m high, lies close off the E side of the harbor, about 2 miles N of South Point. Sunken rocks extend 0.15 mile from the islet.

Large vessels can anchor anywhere in the outer part of North Harbor. Vessels with local knowledge can anchor, in 6.7m, sheltered from all but SW to W winds, in the cove close N of Emberley Point. Depths decrease rapidly from about 2 miles N of North Harbor Point to the head of the harbor.

Baker Cove lies between North Harbor Point and Baker Point, about 1 mile NW. Vessels with local knowledge can anchor in the cove W of Baker Cove, in 8.2 to 16.4m, sand, during offshore winds. Rocks, which dry, extend a short distance off the SE entrance point of cove.

Placentia Mans Point lies about 1.5 mile NW of Baker Point. Vessels with local knowledge can anchor NW of Placentia Mans Point; however, large vessels should not bring Bloody Point (47°51'N., 54°11'W.) to bear less than 239°, because the depths farther NW shoal rapidly from 26 to 7m.

Caution.—A submarine cable is laid between Placentia Mans Point and Shepherd Point, about 0.4 mile S.

4.54 Sound Island (47°49'N., 54°10'W.), which rises to hills, 110 to 140m high, lies in the extreme NW end of Placentia Bay. The island is covered with moss, and there are patches of small trees in the valleys. Its SE coast is composed of shale cliffs, the debris from which has accumulated at the base and prevents landing except in good weather. Brimstone Point, the E extremity of the island, lies 1.5 miles W of North Harbor Point.

Net Rock, 0.6m high, is located 0.4 mile SSW of Brimstone Point; its side is steep-to. Sound Island Point, the S extremity of the island, lies 2.35 miles SSW of Brimstone Point.

Upper Sandy Point (47°48'N., 54°12'W.), the SW extremity of Sound Island, rises to a hill 36m high, covered with yellow moss. Bloody Point, the N extreme of Sound Island, is steep-to and rises to a dark, wooded hill.

Maggotty Cove (47°50'N., 54°09'W.) affords good anchorage to small vessels with local knowledge, in 5.5 to 21.9m. **Sugarloaf Islet** (47°46'N., 54°13'W.), lying off the W side of the head of Placentia Bay, should be given a berth of at least 0.1 mile.

Directions.—Shag Rock (47°46'N., 54°13'W.), open NW of Sugarloaf Islet and bearing 037°, are clearing marks which lead W of La Plante Sunker (47°45'N., 54°14'W.).

Shag Rock, open SE of Sugarloaf Islet and bearing 015°,

leads E of La Plante Sunker.

4.55 Woody Island (47°46'N., 54°11'W.), thickly wooded with a mixed forest, is the largest and highest of the Woody Islands with an elevation of 100m. Holletts Point, its NE extremity, lies 0.4 mile W of Sound Island Point.

Little Woody Island lies 0.25 mile S of Big Head, the S extremity of Woody Island; it is connected to it by a shallow spit which dries.

Jean Cove (47°47'N., 54°12'W.), on the W side of Woody Island, is shallow, filled with rocks, and fronted by the Creve Islets. The MHW interval at Woody Island is 8 hours; spring tides rise 2m and neap tides rise 1.6m. Small vessels with local knowledge can anchor, in 14.6m, SW of the Creve Islets.

Anchorage.—The channel between Sound Island and Woody Island affords good anchorage for vessels, in depths of 12.8 to 32.9m. A new anchorage area (2011), designated H1 and H2, has been established E of Sound Island and centered at 47°47.8'N., 54°07'W. From a central position of 47°45.7'N., 54°07.0'W., the existing two way route has been extended on bearing 235° for approximately 2 miles to the SW corner of the newly established H1 and H2 anchorage. The two way route is approximately 900m wide.

A mooring buoy is situated about 0.2 mile SE of Upper Sandy Point.

4.56 Cape Saint Mary's (46°50'N., 54°12'W.) has the appearance of a high tableland from a short distance seaward. A conspicuous gamet roost shows white on the cliffs near False Cape, about 0.8 mile E of Cape Saint Mary's.



Courtesy of Newfoundland Photo Gallery
Cape Saint Mary's

Caution.—In the area off Cape St. Mary's and False Cape, a marine reserve extends W from Brierly Cove for about 3 miles and continues S and E to a point about 2 miles S of Redland Point. Vessels longer than 20m are not permitted in the reserve.

Saint Mary's Cays (46°43'N., 54°13'W.) are two small rocks, which dry 2m, located 6.5 miles S of Cape Saint Mary's. The sea generally breaks on these cays and on the shoal bank surrounding them, over a distance of about 0.4 mile.

False Cay, a rock with a depth of 4.9m, lies about 1.3 miles NNE of St. Mary's Cays.



Cape St. Mary's Light

Lance Cove is entered between Bull Island Point, 4 miles ESE of Cape Saint Mary's, and Point Lance, nearly 2 miles ESE.

Bull and Cow, black slate rocks, 9m high, lie about 1.3 miles S of Bull Island Point. Delaney Rock, with a depth of 0.6m, lies about 1 mile SSE of the same point. The Sunker, which dries 1.5m, lies about 0.4 mile S of the same point. Lance Rock, with a depth of 3.4m, lies about 1.5 miles S of Point Lance.

Saint Mary's Bay

4.57 Saint Mary's Bay is entered between **Point Lance** (46°47'N., 54°04'W.) and Western Head, about 20 miles ESE.

Ice.—Saint Mary's Bay fills with ice during S and SW winds; NE winds clear the bay and drive the ice W.

Winds—Weather.—Fog is much less frequent at the head of Saint Mary's Bay than at the entrance and the climate is better.

Tides—Currents.—The flood current sets into and the ebb sets out of Saint Mary's Bay at a velocity of about 0.5 knot in a general NNE and SSW direction, respectively. The flood and ebb currents are slightly stronger on the E and W sides of the bay, respectively.

Saint Mary's Bay—West Side

4.58 From Point Lance, the W side of the bay trends 11 miles NE to Red Head. Branch Head, a steep bluff, 79m high, lies 6.35 miles NE of Point Lance. Hare's Ears, two rocks, 12m high, lie close off Branch Head.

Branch Cove (46°52'N., 53°57'W.) lies close NE of Branch Head. The Branch River empties into the head of the cove. A bridge and causeway cross the river near its mouth.

Red Cove Rock (46°50'N., 53°56'W.), with a depth of 7.6m, lies nearly 2 miles S of Branch Head. Red Head Rock, with a

depth of 7m, lies about 2 miles SE of Red Head.

Saint Mary's Bay—East Side

4.59 Cape English (46°47'N., 53°40'W.), a precipitous 101m high bluff, has the appearance of an island from the S.

Lizzy Point (46°57'N., 53°32'W.) and **Double Road Point** (46°56'N., 53°35'W.), at Saint Mary's Harbor, in line bearing 054°, lead NW of Bank Rock and **Greet Rock** (46°53'N., 53°40'W.).

If the above-mentioned clearing marks are obscured, vessels should not approach Bank Rock or Greet Rock within depths of 73m.

4.60 Saint Mary's Harbor (47°07'N., 53°35'W.) is entered between Double Road Point and North Point, about 1 mile NE.

Ice.—Ice in Saint Mary's Harbor is generally thin and seldom thick enough to interfere with anchorage; the harbor is often accessible when anchorage is not available at Trepassey Harbor. Winds E of ENE fill the harbor with ice which is packed by S winds; NE winds clear the harbor.

Tides—Currents The MHW interval at Saint Mary's Harbor is 7 hours 40 minutes; spring tides rise 2.3m and neap tides rise 1.5m.

Anchorage.—Fair anchorage is available, in 10.9m, sandy bottom, off Saint Mary's Village, with a church bearing 185°; however, a heavy ground swell is occasionally experienced. The best shelter, in 12.8m, mud bottom, is located off Lizzy Point.

Caution.—Coalpit Shoal lies 0.25 mile W of the above anchorage and has a depth of 5.5m. A depth of 5.5m lies 0.25 mile NE of the anchorage.

4.61 Mal Bay is entered between North Point and **Frapeau Point** (46°57'N., 53°38'W.), about 2 miles W. Anchorage is available, in 10.9m, near the head of the bay.

Shoal Bay, close W of Mal Bay, should not be entered because it is open to the prevailing winds.

Mother Hicks Cove (47°01'N., 53°41'W.), which indents the N side of Great Colinet Island, affords shelter from S winds.

Colinet Passage leads between Great Colinet Island and the mainland E. The passage is clear of dangers with the exception of a rock, awash, close offshore, about 0.4 mile NNE of **Shoal Bay Point** (46°59'N., 53°39'W.).

Admirals Beach, a shingle spit, extends 0.15 mile NW from the shore, nearly 1.5 miles NNE of Shoal Bay Point. A blue building, the marine service center, is conspicuous. An L-shaped public wharf lies close E of the service center; it extends 52m from the shore and has a depth of 5.1 alongside. Shelter from SW winds has been obtained in the lee of this spit.

Caution.—Ruins of an old wharf lie about 35m SE of the NE end of the outer part of the public wharf.

Saint Mary's Bay—Head

4.62 Salmonier Arm is entered between **Salmonier Point** (47°06'N., 53°34'W.) and Haricot Point, about 1.5 miles NNE.

A church stands on the S side of the inlet, about 2.3 miles ENE of Salmonier Point. Little Harbor, suit-able only for fishing vessels, indents the shore about 1.5 miles ENE of the church.

Spring tides rise 2.2m; neap tides rise 1.2m.

Kerwan Point is the N extremity of a sandy spit which extends about 0.4 mile N from the S entrance point of Little Harbor. Shoal flats extend about 0.2 mile off the W side of this spit. Cox Point lies on the NW shore of the inlet, about 0.5 mile WSW of Kerwan Point. A sand spit lies on shoal flats which extend about 0.2 mile SE from Cox Point. Bluff Head, on the SE shore of the inlet, lies about 1.8 miles NE of Kerwan Point, with Cross Point between them.

Anchorage.—Anchorage can be taken, in 16.4m, mud, about 0.2 mile NNW of a church or, in 10.9m, NE of Cox Point.

4.63 Colinet Harbor is entered between **Pinchgut Point** (47°09'N., 53°35'W.) and the mainland, about 1 mile W. Back Point lies about 2.5 miles NNE of Pinchgut Point. Back Shoal, with depths of less than 5.5m, extends 0.25 mile offshore from a position about 0.3 mile SSW of Back Point. Half Island lies on foul ground which extends 0.2 mile off the NW shore of the harbor, about 0.5 mile NW of Back Point. Davis Point lies on the NW shore of the head of harbor, about 1.5 miles NE of Half Island.

Anchorage is available, in 12.8m, mud, about 0.2 mile N of Back Point. Small vessels can take fair anchorage off Johns Pond, close W of the W side of the entrance.

Davis Point, open SE of Half Island and bearing 028°, are clearing marks which lead NW of Back Shoal.

North Harbor is entered between North Harbour Point, about 4 miles SW of Pinchgut Point, and Jonas Point, about 1 mile farther SW. Anchorage is not recommended for large vessels because the harbor is open to the prevailing SW winds. Small vessels can take safe anchorage, in 5.5m, sheltered by a shingle beach, off the mouth of the Flinn River on the W side of the harbor, about 4 miles within the entrance.

Caution.—A submarine cable crosses Salmonier Arm, about 1.3 miles upstream from Cox Point. An overhead cable, with a least vertical clearance of 6.7m, crosses the upper end of Salmonier Arm near.

Many shipwrecks have occurred in the vicinity of Saint Shotts Cove, principally on **Eastern Head** (46°37'N., 53°36'W.). These wrecks have occurred, in most cases, because of negligent sounding or inattention to the currents during foggy weather.

Trepassey Bay

4.64 Trepassey Bay (46°40'N., 53°20'W.) is entered between **Cape Pine** (46°37'N., 53°32'W.) and Freshwater Point, about 13 miles E. The light on Cape Pine is visible from Saint Mary's Bay because the intervening land is low.

Ice.—Northeast winds clear Trepassey Bay of ice; winds E of ENE fill the bay with ice, and S winds pack it.

Caution.—Vessels have been wrecked on the E side of Trepassey Bay because of the combined action of tidal currents and indraft. This combination, at times, causes an E current with a drift of as much as 2 knots.



Cape Pine Light

Trepassey Bay—Head

4.65 Biscay Bay lies on the E side of the head of Trepassey Bay. Vessels can take anchorage in the middle of Biscay Bay, in 9.1m, sand, during offshore winds.

Trepassey Harbor (46°44'N., 53°24'W.), a very small natural harbor, lies on the W side of the head of Trepassey Bay, about 15 miles WNW of Cape Race. The harbor is entered between **Powles Head** (46°42'N., 53°24'W.) and the shore, about 1 mile W.

Ice.—During winter, if the ice is heavy on the E coast of Newfoundland blocking Saint Johns and the E harbors, Trepassey Harbor can be safely entered because it is only occasionally blocked by drift ice, which arrives about May 1 and leaves about May 10. The last vessel usually leaves Trepassey Harbor about the end of December.

Tides—Currents.—The MHW interval at Trepassey Harbor is 7 hours 37 minutes; spring tides rise 1.8m and neap tides rise 1.6m. The tidal currents attain velocities of 0.5 knot.

Depths—Limitations.—The entrance channel has depths of 9.1 to 12.8m. Depths in the anchorages are 9.1 to 12.8m. There is a Public Wharf at Trepassey located on the E side of the harbor, 86m in length, with depths of 2.3 to 4.7m alongside the

outer 66m; a light is shown from a mast on the outer end. Another wharf is located on the N side of Meadow Point; it is 87m in length with a depth of 3.9m alongside. Caution is advised as the easternmost 15m section of the wharf nearly dries. A pier extending from the W end of this wharf was in disrepair in 2006. A dolphin, in ruins, from a former oil berth lies close N of the former fish plant wharf.

Aspect.—Trepassey Harbor Light is shown from a circular tower situated on Beach Point, at the NW extremity of the Powles Peninsula.

A church, nearly 1 mile NE of Beach Point, is a conspicuous white building with a green roof and a small white cross.

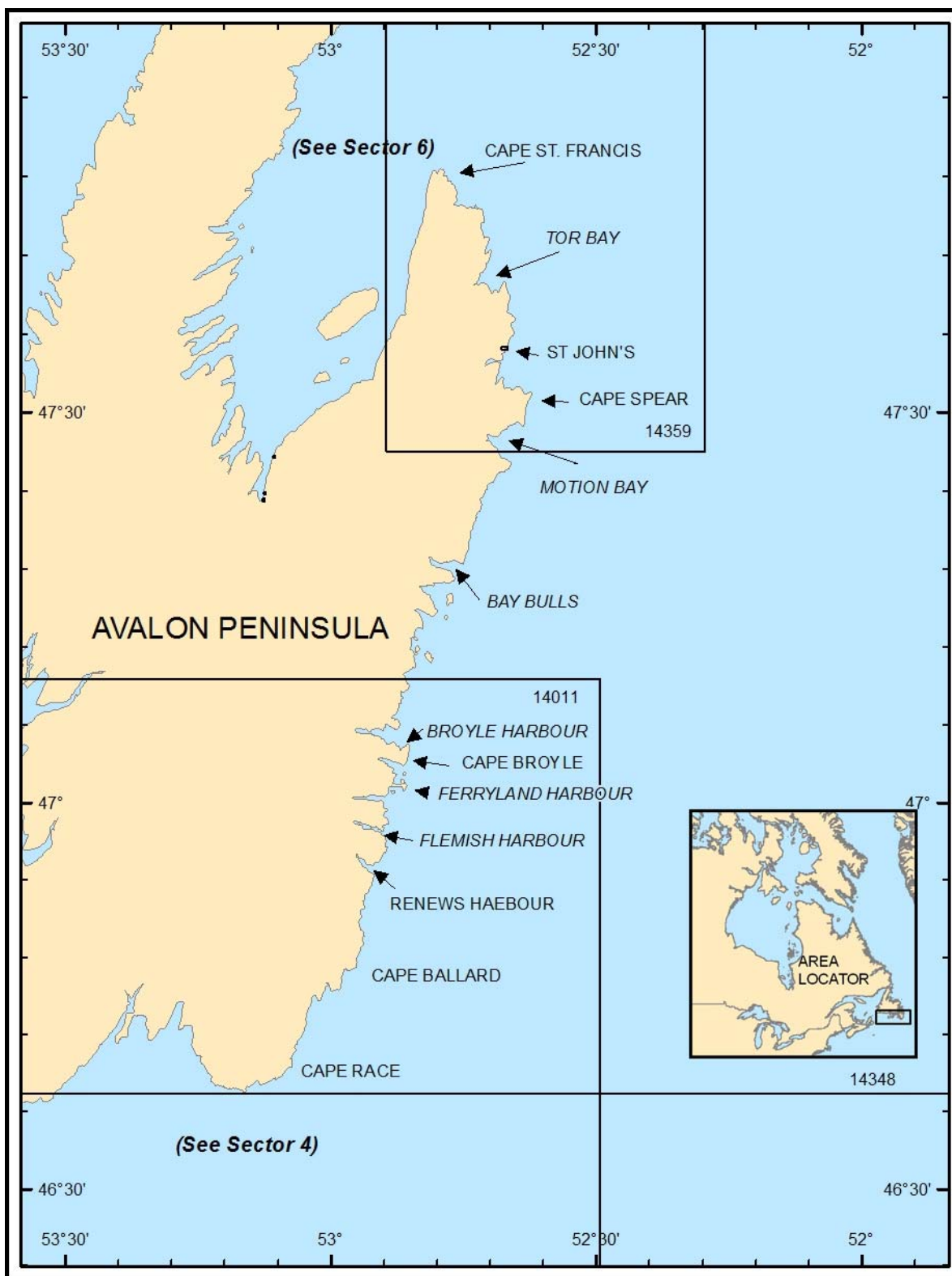
Pilotage.—Fishing vessels from Trepassey Harbor are nearly always in the offing; the fishermen are generally qualified to act as pilots. Pilotage can also be arranged through Fishery Products, Ltd.

Anchorage.—Sheltered anchorage is available, in 10m, mud, about 0.4 mile NNE of Beach Point, with Beach Point Light bearing 208°. The best anchorage, in 10m, mud, lies about 0.3 mile N of Meadow Spit and is completely land-locked.

Caution.—The NW side of Trepassey Harbor is fronted by shoals as far as 0.4 mile offshore in places. Shoals also front the SE side of the harbor. A narrow channel, with depths of from 9.1 to 10.9m, leads between these shoals. Savadown Rock lies 45m off the SE side of the harbor, about 1 mile NNE of Powles Head. A wreck lies 0.35 mile S of Powles Head. Skinner Rocks lie close off the NW side of the harbor, about 1.3 miles N of Powles Head. Beach Point, the NW extremity of the Powles Peninsula, lies about 2.3 miles NNE of Powles Head.

4.66 Meadow Bank, at the N end of the shoals fronting the NW side of the harbor, has depths of 0.9 to 3.6m and extends about 0.1 mile offshore in the vicinity of Meadow Point. Meadow Spit, which dries, extends 90m from Meadow Point, about 3 miles NNE of Powles Head. Emerald Shoal, with a least depth of 3.3m, mud, sand, and stones, lies about 0.2 mile off the SE side of the harbor abreast Meadow Point. A lighted buoy is moored close W of Emerald Shoal.

Mistaken Point (46°38'N., 53°10'W.), about 2.3 miles E of Freshwater Point, is a green hummock rising 28m over slat cliffs. A cairn on the point is a good mark in foggy weather.



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

SECTOR 5 — CHART INFORMATION

SECTOR 5

NEWFOUNDLAND—EAST COAST—CAPE RACE TO CAPE ST. FRANCIS

Plan.—This sector describes the E coast of Newfoundland from Cape Race N to Cape St. Francis (47°48'N., 52°48'W.).

General Remarks

5.1 Winds—Weather.—On the Grand Banks, during the winter months, the W winds have a mean force of Beaufort Scale 5. West to NW winds are the strongest. East winds average Force 4, with NE and SSE winds being the strongest.

The mean annual percentage of gales on the Grand Banks is 5 or 6 per cent, with a maximum of 10 to 16 per cent in winter, and a minimum of 1 per cent in late spring and summer. Occasionally, gales of Force 9 or 10 occur during summer and may be attributed to tropical cyclones which have progressed to higher latitudes.

The Grand Banks area is one of the largest and most persistently foggy areas of the world. Sea fogs are most common during May, June, and July, because warm, moist SW winds from the Gulf Stream prevail during that period. The cooling of this air by the cold waters of the Labrador Current produces dense sea fog on the Grand Banks.

On the E coast of Newfoundland, fog is brought in by NE and E winds during May, June, and July. The fog rarely extends far inland in summer and in sheltered, landlocked harbors, there is usually much less fog than at sea. At Cape Race, the average number of days with fog from May to July is 51, while in St. John's Harbor it is only 15.

When fog is generally over the open sea, and the wind is offshore, there may be either a gap between the shore and the fog, or the fog may be thinner; the more hilly the land, the more marked will be the improvement in visibility. During late spring and summer, there is often an improvement in the visibility close leeward of the land during late morning and afternoon when the land is its warmest. During SW and light SE winds, it often happens that when approaching the coast, especially in the lee of a point, a vessel will seem to suddenly emerge from the fog and the coastal features then become distinctive.

The Labrador Current widens as it sets S at a rate of less than 1 knot off the E coast of Newfoundland, passing over the whole of the Grand Banks in all seasons, except the Tail of the Bank in July.

A major branch of the Labrador Current continues S down the E edge of the Grand Banks, carrying ice into the trans-Atlantic shipping lanes. A berg was observed in April drifting down the E edge of the Grand Banks at a rate of 1.5 knots. Another branch follows the coast of the Avalon Peninsula and rounds Cape Race. From here, the set is primarily SW at a rate of less than 1 knot, but often varies subject to the influence of the wind and tide.

The line of convergence of the Gulf Stream and the Labrador Current, known as the Cold Wall is most sharply defined at the Tail of the Bank; here the two currents present a remarkable contrast. The waters of the Labrador Current are olive green,

and those of the Gulf Stream are indigo blue. A temperature change from 40°C to 0°C has been recorded here in less than a ship's length. Along the convergence, water from the Labrador Current recurves E to flow parallel to the N edge of the Gulf Stream, gradually losing its identity through mixing processes.

The Labrador Current sets SW off this section of the coast with a greatest observed velocity of 1.1 knots. It is not unusual for this current to be so disturbed as to set across its ordinary direction, or even to be reversed on the surface. When such disturbance occurs, it is usually for a short time immediately preceding a gale. The velocity fluctuates with the tidal currents; during the flood current it decreases. Close inshore, the flood current sets SW and the ebb current sets NE.

On Bantam Banks, the current is reported to set S or SSW in good weather. It is strong during the flood, but may set weakly in the reverse direction during the ebb. On Ballard Bank, the current is similar, but the tidal currents have less influence. On either of these banks, any decided reversal of the usual set of the current is a sign that foul weather is approaching, and this is known to have occurred previous to a NE wind. After the NE wind begins, the current again sets SW.

When the current sets strongly SW along the coast between Cape St. Francis and Cape Race, a strong countercurrent sets N as far as 1 mile offshore, SW of Cape Spear.

North of Cape Spear, the flood current is NE and retards the Labrador Current which is usually SW; the ebb current sets SW and accelerates the Labrador Current.

Ice.—Along the E edge of the Grand Banks, icebergs are usually sighted late in February or early in March, and the season lasts until the middle of July. May is the most dangerous month for shipping. Bergs are at a minimum during November, December, and January. The Labrador Current carries the bergs from the Arctic to the Tail of the Bank, then their drift depends on the complex and variable currents along the convergence of the Labrador and Atlantic currents. Between 42°N and 45°N, and 47°W and 52°W, the Gulf Stream and the Labrador Current converge and the movement of ice is influenced sometimes by these currents.

Hundreds of bergs ground on the N part of the Grand Banks and disintegrate. Ultimately, the majority of the remaining bergs reach the N edge of the Gulf Stream, which carries them E or NE, where they enter the final stage of disintegration. Occasionally, during a bad ice year, a berg is borne S by the eddies of the Gulf Stream and in exceptional cases have been reported as far S as the latitude of Bermuda.

During the months of July through December, the Grand Banks are entirely free of pack ice. The pack ice carried S in the Labrador Current usually reaches the Grand Banks in January. On the average, pack ice extends farthest S in March and April, down the E edge of the bank. Although the pack tends to scatter in the open Atlantic, the ice retains considerable strength, and navigation on the Grand Banks may be impeded as far S as 45°N. South of this latitude, the pack begins to break up and it is mostly destroyed before reaching the Tail of

the Bank, around which it seldom works W. In extremely unfavorable ice seasons, dangerous floes extend to the Tail of the Bank and even S of it.

When approaching the coast of Newfoundland from the E, upon encountering ice, the vessel should evade the ice to the S, working W only as open water is found. Vessels should be wary of blind leads and keep well off the ice at night and in poor visibility. There is usually an open lead between the E coast of Newfoundland and the ice, extending at least as far as St. John's except during periods of E or SE winds when the coast is unapproachable. The mariner is warned that such shore leads can close very rapidly with a shift in wind.

Northern ice arrives late in February and leaves early in April. In February and March of an average year, the E coast of the Avalon Peninsula is sometimes blocked for long periods by close-packed ice, forming an impenetrable barrier, pressed tightly against the shore by a continuance of E winds. In April, the ice is navigable by ordinary vessels and there are large areas of open water. Except during periods of E or SE winds, when the coast is unapproachable, there is usually an open lead between the E coast of the Avalon Peninsula and the ice, extending N at least as far as St. John's.

Ferryland Harbor freezes at intervals, generally during the first 10 days of February, sometimes freezing for only a day. The ice, however, never forms during strong NW winds. Winds from between the WSW and S break up the ice and clear the harbor. Drift ice sometimes remains as late as the end of June. Northeast winds fill the harbor with drift ice which clears out when the wind shifts SW. Northern ice arrives late in February and dissolves early in April.

The harbors of Renew's, Fermeuse, Aquaforte, Broyle, and Bay Bulls, fill with ice and clear about the same time as Ferryland Harbor.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

The Grand Banks

5.2 The Grand Banks (Great Bank of Newfoundland) as defined by the 183m curve, extend as far as 230 miles E of Cape Race, Newfoundland, and about 350 miles N from the **Tail of the Bank** 42°52'N, to 48°40.1'N. The W limit is formed by Saint Pierre Bank which gives the Grand Banks a maximum width in an E-W direction of about 411 miles. The Grand Banks consist of a submarine plateau rising abruptly from ocean depths to general depths of less than 92m. The central part is quite even, but a number of isolated soundings, shallower than the surrounding depths, exist between the central part of the banks and the 2,000m curve. The chart should be studied with care and such isolated soundings should always be avoided as there is no knowing how closely the spot may have been examined.

Green Banks lie S of the Avalon Peninsula and are a part of the Grand Banks. The general depths are irregular from 55 to 92m. This bank has a least depth of 18m, over a wreck, in position 45°46'N, 54°19'W.

Saint Pierre Bank, the W edge of the Grand Banks, is separated from Green Banks by a deep channel and has general depths of 37 to 92m.

Burgeo Bank, a detached bank with a least depth of 50m, lies about 23 miles NW of Saint Pierre Bank.

Caution.—Vessels traversing the Grand Banks should bear in mind that **Virgin Rocks** (46°25'N., 50°49'W.), with a least depth of 4.3m, and **Eastern Shoals** (46°27'N., 50°28'W.), which lies about 13.5 miles E of Virgin Rocks and has a least depth of 14.3m, are the only dangers whose exact positions have been verified. Isolated soundings, shallower than the surrounding depths, should be avoided as there is no knowing how closely the spot may have been examined. Depths of 28m or less on the Grand Banks should always be regarded as dangerous to navigation, especially by deep-draft vessels, and should not be approached by vessels without taking special precautions. In heavy weather, the sea is reported to break over the patches with depths of 24m or less.

A depth of 26m is charted about 1.5 miles SE of Virgin Rocks in position 46°28'N, 50°46'W.

Flemish Cap is a detached bank lying about 90 miles E of the Grand Banks, from which it is separated by the relatively deep Flemish Pass. There is a least depth of 126m on the Flemish Cap.

Mariners are advised that large concentrations of fishing vessels may be encountered anywhere on the Grand Banks, especially during the periods and in the areas indicated:

1. From April to December, in areas bounded by 43°N and 48°N, and longitudes 49°W and 55°W.
2. From December to April, in areas N of 48°N, N to the S limits of ice, and extending E from the coast to about 48°W.
3. During the period July to October, large concentrations of small fishing vessels may be found in the vicinity of Virgin Rocks.

Vessels proceeding through areas of the Grand Banks are advised to navigate with extreme caution in order to avoid vessels engaged in fishing.

The Grand Banks—Offshore Oil Structures

5.3 The Hibernia Gravity Based Structure (46°45'N., 48°47'W.) is now permanently installed. Two Offshore Loading System Bases are being installed about 1 mile E and ESE, respectively, of the Gravity Based Structure. All vessels not engaged in operations within these facilities should remain clear of this area and navigate with caution in this vicinity.

The **Terra Nova Floating Production Storage and Off-loading Vessel (FPSO)** (46°28'31.8"N., 48°28'51.6"W.) is located about 20 miles SE of the Hibernia Gravity Based Structure. Three traffic control zones, subject to Canadian law, have been established to protect the FPSO vessel, the Mobile Offshore Drilling Units (MODU), and any surface and subsurface installations associated with the Terra Nova Field from collisions with other vessels. Vessels approaching the area must contact the Terra Nova FPSO or MODU on either VHF channel 16 or GMDSS. The three traffic control zones are, as follows:

1. **Zone 1.**—A Precautionary Zone, with a radius of 10 miles, centered on the above position of the FPSO. Prior to entering the Precautionary Zone, vessels must advise the FPSO or MODU of their position, course, and intention to pass through the area. Vessels are not permitted to approach with-



Hibernia Gravity Based Structure

in 5 miles of the FPSO or MODU, except as described in Zone 2 and Zone 3 below.

2. **Zone 2.**—A Safety Zone, with a radius of 5 miles, centered on the above position of the FPSO. Vessels wishing to enter the Safety Zone, including Terra Nova support vessels and fishing vessels, must obtain permission from the FPSO or MODU. At the termination of the visit, vessels must advise the FPSO or MODU when clear of the Safety Zone. Vessels are not permitted to approach within 3 miles of the FPSO or MODU, except for Terra Nova support vessels or fishing vessels operating with FPSO approval.

3. **Zone 3.**—A Fisheries Exclusion Zone, bound by lines joining points lying 500m from the four active Terra Nova drilling centers, as follows:

- a. 46°29'39.0"N, 48°29'30.0"W.
- b. 46°29'33.0"N, 48°27'17.4"W.
- c. 46°27'30.6"N, 48°30'12.0"W.
- d. 46°27'06.0"N, 48°27'24.6"W.

Fishing vessels are prohibited from fishing in or passing through the Fisheries Exclusion Zone at any time or within 50m of the MODU anchor pattern.

Precautionary Area in the Region of the Grand Banks of Newfoundland.—In order to reduce the risk of a marine casualty and resulting pollution and damage to the environment, all ships not involved in the oil-related activities being conducted within the area, should navigate with particular caution in the area having a 10-mile radius centered on position 46°28.53'N, 48°28.86'W. Ship movement in the area is monitored on a 24-hour basis. Any ship planning to transit the precautionary area is advised to contact the Terra Nova FPSO on VHF channel 16 and to comply with the instructions give while transiting the area.



Oil Platforms—General Locations

Cape Race to St. John's Harbor

5.4 Cape Race (46°39'N., 53°04'W.) is the SE end of Newfoundland. It has a barren appearance and is faced with cliffs, 30 to 46m high, formed of slate in nearly vertical strata. The land rises gradually, and from 10 to 12 miles to the N are the Red Hills, a rocky range about 213m in elevation. A detached wedge-shaped rock, 10m high, lies close to the SE extremity of the cape. A wreck, with a depth of 10.9m, lies sunk about 0.7 mile NE of Cape Race.

Lighted Bell Buoy MCR2 is moored about 1 mile S of Cape Race.



Cape Race Light

Ballard Bank (46°41'N., 52°51'W.) is situated about 8 miles E of Cape Race. It is about 11 miles long and runs almost parallel to the coast. The least depth is on the N part over Tommy Rock at a depth of 14.9m. Pig Bank, with a least depth of 25.3m, lies about 4.5 miles S of Cape Race.

Ice.—Ice may be seen off Cape Race from March to July. Field ice is often encountered, with the earliest recorded arrival of northern ice at Cape Race being mid January and the latest, mid April.

Caution.—Vessels approaching Cape Race should sound frequently and compare the soundings with the chart.

5.5 Chance Cove (46°46'N., 53°01'W.) is a small open bight about 1 mile W of Chance Cove Head. The cove affords anchorage to small vessels during NE winds, in 7.3m, sand. Black Rocks, 6m high, lie in the entrance of the cove, about 0.5 mile offshore.

Chance Cove Head, to the N of Chance Cove, has dark slate cliffs, 46m high. A tower, mared by red lights, is situated about 8 miles W of Chance Cove Head.

Cape Ballard (46°47'N., 52°57'W.) lies E of Chance Cove. The cape rises abruptly to an elevation of 91m. It has a bare round summit. The land falls away on either side of the cape.

Renews Island (46°56'N., 52°55'W.) is low and rocky. It is separated from the coast by a narrow boat channel.

Renews Rocks (46°52'N., 52°54'W.) a group of rocks 1.8 to 3m high, lie about 1.5 miles offshore and 2 miles SSE of Renew Head.

Renews Harbor is entered between Sculpin Point and Renew Head. The harbor is used by small boats. It affords only mediocre anchorage, as in heavy weather the entire harbor is a mass of breakers. Approach is best made along the south shore of the harbor, due to the numerous rocks and shoals extending to 0.25 mile S of Northern Head.



Renews Harbor

The community of Renew is situated on the NE side of the harbor. An L-shaped public wharf, with a length of 70m and alongside depths of 1.9 to 3.2m toward the NE end, is located in the vicinity of Anchor Rock. Several small wharves and a slipway used by local boats are located at the NW end of the harbor. Entrance to the area is through a buoyed channel.

5.6 Bear Cove Point (46°56'N., 52°53'W.) is a conspicuous feature. A rock, with a least depth of 3.7m, lies about 0.2 mile SE of the point. Sunker Rock, with a depth of 1.2m, lies about 0.2 mile SSW of the S extremity of the same headland. A

light is shown from the point.

Fermeuse Harbor is entered between Bear Cove Point and Northern Head, about 1.5 mile NNW. The tidal currents set in to Fermeuse Harbor on the flood and out on the ebb; the maximum velocity is about 0.5 knot. The safest anchorage for small vessels, in 10.9m, lies NW of Sheeps Head near the head of the harbor. Blow-Me-Down Head, about 1.3 miles WNW of Bear Cove Head, bearing 285° and open N of Traces Point, a little more than 0.5 mile NW of Bear Cove Head, leads N of Mad Rock, which lies about 0.5 mile NW of Bear Cove Head.

The community of Port Kirwan is situated on the shores of a small cove on the N shore of the harbor, about 0.6 mile WNW of Northern Head. The cove provides anchorage for small vessels. A church with a spire stands in the settlement. An L-shaped public wharf extends 44m from the shore to an outer end of 50m long. Fresh water is available. Depths alongside the outer section range from 5.2 to 9.9m. A slipway is located on the W side of the public wharf.

Caution.—A rock, marked by a buoy, is located about 168m SE of the outer end of the public wharf at Port Kirwan.



Port Kirwan

The community of Fermeuse is located at the head of Fermeuse Harbor. A church with a spire stands in the community. A visible wreck lies about 0.5 mile SW of the public wharf at Port Kirwan.

5.7 Bald Head (46°58'N., 52°54'W.) is a conspicuous headland. Aquaforte Rocks, awash at low tide, lie about 0.2 mile N of Bald Head. Clear Cove Rock, 1m high, lies close S of the head.

Aquaforte Harbor is entered between South Head (47°00'N., 52°54'W.) and North Head, about 0.4 mile N. Spurwink Island 20m high and steep-to, lies close N of South Head.

The tidal currents set in on the flood and out on the ebb, at a maximum velocity of about 0.5 knot.

Anchorage.—Little sea or swell finds its way up the harbor except during heavy E gales. Good anchorage can be obtained, in 15m, mud, abreast the E of two chapels, standing about 2.5 miles W of North Head. From a position on the coastal track abreast Aquaforte Harbor, vessels make directly for the entrance.

5.8 Ferryland Head (47°01'N., 52°52'W.), 44m high, is connected with the mainland by a narrow isthmus. A light is shown from the SE extremity of the head.



Ferryland Light

Hares Ears are two conspicuous 27m high rocks lying close E of the SE extremity of Ferryland Head.

Ferryland Harbor is entered between the N Side of Ferryland Head and Bois Island, about 0.1 mile N. Burn's Head Rock, with a depth of 5.2m, lies close SW of Ferryland Head. Two churches, which are conspicuous, stand about 0.4 mile and 0.6 mile SSW, respectively, of **Coldeast Point** (47°02'N., 52°53'W.).

The best anchorage, in 18.3m, mud and sand, is near the head of the harbor. The holding ground is good except in strong E gales, when a considerable swell enters at HW across the reefs on the NE side. The harbor is easy to access. From a position on the coastal track abreast the harbor, vessels make directly for the entrance. An L-shaped public wharf, 46m long and 7.7m wide, extends from the S shore; it has an alongside depth of 5.7m on its outer face.

Caution.—A shoal bank extends about 150m N of a point located about 0.15 mile E of the public wharf.

Calvert Bay is entered between Coldeast Point and the S extremity of Cape Broyle, about 1 mile NE. The holding ground is good, but it is exposed SE and is recommended only for temporary anchorage. Hares Ears, bearing 155° and open NE of **Bois Island** (47°02'N., 52°52'W.), leads NE of the dangers off Coldeast Point and SW of **Goose Island** (47°02'N., 52°52'W.).

5.9 Cape Broyle (47°04'N., 52°51'W.) is a conspicuous wooded headland.

Directions.—Cape Broyle Harbor is entered between **North Point** (47°04'N., 52°51'W.) and Brigus Head, about 1.8 miles NNW. The tidal currents set into the harbor on the flood and out on the ebb; the maximum velocity is about 0.5 knot.

Ice.—Ice from the N arrives late in February and leaves early in April. Cape Broyle Harbor is open E and affords anchorage only in good weather.

Depths—Limitations.—An L-shaped public wharf on the N

shore has an outer end, 28m long, with a depth of 4.4m along-side its outer face.

Anchorage.—Anchorage may be obtained about 0.2 mile W of Carrier Point, 2.25 miles W of Brigus Head, in 12.8m, mud. In good weather, anchorage may be obtained in Admirals Cove, 1.5 miles W of Brigus Head, in 20.1m, mud, but this anchorage is more exposed than that W of Carrier Point.

Directions.—From a position on the coastal track abreast the inlet, vessels make directly for the entrance. Carrier Point, in line with a rocky hill at the head of the inlet, leads very close S of Saturday Ledge, 1.75 miles W of Brigus Head.

5.10 Brigus Head is a headland, 85m high. A church, visible from seaward, stands on the shore at Brigus, which is a boat harbor lying on the N side of Brigus Head.

Offer Rock, with a depth of 13.7m, lies almost 2.5 miles NNE of Brigus Head.

Cape Neddick (47°09'N., 52°51'W.), 3.25 miles N of Brigus Head, is a bluff headland rising to an elevation of 81m.

Great Island (47°11'N., 52°49'W.), bare and 86m high, lying 1.75 miles NNE of Cape Neddick, has cliffs composed of slate, giving a remarkable glare when exposed to sunlight.

Ship Island (Spear Island), 23m high, lies just over 0.5 mile NW of Great Island. Pee Pee Island, 22m high, is located about 0.2 mile S of Ship Island.

Fox Island, 53m high, lies 0.5 mile NNW of Ship Island.

Tors Cove (47°13'N., 52°51'W.) is a fishing station; it is too open to be safe, except during the summer in good weather.

Tinker Point (47°14'N., 52°50'W.) lies 0.9 mile NNE of Fox Island.

Mobile Bay lies close SW of **Witless Point** (47°15'N., 52°48'W.) but does not afford good anchorage. A conspicuous standpipe, about 69m high, stands at an elevation of 129m, about 0.3 mile SW of the head of Mobile Bay.

The channel between the shoals extending from Witless Point and Green Island, 0.5 mile ESE, has a depth of 9.1m. Vessels using this channel should steer in mid-channel with **South Head** (47°00'N., 52°54'W.) in line bearing 020° with the W extremity of **Gull Island** (47°15'N., 52°46'W.).



Gull Island

Witless Bay is entered between Witless Point and South Head, about 3 miles NNE. Gull Island, heavily wooded and 74m high, lies in the entrance to the bay. Both South Head and Gull Island have red cliffs. Witless Bay is exposed and anchorage is not recommended. Temporary anchorage may be



Cape Spear Light

obtained, in 14.6m, sand, about 0.5 mile WSW of Bear Cove Point, which lies 1.75 miles WSW of South Head. On the N side of Witless Bay, about 0.8 mile W of Bear Cove Head, a public wharf extends 87m from the shore with a depth of 4.5m alongside and 7.5m wide on the outer end.

Caution.—A marine reserve surrounds Gull Island, Green Island, Great Island, and Pee Pee Island. Vessels longer than 20m are not permitted in the reserve.

5.11 Bay Bulls is entered between South Head and Columbine Point, about 1.25 miles NE. The bay is exposed E, but there is some shelter in the W part which bends N. After heavy E gales, a ground swell enters the bay but does not endanger shipping.

Ice.—Ice from N arrives late in February and leaves early in April. Bay Bulls is often clear of ice when St. John’s Harbor is filled with it.

Tides—Currents.—Spring tides rise 1.5m; neap tides rise 0.9m.

Depths—Limitations.—Bay Bulls Marine Terminal (BBMT) is a square-shaped terminal, with three berths, extending from the back of the bay. For berthing information, see the table titled **Bay Bulls—Berth Information**.

Anchorage.—Sheltered anchorage, good holding ground, can be obtained near the head of the bay, in 14.6 to 22.0m, mud and sand. The bay is open E, and after E gales a ground swell enters but it is not sufficient to endanger shipping. The head of the bay is protected by a slight bend to the NW of the inner part.

In order to avoid fouling submerged rails of a slipway, anchorage is prohibited within a distance of 120m of the head of East Pier.

Directions.—From a position on the coastal track abreast Bay Bulls, vessels may make directly for the entrance of the bay. After passing Bread and Cheese Rock, vessels should favor the N side of the bay and anchor as convenient. The N side is always better sheltered from the ground swell.

Bay Bulls—Berth Information			
Berth	Length	Depth	Remarks
Bay Bulls Marine Terminal (BBMT)			
No. 1	110m	—	Ro-ro and general cargo. Locate on the SE side of the terminal.
No. 2	90m	—	General cargo. Located on the SW side of the terminal.
No. 3	—	—	Under construction. Located on the NE side of the terminal.

The Spout (47°22'N., 52°43'W.) is a phenomenon caused by the sea being forced through a fissure in the rocks from an underwater cavern and emerging with a loud roaring noise, accompanied by jets of foam. It is conspicuous at HW during a swell and may be distinctly seen from a distance of 3 miles off-shore.

Motion Bay is entered between Motion Head and Noth Head, about 3 miles NNE.

5.12 Motion Head (47°26'N., 52°40'W.) is 21.6m high and rises close within to 46m. Several large boulders are scattered about on the rugged barren land in its vicinity. A conspicuous rock lies close inshore on the S side of Motion Head.

Tinker Hill, 65m high, rises about 0.5 mile SW of Motion Head and is conspicuous. The coast is low in the vicinity of Seal Cove. There are few cliffs but the land is backed by hills.

Watch Hill, 215m high, rises about 1.8 miles W of Motion Head and is conical in shape, with a large boulder on its summit. Horseshoe Cliff, about 2 miles NW of Motion Head, is shaped like a horseshoe. North Head is a rugged headland; an isolated rock, 4.5m high, lies close off this head and is conspicuous from seaward.



Petty Harbor

Within Motion Bay is Petty Harbor. A narrow gully, it has depths from 5.5 to 11m for approximately 0.2 miles within its entrance. The fishing settlement of Petty Harbor stands on its shores. Good anchorage can be obtained off the entrance to Petty Harbor, off Maddox Cove, about 2.8 miles NW of Motion Head, in a depth of about 22m. There is a government jetty in the harbor 37m long and 6m wide, with a depth along-side of 3m.

Maddox Cove forms the head of Motion Bay and is the site of a small settlement where there are some small wharves.

North Head (47°29'N., 52°38'W.) is a rugged headland, 65m high, fringed with shoals having a least depth of 8.5 m over them. An isolated rock close off the headland is 5m high and prominent from seaward.

Between North Head and **Cape Spear** (47°32'N., 52°37'W.) about 2.5 miles NNE, the coast attains an elevation of 98m in a position marked by a small stone cairn, about 1 mile N of North Head. Cape Spear is the easternmost point of land in North America.



The Spout

An aeronautical light is shown from St. John's airfield in position 47°37'N, 52°44'W; because of the hills in the area, normally only the loom of the light is visible from seaward.

5.13 St. John's Harbor—Approaches.—When approaching St. John's Harbor from the E, the bottom is uneven, resulting in irregular depths. Approaching from the S or SE, Cape Spear can be sighted rising steeply to an elevation of 80m, 3.7 miles SE of Cuckold Head. There is a light on the E side of Cape Spear, at an elevation of 71m, shown from a white octagonal tower, 10.7m high. An old light structure stands about 0.1 mile SW of the light.

Tinker Rock, with a depth of 8.8m, lies about 0.3 mile SE of Cape Spear. Old Harry, a rock with a depth of 8.5m lies about 0.4 mile NE of the cape. Old Haman Rock, about 0.5 mile N of Cape Spear, has 10.7m of water over it.

St. John's Bay lies between Cape Spear and South Head, the entrance to St. John's Harbor, 3.3 miles NW. The bay is indented by several small coves on its S side.

Black Head (47°32'N., 52°39'W.) is a bold headland, 127m high, marked by a cairn, about 1 mile WNW of Cape Spear. The headland slopes gradually down to Cape Bay on the E side and to Blackhead Bay on the W side. A church stands at the head of Blackhead Bay, close W of Black Head.

Cliff Point, the W entrance point of Blackhead Bay, shows a square face of cliff to seaward.

Spriggs Point (47°33'N., 52°40'W.), a sharp point with cliffs on both sides, with the land rising gradually to the S, lies about 0.9 mile NNE of Cliff Point. Peggys Bag, about 0.5 mile S of Spriggs Point, has a large pinnacle close to but detached from the cliff.



St. John's Harbor

St. John's Harbor (47°34'N., 52°42'W.)

World Port Index No. 1670

5.14 St. John's is the capital city and the principal port of the Province of Newfoundland. It is situated mainly on the W shore of the harbor. The harbor is small and has a narrow approach but is convenient and secure with excellent holding ground well-sheltered by steep hilly land rising to 230m.

The harbor, whose limit is a line joining Cahill Point and Chain Rock, is normally open day and night throughout the year.

St John's is the center of several important sea fisheries used by the vessels of many nations. It also has facilities for the servicing and supply of the offshore oil industry, an advanced container handling terminal, and a number of local manufacturing industries. The main exports are fish products, iron ore, paper and pulpwood.

St. John's is an organized quarantine station. The quarantine officer is designated as an issuing authority for deratting certificates and deratting exemption certificates. Two large hospitals and many medical and dental facilities, including one fully operational hyperbaric chamber, are located within the city.

Winds—Weather.—Fog is less frequent at St. John's Harbor than farther S. It is stated that although there may be fog in the offing, it is frequently clear inside Cape Spear.

Ice.—Pack ice from the N arrives in St. John's Bay from January to the middle of February and is usually from 0.1 to 0.5m thick. The pack ice leaves about April or May. The prevailing E winds in early spring drives the pack ice onto the coast, and this may often block the approaches to St. John's Harbor in February and March.

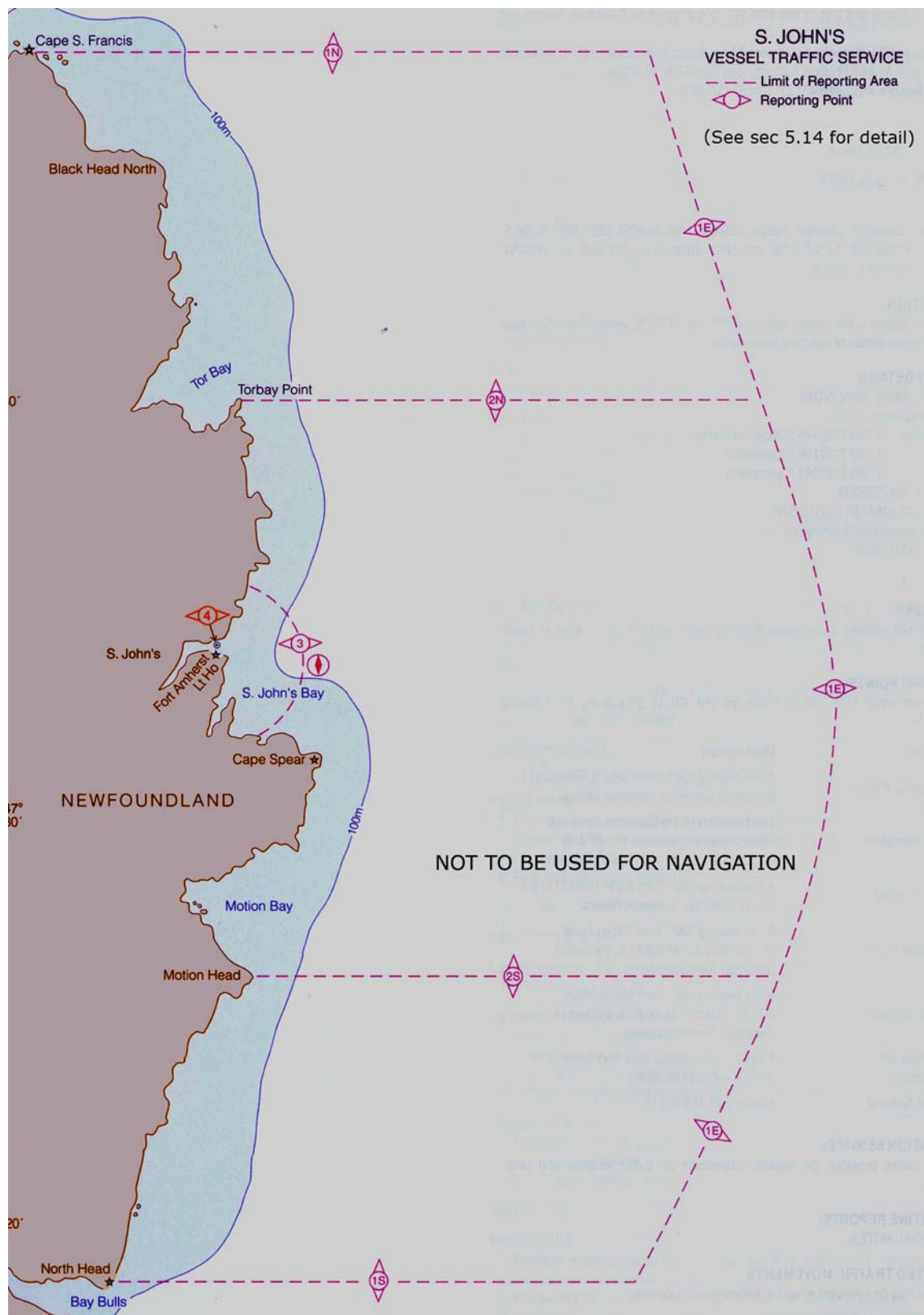
St. John's Harbor is rarely frozen over and in some years no ice is encountered in the harbor. In ordinary seasons, it is seldom closed for as long as 1 week, and the harbor ice disappears about the end of March. At times, even as late as August, icebergs drift into the harbor entrance and more or less block the channels, rendering the passage dangerous.

During periods of strong E, SE, and NE winds, ocean swells have been reported to enter St. John's harbor causing surging alongside its berths. These occurrences are mostly during prolonged late fall and winter storm durations and reported surges to be pronounced along the N and W ends of the harbor.

Tides—Currents.—The MHW interval at St. John's Harbor is 7 hours 12 minutes; spring tides rise 1.4m and neap tides rise 0.9m.

It is reported that the currents are negligible in St. John's Harbor.

Depths—Limitations.—St. John's is entered between South Head and North Head; about 305m apart. The Narrows, with a least depth of 11.8m on the leading lights, leads for about 0.5 mile into the harbor.



St. John's Vessel Traffic Service



St. John's Berth Locations

A vessel of any size, with a maximum draft of 10.7m, can enter and berth in the harbor. The entrance channel is, however, particularly narrow, having a width of 91m. The berthing accommodations in St. John's extend nearly all around the harbor. For berthing information see the table titled **Saint John's Harbor—Berth Information**.

Aspect.—Signal Hill, which rises to an elevation of 152m, is 0.3 mile NNW of North Head. Cabot Tower conspicuous from seaward, stands on Signal Hill. It was at this tower that Marconi heard the first radio signal across the Atlantic in 1901.

Crows Nest, a conspicuous 120m summit, rises on the N side of The Narrows, about 0.3 mile W of Cabot Tower.

The most conspicuous objects in the town is a cathedral, with twin towers, standing on the summit of a ridge; the tank of a tobacco factory standing about 325m NE of the cathedral; and the Newfoundland Hotel standing about 0.5 mile NE of the

cathedral. Other conspicuous features are The Kirk, with its green spires, standing close S of the cathedral, and St. Patrick's Church, a green spire at the SW end of the harbor.

St. John's Harbor Range Lights, in line bearing 276°07', lead through The Narrows. The rear light of the entrance range lights is shown from the tower of a Presbyterian Church. This church tower has a short gray blunt spire, with a daymark similar to that of the front light.

Pilotage.—Pilotage is compulsory for merchant vessels navigating within the pilotage district, which comprises the port as well as all of the area 2 miles seaward of a line of bearing between South Head and North Head. A vessel arriving in Canadian waters without the requisite charts and publications onboard may obtain, upon arrival at the Pilot Boarding Station, appropriate package of charts, etc, by ordering through the Pilot Station.

Saint John's Harbor—Berth Information			
Berth	Length	Depth	Remarks
Oceanex Terminal			
No. 01	175m	5.9m	General cargo, ro-ro, containers, and small vessel mooring.
No. 02	165m	9.1m	Containers, general cargo, and ro-ro. Continuous berthing length of 345m.
No. 03	180m	9.4m	
No. 04	120m	8.2m	Containers and general cargo.

Saint John's Harbor—Berth Information			
Berth	Length	Depth	Remarks
No. 05	160m	8.5m	Containers and general cargo.
St. John's Port Authority (SJPA)			
No. 06	150m	7.0m	Small vessel mooring.
No. 07	120m	7.5m	Small vessel mooring. Continuous berthing length of 720m.
No. 08	150m	8.8m	
No. 09	150m	8.8m	
No. 10	150m	9.1m	
No. 11	150m	9.1m	
No. 19	115m	6.8m	Small vessel mooring.
No. 20	162m	10.4m	Small vessel mooring.
No. 21	58m	10.0m	Small vessel mooring.
A. Harvey and Company LTD			
No. 12	120m	8.0m	Marine services. Dolphins extend berthing length to 145m.
No. 14	182m	6.8m	Marine services.
No. 15	88m	8.3m	Marine services
No. 16	145m	9.8m	Marine services.
Province of Newfoundland			
No. 25	80m	6.0m	Marine training facility.
National Defense			
No. 26	160m	9.1m	Navy reserve training facility.
No. 27	160m	9.1m	Navy reserve training facility.
Fisheries & Oceans (CCG)			
No. 28	69m	6.3m	Fishing vessels.
No. 29	114m	6.7m	Fishing vessels.
No. 30	99m	6.9m	Fishing vessels. Continuous berthing length of 188m.
St. John's Port Authority (SJPA)			
No. 17	180m	10.5m	Multipurpose. Maximum loa of 213m.
No. 18	—	16.9m	Loading/unloading petroleum products. Continuous berthing length of 76m.
Imperial Oil			
No. 23	40m	7.8m	Petroleum products. Maximum draft of 7.0m.
Irving Oil—St. John's Refinery			
No. 24	70m	9.6m	Petroleum products. Maximum loa of 189.9m.

Pilots should be requested from the Atlantic Pilotage Authority 12 hours prior to arrival. Vessels should confirm or amend the time of arrival 2 hours in advance. Departure or other movement in the port requires a 4 hour ETD. The pilots at St. John's also provide coastal pilotage if required.

Pilots board vessels about 2 miles from the harbor entrance in position 47°33'N, 52°37'W.

The pilot boats are painted black with white upperworks and

the words "Canada Pilot Boat" with a number in white on each bow. They display a flag, the upper half being white and the lower half red. The pilot office is situated at King's Wharf.

Regulations.—St. John's is a Canadian National Harbors Board port; a copy of the board's regulations, can be obtained in St. John's.

Vessel Traffic Service.—The St. John's Vessel Traffic Service (St. John's VTS) operates in the approaches to St. John's



St. John's Harbor



St. John's—Cabot Tower on Signal Hill

Harbor, between lines bearing 090° from Cape St. Francis Light (47°48'N., 52°47'W.) and Bull Head Light (47°19'N., 52°45'W.) and is mandatory for the following vessels:

1. All vessels with a length of 20m and over.
2. Towing vessels where the tow is 20m or more in length or the overall length of the vessel and tow is 45m and over.

While transiting the VTS area, vessels are to maintain a continuous listening watch on VHF channel 11. St. John's Traffic (VON) can be contacted on VHF channel 11.

Contact Information.—See the table titled **Saint John's Harbor—Contact Information.**

Saint John's Harbor—Contact Information

Vessel Traffic Services

Call sign	S. John's Traffic (VON)
VHF	VHF channel 11

Saint John's Harbor—Contact Information

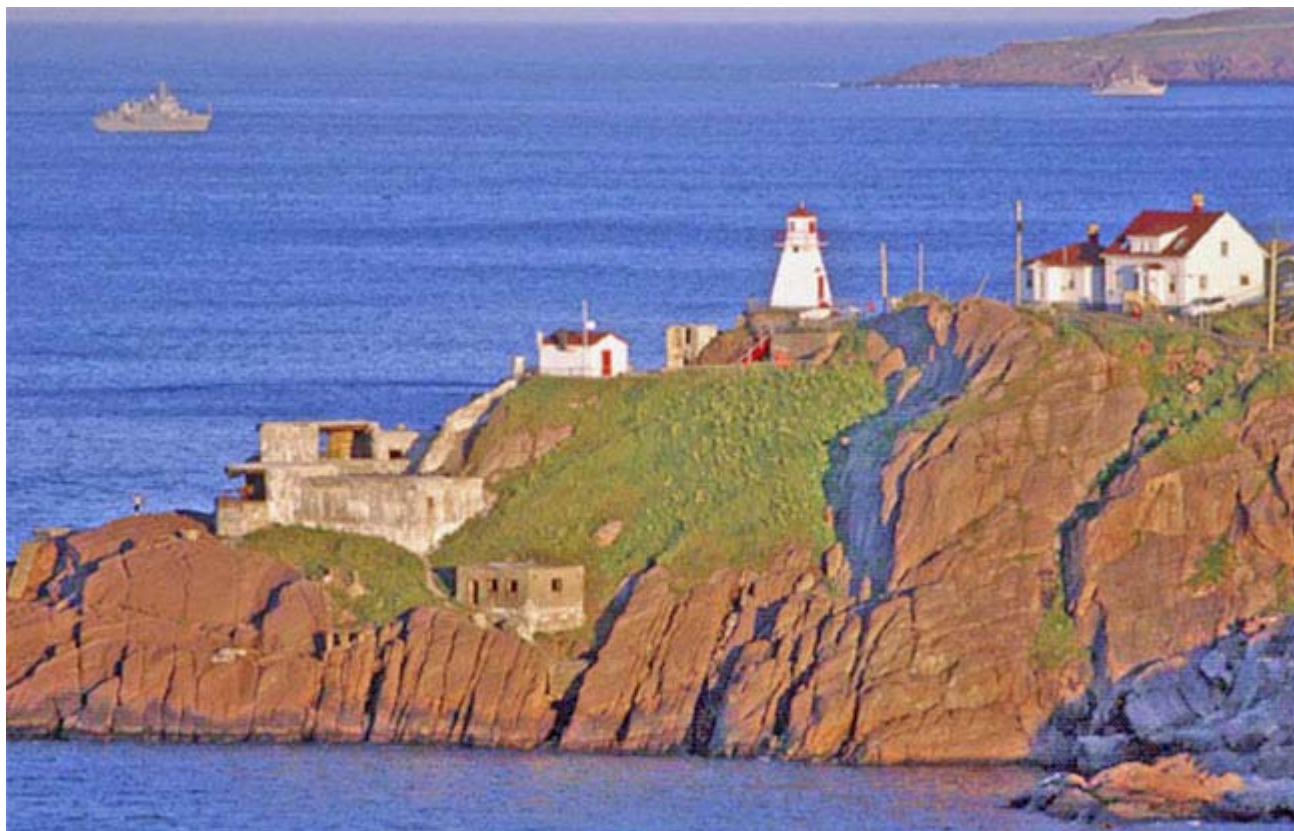
Telephone	709-227-5731 (Officer in charge)
	709-227-2181 (Operations)
	709-227-2182 (Operations)
Facsimile	709-227-5637
E-mail	safety.placentia@innav.gc.ca
MMSI	003160019
Port Authority	
Telephone	1-709-738-4782
Facsimile	1-709-738-4784
E-mail	info@sjpa.com
Web site	http://www.sjpa.com
Harbormaster	
Telephone	1-709-738-4778
Pilots	
Call sign	Pilots S. John's
VHF	VHF channels 11 and 16
Facsimile	709-772-5369

Anchorage.—Anchorage can be obtained in St. John's Harbor as directed by the harbor master, in depths of 15 to 19m, mud and silt.

Anchorage is prohibited near two sewer outflows on the S side of The Narrows, near Anchor Point. The outflows are marked by notice boards. Anchorage is also prohibited near Berths 11 and 12, located on the W side of the harbor.

Directions.—**Cliff Point** (47°32'N., 52°39'W.), in line with Black Head, leads N of the dangers off Cape Spear. Both points have been previously described in paragraph 5.13.

The conspicuous cathedral at St. John's and open N of the S



Fort Amherst Light

side of the entrance channel to St. John's Harbor, leads N of **Vestal Rock** (47°34'N., 52°41'W.). The principal navigation aid is Fort Amherst Light (47°31.5'N, 052°37.8'W), a white square structure 8m in height. Cape Fear Light (47°31.5'N, 052°37.8'W) may also be used.

Caution.—Merlin Rock (47°34'N., 52°41'W.), with a least depth of 9.4m, lies at the W end of The Narrows. A submarine pipeline, with a least depth of 7.4m, extends about 110m NNW of Berth No. 29. Another submarine pipeline extends about 50m SE of the E end of Berth No. 11; both are best seen on the chart. Anchorage is prohibited near these pipelines.

St. John's Harbor to Cape St. Francis

5.15 Cuckhold Head (47°35'N., 52°40'W.), the N part of which forms the S entrance point of Quidi Vidi Harbor, lies about 0.9 mile NNE of North Head. It is a conspicuous headland, 125m high, and appears conical from seaward.

Quidi Vidi Harbor, entered N of Cuckhold Head, has a least depth of 0.2m in the entrance and is suitable for small boats only. In reduced visibility, care must be taken not to mistake the entrance to the harbor for the entrance to St. John's Harbor. A slipway is located at Quidi Vidi.

Small Point (47°36'N., 52°39'W.), 1.2 miles NNE of Quidi Vidi Harbor, is rounded and 95m high. About 1 mile SSW of Small Point there is a very conspicuous cliff, 148m high, at the

foot of which is a large cave known as Bawdens Hole. Three radio towers, 235m high and each marked by a fixed red obstruction light, stand about 0.8 mile W of Small Point.

5.16 Sugarloaf Head (47°37'N., 52°39'W.) is very conspicuous, with a sheer cliff face; viewed from the NNE, it has the appearance of a wedge. From the ENE and SSE, it appears as a cone-shaped hill.

Devils Point, about 0.5 mile NW of Sugarloaf Head, has an elevation of 79m and its summit is marked by a beacon of stones.

The coast between Sugarloaf Head and Devils Point is very rugged and has several caves.

Flagstaff Hill rises close to the coast, about 1.5 miles NW of Sugarloaf Head; there is a conspicuous yellow patch just N of the summit and a conspicuous dome on the summit.

Redcliff Head, about 2 miles NNW of Sugarloaf Head, is formed of bold, steep, reddish cliffs. There is a deep gulch on both its N and S sides; one or the other, depending on the light, is usually seen as a black band down the sides of the cliffs.

Tor Bay is entered between **Torbay Point** (47°40'N., 52°40'W.) and Flat Rock Point, about 2.8 miles NNW. Tantam Shoals extend about 0.8 mile NNE of Torbay Point. Depths of 6.4m exist about 0.3 mile from shore, while 12.8m depths exist near the NNE end of the shoals. A church is prominent at the head of the bay.

**Redcliff Head**

Anchorage can be obtained in Torbay Bight, in 21.9m, S of a small beach on the NW side of the bight; it is exposed to the NE.

Flat Rock Cove is entered between Flat Rock Point and Red Head, about 0.8 mile NNW. A red church with a steeple, the top of which has an elevation of 87m, stands on the W shore of the cove. The church is conspicuous, except from the SE, when it is obscured by Flat Rock Point.

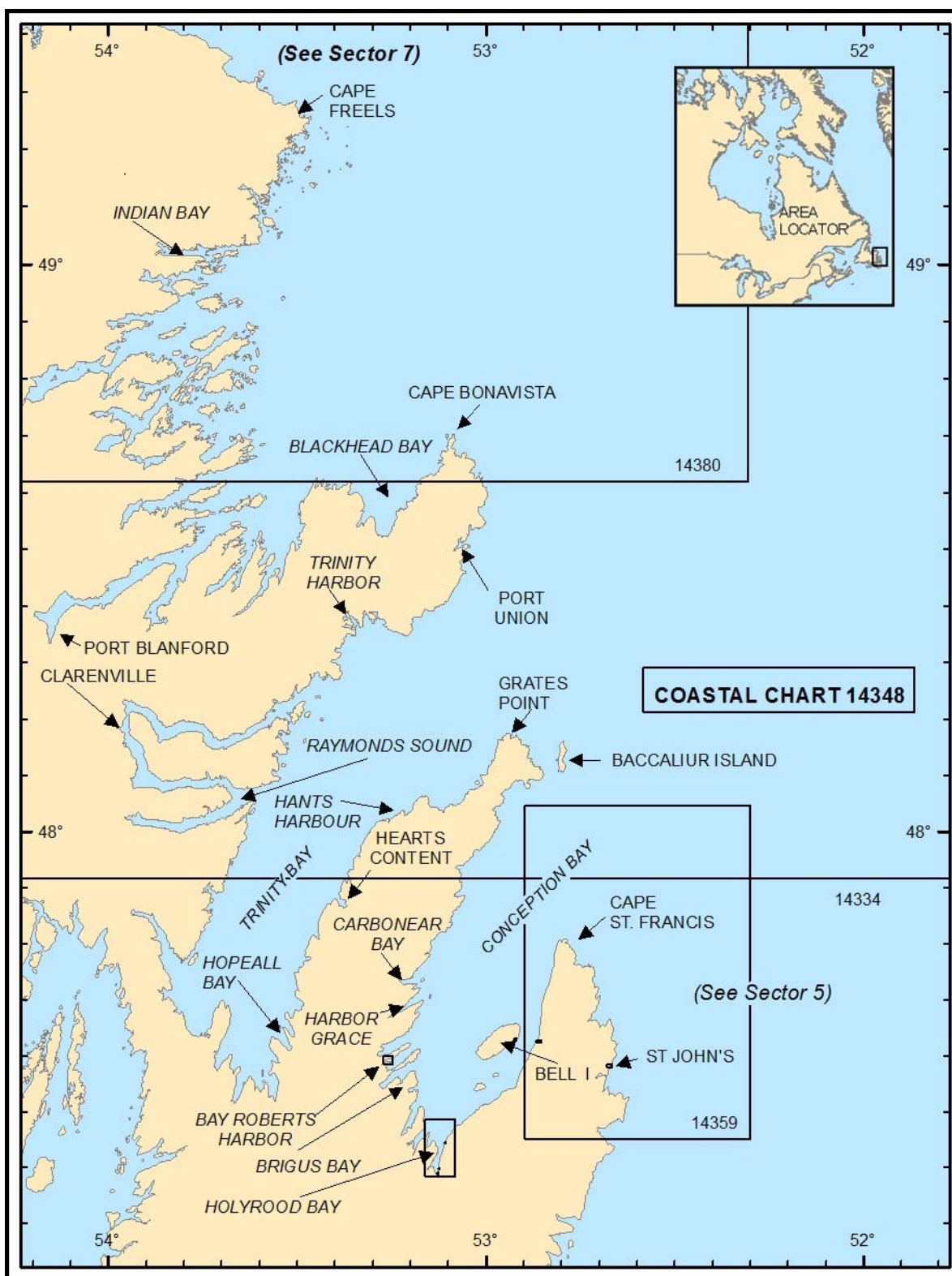
5.17 Red Head (47°43'N., 52°42'W.), about 0.8 mile NNW of Flat Rock Point, is deep red in color and very conspicuous. It is 83m high. Three radio towers, 51m high, lie about 1.8 miles NW of Red Head.

**Cape St. Francis Light**

Pouch Cove is a small, open cove. Biscayne Bay is a small cove located less than 0.5 mile S of Cape St. Francis. Pigeon Island, 33m high, lies in the entrance to the bay. Four islets lie about 0.4 mile E of Pigeon Island.

The Brandies are a group of rocks, the highest of which dries 0.6m, lying about 0.5 mile ENE of Cape St. Francis.

Cape St. Francis (47°49'N., 52°47'W.), consisting of two low hills, is the E entrance point of Conception Bay. Close N of the W hill there are two small islets. The point is marked by a light which stands on the E hill. The light is exhibited from a low octagonal aluminum tower on top of a white flat-roofed square building. The tower is reported to be difficult to see during daylight.



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

SECTOR 6 — CHART INFORMATION

SECTOR 6

NEWFOUNDLAND—NORTHEAST COAST—CAPE ST. FRANCIS TO CAPE FREELS

Plan.—This sector describes the NE coast of Newfoundland and off-lying dangers from Cape St. Francis to Cape Freels, including Conception Bay, Trinity Bay, and Bonavista Bay.

General Remarks

6.1 Between Cape St. Francis and Cape Freels, about 92 miles NNW, the coast recedes to form Conception Bay, Trinity Bay, and Bonavista Bay. These large bays have depths greater than 183m, and are separated by high, rugged peninsulas indented by numerous inlets. Iron ore is mined on Bell Island in Conception Bay, where deep-draft vessels can be accommodated alongside.

Transatlantic cables are landed at Bay Roberts, Harbor Grace, Hearts Content, and Clarenville.

Winds—Weather.—Newfoundland has a climate that is generally temperate. The influence of the sea is modified by the cold waters of the Labrador Current, which flows along the E and W coast.

West winds usually prevail, but frequent shifts occur during the passage of depressions or storms. In general, to the E of Newfoundland, the most common direction, apart from the prevalent SW to NW directions, is S followed in frequency by N and SE.

On the E coast of Newfoundland, fog is brought in by NE and E winds during May, June, and July. The fog rarely extends far inland in summer, and in sheltered landlocked harbors there is usually much less than at sea.

When fog is generally over the open sea, and the wind is off-shore, there may be either a gap between the shore and the fog, or the fog may be thinner; the more hilly the land the more marked will be the improvement in visibility. During late spring and summer, there is often a further marked improvement in the visibility close leeward of the land during late morning and afternoon when the land is at its warmest. During SW and light SE winds, when approaching the coast, especially under the lee of a point, a vessel will suddenly emerge from the fog and every feature of the coast will be distinctly visible.

Ice.—The ice-laden waters chill the atmosphere above them and also set up a barrier against the warm air masses from the S. Spring is late and the summers are cool. Winters are relatively mild, but are generally more severe on the W coast, which is affected by its proximity to the continental land mass.

Two kinds of ice are encountered along the E coast of Newfoundland, the dramatic and picturesque icebergs, which are of glacial origin, and the prosaic sea ice (frozen sea ice), which has a much more important effect on navigation. The sea ice forms in the coastal waters from Fogo Island N and is carried down the coast by wind and current. It sometimes rounds Cape Race, but its more common path is S or SE onto the N part of the Grand Banks of Newfoundland.

Sea ice begins to form on the coast of S Labrador in mid-December, and spreads S to Newfoundland waters in early January. It gradually spreads seaward and S to reach Notre Dame

Bay and Fogo Island in late January. The subsequent developments depend very much on the prevailing winds of each particular winter.

In most years, the ice pack drifts off to the SE from Cape Freels, and the Newfoundland coast S of Cape Bonavista has only loose floes for brief periods. The S penetration of the pack ice is partially dependent on the severity of the winter as well as wind directions, and extension to about 48°N, 49°W in mid-March is considered normal.

The ice which forms early in the winter in the waters of N Newfoundland and southern Labrador grows to a maximum of about 0.6m during the winter, and much of it is carried S by wind and current to the waters E and SE from Cape Bonavista. The floes which remain, in the White Bay area for instance, can reach 0.7 to 0.9m.

Floe size in eastern Newfoundland waters is mainly related to the distance from the ice edge, as Atlantic swells will soon break the larger floes into smaller pieces. As a result, ice cakes and small floe sizes are predominant S of Cape Freels, while medium floes occur mostly at distances over 50 miles within the pack.

Retreat of the ice begins in late March, but changes are relatively slow at first. By the end of April the S edge has usually retreated to Bonavista Bay. In May, the rate of melting increases and the pack has usually retreated to southern Labrador waters by the final week in the month. This retreat releases many of the icebergs carried S by the Labrador Current and their numbers in Newfoundland waters is at a peak.

Tides—Currents.—The ocean current, having the greatest effect on the waters adjacent to Newfoundland, is the pre-dominantly cold Labrador Current. The major part of this current sets S along the E coast extending as far as 50 miles off-shore. The rate may be slightly in excess of 1 knot, but stormy weather in the North Atlantic may diminish the rate of the current and cause it to set across its ordinary direction or even be reversed on the surface. When such a change occurs, it is usually regarded as an imminent gale warning.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

Conception Bay

6.2 Conception Bay (47°40'N., 53°00'W.) is entered between Cape St. Francis and Split Point (48°06'N., 52°51'W.). The bay extends about 35 miles SSW to its head. The fairway through the bay is over 183m, clear of dangers. The shores of the bay are mostly steep-to, with no known dangers more than 1 mile offshore. A depth of 12m exists 55 miles ENE of Cape St. Francis. The shore, from the cape S for 11 miles, is formed of steep bare cliffs, which change to gentle partially-cultivated slopes. The S part of the W side and the head of the bay are indented by several deep inlets. Cape St. Francis consists of two

low hills, the E marked by a lighthouse from which a light is shown.

Ice.—Ice normally fills the bay between the middle of January and March 1, and clears between the middle of March and April 20. Ice may remain until May 25.



Portugal Cove

Portugal Cove (47°38'N., 52°52'W.), with depths up to 21.9m, is protected by a long breakwater extending SW from the NE shore of the cove. A wharf, 44m long, with 2.5 to 3.9m of water alongside its outer face, extends from the shore close SE and parallel to the breakwater. A breakwater, 152m long, extends in a SW direction from the NE shore of the cove. A ferry wharf, from which a regular ferry service is maintained to Bell Island, adjoins the wharf. The ferry wharf has depths of 3.5 to 4m alongside.

Range lights, in line bearing 093°41', lead to a berth at the principal wharf. A light is shown from the head of the breakwater. Church spires are conspicuous at the head of the cove, as is Princes Lookout, a 165m high hill.

Regulations.—A Canadian Coast Guard inshore rescue boat is stationed at Long Pond and is available for search and rescue 24 hours from mid-May to mid-September. Its area of responsibility covers all waters of Conception Bay as far seaward as a line joining Cape St. Francis and Split Point. Contact can be made on VHF channel 16 or through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

Anchorage.—Anchorage, in depths of 23.8 to 25.6m, can be taken about 0.15 mile NW of Portugal Cove Light. Two submerged cables are landed at Portugal Cove; their positions can best be seen on the chart. Anchorage in this vicinity is prohibited.

6.3 Between Portugal Cove and Topsail Head, the shore is composed of partially cultivated slopes.

Broad Cove lies about 2 miles SSW of Portugal Cove. The Broad Cove River flows into the cove at its head. Submarine power cables are laid from Broad Cove to Bell Island. Anchorage is prohibited as shown on the chart.

Topsail Head (47°33'N., 54°55'W.) is a conspicuous coastal landmark about 5 miles SSW of Portugal Cove. The coast to the head of the bay consists of beaches backed by salt water lagoons and fronted by shoals.

Long Pond (47°31'N., 52°59'W.), a lagoon of two arms separated by a strip of beach, is entered between two breakwaters which afford protection to a channel dredged to a width of 50m and which has a least depth of 7.9m. A light is shown from the head of the E breakwater. Lighted buoys mark the channel entrance. The E side of the entrance channel should be favored on entering. Oil storage tanks are conspicuous on a N approach to the harbor.

A public wharf, 245m in length, with a depths of 7.0-8.2m alongside, lies on the W shore of Long Pond, close within the entrance. There is a turning basin adjacent to the wharf.

Mariners should not attempt to enter Long Pond without local knowledge.



Bell Island Light

6.4 **Bell Island** (47°38'N., 52°57'W.) is named after **The Bell** (47°36'N., 53°01'W.), a conspicuous conical rock lying off the W end of the island. The Clapper is another conspicuous rock lying off the S end of Bell Island. **Redmans Head** (47°39'N., 52°55'W.), marked by Bell Island Light, is a prominent headland at the NE end of the island. The village of Lance Cove is situated 1.25 miles ENE of The Clapper.

Tides—Currents.—Currents with velocities of 1 to 3 knots are reported at Bell Island. A vessel anchored between Bell Island and Little Bell Island experienced a current setting SW for several hours rated about 3.5 to 4 knots against a fresh SW gale.

Anchorage.—Anchorage can be taken, in depths of 38.4 to 40.2m, with The Clapper bearing 288° and the W end of Little Bell Island bearing 220°.

Caution.—Several sunken wrecks lie between Bell Island



Bell Island—Wabana

and Little Bell Island. Bell Rock, with a depth of 4.6m, lies 1 mile SW of The Clapper.

6.5 Wabana (47°37'N., 52°56'W) the principal town on Bell Island, was formerly an iron ore-exporting port, but the mines on the island are now closed.

Depths—Limitations.—A public wharf is situated in the small bight close W of The Beach, about 1.5 miles S of Redmans Head. The wharf is 106m long; it has an outer face that is 56m wide, with an alongside depth of 4.8m. A small L-shaped wharf, with alongside depths of 1.5 to 3.4m, extends 35m E from the inner part of the public wharf.

The ferry to Portugal Cove runs from an adjoining slip close W of the public wharf. There are 11 white oil tanks on the hill behind the ferry wharf.

Dominion Pier, in a state of disrepair, lies about 0.4 mile SW of the public wharf. A small boat wharf, 36m long, extends

from the N part of this pier. Scotia Pier, about 0.4 mile SW of Dominion Pier, is also in a state of disrepair.

Aspect.—A light is shown from the ferry wharves.

Little Bell Island, 32m high and grassy, lies about 2 miles SE of The Clapper. Kelly Island, 58m high and wooded, lies nearly 1.5 miles SW of Little Bell Island.

Holyrood Bay, Harbor Main, Gastars Bay, and Colliers Bay are four large inlets which indent the head of Conception Bay.

6.6 Holyrood Bay (47°26'N., 53°07'W.), the S inlet, is deep throughout, but fringed by foul ground along both shores as far as 0.15 mile. **Harbor Main Point** (47°27'N., 53°08'W.) marks the W entrance of the bay. **Butterpot** (47°25'N., 53°06'W.), an eminence marked by a cairn, is prominent near the head of the bay.

Holyrood Harbor (47°24'N., 53°07'W.) includes the waters of the bay, with the head of the harbor divided by a peninsula



The Bell

into North Arm and South Arm. A conspicuous church and spire are situated close S of **Joys Point** (47°24'N., 53°08'W.), the N end of the peninsula. Three chimneys, having red and white banded stacks, rise on the E shore of the harbor. Georges Peak, about 1 mile S of Joys Point, is marked by a cross on its summit, visible all over the bay.

Range lights, in line bearing 183°32', are situated on the SE side of the head of South Arm.

The harbor is open to navigation all year.

Depths—Limitations.—The T-shaped Ultramar Canada Wharf, situated on the E side of South Arm, Crude oil is imported and refined petroleum products exported from this wharf. Numerous oil tanks stand near the wharf.

The generating plant wharf, L-shaped and is situated 3 miles

N of the Ultramar Canada Wharf. In South Arm, there is a government wharf situated near the head of the arm. For berthing information see the table titled **Holyrood—Berth Information**.

Pilotage.—Pilotage is compulsory.

Vessels requesting a pilot should send their ETA 12 hours and 2 hours prior to arrival. The ETD should be sent 4 hours and 2 hours prior to departure. The pilot sometimes remains on board for discharging operations.

Pilot Boarding Location

A (near Holyrood)	47°27'48"N, 53°07'30"W
B (near S. Johns)	47°33'42"N, 52°37'54"W

Contact Information.—See the table titled **Holyrood—Contact Information**.

Holyrood—Contact Information

Holyrood Thermal Generating Station Terminal

VHF	VHF channel 6
Telephone	1-709-229-7441 (Terminal)
Facsimile	1-709-229-7894
Web site	http://www.nlhydro.com/operations

Harbormaster

Telephone	1-709-229-6510
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Pilot Vessel

VHF	VHF channels 11 and 16
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Anchorage.—Good anchorage can be taken in South Arm, in depths of 29.3 to 32.9m, mud and sand.

Holyrood—Berth Information

Berth	Length	Depth	Remarks
Ultramar Canada			
T Jetty	85m	10.6m	Petroleum products; Vessels up to 50,000 dwt, with a maximum loa of 213m and a maximum draft of 9m, can be accommodated.
Newfoundland and Labrador Hydro			
L Jetty	73m	15.2m	Oil cargo for generating plant. Vessels with a maximum loa of 247.2m can be accommodates.
South Arm—Holyrood Marine Base (Fisheries and Marine Institute of Memorial University of Newfoundland)			
Pier	52m	4.6-5.5m	Survey and service vessels. Under construction.
Quay	125m	4.6-5.5m	Under construction.

6.7 Harbor Main (47°27'N., 53°09'W.) is entered between Salmon Cove Point, marked by a light, and Harbor Main Point, about 1 mile SSE. A small island lies 0.1 mile NW of the latter point, and shoals of 4.6m extend almost 0.15 mile NE of the island. A church with spires is conspicuous on the W shore of the inlet.

A public wharf with two small piers lies about 0.3 mile S of the church.

The N pier, 29m long and 8m wide, has depths of 1.5 to 5.5m along its inside face.

The S pier is 18m long and 6m wide, with depths of 2.7 to 5.2m along both sides.

Anchorage.—Constricted anchorage can be taken, in a depth of 21.9m, with the church bearing 308°. This anchorage is open to the NE.

6.8 Gasters Bay (47°28'N., 53°10'W.), entered W of Salmon Cove Point, is at least 36.6m deep and free of dangers. The head of the bay is divided by a peninsula into two coves. A light is shown from **Ballyhack Point** (47°27'N., 53°12'W.), the termination of the peninsula. **Blue Hills** (47°26'N., 53°15'W.), a range with a double summit, is conspicuous.

Conception Harbor (47°26'N., 53°13'W.), open NE, is the W of the two coves forming the head of Gasters Bay. Mouse Rock, with a depth of 0.9m, lying in the harbor entrance, is marked by a lighted buoy.

A public wharf, situated at the head of the harbor, is 7m wide and extends 52m to a depth of 5.5m. Conception Harbor Light is shown from the head of the pier.

Anchorage, with local knowledge, can be taken, in 12.8m, sand, in the harbor.

Colliers Bay (47°29'N., 53°12'W.) is entered between Seal Head and **Colliers Point** (47°31'N., 53°10'W.). Seal Head is a steep bluff rising to Twin Peak. Ryans Head, a small peninsula, is located 2.5 miles SSW of Colliers Point. The bay is deep up to 0.5 mile off its head, but the channel is encumbered with rocks and shoals. A wharf situated S of **Ryans Head** (47°29'N., 53°13'W.) has depths of 4.6 to 5.5m alongside but was reported (1996) in disrepair.

Two rocks, the outer of which dries 0.6m, are marked by a lighted spar buoy and are located 0.2 mile NE of the N entrance point to Thornlea.

Harbour Rock (47°30'N., 53°12'W.), which dries 0.3m, lies about 1.2 miles SW of Colliers Point.

Anchorage.—Anchorage can be taken with local knowledge, in depths of 7.3 to 16.5m, gravel, SW of Ryans Head.

6.9 Brigus Bay (47°33'N., 53°11'W.) entered close S of North Head, is marked by a light shown from a red and white striped tower. A village, situated between steep barren hills at the head of the bay, is devoted to fishing. Ice in the bay is broken up early by the sea setting into the bay. A public wharf is

located on the NW side of Brigus Bay; it is 62m in length and has a depth of 5.7m alongside. A light from a skeleton tower is shown from its outer end.

Anchorage.—Anchorage can be taken by small vessels, in a depth of 9.1m, mud and sand, about 0.1 mile off the wharf.

A pipeline lies in this area and can be best seen on the chart.

6.10 Bay de Grave (47°35'N., 53°12'W.) is entered between **Burnt Point** (47°34'N., 53°11'W.) and Blow Me Down Head, about 1.2 miles N. The bay extends SW for 4.5 miles and is deep throughout. Sopers Rock, with a depth of less than 1.8m, lies 0.1 mile N of Burnt Point. Ship Cove, located 0.5 mile WSW of Blow Me Down Head, has a wharf with depths of 4.3 to 7.9m along both sides of the outer 64m.

Port de Grave (47°35'N., 53°14'W.), a village situated about 0.4 mile WSW of Ship Cove, has two wharves, each with depths of up to 3m alongside. Church spires are conspicuous in the village and at Bareneed, about 1.25 miles SW.



Brigus Bay

Cupids Cove (47°33'N., 53°13'W.), with the village of Cupids at its head, is located about 2 miles SW of Burnt Point. Spectacle Head, a high bluff, is conspicuous within the W shore of the cove. A wharf in Cupids Cove has a depth of 1.4m at its head. The wharf was reported (1996) in disrepair.

Anchorage.—Anchorage can be taken by small vessels in the cove, in depths of 5.5 to 7.3m, sand and mud.

Caution.—A submerged pipeline lies in the inner harbor. Care must be taken to avoid this area when anchoring.

6.11 Green Point lies about 1.4 miles NE of Blow Me Down Head.

Bay Roberts (47°36'N., 53°12'W.), entered between a point almost 0.3 mile NNW of Green Point and **Mad Point** (47°37'N., 53°12'W.), about 1 mile WNW, extends about 4 miles SW. A least depth of 18.3m exists in the fairway. Above-water rocks lie close N of the SE entrance point.

Bay Roberts Harbor—Berth Information			
Berth	Length	Depth	Remarks
Public Wharf	119m	3.7-5.9m	Fishing vessels
Harbour International Wharf	80m	3.4-4.3m	—
Fishery Products Ltd Wharf	50m	3.4-4.4m	—

Bay Roberts Harbor—Berth Information			
Berth	Length	Depth	Remarks
Bay Roberts Community Wharf	26m	2.1-3.7m	—
Wharf	21m	4.1m	—
Avalon Wharf	101m	7.2-8.0m	Coal and salt
Public Wharf	15m	2.4-3.4m	L-shaped

A port hand lighted spar buoy and two starboard hand lighted spar buoys are moored close NE of Coley's Point and mark the approach into Bay Roberts Harbor.

A light is shown from the SE entrance point. Three additional lights are shown below the main light; the center light, in line with Southern Rocks, which are 4m high, shows red while the outer two lights show white.

Fergus Island (47°36'N., 53°13'W.) lies 0.2 mile off the NW side of the bay. The head of Bay Roberts is divided into two coves by **Coley's Point** (47°35'N., 53°15'W.), from which a light is shown.

6.12 Bay Roberts Harbor (47°35'N., 53°16'W.), the N of the two coves divided by Coley's Point, is easy to access. A spar buoy is moored close to a sunken rock lying 0.6 mile W of above-water rocks lying close-off Coley's Point. Bay Roberts is entered between Mad Point and Bay Roberts Point, located about 1 mile ESE. The town of Bay Roberts is situated on the N side of the harbor. The head of the Bay Roberts is divided into two coves by Coley's Point. The north cove, Bay Roberts Harbor, has easy access and good anchorage.

Depths—Limitations.—The public wharf is L-shaped and is located 0.7 mile SW of Coley's Point.

Avalon Wharf lies about 0.2 mile S of the public wharf on the opposite shore.

A wharf, lies near a church about 0.6 mile NE of the public wharf.

The Harbour International Wharf extends from the N shore of Bay Roberts Harbor, close WSW of the public wharf. There are several piers and floating wharves in the Bay Roberts area, including a marina for recreational boats. For berthing information see the table titled **Bay Roberts Harbor—Berth Information**.

Anchorage.—Anchorage can be taken, in depths of 9 to 11m, within the harbor.

Directions.—Green Point Light is a white round tower, 9m high with red bands, standing on the SE entrance to Bay Roberts. Bait Rocks Light is a white rectangular daymark, green bands, on a square framework tower, 4m high located at 47°35.4'N, 053°15.0'W, close to Coley's Point. A light on a round mast, 3m high, is located at the head of the public wharf in Bay Roberts Harbor.

6.13 Spaniard's Bay (47°37'N., 53°15'W.), entered between Mad Point and **Coopers Head** (47°38'N., 53°13'W.), about 1.4 miles NNW, has depths over 36.6m as it extends about 4 miles SW. The SE side of the bay is exposed to a heavy sea during E gales. Vessels should not close Mad Point within 1 mile on SW bearings in stormy weather, because of foul ground extending offshore. Green Head, near the head of the

bay, rises to a conical hill 33m high.

Depths—Limitations.—A public wharf, 47m long, extends to a depth of 4.4m at North Cove, near the NW end of the cove. The remains of a wharf, with depths of 0.3 to 0.6m, extend about 90m from shore. Churches are prominent along the shores.

Anchorage.—Anchorage can be taken in the bay off North Cove, in depths of 9.1 to 18.3m, with Green Head bearing more than 210°.

Bryants Cove (47°41'N., 53°11'W.), a small bight, is entered between Spare Point and Feather Point, about 1.5 miles NNE. The Sunker, a drying rocky patch, lies in the middle of the cove entrance. A conspicuous high hill, open to the S of a steep fall on the N shore, bearing 243°, leads S of The Sunker and adjacent dangers. There is a wharf at the head of the cove having a length of 61m and extending to a depth of 2.4m.

The **Harbour Grace Islands** (47°43'N., 53°09'W.), a group of islands and rocks, lie between 0.75 and 1.5 miles NE of Feather Point. The highest island of the group, marked by a light, is 32m high. Eastern Rock, the NE islet of the group, is 27m high with a peak resembling a tower. White Rock, a rocky patch with a least depth of 5.5m, on which the sea breaks, lies about 0.1 mile NNE of Eastern Rock. Ragged Rocks lie about 0.2 mile W of the southwesternmost Harbour Grace Island.

6.14 Harbour Grace (47°41'N., 53°13'W.) is entered between Feather Point and Old Sow Point, about 1.5 miles S. The harbor extends 4.5 miles SW and is bound by high hills. About 1.5 miles within the entrance, the harbor is encumbered by a bar. The channel across the bar has a least depth of 6.7m. Between the channel and the SE side of the harbor, there is a bank of boulders; in heavy weather the sea breaks on this bank. The depths in the entrance and outer harbor vary from 16.5 to over 36.6m. The inner harbor has 9.1 to 16.5m.

Harbour Grace is the location from where Amelia Earhart began her solo trans-Atlantic flight in 1932. The freighter *S.S. Kyle* ran aground in 1967 and has since become a tourist attraction.

Ice rarely stops navigation. Drift ice may appear during February and March, but disappears with SW winds.

Depths—Limitations.—HGCS Terminal handles frozen seafood. The wharf lies on the N side of Harbour Grace, and has a berth that is 185m long with a depth of 7.3m alongside.

Long Harry Rock (47°42'N., 53°11'W.) 22m high, lies 0.75 mile SW of Old Sow Point. Salvage Rock lies 0.35 mile S of Long Harry Rock. In a heavy sea, breakers are visible 0.15 mile SW of the rock.

Salvage Rock, with a narrow pointed peak, 15m high, lies about 0.4 mile S of Long Harry Rock; in a heavy sea, breakers extend about 135m SW from this rock.



S.S. Kyle aground in Harbour Grace

6.15 Point of Beach (47°41'N., 53°13'W.), at the entrance of the inner harbor, is marked by a lighted tower with white topmark. **Ship Head** (47°41'N., 53°14'W.) is marked by a white square tower with red and white bands. These two lights, when aligned, lead over the bar, in a least depth of 6.7m.

Aspect.—Landmarks include several high hills charted NW of the town of Harbor Grace and the Roman Catholic Cathedral, which has two conspicuous spires of uneven height.

Harbor Grace, the town, is situated in the vicinity of Point of Beach.

Pilotage.—Pilotage is not compulsory, but a licensed pilot is available, if desired. A pilot can be arranged by giving 24 hours notice to the Atlantic Pilotage Authority. The pilot will board off St. John's in position 47°33'42"N, 52°37'54"W, or off the Harbor Grace Islands, provided the vessel's local agent arranges for a boat to embark the pilot.

Anchorage.—Anchorage can be taken, in depths of 9.1 to 16.4m, in the area SW of Point of Beach.

Caution.—A submerged power cable extends SSW from Point of Beach to the opposite shore. Two other cables are landed in the vicinity of Point of Beach from seaward. Care must be taken to avoid this area when anchoring.

6.16 Bristol's Hope Cove (47°43'N., 53°11'W.) lies between Old Sow Point and Mosquito Point, 0.5 mile NW. There is a gravel beach at the head of the cove. There is temporary anchorage in the cove, in depths of 7.3 to 29.3m, sand and rock, but it is open to the NE.

Carbonear Bay (47°44'N., 53°13'W.) is entered between Mosquito Point and Crockers Point, about 0.8 mile NNW.

Ice.—The bay freezes only in severe winters, as the swell normally breaks up the ice which can be troublesome during the spring.

Depths—Limitations.—The entrance channel has a depth of 14.6m.

Aspect.—Carbonear Island (47°44'N., 53°10'W.), with cliffy shores, lies about 0.5 mile NE of Mosquito Point. A light is shown from a square tower on the summit of the island. Foul

ground lies between the point and the SW extremity of the island.

Saddle Hill (47°43'N., 53°13'W.) 153m high, rises conspicuously about 1.5 miles WSW of Mosquito Point.

Kane Rock (47°45'N., 53°10'W.), with a depth of 14.9m, and Saucy Joe Rock, about 0.8 mile N of the island light, with a depth of 20.1m, lie in the bay approach. During heavy seas with E winds, the sea occasionally breaks on these rocks.

A light is shown from the head of Government Wharf (47°44'N., 53°13'W.).

Pilotage.—Pilotage is not compulsory, but a licensed pilot is available if desired. A pilot can be arranged by giving a 24-hour notice of requirement to "Pilots, St. John's." The pilot will board off St. John's in position 47°33'24"N, 52°37'30"W, or off Carbonear Island, provided the vessel's local agent arranges for a boat to embark the pilot. Although Carbonear is a port of entry, customs, quarantine, and immigration matters are handled from Harbor Grace.

Anchorage.—Anchorage can be taken off the N shore of the bay, in depths of 12.8 to 16.5m, sand and mud. The middle and S side of the bay should be avoided for anchoring, as E and NE winds raise a rough sea.

6.17 Conception Bay—Northwest side.—Between Crockers Point and **Broad Cove Head** (47°50'N., 53°05'W.), about 7 miles NE, lie several detached islets, rocks, and shoals lying as far as 0.5 mile offshore. Vessels running this coast, or entering Carbonear Bay from the N, should keep Broad Cove Head bearing less than 032° and open SE of the above-water rocks lying offshore between **Folly Rocks** (47°46'N., 53°09'W.) and Crockers Point.

Between Broad Cove Head and **Flambro Head** (48°01'N., 52°58'W.), the coast has few indentations. **Western Bay** (47°53'N., 53°04'W.), entered N of Western Bay Head and marked by a light, has depths of 12.8 to 20.1m in its outer part. **Job Rock** (47°57'N., 53°00'W.), with a depth of 8.5m, lies 1.75 miles offshore.

Between Flambro Head and **Split Point** (48°06'N., 53°51'W.), the coast is indented by several bays and coves. **Bay de Verde Head** (48°05'N., 52°54'W.), a salient outcropping, marks the N extent of Bay de Verde, which is marked S by **Low Point** (48°04'N., 52°57'W.). The N half of the bay has depths of 23.8m, clear of dangers; the S half is encumbered with rocky shoals. A wharf situated at a village, close NW of the headland and inside a breakwater, has depths alongside of 1.6 to 7.5m alongside. A lighted bell buoy is moored close off the submerged end of the breakwater.

Baccalieu Island (48°08'N., 52°48'W.), 3 miles long N and S, lies about 1.5 miles E of Split Point and is separated from it by Baccalieu Tickle, a deep-water channel. The island has shores formed of rocky cliffs, rising steeply, and fronted by foul ground. **Wall Rock** (48°07'N., 52°50'W.), with a depth of 9.4m, lies nearly in mid-channel.

A light shown from a red tower on the NE end of the island is often obscured by fog when the lower part of the island is visible. Another light is shown from the SW extremity of the island.

Baccalieu Island, along with Puffin Island close W, have been designated an ecological reserve. The boundary of the reserve also extends 1,000m seaward from the shoreline of Ba-

ccalieu Island. Vessels longer than 20m are not permitted in the reserve.

Trinity Bay

6.18 Trinity Bay (Clarenville) (48°00'N., 53°30'W.) is entered between **Grates Point** (48°10'N., 52°56'W.) and **Horse Chops** (48°21'N., 53°13'W.). The bay extends SW for about 50 miles and contains many small harbors and anchor-ages.

Winds—Weather.—After E winds, a current sets into the bay along the NW shore, and fog hangs over the NW side of the bay more than over the SE side.

Ice.—Trinity Bay never freezes over, but field ice has been reported in December, and has continued off the mouth until May. Icebergs drift up the bay as early as the last week in May, and some remain until the last week in August, when they are generally aground. Otherwise, with favorable winds, the bay is generally clear of ice by the end of June.

Depths—Limitations.—Depths of more than 200m prevail in the middle of the bay as far as **Bull Arm** (47°45'N., 53°50'W.). Numerous dangers lie up to 2 miles off the shores.

Aspect.—Grates Point, the SE entrance point of Trinity Bay, is fronted by a reef extending 0.75 mile E, and Martins Ledge, about 1.5 miles NE. A cove located close E of the point has a small wharf.

Horse Chops Light is shown from the N side of the entrance to Trinity Bay.

Pilotage.—Pilotage is not compulsory, however, licensed pilots are available. St. John's Pilots will take these assignments. Arrangements should be made for pilot to board either off St. John's at position 47°33'42"N, 52°37'54"W or off Trinity Bay (Clarenville). However, during the winter, the pilot will only board at St. John's. Arrangements should be made through the Atlantic Pilotage Authority (APA) Central Dispatch Office in Halifax, Nova Scotia. However, pilots may still be ordered through any Canadian Coast Guard radio station with a clear request to "Please forward to Atlantic Pilotage Authority Dispatch, Halifax." For more detailed information on ordering pilots, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas.

Regulations.—A traffic routing scheme is in operation in Bull Arm and its approaches. Vessels using the traffic scheme are to contact Hibernia Marine Communications on VHF channel 9 prior to entering.

Trinity Bay—East Side—Grates Point to Cottier Bay

6.19 Breakheart Point, the SW entrance point of Heart Cove, lies about 1.4 miles SW of Grates Point. The coast in this area is composed of cliffs, rising to about 91m.

Sgeir Island, 9.1m high, lies 0.1 mile offshore, about 1 mile SSW of Breakheart Point. Black Point, almost 2 miles SSW of Sgeir Island, is a fairly prominent steep point.

Old Perlican Cove (48°05'N., 53°01'W.), a cove that indents the coast about 6 miles SW of Grates Point, is entered between **Skerwink Point** (48°06'N., 53°01'W.) and **Bull Gulch Point** (48°04'N., 53°03'W.). The coast NE of the cove is cliffy, high, and fringed with rocks and shoals.

Perlican Island (48°05'N., 53°01'W.), marked by a light, lies in the cove entrance. A rocky spit connects the E side of the island with the shore at the head of the cove. Lighted Bell Buoy TP is moored 0.6 mile W of Skerwink Point.

A wharf, with a least depth of 2.4m, is situated at the head of the cove. A light is shown from the seaward ends of the innermost and outermost breakwaters.

Regulations.—A Canadian Coast Guard lifeboat, the CCGS Sacred Bay (call sign: CGB3254) is stationed close N of the public piers at Old Perlican. The station operates 24 hours from May to December and maintains a daily radio watch from 0830 to 1630 on VHF channels 16 and 51. Contact can be made through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

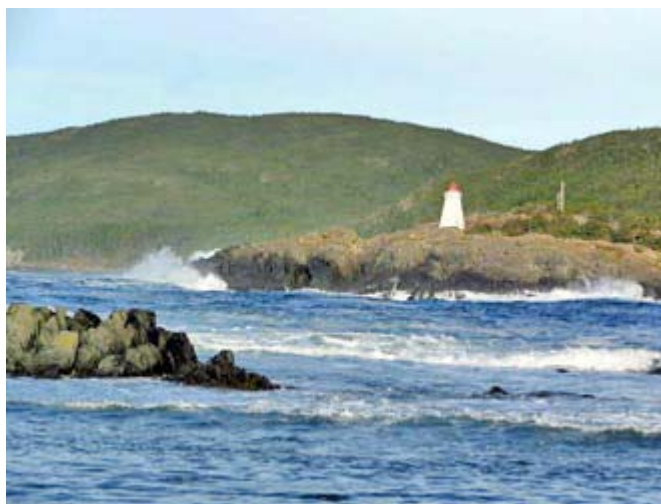
Anchorage.—Anchorage can be taken SE of Perlican Island, in a depth of 9.1m, gravel. A swell sets into the cove during NE gales. A shoal patch, with a minimum depth of 1.8m, which breaks in heavy weather, extends about 240m E of the SE corner of Perlican Island. A dangerous underwater rock of 2m or less is located about 320m SSW of the outer end of the W breakwater. Preferred anchorage is taken with the SW end of the island bearing 298° and the E extremity bearing 006°.

6.20 Russels Cove (48°04'N., 53°07'W.) is entered between Bull Gulch Point and **Salvage Point** (48°04'N., 53°10'W.), a rugged beach of stones around a steep gravel cliff rising to a high hill. Several small coves indent the shores of Russels Cove.

At **Sibleys Cove**, 2.5 miles SE of Salvage Point, is a wharf, with an alongside depth of 3m.

Rocky, foul ground extends N of Salvage Point for about 1.5 miles. There are depths of less than 1.8m over these rocks.

Between Salvage Point and Hants Head, about 5.7 miles SW, the coast is bordered by sunken rocks.



Hants Harbor Light

Hants Harbor (48°01'N., 53°15'W.), located about 1 mile E of Hants Head, is marked by a light shown from a white square

tower on the E entrance point. There is a public wharf in the harbor, with a least depth of 7.9m alongside. A fish plant is situated at the head of the wharf.

The rock breakwater, situated close S of the W entrance point, shows a light. It has been extended approximately 59m SE.

Riff Raff Rocks (48°03'N., 53°14'W.), a group of sunken rocks on which the sea breaks, which includes Tail of the Bank and Knife Rock, as well as other detached above and below-water rocks, lie in the approaches to Hants Harbor. Two lighted fairway buoys are moored in the N and W approaches to Hants Harbor, which can be entered with local knowledge. A heavy sea sets into the harbor during and after gales, causing an undertow on the E side. The harbor rarely freezes over.

6.21 Kings Head (47°59'N., 53°19'W.) is high and cliffy. **Sugarloaf** (47°57'N., 53°21'W.) is a conspicuous conical hill rising steeply from the coast. The coast SW of Kings Head is indented by coves. **Winterton Cove** (47°57'N., 53°02'W.), close N of Sugarloaf, has a boat harbor and wharf, with a depth of 3.4m alongside the outer face.

Jeans Head, the N entrance point of New Perlican, lying about 1.7 miles SSW of Sugarloaf, is a bold steep bluff which rises to a hill over 76m high. A light is shown from the head.

New Perlican (47°55'N., 53°21'W.), a cove, is entered between Jeans Head and **Garlep Point** (47°55'N., 53°23'W.), a steep-to point. Jeans Head is a bold, steep bluff which rises to a high hill. New Perlican is separated into two coves by Bloody Point, on which a light is shown from a tower. The inner cove, SE of Bloody Point, is suitable only for small craft.

Anchorage.—Anchorage can be taken, in a depth of 14.6m, with Bloody Point Light bearing 151°, and clear of the 7.6m patch 0.4 mile S of Jeans Head.

Between Garlep Point and Norther Point, about 2 miles SSW, the coast consists of low cliffs.

6.22 Heart's Content (47°53'N., 53°23'W.) is entered between **Norther Point** (47°53'N., 53°23'W.) and **Souther Point** (47°53'N., 53°24'W.). A light is shown from a tower on Norther Point.

White Rock, with a depth of 8.8m, and a 9m patch, lie in the entrance of Heart's Content. The church at the head of cove, bearing 124° and open SW of Norther Point, leads SW of White Rock. A rock, with a depth of less than 1.8m, lies 90m W of Norther Point. Lousey Rock, above-water, lies 90m off Souther Point.

Ice.—Heart's Content freezes over between the end of January and the middle of February. The ice clears about the end of March. Northern ice arrives about mid-April and dissolves about mid-May.

Depths—Limitations.—Heart's Content has a U-shaped pier, at the N side of the harbor. The W arm is 45m in length and has a depth of 7.7m alongside; the E arm has a length of 46m and depths of 3.4 to 3.7m alongside.

Aspect.—Hearts Content Wharf Light is shown from a mast situated on the wharf along the north shore of the harbor.

Anchorage.—Good anchorage in the NE part of the cove can be taken, in depths of 9.1m to 25.6m, mud and gravel, N of the cable area.

The anchorage area is limited because of submarine tele-



Heart's Content Light

graph cables. When ice conditions permit, buoys are placed marking the prohibited area limits.

6.23 Seal Cove Head, 87m high, with a conspicuous scar left by a landslide on the seaward face, lies nearly 1.5 miles SW of Souther Point. Shuffle Board, a conspicuous hill 129m high, stands on the coast about 3 miles SSW of Souther Point.

Heart's Desire (47°49'N., 53°27'W.) is an open cove entered 4.5 miles S of Heart's Content. Hanging Hill is a prominent landmark located 2.5 miles E of Heart's Desire. Gannett Rock, with a depth of 9.1m, lies 1.25 miles WSW of **Gannett Point** (47°49'N., 53°28'W.), the S entrance point of the cove. Sugarloaf, in line bearing 031° with Shuffle Board, leads E of Gannett Rock and W of South Rock.

Anchorage.—Anchorage can be taken with local knowledge and offshore winds, in depths of 11 to 23.8m.

Heart's Delight (47°47'N., 53°29'W.) is an open cove. **South Rock** (47°46'N., 53°30'W.), with a depth of 6.4m, lies 0.5 mile W of the S entrance point. Local knowledge is required to enter and anchor in the cove which has shoal spits off its sides.

Anchorage.—Anchorage can be taken close within the entrance, in a depth of 12.8m.

6.24 Whiteway Bay (47°42'N., 53°30'W.) is entered N of **Black Point** (47°41'N., 53°30'W.), the head of a promontory. A light is shown from the outer end of the breakwater on the N side of the bay.

Whiteway Rock (47°42'N., 53°31'W.), with a depth of 1.8m, lies in the bay entrance, as well as Red Rocks, which are above-water.

Anchorage.—Anchorage, with local knowledge, can be taken, in a depth of 14.7m, avoiding the 9.1m shoal E of Whiteway Rock.

6.25 Hopeall Bay (47°38'N., 53°33'W.) is entered between **Hopeall Island** (47°39'N., 53°33'W.) and **Hopeall Head** (47°38'N., 53°34'W.). A light is shown from a tower on the

head.

There is a wharf, with a depth of 3.5m alongside the face, extending from the N shore near the head of the bay.

Anchorage.—Anchorage can be taken near the head of the bay, sheltered from winds except those from the WNW to N, in a depth of 16.5m.

6.26 Dildo Arm (47°34'N., 53°35'W.) is entered between a point which rises to a conical hill, located 4 miles S of Hopeall Head, and a point about 1 mile SW.

The Dildo Islands, the highest being 15m high, extend 1.6 miles N of the SW entrance point. Dildo Cove lies close E of the NE entrance point. There are depths of 18.3 to 54.9m in Dildo Arm, which is divided into two coves by a promontory. The W cove is shoal.

Ice.—Ice occurs occasionally in the arm from about the middle or end of February and clears about the middle or end of March. Northern ice is rarely a problem in the arm.

Dildo, a village at the head of the arm, has a wharf with depths of 1 to 5.1m alongside.

At Dildo South, near the head of the arm on the E shore, there is a public wharf with depths of 6.1 to 7.3m alongside. A fish plant lies adjacent to this wharf.

Another public wharf is situated on the W shore near the head of the arm with depths of 2.4 to 7.3m.

Anchorage.—Anchorage can be taken, in a depth of 14.6m off Dildo Cove, sheltered from E winds. There is also anchorage, in 21.9m, off the E cove, sheltered from all winds except those from the N and NE. Local knowledge is necessary.

6.27 Spread Eagle Bay (Spreadeagle Bay) (47°33'N., 53°36'W.), entered ESE of **McLeod Point** (47°34'N., 53°37'W.), is divided into two coves by a point.

Anchorage can be taken in the E cove, in a depth of 22m, sand, sheltered from offshore winds. Local knowledge is necessary.

Chapel Arm (47°34'N., 53°39'W.) is deep and affords no safe anchorage.

Trinity Bay—West Side—Cottier Bay to Random Sound

6.28 Cottier Bay (Colliers Bay) (47°36'N., 53°42'W.) affords anchorage, in a depth of 18.3m, sand, about 0.5 mile from its head. Local knowledge is necessary.

Tickle Bay (47°40'N., 53°47'W.) is entered between **Tickle Harbor Point** (47°42'N., 53°42'W.) and **Green Head** (47°41'N., 53°49'W.). The bay is deep, but affords unsafe anchorage as a swell always sets in, and with E and NE winds it is dangerous.

Hudson Rock, about 2.3 miles SW of Tickle Harbor Point, with a depth of 4.6m, is the only obstruction in the mouth of Tickle Bay.

Rantem Cove (47°43'N., 53°51'W.) is entered between **Western Head** (47°42'N., 53°50'W.) and **Masters Head** (47°44'N., 53°51'W.). The cove is deep, with steep-to shores. There are S, W, and NW Arms leading off the cove. Boulton Island, 3.4m high, lies in the entrance of the NW Arm. Sunken rocks lie as far as 0.15 mile off the island.

Anchorage.—Sheltered anchorage can be taken well up into

either the W or NW arm, in depths of 9.1 to 18.3m.

6.29 Bull Arm (47°47'N., 53°51'W.) is entered between **Masters Head** and the SW entrance point of **Rix Harbor** (47°46'N., 53°48'W.), and extends about 9 miles NW. The arm is deep and clear of dangers throughout the fairway. Depths decrease to 9.6m at the head of the arm, which affords the only good anchorage. The W side of Bull Arm is indented by several small coves suitable for small craft with local knowledge.

Ice.—Ice forms and Bull Arm freezes over from about the mid-January until mid-May, when the ice breaks up.

Aspect.—**Center Hill** (47°54'N., 53°52'W.), the highest land in the area, is an isolated, conical summit rising to a height of 346m above an elevated broken plateau overlooking the **Isthmus of Avalon** (47°51'N., 53°57'W.). **Crown Hill** (47°55'N., 53°47'W.) and two conical hills, rising N of the head of **St. Jones Harbor** (47°56'N., 53°46'W.), are more conspicuous from Trinity Bay.

Bull Island (47°46'N., 53°47'W.), partially wooded, lies off a bold and rocky mainland coast. Green Cove, close SW of the N end of the island, is an excellent landlocked boat harbor. Rix Harbor, on the mainland close W of Bull Island, affords good anchorage for small vessels, in a depth of 12.8m. The shores of the harbor are bold and steep-to.

Shoal Bay (47°52'N., 53°45'W.), open E, is not recommended as the approaches and entrance are encumbered with foul ground. The coast between the bay and **Niagara Point** (47°49'N., 53°46'W.) is bold and fringed by rocky foul ground. Niagara Ledge lies 1.5 miles NE of the point.

6.30 Deer Harbor (47°54'N., 53°43'W.) is entered between **Big Island** (47°53'N., 53°44'W.) and **Deer Harbor Head** (47°54'N., 53°43'W.). Big Island, separated from the higher mainland by a narrow channel, is not easily distinguished from seaward. Two shoals, with least depths of 8.3 and 3.7m, lie about 0.3 and 0.5 mile NNE of the N tip of Big Island, near the middle of the entrance to Deer Harbor. Grub Island, lying 1.5 miles W of Deer Harbor Head, reduces the width of the harbor to 0.35 mile. Depths of more than 36.6m prevail as far as the island, decreasing to 10.9m about 1 mile from the inlet head.

Ice.—Ice forms and freezes over the harbor in January; it breaks up the latter part of April.

Anchorage.—Anchorage for small vessels can be taken, in depths of 12.8 to 36.6m, W of Grub Island. Vessels can also anchor as convenient in the W part of the harbor, W of Gooseberry Island, in depths of 7 to 18m.

6.31 St. Jones Harbor (47°56'N., 53°42'W.) is a constricted inlet extending about 3 miles W from the coast. Conical hills rise abruptly on the N side of the inlet; Crown Hill is conspicuous at the head of the harbor. Least depths of 11m decrease to 7.5m near the W end.

The St. Jones Islands lie 0.5 mile E of the S entrance point of the harbor. Foul ground extends 0.15 mile W of the islands.

Anchorage.—Anchorage can be taken by small vessels near the head of the harbor, in depths of 7.3 to 16.5m, mud.

Seal Island (47°57'N., 53°41'W.) is connected to the coast by a rocky ridge with a depth of 5.5m. **St. Jones Head** (47°57'N., 53°40'W.) is a prominent high headland. **Bald Head**

(48°00'N., 53°38'W.) is a bold precipitous bluff. A valley runs parallel with the coast within this bluff, giving it a remarkable semi-isolated appearance. **Beaver Rock**, with a depth of 5.5m, lies 0.7 mile NE of Bald Head.

6.32 Heart's Ease Inlet (48°02'N., 53°38'W.), a narrow inlet, is entered between Heart's Ease Point and Southeast Point, about 0.4 mile SW. The former point is the end of a small peninsula connected to the mainland by a neck of shingle.

There is an 11m shoal patch lying in the middle of the fairway entrance. Gooseberry Cove, on the N side of the inlet and about 0.5 mile within the entrance, has an L-shaped wharf with depths of 5.5 to 6.1m alongside.

Anchorage.—Anchorage can be taken off Ganny Cove, about 0.5 mile SW of Gooseberry Cove. A light is shown from the Gooseberry Cove Breakwater.

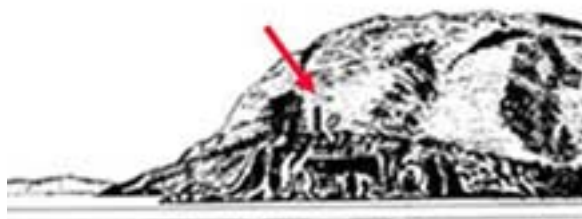
Heart's Ease Ledge (48°03'N., 53°36'W.), a shoal with a depth of 4m, is marked 0.25 mile E by a lighted buoy. The Green Islets, above-water, and Long Island lie on a narrow bank extending about 2 miles SW from the ledge. White Rocks, above-water, lie 1.25 miles SE of Long Island.

Trinity Bay—Random Sound

6.33 Random Sound (48°04'N., 53°36'W.) is entered between **East Random Head** (48°06'N., 53°33'W.) and **West Random Head** (48°03'N., 53°37'W.). The sound consists of an outer part which extends from the entrance, W to **Middle Cliff** (48°04'N., 53°41'W.), where the sound divides into Southwest Arm and Northwest Arm. The former arm extends about 12 miles W; the latter, 17 miles long, passes along the S and W sides of Random Island.

Ice.—Ice forms and the sound freezes over in severe winters from about February 10 to about April 10-20, when the ice breaks up.

Anchorage.—Anchorage is prohibited in the Northwest Arm of Random Sound, between the entrance to Random Sound and the town of Clarenville.



East Random Head—Motion Island Light

Trinity Bay—Random Sound—Outer Part

6.34 The N shore is steep-to from East Random Head to **Salmon Cove** (48°05'N., 53°38'W.). The E end of the headland is formed of several wedge-shaped masses. **Motion Island Light** (48°06'N., 53°33'W.) is shown from a tower on an islet lying 90m E of the headland. Other islets lie nearby. Islets and rocks, awash, lie at least 0.1 mile offshore between the head and Salmon Cove.

The S shore, between East Random Head and **Fox Island** (48°03'N., 53°39'W.), is steep-to. Steep cliffs form the NW side of the island. Fox Harbor, close E, is foul, but a wharf extending from the N shore of the harbor has depths alongside of 3.4 to 4.6m.

Trinity Bay—Random Sound—Southwest Arm

6.35 Southwest Arm is deep and clear of dangers in the fairway. **St. Jones Within Harbor** (48°03'N., 53°45'W.) affords good anchorage, with limited swinging room, in depths of 9.1 to 12.8m. There are a few small coves indenting the shores of the arm that have wharfs for shallow-draft vessels and limited anchorages; all require local knowledge.

At **Long Beach** (48°00'N., 53°49'W.), there is an L-shaped public wharf, with a depth of 4.6m alongside. Submarine cables are laid across the head of Southwest Arm between North Bight and South Bight.

Trinity Bay—Random Sound—Northwest Arm

6.36 The S side of the arm as far as **Pudding Point** (48°05'N., 53°42'W.) is a steep cliff backed by high hills. Quarry Rock, with a depth of 3.7m, lies 0.4 mile N of the point.

Hickmans Harbor (48°06'N., 53°45'W.), on the N side of the arm, has a least fairway depth of 14.6m. Gooseberry Island lies in mid-channel of the entrance. The public wharves are along the W shore of the harbor, about 0.4 mile within the entrance. The N wharf has a least depth of 5.2m. The S wharf has a depth of 4.9m. The center wharf has a depth of 4m. A new wharf with an extension of about 20m has been reported (2010) farther S of the S wharf.

The Tolt (48°05'N., 53°46'W.) is a conspicuous conical hill rising on the S side of the arm.

Lady Cove (48°06'N., 53°51'W.), has a wharf with a depth of 5.2m alongside. Bald Nap Shoal, with a depth of 0.9m, and Fosters Rock (Forster Rock), which dries 0.4m, lie off Bald Rock Point and **Fosters Point** (Forster Point) (48°07'N., 53°53'W.), about 1 mile apart. A lighted bell buoy is moored about 0.6 mile SSW of Fosters Point.

The shore between Fosters Point and the head of the arm consists of shale cliffs backed by high wooded terrain. **Bluff Point** (48°08'N., 53°55'W.) is a conspicuous eminence. Red Man, an islet, lies close N of the point. **Red Point Hill** (48°10'N., 53°58'W.) is another conspicuous summit.

6.37 Clarenville (48°09'N., 53°57'W.) (World Port Index No. 1611) is the site of a corseting plant, a lumber yard, and an asphalt plant. There is also an oil terminal in town.

Depths—Limitations.—Newfoundland Hardwoods Limited maintains a jetty that is 115m long. The berth, situated about 0.2 mile N of Red Point, the N side of Clarenville, is exposed to weather and great care must be taken to ensure that the vessel is secured. There are two dolphins located 0.1 mile N of the Dark Hole entrance. Dark Hole is a cove situated close N of Lower Shoal Harbour.

For berthing information, see the table titled **Clarenville—Berth Information**.

Aspect.—Lights are shown from masts atop dolphins situated off the public wharf. A conspicuous tower, 233m high, and

marked by red aircraft obstruction lights, stands 0.6 mile W of the outer end of the public wharf.

Pilotage.—Pilotage is not compulsory, but is recommended. The vessel's ETA should be sent 12 hours and 4 hours prior to arrival at each pilot boarding location. Pilot boarding location "B" (near S. John's) requests another ETA notice 1 hour prior to arrival. The ETD should be sent to the Atlantic Pilotage Authority 12 hours and 4 hours prior to departure. For pilot boarding locations see the table titled **Pilot Boarding Locations**.

Pilot Boarding Locations	
A (near Clarenville)	48°04'30"N, 53°35'00"W
B (near S. John's)	47°33'42"N, 52°37'54"W

Contact Information.—For further information, see the table titled **Clarenville—Contact Information**.

Clarenville—Contact Information	
Port Authority	
VHF	VHF channels 11 and 16
Telephone	1-709-466-7937
Facsimile	1-709-466-2276
Email	info@clarenville.net
Pilot Vessel	
VHF	VHF channels 11 and 16

Anchorage.—Anchorage can be taken in Northwest Arm, in depths of 13 to 22m, good holding ground, between Bounds Mead (48°10.4'N., 53°56.8'W.) and The Bar, about 1.75 miles N of the of the prohibited anchorage area.

Caution.—Submarine cables extend from the W end of Red Beach to the N of Shoal Harbour, about 1.5 miles N to Aspey Point. A water intake pipe extends ESE from the shore close N of Red Point. Another pipeline extends ENE from the shore close S of Red Point.

Trinity Bay—West Side—Random Sound to Horse Chops

6.38 Random Head Harbor (48°06'N., 53°33'W.) is entered between East Random Head and Pigeon Island, lying 0.5 mile N. A reef extends 0.15 mile SE of the island, terminating in Mouse Rock, awash; a rock, with a depth of 2.3m, lies 0.3 mile W of Mouse Rock. The harbor is foul and not recommended, except along its N side.

East Head (48°08'N., 53°32'W.), the N side of which is a cliff, is located 0.75 mile E of Long Point. This point and **Flat Rock Point** (48°08'N., 53°34'W.) form the entrance to **Deer Harbor**, suitable for small vessels. The entrance to the inner harbor has a limiting depth of 4m. A public wharf, 27m long, has an alongside depth of 5.2m at its outer end. The harbor freezes over in February, with the ice breaking up in late April.

Long Cove (48°09'N., 53°33'W.), entered by small vessels, has an entrance constricted to 90m by a 1.8m shoal. There are depths of 7.3 to 31.1m in the cove.

6.39 Little Harbor (48°10'N., 53°33'W.), located at the N end of a stretch of coast consisting of low cliffs backed by flat-topped hills, has an entrance constricted by an islet on the N side and a rock, awash, off the S entrance point. There is a depth of 11m within the harbor.

Northwest Arm (48°11'N., 53°33'W.) is located close SW of **Bakers Loaf** (48°11'N., 53°32'W.), a remarkable high peak dominating the NE part of Random Island. The entrance channel to the arm has a depth of 12.8m over a width of about 135m.

Anchorage.—Anchorage can be taken in Northwest Arm by small vessels, in 16.5m, mud.

Caution.—The E side of Random Island is fronted by numerous islets, rocks, and reefs. **Verge Island** (48°07'N., 53°33'W.) lies 0.25 mile offshore. A chain of rocky islets terminating in **Black Rock** extends 0.5 mile N from the island. **Deer Rock** (48°08'N., 53°31'W.), the outermost danger in the area, has a depth of 1.2m. The sea generally breaks over this rock, except at HW and fair weather.

North Bird Island and South Bird Island lie 1 mile and 0.5 mile N, respectively, of East Head. **Duck Island** (48°10'N., 53°29'W.) has two peaks separated by a valley running lengthwise. The Shag Islets lie within 0.3 mile N of Duck Island.

Smith Sound (48°10'N., 53°40'W.), lying between the mainland and the N side of Random Island, is entered between **Bonaventure Head** (48°17'N., 53°24'W.) and Ireland's Eye Point, a steep cliff located 3.75 miles SW of the head. Smith Sound extends about 17 miles W to its head, where it joins the head of Northwest Arm. Depths in the sound are great to within 4 miles of its head and it varies in width from 0.5 to 1.5 miles. The shores in the lower reaches are steep-to and the only anchorages recommended are in the small harbors near the entrance.

Ice.—The sound freezes in severe weather about February 10, with the ice breaking up between April 10 and 20.

Caution.—Submarine cables are laid from seaward through the sound and landed at **Snooks Harbor** (48°10'N., 53°52'W.).

Clarenville—Berth Information			
Berth	Length	Depth	Remarks
Clarenville Dockyard	80m	8.0m	Vessels up to 250m long can be accommodated
Newfoundland Hardwoods Wharf	115m	8.5m	—
Burry's Shipyard	48m	5.2m	Former public wharf
Yacht Club	400m	6.0m	Vessels up to 100m long can be accommodated

6.40 Bonaventure Head (48°17'N., 53°24'W.) is a high bold bluff fringed by several precipitous rocks. **Ireland's Eye Point** (48°14'N., 53°29'W.) is the N extremity of **Ireland's Eye** (48°13'N., 53°30'W.), an island steep and rocky with several conspicuous peaks, lying in the entrance of Smith Sound.

Anthony Island (48°13'N., 53°29'W.) is separated from Ireland's Eye by a deep channel. The **Ragged Islands** (48°14'N., 53°27'W.), barren, and on which a light is shown from a tower, include Ragged Rock, which dries, and lies 0.4 mile S of the light structure.

Old Bonaventure Harbor (48°17'N., 53°26'W.) and **New Bonaventure Harbor** (48°17'N., 53°28'W.) are small inlets where there are settlements and wharves. There is anchorage in the old harbor. The wharf in the new harbor has a length of 60m and depth of 6.1m alongside. At **Kerleys Harbor** (48°17'N., 53°29'W.) there is good, but confined anchorage for small vessels.

6.41 British Harbor (48°15'N., 53°31'W.), an inlet extending 1 mile N from the entrance points, affords anchorage to small vessels, in depths of 18.3 to 21.9m, mud. The coast for 1.25 miles NE of the entrance consists of a conspicuous flat-topped cliff.

Popes Harbor (48°14'N., 53°34'W.), an inlet, is encumbered with above and below-water rocks. Indian Lookout, a prominent high hill with a steep cliff forming the summit, rises close W of the harbor entrance. The deep-water entrance channel extends 0.1 mile on each side of an above-water rock.

Anchorage.—Anchorage for small vessels can be taken, in depths of 3.7 to 9.1m, mud.

Hickman Harbor (48°13'N., 53°35'W.), a narrow foul inlet, is fronted E by the Hickman Islands, a group of islets and rocks extending 0.25 mile offshore. A depth of 3.7m lies about 0.2 mile WSW of the S end of the largest island.

Tilton Head (48°10'N., 53°42'W.) is a high bluff on the N side of the sound. Several small coves located on the S side and opposite the head, have wharfs with depths up to 3.7m alongside.

Burgoyne's Cove (48°10'N., 53°43'W.) affords temporary anchorage from strong winds, in a depth of 21.9m, about 0.2 mile offshore. Across Smith Sound, about 1.5 miles SW of Burgoyne's Cove, lies Petley's wharf which is in ruins.

Smith Point (48°11'N., 53°50'W.) rises to an eminence within the point. The coastal terrain NW of the point is high and wooded. **Snooks Harbor** (48°10'N., 53°52'W.) has depths of 18.3m mud. There are several, small wharfs in the cove. The coast E for 4.5 miles is steep and often cliffy. From Snooks Harbor to **Grindstone Head** (48°13'N., 53°56'W.), the shore is mostly shale cliffs.

The Bar (48°13'N., 53°57'W.), a constricted channel with a depth of 0.6m, connects the head of Smith Sound with the head of Northwest Arm (Random Sound). A road bridge, with a vertical clearance of 4.6m, spans the channel.

6.42 Trinity Harbor (48°22'N., 53°21'W) considered one of the best in Newfoundland, is entered between **Fort Point** (48°22'N., 53°21'W.) and **Skerwink Head** (48°22'N., 53°20'W.). The harbor is sheltered by hills. Skerwink Head, rising to a high hill inland, is the ex-tremity of a broad peninsula and is located 0.25 mile W of Skerwink Rocks. Fort Point is

the termination of a narrow peninsula extending N from **Salvage Head** (48°21'N., 53°21'W.), which rises inland to a high hill.

Ice.—Trinity Harbor freezes over about the end of January, and is closed at intervals by ice, about 0.5m thick, until the end of April. Drift ice appears about the middle of April and dissolves about the end of April. The earliest date of a vessel arriving was March 5; the latest date of departure was January 21. A SW wind clears the harbor sufficiently for vessels to enter within 24 hours. Between Skerwink Head and Horse Chops, there is often a straight edge of ice, and if SE winds prevail, the ice in the bight outside Trinity Harbor is held in for some time, but N or NW winds clear it out.

Depths—Limitations.—The controlling depth in the entrance of Trinity Harbor is 20.1m. The controlling depths are 14.6m in Northwest Arm and 10m in Southwest Arm. West Arm is for small craft.

Wharves are situated at Trinity, W of Nuddick Point, and at the head of a cove entered NW of **Job's Head** (48°22'N., 53°21'W.). At the head of the cove there is an L shaped public wharf, 49m in length, with depths of 3 to 5.4m alongside. A rock, awash lies 61 m SW of the wharf; a light is shown from the wharf. In Trinity a private wharf is located on the E side of Mackerel Point with a length of 27 m and depths of 2 to 5m alongside. Another wharf, which dries at its outer end, is located 0.1 miles S of the public wharf and has a length of 31m.

Aspect.—Rider Hill, the conspicuous summit of a rocky peninsula, is located almost 1 mile NW of Fort Point. The peninsula divides the harbor into Southwest Arm and Northwest Arm. A conspicuous white church, with a pointed spire, stands 0.2 mile SSW of Nuddick Point, the NE extremity of the peninsula. There is another church spire 135m farther SSW.

Anchorage.—There is anchorage in Trinity Harbor, in depths of 25.6 to 27.4m, about 0.5 mile N of Nuddick Point.

Southwest Arm, entered between Fort Point and Nuddick Point, affords fair anchorage, in a depth of 20.1m, mud, about 0.2 mile from its head. The village of Dunfield lies at the head of the S extension of Southwest Arm.

Northwest Arm, entered N of Nuddick Point, contains several coves of which Cap Cove, located NW of Rider Hill, is the largest. There is good anchorage in Cap Cove, in 20.1m, mud, sheltered from all winds.

Caution.—Admiral Island and Herring Rocks lie on fringing shoals extending along the peninsulas at the harbor entrance. **Mussel Rock**, with a depth of 2.4m, lies 0.15 mile NW of Fort Point.

A sewer pipe lies across the entrance of Southwest Arm between Trinity Harbor and Fort Point.

6.43 Robinhood Bay (48°22'N., 53°19'W.) is entered between Skerwink Head and **Fox Head** (48°22'N., 53°18'W.), the high S extremity of a peninsula. Fox Rock, with a depth of 5.2m, lies 230m S of the point. Depths in the bay vary from 11m to over 36.6m. There is an 11m detached patch in the middle of the fairway opposite **Herring Cove** (48°23'N., 53°19'W.).

At **Port Rexton** (48°23'N., 53°20'W.) a ruined wharf extends 25m from shore.

Anchorage.—Anchorage can be taken, in depths of 12.8 to 31.1m, in the bay.



Robinhood Bay

6.44 Champney's Cove (48°23'N., 53°18'W.) is entered between Salmon Point and **Huzzie Head** (48°23'N., 53°17'W.), about 0.3 mile NE. Depths vary from 16.5m at the entrance to 9.1m at the head of the cove. The cove is clear of dangers in mid-channel. There is a wharf on the W side of the cove, about 0.5 mile NW of Salmon Point, that has a depth of 4.3m alongside.

Anchorage.—Anchorage for small vessels can be taken at the head of the cove, in a depth of 9.1m.

English Bay (48°22'N., 53°17'W.) is entered between Huzzie Head and **English Head** (48°22'N., 53°16'W.). English Harbor, a settlement at the head of the bay, has two prominent churches, one with a spire. There is a pier with a depth of 3m alongside; the wharf was reported (1996) to be in disrepair.

Horse Chops (48°21'N., 53°13'W.), the NW entrance of Trinity Bay, is an overhanging cliff rising to a saddle-shaped hill. Flat Rock, a detached islet, lies close off the cliff. A fog signal is sounded from Horse Chops.

Horse Chops to North Head

6.45 Norther Point (48°24'N., 53°09'W.) is a high, steep, and conspicuous bluff located at the SW extremity of a range of hills which backs a series of low bluffs fronting the table-

land composing the coast as far as **South Head** (48°28'N., 53°03'W.). The latter head is wedge-shaped and rises to a conspicuous summit.

Low Point (48°25'N., 53°07'W.) is low, shelving, and fringed with above-water rocks. The area for 0.3 mile S of the point has a least depth of about 5.5m. Foul ground extends 0.35 mile E and 1 mile ENE of South Head.

Caution.—A restricted area, with a radius of 0.5 mile, lies 2 miles ENE of South Head. The area is used for the sinking of surplus vessels.

6.46 Melrose Harbor (48°29'N., 53°04'W.) is a cove suitable only for small vessels. The harbor is fronted by the Ragged Islands and Ragged Rocks, which lie as far as **Morris Rocks** (48°30'N., 53°02'W.). Shag Rock, above-water, lies 0.15 mile E of the S entrance point of Melrose Harbor.

Range lights, in line bearing 314°30", lead N of Shag Rock and into the harbor in a least depth of 4m. The lights are shown from skeletal towers at the head of the harbor.

6.47 Catalina Harbor (48°30'N., 53°05'W.) (World Port Index No. 1600) is entered between **Burnt Point** (47°34'N., 53°11'W.) and **Shepherd Point** (48°31'N., 53°04'W.). The harbor consists of two arms; Northeast Arm is the site of the town of Catalina while Southwest Arm is, the location of Port Union. Both towns are the center of a large fishing industry.

Winds—Weather.—After gales, a swell sets into the harbor, but it is not heavy enough to endanger vessels. The normal navigation season is from April to February.

Ice.—Ice is irregular in its arrival, seldom appearing until the middle of January and often not before February 10. The ice disperses between April 10 and 20, but it has remained up to June 10. Winds between the SW and WSW often break up the ice.

Depths—Limitations.—There are several isolated rocks, on which the sea breaks in heavy weather, lying in the approaches to the harbor. They are **Murphy Rock** (48°32'N., 52°59'W.), **Soldier's Rock** (48°31'N., 52°58'W.), **Joe's Rock** (48°31'N., 52°59'W.), and **Feather Shoal** (48°29'N., 52°57'W.).

Poor Shoal (48°31'N., 53°01'W.), with a least depth of 5.8m, is an extensive shoal lying NE of Burnt Point. The sea breaks heavily on this shoal in bad weather. **Brandies Shoal** (48°31'N., 53°02'W.), between Poor Shoal and Burnt Point, consists of two heads with depths of 1.2m. The sea usually breaks on this shoal.

Catalina Harbor—Berth Information

Berth	Length	Depth	Remarks
Catalina Harbor Terminal			
Public Wharf	118m	—	Fishing. Vessels with a maximum loa of 119m and a maximum draft of 7.3m can be accommodated.
Port Union			
Irving Oil Company Jetty	—	4.9m	Position 48°30.3'N 53°04.7'W. Several small oil storage tanks nearby.

Catalina Harbor—Berth Information			
Berth	Length	Depth	Remarks
Port Union—Fishery Products Wharf			
Northeast Jetty	56m	2.3-6.2m	Located SW of oil jetty. Consists of three jetties extending SE.
Center Jetty	54m	2.3-6.2m	—
Southwest Jetty	—	6.0m	—
Fisherman's Trading Company Wharf	58m	2.4m	South side of the SW area of Catalina Harbor.

The entrance channel, formed between Burnt Point and Brandies Shoal, is about 135m in width and has a least depth of 9.1m. Depths of 5.5 to 9.1m are found in both arms.

In Catalina, about 0.4 mile NW of Manuel Island Light, an irregularly-shaped fishing wharf has depths of 3.7 to 5.5m. A 37m long wharf extends to the S, with depths alongside of 4 to 4.9m.

For berthing information, refer to the table titled **Catalina Harbor—Berth Information**.

Aspect.—**Green Island** (48°30'N., 53°03'W.), rugged and rocky, lies on encircling shoals S of the entrance channel and SE of Burnt Point. A light is shown from the E side of the island. Burnt Point Light (Catalina Light), NW of Green Island, is shown from the S side of the entrance.

An overhead power cable, with a vertical clearance of 7.6m, crosses from the W side of Green Island in a 282° direction to the mainland.

Several churches are conspicuous near the shores of both arms of the harbor. Three white towers stand on the SE shore of Southwest Arm; a church spire is prominent close S. A green dome and monument appear near the head of Southwest Arm.

Courages Point (48°30'N., 53°05'W.), backed by Snelgroves Hill, is conspicuous, as are two church spires at the bottom of the hill.

Pilotage.—Pilotage is not compulsory; however, a pilot can be arranged by giving 24 hours notice of requirement to "Pilots, St. John's." The pilot will board off St. John's in position 47°33'42"N, 52°37'54"W, or off Catalina Harbor, provided the vessel's local agent arranges for a boat to embark the pilot.

Anchorage.—Northeast Arm affords anchorage for small vessels, in a depth of 3.7m, mud. Larger vessels can anchor off the entrance of Southwest Arm, in a depth of 9.1m. Off Port Union, there is anchorage in 7.3m, mud.

Directions.—The harbor opens into Northeast Arm and Southwest Arm close within **Goodland Point** (48°31'N., 53°04'W.). Manuel Island, close W of the point, is marked by a light shown from a white circular tower. Outer range lights are situated at the head of Shepherds Cove, close W of the point. These lights, in line, lead through the entrance channel to Burnt Point. Inner range lights are situated on Courages Point. These lights lead from the intersection of the outer range through the inner harbor. There are several rocks lying near the inner range alignment; buoys mark these dangers. A dredged channel, with a least depth of 5.5m and marked by buoys, leads N into Northeast Arm from a position 0.15 mile W of Manuel Island.

Caution.—Vessels should not approach Catalina Harbor closer than 7 miles in heavy weather or at night.

A submarine pipeline extends 283m, bearing 105°, from the

outer end of the pier extending from the fishery products wharf.



Arch Rock near Little Catalina Harbor

Port Union (48°30'N., 53°05'W.) (World Port Index No. 1605) is a fishing town situated along the shores of Southwest Arm in Catalina Harbor. Landmarks are described with Catalina Harbor, as is the Fish Products Wharf and the anchorage off the wharves. Several wharves and piers, with alongside depths of up to 4.9m, are situated along the shores of Port Union.

North Head to Cape Bonavista

6.48 North Head (48°33'N., 53°00'W.) is a conspicuous headland fronted by cliffs. **Little Catalina Harbor** (48°32'N., 53°03'W.) is a boat harbor with a conspicuous church spire at its head, and several small piers along its E side.

Off-lying dangers.—Several detached rocky shoal patches of 7.3 to 14.6m, on which the sea breaks after E gales, lie as far as 6 miles E of North Head. **The Haypooks** (48°34'N., 52°52'W.), with a least depth of 7.3m, are the E of these dangers. In heavy weather and at night, vessels should pass E of the Haypooks.

The Skerries, a shoal area with a least depth of 12.2m, lies about midway between North Head and The Haypooks.

Whalesback (48°35'N., 52°59'W.), a drying rock, lies almost 0.8 mile SSE of **Flowers Point** (48°36'N., 53°00'W.). Flowers Rock, with a depth of 1.5m, lies at the NE extremity of

shoals extending almost 1 mile NE of the point. North Offer Rock, with a depth of 14.6m, lies about 1.8 miles farther NE.

South Bird Island (48°37'N., 53°00'W.) and North Bird Island, about 0.8 mile apart, lie in a foul area off **Elliston Point** (48°38'N., 53°02'W.), the SE entrance point of Elliston Cove. A depth of 7.3m lies about 0.5 mile NE of the S tip of North Bird Island. The cove has depths of up to 12.8m. Piers, with depths alongside of up to 3m, are situated on the W and S shores, respectively. A church spire at the head of the cove is conspicuous.

Anchorage.—Temporary anchorage can be taken, in a depth of 12.8m, sand. The cove affords no shelter, but it is reported that, because of backwash, a vessel may ride here securely even during E winds.

6.49 Cape L'Argent (48°39'N., 53°02'W.) is a shelving point separated from the mainland by a deep fissure. Three islets lie close off the point. L'Argent Hill, 0.75 mile W of the cape, rises about 119m above the flat cliffs forming the coast and is conspicuous. It is separated from Burnt Ridge to the S by a deep valley.

Dollarman Bank (48°40'N., 53°00'W.) is an irregular rocky bank extending as far as 4 miles offshore between South Bird Island and Cape Bonavista, about 5.5 miles NW. There are numerous rocks on this bank, with depths of 9.1 to 18.3m, on which the sea breaks after E gales. Other detached rocks and ledges, best seen on the chart, lie between the bank and **Cape Bonavista** (48°42'N., 53°05'W.).

Spillars Point (48°40'N., 53°03'W.) is fronted by a group of rocky islets and Spillars Ledge, which has a least depth of 4.9m. The coast to Cape Bonavista is heavily indented and fringed by foul ground with drying rocks. **Brandy Rocks** (48°42'N., 53°04'W.), with a least depth of 8.8m, lie 1 mile E of Cape Bonavista.

Burnt Ridge (48°38'N., 53°04'W.), a tableland, 140m high, and the most remarkable feature on this section of the coast, lies 4.5 miles S of Cape Bonavista.

Upon approaching the coast, L'Argent Hill becomes visible; then Cape Bonavista and **Gull Island** (48°43'N., 53°06'W.) become visible. From the NE, the first land seen in clear weather is **Green Ridge** (48°39'N., 53°04'W.), the N part of Burnt Ridge; otherwise, Cape Bonavista Light will be sighted first.

Bonavista Bay—Cape Bonavista to Western Head

6.50 Bonavista Bay (48°50'N., 53°25'W.), a large bay divided into two main arms, is entered between Cap Freels and Cape Bonavista, about 37.5 miles SSE. The S arm, entered between Cape Bonavista and Cow Head, 22 miles to the W, extends about 45 miles SW through Chandler Reach and Clode Sound, as well as numerous smaller sounds. The N portion of the bay divides again into two arms, each receding about 28 miles, with the S terminating in Bloody Bay and the N in Freshwater Bay.

Ice.—The harbors in Bonavista Bay freeze over at intervals between January 20 and March 20 and are closed at intervals by ice about 0.3m thick from January to May. Drift ice appears about February 15 and disappears towards the end of May. The navigation season is from early May to late December, but

coastal vessels may frequent the harbors throughout the year.

Regulations.—A Canadian Coast Guard inshore rescue boat is stationed at Headquarters Wharf in Terra Nova National Park and is available for search and rescue in Bonavista Bay 24 hours from mid-May to mid-September. Its area of responsibility covers all waters of the SW portion of Bonavista Bay as far seaward as a line joining Cap Bonavista and the Wesleyville Public Wharf. Contact can be made on VHF channel 16, through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

6.51 Cape Bonavista (48°42'N., 53°05'W.) consists of flat almost barren rock. It is the N extremity of a promontory, about 1.5 miles long, projecting N from the mainland. Cape Bonavista is about 3.8 miles NE of the entrance to Bonavista Harbor.

A light is shown from a tower on the E side of the cape. There is a disused square light structure nearby; a loran tower stands 0.4 mile S of the cape.



Cape Bonavista Light

The stretch of coast from Cape Bonavista to **Western Head** (48°37'N., 53°26'W.) is considered to be the SE part of Bonavista Bay, which extends 38 miles NNW to **Cape Freels** (49°16'N., 53°30'W.). There are shoals and rocks in the vicinity of Western Head. Western Rock, small and pointed, dries 0.6m and is marked by Lighted Buoy J13. A shoal patch with less than 10m extends off Squarry Island, and is marked by Lighted Buoy JB3 and Lighted Buoy JB7.

Caution.—**Gull Island** (48°43'N., 53°06'W.) and a rock,

with a depth of 3m lying 0.1 mile SW of the island, lie off Cape Bonavista.

Harrys Ground (48°47'N., 53°05'W.), an extensive rocky bank lying as far as 6.5 miles N of the cape, has depths varying between 1.8m on **Old Harry** (48°46'N., 53°05'W.) to 7.3m on **Young Harry** (48°48'N., 53°04'W.). Other rocks, below-water, between the cape and Harrys Ground, are best seen on the chart. A moderate sea breaks on rocks with depths of less than 9.1m; a heavy sea breaks on those with depths of 9.1 to 18.3m. After gales, the sea breaks on those rocks with depths of 18.3 to 27.4m.

Green Island (48°24'N., 53°06'W.), lying 0.5 mile W of the cape, is separated from the mainland by a channel with a least depth of 3.4m.

Stone Island (48°24'N., 53°08'W.) lies on foul ground about 1.3 miles W of Green Island. The channel between the islands is deep and clear of dangers.

6.52 Bonavista Harbor (48°39'N., 53°07'W.) is entered between Squarry Island, the N entrance point, and Canaille Point, almost 0.5 mile SE of the island.

Breakwaters constructed within the outer harbor form a safe inner harbor for fishing craft. A road extends over the N breakwater to a wharf on the inner side of the breakwater.

Depths—Limitations.—The depths alongside the wharf on the inner side of the breakwater range from 2.7 to 5.6m. The public wharf, on the NE corner of the harbor, has a length of 82m, with alongside depths of 1.3 to 3.1m. Another wharf, with a length of 64m and alongside depths of 1.3 to 2.8m, extends NW from the inner end of the public wharf. There is a fish plant wharf, close S of the public wharf, with a length of 70m and alongside depths of 1.2 to 5.2m. Swyers Wharf, 49m long and situated close S of the fish plant wharf, is in ruins.

Mockberger Wharf, extending from the N shore of the harbor, has a length of 55m and a depth alongside of 2.7m.

Aspect.—A conspicuous monument stands on a hill about 0.5 mile SE of the point. A light is shown from a square tower on the S end of Squarry Island; another light is shown from a mast on the outer end of the S breakwater. Lighted Whistle Buoy JB is moored about 0.6 mile WSW of Squarry Island, the latter joined to the N shore of the harbor by a breakwater.

Anchorage.—Anchorage for small vessels can be taken during the summer, in a depth of 12.8m, about 0.2 mile SE of Squarry Island.

Caution.—Fishing nets may be encountered during the fishing season in the approaches to the harbor.

6.53 Blackhead Bay (48°35'N., 53°15'W.) is entered between **Black Head** (48°38'N., 53°10'W.) and **Southern Head** (48°37'N., 53°21'W.). The bay, indented by numerous coves affording little shelter, is open and clear of dangers.

Newmans Cove (48°35'N., 53°12'W.), exposed to NW gales, has a settlement situated along the NE shore of the cove, where a church spire and church tower are conspicuous. A public pier, with a depth of 3.4m alongside, extends from the E shore of the cove.

Kings Cove (48°34'N., 53°19'W.), small and open NE, is entered S of **Kings Cove Head** (48°35'N., 53°19'W.). Fishing settlements line the shores of the cove. Two church spires are prominent. There is a small wharf with a depth of 4.9m along-

side. Anchorage can be taken throughout the cove by small vessels with local knowledge.

Broad Cove (48°36'N., 53°21'W.) is entered between the NW end of Broad Head and **Southern Head** (48°37'N., 53°21'W.), a steep cliff rising to a very high hill. A church spire is conspicuous within the cove. Pigeon Ledge, with a least depth of 6.7m, lies over 0.75 mile E of Broad Head. **Cary Rock** (48°38'N., 53°23'W.), with a depth of 3.7m, lies 1.25 miles WNW of Southern Head. Other dangers lie closer inshore. The coast from Southern Head to Western Head is indented by coves affording shelter with local knowledge during the summer. The coves and approaches are encumbered with rocks.

Bonavista Bay—Western Head to Cow Head

6.54 Western Head (49°37'N., 53°26'W.) is the N extremity of a bold barren promontory; it is narrow and steep on both sides. Numerous rocks, with depths of 9.1 to 18.3m and on which the sea breaks at times, lie within 2 miles of this headland and raise a confused sea in bad weather. Bacon Bone Rock, with a depth of 0.6m, lies 1.25 miles WSW of the head. The coast SSW is steep and bold.

Arch Cliff Point (48°35'N., 53°29'W.) and **Plate Cove Head** (48°31'N., 53°30'W.) are coastal features, as is **Red Cliff Island** (48°34'N., 53°30'1"W.). The latter is conspicuous because of its red and yellow rocks. Western Rock, which dries and is marked by a lighted buoy, lies 0.25 mile SW of Arch Cliff Point.

Open Hall (48°33'N., 53°29'W.), a cove with a village, has a wharf which extends from the NW shore of Open Hall and has 4.6m alongside at its outer end.

Plate Cove (48°30'N., 53°29'W.), entered E of Plate Cove Head, has a settlement along the NW shore where there are two shallow water piers. Fair anchorage can be taken in the S part of the cove.

Southern Bay (48°29'N., 53°33'W.), over 55m deep, affords no convenient anchorage. There are settlements on Indian Arm, an inlet on the E side of the bay, and at the head of the bay, where there is a shallow water wharf.

Two communications towers on the E side of Indian Arm are conspicuous from much of Southern Bay.

Sweet Bay (48°29'N., 53°38'W.) is entered between **Cutler Head** (48°32'N., 53°36'W.) and **Chance Head** (48°32'N., 53°38'W.). The inner part of the bay is divided into two arms by a rugged promontory. Chance Island lies 0.75 mile NE of Chance Head. A ledge, with a depth of 1.5m, lies 1.5 miles NE of Chance Head. **Gull Island** (48°31'N., 53°36'W.), with Turfpook Island close S, lies off the E side of the bay. The W side of the bay is indented and fronted by islets. A settlement within the E arm has a small pier, with a depth of 3m at its head.

6.55 Great Chance Harbor (48°31'N., 53°40'W.) is 0.15 mile wide and 18.3 to 29.3m deep. Local knowledge is required to enter.

The **Long Islands** (48°35'N., 53°37'W.) are a group of four islands extending 0.5 to 5.5 miles E of **Hurloc Head** (48°34'N., 53°43'W.). The channel between this headland and the islands is deep and clear of dangers. Above and below-water rocks lie as far as 0.75 mile off the NW side of the group.

Puttick Rock (48°36'N., 53°35'W.) is a detached danger with a depth of 7.5m.

Chandler Reach (48°30'N., 53°45'W.) is entered between Chance Head and the SE extremity of the E Long Island, about 2.7 miles NE. **Deer Island** (48°33'N., 53°39'W.), lying 1 mile W of Chance Head, is separated from the coast by a narrow channel with a depth of 11m. The outer part of the reach affords temporary anchorage with local knowledge.

Park Harbor Hill (48°31'N., 53°51'W.) and **Minchin Island** (48°30'N., 53°48'W.) are both conspicuous on approaching the reach from seaward.

Park Harbor is entered by the SW corner of Lions Den. There is a jetty for small craft with depths of 0.9 to 1.8m.

6.56 Goose Bay (48°27'N., 53°49'W.), the S continuation of Chandler Reach, is entered close E of **Connecting Point** (48°28'N., 53°53'W.). The shores of the bay are fringed with foul ground, but the main part is free of dangers.

From the E side of the bay, an L-shaped public wharf, with an outer end 26m long, has a depth of 6.7m alongside. On the SW side of the bay, another public wharf, with an outer end 21m long, has depths of 3 to 3.7m.

On the W shore there is an L-shaped public wharf, with an outer end 18m long and a depth of 4.3m alongside.

Anchorage can be taken, in depths of 7.3 to 25.6m, between a position 0.4 mile W of **Goose Head** (48°24'N., 53°52'W.) and the head of the bay.

Clode Sound (48°28'N., 53°54'W.), the SW continuation of Chandler Reach, is entered close W of Connecting Point. The SE side of the sound is steep-to and affords no anchorage as far as Bunyan's Cove, about 8.5 miles SW of Connecting Point. The sound is clear of dangers. **Ochre Pit Hill** (48°29'N., 53°56'W.) is conspicuous from seaward.

Submarine cables are laid between Bunyan's Cove and **Charlottetown** (48°26'N., 54°00'W.), a settlement at which there is a pier with a depth of 6.4m alongside.

The Narrows (48°25'N., 54°05'W.) of the sound leaves a passage 0.25 mile wide, which is clear of dangers and has a depth of 14.6m in the fairway. The SE shore of this passage is steep-to; the NW shore is fringed by rocky shoals. Two islets, 2.4 and 3.7m high, lie on a shoal spit extending from the S side of The Narrows and leaving a passage 0.25 mile wide.

Bread Cove and Dumpling Cove, located close together, are entered on the NW side of Clode Sound, about 3.5 miles W of Connecting Point. Both coves are rocky, but afford anchorage to small vessels, in a depth of 7.3m, over a bottom scattered with boulders. Local knowledge is required.

At **Love Cove** (48°24'N., 54°03'W.), there is anchorage, in a depth of 14.6m. Good anchorage is available near the head of the sound, in depths of 5.5 to 27.4m, and also on either side of **Bryans Hole Point** (48°26'N., 54°00'W.).

6.57 Newman Sound (48°35'N., 53°49'W.) is entered between the NE extremity of the easternmost Long Island and **Little Harbor Head** (48°40'N., 53°36'W.), the E end of Richards Island. **Hammer Head** (48°39'N., 53°37'W.) is a remarkable cliffy cone standing on the E end of Keats Island. **Swale Island** (48°36'N., 53°44'W.) lies near the middle of the sound. **Mount Stamford** (48°34'N., 53°54'W.) is a conspicuous landmark as seen from seaward. **Swale Tickle** (48°35'N.,

53°46'W.), the passage SW of the island, is foul at its W entrance, although a channel about 90m wide and 8.2m deep is available off the SE end of Swale Island.

Happy Adventure Bays (48°38'N., 53°45'W.), constricted, has a shallow water pier. A light is shown from a mast on the head of the pier.

Buckley Point and **Buckley Cove** (48°35'N., 53°54'W.) are located where the sound is most constricted. The depths are considerable for 2 miles within the narrows, then decrease rapidly to the head, where there is a wharf for the use of small craft.

Anchorage.—Anchorage can be taken in Buckley Cove, in a depth of 7.3m, also in **South Broad Cove** (48°34'N., 53°51'W.) in depths from 36.6 to 5.5m, good holding ground, mud.

6.58 Gerrards Hill (48°41'N., 53°39'W.) is the summit of the promontory separating Newman Sound from Eastport Bay (Salvage Bay). Several small inlets indent the seaward side of the promontory. **Little Denier Island** (48°41'N., 53°35'W.), lying 1.25 miles off the promontory, is marked by a light shown from a round tower painted in red and white stripes. Tilly's Hill stands about 2 miles SW of the island. Offer Rock, awash, lies 0.75 mile NE of Little Denier. The seas break on the rock.

The **Shag Islands** (48°42'N., 53°37'W.) lie 1.75 miles NW of Little Denier Island.

Bonavista Bay—Cow Head to Shoe Cove Point—Outer Part

6.59 Cow Head (48°42'N., 53°39'W.), the N end of a promontory which terminates in North Point, a steep, bold cliff about 0.5 mile S. The coast between Cow Head and Shoe Cove Point, about 20 miles N, is indented by numerous bays and inlets which can be approached through several channels between the various off-lying islands and dangers fronting the coast. Between Cow Head and **Lewis Head** (48°58'N., 53°44'W.) lie numerous islands and rocks; only the most important will be described.

Ship Island (48°45'N., 53°38'W.), rising to a high hill, is the E of a group of islands extending W to **Morris Island** (48°45'N., 53°44'W.). Morris Channel, lying between the island and its off-lying dangers, extends W to its junction with Bloody Reach and has depths in the fairway of 12.8 to 91m. Brown Stone Islet and Athwart Islet lie in the E entrance of Morris Channel.

Bruce Cove Rock (48°45'N., 53°49'W.), with a depth of 1.5m, is steep-to and lies in the W entrance of Morris Channel. The passage NE of the rock is preferable. The **Pitt Islands** (48°45'N., 53°46'W.) are a group forming the N side of the W entrance to the channel. **Varket Channel** (48°46'N., 53°45'W.) lies between Morris Island and Willis Island (48°48'N., 53°41'W.). It joins Morris Channel and Willis Reach in its W part. The Samson Islands lie as far as 3 miles E of Willis Island. Most of these islands appear flat, except for the largest which looks like a wooded hill. **Puffin Island** (48°47'N., 53°36'W.), marked by a lighted tower, is the E of the group of islands. **Ship Rock** (48°46'N., 53°37'W.), with a depth of 2.5m, lies about 1.8 miles SSW of Puffin Island. **Varket Islet** (48°46'N., 53°43'W.), in the middle of the channel, rises to two

conical hills. A sunken rock lies close SW of the islet. **Coward Island** (48°48'N., 53°39'W.) has a pier with a depth of 3.4m at its outer end.

Willis Reach (48°49'N., 53°41'W.) is entered between **Great Black Island** (48°49'N., 53°37'W.) and **Gulch Island** (48°50'N., 53°36'W.). The channel extends W between the N side of Willis Island and the SE side of Cottel Island. **Saint Rock** (48°50'N., 53°32'W.), with a depth of 5.1m, is the outermost danger off the entrance to Willis Reach. There are no dangers in the fairway of the reach, except for two 9.4m shoals 0.6 mile NNW, and a 4.2m patch 0.2 mile N, respectively, of the N extremity of Willis Island. From a depth of 200m in the entrance, the depths decrease to 14.6 to 18.3m at the W end, where the reach branches into several channels between the islands.

6.60 The Gooseberry Islands (48°52'N., 53°37'W.) are a group consisting of inner and outer islands and numerous islets and rocks lying between them, extending 8 miles NE of **Cottel Island** (48°51'N., 53°40'W.). The inner islands are rather flat. A light is shown from the S end of the innermost island. **Offer Gooseberry Island** (48°56'N., 53°32'W.), the outermost and most conspicuous of the group, appears as a triple-peaked island.

Malone Rock (48°52'N., 53°30'W.) and **Shark Rock** (48°57'N., 53°28'W.), the former 0.6m above-water, the latter 6.1m below-water and on which the sea breaks, are the outermost dangers in the vicinity of the Gooseberry Islands. Anstead Rock lies 1.25 miles N of Offer Gooseberry Island and has a depth of 11m. A detached 5.8m rock, which is the W danger, lies 1 mile WNW of Offer Gooseberry Island.

Shoal Cove (Mole Cove) (48°53'N., 53°39'W.), at the NE end of Cottel Island, is marked by a light shown from a white, square tower standing on the W entrance point of the cove. There is a wharf, with a depth of 6.7m alongside, situated at the head of the cove. Anchorage can be taken, in depths of 9.1 to 16.5m, rock, in Mole Cove.

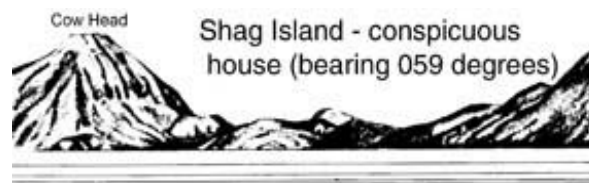
6.61 Popplestone Island (48°55'N., 53°59'W.), **Braggs Island** (48°56'N., 53°40'W.), and **Deer Island** (48°56'N., 53°44'W.) are the main islands of a group lying between Inner Gooseberry Island and Lewis Head. These islands are flat and brush-covered, with many rocks and shoals lying N and NE of them. The Popplestone, a conspicuous white boulder, lies on the coast about 0.8 mile NNW of Angel Head, the E end of Popplestone Island. **Braggs Rock** (48°56'N., 53°38'W.), with a least depth of 0.8m and on which the sea generally breaks, lies about 1 mile NE of Angel Head. A rock, drying 0.4m, is located 2 miles NW of Angel Head. A shoal, with a least depth of 2.9m, lies 0.2 mile E of the drying rock. **The Brandies** (48°58'N., 53°39'W.) are a group of three rocky heads, with a least depth of 1.5m, on which the sea usually breaks in moderate weather.

Cottel Reach (48°52'N., 53°41'W.) leads SW between Cottel Island and **Pitt Sound Island** (48°52'N., 53°43'W.), SE of **Lakeman Island** (48°50'N., 53°47'W.), where it joins Bloody Reach. **Pitt Sound Gates** (48°44'N., 53°52'W.) is a conspicuous patch of white quartz on black rock resembling enormous gates.

Bonavista Bay—Cow Head to Shoe Cove Point—Inner Part

6.62 Sailors Island (48°42'N., 53°40'W.) is connected E to Cow Head by a chain of islands and rocks. Sailors Harbor, entered S of the island, affords anchorage, in depths of 12.8 to 18.3m, rock. A house, in line bearing 059° with the N slope of Shag Island, leads into the harbor in a least depth of 6.5m.

Eastport Bay (Salvage Bay) (48°40'N., 53°43'W.) is entered between **Wild Cove Head** (48°41'N., 53°41'W.) and **Baldric Head** (48°41'N., 53°43'W.). A group of islands and rocks extends 1 mile N of the head. Anchorage can be taken during the summer, in a depth of 9.1m, sand, in the bay. A break in a sand cliff in the N part of the head of Eastport Bay, bearing 228° and open SE of Baldric Head, leads over a 20.1m ledge about 1.5 miles NE of the headland and into Eastport Bay, SE of rocks and shoals which lie SE of Bakers Loaf Island.



Sailors Harbor

Bloody Point (48°45'N., 53°50'W.) is the N end of a promontory which forms the W buffer for numerous islands, islets, and rocks which front the coast between Baldric Point and Bloody Point. At **Burnside** (48°43'N., 53°47'W.), a settlement on the mainland close S of Squid Island, is a ferry wharf extending 50m with a depth of 4.8m alongside and a 9m wide outer end. A 12m Ro-Ro ramp is situated on its N side. The wharf has depths of 4.1 to 5.5m alongside its N face.

Bloomer Harbor (48°43'N., 53°50'W.) has depths of 28.8m, mud, in its outer part, and 14.6m, mud, in its inner part.

Bloody Reach (48°48'N., 53°48'W.) extends about 9 miles SW from its entrance between Lakeman Island and Cottel Island. **Beaches Head** (48°48'N., 53°49'W.), 1.75 miles SW of Lakeman Island, is composed of three steep hills connected by beaches. Beaches Cove, lying close N of the highest hill, is small but clear of dangers, and affords anchorage to small vessels, in a depth of 5.5m.

6.63 Alexander Bay (48°43'N., 53°55'W.), at the SW end of Bloody Reach, has three arms. **Northeast Arm** (48°42'N., 53°56'W.) affords anchorage, in depths of less than 18.3m, about 0.8 mile within the entrance. A causeway with a bridge crosses Northeast Arm. The bridge has a vertical clearance of 4m; there is a least depth of 3.2m in the channel at the bridge. There are strong currents flowing under the bridge.

Middle Arm (48°41'N., 53°59'W.), with a constricted entrance leading to an open basin, has a settlement at the head of the arm where there is a wharf with a depth of 5.2m alongside. **Northwest Arm** (48°44'N., 53°57'W.), clear of sunken dangers, has fringing shoals off the entrance points and an above-water rock lying in the middle of the entrance. There are depths of 5.5 to 9.1m off the entrance to **Norton Cove** (48°44'N.,

53°59'W.), and 1.3m over the bar at the entrance to the inner part of the arm.

Rocky Bay (48°48'N., 53°50'W.), entered between Beaches Head Island and Rocky Island, about 1.3 miles SSW, affords anchorage, in depths of 16.5 to 23.8m. Local knowledge is essential.

Content Reach (48°51'N., 53°55'W.) extends from the W end of **Locker Flat Island** (48°52'N., 53°51'W.) to the entrance of Freshwater Bay, about 6 miles WSW. **Shoal Bay** (48°52'N., 53°45'W.) has a settlement and shallow water pier at the head of the bay.

Hare Bay (48°51'N., 53°59'W.), with Hare Island in its entrance, has a settlement at its head where there is a pier with a depth of 3.7m alongside. Anchorage can be taken, in depths of 7.3 to 32.9m, mud, with Hare Island bearing 093°.

Freshwater Bay (48°49'N., 54°05'W.) is divided into two channels by the Hen Islands. The N channel is shallow; the S channel is deeper and clear of dangers. **Boucher's Cove** (48°50'N., 54°00'W.), close within the N entrance point of the bay, has depths of 7 to 24m mud. **Gambo** (48°46'N., 54°12'W.) is a settlement at the head of the bay.

Locker Bay (48°54'N., 53°55'W.) is approached through **Locker Reach** (48°55'N., 53°49'W.). The bay is clear of dangers in the channel except for **Lockers Rock** (48°54'N., 53°53'W.), awash, lying in the middle of the fairway.

Anchorage.—Anchorage can be taken, in depths of 11 to 21.9m, mud, W of **Birchy Head** (48°53'N., 53°58'W.). **Chalky Cove** (48°55'N., 53°52'W.) affords temporary anchorage, in depths of 7.3 to 18.3m, rock, clear of a rock with a depth of 0.3m, lying about 0.2 mile E of the W entrance point of the cove.

6.64 Lewis Island (48°57'N., 53°47'W.) has a remarkable steep hill near the middle of its S side, with conspicuous boulders on its summit. The island is separated from the mainland SW by **Trinity Gut** (48°47'N., 53°49'W.), at least 0.2 mile wide, with a fairway clear of dangers and depths of 12.8 to 21.9m in mid-channel.

Trinity Bay (48°58'N., 53°44'W.) is entered between **Lewis Head** (48°58'N., 53°44'W.) and the **Fair Islands** (48°59'N., 53°44'W.), a group of dome-shaped islands of variable heights extending W to Pork Island. A light is shown from a tower on Grindstone Head, the SW end of the E island. **Southwest Island** (48°58'N., 53°43'W.) lies on the N side of the entrance to the bay. **Saint Island** (48°58'N., 53°45'W.) lies in the middle of the fairway, with a sunken and above-water rock lying close to its E end and N side, respectively. **Drake Island** (48°58'N., 53°50'W.), at the N entrance of Trinity Gut, is formed by two hills connected by a low isthmus.

The head of Trinity Bay is divided into two arms by a narrow peninsula. A pier, with a depth of 2.7m alongside, extends E from the peninsula.

Ice.—The Fair Islands anchorage freezes about January 11 and clears about April 13. Northern ice arrives at Trinity Bay about March 5, and remains until about April 25. The bay is usually covered with locally-formed ice during February and March.

Anchorage.—Anchorage can be taken in **Drake Cove** (48°47'N., 53°51'W.), SW of Drake Island, in depths of 12.8 to 18.3m, with local knowledge. Also, there is good anchorage

for small vessels off the SW side of the easternmost of the Fair Islands.

6.65 Indian Bay (49°01'N., 53°43'W.) is entered between **Silver Fox Island** (49°01'N., 53°41'W.) and the mainland to the N. The bay extends 8 miles to the W where it divides into two arms. **Cat Island** (49°02'N., 53°43'W.), 0.5 mile N of Brown Fox Island, rises to a high hill at its E end. Above-water rocks and an island lie as far as 1.75 miles W of Cat Island and on the N side of the main channel. **Cat Cove** (49°02'N., 53°02'W.), located N of the E end of Cat Island, affords temporary anchorage, in depths of 12.8 to 23.8m, with local knowledge.

North Arm (49°02'N., 53°45'W.) affords good anchorage, in depths of 7.3 to 23.8m, mud, sheltered from all winds except from the SW. At the settlement of **Wareham** (49°01'N., 53°52'W.), there is a wharf with a depth of 2.4m. There is a light at the head of the wharf. At **Parsons Point** (49°02'N., 53°52'W.), there is another wharf with depths of 3 to 4.3m alongside.

Newport Harbor (49°02'N., 53°38'W.), entered 1 mile NE of Silver Fox Island, is clear of dangers, except for a few rocks off the W side of the harbor and an islet lying close S of the E entrance point. A remarkable cliffy hill rises close within the W entrance point. Anchorage can be taken, in depths of 7.3 to 9.1m, good holding ground, mud, in the harbor.

Bonavista Bay—Shoe Cove Point to Cape Freels

6.66 Shoe Cove Point (49°02'N., 53°36'W.) is flat and low, but rises steeply to hills close within the point. A light is shown from the point.

Ice.—Ice forms in the bays and inlets early in January and clears when the ice leaves the coast. The sea about Cape Freels freezes in January and the ice often remains until May.

Depths—Limitations.—Depths are variable over the numerous rocks, reefs, and shoals that extend as far as 9 miles offshore along this stretch of coast. In a moderate sea with favorable conditions, most of the dangers show; in heavy weather with a confused sea breaking in depths of 12.8 to 18.5m, approach to this part of the coast could be hazardous.



Puffin Island Light

Greenspond Island (49°04'N., 53°35'W.), about 2 miles NNE of Shoe Cove Point, has a flat summit. **Newell Island**, **Puffin Island** (49°04'N., 53°33'W.), and **Copper Island** (49°03'N., 53°33'W.) lie on foul ground extending 1.5 miles SE of Greenspond Island. A light is shown on Puffin Island.

Midsummer Rock (49°03'N., 53°34'W.), detached, with a depth of 0.6m, lies about 0.5 miles SW of Copper Island, and Black Reef, which dries 0.9m, lies about 0.3 mile S of the island. **Pond Tickle** (49°05'N., 53°36'W.) is the navigable channel between the mainland and Greenspond Island. An overhead power cable, with a vertical clearance of 15m, crosses Pond Tickle in the vicinity of Ford Island. A red spar buoy marks the W edge of foul ground extending from Greenspond Island.

6.67 Greenspond Harbor (49°04'N., 53°34'W.) is located on the S side of the island and close to Ship Island, to which Greenspond Island is connected by a bridge with a vertical clearance of 2.4m. Pound Rocks Light is shown from a square tower standing on the N side of the E entrance to the harbor. Seine Rock Light marks a rock in the W entrance to the harbor. Range lights in the harbor are shown from white skeletal towers, in line bearing 278°50', which lead through the E entrance, S of Pound Rocks.

Ice.—The harbor freezes about January 18 and is closed at intervals until February 8, after which it is generally closed by thick ice until March 9. Field ice appears about March 11 and disappears about May 11.

There are several small piers throughout the harbor. The principal pier has a depth of 4 to 4.3m alongside.

Anchorage.—Anchorage can be taken in good weather between Greenspond Island and **Maiden Island** (49°04'N., 53°35'W.), indifferent holding ground, in depths of 12.8 to 18.3m, rock and sandy patches. There is anchorage, in a depth of 21.9m, good holding ground, in Pond Tickle, about 0.3 mile NW of the W end of Greenspond Island. The W extremity of the island, bearing 340° and open W of Maiden Island, leads W of Midsummer Rock. When E of **Broad Cove** (49°04'N., 53°36'W.), a vessel should steer for Main Pool's Island Church, bearing 006° and well open of **Partridge Island** (49°05'N., 53°35'W.), which leads W of the rocky shoals fringing Greenspond Island.

6.68 Valleyfield Harbor (49°07'N., 53°37'W.) is approached between numerous, scattered rocks, islets, and shoals, some marked by buoys. The outer dangers are cleared by steering on the approach range, in line bearing 286°30', which leads to the harbor entrance. The front tower is situated on an islet in **Puddingbag Cove** (49°06'N., 53°37'W.); the rear tower stands on the mainland. The settlement of Valleyfield is situated on the NE side of the harbor. A church with two towers is conspicuous when entering the harbor, as is a white church and tower on **Main Pool's Island** (49°06'N., 53°35'W.).

Ice.—Ice forms in the harbor early in January and breaks up near the end of April.

Aspect.—**South Pound Island** (49°06'N., 53°33'W.), lying close S of the range line, is marked by Western Shag Light, shown from a square tower. **Liver Ledge** (49°05'N., 53°30'W.), with a depth of 14.3m, lies in the approach. **North Pound Island** (49°06'N., 53°33'W.), with two rocky heads of 0.6m, lie close N of the range line. **Odd's Island** (49°06'N., 53°36'W.) and **Grassy Island** (49°06'N., 53°35'W.) lie on foul ground close S of the approach channel. Candle Cove Rocks Light is shown from a white tower situated 320m SSW of Odd's Island.

Main Pool's Island and **Big Pool's Island** (49°06'N.,

59°35'W.) lie N of the approach range and, along with several smaller islands, lie on foul ground extending S of the harbor. The islands between Main Pool's Island and Valleyfield are joined together by bridges. On one of the islands, there is a fish plant and wharf with a depth of 4.9m alongside. **Benburry Rock** (49°07'N., 53°36'W.), with a depth of 2.4m, lies on the E edge of the harbor entrance channel. It is marked by a lighted buoy. The channel NW of the rock is marked by a port hand buoy. A 156m long pier extends SE from the SE end of the public wharf. Depths of 3.7 to 4.4m lie alongside the S face of the pier. The N face has depths of 1.3 to 4m alongside. A second pier, 107m long, extends SE from the SE side of the public wharf to a depth of 5.6m at its outer end. A fish processing plant is located adjacent to the public wharf. A light is shown from a tower on the outer end of the 107m wharf.

Anchorage.—Anchorage can be taken, in a depth of 12.8m, mud, with the W extremity of Grassy Island in line with the E end of Odd's Island bearing 150° and Main Pool's Island church tower bearing 059°.

Anchorage can be taken, in 21.9m, thick mud, with the N side of Odd's Island bearing 265° and Main Pool's Island church bearing 355°. A slight swell sets into this anchorage during E gales.

Small craft can anchor in the channel NW of Main Pool's Island or in Puddingbag Cove, with local knowledge.

6.69 Wesleyville Harbor (49°09'N., 53°34'W.) is approached between numerous off-lying dangers. Entry into the harbor is quite intricate and local knowledge is essential.

Flowers Island (49°08'N., 53°28'W.), with the Butterfly Islets (49°08'N., 53°29'W.) and **Three Rocks** (49°07'N., 53°27'W.) lies within 1.5 miles of the SE approach channel. Three Rocks are several rocky heads, with a least depth of 1.8m, all lying E of the channel. East Twin and **West Twin** (49°08'N., 53°31'W.), reefs with depths of 1.8 to 3.6m, lie 0.5 mile apart and close S of the channel. **Black Reef** (49°08'N., 53°29'W.), 1.2m above-water, lies less than 0.5 mile E of the channel.

Black Island (49°08'N., 53°33'W.) and **Ledger Rocks** (49°07'N., 53°33'W.), at the harbor entrance channel, are marked by a light shown from a white tower and a lighted bell buoy, respectively. The **Swain Islands** (49°33'N., 53°34'W.), a group of islets and rocks, lie on foul ground extending between Black Island and the mainland. **Bennets High Island** (49°08'N., 53°34'W.), marked by a lighted tower, lies on the E side of the channel. Buoys mark the W side of the channel.

Wesleyville Harbor is entered about 0.2 mile S of Bennets High Island through a channel about 90m wide and 7.3m deep. The spires and twin towers of churches, plus a water tower in town, are conspicuous. The public wharf on the E side of the harbor has depths of 3 to 6.1m alongside. There are numerous small fishing wharves and piers. A light is shown from a mast at the SW end of the public wharf.

6.70 Pound Cove (49°11'N., 53°33'W.) is a settlement along the shores of a cove indenting the mainland 2 miles N of Wesleyville. A church tower is prominent. Range lights, shown from framework structures at the settlement, in line bearing 291°, lead into the harbor. **Pouch Island** (49°10'N., 53°28'W.) lies on foul ground N of the range line. South Rock, with a

depth of 3.4m, lies close N of the entrance range. **Honey Pot Island** (49°11'N., 53°31'W.), on which a light is shown from the NE end, and Pound Cove Light (49°10'N., 53°32'W.), shown from an islet, lie close N of the entrance channel.

Caution.—The coast from Big Pool's Island (49°06'N., 53°35'W.) to South Bill of **Cape Freels** (48°16'N., 53°30'W.), the NW entrance point of Bonavista Bay, is fronted by numerous islands and shoals extending as far as 9 miles offshore near the Cabot Islands. These dangers make an approach to this part of the coast hazardous, especially in reduced visibility.

6.71 The Cabot Islands (49°10'N., 53°22'W.) are the outermost group of rocky islets lying almost 0.5 mile apart and encircled by foul ground. A light is shown from a red and white banded circular tower standing on the NW Cabot Island. The **Stevenson Islets** (49°10'N., 53°25'W.), consisting of several above-water rocks, lie on foul ground and are marked by a light shown from a white, square tower.

Stinking Banks (49°11'N., 53°19'W.), extending 3 miles NE from the Cabot Islands, have depths of 7.3 to 11.0m. It is advisable to pass on the seaward side of the banks. **Parkers Ground** (49°09'N., 53°21'W.) and **Gullivers Ground** (49°09'N., 53°20'W.), with depths of 8.5m and 14.3m, respectively, are detached outer hazards.

Gull Island (49°15'N., 53°26'W.), about 6 miles N of the Stevenson Islets and 1.25 miles E of South Bill, is marked by a

light shown from a white structure. The area between the island and islets is encumbered with rocks, reefs, and shoals.

Charge Rock (49°15'N., 53°22'W.), with a depth of 1.5m, lies in a foul area about 2.5 miles ESE of Gull Island. A lighted whistle buoy is moored 0.5 mile N of the rock, which is usually marked by breakers.

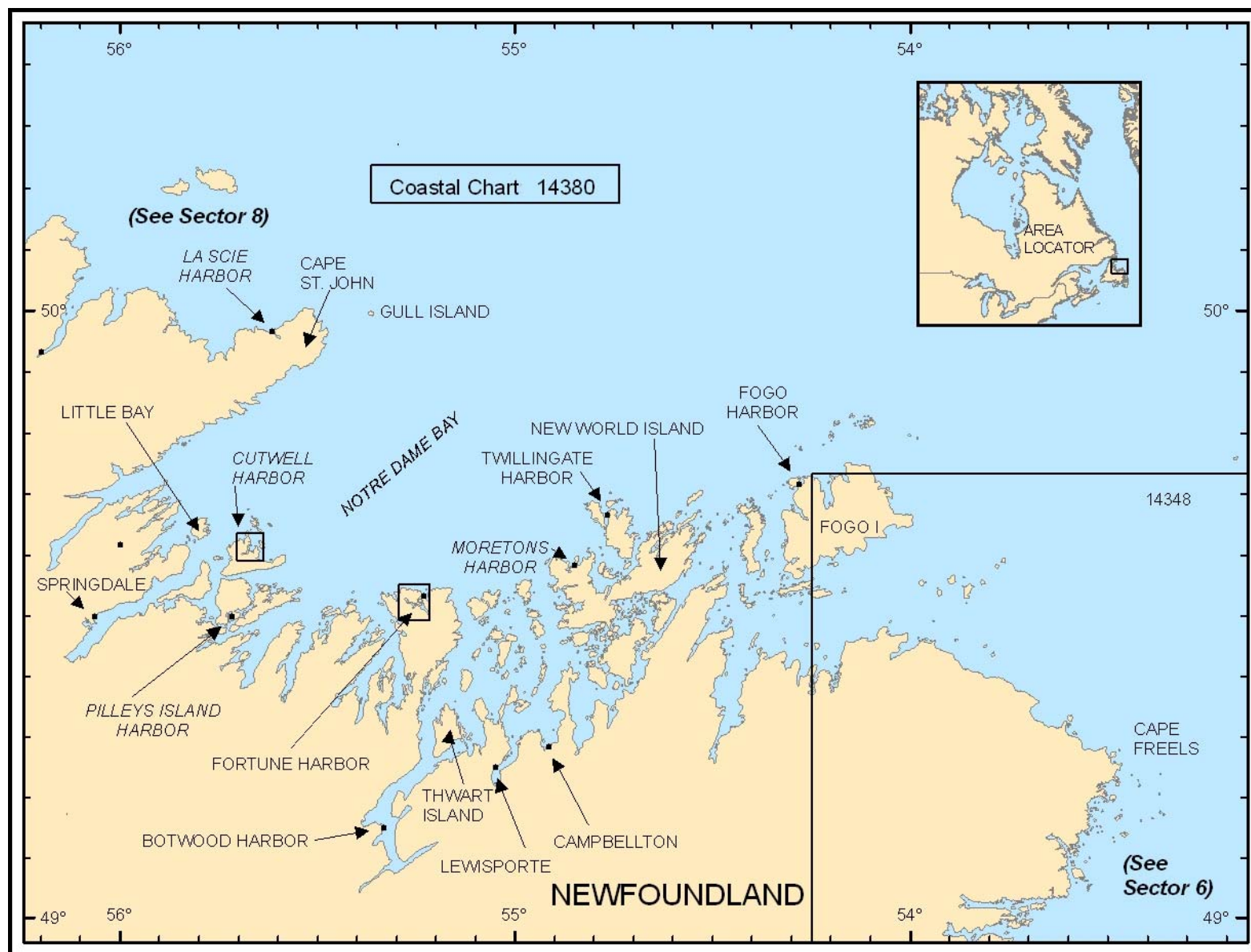
Pinchard's Bight (49°13'N., 53°31'W.) is filled with numerous islets and rocks. The settlement of Newtown is situated around the S entrance point of the bight and adjacent islands, which are connected with each other and the mainland by bridges. A dredged channel leads to a shallow water public wharf at the settlement.

Anchorage.—Anchorage is afforded in the summer to vessels in the approaches to the bight, in a depth of 4.6m. Local knowledge is necessary.

6.72 Middle Bill Cove (49°15'N., 53°29'W.) lies between **Middle Bill** (49°16'N., 53°29'W.) and **South Bill** (49°15'N., 53°28'W.). The fishing villages of Cape Freels and Cape Freels North are situated along the S and W shores of the cove. There are public wharves at both settlements, but there are depths of only 1.5m alongside.

Ice.—The sea around Cape Freels freezes in January and the ice often remains near this cape in May and sometimes as late as June.

Cape Freels (49°16'N., 53°30'W.) is described in paragraph 7.2.



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

SECTOR 7 — CHART INFORMATION

SECTOR 7

NEWFOUNDLAND—NORTHEAST COAST—CAPE FREELS TO CAPE ST. JOHN

Plan.—This sector describes the NE coast of Newfoundland, between Cape Freels and Cape St. John. The sequence of description is NW to Ladle Point (49°29'N., 54°03'W.), then the off-lying islands and coast between Ladle Point and Farewell Harbor (49°33'N., 54°29'W.), followed by a description of the island groups and inlets of Notre Dame Bay.

General Remarks

7.1 The NE coast of Newfoundland, between Cape Freels and Notre Dame Bay, is generally low and flat and without conspicuous marks, except for **Windmill Head** (49°17'N., 53°34'W.). The W part of this coast is fronted with numerous off-lying islands and dangers.

Notre Dame Bay contains many wooded islands and its shores are indented by numerous inlets, many of which require local knowledge to transit. Lewisporte, Botwood, and Springdale are the principal harbors.

Winds—Weather.—June is the foggiest month on this coast, with an average of 10 days with fog at Fogo Harbor. The frequency of fog decreases rapidly inland, where the average for June in the same latitude is only 1 day. Fog is frequent in the Bay of Exploits, but seldom lasts more than a few hours.

Ice.—Ice in pack form has its mean limit in June off the NE coast in about 50°N. There is no other pack ice except in the vicinity of Belle Isle Strait. Northern ice arrives on the E coast of Fogo Island during the latter half of January, closing the coast with E winds. Sometimes the coast is clear in April, at others, with a prevalence of N winds, navigation is stopped during May and even in July. In May and June when the ice is compact from Funk Island to Cape Fogo, Change Island Tickle, and Stag Harbor Tickle are often clear enough for a vessel to pass through.

Most of the inlets and harbors of Notre Dame Bay are open to navigation during the month of May.

Tides—Currents.—The Labrador Current is strong off Cape St. John and usually sets S. About 2 miles off Fogo Head the S current divides. The main branch sets E along the N coast of Fogo Island and among the off-lying islands at a velocity of 1 to 1.5 knots. After passing Round Head, the current sets S following the E coast of Fogo Island.

This current is greatly influenced by the winds and tidal currents. Northerly winds accelerate the current and S winds retard it. Before E gales the current may set N. The ebb, or S tidal current, accelerates the current; the flood, or N tidal current, retards it, but only occasionally at springs is its velocity rendered inappreciable by the latter.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

Regulations.—A Canadian Coast Guard rescue boat is stationed at Lewisporte and is available for search and rescue 24 hours from mid-May to mid-September. Its responsibility cov-

ers the area in Notre Dame Bay S of the line drawn from Southern Head (Long Island) to Fortune Harbour and Long Point (Twillingate). Contact can be made on VHF channel 16, through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444) via the nearest coastal radio station or by any other available means.

Cape Freels to Fogo Island

7.2 Cape Freels (49°16'N., 53°30'W.) is low, rocky, and formed by the points of South Bill, Middle Bill, and North Bill.

Ice.—Ice closes navigation in the area around Cape Freels around January 15, with the average opening date about May 10.

Funk Island (49°45'N., 53°11'W.), nearly flat, lies about 31 miles NNE of North Bill. The island is a bird sanctuary and landing is prohibited without a permit. A conspicuous cairn, 15m high, is located centrally at the W part of the island. Landing can be effected in calm weather at Gannet Head, on the SW side, and on the N side of Indian Gulch, an inlet close S of the E end of the island. About 0.1 mile W of the E end, there is a steep cliff at which the sea rises and falls without breaking, so that even in a high sea landing can be made on The Bench, a shelf about 1.2m wide which slopes up the steep cliff.

Brenton Rock (49°41'N., 53°17'W.), with a depth of 2.8m, and Funk Island, are both encircled by shoals and rocky patches with depths of 3.7 to 29.3m. The sea breaks on all of these dangers in heavy weather.

7.3 Lumsden Harbor (Cat Harbor) (49°18'N., 53°35'W.), entered between the Inner Cat Islands and the Outer Cat Islands, is available only to small vessels with local knowledge. The harbor freezes between January 1 and February 1, clearing again as soon as the ice leaves the coast. Range lights, in line bearing 236°11', are shown from towers with white diamond-shaped topmarks, situated at the head of the harbor. Lumsden Breakwater South Light and South Tickle Light are each shown from a mast situated on the outer end of the breakwaters adjacent to the wharf.

Deadman's Bay (49°20'N., 53°39'W.) is entered between **Northern Cat Island** (49°20'N., 53°36'W.) and **Deadman's Point** (49°22'N., 53°41'W.). Deadman's Rock, with a depth of 4.3m, lies 1.5 miles N of the point. Several patches, with depths of 9.1 to 20.1m and on which the sea breaks in heavy weather, lie in the approaches and off the entrance to this bay.

Anchorage.—Anchorage during the summer months can be taken at the W side of the bay, sheltered from W and S winds, in depths of 9.1 to 18.3m, good holding ground.

7.4 Muddy Point (49°27'N., 53°56'W.), a coastal peninsula, is marked by a light shown from a mast. The **Penguin Islands** (49°27'N., 53°49'W.), consisting of two islands, lie on foul ground. The N island is marked by a light; the tower of the old light stands on the E end of the island. **Edwards Reef**

(49°27'N., 53°52'W.), lying between the islands and Muddy Point, consists of above and below-water rocks and reefs. **South Rock** (49°29'N., 53°54'W.), with a depth of 2.4m, is marked 1.2 miles W by a lighted whistle buoy. **Doting Cove** (49°27'N., 53°56'W.) is an open bight with a small pier.

Musgrave Harbor (49°27'N., 53°58'W.), a fishing settlement, is situated on the shores of Muddy Hole, a small bay close W of Muddy Point. A light is shown from a mast on the outer end of the breakwater. There is a conspicuous church with a red roof at the settlement, where there is a public wharf with shallow depths alongside. Starboard and port hand light buoys, marking the approach to Musgrave Harbor, are moored about 0.5 mile NW of Muddy Point. A red light is shown from the head of the wharf and three lighted buoys mark some of the obstructions in the harbor. An L-shaped stone breakwater extends about 130m ESE and continues 100m S of the E end of the public wharf. Caution is advised.

Anchorage.—Anchorage can be taken off Muddy Hole, in a depth of 12.8m.

7.5 Ragged Harbor (49°27'N., 54°00'W.), entered S of **Ragged Point** (49°28'N., 54°00'W.) and protected by a breakwater, affords good temporary anchorage for small vessels with local knowledge off **White Point** (49°27'N., 54°00'W.), in a depth of 7.3m. There is a disused light structure on the point. The fall of the ridge on Ragged Point, in line with White Point bearing 218°, leads into the harbor.

The **Wadham Islands** (49°33'N., 53°49'W.), a group of small islands, lie as far as 12 miles NE from Ragged Point. There are numerous islets and reefs scattered between the various islands. **Offer Wadham** (49°35'N., 53°46'W.), the NE island of the group, has a good small boat harbor on its NW side. Several rocky patches, with depths of 11 to 18.3m and on which the sea breaks in rough weather, lie within 8 miles ENE and 4 miles SE of Offer Wadham; these dangers are marked by a light shown from a tower at the N end of the island.

Ice.—Northern ice arrives at Offer Wadham between January 10 and January 20. The vicinity of **Copper Island** (49°33'N., 53°58'W.) is often cleared of ice by the S current from Cape Fogo. **Peckford Island** (49°32'N., 53°51'W.), the SE and largest island of the group, has a sharp peak at its NE end. A light is shown from a black and white striped building on the SE end of the island, and a radio tower is situated close WNW of the light. A light is shown from a circular tower with a red and white rectangular daymark on **Muddy Shag Island** (49°29'N., 53°57'W.).

7.6 East Southeast Ground (49°35'N., 53°43'W.), rocky with a depth of 4.6m, lies 1.75 miles E of Offer Wadham. Tom Cod Rock, with a depth of 4m, lies 0.75 mile SE of the same island. South Southwest Rock, which dries 0.3m, lies about 2.4 miles S of Offer Wadham.

Small Island, 8.8m high, lies 0.6 mile SW of Offer Wadham. Coleman Island, over 15m high and larger than Small Island, lies about 1.8 miles SW of that island.

White Island, 1 mile NW of Peckford Island, is barren and nearly flat-topped. Shag Island lies about 0.8 mile E of White Island.

Duck Island, lying 1 mile SW of White Island, has a small peak near its center, 18m high. Duck Rock, with a depth of



Peckford Island Light

5.5m, lies about 0.8 mile WSW of Duck Island.

Copper Island, the W and highest island of the group, lying about 1.5 miles NW of Duck Island, is 57m high.

Frampton Rock, with a depth of 5.5m, lies nearly 2.2 miles W of Copper Island. Fishing Rock, lying nearly 2 miles WNW of Frampton Rock, has a depth of 8.5m.

Directions.—The Wadham Islands are cleared S by passing through the channel between South Rock and Edwards Reef. The S extremity of Copper Island and Duck Island, in line, lead through the channel between Schoolroom Rock and Scrub Rock, about midway between Peckford Island and South Rock.

Fogo Island

7.7 Fogo Island (49°40'N., 54°10'W.), large and rather high, is separated from the Indian Islands to the S by Stag Harbor Tickle, a constricted, intricate channel preferred by coastal vessels instead of Hamilton Sound. The coasts of Fogo Island are rocky and deeply indented, affording indifferent shelter, except for small vessels. The best harbors are Seldom Harbor, Fogo Harbor, and Hare Bay. Fogo Island is bordered by numerous rocks, islands, and shoals which extend as far as 9 miles N and 19 miles NE from it and on which the sea breaks at times.

Ice.—Northern ice arrives off the E coast of Fogo Island during the latter half of January, closing the coast with E winds. Sometimes, the coast is clear in April; at other times, with a prevalence of N winds, navigation is stopped during May and even in July. Northern ice arrives at Joe Batt's Arm early in January.

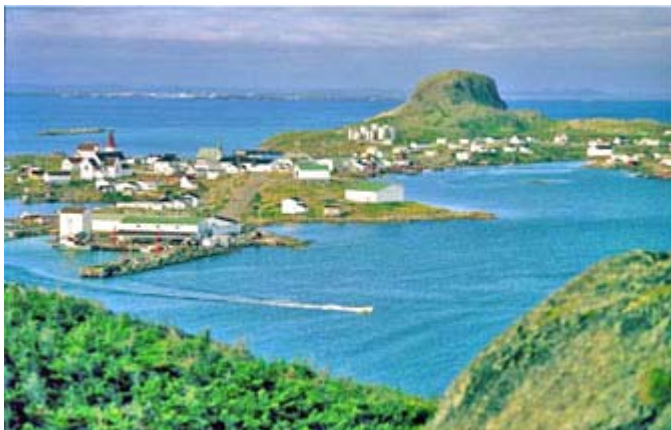
Fogo Harbor usually freezes over between January 9 and 19. The harbor is completely blocked with ice about 0.6m thick until about April 23. Stag Harbor Tickle freezes solid in January; the ice breaks up between May 1 and May 10. Seldom Cove freezes between January 1 and January 10. Sometimes it remains frozen as late as June, but at other times it clears as early as the middle of February. Field ice usually arrives early in February and sometimes remains until June.

Tides—Currents.—A S current setting towards Fogo Island splits about 2 miles off Fogo Head, with a branch setting close along the N coast of the island, and among the rocks and islands off it at a rate of 1 to 1.5 knots; this branch is influenced by the winds, being accelerated by N and retarded by S winds. Before E gales the current sometimes sets to the N. This current is also influenced by the tidal currents, the ebb current accelerating and the flood current retarding it, but only occasionally at spring tides is its rate rendered inappreciable by the latter.

A branch of the S current sets to the S between Fogo and the Change Islands at a rate of about 0.5 knot, but it dies away before reaching Stag Harbor Tickle.

A SE set is usually experienced NE of Fogo Island in the vicinity of **Snap Rock** (49°53'N., 53°42'W.).

Cape Fogo (49°39'N., 54°00'W.), the E extremity of Fogo Island, is a bold headland about 65m high. Between Cape Fogo and **Round Head** (49°45'N., 54°06'W.), the conspicuous NE end of the island, the shore is indented by three small inlets, of which **Tilton Harbor** (49°42'N., 54°04'W.) is the most notable.



North Fogo Island Inlet

The current turns E along the N coast of Fogo Island and, after passing Round Head, becomes S following the E coast. The current is affected by the tidal currents, with the ebb or S current accelerating it and the flood or N current retarding it, so that occasionally at springs it masks the current entirely.

Caution.—During the summer months, fishing nets may be encountered off the E coast of Fogo Island.

7.8 Tilting Harbor (Tilton Harbor) is entered close SW of **Pigeon Island** (49°43'N., 54°03'W.) lying close offshore. A light shown at the W entrance point of the harbor from a tower which is partially obscured by the island. Piers in the harbor have depths of 0.3 to 0.9m alongside.

Off-lying dangers.—**Snap Rock** (49°53'N., 53°42'W.), the outermost danger, has a least depth of 1.8m. In calm weather, there is little indication of its existence, at other times the sea breaks on it. A possibly dangerous area lies 1.5 miles S of the rock. **Blakeys Ground** (49°55'N., 53°43'W.), with a least depth of 16.5m, breaks in heavy weather.

Cromwell Ledge, with a least depth of 7.6m, lies about 11

miles ENE of Round Head. Clery Ledge, with a depth of 9.1m, lies about 1 mile SW of Cromwell Ledge. The sea breaks on both of these ledges in heavy weather.

The **Barrack Islands** (49°48'N., 53°58'W.) and various charted ledges and rocks, with depths of 3.7 to 5.5m, lie between Cromwell Ledge and Round Head.

Fogo Island—North Side

7.9 Joe Batt's Point is the small peninsula forming the N point of the island. Brooks Point is the N extremity of this peninsula. The W side of the peninsula is low and shelving, extending 2 miles S and forming the E side of Joe Batt's Arm. A light is shown from a white square tower standing on Brooks Point.

Joe Batt's Arm (49°44'N., 54°10'W.), encumbered with rocks, requires local knowledge to enter. A public wharf with a bent outer end extends from the W shore of Joe Batt's Arm. The N side of the outer section is 40m in length, with a least depth alongside of 2.3m. Lights are shown from masts on a rock at the entrance to the arm and at the head of the pier. Anchorage can be taken, in a depth of about 20.1m, with Joe Batt's Point Light bearing 060°, 1.25 miles distant.

Barr'd Island (49°44'N., 54°11'W.), from which a light is shown, lies about 1 mile W of the entrance to Joe Batt's Arm. Dean Rock, with a depth of 0.3m, and on which the sea usually breaks, lies 0.75 mile N of Barr'd Island.

Shoal Bay (49°43'N., 54°12'W.), entered NW of Barr'd Island, affords safe summer anchorage, in depths of 14.6 to 18.3m, near its head. Local knowledge is required.

7.10 Fogo Harbor (49°43'N., 54°17'W.) is entered between **Garrison Point** (49°44'N., 54°17'W.) and **Pilly Point**, about 0.3 mile E. **Fogo Head** (49°44'N., 54°19'W.) is steep and rocky, rising to 103m close inland. **Lanes Lookout**, 117m high, is the highest elevation on the island and rises on the E side of the harbor.

Depths—Limitations.—A public breakwater and wharf, 89m long, 8m wide, and with an alongside depth of 2.8m inside its S face, extends E from Wigwam Point. Another wharf, 52m in length, extends S at a right angle to the public wharf and has a least depth of 4.7m alongside.

Aspect.—A chain of islands fronts the entrance of the harbor; a wreck lies close NW of Garrison Point. There are E and W entrance channels, with the W channel, which is the preferred channel between Fogo Head and Boatswain Island, constricted by shoals, but having a least depth of 6.4m. The E channel, only 15.2m wide, has a least depth of 4.6m between **Rags Island** (49°44'N., 54°16'W.) and Simms Island, 0.1 mile W. A light is shown from a white tower on Rags Island. Moderate seas break over these islands.

The town, situated on the shore of the harbor, is the center of a fishing industry. The head of the harbor is divided into two coves by a tongue of land. At the head of the W cove, encumbered and shoal, is a canal 0.6m deep spanned by a bridge with a 3.4m vertical clearance. The canal leads to **Seal Cove** (49°43'N., 54°17'W.).

Pilotage.—The harbor pilot should be employed to enter Fogo Harbor.

Anchorage.—Anchorage can be taken at the E side of the

harbor, in depths of 7.3 to 12.8m, mud. This anchorage is not recommended during N gales, as the sea breaks into the harbor. Vessels should move to the anchorage in Seal Cove before the onset of a N gale.

Directions.—Local knowledge is required for navigating the approaches to Fogo Harbor.

7.11 Off-lying dangers.—The **Little Fogo Islands** (49°49'N., 54°05'W.) consist of a group of islands and rocks lying from 3.5 to 5 miles N of Round Head. The N extremity of the E and highest island of the group is marked by a light shown from a square tower. **Bishops Island** (49°50'N., 54°05'W.), 3m high, lies on the S part of a shallow rocky bank about 5 miles N of Round Head.

Ireland Rocks (49°51'N., 54°02'W.), three detached steep-to sunken rocks on which the sea usually breaks, lie about 7 miles NNE of Round Head. **Hard Hat** (49°53'N., 54°01'W.) and **Green Bay Shoal** (49°54'N., 54°05'W.) break in heavy weather.

The **Turr Islands** (49°50'N., 54°09'W.) and the **Storehouse Islands** (49°49'N., 54°11'W.) are the highest and most conspicuous groups in the area. A wooden cross, about 9.1m high, stands on the highest point of the largest Storehouse Island. A light is shown from a square tower on one of the islands. **Gappy Island** (49°46'N., 54°16'W.) is small but conspicuous.

Gull Rock, with a depth of 3.7m, lies about 0.8 mile E of the highest Turr Island. Mile Island lies 1.5 miles S of the same island. Lotts Rock, awash, lies 0.5 mile WNW of the highest Turr Island.

The **Seals Nest Islands** (49°48'N., 54°12'W.) is a group from 3 to 9.1m high, which lie about 2 miles W and SW of Mile Island. The Countryman Islands and the Long Islands are similar groups lying between the Seals Nest Islands and Gappy Island. Other detached dangers are best seen on the chart.



Brimstone Head

Fogo Island—West Side

7.12 Brimstone Head (49°43'N., 54°18'W.), 273m high,

rises to a promontory which is fringed by rocks and reefs extending up to 0.5 mile offshore. **Seal Cove**, on the S side of the head, is entered through a narrow passage between shoals. An L-shaped pier, with a depth of 4.9m alongside, is situated on the NW side of the cove. A light is shown from the pier and at the SW end of the boat canal leading to Fogo Harbor. Range lights, in line bearing 077°, are situated about 0.3 mile SSE of Fogo Light, at the head of Seal Cove.

Seal Cove provides good anchorage for vessels during adverse weather. Within the harbor there are general depths from 10.1 to 18.3m.

Hare Bay (49°40'N., 54°17'W.) is entered between **Long Point** (49°42'N., 54°18'W.) and **Hare Bay Head** (49°40'N., 54°19'W.). The bay entrance is constricted to a width of 0.2 mile by the Leveret Islands. The SW foreshore is foul, and the NE shore is steep-to and clear of dangers. A rock, with a depth of 2.1m, lies 0.15 mile NNW of the NE Leveret Island and 0.75 mile offshore.

Anchorage can be taken, in depths of 7.3 to 21.9m, mud, in Hare Bay. There is a small craft anchorage, in a depth of 3.7m, SW of the southeasternmost Leveret Island.

Hare Island (49°36'N., 54°22'W.) lies in the channel between Fogo and the Change Islands and is surrounded by drying reefs and submerged dangers.

Watch Island lies less than 0.8 mile SE of Hare Island. Watch Rock, with a least depth of 0.3m and on which the sea breaks in moderate weather, lies in mid-channel between Watch Island and Fogo Island. **Island Harbor Head** (49°37'N., 54°19'W.), a small but conspicuous bluff, has a boat harbor on its SE side.

Rogers Point (49°35'N., 54°19'W.) is the SW point of Fogo Island. Woody Island, lying 2 miles W of the point, is separated from Change Island by a narrow channel.

Fogo Island—South Side

7.13 Stag Harbor Tickle (49°33'N., 54°18'W.) is the passage between the SW end of Fogo Island and the Indian Islands to the S. **Cann Island** (49°35'N., 54°11'W.) is marked by a light.

The passage freezes solid in January and the ice breaks up between May 1 and May 10. There is a controlling depth of 9.1m in the passage. Although narrow and intricate in its S part, the passage, which is buoyed, is used by coastal traffic in preference to that through Hamilton Sound. **Eastern Indian Island** (49°32'N., 54°13'W.) is low, flat, and has a monument on its N side. **Western Indian Island** (49°33'N., 54°18'W.) is low and covered with stunted trees. There is a wharf with 1.8m alongside. A light is shown from a square tower on the E end of **Blundon's Island** (49°33'N., 54°13'W.).

Anchorage.—Anchorage can be taken, in a depth of 3.7m, mud, between the Eastern Indian Islands and the Western Indian Islands, also in **Little Seldom Cove** (49°36'N., 54°13'W.), in 11 to 18.3m, mud. These are summer anchorages.

7.14 Seal Rock (49°33'N., 54°17'W.) is marked by a light. **Stag Rock** (Man of War Rock), 0.9m deep, lies on the edge of the coastal bank 0.1 mile S of the S extremity of Fogo Island and is marked by a buoy. The constricted W end of Stag Harbor Tickle is marked by buoys on the S and N sides of the channel. **Indian Lookout** (49°34'N., 54°19'W.), a conspicuous cone-

shaped islet, lies in the constricted area.

Stag Harbor (49°34'N., 54°16'W.) is open to the E and unsuitable for anchoring. There is an L-shaped pier, with a depth of 4m alongside, extending from the N side of the harbor.

Seldom Harbor (49°36'N., 54°10'W.) is a cove entered between **Tinker Rock** (49°35'N., 54°10'W.) and **Burnt Point** (49°36'N., 54°09'W.), both of which are marked by lights. A buoy is moored on the S side of a reef extending about 0.3 mile SW of Burnt Point. A high hill is conspicuous about 1.3 miles NW of Burnt Point. **Black Reef** (49°36'N., 54°10'W.), partly drying, lies about 1 mile WSW of Burnt Point, and another shoal area, with a depth of 7.3m, lies about 0.5 mile WSW of Burnt Point.

Ice.—Seldom Cove freezes between January 1 and January 10, and remains frozen sometimes as late as June, but at other times clears as early as the middle of February. Field ice usually arrives early in February.

Depths—Limitations.—Several wharves are situated in the harbor. A fish plant wharf is located on the SW side of the harbor. The wharf's NE face has a length of 45m with alongside depths of 2.9 to 5.5m, the NW face is 72m in length and has an alongside depth of 2.1 to 5.0m.

On the NE side of the harbor is an L-shaped public wharf, with a depth of 5.2m alongside the face. The L-shaped wharf has been reported (2011) to be in disrepair.

A 75m long pier extends in a NNW direction from the W end of the NW face of the public wharf. Depths of 2.8 to 5m and 2.9 to 4.5m are located alongside the E and W sides of the pier, respectively.

Anchorage.—Anchorage can be taken in Seldom Cove, in depths of 11 to 18.3m, mud.

Caution.—A submarine pipeline is laid NW from the W end of the fish plant wharf.

Wild Cove (49°37'N., 54°08'W.), **Kippen Cove** (49°38'N., 54°07'W.), and **Cape Cove** (49°39'N., 54°02'W.), none of which affords anchorage, indent the coast between Burnt Point and Cape Fogo. **Western Head** (49°38'N., 54°04'W.), a coastal feature, has a rock with a depth of 5.5m lying 0.75 mile SE of it.

Hamilton Sound and the Change Islands

7.15 Hamilton Sound (49°30'N., 54°15'W.) is entered from the E between **Ladle Point** (49°29'N., 54°03'W.) and **Grandfather Island** (49°32'N., 54°10'W.). A lighted buoy is moored 0.75 mile NE of the island. Vessels with local knowledge can pass through the sound enroute to Notre Dame Bay.

Ice.—In January, Hamilton Sound freezes W of a line joining Eastern Indian Island and **Noggin Island** (49°27'N., 54°15'W.). East winds fill the sound with ice, and winds from between the SE and W clear it. The E part of the sound is often cleared of ice by the S current from Cape Fogo.

Rocky Bay (49°26'N., 54°15'W.) is entered between **Rocky Point** (49°27'N., 54°10'W.), the **Noggin Cove Islands** (Grass Islands) (49°28'N., 54°19'W.), and **Noggin Point** (49°26'N., 54°19'W.). The islands are low, with drying ledges and rocks close by. Rocky Bay is divided into four arms, of which the E two are shallow and encumbered. **Noggin Hill** (49°25'N., 54°17'W.), a conspicuous, isolated, and wooded eminence on a promontory, separates Noggin Cove from Carmanville Arm. A

radio tower stands on the hill.

Green Island and Noggin Island lie on the same shoal in the middle of the entrance to Rocky Bay. A light is shown from Green Island. **White Island** (49°26'N., 54°13'W.) lies 1 mile SE of Green Island. The channel between the islands is deep and clear of dangers. **Wabby Rock** (49°26'N., 54°15'W.), with a depth of 5.2m, lies on a shoal marked 0.25 mile W of the rock by a buoy. A lighted buoy is moored about 0.8 mile S of Noggin Island.

Caution.—Uncharted dangers may exist in the SE part of Rocky Bay, SE of a line joining Rocky Point, White Island, and Twillick Point, the common entrance point of Middle Arm and Carmanville Arm.

7.16 Carmanville Arm (49°25'N., 54°16'W.) is entered between Twillick Point and a point about 2 miles WNW. There is a lumbering and fishing settlement situated on the W side of the arm. Shoals and above and below-water rocks lie close to the mid-channel range line leading through the arm and to the settlement. Lighted and unlighted buoys mark the edge of the dangers where they encroach on the fairway. Navigation is hampered by ice during the winter. Icebreaker assistance is usually required from January to April.

The port of **Carmanville** (49°24'N., 54°16'W.) is situated in Hamilton Sound, on the W side of Carmanville Arm.

Depths—Limitations.—An L-shaped government wharf, has a length of 105m and depth of 6.2m alongside. A wharf extending 30m from shore is located on the E shore near the head of the arm; it has an alongside depth of 4m on its outer end.

There is a ferry which travels between the pier and Seldom Harbor.

Aspect.—A light is shown from a mast at the NE end of the pier. A green spar buoy is moored 0.2 mile S of the wharf.

Range lights, in line, are shown on the W shore near the head of the arm, which lead between the buoys moored W of Wabby Rock.

Pilotage.—The use of a pilot is recommended. A pilot may be obtained by prior arrangement with Bowaters at **Corner Brook** (48°57'N., 57°57'W.).

Anchorage.—Anchorage can be obtained in the arm, S of the wharf, in depths from 7 to 9m, mud. Care must be taken to avoid a submarine cable which exists between a position close SW of the wharf and the opposite shore SE.

7.17 Frederickton Harbor (49°26'N., 54°22'W.), lying about 2 miles W of Noggin Cove, is open to the N and NE so that winds from these directions raise a heavy swell in the harbor. There is a settlement at the head of the harbor. A public pier, with a depth of 4m alongside, is situated near the settlement.

Gander Bay (49°27'N., 54°26'W.) is entered between **Tickle Island** (49°26'N., 54°23'W.) and **Dog Bay Point** (49°29'N., 54°27'W.). **Gander Island** (49°28'N., 54°23'W.) lies in the E part of the entrance. There is a channel, clear of dangers and 0.3 mile wide, between Gander Island and Tickle Island. **Storehouse Island** (49°24'N., 54°25'W.) and **Fox Island** (49°24'N., 54°28'W.) lie in Gander Bay.

Ice.—Gander Bay freezes about January 1 and the ice clears about May 1.

Tides—Currents.—At Clark Point (49°17'N., 54°30'W.),



Courtesy of Carmanville Harbor Authority

Carmanville

there is an ebb current with a velocity of 2 knots at springs; the flood is weak and at neaps the current is negligible. The Gander River, a considerable stream, flows into the bay above Clark Point.

Depths—Limitations.—Clark's Head, a settlement on the W shore near the head of the bay, has a public wharf, with a depth of 3.7m alongside. An overhead power cable, with a vertical clearance of 9.4m, spans between Clark's Head and Salt Island, and has a vertical clearance of 12.5m between Salt Island and the settlement of Gander Bay. A causeway and bridge spans the upper part of Gander Bay. There are settlements at Main Point and **Victoria Cove** (49°21'N., 54°28'W.). A light is shown at Victoria Cove. At the settlement of Mann Point (Davidsville), about 1 mile N of Main Point, there is a public wharf, with a depth alongside of 0.3m.

Anchorage.—Anchorage, with local knowledge, can be safely taken in Gander Bay, S of Fox Island where the bottom is mostly mud.

7.18 Dog Bay (49°30'N., 54°29'W.) is entered between Dog Bay Point and **Farewell Head** (49°32'N., 54°27'W.), the latter rising to 76m. The bay is fronted by the Dog Bay Islands, which are generally low, except for the N island. The **Dog Islands** (49°29'N., 54°27'W.) are a group of islets and rocks extending 1.5 miles NW of Dog Bay Point. **Steering Island** (49°31'N., 54°27'W.), steep to, lies in the middle of the entrance of Dog Bay. A light is shown on the island from a round tower. **Vesuvius Rock** (49°31'N., 54°26'W.), drying 0.9m and

marked by a buoy, lies in the middle of the fairway between Steering Island and the Dog Islands. Anchorage can be taken SW of Double Island, located 3.75 miles SW of Steering Island, in depths of 7.3 to 14.6m, mud, between some islands and the NW shore. Local knowledge is required.

Caution.—A shoal with a depth of 4.8m near its outer end extends 0.2 mile N of the north Dog Island. Caution is advised.

7.19 Farewell Harbor (49°33'N., 54°29'W.) is entered between Farewell Head and a point located about 1.3 miles N. It extends SW for 1 mile to a constricted entrance leading to an arm encumbered with boulders. Farewell Sleepy Cove, lying about 0.3 mile N of the head, is conspicuous from the N or S. A sunken wreck, with a depth of 1.5m, lies in the harbor entrance, close N of the head.

Anchorage can be taken, in depths of 7.3 to 14.6m, mud, about 0.8 mile NNW of Farewell Head.

The **Farewell Duck Islands** (49°35'N., 54°28'W.) are a rugged chain of islands and rocks extending 1.2 miles NNE of the N entrance point of Farewell Harbor and ending in a drying reef. **Farewell Reef** (49°35'N., 54°27'W.), marked close NE by a buoy, has a depth of 3.7m and is marked by breaking seas in moderate weather. The area for about 2 miles W of the reef is foul.

The **Change Islands** (49°40'N., 54°25'W.) are a group of islands and islets extending almost 7 miles in a N and S direction. **South End** (49°34'N., 54°25'W.), the SW extremity of Change Island, is marked by a light shown from a skeletal tow-

er with white daymarks on the three seaward faces. Several islets front the W side of Change Island, affording shelter to local vessels. **Deep Cove** (49°37'N., 54°25'W.), lying between drying **Water Bears Rocks** (49°36'N., 54°26'W.) and **Wood Island** (49°37'N., 54°26'W.), has depths of 5.5 to 11m, sand. **Smoker Island** (49°37'N., 54°27'W.) is marked by a light shown from its N end, and a buoy off a rock at its S end.

Range lights, in line bearing 130.5° ahead or 310°24' astern, are situated about 0.3 mile N of South End. These lights lead S of Smoker Island and the Water Bears, and N of Farewell Reef.

North End (49°41'N., 54°26'W.), the NW end of an island lying close NW of Change Island, is separated from that island by North Tickle, a passage. Numerous shoals and drying rocks extend 1.7 miles NE of North End, with the outer extremity terminating at Sleepy Ledge, which has a least depth of 6.1m.

7.20 Change Island Tickle (49°40'N., 54°25'W.), a constricted channel, separates the main and N part of the island. The passage, with a least depth of 3m, affords safe anchorage for small vessels with local knowledge. The E entrance is available in any weather, but is difficult to identify. A bridge, with a vertical clearance of 3m, spans the middle part of the passage. A light is shown from a green and white banded tower situated on **Tickle Point** (49°40'N., 54°25'W.). North End Island is encircled on all sides by islets and rocky foul ground which extends to both sides of Change Island Tickle.

Ruth Island (49°41'N., 54°23'W.), marked at its W end by a light shown from a tower, lies in the middle of the E entrance of Change Island Tickle and close S of Tobacco Island, from which it is separated by a channel about 90m wide. An islet, encircled by foul ground, lies close S of Ruth Island; a shoal, on which heavy seas break, lies close E of the island. Rocks, awash, and 1.8m shoals lie almost 0.5 mile WSW of Ruth Island and on either side of the fairway through Change Island Tickle. Buoys mark these dangers.

Depths—Limitations.—A pier at the NE end of Change Island Tickle has a depth of 7.9m alongside.

Aspect.—Range lights, shown from skeleton towers displaying white daymarks with red diamonds in the center, are situated on the N side of Change Island Tickle. These lights, in line bearing 252°45', lead through the E approach and entrance of Change Island Tickle.

Notre Dame Bay

7.21 Notre Dame Bay (49°40'N., 55°20'W.) is entered between the N entrance point of **Farewell Harbor** (49°34'N., 54°28'W.) and the South Bill of **Cape St. John** (49°58'N., 55°28'W.). This large bay contains many islands; its shores are deeply indented by numerous inlets, many of which require local knowledge to navigate.

Ice.—In June, the mean limit of pack ice off the NE coast of Newfoundland is in about 50°N, and there is no other pack ice except in the region of the Strait of Belle Isle. Within Notre Dame Bay, the ice is often kept offshore by the tidal currents out of the deep arms.

Change Island Tickle and the sea from the N end of Change Island to **Herring Head** (49°40'N., 54°32'W.) and from Tobacco Island to Brimstone Head fill with N ice and freeze; the ice usually breaks up between April 20 and May 10, but an E

sea breaks it up earlier. In May and June, when the ice is compact from Funk Island to Cape Fogo, partly owing to the E tidal current setting out of Dildo Run and the stream from the Gander River, Change Island, and Stag Harbor Ticks are often sufficiently clear to allow vessels to pass through them into Notre Dame Bay.

Dildo Run (49°32'N., 54°40'W.), a very constricted and intricate channel, is entered about 2 miles W of **Beaver Head** (49°32'N., 54°33'W.), a steep bluff. Little Beaver Cove, 1.5 miles NE of Beaver Head, has the settlement of **Port Albert** (49°33'N., 54°32'W.) at its head. There is a public wharf, with a least depth of 4m at its outer end, situated at Port Albert. **Beaver Cove** (49°31'N., 54°34'W.) is divided into two arms by an islet. The NE arm is foul, but the SW arm affords good anchorage, in depths of 5.5 to 11m, mud.

Dildo Run leads through the archipelago of islands SE of **New World Island** (49°35'N., 54°38'W.) and into the Bay of Exploits between Cranpot Island and **Farmer Island** (49°28'N., 54°50'W.). This passage is frequently used by vessels to avoid the ice on the outer coast during the spring. There is a least depth of 3.7m in the channel, but the turns are so sharp that it is available only for small vessels. Local fishermen serve as pilots. A bridge, with a vertical clearance of 12.6m, and power lines, with a clearance of 17.1m, span a portion of the channel.

Anchorage can be taken, in a depth of 14.6m, W of Currans Green Field Island (49°34'N., 54°34'W.), which is small, low, and grassy, and lies close SW of the entrance to **Ninepin Arm** (49°35'N., 54°34'W.).

Caution.—Currents in excess of 5.5 knots have been reported in the channel in the vicinity of the bridge. The inshore areas of Notre Dame Bay are very active with aquaculture facilities. Marine farms and vessel traffic associated with the aquaculture industry may be encountered in many of the sheltered areas. Vessels transiting in the inshore areas should exercise caution.

7.22 Cobbs Arm (49°37'N., 54°34'W.), indenting the coast of New World Island, affords indifferent summer anchorage, in a depth of 23.8m, off the narrow entrance of a shoal continuation of the arm. A swell sets into the arm after gales. Local knowledge is necessary. Several islets and rocks above and below-water, including **Dram Island** (49°35'N., 54°31'W.), marked by a lighted tower, lie S of Cobbs Arm entrance.

Jack's Island (49°38'N., 54°31'W.), the high conspicuous NE peak of which is separated from New World Island by three channels, leads into Cobbs Arm. The water area for about 4 miles N and NNE of Cobbs Arm is encumbered with islets, rocks, and reefs as far as Herring Head, the high, steep-to NE end of New World Island. The Herring Islands, small and steep-to, extend 0.75 mile NE of the head. **Kiar Rocks** (49°41'N., 54°31'W.), awash, and Blowhard Rock, with a depth of 2.1m lying 0.2 mile W of Kiar Rocks, are all dangers in approaching Herring Head, on which the seas break.

7.23 Bacalhao Island (49°42'N., 54°33'W.), high and barren, lies with its SW extremity about 1.8 miles NW of Herring Head. A light is shown from a circular tower with red and white spiral bands situated at the SW end. A set of range lights,

in line bearing 301°21', are situated close NE of this light. Above and below-water rocks lie as far as 2 miles NE of the island.



Courtesy of Newfoundland Interactive

Bacalhao Island Light

Herring Neck (49°39'N., 54°36'W.), at the SW end of Herring Head, is crossed by a small boat channel. A bridge crosses this channel.

Toogood Arm, located 2.75 miles SSW, is entered between Ship Island and Herring Neck. Ship Island is marked by a light at its E end. The arm is encumbered with islets and rocks. On the E shore of Toogood Arm is a public wharf having an along-side depth of 2.5m.

Goshens Arm (49°38'N., 54°35'W.) is entered between Herring Neck and **Caplin Cove Head** (49°39'N., 54°36'W.). Ship Island Light is shown from a white, square tower on the head.

Anchorage.—Anchorage for small vessels can be taken in Ship Cove, close SW of Caplin Cove Head, or in Starve Cove, 0.5 mile SW of the same head. Additional anchorage is available, in 18.3 to 23.8m, mud, above the entrance to **Burnt Arm** (49°37'N., 54°38'W.).

7.24 The Twillingate Islands (49°37'N., 54°44'W.) is comprised of a group of two islands and several smaller ones separated from the NW side of New World Island by Main Tickle. South Twillingate Island rises to Bluff Head on its W side, but the hills forming the N part of the island fall steeply to the E coast, and a low flat containing several lakes extends to the W coast. An islet, 2m high, lies 1 mile W of Merritt's Harbor (49°37'N., 54°44'W.). North Twillingate Island is lower and is separated from the NW part of South Twillingate Island by Shoal Tickle, a drying flat crossed by a canal dredged to 1.6m. A bridge, with a vertical clearance of 3m, spans the canal.

Main Tickle (49°40'N., 54°40'W.) is frequented by fishing vessels to avoid the heavy sea which runs outside with a strong wind. The passage extends S for 2.75 miles from its N entrance, which is 1 mile wide and decreases to 0.75 mile at its S entrance. Main Tickle Island lies in the N entrance with a clear

passage on either side. An overhead power cable, with a vertical clearance of 44.8m, spans Main Tickle.

Indian Cove (49°36'N., 54°41'W.), located close SE of the SE entrance point of Main Tickle, is marked by two conical hills rising on a promontory forming the SE side of the cove. A causeway and bridge span the tickle close N Indian Cove. The vertical clearance under the bridge is 4.4m. **Purcell's Harbor** (49°37'N., 54°42'W.) is situated on the E bank of South Twillingate Island; Lobster Harbor is on New World Island. The harbors are separated by Main Tickle. The wharf at Purcell's Harbor was in disrepair and barricaded in 2010.

Anchorage.—Anchorage can be taken, in depths of 14.6 to 21.9m in a bight on the E side of the tickle and about 1.8 miles S of **Big Head** (49°38'N., 54°41'W.), the NW entrance point. Anchorage in Indian Cove can be taken, in 34.7m, at the entrance, decreasing to 5.5m at a distance of 0.5 mile within the entrance. There is additional anchorage in Byrne Cove, close S of Indian Cove, in depths of 14.6 to 18.3m, in the cove entrance. Local knowledge is necessary.

Black Island (49°35'N., 54°42'W.) lies with its NE end about 0.5 mile SSW of the SW entrance of Main Tickle. A high, bare hill at the NW extremity of the island falls away to a low isthmus at the head of a fishing harbor on the NW side of the island.

Duck Island (49°36'N., 54°43'W.), marked by a light shown from a red and white banded circular tower, is connected to Black Island by rocks and shoals.

7.25 Twillingate Harbor (49°40'N., 54°46'W.) is situated on the E side of the entrance to Notre Dame Bay. It is entered between the W extremity of Burnt Island and **Cuckold Point** (49°41'N., 54°47'W.), on North Twillingate Island. Rocky shoals and several banks, with depths of 20.1 to 36.6m on which the sea brakes in bad weather, lie N of the Twillingates.

Ice.—The navigation season is from May 1 to December 31. Twillingate Harbor freezes over around January 22, and the ice, which attains a thickness of 0.6 to 0.9m, clears around May 6. It is, however, open at intervals between these dates.

Depths—Limitations.—There are least depths of 18.3m in the harbor channel and approaches. Shoals fringe the head of the harbor and extend at least 0.75 mile offshore. There is a controlling depth of 9.1m in the harbor channel. A vessel of 5,000 tons has berthed at Twillingate.

Several wharves and piers are situated in the harbor. For berthing information see the table titled **Twillingate—Berth Information**.

Aspect.—Twillingate Harbor Light, an orange and white rectangle on a framework tower, is shown 2.75 miles SSE of Long Point, at the head of a jetty on the W side of the harbor. A yellow church, with a grey roof and square yellow tower, stands 0.15 mile SW of the light. A breakwater light is shown at the outer end of the W pier extending S from the breakwater.

Durrell Arm (49°40'N., 54°44'W.) and Farmers Arm are situated on the SE and NW sides, respectively, of a promontory extending NE from the head of the inlet. The settlement of Durrell is situated on the shores of Durrell Arm and Farmers Arm. The inlet is entered between French Head (49°41'N., 54°43'W.) and a point 0.75 mile W.

In Durrell Arm and Farmers Arm, significant dangers extend offshore; however, small craft can find shelter at their heads of



Twillingate Harbor

the arms during N and NE gales when a heavy sea rolls in. A dredged channel, with a least depth of 3.6m and marked by buoys, leads into Farmers Arm.

Pilotage.—Pilotage is not compulsory. There is no regular pilot for Twillingate, however, the pilot from Botwood/Lewisporte will take the assignment as a non compulsory assignment. Arrangements should be made with the pilot for a boarding position. During winter, this position is off St. John's, in approximate position 47°34'N, 52°38'W. Arrangements should be made through the Canadian Atlantic Pilot Authority (APA) Central Dispatch Office in Halifax, Nova Scotia. However, pi-

lots may still be ordered through any Canadian Coast Guard radio station with a clear request to "Please forward to Atlantic Pilotage Authority Dispatch."

For more detailed information on pilotage for Twillingate see Pub. 140, Sailing Directions (Planning Guide), North Atlantic Ocean and Adjacent Seas.

A Canadian Coast Guard cutter is stationed here during the navigation season (May 15 to December 31). A continuous listening watch is maintained on 2182 kHz, 156.8 MHz, and VHF channel 9.

Twillingate—Berth Information			
Berth	Length	Depth	Remarks
Jenkins Community Wharf	50m	3.4m	—
Marginal Wharf	53m	0.9m	Extends at a right angle from Community Wharf
North Berth	48m	2.1-9.4m	—
South Berth	60m	3.0-7.9m	—
Canadian Coast Guard	91m	—	Search and Rescue Wharf
Fish Plant Wharf (0.5 mile SSE)			
West side	135m	1.2m	—
South side	68m	3.7-4.9m	—
Three Finger Pier	70m	1.5-2.1m	—

Anchorage.—Anchorage is not good in Twillingate Harbor, as it is open to NE winds that send in a heavy sea. The holding ground is indifferent. The best berth is off the W shore, NE of the wharf light, on the W side of the harbor, in a depth of 11m.

The Twillingate Islands—West Side

7.26 Lower Head (49°41'N., 54°49'W.) is a salient feature SW of Long Point. **Back Harbor** (49°40'N., 54°48'W.), entered S of Back Harbor Head, affords anchorage, in depths of 8.2 to 12.8m, sheltered from all but W winds which send in a heavy sea. Local knowledge is required.

Tickle Point (49°39'N., 54°46'W.), the SW entrance point of Shoal Tickle, lies 1.5 miles SE of Back Harbor Head. Shoal Tickle Light is shown from a white, square tower on the point.

Bluff Head (49°37'N., 54°46'W.) is a broad high promontory located 1.5 miles SSE of Tickle Point. Bluff Head Cove, entered close N of the head, affords anchorage to small vessels, in depths of 7.3 to 11m, E of an islet lying in the cove entrance.

Friday Bay (49°35'N., 54°44'W.) is entered between Bluff Head and **North Trump Island** (49°35'N., 54°47'W.). Islets and rocks above and below-water lie between the head and island. **Gillott Cove** (49°37'N., 54°46'W.), close S of Bluff Head, has a public wharf with depths of 1.8 to 3.7m alongside. The **Trump Islands** (49°34'N., 54°45'W.), a group consisting of two large islets and several small islets and rocks, form the W side of Friday Bay.

Fools Harbor (49°35'N., 54°44'W.), sheltered at the E end of South Trump Island by interconnected islets, affords anchorage to small vessels, in a depth of 14.6m, with local knowledge.

New World Island—North Side

7.27 Squid Cove (49°34'N., 54°43'W.), sheltered by Crow Head Island, affords good anchorage to small vessels, in depths of 11 to 21.9m. The best entrance, clear of dangers, is between **Sugarloaf Point** (49°34'N., 54°42'W.) and the islets NE of Crow Head Island.

Tilt Cove (49°33'N., 54°43'W.) is entered between a point about 0.4 mile SW of Crow Head Island, and Tilt Cove Island, about 0.2 mile W. The passage narrows between an entrance width of 274m to 64m in the cove.

Anchorage.—Anchorage can be taken, in a depth of 11m, within the cove.

Virgin Arm (49°32'N., 54°46'W.) is entered about 0.8 mile SW of Tilt Cove Island. An islet lies in the entrance of the arm and above and below-water rocks lie close to the shore within the arm. By hugging the E shore upon entering until the first rock is passed, a vessel can anchor, in a depth of 31.1m, in the widest part of the arm. A small vessel can proceed to the head of the inlet, keeping close to the W shore until another rock is passed, then anchor in the middle, in depths of 12.8 to 20.1m. There is a public wharf nearby.

7.28 Chanceport Harbor (49°33'N., 54°49'W.) is entered between a point about 1.5 miles W of the W entrance point of Virgin Arm, and Chance Harbor Island, 0.25 mile to the N. Chanceport Harbor affords anchorage to small vessels, in depths of 18.3 to 34.7m, open to E winds.

Tizzard's Harbor (49°35'N., 54°48'W.) entered 1.75 miles N of Chanceport Harbor and close S of Tizzard's Harbor Head. An islet in the harbor is connected to the N shore by a reef. There is a public wharf at the village, 32m long with a least depth of 4.9m at the face. Anchorage in the harbor is available, in a depth of 11m.

Toad Asses are three rocks extending NE from an isolated wooded headland located N of the NW side of Tizzard's Harbor Head, with which it is connected by a low neck of land.

Berry Island lies off the W side of the same isolated headland; it is connected with it by a bank which dries. Cuck-old Rocks, 3m and 4.3m high, are the outermost of the rocks extending nearly 0.4 mile N of Berry Island.

Wild Bight (49°35'N., 54°50'W.), entered close E of Wild Bight Head, is clear of dangers and affords anchorage, in depths of 20.1 to 27.4m, near its head, but the bight is open to N winds which send in a heavy sea.

7.29 Moreton's Harbor (49°35'N., 54°51'W.) is approached between Wild Bight Head and Moreton's Harbor Head, about 0.8 mile SW. The entrance to the harbor is between **Little Harbor Head** (49°35'N., 54°51'W.) and Neal Island, lying 0.2 mile W of the head. A light is shown from a circular tower with red and white bands on Little Harbor Head. There is a public pier, with a depth of 4.6m alongside, at the settlement near the head of the harbor. A light is shown from the head of the pier. Anchorage can be taken in the harbor, in depths of 9.1 to 12.8m.

The Bay of Exploits

7.30 Western Head (49°36'N., 54°54'W.), the NW extremity of New World Island and the E entrance point of the Bay of Exploits, rises steeply to a bare mound. **North Head** (49°33'N., 55°09'W.), broad and high, is the W entrance point to the bay.

Ice.—Ice generally forms in the bay early in January, and sometimes a little earlier in Peter Arm and its vicinity. The first vessels arrive from sea about June 1, and the last leave early in December. Fog is frequent in the bay, but seldom lasts more than a few hours.

Tides—Currents.—Tidal currents set in and out of the deep channels of the bay with a velocity of about 2 knots at springs.

Depths—Limitations.—The Bay of Exploits is divided by numerous islands into three main arms which lead to various bays and arms at its head. Depths in the bay are considerable, and except in its E part, there are only a few obstructions beyond those fringing the shores. The W of the three arms into the bay is navigated without difficulty as far as Peter Arm, about 26 miles from the entrance.

The Bay of Exploits—Eastern Arm

7.31 The E arm of the Bay of Exploits is entered between Western Head and **Black Island** (49°33'N., 54°58'W.). It extends about 10 miles S to **Comfort Head** (49°25'N., 54°51'W.). Several islands, with passages leading between them, form the sides of Eastern Arm. The main channel leading S in the arm is broad, deep, and free of dangers. At Comfort Head, the E arm divides into two arms.

Big Gull Island lies with its NE extremity 0.5 mile WSW of Western Head; it is covered with grass, and its W side is faced with black cliffs. Hussey Rock lies close NE of Big Gull Island. Little Gull Island lies close SW of Big Gull Island.

Dicky Head (49°34'N., 54°54'W.) lies about 1.8 miles S of Western Head. The village of Whale's Gulch lies close E of Dicky Head.

Bridgeport Harbor Head lies about 3 miles S of Western Head. Green Island lies close NW of the head. Killick Stone Island lies about 0.2 mile NNW of Green Island. Bridgeport Island lies about 0.1 mile E of Green Island.

Black Island presents a flat appearance and lies with its N point about 3.3 miles SW of Western Head. Storehouse Island lies about 0.1 mile off the middle of the NE side of Black Island; a white triangular beacon stands on the SW summit of the S part of the island.

Little Black Island lies off the SE side of Black Island. Black Island Tickle separates these two islands; it is narrow with numerous rocks in it. This passage is available only to small craft; local knowledge is necessary.

Dram Rock lies about 0.3 mile E of the NE extremity of Little Black Island. Sunker Rock, with a depth of 0.2m, lies about 0.2 mile NW of Dram Rock.

The Duck Islands are a group of islets lying close S of Little Black Island. Whale Back Rock lies about 0.4 mile SE of the southeasternmost Duck Island.

7.32 Between Bridgeport Point, the SW extremity of Bridgeport Harbor Head, and the NW extremity of Cottle's Island, about 1.3 miles S, the coast forms a bight which is encumbered with islets, rocks, and shoals.

Little Bridgeport Harbor is entered about 0.4 mile ENE of Bridgeport Point. It is suitable only for small craft; local knowledge is necessary.

Bridgeport Harbor (49°33'N., 54°52'W.) is obstructed to all but small craft by a bar about 1 mile within the entrance. There is a settlement at the N side of the harbor where a public wharf, 21m long, with alongside depths of 2.1 to 4.9m, is situated.

Anchorage can be taken, in 38.4m, close within the entrance. Small craft anchor farther in the harbor, in depths of 9.1 to 16.5m.

Caution.—A pipeline is laid across Bridgeport Harbor. Mariners are cautioned not to anchor in the vicinity of the pipeline.

Puzzle Harbor Head, a round wooded hill, lies 1.3 miles SE of Bridgeport Point. Cottle's Island is rocky, thickly wooded, and steep-to.

Luke's Arm (49°31'N., 54°50'W.), entered 0.5 mile E of Cottle's Island, affords good anchorage, but should not be approached without local knowledge.

Cottle's Bay (49°31'N., 54°53'W.) is entered between the SW extremity of Cottle's Island and a point about 1 mile SE. Mann Rocks, 3m high, lie in the middle of the entrance to this bay; there are several rocks in the bay E of them. The settlement of Cottle's Island is situated on New World Island, about 0.8 mile NE of Mann Rocks. At the settlement there is an L-shaped public wharf with a least depth of 3.7m alongside its outer end.

Farmer Head (49°29'N., 54°53'W.) is a bold rocky headland, conspicuous and steep-to.

7.33 The **Samson Islands** (49°30'N., 54°57'W.) is comprised of two large islands and several small ones; all are densely wooded. The channel N of the islands is foul and should be used only by small craft. **Samson Tickle** (49°30'N., 54°56'W.), 0.2 mile wide, separates the two large islands. Care must be taken to avoid Mussel Rocks, and the shallow water surrounding them, in the W part of Samson Tickle.

Anchorage.—Anchorage is possible in fine weather only. The current is W on the flood tide and is greatly influenced by wind.

7.34 **Sugar Loaf** (49°28'N., 54°56'W.) at the S end of the group, is a steep, cliffy, and conspicuous island rising to an elevation of 65m.

Summerford Arm (49°29'N., 54°50'W.) is entered between Farmer Head and Gleed Island. **Surprise Shoals**, with a least depth of 11m, lie in the entrance to the arm, about 0.5 mile SE of Farmer Head. The arm affords anchorage 0.15 mile W of **Fir Island** (49°29'N., 54°49'W.). A settlement on the N shore of the arm has a T-head pier, with a depth of 3.1m alongside. A light is shown from a white tower on the pier.

Cranpot Island (49°27'N., 54°50'W.) lies about 0.5 mile SE of the SW extremity of Farmers Island.

Comfort Head is the steep, wooded bluff forming the N end of a promontory separating **Loon Bay** (49°22'N., 54°49'W.) from Indian Arm. **Comfort Island** (49°25'N., 54°51'W.), which is steep, wooded, and conspicuous, lies 0.2 mile N of the head.

Yellow Fox Island (49°27'N., 54°55'W.), lying nearly 1 mile S of the South Samson Island, is light gray in color, and thickly covered with trees.

Squire Island, lying almost 1 mile S of Yellow Fox Island, is wooded, except at its N end, which is bare.

Knights Island, lying 0.5 mile S of Squire Island, is thickly wooded.

7.35 **Knights Island Rock** (49°25'N., 54°55'W.), lying 0.3 mile NE of the N end of Knights Island, is marked by a light shown from a square tower with red and white bands.

Loon Bay (49°22'N., 54°49'W.) is entered between Comfort Head and **Coal All Island** (49°24'N., 54°48'W.). The SE side of the bay is rocky and does not afford good anchorage. The depths off the W side are moderate, there are few dangers, and in general there is available anchorage anywhere suitable.

Comfort Cove (49°24'N., 54°51'W.), entered SE of the head, affords anchorage, in depths of 27.4 to 36.6m, in the cove, but E winds which prevail in the spring and autumn cause this anchorage to be unsafe. The SE entrance point of the cove rises steeply to a prominent wooded hill.

Newstead Harbor (49°24'N., 54°51'W.), suitable only for small vessels, is entered about 1 mile SW of Cranberry Island. An L-shaped public wharf, 53m long, with an alongside depth of 2.7m, is situated on the E shore of Newstead Harbor.

Cranberry Island, low and steep-to on its outer side, lies close off the SE entrance point of Comfort Cove.

Green Island (49°23'N., 54°47'W.) is a grassy islet, turtle-backed in shape, which lies on an extensive flat of sand and

stones off the SW side of Coal All Island.

Birchy Bay is entered between the SE end of Coal All Island and a point about 1 mile SW; it is used only by small vessels. Local knowledge is necessary. The approach is encumbered by shoals extending from both sides.

Loon Harbor (49°17'N., 54°51'W.), at the head of the bay, affords anchorage, in a depth of 9.1m, mud, in the middle of the harbor. On the W side, close S of the entrance of the harbor, there is a wharf with a reported depth of 3.4m at the outer end.

A Coast Guard radio station (VCM) operates remotely from a position close W of Loon Harbor. **Long Point** (49°19'N., 54°51'W.), about 1 mile SE of the radio station, affords anchorage off the cove close N of the point, in a depth of 18.3m.

7.36 Indian Arm (49°20'N., 54°56'W.) and **Burnt Bay** (49°18'N., 55°00'W.) are approached between Comfort Head and Knights Island. Conspicuous high wooded bluffs, interspersed with foul and shallow coves, form the coast SW of Comfort Head.

Duck Island, small and grassy, lies about 0.4 mile offshore, 2.1 miles SW of Comfort Head.

Camel Island, thickly wooded and cliffy, lies about 0.8 mile SSW of Knights Island; it has a humped-back summit. Two islets and several rocks lie between Knights Island and Camel Island.

Sivier Island, densely wooded with a conical summit, lies with its E extremity about 0.8 mile S of Camel Island.

Camel Island Passage, between Camel Island and Sivier Island, has four shoals and a small islet near mid-channel. The passage close SW of these shoals has a least depth of 14.9m.

Tinker Island, lying 0.7 mile W of Camel Island, is round and steep-to; it forms a good mark for vessels using Camel Island Passage.

Birchy Island Tickle (49°22'N., 54°59'W.) leading into Indian Arm, is very constricted, with a least depth of 3.7m. Local knowledge is necessary.

Anchorage.—Anchorage can be taken off the S entrance of the tickle, in a depth of 27.4m, sheltered from NW winds, which are strong in autumn. There is good anchorage, in depths of 25.6 to 27.4m, on a mud and gravel bank lying 0.5 mile WSW of the SW end of Sivier Island. The E end of Birchy Island, in line with the W end of Sivier Island bearing about 027°, leads over the bank.

7.37 Indian Arm is entered between **Chapel Head** (49°22'N., 54°54'W.) and the E end of Sivier Island. **Indian Head** (49°19'N., 54°53'W.) is located 2.5 miles SSE of Chapel Head.

Anchorage.—Anchorage can be taken during E winds in the bay close N of Indian Head. The S and SE shores of the arm

are low and backed by wooded ridges. A promontory separates the S part of the arm from Burnt Bay.

Anchorage can be taken at the head of the arm, in depths of 12.8 to 23.8m.

Steering Island, lying about 1 mile SW of Indian Head, is steep-to and covered with grass. Duck Island lies about 2 miles WSW of Indian Head. The island lies close N of the NE extremity of the promontory separating Indian Arm from Burnt Bay. Berry Island lies between Duck Island and the coast. The S and SE shores of Indian Arm are low and backed by wooded ridges.

The settlement of **Campbellton** (49°17'N., 54°56'W.) is situated SW of a wooded islet. There is a saw mill and a pier capable of handling vessels of 100 tons. A road bridge crosses the river from Campbellton to the N shore. Only small craft of limited draft and height can navigate upstream of the bridge, where there are booming grounds and sawmills. A public L-shaped wharf, reported (1997) to be in disrepair, has a depth of 3m alongside.

Anchorage.—Anchorage can be taken off of Pointe a Fleurant, near 48°06'N., 066°24'W, in depths of 11 to 13m.

7.38 Burnt Bay (49°18'N., 55°00'W.) is approached between Sivier Island and the promontory about 2 miles S. **Mus-sel Bed Rocks** (49°19'N., 54°58'W.) lie off the promontory. The mainland forming the W side of the approach is low, densely wooded, and indented by several coves. Burnt Bay is entered between **St. Michael's Island** (49°17'N., 55°00'W.) and the coast almost 0.8 mile W. **Jobs Island** (49°18'N., 55°01'W.) lies in mid-channel just N of the entrance. Both sides of the bay are densely wooded. A light is shown near the W side of St. Michael's Island. **Cat Island** (49°16'N., 55°01'W.) and Seal Rock, 0.3m high and marked by a light, lying 0.8 mile E of the island, constrict the fairway leading through Burnt Bay.

Ice.—Burnt Bay usually freezes about the middle of January and opens again about the end of April.

Tides—Currents.—The tidal currents set fairly in and out of the bay with an appreciable velocity at springs in constricted places.

Anchorage.—There is anchorage in the bay in the vicinity of Rice Island.

7.39 Lewisporte (49°15'N., 55°03'W.) lies at the head of Burnt Bay. The town is situated along the W shore of the harbor. Most of the supplies for Gander Airport are shipped through this port of entry.

Depths—Limitations.—The navigation season is from mid-May to mid-December. There are several small berths in the harbor. For berthing information see table titled **Lewisporte—Berth Information**.

Lewisporte—Berth Information			
Berth	Length	Depth	Remarks
Lewisporte Terminal			
North Berth	178m	—	General cargo and passengers
South Berth	150m	—	Ro-ro and containers

Lewisporte—Berth Information			
Berth	Length	Depth	Remarks
Woodward Oil Terminal			
Woodward Oil Berth	107m	8.8m	Diesel, jet fuel, and gasoline

Aspect.—A church spire and a water tank are conspicuous in town also a light with a height of 8m is located at the head of the Canadian National Railways shed.

Pilotage.—Pilotage is compulsory. The pilot boarding station from May 15 to January 1, depending on ice conditions, is in position 49°20'45"N, 54°56'32"W. Pilots are requested from the Atlantic Pilotage Authority 12 hours prior to arrival at the pilot boarding position. The ETA must be confirmed or corrected 4 hours prior to ETA.

From January 2 to May 14, depending on ice conditions, the pilot boarding position is off St. John's in position 47°33'42"N, 52°37'54"W. Pilots are requested from the Atlantic Pilotage Authority 24 hours prior to arrival; the ETA must be confirmed or corrected 12 hours prior to ETA.

Anchorage.—Anchorage can be taken off the wharves in depths of 16.5 to 20.1m, mud.

Caution.—Obstructions which uncover, a rock awash and a ruined wharf lie about 40m offshore between the inner ends of the Imperial Oil (New) and the Lewisporte Wholesalers wharfs.

The Bay of Exploits—Middle Entrance

7.40 Sloop Run (49°33'N., 55°01'W.), the middle entrance of the Bay of Exploits, is entered between **Hell Grapple Head** (49°33'N., 55°02'W.) and **Long Point** (49°33'N., 55°02'W.). Several islands, islets, and above and below-water rocks lie in the middle of the run and extend S for at least 2 miles. **Sealing Cove** (49°33'N., 54°59'W.) is clear of dangers and affords anchorage to small vessels during E winds.



Long Point Light

Hamilton Island lies 0.7 mile S of Hell Grapple Head. Parsons Cove, which is suitable only for boats, is entered E of Hamilton Island.

Hare Island is the largest of a group of islands lying in the

middle of Sloop Run. Fish Island is the N island of the group, lying 0.3 mile NE of Hare Island. Tarpaulin Island, the E island of the group, lies 0.7 mile ENE of Hare Island. Gillot Island, the S island, lies 0.2 mile SSW of Hare Island. The other islands, rocks, and shoals in the vicinity can best be seen on the chart.

Matthew Lane Island lies with its NE extremity about 0.7 mile SE of Gillot Island. There is a small boat harbor on its S side protected by an islet; several rocks encumber this harbor.

The **Exploits Islands** (49°31'N., 55°04'W.), lying in the middle entrance, are two in number, separated by a channel known as **Exploits Upper and Lower Harbors** (49°32'N., 55°05'W.). The N and E sides of the islands are fronted by foul ground and several islets. The **Duck Islands** (49°30'N., 55°04'W.) are a group of wooded islets separated from the S side of the Exploits Islands by a deep wide channel. These islands form a bay, open SW, in which temporary anchorage can be taken, in a depth of 35m, fair holding ground.

Man of War Hill, the summit of the westernmost Exploits Islands, has a large cairn of stones on it. Surgeon Cove Point is the W extremity of the W island. The point is marked by a light shown from a circular tower marked with red and white stripes.

Anchorage.—Burton Cove, SE of the point, affords anchorage for small vessels during E winds.

Gull Island Bight is entered between Long Point and High Gull Island, lying close to the coast about 1 mile to the W.

Nanny Hole Head is a steep bluff forming the NW side of the easternmost Exploits Islands.

Exploits Harbor (49°31'N., 55°04'W.), consisting of Exploits Upper Harbor and Exploits Lower Harbor, lies in the channel between the two Exploits Islands. The two harbors are connected by a passage 6.1m wide and 0.9m deep.

Exploits Upper Harbor, located in the SE part of the channel, is entered over a rocky bar with depths of 1.8 to 2.1m. A narrow channel through the bar has a depth of 5.8m, but transit requires local knowledge. There is a J-shaped public pier in the harbor, with depths of 4.9 to 5.9m alongside its outer face. The pier is situated at Lacy Point, close N of the W entrance point to Upper Harbor.

Anchorage.—Temporary anchorage can be taken in the entrance to Upper Harbor, in depths of 16.5 to 29.3m.

Exploits Lower Harbor, located in the NW part of the channel, affords anchorage for small vessels, in depths of 21.9m or less, but local knowledge is required.

Ice.—Exploits Harbor generally freezes about January 1, and is completely blocked with ice between February 1 and April 1, but between April 1 and May 20 there are open intervals. Field ice appears between the middle and end of January, and disappears between May 1 and 20.

Swan Island (49°28'N., 55°02'W.), densely wooded except at its N part where the land is low, lies 1 mile SE of the Duck Islands. Swan Island Harbor, indenting the S coast of the island, affords sheltered anchorage, in depths of 27.4 to 31.1m.

Hornet Island, about 0.4 mile E of Swan Island, is 61m high and cliffy. A bank, with numerous rocks, extends 1.25 miles N of the NW end of the island.

7.41 Long Island (49°26'N., 55°01'W.) is separated from Hornet Island by Hornet Gut, with a least depth of 7.3m in the fairway. Tidal currents set strongly through this passage, which is suitable for small vessels only. The **Spruce Islands** (49°24'N., 55°01'W.) lie 0.5 mile SSE of Long Island.

Tides—Currents.—The tidal currents between the Spruce Islands and **Southern Head** (49°22'N., 55°05'W.), about 2.75 miles SW, set in the direction of the channels. The W current between the Spruce Islands and Birchy Island is the flood tidal current. Occasionally tide rips are caused off Southern Head at spring tides by banks, with depths of 23.8 to 36.6m, which lie within 1.5 miles NE and 1 mile E of the head.

The **Shag Cliff Islands** (49°27'N., 54°59'W.) are a group of islands lying 1 mile SE of Hornet Island. Indian Islands is another group lying 0.5 mile S of the Shag Cliff Islands. The islands of both groups have steep cliffs on their E sides and remarkable summits.

The Jock Islands, small and covered with grass, are located just over 0.5 mile E of the N extremity of the easternmost Shag Cliff Island. A sunken rock, with a depth of 0.6m, on which the sea breaks with any swell, lies close W of these islets.

Rudder Island lies about 0.4 mile SW of the Indian Islands.

Little Burnt Bay (49°21'N., 55°03'W.) is entered between the W entrance point of Shoal Tickle and Southern Head, about 2 miles WNW. The head of this bay and its SW part are shoal and encumbered with rocks. **Southern Head Cove** (49°21'N., 55°04'W.), located 0.5 mile S of the head, has a public pier, with a depth of 4.3m alongside. **Big Island** (49°31'N., 55°41'W.) is conspicuous.

Anchorage.—Anchorage can be taken, in a depth of 29.3m, about 0.4 mile SE of Big Island. This anchorage is unsafe with strong winds from between the N and NE.

The Bay of Exploits—Western Arm

7.42 The W arm of the Bay of Exploits is entered through **Ship Run** (49°32'N., 55°08'W.), a deep channel between the NW extremity of the W Exploits Burnt Island and **Northern Head** (49°33'N., 55°09'W.). Rocky ledges lie as far as 1 mile SE of the head. With strong N winds, a heavy swell runs up the arm.

Anchorage.—**Waldron Cove** (49°31'N., 55°10'W.), entered close N of Waldron Cove Point, affords shelter to small vessels off a bight in the S side of the cove. **Little North Harbor** (49°30'N., 55°08'W.) affords anchorage to small vessels, in depths of 7.3m to 14.6m, near its head. **North Harbor Head** (49°29'N., 55°08'W.), high, steep-to, and conspicuous, is marked by a cairn of stones on its summit.

7.43 North Harbor (49°28'N., 55°08'W.) affords anchorage to small vessels, in depths of 18.3 to 20.1m. A heavy swell rolls into the outer part of the harbor and space is limited in the inner part.

Muddy Hole Point, about 1.3 miles S of North Harbor Head, is low and prominent. **Great Muddy Hole** (49°28'N., 55°09'W.) is well-sheltered from the heavy swell that rolls up

the bay with strong N winds, but anchorage is limited to small craft.

Little Grego Island lies close to the coast, almost 0.5 mile S of the S entrance point of Great Muddy Hole. Baptist Cove, entered about 1 mile SW of Little Grego Island, is suitable for small vessels only.

Lawrence Harbor (49°26'N., 55°10'W.) is entered NW of Lawrence Head, an inconspicuous promontory backed by high land. The head of the harbor is divided into N and S bights; the former has a shallow head, but affords anchorage, in a depth of 34.7m, rock, covered by sand and mud. The S bight has a constricted and encumbered entrance.

Upper Black Island (49°24'N., 55°07'W.), very high and densely wooded, and **Hummock Island** (49°26'N., 55°05'W.) are separated by a passage with a least depth of 8.2m. A reef, with a depth of 5.9m, lies at the outer edge of a chain of islets extending about 0.5 mile SE of the S end of Hummock Island.

Tidal currents between the two islands follow the coast of Hummock Island, frequently causing eddies and tide rips over the shoals between the islands. A light is shown from an islet lying off the NW corner of Upper Black Island.

High Grego Island (49°24'N., 55°10'W.), rising almost vertically on its E side, is a good landmark. Anchorage can be taken, in a depth of 21.9m, sand, W of the island.

7.44 From **Southern Head** (49°22'N., 55°05'W.), the coast rises gradually to a conspicuous, cliffy, and densely-wooded bluff, which rises almost vertically to a height of 110m.

St. John's Bay (49°20'N., 55°06'W.) is entered between Southern Head and the N end of **Thwart Island** (49°19'N., 55°10'W.), about 3 miles W. The bay is divided into two parts by several small islands lying across its middle. **Southern Passage** (49°16'N., 55°12'W.), the S entrance of the bay, is encumbered with shoals.

Lobster Island, small and covered with grass, lies almost 1 mile E of the W entrance point of the bay; it is steep-to on its N and E sides. Sailor Island, lying about 1 mile SSW of the E entrance point of the bay and close offshore, is partly wooded.

St. John's Harbor (49°19'N., 55°08'W.) is an inlet within a peninsula which rises to a conspicuous, conical hill at its S end. An island lies in the entrance of the harbor. That part of the harbor lying W of the N part of the island affords anchorage, in a depth of 23.8m, mud. The S part of the harbor is suitable for small vessels with local knowledge.

James Island is the N of a group of wooded islands lying between Thwart Island and the mainland. Frying Pan Island, lying about 0.3 mile SW of James Island, is steep-to; there is a passage about 0.2 mile wide and clear of dangers between it and Thwart Island.

Stanhope Cove lies on the SE side of the bay, about 1 mile SE of James Island. An inlet at the head of the cove has a rock, 6.1m high, in its entrance.

Thwart Island Harbor (49°18'N., 55°07'W.) is shoal and encumbered. St. John's Bay is greatly constricted by islands, islets, and rocky shoals lying E and SE of the harbor.

Southern Passage (49°16'N., 55°12'W.), between the S end of Thwart Island and the mainland, has two narrow channels separated by a 3.6m reef lying in the middle of the passage. Local knowledge is necessary in the channels.

Tides—Currents.—Tidal currents are greatly influenced by



Southern Head

winds. The flood current is W; the ebb E. With strong winds between NE and SE, the velocity of the W tidal current reaches 2 knots at springs, and at times it overcomes the E and continues W for many hours. With strong W winds, the reverse is true.

The Bay of Exploits—Western Arm—Inner Part

7.45 The inner part of Western Arm is entered between the S end of High Grego Island and the N extremity of Thwart Island. The arm is deep, wide, and clear of dangers in the channel.

Granfer Island (49°22'N., 55°12'W.) is wooded and lies about 1.8 miles NW of the N point of Thwart Island.

Winter Tickle (49°23'N., 55°14'W.) is approached between Granfer Island and Mouse Island, about 0.5 mile S. The entrance is through a deep channel between Granfer Island and a point about 0.4 mile to the W. It affords good anchorage, in a depth of 20.1m, about 0.3 mile NW of the island. The coast for 2 miles S of Winter Tickle is fronted by islets and rocks lying as far as 0.75 mile offshore.

Wild Bight (49°20'N., 55°11'W.) opens to the SE 1.3 miles SW of the N point of Thwart Island. It affords anchorage, in 16.5 to 20.1m, about 0.5 mile from its head. It affords no shelter during strong winds from between the NW and N.

Cabbage Harbor (49°20'N., 55°12'W.) is separated from Wild Bight by a long, narrow promontory. A light is shown from a tower at the W entrance point of the harbor. Cabbage Harbor affords anchorage to small vessels only.

Govers Harbor is entered almost 1.5 miles W of Cabbage Harbor Head.

Indian Cove Island (49°18'N., 55°14'W.), wooded, lies close off the W shore, about 1.7 miles S of the E entrance point of Govers Harbor.

Woody Island lies close offshore, almost 2 miles S of Indian Cove Island.

7.46 Grassy Island (49°16'N., 55°14'W.), marked by a light shown from a tower with a white daymark, is the outermost danger on the W side of the arm at its junction with

Southern Passage. The arm turns SW to **Phillips Head** (49°14'N., 55°18'W.), a high rocky projection. Opposite, and about 1 mile S of the head, is **Lower Sandy Point** (49°13'N., 55°17'W.), marked by a light shown from a square tower.

Gillet Island lies close off the E side of the arm on the S side of the entrance to Southern Passage. Wiseman Head, steep-to, lies just over 1 mile SW of Gillet Island.

Kite Cove (49°12'N., 55°16'W.) lies on the NE side of a promontory of which Lower Sandy Point is the outer extremity. There is a public pier at the head of the cove which has a depth of 2.7m at the outer end. Depths of 10.1m and 7.8m lie 0.7 mile NE and 1.25 miles ENE, respectively, of Lower Sandy Point.

Botwood Harbor

7.47 Botwood Harbor (49°09'N., 55°20'W.) is located on the NW side of Peter's Arm in the Bay of Exploits on the N coast of Newfoundland. It is entered between Lower Sandy Point and Phillips Head. The town of Botwood is about 4 miles SSW of Lower Sandy Point.



Courtesy of Transport Canada

Botwood Harbor

Ice.—Although ice may be a problem from late January to late April, Botwood Harbor is now considered to be a year-round port. Coast Guard icebreakers are available to assist vessels in and out of the harbor during the winter season.

Tides—Currents.—The maximum tidal range is 1.43m.

Depths—Limitations.—There are depths of 23.8 to 27.4m in Peters Arm, just outside the harbor proper which is entered just S of Mill Point, from which a light is shown.

The Abitibi-Price Wharf, situated 0.6 miles SW of Mill Point, mooring dolphins connected to the wharf by catwalks the wharf is used exclusively for shipping newsprint and discharging caustic soda. Close N and S of the above-mentioned wharf are two wharves that are no longer in use. The wharf to the N is in ruins; the wharf to the S is in disrepair.

An L-shaped wharf, in ruins, stands on the E side of Killick Point, about 0.5 mile NNW of Mill Point. Another L-shaped wharf, stands 0.2 mile S of Killick Point. Another ruined wharf stands close S of the latter wharf. For berthing information see

table titled **Botwood—Berth Information**.

Aspect.—Two prominent spires on churches, 275m apart, are conspicuous W and NW of Mill Point. The seaward limit of Botwood Harbor is defined by a line drawn from Phillips Head (49°14'N 055°18'W) to Lower Sandy Point, 0.85nm S.

Pilotage.—Pilotage is compulsory. The pilot boat at St. John's listens on VHF channels 11 and 16 and at the Bay of Exploits on VHF channel 16. The pilot boarding position from May 15 to January 1, depending on ice conditions, is in position 49°19'.4'N, 55°12.5'W. Pilots are requested from the Atlantic Pilotage Authority 12 hours prior to arrival; the ETA must be confirmed or corrected 4 hours prior to ETA.

From January 2 to May 14, depending on ice conditions, the pilot boarding position is off St. John's in position 47°33.4'N, 52°37.5'W. Pilots are requested from the Atlantic Pilotage Authority 24 hours prior to arrival; the ETA must be confirmed or corrected 12 hours prior to ETA.

A vessel that is to depart or make a move within the compulsory pilotage area of the Bay of Exploits must report 4 hours prior to ETD. Local time should be used; if UTC is used it must be expressly stated. The maximum allowable draft for port entry is 9.8m. No tugs are available.

Anchorage.—Anchorage can be taken about 0.3 mile off the wharfs and piers, in depths of 18.3 to 36.6m.

Directions.—The harbor is approached from seaward through the W arm of Bay of Exploits and entered between Lower Sandy Point and Phillips Head, 0.85nm SSE. In the fairway to the entrance, between the dangers lying off Phillips Head and Lower Sandy Point, there is least depth of 16.5m.

Entry into Botwood Harbor is approached from a position 0.4nm SE of Phillips Head; the track continues SW passing SE of a patch with a depth of 9.4m, lying close SSE of Phillips Head, then NW of Lower Sandy Point (2.75 miles SE) then W of a bank (2.25 miles SE) with a least depth of 9.4m, then E of Killick Point (1.7 miles SSE), then W of All-the-Way Island (2.75 miles SE). The island lies at the N end of shoals which extend 1.25 S to Right-in-the-Road Island and E of Mill Point (2.5 miles SSE) from which Mill Point Light (red column, white bands, 3.0m in height) is exhibited. At this point, the berths at Peters Arm becomes accessible.

Caution.—A shoal bank with a depth of 9.4m is located about 0.6 mile E of Killick Point.

7.48 Little Peter Point (49°08'N., 55°20'W.) is the S entrance point of **Peters Arm** (49°08'N., 55°20'W.). The channel S of Peters Arm is filled with mud banks and sand banks, and is used only by small craft.

Wigwam Point (49°06'N., 55°18'W.) is conspicuous. **Norris Arm** (49°06'N., 55°16'W.), entered 1.5 miles E of Wigwam Point, is shallow. The **River of Exploits** (49°05'N., 55°19'W.) flows into the arm close S of Wigwam Point. The river is navigable at HW for vessels with a draft not exceeding 1.8m as far as the rapids.

Notre Dame Bay—Fortune Harbor to Badger Bay

7.49 The coast between **Northern Head** (49°33'N., 55°09'W.) and Indian Cove Point is indented by several coves fronted by islets and rocky shoals on some of which the sea breaks in heavy weather. The large inlets indenting this part of Notre Dame Bay are exposed to the N, and a prevailing NE sea and swell sets in. The currents in the large arms set with the channel.

Indian Cove Point (49°12'N., 55°13'W.) lies 2.5 miles W of Northern Head.

Gull Island is a bare rugged rock lying about 0.2 mile N of the above-water rocks which extend off Indian Cove Point; it is steep-to on its S side.

Bed Rock, with a depth of 2.7m, lies about 0.2 mile ENE of Gull Island. In bad weather the sea breaks on this rock.

Webber Bight (49°32'N., 55°13'W.), entered between Indian Cove Point and **Snuffy Point** (49°32'N., 55°14'W.), is open to NW and N winds, but is free of dangers.

Anchorage.—Anchorage can be taken, in depths of 18.3 to 29.3m, with offshore winds, but the holding ground is not good.

7.50 Fortune Harbor (49°32'N., 55°14'W.) is entered between Snuffy Point and **Bellens Point** (49°32'N., 55°14'W.), the latter marked by a light shown from a square tower. The harbor divides into three arms about 1 mile within the entrance.

Southeast Arm is the principal passage. Northwest Arm is indented by Southwest Arm. Both arms have narrow channels with abrupt turns and should only be entered with local knowledge.

Botwood—Berth Information			
Berth	Length	Depth	Remarks
Transit Wharf (Public)			
No 1	83m	8.8m	Vessel berthing only. Closed to vehicular traffic.
Oil Dock (Public)	46m	5.9m	Oil discharge. Operated by Ultramar Canada.
Puddister Trading Terminal			
Puddister Trading Wharf	123m	9.4m	In disrepair.
Abitibi Price			
Oil Dock	180m	8.2-9.4m	Newsprint and caustic soda. Maximum loa of 213m.
Lrving Terminal			
Lrving Oil	12m	8.2m	Dirty products. Closed.

Winds—Weather.—The harbor entrance is open to N winds and the approaches are subject to frequently shifting winds. With NW winds, the squalls are heavy.

Ice.—Fortune Harbor freezes during December; the ice breaks up between May 1 and May 15.



Fortune Harbor

Southeast Arm is approached W of **Sweeny Island** (49°31'N., 55°14'W.) through a channel 0.1 mile wide in a depth of 12.8m. The island lies 0.3 mile SW of Snuffy Po Button Island lies 0.1 mile S of Sweeny Island, and the channel NE of Button Island is only 70m wide.

Southeast Arm is entered at **Davis Point** (49°31'N., 55°13'W.). Sims Point lies almost 0.5 mile W of Davis Point. On the W shore of the Southeast Arm, about 1 mile SE of Sims Point, is a T-shaped wharf, with a reported depth of about 3.7m at HW.

Depths—Limitations.—Total length of berthing space is 525m with depths alongside 1.7-5.6m.

Anchorage.—Anchorage in Southeast Arm can be taken, in depths of 18.3 to 27.4m, with the white church standing atop rising ground on the E shore, bearing 092°. Vessels may anchor farther up the arm.

Caution.—Submarine pipelines are laid across the harbor entrance. Mariners are cautioned not to anchor in this vicinity.

7.51 Western Head (49°32'N., 55°14'W.), a steep bluff with a rocky pinnacle at its extremity, is steep-to, with the land within rising to a long barren ridge with a sharp summit 0.4 mile SW of the head. Western Head Rock, with a depth of 3.7m, lies on a bank with depths of less than 18.3m. The sea breaks heavily during gales on this bank, which is located 0.2 mile N of the head.

Bagg Head (49°33'N., 55°17'W.) is the NW extremity of an island lying 1.75 miles W of Western Head. Woody Island, 57m high, lies about 0.4 mile WSW of Bagg Head.

Fleury Bight (49°32'N., 55°18'W.), entered 1 mile SW of Bagg Head, is clear of dangers in the channel and is deep. Eastern Head, the E entrance point of Fleury Bight, rises steeply to an elevation of 58m. A high hill rises vertically near a village at

the head of the bight.

Anchorage.—Anchorage can be taken, in depths of 25.6 to 29.3m, in the bight, but with winds between the NW and N, a heavy sea rolls in and the anchorage becomes untenable as the holding ground is poor. Gull Island, 18m high, lies nearly 0.1 mile offshore, about 0.4 mile W of Eastern Head.

7.52 New Bay Head (49°32'N., 55°20'W.), lying about 0.8 mile W of Gull Island, rises in steep cliffs to an elevation of 82m. New Bay Head Rocks, 19m high, lie close N of the head land.

New Bay (49°30'N., 55°20'W.) is entered between New Bay Head and North West Rocks (49°30'N., 55°22'W.), which lie close off a point about 2.5 miles SSW of New Bay Head. The bay is deep, extends about 14 miles S, and is divided into several arms with rocky shores backed by densely-wooded terrain.

7.53 New Bay—Outer part.—Silver Buckle Island (49°31'N., 55°20'W.), lying 1 mile S of New Bay Head, derives its name from a mass of quartz at the NW end of the island. **Brandies Rocks** (49°31'N., 55°21'W.), above-water, lie in the bay entrance. Josiah Spencer Cove and Roswell Cove, entered 1 mile SE of Silver Buckle Island, are separated by a headland.

Anchorage.—Anchorage can be taken in both coves during offshore winds, in depths of 21.9m or less.

Yellow Fox Island, 18m high, is connected to the coast by a causeway, about 0.5 mile SE of Roswell Cove.

Cuttle Island, 43m high, lies about 0.4 mile SW of Yellow Fox Island.

Moore's Cove (49°30'N., 55°18'W.) has an L-shaped public wharf just within the E entrance point. There is a depth of 5.2m alongside, but with winds between the SW and NW, the wharf is difficult to lie alongside.

Cottrells Cove (49°29'N., 55°17'W.), entered about 0.4 mile E of Cuttle Island and open to the NW, is not recommended as an anchorage. A light is shown from a white tower on the W side of a peninsula SE of Cuttle Island. There is a public pier at the E side of the cove with a depth of 3.7m alongside. A light is shown from the head of the pier.

Southeast Arm (49°28'N., 55°17'W.) is entered close N of Southeast Arm Point. There is a public pier on the E side of the arm that has a depth of 2.7m alongside. The E part of Southeast Arm affords anchorage, in a depth of about 27m, mud; although space is limited, this is one of the best anchorages in New Bay.

7.54 Osmonton Arm (49°39'N., 55°21'W.) is entered between North West Rocks and **Besom Island** (49°29'N., 55°20'W.). Besom Cove, entered about 0.5 mile SE of the island, affords anchorage, in depths of 18.3 to 29.3m. **Little Northwest Arm** (49°28'N., 55°20'W.) affords indifferent anchorage, in a depth of 45.7m near its head. Osmonton Arm is steep-to along its NW side, but the SE side is fronted by numerous islets, rocks, and reefs.

Long Island (49°28'N., 55°22'W.) and drying rocky patches lying NE, lie in the middle of the fairway of the arms and should be passed off their NW side.

Burnt Island, about 2.8 miles SW of Besom Island, is fronted by numerous islets and rocks. The island rises to 23m.

Tinker Island, small, rocky, and 16m high, lies about 0.2

mile off the NW shore, about 0.6 mile SSE of North West Rocks.

Budgell Harbor (49°29'N., 55°24'W.) is entered on the NW side of the arm, about 1 mile WSW of Long Island.

Anchorage.—Anchorage can be taken, in a depth of 27.4m, good holding ground, in the harbor. Gull Rock, a large boulder, 0.6m high, lies nearly 0.4 mile W of Burnt Island.

7.55 West Hare Island, 24m high, lies about 1 mile SW of Burnt Island. The SW side of the arm from abreast West Hare Island is clear of dangers and rises in precipitous cliffs. Southwest of West Hare Island the coast is indented by several coves, with off-lying islets and shoals. Mussel Bed Island, 10m high, lies close to the NW shore, about 0.4 mile NW of West Hare Island; it is small, densely wooded, and steep to on its SE side.

Mill Cove (49°26'N., 55°27'W.), entered at the head of the arm, has an islet lying in its entrance, but affords good anchorage for small vessels within the islet.

Paradise Cove (49°22'N., 55°19'W.), on the W side of the arm, affords sheltered anchorage, in a depth of 27.4m. There is a shallow pier at a settlement. **Pleasant Point** (49°21'N., 55°20'W.) affords anchorage close SW of an island lying 275m SW of the point. There are depths of 27.4m at the anchorage. South Arm affords anchorage in other parts, but the area is subject to violent squalls during W winds.

South Arm (49°24'N., 55°17'W.) is entered between **Bills Point** (49°27'N., 55°17'W.) and the N extremity of **Strong Island** (49°26'N., 55°18'W.), which is densely wooded and conspicuous from the N, as it appears as a bluff with a cliffy face. The E side of the arm is indented by several coves; the W side is mostly bold. Off the coves on the E side, **Ritters Arm** (49°23'N., 55°16'W.) is the one affording anchorage in its outer part, in a depth of 23.8m. Local knowledge is required.

Strong Island Sound (49°24'N., 55°20'W.) is entered S of Strong Island, with the W side of the channel in the sound being the preferred channel. A promontory extending N from the head of the sound divides it into two arms.

Anchorage.—Anchorage can be taken on either side of the promontory, in depths of 29.3 to 34.7m.

7.56 Southwest Arm (49°23'N., 55°23'W.) is entered between **Little Northwest Arm Head** (49°28'N., 55°20'W.) and the N extremity of Strong Island, 2 miles SSE. About 5 miles within the entrance it is divided into Southwest Arm and West Arm by a promontory, the N extremity of which is **Brimstone Head** (49°23'N., 55°24'W.), high, cliffy, and conspicuous. Southwest Arm extends 4 miles S of the head, is clear of dangers in its outer part except near the shores, but the inner part is encumbered with shoals. The E shore is low and densely wooded. The town of **Point Leamington** (49°21'N., 55°23'W.) is situated on the W shore near the head of the arm. Two public piers and a private wharf, the largest with a depth of 3.4m alongside, are situated at the town. A light is shown from a tower at the head of the largest pier.

Anchorage.—Anchorage can be taken in the arm off Point Leamington, in depths of 18.3 to 21.9m.

West Arm (49°23'N., 55°25'W.) extends about 3 miles SW of Brimstone Head. An island and islets lying 2 miles SW of the head constrict the channel to a width of 0.2 mile, but it is clear of dangers.

Anchorage.—Anchorage can be taken in the basin at the head of West Arm, in a depth of about 36.6m, good holding ground of mud.

7.57 Wild Bight (49°30'N., 55°23'W.) is entered between North West Rocks (49°30'N., 55°22'W.) and **Wild Bight Point** (49°30'N., 55°23'W.). A blunt projection divides the head of the bight into two coves, where small vessels can find shelter during E winds. Leading Tickle Light (49°30'N., 55°24'W.) is shown from a point marking the E entrance of the S channel of Leading Tickle.

7.58 Off-lying islands.—The coast between Wild Bight Point and **Thimble Head** (49°28'N., 55°31'W.) is fronted by two groups of islands lying as far as 2 miles offshore. The passages between the outer group and the mainland are known as Leading Ticks. The passages between the inner group of islands fronting two bays are known as Thimble Ticks.

Sculpin Island (49°33'N., 55°24'W.) is the outermost of all the islands. Woody Island, 56m high, lies with its E point about 0.8 mile S of Sculpin Island. Green Island, lying about 0.2 mile E of Woody Island, rises in three parts, the middle and highest part in dark gray cliffs; the summit is covered with grass. Tinker Island is separated from the W end of Woody Island by a channel, 90m wide, which is clear of dangers. The channel between Tinker Island and the NW point of Alcock Island is encumbered by Gunning Rock, 2.7m high, and shoals.

Alcock Island (49°31'N., 55°25'W.) is the high densely wooded S island of the group. **Cull Island** (49°30'N., 55°27'W.) is separated from Alcock Island by a channel 0.2 mile wide and from the mainland by a channel 90m wide. The latter channel is spanned by a highway bridge and causeway with a vertical clearance of 3.7m. The W part of the island is a wooded ridge; the N part rises in dark, vertical cliffs.

Anchorage.—Mooring Cove, indenting the E part of the S coast, affords anchorage for small vessels, in 23.8m; larger vessels can anchor, in depths of 32.9 to 36.6m.

Burnt Island (49°31'N., 55°28'W.) lies 0.25 mile NW of Cull Island. Thomas Rowsell Island is separated from the S end of Burnt Island by a passage, 90m wide, and from Cull Island by a channel 0.15 mile wide.

Anchorage.—Anchorage can be taken in the channel between Burnt Island and Cull Island, in depths of 21.9 to 27.4m, sand, sheltered from all winds except those from between the NE and E.

7.59 Leading Ticks (49°30'N., 55°26'W.), the passage between the islands and mainland, has a least depth of 3.4m over a bar extending from the SE end of Cull Island to the mainland.

The Ladle, a high square rock, lies on a shingle beach close SE of the bar. There is a least depth of 10m in the passage between Alcock Island and the mainland.

Butler Cove (49°30'N., 55°25'W.), indenting the mainland about 0.5 mile E of the bridge, has a settlement and conspicuous white church along its shores. There is a T-head public pier, with a depth of 4.6 to 4.9m alongside, situated close W of the settlement.

Anchorage.—Anchorage can be taken by small vessels, in good weather, in a depth of 21.9m, in the cove, but NE gales

cause heavy seas to roll into the cove. There is also anchorage W of the narrows between Alcock Island and the mainland, in depths of 21.9 to 31.1m.

Thimble Tickles (49°29'N., 55°29'W.), the passages between the islands fronting two bays, is joined by Main Channel which fronts the mainland. The two bays lie between **Cummins Head** (49°29'N., 55°28'W.) and **Thimble Head** (49°29'N., 55°30'W.), separated by a promontory.

Glovers Harbor (49°28'N., 55°29'W.) is a basin at the head of the E bay. The entrance channel is constricted to a width of 45m, with a least depth of 10.1m. There is a shallow public pier near the head of the harbor, where anchorage can be taken, in a depth of 18.3m, mud. Thimble Tickle Head is the W entrance point to the W bay. Goat Island lies close to the W shore of the bay, about 0.5 mile S of the head.

Anchorage.—Anchorage can be taken SE of Goat Island, in a depth of 31.1m.

7.60 Seal Bay (49°27'N., 55°32'W.) is entered between conspicuous, cliffy Thimble Head and **Inner Seal Head** (49°29'N., 55°32'W.). The shores of the bay rise in thickly wooded hills. Depths are great and the bay is clear of dangers in mid-channel. A heavy swell rolls into the bay with strong NE winds. Small vessels may find sheltered anchorage in the coves indenting the E shore of the bay. Gull Island, 56m high with a grassy summit, lies about 0.2 mile offshore, 1.35 miles SSW of Inner Seal Head.

Lockport Harbor (49°27'N., 55°30'W.) is formed by a bight fronted by an island on the E side of Seal Bay. There is a settlement along the shores of the harbor; anchorage can be taken by small vessels, in depths of 12.8 to 16.5m. The swinging room is limited by a rock, with a depth of 5.5m, lying in the middle of the harbor.

Side Harbor (49°26'N., 55°35'W.), on the W side of the bay, affords anchorage, in depths of 27.4 to 38.4m, rock, exposed to NE gales. **Mill Cove** (49°22'N., 55°35'W.), near the head of the bay, is constricted and shallow.

Anchorage.—Anchorage can be taken off Mill Cove, in depths of 34.7 to 38.4m, good holding ground, partly sheltered.



White Point

7.61 Badger Bay (49°28'N., 55°38'W.) is separated from

Seal Bay by a large, densely wooded promontory. **White Point** (49°29'N., 55°34'W.), the NW extremity of the promontory, is formed of white limestone rock, projects from the cliffy coast, and forms a conspicuous contrast with the wooded hills backing the point. Badger Bay is entered between **Locks Harbor** (49°28'N., 55°36'W.), a small exposed bight, and the NE end of **Duck Island** (49°29'N., 55°38'W.). The E shore of the bay is steep-to and wooded for 5 miles within the entrance. The SW part of the bay is divided into five small bights, with **Gull Island** (49°26'N., 55°38'W.) conspicuous in the middle. **The Brandies** (49°27'N., 55°38'W.), which dry, are marked generally by breakers. Georgies Rock, on which the sea breaks, lies 0.5 mile N of the Brandies. The area SE of Duck Island is foul as far as 0.25 mile off.

Wild Bight (49°24'N., 55°40'W.) is the SE bight at the head of Badger Bay. Pennys Brook flows into the W side of the bight. Above-water rocks lie 0.25 mile off the mouth of the brook.

Anchorage.—Anchorage can be taken, clear of the rocks, in depths of 32.9 to 36.6m. Anchorage can also be taken S of Gull Island, sheltered by islets and rocks fronting the E side of the anchorage, which is approached from the W through a clear passage. There are depths of 20.1 to 23.8m, mud, at the anchorage.

Badger Bay to Cape St. John

7.62 The coast between the entrances of Badger Bay and Green Bay, 20 miles NNW, is indented by inlets and arms of the sea. It is fronted by an archipelago, which includes several large islands.

Between Green Bay and Cape St. John, about 20 miles NE, the coast is indented by numerous coves separated by bold wooded headlands.

Ice.—Ice within the archipelago is often kept off the shore by the tidal currents setting out of the deep arms. A SE wind packs the ice into Green Bay and onto Cape St. John.

Tides—Currents.—Tidal currents in the various tickles of the archipelago are generally weak and are modified by currents set up by wind. The resultant flow usually sets through the tickles following the channels. The current sets S off Cape St. John.

7.63 Burton's Harbor (49°28'N., 55°41'W.) indents the NE extremity of the promontory forming the NW side of Badger Bay. It affords anchorage, in depths of 14.6 to 21.9m, open to the NE.

Sops Arm (49°27'N., 55°46'W.) is entered between the densely-wooded and conspicuous Sops Head and a point 0.75 mile S. Kay Island lies in the entrance of the arm. The preferred entrance channel leads S of the island to a good anchorage near the head of the arm, in depths of 21.9 to 27.4m, subject to surge during E gales.

Tommy's Arm (49°28'N., 55°47'W.) is entered between Sops Head (49°28'N., 55°45'W.) and a point 0.2 mile N. An islet lies in the middle of the arm, about 0.5 mile W of Sops Head. Ships load pulpwood W of the islet, secured by stern moorings leading to ringbolts anchored in rock on the islet.

Anchorage.—Sheltered anchorage can be taken throughout the arm, in depths of 20.1 to 34.7m. Pulpwood is loaded into

ships at anchor near the head of the arm, in depths of 21.9m, mud. Ships load heading E, with their sterns secured to ring-bolts on the N shore.

7.64 Little Denier Island (49°33'N., 55°32'W.), wooded and with a flat summit, lies NE of **Ragged Point** (49°33'N., 55°33'W.), the N extremity of **Triton Island** (49°31'N., 55°37'W.). A chain of islets and rocks lies in the passage entrance between Little Denier Island and Ragged Point. There is a channel about 135m wide between the dangers. League Rock lies on a bank about 2 miles NE of Little Denier Island. Rocky patches in the vicinity of the rock make for a confused sea in bad weather.

Great Denier Island (49°32'N., 55°33'W.) lies close off the S extremity of Triton Island. The bight NW of the island is foul and unsheltered. From the island, the S side of Triton Island is indented by **Card's Harbor** (49°31'N., 55°37'W.), where there is good shelter for boats. There is a public wharf, with a depth of 4m, at the outer end. The coast is wooded, cliffy, and very bold as far as **Pretty Tickle** (49°29'N., 55°39'W.).

A marine service center for the Department of Fisheries is situated 0.6 mile N of **Servier Point** (49°30'N., 55°35'W.). There is a depth of 4.9m alongside.

7.65 Pilley's Island Harbor approaches.—Pretty Island (49°29'N., 55°42'W.), bold and densely wooded, lies close WSW of Pretty Tickle, which is suitable only for small vessels. **Raft Tickle** (49°28'N., 55°43'W.), the main approach to Pilley's Island Harbor, lies W of Pretty Island. Raft Island, within the entrance, is encircled by foul ground which constricts the channel to a width of 0.1 mile, with a least depth of 12m.

Flat Rock Tickle (49°29'N., 55°45'W.), the W approach to the harbor, is entered close E of Tilley's Head and close W of the S end of Pilley's Island. Flat Rock, lying in the middle of the tickle, is encircled by above and below-water rocks and foul ground which closes the passage S of Flat Rock; the passage N is less than 90m wide. A combined bridge and causeway spans Flat Rock Tickle. The vertical clearance under the bridge is 1.8m.

Caution.—A submarine cable lies between a cove close W of Tilley's Head and the coast of Pilley's Island, about 0.8 mile NE. Mariners are cautioned not to anchor in this vicinity.

7.66 Pilley's Tickle (49°32'N., 55°40'W.), the NE approach to Pilley's Island Harbor, is entered between **Horse Chops Head** (49°32'N., 55°39'W.), the NW end of Triton Island, and Fox Head, located 0.5 mile NW. **Stuckey Cove** (49°32'N., 55°40'W.), almost 0.8 mile SSW of Fox Head, affords anchorage, in depths of 18.3 to 36.6m. A conspicuous wooded hill overlooks the SE side of the cove. At **Dogfish Point** (49°31'N., 55°39'W.), the tickle is constricted to a width of 0.75 mile. Dogfish Rock, with a depth of 0.6m, lies in the channel W of the point, leaving a fairway about 90m wide and 14.6m deep E of the rock, which usually is visible.

Big Island (49°31'N., 55°41'W.) lies close to the SE side of the tickle.

Bumble Bee Cove (49°31'N., 55°42'W.), encumbered with rocks and shoals, but available to small vessels with local knowledge, lies opposite the island. The narrowest part of Pilley's Tickle is entered about 0.8 mile SW of Big Island, where

the fairway is 90m wide and 21.9m deep. From the narrows to the entrance of Pilley's Island Harbor, the tickle is encumbered with numerous dangers.

7.67 Pilley's Island Harbor (49°30'N., 55°43'W.) has **Bridges Island** (49°29'N., 55°43'W.) lying in the harbor entrance. The usual entrance passage lies W of the island. Ledrew Rock, with a depth of 5.5m, lies in the fairway 135m WNW of the island. Vessels of considerable size can use the harbor, as a least depth of 10m can be carried through the entrance channel. The harbor is normally navigable from mid-May until the latter part of December. The entrance into the harbor is constricted and intricate. Local knowledge is necessary.

Depths—Limitations.—At a settlement along the shores of the harbor, there is a public pier with a depth of 3.4 to 4m alongside its outer face. The wharf was reported (1997) to be in disrepair.

Anchorage.—Anchorage can be taken outside the harbor entrance, in depths of 32.9 to 36.6m, mud, with the middle of Fox Island bearing 273°, distant 0.75 mile, but the holding ground is not good. Vessels should avoid anchoring on Callaghans Ground (close off the NW side of Pretty Island), as the bottom is rocky and anchors will drag. Vessels within the harbor lie at anchor with their sterns made fast to ring-bolts, and secured into rocks around the anchorage.

7.68 Triton Island—North side.—The E entrance point of Little Triton Harbor lies about 1.8 miles W of Ragged Point. The harbor is entered on either side of Big Triton Island, which lies in the entrance. A light is shown from the NW extremity of the latter island. The E entrance to Little Triton Harbor is 54.9m wide and a rock with a depth of 4.6m lies in mid-channel, but there is 9.1m close to the E shore. This entrance requires local knowledge. The W entrance is constricted, with depths of 14.6m in the fairway.

Depths—Limitations.—There are two wharves on the W side of the harbor. The public wharf, reported (1997) in disrepair, has a depth of 2.4m alongside. A fish plant wharf lies close to the N and it is 75m long. The outer 46m has depths of 5.2 to 7.3m alongside. A checkered water tank lies about 0.3 mile SSW of this wharf.

Anchorage.—Anchorage can be taken by small vessels in the harbor, in a depth of 16.5m, sand.

7.69 Great Triton Harbor (49°32'N., 55°36'W.) is entered between Big Triton Island and **Brighton Tickle Point** (49°33'N., 55°37'W.), also known as Dark Tickle Point. Great Tinker Island lies in the approach, about 0.4 mile NNW of Big Triton Island Light. A settlement, Triton West, is located on the E side of the harbor. A public wharf, with a bent outer end, extends 57m from the shore about 1 mile S of Brighton Tickle Point. The wharf has depths of 4.7m alongside the NE face of its outer end, 21m long.

Tides—Currents.—High water full and change occurs about every 7 hours. Springs rise 1.4m and neaps rise 0.9m.

Anchorage.—Anchorage can be taken in the cove, in 12.8 to 31.1m.

Caution.—A submarine cable is laid across Great Triton Harbor, 0.5 mile SW of the W entrance point of Little Triton Harbor.

7.70 The Brighton Tickle Islands (49°33'N., 55°38'W.) is a group of islands, islets, and rocks separated from the W part of the N coast of Triton Island by **Brighton Tickle** (49°33'N., 55°37'W.). Brighton Tickle Island and Cobbler Island are connected by a bridge with a vertical clearance of 2.7m. Triton Island is joined with Brighton Tickle Island by a causeway. There is a least depth of 11m in the narrows near the W end of Brighton Tickle.

Cobbler Tickle (49°33'N., 55°38'W.) is located between the NW side of Brighton Tickle Island and Cobbler Island. The settlement of Brighton lies on the S shore of the tickle.

On the N shore there is a public wharf with depths of 2.1 to 4.6m along both sides.

Anchorage.—Anchorage can be taken in the tickle, in depths of 11 to 31.1m.

7.71 Pilley's Tickle, which separates Triton Island from Pilley's Island, is entered between **Horse Chops Head** (49°32'N., 55°39'W.) and Fox Head, the NE extremity of Pilley's Island, about 0.5 mile NW.

Stuckey Cove lies on the W side of the tickle, about 0.8 mile SSW of Fox Head; it affords anchorage, in depths of 18.3 to 36.6m.

Pigeon Island, 18m high, lies about 0.4 mile SSW of Horse Chops Head. At Dogfish Point, about 0.8 mile S of Pigeon Island, the tickle narrows to a width of 0.25 mile; Dogfish Rock, with a depth of 0.6m, encumbers the channel, leaving an available channel E of the rock only 91m wide. Although this danger can usually be seen, caution is required.

Nogood Island, 23m high, small and wooded, lies about 0.1 mile off the W shore, about 0.2 mile SW of Dogfish Point.

Big Island, 85m high, lies close to the SE side of the tickle, about 0.6 mile SW of Nogood Island. The narrowest part of the tickle lies about 0.8 mile SW of Big Island. A causeway, with a bridge having a vertical clearance of 3m, crosses this part of the tickle.

A submarine cable is laid across the tickle, about 0.1 mile NE of the above-mentioned causeway.

Long Island (49°35'N., 55°40'W.), high and wooded, is separated from Pilley's Island by **Long Island Tickle** (49°34'N., 55°43'W.), deep and clear of dangers. A submerged cable extends S from Aspen Cove, near the W end of Long Island Tickle.

Southern Head (49°36'N., 55°34'W.), cliffy and wooded, is the E extremity of Long Island. A light is shown from a circular tower at the end of the head. The S coast of Long Island is steep-to and bold. Wild Bight is entered between Southern Head and Burnt Head, about 2.5 miles to the W. There is no safe anchorage in this bight.

Indian Island, 57m high, lies about 0.2 mile offshore and 1.35 miles WSW of Southern Head. The S extremity of Seal Island lies nearly 0.5 mile NE of Burnt Head. Giles Island, 17m high, lies about 0.8 mile W of Seal Island.

Cutwell Harbor (49°37'N., 55°40'W.), indenting the NE side of Long Island, is entered between Otter Island, 40m high, located 1 mile WNW of **Burnt Head** (49°36'N., 55°40'W.), and Giles Island. A settlement is situated on the shores of the harbor, with a public wharf having two arms. The S arm has a depth of 7.9m at its head. The N arm has a depth of 4.3m at its outer end. Cutwell Arm, S and SW of the harbor, affords an-

chorage to small vessels with local knowledge.

Indian Tickle is the narrow channel separating Indian Head, the N extremity of Long Island, from the island close N of it.

7.72 Ward Harbor (49°37'N., 55°41'W.), indenting the N side of Long Island, affords good anchorage to small craft. There is a settlement and pier in the harbor. The W side of Long Island is fringed by the **Flint Islands** (49°37'N., 55°43'W.) and fronted by the **Oil Islands** (49°36'N., 55°44'W.). Lewis Island, 7m high, lies on foul ground 0.75 mile S of the NW extremity of Long Island and 0.25 mile off its W side. There are below-water rocks within 0.15 and 0.5 mile WNW of Lewis Island; the shallowest has a depth of 1.8m or less. **Suley Ann Rock** (Hail Island) (49°36'N., 55°46'W.), above-water, is the outermost danger along this coast.

Lush's Bight (49°35'N., 55°43'W.) is located on the S side of a high promontory. A rock and a rocky patch, with depths of 2.5 and 3.5m, respectively, lie in the harbor entrance. The patch is marked close S by a lighted buoy. A light is shown close S of the S entrance point. There is a prominent church spire situated at a settlement on the shores of the inlet.

An L-shaped public pier, with a depth of 4.6m alongside, extends from the N side of the inlet. A light is shown from a tower at the head of the pier.

Anchorage.—Anchorage can be taken, in depths of 4.6 to 7.3m, mud, in the harbor.

7.73 Gull Rock (49°41'N., 55°41'W.) is the NW islet of a group of islets and islands lying N of Long Island. A light is shown from a circular tower, with red and white stripes, on Gull Rock. The Middle Islands lie 0.75 mile SE of Gull Rock.

Stag Island (49°39'N., 55°39'W.) is the largest island of the group. North Harbor, between the N side of Stag Island and Little Stag Island, affords sheltered anchorage to small vessels, in a depth of 9.1m. There are numerous other dangers in the area. Local knowledge is necessary in passages between the islands.

7.74 West side of Pilley's Island.—Spencer's Dock (49°31'N., 55°44'W.) is the name given to a bight on the W coast of Pilley's Island. **Long Tickle Point** (49°34'N., 55°44'W.) is the NW extremity of Pilley's Island.

7.75 East side of Sunday Cove Island.—Island Point (49°36'N., 55°47'W.) is the N extremity of **Sunday Cove Island** (49°33'N., 55°47'W.). The terrain within **Burnt Point** (49°33'N., 55°46'W.), the E extremity of the island, is densely wooded and rises steeply inshore before sloping gently to the S shore of the island.

Miles Cove (49°32'N., 55°46'W.), 0.5 mile SW of Burnt Point, has an L-shaped public pier, the outer section of which was reported (1997) to be in ruins and consists of drying, rock-filled cribs.

Sunday Cove (49°31'N., 55°48'W.) separates the S side of Sunday Cove Island from the mainland between **Haywards Head** (49°31'N., 55°47'W.) and Shoal Arm Point, located 4 miles W. A causeway connects Sunday Cove Island with the mainland. Both sides of the cove are densely wooded.

Port Anson (49°32'N., 55°50'W.) is a settlement on the N shore of the cove. Between the narrows and the causeway there



Springdale Harbor

is anchorage in the center of the cove, in depths of 18.3 to 20.1m, mud. A submarine cable is laid across the cove SE of Port Anson. There is a foul passage leading from Port Anson SW to Hall Bay. Vessels of 3.6m draft can transit the passage at HW.

Robert's Arm (49°29'N., 55°48'W.) is entered about 1.5 miles SSW of Haywards Head. An islet lies in the entrance of the inlet. A 0.6m shoal lies in the approach to the arm, 0.5 mile WSW of Haywards **Gull Island** (49°30'N., 55°46'W.). This shoal can usually be seen when the sun is in a favorable position. It is marked by a buoy. A rock, with a depth of 1.8m or less, was reported (1965) to lie about 0.1 mile SSE of the shoal, in the approaches to the arm.

An L-shaped pier, with a least depth of 4.3m, extends from the SW shore of the arm. A light is shown from a mast at the head of the pier.

The arm affords good sheltered anchorage, in depths of 14.6 to 18.3m, mud.

7.76 Little Bay Island (49°39'N., 55°47'W.) lies with **Iron Point** (49°38'N., 55°47'W.), its S extremity, about 2 miles N of Island Point. **North Harbor** (49°39'N., 55°48'W.), indenting the NE side of the island, is entered N of Harbor Island, lying in the harbor entrance. The passage S of the island is foul.

Anchorage.—Anchorage can be taken by small vessels, in a depth of 14.6m, mud, near the head of the harbor.

7.77 Southern Harbor (49°39'N., 55°47'W.) is entered between Macks Island and Goat Island, both lying in the harbor entrance. There are several rocks, on which the sea usually breaks, lying in the vicinity of the islands. A light is shown from a red and white banded circular tower on the outer rocky islet lying SE of **Macks Island** (49°38'N., 55°46'W.). Macks Island North Light is shown from a square green and white banded tower on a rock N of Macks Island.

There is a public pier in the harbor, which can only be entered with local knowledge. A light is shown from the head of the pier.

Halls Bay (49°35'N., 55°49'W.) is entered between **Halls Bay Head** (49°37'N., 55°49'W.) and Island Point, about 2 miles SE, and extends SW for 17 miles. Depths are great throughout the bay. **Hunt Rocks** (49°33'N., 55°51'W.), above-

water, lie 4 miles SW of Island Point.

Wellmans Cove (49°34'N., 55°47'W.) affords anchorage, in depths of 14.6 to 23.8m, poor holding ground.

Saltwater Pond Bay (49°33'N., 55°54'W.), indenting the NW side of the bay, affords anchorage in the middle of the bay, in a depth of 12.8m, good holding ground. **Burnt Head** (49°31'N., 55°55'W.) marks the W entrance to Sunday Cove. There is good anchorage in the cove to the E of Burnt Head, in depths of 11 to 18.3m.

Boot Harbor (49°30'N., 55°56'W.), lying close E of Boot Harbor Head, a bold bluff, affords anchorage about 0.2 mile offshore, with a pier head bearing 150° and the N extremity of a large islet on the W side of the harbor bearing 274°. There is a sunken rock lying 0.1 mile NNE of the pier head.

Anchorage.—Anchorage can be taken as convenient near the head of Halls Bay, in depths of 18.3 to 42.1m. Small vessels can anchor off the cove about 0.5 mile SW of Burnt Island. Lower Wolf Cove lies about 4.5 miles WSW of Boot Harbor Head.

7.78 Springdale (49°30'N., 56°04'W.), a town, is situated along the shores of Lower Wolf Cove. There are depths of 8 to 9.1m in the entrance channel leading to the berths.

Ice.—Halls Bay freezes between the end of January and early in February. The ice usually breaks up between April 20 and May 5.

Depths—Limitations.—Springdale Terminal, 126m long, extends E from the shore. It has a depth of 8.8m alongside the East Berth and 9.1m alongside the West Berth. Vessels loading pulpwood in West Bottom are anchored and secured astern to a crib on the W shore, in a depth of 9.1m, mud, good holding ground.

Aspect.—Several white oil tanks are conspicuous from 5 to 8 miles seaward. A white church and spire is also prominent. The hospital, a large white building, is situated about 1 mile NE of the public wharf.

Pilotage.—Pilotage is not compulsory. However, foreign vessels needing a pilot should contact "Pilots, St. John's" at least 12 hours prior to arrival. Pilots can be made available to board off Gull Rock or Little Dernier Island.

7.79 Green Island, 16m high, lies close off the S entrance

point of Lower Wolf Cove. A rock, with a depth of 3.7m, lies about 0.2 mile NE of Green Island.

Burnt Island, 35m high, lies about 0.4 mile SSW of Green Island. Small vessels may anchor off the cove, about 0.5 mile SW of Burnt Island.

Wolf Head, a bold headland with some trees, is located near the head of Halls Bay, where there is anchorage, in depths of 18.3 to 42m. South Brook flows into Halls Bay to the E of Wolf Head.

There is a public wharf, 67m long, with a depth of 3.4m at its outer end; the pier was reported (1997) to be in disrepair. A shipping facility for a mine which is no longer in operation lies to the SE of Wolf Head.

Beaver Cove Head lies about 1.4 miles W of Halls Bay Head. An inlet leading to Little Bay Arm and Little Bay is entered between Beaver Cove Head and Red Island, 2 miles N.

Tom Cod Rock, a small pinnacle which dries 1.2m, with a sunken rock close W with a depth of 7.6m, lies about 0.8 mile SW of Beaver Cove Head. A lighted buoy is moored near the 7.6m patch. Little Ward Harbor is entered about 1.8 miles SSW of Beaver Cove Head.

7.80 Little Bay Arm (49°36'N., 55°55'W.), an extensive inlet, is entered SE of Otter Island (49°37'N., 55°54'W.). The entrance channel has a least width of 54.9m and a depth of 20.1m in mid-channel. Buoys mark the channel narrows. Between Otter Island and Lit Ward Harbor, an approximate 3 mile Ferry route has been established from a N point near Hall Bay to a S point near Little Bay.

Little Shellbird Island, 30m high and heavily wooded, lies nearly 1 mile SW of Otter Island. An abandoned storage building and pier of a former copper mine stand on the E entrance point of **Goudies Cove** (49°35'N., 55°56'W.), about 0.2 mile W of Little Shellbird Island. The pier is in ruins.

Ice.—Little Bay Arm usually freezes over during January and clears in May; however, the arm may be closed up to June 9.

St. Patrick's (49°34'N., 56°00'W.), a settlement at the head of Little Bay Arm, has an L-shaped public pier, with a depth of 3.7m alongside.

Anchorage.—Small vessels can anchor near the head of the arm, in depths of 9.1 to 12.8m. Anchorage is also afforded in the bight between **Shellbird Island** (49°35'N., 55°57'W.) and the S shore, in depths of 11 to 14.6m.

7.81 Little Bay (49°37'N., 56°00'W.) is entered W of Otter Island. The settlement of Little Arm, situated at the head of the arm, is fronted by drying rocks lying 0.2 mile offshore. The better passage is SE of the rocks. A white church and spire at the settlement are conspicuous.

A public wharf, with a depth of 3.7m alongside its outer end, is situated at the SE part of the bay.

Anchorage.—Anchorage, limited to one or two small vessels, can be taken during offshore winds, in a depth of 8.2m, NE of the public pier. A heavy sea rolls in with E winds. **Red Island** (49°39'N., 55°51'W.) rises to an elevation of 37m. Red Island Rock, 12m high, lies about 0.2 mile NE of Red Island.

7.82 Wild Bight (49°39'N., 55°52'W.) is entered between Red Island and **South Bill** (49°40'N., 55°51'W.).

The public wharf is L-shaped, with a depth of 4.8m alongside its outer end. A light is shown from a mast on the outer end of this wharf. Close S of the public wharf, there is another L-shaped wharf, reported (1997) to be in disrepair, with depths of 3.4 to 4.3m alongside.

Anchorage.—Anchorage, sheltered from N and W winds, but with poor holding ground, can be taken in the bight. With strong E winds the bight appears as a mass of breakers.

Little Bay Head (49°42'N., 55°51'W.) is the extremity of the promontory separating Wild Bight from Three Arms. This headland rises in steep cliffs to a conspicuous, conical hill.

7.83 Three Arms (49°42'N., 55°52'W.), consisting of Southern Arm, Middle Arm, and Western Arm, is entered between Little Bay Head and **Green Bay Island** (49°43'N., 55°53'W.), faced with dark gray steep-to cliffs. **Green Bay Rock** (49°43'N., 55°51'W.) lies on the middle of a reef on which the sea breaks during E gales. A group of drying rocks lie about 1 mile WSW of the rock.

Southern Arm (49°41'N., 55°52'W.) is entered between Little Bay Head and South Arm Point. Two islands lie in the middle of the arm. The preferred channel lies SE of the islands.

Middle Arm (49°41'N., 55°53'W.) is entered between South Arm Point and Blackberry Head (49°42'N., 55°54'W.). Two islands lie in the entrance. The arm is entered by either of the two channels between these islands and the mainland on either side.

Anchorage.—Anchorage can be taken in the arm, in depths of 18.3 to 27.4m, mud.

7.84 Western Arm (49°42'N., 55°54'W.) is entered W of Blackberry Head. The settlement of Harry's Harbor is situated about 1 mile W of the head. There is an L-shaped public pier, with a depth of 3.7m alongside its head, situated almost 1 mile W of the head. Rocks lying off the N and S sides of the pier make for a difficult approach.

Welsh Cove (49°40'N., 55°56'W.), with a below-water rock lying in the entrance, affords good anchorage, in a depth of 21.9m, mud. Dollard Arm, a bight between Welsh Cove and **Dollard Arm Head** (49°40'N., 55°57'W.), affords anchorage, in a depth of 27.4m. There is additional anchorage near the head of the arm, in depths of 31.1 to 36.6m.

7.85 Green Bay (49°44'N., 55°55'W.), entered between Green Bay Island and the mainland 2 miles NW, extends SW for about 15 miles to the head of Southwest Arm. The SE shore of Green Bay rises to wooded headlands, of which **Nickey's Nose Point** (49°42'N., 55°57'W.) is the most conspicuous. Several coves indenting this coast afford anchorage with shelter from offshore winds.

Stocking Harbor (49°44'N., 55°56'W.), a cove, affords refuge and anchorage for small craft, in a depth of 18.3m, at the cove entrance and also in **Smith's Harbor** (49°44'N., 55°58'W.), in depths of 2.7 to 3.7m, with local knowledge. A light is shown from a wharf at Smith's Harbor.

Northwest Arm (49°44'N., 56°00'W.) is deep, clear of dangers in mid-channel, and easy to access. Anchorage can be taken in the arm, in depths of 12.8 to 18.3m.

Jackson's Cove (49°41'N., 56°00'W.), indenting the SE shore of the bay, has a settlement where there is a public wharf,

41m long, with a depth of 4.3m at its outer end. The wharf was in disrepair in 1985.

Anchorage.—Anchorage, sheltered, can be taken in the cove, in depths of 23.8 to 29.3m.

7.86 Middle Arm (49°42'N., 56°03'W.) is entered between **Birchy Cove Head** (49°41'N., 56°02'W.) and a point 1 mile N. An above-water rock lies 0.25 mile SSW of the N entrance point. About 1.5 miles within the entrance, the arm narrows to 0.4 mile and there are depths of 29.3m.

A public pier, with a depth of 4.3m alongside its face, extends from the N shore of the arm. There is a small settlement adjacent to the pier from which pulpwood is exported. A light is shown from a the head of the pier.

Anchorage.—Anchorage can be taken about 0.3 mile W of the narrows, in depths of 18.3 to 25.6m, good holding ground.

7.87 Southwest Arm (49°40'N., 56°05'W.) is entered between Birchy Cove Head and a point about 0.8 mile NW. A pillar rock lies near the shore, about 2.5 miles SW of the head. Rattling Brook descends in a waterfall into Corner Brook Cove, located in the NW shore, about 6.5 miles SW of Birchy Cove Head.

There is a public pier at Rattling Brook, with a depth of 3m alongside. There is another public pier close to the head of Southwest Arm that has a depth of 4.3m alongside.

Anchorage.—Anchorage can be taken on a bank extending from the E side of the arm S of **Manful Point** (49°37'N., 56°08'W.), in a depth of 36.6m, about 0.3 mile offshore, and, in a depth of 18.3m, about 0.3 mile offshore. Small vessels anchor, in a depth of 32.9m off Rattling Brook, poor holding ground.

7.88 Green Head (49°46'N., 55°53'W.) and **Noble Head** (49°47'N., 55°41'W.) are two prominent coastal features that are high and steep-to. The latter is the termination of a promontory of dark, gray rock, the flat summit of which is grass-covered. A ledge, on which are two remarkable pinnacle rocks, extends 0.1 mile E, and a 3.4m shoal lies 0.2 mile ENE of Noble Head. A boat harbor close N of the head is formed by two breakwaters.

The **Nippers Islands** (49°47'N., 55°50'W.) are a group of six islands and several islets lying as far as 1.25 miles E of Noble Head. A light is shown from a tower situated on the SW island of the group.

Nippers Harbor (49°48'N., 55°51'W.) has bold shores, except for a rock lying off each entrance point. A small peninsula lying about 0.2 mile within the entrance divides the harbor into two basins. A white church with twin towers is conspicuous at a settlement on the W side of the harbor. There are several, small private piers and a salmon canning plant in the harbor.

Anchorage.—Anchorage can be taken, in depths of 18.3 to 21.9m, mud. Ringbolts are secured to rocks for mooring purposes. Small vessels can anchor in the NW basin, in depths of 9.1 to 11m.

7.89 Betts Cove (49°49'N., 55°47'W.), entered 0.75 mile NNE of Betts Head, is open to the SE, but a heavy swell rolls in during NE gales. There is a settlement and piers at the inner part of the cove. Depths decrease suddenly off the piers. A

mooring buoy and ringbolts ashore assist vessels to secure alongside the various piers.

Snooks Arm (49°51'N., 55°41'W.), a deep-water inlet, has a fishing pier and settlement at its head. Vessels can anchor, but swinging room is limited.

Round Harbor (49°51'N., 55°39'W.), entered close W of a head, has an entrance 36m wide and affords a safe haven for small vessels during bad weather as long as entrance is possible. A public pier at the head of the harbor, has a depth of 3.7.

7.90 Tilt Cove (49°53'N., 55°37'W.) is entered about 0.5 mile NNE of **Scrape Point** (49°52'N., 55°38'W.). The E shore of the cove is fronted by cliffs and several drying rocks.



Tilt Cove (near abandoned mining area)

At the settlement of Fairbank, an L-shaped private wharf, in ruins (2010), extends 23m from the shore to a depth of 2.7m alongside an 11m wide outer end.

Shoe Cove (49°55'N., 55°34'W.) is entered between **Monks Ground** (49°55'N., 55°33'W.) a 4.6m ledge extending 0.1 mile offshore, and a point over 0.5 mile E. Several detached banks, with a least depth of 16.5m, lie off this part of the coast. Shoe Cove Rock, with a depth of 2.4m, lies 0.5 mile SW of the E entrance point of the cove. Caplin Cove Rock, with a depth of 12.8m, lies 0.25 mile SW of the same point.

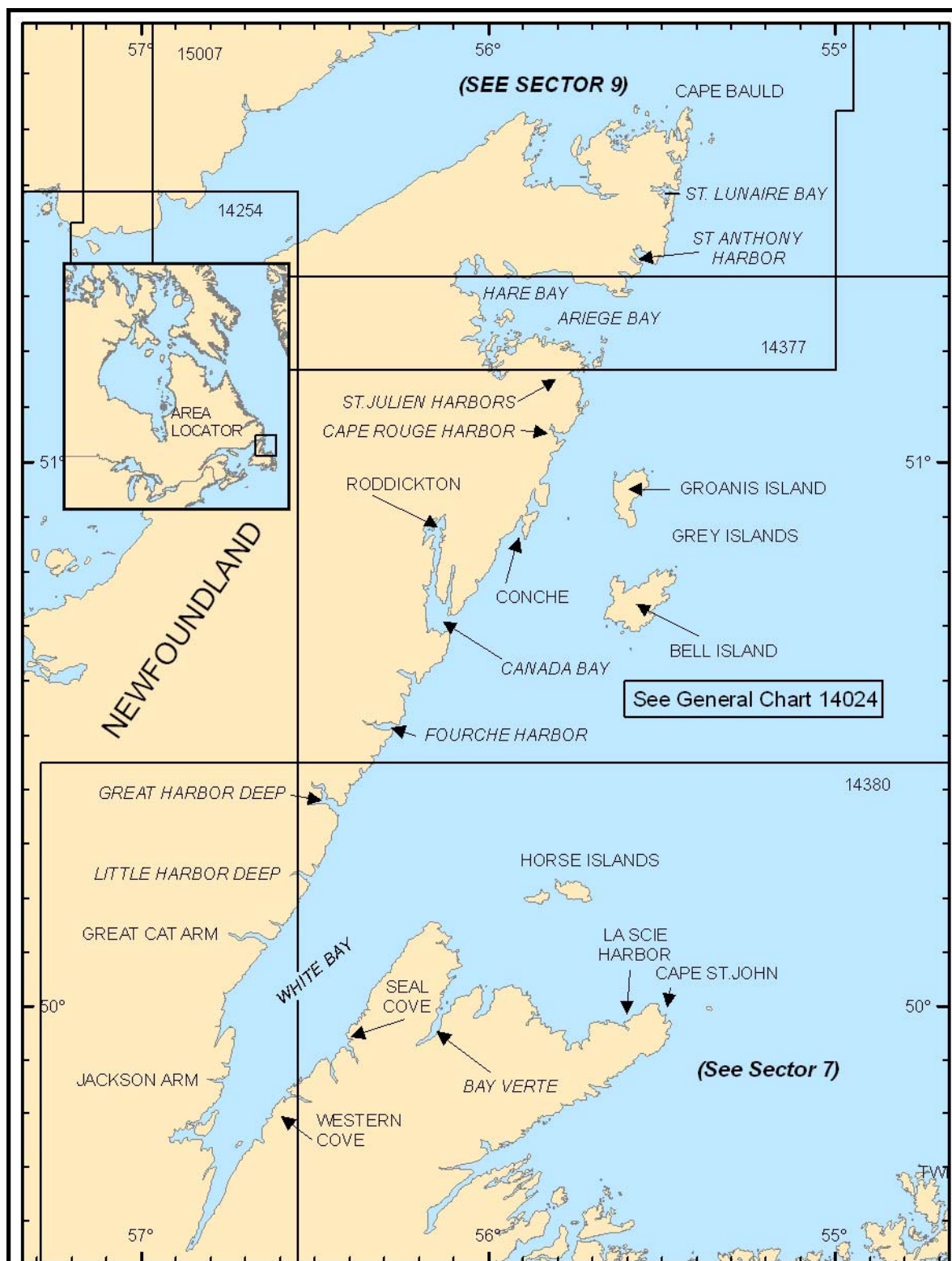
Several landslides, conspicuous on N bearings, mark the hills around the cove.

A public pier, with depths of 0.9 to 1.8m alongside, is situated at a settlement in the cove.

Anchorage can be taken, in depths of 20.1 to 25.6m, within the cove, where moderate gales from between the NE and NW pose a nominal threat.

7.91 Bishop Rock (49°56'N., 55°27'W.), 9.1m high, bare, and steep-to, lies 1.5 miles ESE of Manful Head. South Bill of Cape St. John rises in steep cliffs about 1.5 miles N of Manful Head.

Gull Island (50°00'N., 55°22'W.) is steep, except on its N side. Landing is effected on the S side of the island at the mouth of a valley between two hills. Breakers have been reported about 0.3 mile W of the island, and the sea breaks in heavy weather on an 18.3m patch 5.5 miles NNE of Gull Island. A depth of 15.1m lies 6 miles NNE of Gull Island Light. A light is shown from a red and white striped circular tower situated on the summit of the island.



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

SECTOR 8 — CHART INFORMATION

SECTOR 8

NEWFOUNDLAND—NORTHEAST COAST—CAPE ST. JOHN TO CAPE BAULD

Plan.—This sector describes the NE coast of Newfoundland from Cape St. John to Cape Bauld. The sequence of description is W to White Bay and N along the coast.

General Remarks

8.1 The entire coast is very irregular and heavily indented by inlets providing anchorages and shelter. The St. Barbe Islands (Horse Islands) lie less than 10 miles offshore between Cape St. John and White Bay. The Grey Islands lie about 7 to 11 miles off the coast between White Bay and Hare Bay. These islands are over 152m high and lie about 5 miles apart. The small White Islands are closely grouped about 4 miles SSE of Cape Bauld.

All the coastal islands are steep-to on their E sides at a distance of about 1.5 miles. Dangers extend more than 2 miles S from the southernmost Grey Island.

Between the W entrance point of White Bay and Canada Bay, 32 miles NNE, several coastal peaks rise higher than 305m. On the N side of Hare Bay the White Hills rise over 305m and are visible from Belle Isle. Cape Degrat, about 2 miles S of Cape Bauld, rises to a height of 152m and is the highest elevation in the area.

Winds—Weather.—See paragraph 6.1 and paragraph 7.1 for further information.

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

Cape St. John to White Bay

8.2 Cape St. John (North Bill) (50°00'N., 55°30'W.) is the NE extremity of a mainland promontory which forms the outer part of the NW side of Notre Dame Bay. Three short projections (South Bill, Middle Bill, and North Bill) extending off the cape form two bights separated by Middle Bill. Both Middle Bill and North Bill terminate in conspicuous peaked rocks. South Bill and Gull Island are described in paragraph 7.91.

Off-lying dangers.—**The St. Barbe Islands** (Horse Islands) (50°12'N., 55°49'W.) are two islands, 1.2 miles apart, lying 13 miles NW of North Bill. The E island appears flatter than the W and has a broken summit, whereas the latter has a smooth conical summit. There are two coves on the S side of the E island. Small vessels can anchor in the W cove, but the swinging room is limited and open SW. In 1980, a depth of 2.1m was reported 0.8 mile N of the E end of the NE island.

Caution.—The relative bearings of the St. Barbe Islands and some parts of the mainland in the vicinity are reported to differ from those on the chart.

8.3 La Scie Harbor (49°58'N., 55°37'W.) is approached from Cape St. John along a stretch of coast that is moderately high, steep, and somewhat red in color as far as **Sleepy Point**

(49°58'N., 55°37'W.), the rugged, NE entrance point of the harbor. A light is shown from a square structure with red and white bands on the point. The harbor is easy to access, but with N winds it is exposed to a heavy sea. The cliffs, about 0.3 mile S of the point, have a distinctive reddish color. The settlement of La Scie is situated along the shores of the inner harbor where the depths are 2m or less.

Depths—Limitations.—An L-shaped public breakwater wharf extends 42m from the shore and has an outer end 71m long. There is a depth of 4.2m alongside the 30m SE section of the seaward face of the outer end. The 41m NW section of the seaward face of the outer end has depths of 5.5m alongside. A wharf and a fish processing plant are situated close S of the public wharf. This wharf is 99m in length, with a depth of 4.6m alongside. A T-shaped floating wharf is moored close SE of the fish plant wharf.

A small public wharf, with a depth of 4.3m, lies between the fish processing wharf and the L-shaped public wharf. A breakwater-wharf, with a length of 37m and an alongside depth of 6.1m is situated on the NE side of the harbor 0.1 mile N of the public breakwater-wharf.

Aspect.—A church with a dome is conspicuous on the E side of the harbor; two white oil tanks are prominent close W of the fish plant.

Anchorage.—Anchorage is not recommended within the harbor.

8.4 Hill Graplin Head (49°58'N., 55°38'W.) is a bold headland rising 130m about 2 miles W of Sleepy Point. **Brent Cove Head** (49°58'N., 55°42'W.) is steep and dull in color.

Confusion Bay (49°57'N., 55°45'W.) contains two settlements, Brent Cove and Round Harbor, on its SE side, separated by a white point which rises to a high steep round hill. Brent Cove is shallow, with a mostly sand bottom. Round Harbor provides good shelter for small craft. Caroline Point, on the E side of Round Harbor, bearing 171°, leads into the outer part of Round Harbor. A cove at the SW side of the bay affords no shelter. An L-head pier at the head of Round Harbor has a depth of about 5.8m alongside.



Pacquet Harbor approach

Anchorage.—Anchorage can be taken, in depths of 7.3m to



La Scie Harbor

9.1m, near the head of Round Harbor.

8.5 Pacquet Harbor (49°59'N., 55°51'W.) is entered between Cape Brule and Pelee Point. Pacquet Harbor Light is shown from a white, square tower on Cape Brule, which rises to 176m at Gros Morne, about 0.3 mile W. Rocky islets lie 0.15 mile E of Pelee Point. Pacquet Harbor is divided into Paris Bay and **Northwest Arm** (49°59'N., 55°52'W.). A rock, awash, lies on a ledge marked by buoys extending off the W shore of Northwest Arm.

Depths—Limitations.—A T-shaped government wharf on the N shore of Northwest Arm is 25m long, with depths alongside of 5.5m to 6.1m.

Aspect.—There is a conspicuous white church and a large school with a blue roof situated at a settlement at the head of Northwest Arm.

Anchorage.—Anchorage can be taken by small vessels, in a depth of 9.1m, in the upper part of Paris Bay. North and W winds cause violent squalls in the bay. There is anchorage near the head of Northwest Arm, in depths of 14.6 to 18.3m, fair to

good holding ground.

8.6 Ming's Bight (50°01'N., 55°58'W.) is entered between **Grappling Point** (50°02'N., 55°57'W.) and Point Rouse, 1.5 miles WNW. Three rocky reddish islets, steep-to, lie 0.5 mile E of the W entrance point of the bight. There is a settlement at the head of the bay. From the SW side of the bay, a wharf extends 26m, with a depth of 7m alongside its outer end; the wharf was reported (1997) in ruins. An L-shaped public wharf, with 2.3 to 2.6m alongside its outer face, lies on the S shore of Ming's Bight.

Anchorage.—Anchorage can be taken near the head of the bight, in a depth of 31.1m, about 0.3 mile from the head. Local knowledge is necessary.

Caution.—A sunken wreck was reported at the entrance to Ming's Bight in approximate position 50°02'10"N, 55°59'21"W.

8.7 Baie Verte (50°02'N., 56°04'W.) is entered between **Point Rouse** (50°02'N., 56°02'W.) and **Green Point**

(50°05'N., 56°03'W.). The shores of the bay are high, wooded, and mostly steep-to.

The Sisters, two rocky shoals about 0.7 mile apart, lie in the entrance to Baie Verte. The SE rock, 1.2m high, lies 1.2 miles NNW of Pointe Rousse. The NW shoal has a depth of 1.5m. In rough weather, the sea breaks on these shoals.

The **Tin Pot Islands** (50°03'N., 56°05'W.) are two groups of small islands lying about 1.5 miles S of Green Point. French Island, lying 0.4 mile W of the islands, shows a light from its N end.

Pilotage.—Pilotage is available, but not compulsory at Baie Verte. To avoid delay, pilots must be requested through the Atlantic Pilotage Authority 24 hours prior to arrival at the pilot boarding position. The ETA must be confirmed or corrected 6 hours prior to ETA. Pilots board, as follows:

1. May 31 to December 14—in position 50°02'48"N, 56°01'54"W.
2. December 15 to May 30—in position 47°33'42"N, 52°37'54"W.

Caution.—The entrance of Baie Verte should be approached cautiously in calm weather and poor visibility.

8.8 Grassy Island (50°00'N., 56°07'W.) and **Duck Island** (50°00'N., 56°08'W.), the latter with a 3.4m shoal lying 0.15 mile E of it, lie in and near the channel within Baie Verte. It is reported that NE gales cause seas to break within the bay as far as Duck Island.

Coachman's Harbor (50°04'N., 56°06'W.) is entered between Green Point and French Island. The settlement of Coachman's Cove is located at the head of the harbor.

Anchorage.—Anchorage can be taken by small vessels in South Cove, in the S part of harbor, in a depth of 9.1m or less, sand.

Upper Duck Island Cove (49°59'N., 56°09'W.) is the location of the wharf of the Baie Verte Mines. The principal wharf is 146m long, with a depth of 9.1m alongside. The 70m N face of this wharf has depths of 3.4 to 5.2m alongside. Strong NE winds set heavy seas and swell onto the wharf. Vessels undocking normally let go an anchor to assist in clearing the dock area. Range lights, in line bearing 302°, shown from the roof of the warehouse on the wharf, lead in the approach to the wharf.

8.9 Baie Verte (49°56'N., 56°12'W.), a town near the head of the bay, lies on the W shore. There is a conspicuous green water tank situated on rising ground behind the town. A 259m high tower, about 1 mile W of the public pier, is marked by red obstruction lights.

The normal navigation season is considered to extend from June to January.

Ice.—Baie Verte freezes solidly between the middle of December and early in January. The ice normally breaks up in May, but it has been known to thaw out in the middle of April and to remain fast afterwards until June 10.

Depths—Limitations.—The public pier at the town is about 62m long, with a depth of 4.9m alongside the outer end; the pier was closed for use in 1999. Several small piers lie between the public pier and Sandy Point, about 0.5 mile NE.

Vessels loading pulpwood anchor, in 11m, gravel and mud, and secure their sterns 60m offshore with hawsers to the head of the pier, from which a light is shown. Tugs are not available

for berthing.

Aspect.—Baie Verte Light is shown from a mast on the head of a public pier about 1 mile from the head of the bay

Anchorage.—There is good anchorage, in a depth of 40.2m, about 0.4 mile SE of **Sisters Point** (49°57'N., 56°10'W.). Anchorage can also be taken, in a depth of 23.8m, good holding ground, mud, off **Marble Cove** (50°00'N., 56°08'W.).

Good landlocked anchorage can be taken near the head of Baie Verte, in depths of 17.4 to 21.9m, mud.

Directions.—When transiting Baie Verte, do not pass between Grassy Island and Duck Island, but favor the SE side of the bay. When S of Duck Island, proceed in mid-channel.

8.10 From Green Point, the coast trends about 2 miles N to Paradise Point, which is high and conspicuous. Pigeon Island lies close NE of Paradise Point. A bay is entered between Pigeon Island and Cape Crapaud, about 1.7 miles NNW; the shores are steep-to, except off a cascade close W of Paradise Point, about 225m E of which there is a rock about 46m offshore. Cape Crapaud is steep-to, with patches of white marble on its S side.

Fleur de Lys Harbor (50°07'N., 56°05'W.) is entered on the NW side of the above-mentioned bay. Fleur de Lys Hill, 250m high, rises to three conspicuous hummocks, about 2.2 miles W of the harbor entrance. It is claimed the harbor is difficult to distinguish except on a W approach. Within the entrance, the harbor becomes constricted, but then opens N into a basin where there are depths up to 9.2m.

Depths—Limitations.—A public pier, 52m long, with a depth of 5.2m alongside, extends from the E side of the N shore. A pier and adjoining marginal wharf are situated close S of the public pier. The pier extends 63m with a depth of 3.2m alongside.

Anchorage.—Anchorage with local knowledge can be taken in the basin, in a depth of 8.7m, stiff mud, good holding ground. There is never any sea at the anchorage, but N and NW winds blow in violent squalls. After strong winds between the N and SE, the sea at the harbor entrance is so disturbed as to appear like breakers, and a heavy swell is felt within the harbor. This disturbance has also followed a N gale, at a day's interval, when the sea rose 1 hour after the wind had completely subsided.

Temporary anchorage can be taken in good weather, in 21.9m, coral, about 0.3 mile E of the NE entrance point of the harbor.

White Bay

8.11 White Bay (50°00'N., 56°30'W.) is an extensive bay entered between **Partridge Point** (50°09'N., 56°08'W.) and Little Harbor Deep Head, about 14 miles WNW. The bay, extending 45 miles SW, has mostly high shores rising in steep slopes that are densely wooded. Several arms and inlets of the bay afford good shelter and are easy to access. Partridge Point, marked by a light, is low, rocky, and steep-to. East winds of long duration cause a strong set onto the point.

Winds—Weather.—East winds prevail during the summer in the bay; SW and NW winds prevail in autumn. Northeast gales cause a heavy sea in the bay extending as far as 10 miles from its head.



Baie Verte

Fog is common with light NE and E winds, but usually lasts only a few hours although it may continue for 3 days in June and July.

Ice.—White Bay generally freezes over towards the end of December, and remains so, or is obstructed by field ice and bergs, until April or May. Frequently, bergs remain until July.

Tides—Currents.—During moderate weather, the current is generally NE along the SE shore of the bay and SW along the NW shore, with the ice drifting almost constantly in these directions. Strong W winds sometime reverse the current for a short time.

Depths—Limitations.—White Bay is deep throughout and almost danger-free. Dossenger Rock, with a depth of 10.5m, is the only off-lying danger.

Caution.—Mariners are cautioned that trans-Atlantic submarine cables are landed on the E shore, about 2 miles from the head of White Bay.

8.12 White Bay—East side.—The E side of the bay is indented by several small coves and inlets frequented by fish-

men with local knowledge.

Close SW of Partridge Point, there are some small bights in the rocks where landing can be effected during E winds. **Hard Bay**, located about 1.5 miles SW of Partridge Point, is a small bight bordered by cliffs.

From Hard Bay to **Wild Cove**, about 10.5 miles SW, the coast is rocky and backed by steep and wooded hills.

Anchorage.—Anchorage, with good holding ground, mostly sand, in a depth of 46m, is reported to lie in the center of Wild Cove. From the N shore, a wharf extends 97m. The outer part, 40m long, has depths of 4.9 to 5.8m alongside.

Lobster Harbor, a small basin, is entered close SW of Wild Cove; local knowledge is necessary.

Pound Rocks, 3m high, lie close SW of **Pound Head** (49° 57'N., 56°23'W.), 3.2 miles SW of Lobster Harbor.

Seal Cove (49°56'N., 56°23'W.) is entered about 0.5 mile SSE of Pound Head. Depths decrease from 25.6m at the entrance to a shallow, rocky flat extending 0.1 mile off the sandy beach at the head of the cove.

There is an L-shaped public pier, with a depth alongside its

face of 6.4m, situated at the S side of the cove.

Seal Cove Light is shown from a mast on the pier.

Anchorage.—Anchorage can be taken, with winds from the N through E to S, off the N shore of the cove, in a depth of 20.1m.

8.13 Southern Arm (49°55'N., 56°23'W.), an inlet, is entered close S of Seal Cove. Cheese Hill, conical, wooded, and conspicuous, lies on the SW side of the arm. Abeam of the hill, the arm narrows to 225m and is almost blocked by a stony bar. The outer part of the arm forms a good danger-free harbor and sheltered anchorage.

Middle Arm (49°53'N., 56°26'W.) has high wooded shores. Close within, the entrance the arm is crossed by a rocky bar. A tortuous channel through the bar has a least depth of 5.5m. A small vessel with local knowledge can transit the channel to the inner arm, which is deep and danger-free.

8.14 White Bay—West side.—Between **Little Harbor Deep Head** (50°13'N., 56°30'W.) and **Stump Point** (50°09'N., 56°34'W.), the coast consists of cliffs that appear more barren and whiter than those either to the N or S. **Little Cat Arm** (50°09'N., 56°35'W.) is entered between Stump Point and White Point, a low, barren point 0.5 mile SW.

Anchorage.—Anchorage can be taken near the head of the arm, in depths of 21.9 to 29.3m, sheltered from the sea, but exposed to violent squalls from the surrounding hills.

Great Cat Arm (50°08'N., 56°40'W.), entered between Eastern Head and Western Head, about 1 mile SW, is bound by sides consisting of high hills with cliffy faces, generally bare or burnt on the N side and densely wooded on the S side. The shores are steep-to, except at the head of the arm, where there is a shallow flat.

Anchorage.—Anchorage can be taken, in depths of 21.9 to 32.9m, sand and mud, in **Camp Cove** (50°07'N., 56°41'W.), opposite a high, cliffy point on the N side of the arm. Violent squalls during strong W winds occur at the anchorage. There is another anchorage, in a depth of 27.4m, mud, near the head of the bay where the squalls are not so violent.

8.15 Cobbler Head (49°59'N., 56°44'W.) is a high, round, wooded headland conspicuous on W bearings. Devil Cove, 1.7 mile N of Cobbler Head, affords anchorage, with local knowledge, to vessels during moderate offshore winds.

Little Coney Arm (49°58'N., 56°45'W.), appearing as a deep notch in the hills, opens within its entrance to a basin, 0.25 mile wide. A rock, with a depth of 6.8m, lies close off the middle of the narrow entrance. A bar across the entrance has a passage with a least depth of 1.8m. Small vessels can anchor, in a depth of 4.6m, in the basin.

Great Coney Arm (49°46'N., 56°45'W.), entered 0.5 mile W of Coney Head, is cliffy and conspicuous on S bearings. It affords anchorage, in depths of 36.6 to 40.2m, sheltered except from the heavy swell caused by NE winds, which makes the anchorage untenable.

8.16 White Bay—Inner part.—Western Arm (Hauling Arm) (49°50'N., 56°32'W.) is entered close S of **Hauling Point** (49°50'N., 56°34'W.). There are depths of 18.5m in the arm as far as its shoaling head. Bear Cove and Wild Cove in-

dent the N and S sides of the arm, respectively, close within the entrance. The former cove affords good anchorage for small vessels, in a depth of 16.5m, sand, opposite a settlement. Wild Cove affords anchorage for small vessels, but is open to the N. There is good anchorage, in depths of 12.8 to 25.6m, near the head of the arm.

Dossenger Rock (49°56'N., 56°41'W.), an off-lying danger with a depth of 10.5m, is steep-to and breaks in bad weather. In calms and at spring tides, the rock is marked by a slight tide rip. The coast within the rock is high, wooded, and steep-to as far as **Frenchman's Head** (49°53'N., 56°43'W.). The head, formed of high rock with a bare face, is steep-to and fronted by low rocks and ledges.

Anchorage.—Anchorage, open E, can be taken in **Frenchman's Cove** (49°53'N., 56°44'W.), in depths of 21.9 to 27.4m, mud, near the head of the cove.

8.17 Jackson's Arm (49°52'N., 56°45'W.) is entered between **Eastern Head** (49°52'N., 56°44'W.) and **Western Head**, about 0.3 mile S. A light is shown from a square tower with a red and white rectangular daymark on Eastern Head. Two coves indent the N side of the arm close within the entrance. A settlement is situated along the shores of the coves. A white church and spire are conspicuous. A ferry pier, 15m long at its outer face and with depths of 2.7 to 4.1m alongside, lies in Schooner Cove.

Anchorage.—Anchorage can be taken off **Clay Cove** (49°52'N., 56°46'W.), in depths of 20.1 to 21.9m, mud. This anchorage is preferred to that off the coves at the N side of the entrance, where sea and swell are felt. Anchorage is also available within The Bottom, subject to offshore squalls which also occur in Clay Cove.

Westport Cove (Western Cove) (49°47'N., 56°37'W.) is marked at its entrance by a light shown from a white octagonal tower. Gull Rocks, above-water, lie off the S side of the cove. A white church, with a blue tower, is conspicuous in the settlement along the cove shore.

A public pier, with a depth of 4.6m alongside, extends from the N shore of the cove. An L-shaped public wharf extends 41m from the N shore of Westport Cove to an outer end 18m long. The W face and outer end of this wharf is encased with stone. The E face, 35m long, has depths of 2 to 3m alongside the southernmost 20m of its length. This wharf has a concrete deck.

Anchorage.—Anchorage can be taken, in a depth of 20.1m, off the cove, but it is open to the N and W and the sea rolls in with strong NE winds.

8.18 Purbecks Cove (49°45'N., 56°38'W.) is entered between Eastern Head and Shale Point, a detached block of shale standing out from the cliff and appearing white in color in sunlight. The cove affords the best anchorage on the E side of White Bay, S of Hauling Point. Anchorage can be taken anywhere in the cove, with the best berth, in a depth of 23.8m, about 0.3 mile S of Eastern Head.

Granby Island lies 1 mile off the E shore with its NE extremity 1.5 miles W of Shale Point.

Sops Arm (49°45'N., 56°51'W.), on the W side of White Bay, is entered between **Jockeys Cove** (49°48'N., 56°47'W.) and **Spear Point** (49°44'N., 56°45'W.), formed of dark lime-

stone projecting from cliffs behind it. Sops Island lies in the entrance of the arm, with Open Head, a remarkable black cliff, forming its NE extremity. The island divides the entrance into two channels, of which **South Channel**, the main channel, is deep and clear of dangers. The shores of Sops Arm are densely wooded. The Main River flows into the NW part of the arm through a delta fronted by a gravel flat and large boulders. A conspicuous highway bridge spans the river near its mouth.

Sops Cove (49°47'N., 56°48'W.), about 0.8 mile SW of Open Head, is located on the S side of a small peninsula, with a low, flat isthmus, backed by a conspicuous hill. The S coast of Sops Island is steep-to; the NW coast is indented by coves.

8.19 White Point (White Head) (49°45'N., 56°48'W.), low, but backed by high ground, is marked by a light shown from a white square tower. Natlins Cove, entered over 1 mile W of White Point, affords anchorage to small vessels, in depths of 20.1 to 23.8m, in its SE part.

Georges Island (49°46'N., 56°50'W.) is separated from the mainland and Sops Island by constricted channels. Western Tickle, the W channel, is obstructed by a bar at its N end; it has a depth of 2.1m and is navigable by small craft only. A settlement, on the shores of a cove W of Western Tickle, has a conspicuous white church and spire.

Close N of the W entrance point of Western Tickle, an L-shaped public wharf extends 37m to an outer face, 20m long with a depth of 4.9m alongside.

Anchorage.—Anchorage can be taken, in depths of 12.8 to 20.1m, mud, off the NE side of **Steering Rock**, 0.9m high, lying close NE of Georges Island. This anchorage is well-sheltered and has good holding ground. Bailey Cove affords good anchorage, in 16.5 to 23.8m. Fair anchorage may also be taken in Giles Cove, in a depth of 27.4m.

Caution.—A submarine cable is laid from the E entrance point of Deadmans Cove across Sops Arm to a position about 1.2 miles WSW of Spruce Point.

8.20 White Bay—Head.—Pumbley Cove and Clay Cove are located on the E shore of White Bay, about 1 mile and 1.5 miles SW of Purbeck Cove. Anchorage can be taken, in depths of 27.4 to 36.6m, off either of the coves. The coast S of the coves is generally steep-to and cliffy.

Saltwater Cove (49°42'N., 56°47'W.), on the W shore of the bay, affords anchorage during W winds, but a sea is raised by strong NE winds. The coast S of the cove is steep-to and fringed by rocks.

Hampden Bay (Riverhead Bay), the name applied to the extreme head of White Bay, is entered S of Cliff Point (49°34'N., 56°49'W.). The bay, deep to the flats at its head, is backed by high hills on either side.

Hampden (49°32'N., 56°50'W.) a pulpwood-shipping terminus, has an L-shaped public wharf, 69m long and 19m wide at its face, with a depth of 4.0m alongside its outer face. A wharf, in disrepair, lies about 0.3 mile WSW of the public wharf.

Anchorage.—Anchorage can be taken in Gold Cove close W of Cliff Point, in a depth of 55m. West Anchorage, the area W of the S end of Miller Island, affords sheltered anchorage, in depths of 27.4 to 36.6m. East Anchorage, with depths of 12.8 to 27.4m, is situated off a small bend of the mainland, E of the N end of Miller Island. South Anchorage, close N of the public

pier, affords indifferent anchorage, in depths of 27.4 to 36.6m.

White Bay to Hare Bay

8.21 Little Harbor Deep (50°15'N., 56°31'W.) is entered between high bare rocky **Little Harbor Deep Head** (50°14'N., 56°30'W.) and **Grandfather Head** (50°15'N., 56°29'W.). The Middle Ground, a rocky shoal with a least depth of 7.3m, lies in the middle of the entrance.

Anchorage.—Anchorage, open to the SE, can be taken, in depths of 20.1 to 25.6m, about 1.2 miles WNW of Grandfather Point. Very little swell is felt at this anchorage.

8.22 Union Cove (50°16'N., 56°29'W.) is separated from Little Harbor Deep by a high, wooded headland. The shores of the cove are high, wooded, and steep-to. It is clear of dangers. Small vessels obtain good, sheltered anchorage at the head of the cove.

Great Harbor Deep (Orange Bay) (50°22'N., 56°26'W.) divides about 2 miles within the entrance. The bay divides into a N arm (Soufflets) and a S arm (Pigeonniere). Sault Cove lies at the head of Pigeonniere Arm.

Great Harbor Deep Light is shown from a skeleton tower situated about 0.7 mile NE of the N entrance point of the harbor.

Pigeonniere Arm (50°22'N., 56°30'W.) and **Sault Cove**, about 1 mile N, contain the settlement of Great Harbor Deep. Ice closes the arm from December to the last of April. At Plate Point, the W entrance point of the cove, there is a T-shaped public pier with a length along its outer face of 23m and depths of 3.7 to 5.2m. Pulpwood is shipped from the pier. A stranded wreck lies 18m N of the pier. Local fishermen provide pilotage. Anchorage can be taken about 0.25 mile NNW of the pier, in depths of 14.6 to 18.3m, mud and sand.

Soufflets Arm (50°24'N., 56°28'W.) narrows near its head to a width of 0.1 mile in the vicinity of **Observatory Point** (50°25'N., 56°30'W.), where the least depth is 5m.

Anchorage.—Anchorage can be taken in a basin above the narrows, in depths of 11 to 12.8m. Larger vessels can anchor, in 45.7m, ESE of Observatory Point.

8.23 Fourche Harbor (50°31'N., 56°19'W.), deep, clear of dangers, and bordered by densely-wooded high cliffs, is entered between **Granite Point** (50°31'N., 56°17'W.) and Fourche Point, about 0.7 mile NE. A light is shown from a white tower on Granite Point.

A conspicuous peaked cliff, 328m high, rises over the N side of Robineau Cove, 2.2 miles SW of Granite Point. The coast is formed by steep cliffs indented by several coves affording no shelter. A heavy NE swell along this coast makes a landing very difficult.

Northeast Cove, located 2.3 miles W of Eastern Head, is used by fishermen during the summer. Small craft anchor, in 12.8 to 14.6m, in the cove.

Northern Arm, a narrow inlet, extends 0.8 mile NW from the head of the harbor. A wharf is in ruins (1993) at the former whaling station.

Anchorage.—Anchorage can be taken outside the arm and E of a grassy flat on the N shore, in depths of 25.6 to 36.6m, mud and stones, sheltered from the sea which rolls into the outer harbor, but subject to W gales and squalls off the high land.

8.24 Little Hooping Harbor is an open bay entered about 3 miles NNE of Eastern Head; it affords no shelter from offshore winds, after which a heavy ground swell prevails.

Hooping Harbor (50°37'N., 56°13'W.) is entered between **Green Head** (50°36'N., 56°12'W.) and **Duckbill Point** (50°36'N., 56°11'W.), bare and rocky, rising to a steep escarpment. A light is exhibited from Duckbill Point. The shores of the harbor are high cliffs, backed by densely wooded hills. Within the entrance, the harbor divides into Eastern Arm and Northern Arm. Depths are great in the harbor and it is clear of dangers except at the head of the arms.

Anchorage.—Anchorage can be taken in Eastern Arm, in depths of 25.6 to 36.6m; the holding ground is good, but on-shore winds raise considerable swell. There is good anchorage at the head of Northern Arm, in a depth of about 40.2m, mud, off a stony beach.

8.25 Canada Bay (50°43'N., 56°08'W.) is entered between **Canada Head** (50°42'N., 56°07'W.), a conspicuous cliffy bluff rising gradually S in rugged hills, and **Cape Daumalen** (50°44'N., 56°05'W.). Two very conspicuous peaks rise along the coast between Duckbill Point and Canada Head. Sugar Loaf, 204m high, rises almost vertically from the sea about 2 miles NE of Duckbill Point. Cape Goboso Summit, 290m high, rises 2.75 miles S of Canada Head.

8.26 Englee Island (50°43'N., 56°07'W.), from which a light is shown from a skeleton tower at the S end of the wooded island, lies close W of Cape Daumalen.

Canada Bay freezes solid during December, and breaks up some time in May.

Aiguilletes Rock, with a depth of 4.1m, lies nearly 0.5 mile ESE of the S point of Englee Island; the sea breaks on it during strong W winds. Barred Island, steep and wooded, is connected with the SE side of Englee Island by a sand bank.

Englee Harbor lies on the N side of the bay entrance, between Englee Island and the mainland. The harbor is suitable only for small craft. A bridge, under which small boats can pass, spans the narrow shallow channel connection between Englee Harbor and **Grevigneux Harbor** (50°44'N., 56°07'W.). In the latter harbor there is an L-shaped pier, with a face 35m in length with a depth of 5.2 to 7.6m alongside the outer face. There is a large cold storage plant on the W shore of the harbor.

Hermit Rock, with a depth of 1.8m, lies 0.1 mile off the E shore about 0.3 mile NNE of the N point of Englee Island.

Canaries Harbor (50°41'N., 56°08'W.) is entered between a point 0.5 mile W of Canada Head and Canada White Point, about 0.4 mile WSW. The latter point is faced by a white rocky cliff rising to a round hill on which stands a beacon in the shape of a cross. The harbor is exposed to NE winds, which raise a heavy sea and the holding ground is poor. There is a small settlement.

Wild Cove (50°42'N., 56°11'W.) is entered between Wild Cove Point and **Gouffre Island** (50°42'N., 56°11'W.), small and difficult to distinguish against the high land. Sheltered anchorage can be taken S of the island, in a depth of 23.8m, good holding ground.

Torrent Cove lies on the W side of Canada Bay, about 2.5 miles to the N of Gouffre Island. A cascade falls over the high land, about 0.7 mile within the head of the cove.

Cod Rock, with a depth of 3.7m, lies about 1 mile NW of Englee Harbor Light. Herring Shoal, with a depth of 5m, lies about 0.2 mile N of Cod Rock.

8.27 Bide Head (50°45'N., 56°08'W.) lies nearly 1.5 miles NNW of Englee Harbor Light. White Island lies about 0.4 mile SW of Bide Head, and Flat Island lies 0.1 mile NE of White Island. Clark Rock, with a depth of 5.9m, lies about 1 mile W of White Island in the approach to Torrent Cove and Chimney Bay.

Bide Arm (50°46'N., 56°07'W.) is entered between the NW extremity of Englee Island and Bide Head. There are depths of over 36.6m in the entrance, decreasing gradually to 11m near the head of the arm. Bide Arm affords the best anchorage in Canada Bay during bad weather. The W side of Bide Arm is foul to about 0.15 mile offshore in places. **Bide Shoal** (50°48'N., 56°06'W.), with a least depth of 0.9m, lies 2.75 miles N of Milan Point.

On the W shore near the head of the arm, there is a wharf, with a depth alongside of 3.7m.

Anchorage.—Anchorage can be taken, in depths of 29.3 to 51.2m, in mid-channel, about 2.2 miles N of Bide Head. There is other anchorage in mid-channel, in 23.8 to 27.4m, about 0.8 mile farther N. At the head of the arm, there is sheltered anchorage, in a depth of 20.1m.

Wolf Shoal, with a depth of 0.9m, lies 0.7 mile WNW of Bide Head.

8.28 Chimney Bay (50°47'N., 56°10'W.) is entered between **Marten Point** (50°46'N., 56°09'W.) and **Fly Point** (50°46'N., 56°11'W.). Cloud Hills (The Chimneys) are bare rugged peaks, conspicuous from the SE, rising 3 to 5 miles NNW of Fly Point.

Otter Cove (50°47'N., 56°11'W.), entered 1 mile NNW of Fly Point, affords anchorage in the middle of the cove, in a depth of 14.6m, sand and mud. Green Island lies of the middle of the entrance, 0.2 mile ENE of the S entrance point.

Bad Rock is a small rocky islet lying 0.2 mile off the W shore of Chimney Bay, 1.7 miles NNE of Fly Point. A light is shown from the rock.

Cabin Point (50°48'N., 56°09'W.) is low, flat, and fronted by drying ledges. The channel through Chimney Bay contracts to a width of 0.2 mile between Cabin Point and Grosse Point on the W shore. Good anchorage can be taken, in a depth of 32.9m, in the middle of the arm, about 0.4 mile SSE of **Grosse Point** (50°48'N., 56°10'W.).

Weymouth Point (50°51'N., 56°09'W.), low and wooded, is located SW of **Chaine Point** (50°51'N., 55°07'W.), the latter fronted by a foul bank. The shores on both sides of the bay are foul, as rocky shoals extend as far as 0.5 mile offshore.

Roddickton (50°52'N., 56°08'W.) is situated in the vicinity of Scott Point. Holson Terminal, with one berth designated Wharf No. 1, handles timber products and has a length of 45m and a depth of 5.5m alongside. A private wharf, adjacent to a large building, is located close NE of Scott Point. The town of Roddickton-Bide Arm is connected to the Trans-Canada Highway by road.

Anchorage.—Anchorage can be taken, in depths of 21.9 to 23.8m, in the E part of Dowers Harbor, which is situated close N of Chaine Point, but there is limited swinging room.



Roddickton

8.29 Chimney Bay—Head.—The head of the bay is entered between Scott Point and **Old House Point** (50°52'N., 56°10'W.). A spit, with depths of 2.1m or less, extends 0.25 mile NE and 0.15 mile N from Old House Point. Rocky shoals and islets lie throughout the head of the bay, which is divided into Northeast Arm and Beaver Arm. Castor Cove, deep and danger-free, is entered SW of Old House Point. Northwest Arm is entered by boats at HW from the head of Castor Cove, but tidal currents are strong.

Northeast Arm (50°54'N., 56°08'W.) is entered W of **Adamson Point** (50°53'N., 56°08'W.). Zephyr Rock, which dries, lies 0.25 mile NNW of the point. Good anchorage is afforded, in depths of 16.5 to 20.1m, E of Zephyr Rock; anchorage can also be taken, in 21.9 to 27.4m, between the rock and NW shore. The latter is exposed to SW winds, at times strong.

Beaver Arm (50°54'N., 56°09'W.), is entered about 0.7 mile NE of Beaver Cove. Anchorage can be taken in the middle of the arm, in 14.6 to 16.5m. There is anchorage in **Beaver Cove** (50°53'N., 56°11'W.), in depths of 27.4 to 31.1m, mud. Vessels

proceeding to and from the cove are liable to be set towards Tenedos Rock.

Off-lying islands.—The Gray Islands consist of **Bell Island** (50°45'N., 55°33'W.) and **Groais Island** (50°57'N., 55°35'W.). The channel between the islands is deep and free of dangers. Positions of the islands relative to each other and the mainland have not been accurately determined. Bell Island is high, flat, and rocky, except in Rocky Bay on the S side of the island where a sheltered landing for small craft is available with local knowledge. There is anchorage, in a depth of 4.6m, sand.

8.30 Nid Island (50°42'N., 55°38'W.), marked by a light, lies close W of the entrance of Rocky Bay. **Red Island** (50°40'N., 55°35'W.), and the adjacent Red Rock, lie 3 miles SSE of Nid Island.

Groais Island is cliffy, thickly wooded, and nearly flat; it is visible for about 50 miles on a clear day. The Sisters, two steep rocks, lie 0.4 mile NE of the NE end of the island.

Hilliers Harbor (50°47'N., 56°02'W.) is difficult to distin-

guish from the E, but may be identified by three parallel gaps in the cliffs, resembling a ship under sail, the S gap located at Boutitou Point. A cove at the NE side of the harbor affords shelter for three or four small vessels, moored head and stern, in depths of 11m, N of Dolo Point, the SE entrance point.

White Horse Head, a large yellow patch on the coast, lies about 4.3 miles N of Boutitou Point.

8.31 Conche Harbor (50°53'N., 55°54'W.) is entered between **Cape Fox** (50°52'N., 55°54'W.) and the coast about 2 miles W. A light is shown from the cape. Another light is shown from **Silver Point** (50°53'N., 55°54'W.).

Ice.—Conche Harbor fills with ice and freezes, breaking up again in May, early or late in the month. Silver Cove anchorage has been blocked by heavy pans of ice at the end of June.

Silver Cove (50°53'N., 55°54'W.), on the E side of the harbor, contains the settlement of Conche. The cove is entered between Silver Point and Latin Point, 0.4 mile NNW. A public wharf, with a bent outer section, extends 100m from the S shore of Silver Cove. A spray wall is located along the W side of the wharf. There is a depth of 3.7m alongside the E side of the outer 38m section. A 25m long pier extends from the E side of the inner end of the outer section; depths of 2.5 to 4.0 m lie alongside. There are many fishing piers and stages. The E shore of the harbor from Cape Fox to Silver Point is obstructed by nets during the fishing season.

Anchorage.—Small vessels can obtain good anchorage in Silver Cove, in a depth of about 16.5m, sand; larger vessels can anchor off the cove, clear of the 9.1m patch. There is good anchorage off the NW shore of the harbor, in depths of 12.8 to 21.9m, with the church at Conche bearing 112°. Larger vessels should not anchor in depths of less than 21.9m.



Conche Light

8.32 Cape Rouge Harbor (50°55'N., 55°52'W.) is entered between **Frauderesse Point** (50°54'N., 55°51'W.) and **Truite Point** (50°55'N., 55°51'W.). The Cape Rouge Peninsula, steep-to, extends 2 miles N from Cape Rouge, its high SE extremity. Rouge Island, steep-to, composed of red rocks covered with grass on top, lies 3.7 miles E of Frauderesse Point.

Ice fills the harbor which is frozen over and does not break up until sometime in May.

Crouse Harbor (Southwest Bay) lies NW of the N end of the Conche Peninsula. Cape Rouge Harbor extends about 3.5 mile NNE to its N end in Biche Arm. A white cross stands on Point Dos de Cheval, about 0.5 mile W of Frauderesse Point. Souris Shoal, with a depth of 1.8m, lies in the middle of the entrance to Southwest Bay.

The N extremity of Groais Island, in line with the SE extremity of the peninsula forming the NE side of Cape Rouge Harbor, bearing 070°, leads between this shoal and a shallow bank which extends up to 0.8 mile from the S shore of Southwest Bay. The N extremity of Bell Island, bearing 130° and well open NE of Frauderesse Point, leads NE; and the N extremity of Rouge Island, in line with Frauderesse Point, bearing 100°, leads S of the shoal.

Anchorage.—Anchorage can be taken, in depths of 22 to 29m, near the head of the bay, fair holding ground of gravel and mud. Northwest and W gales cause violent squalls.

A conspicuous waterfall is visible on the W shore of Biche Arm, NW of **Partridge Point**. (50°57'N., 55°52'W.). Secure anchorage is afforded, in 27.4m, mud, SE of the waterfall and 0.15 mile NW of Partridge Point.

Pyramid Point (50°58'N., 55°49'W.), the NE extremity of the Cape Rouge Peninsula, about 2.2 miles N of Cape Rouge, is a pyramid rock.

Pilier Bay (50°58'N., 55°51'W.), entered between Pyramid Point and the coast about 1 mile NW, is open to the NE. It is a poor anchorage.

Million Cove, entered between Cape Eagle, about 2.7 miles N of Pyramid Point, and Rets Point, about 1 mile NNE, is open to the E.

8.33 Windy Point (51°03'N., 55°47'W.), at the NE extremity of a high, steep-to coast, rises in white rugged slopes to a conspicuous barren hill surmounted by a beacon. Observatory Island, low and steep-to, lies close SE of Windy Point.

Croque Harbor (51°03'N., 55°48'W.) is entered between Windy Point and Groux Point, about 0.6 mile N. The harbor is not easily distinguished from the E. Ice freezes solidly in the harbor during December and breaks up sometime in May.

Irish Bay (51°02'N., 55°48'W.), W of Windy Point, is bordered by a foul bank extending up to about 0.2 mile offshore. La Baleine, a rock, above-water, lies S of the W entrance point of the bay. Irish Bay requires local knowledge.

Groux Bay lies close NW of Groux Point; it affords shelter to boats only. Genille Point, on the NE shore, lies about 1 mile W of Groux Point. Fishermans Cove is entered close E of Genille Point; it is suitable only for boats. **Observation Point** (51°04'N., 55°49'W.), steep-to, lies on the SW shore, 1.1 miles NNW of Blanche Point.

Epine Cadoret is an inlet on the W side of Croque Harbor, 2 miles NW of Windy Point. The village of Croque lies on the NW shore of the inlet, about 0.3 mile W of Observation Point. A cross stands on the point of land at the village.

The public wharf at Croque is in ruins (1993).

Anchorage.—Anchorage can be taken between Genille Point, about 1 mile W of Groux Point, and **Observation Point** (51°04'N., 55°49'W.), in depths of 29.3 to 34.7m, where the squalls are less violent, but some sea comes in with SE winds.

Anchorage off Observation Point is exposed to violent NW squalls.

8.34 St. Julien Harbors (51°06'N., 55°44'W.) are composed of Great St. Julien Harbor and Little St. Julien Harbor. The approach is marked by **St. Julien Peak** (51°05'N., 55°45'W.). Black Island lies about 1 mile NE of the peak. **Jeanne Point** (51°06'N., 55°44'W.) is located almost 0.7 mile WSW of the S extremity of **St. Julien Island** (51°06'N., 55°43'W.). This island forms the SE side of the main approach to the harbors; it is barren and conspicuous, rising in two hills.

Mulou Shoal, with a least depth of 4.9m, lies NE of St. Julien Island. The sea breaks on the shoal during bad weather.

Great St. Julien Harbor is entered between Jeanne Point and Little St. Julien Point, about 0.2 mile W. This harbor is suitable only as a temporary anchorage for small vessels; local knowledge is necessary.

Little St. Julien Harbor is entered between Little St. Julien Point and the coast about 0.2 mile W. It is fronted by rocks lying on a drying ledge, 0.25 mile off the entrance. Temporary anchorage can be taken about 0.2 mile E of these drying rocks, in a depth of 36.6m.

Grandois Harbor (51°06'N., 55°45'W.) is entered on either side of cliffy, barren Goose Island, which lies with its SE extremity about 0.4 mile NW of Jeanne Point. The harbor is shallow and available to small craft.

Great Islets Harbor (51°10'N., 55°45'W.) is entered between **Jehenne Point** (51°09'N., 55°44'W.), bare and steep, and Double Island, about 0.4 mile N. The island rises in two parts, nearly joined at the base. Two peaks rising 1 mile SW and 0.5 mile WSW of Jehenne Point are conspicuous. Chabert Island, nearly connected with the N shore, lies about 0.2 mile NW of Double Island.

Anchorage.—Anchorage can be taken, in a depth of 21.9m, mud, between the Chabert Island and the coast NW. Small craft can anchor off River Point, about 1.1 miles NW of Jehenne Point, in 6.4m.

Hare Bay

8.35 Hare Bay (51°15'N., 55°45'W.) is entered between **Cow Point** (51°11'N., 55°43'W.), rocky and grass-covered, and **Lobster Point** (51°18'N., 55°36'W.) the E extremity of the Goose Cape Peninsula. The main entrance to the bay lies between this peninsula and Great Cormorandier Island, lying 5 miles SSW of the peninsula. The S shore of the bay is indented, but the N side is high, cliffy, and steep-to. The White Hills (Capillaire Mountains), rising within the N shore, have a remarkable summit which is conspicuous from the Strait of Belle Isle. There are several good harbors in the bay. The sea in the bay is often very heavy.

Ice.—The NW and W parts of Hare Bay within the **Brent Islands** (51°16'N., 55°57'W.) freeze solid during December, and the E part fills with N ice and freezes; the ice generally breaks up some time in May.

Tides—Currents.—North of Cow Point, the flood tidal current sets WNW and the ebb ESE. East of this point and around the Fischot Islands, the flood tidal current sets W and the ebb sets E. Outside the entrance to Goose Cove, the flow appears to be independent of the tides, following the trend of the coast at

velocities rarely exceeding 1 knot, being strongest off Goose Cape.

8.36 Hare Bay—South approach.—The S approach is obstructed by numerous islands which extend about 4 miles from the coast between Cow Point and the N entrance of Great Islets Harbor. **Great Cormorandier Island** (51°13'N., 55°40'W.) is the NE and outermost island of the group. The island is encircled by above and below-water rocks, shoals, and islets. Great Cormorandier Rock, with a depth of 1.8m, lies 0.25 mile off the SE side of the island.

Pigeon Island, a small cliffy rock, 12m high, lies close off the SE extremity of Great Cormorandier Island.

Little Cormorandier Island, 29m high, lies about 0.2 mile NW of Great Cormorandier Island. Melier Island, a black rock with a reef extending 0.1 mile off its W side, lies about 0.4 mile SW of Pigeon Island.

Great Verdon Island and Little Verdon Island, two small islands, lie about 0.6 and 1 mile S, respectively, of Great Cormorandier Island.

Massacre Island, 4m high and bare, lies 1.5 miles NE of Cow Point. **Monk Island** (51°12'N., 55°43'W.) lies midway between Cow Point and Massacre Island.

Fischot Island (51°11'N., 55°41'W.), the largest island of the Fischot group, lies with its S extremity 1.7 miles SE of Cow Point. South Island lies about 0.2 mile S of Fischot Island. Northeast Island and Frommy Island, nearly connected, lie off the NE side of Fischot Island.

8.37 Fischot Harbor (51°11'N., 55°41'W.), used only by fishing vessels, has a settlement approached through intricate channels. Fischot Channel, the S approach to Hare Bay, is 0.5 mile wide and lies off the W side of Fischot Island. Several islands and shoals form the W side of the channel, which is encumbered with rocks.

English Island is the S, and Madame Island, the N of the islands which form the W side of Fischot Channel. Chasseurs Island lies close SSW of English Island. **Bruyantes Rock** (51°10'N., 55°43'W.), with a depth of 1.8m and on which the sea almost always breaks, lies close E of English Island. Dangerous rocky shoals extend 0.5 mile S of Bruyantes Shoal.

Mid-Channel Rock (51°10'N., 55°42'W.), with a depth of less than 1.8m, breaks in a moderate sea. There is a preferred channel, with a depth of about 25.6m in it, E of the rock, and a 13m channel W of the rock.

8.38 Hare Bay—Outer part.—The S shore of Hare Bay is fringed by islets, rocks, and shoals, and indented by several coves which afford shelter from offshore winds.

Maiden Arm (51°12'N., 55°47'W.) is entered between Port Island (51°13'N., 55°46'W.) and a point about 0.1 mile W. **Deaths Head Island** (51°13'N., 55°45'W.), at the E entrance, is steep-to on the N side. Local knowledge is necessary to enter this constricted arm. Limited anchorage has been obtained in the entrance to the S of the two bays which form the head of the arm, in a depth of 13m.

Maiden Point lies about 0.2 mile NNW of Starboard Island.

From Maiden Point to La Source Point, about 2 miles W, the coast is bordered by islets, rocks, and shoals. Duchayla Rock (51°15'N., 55°47'W.), with a depth of 1.8m, lies nearly 2 miles

NNW of Maiden Point.

Big Spring Inlet is entered between La Source Point and Johnson Point, 0.6 mile NW. Johnson Point is the NE extremity of MacGray Island. A 6.7m patch lies in the middle of the entrance to Big Spring Inlet.

Little Spring Inlet is entered between the NW extremity of MacGray Island and the coast about 0.6 mile W.

Spring Island lies 0.8 mile NNE of Johnson Point. Indre Point lies 0.3 mile NW of the W entrance point of Little Spring Inlet. Indre Shoal, rock, with a least depth of 4m, lies 0.5 mile NE of Indre Point.

8.39 Hare Bay—Outer part—North shore.—Goose Cape (51°18'N., 55°37'W.) is the S point of a barren peninsula which forms the N entrance point of Hare Bay. The peninsula is faced by rugged cliffs.

Goose Cove (51°19'N., 55°38'W.) is entered between **Loup Marin Point** (51°18'N., 55°39'W.) and Flat Point, about 0.2 mile NW. The entrance channel is intricate and requires local knowledge. **Mouse Island** (51°19'N., 55°39'W.), from which a light is shown from a red and white banded circular tower, lies in the entrance. There is a small pier at a settlement at the SE side of the cove. Anchorage can be taken near the head of the cove, in depths of 9.1 to 14.6m.

The N shore of Hare Bay, from Flat Point to Hodidou Point, about 9 miles W, consists of cliff up to 49m high. There is a settlement at **Irelands Bight** (51°21'N., 55°45'W.). From **Hodidou Point** (51°20'N., 55°53'W.) and WNW, the coast is steep-to, backed by wooded terrain. **Mount Roland** (51°20'N., 55°55'W.) is conspicuous. Ledret Shoal, with a depth of 4.6m, and on which the sea breaks heavily in an E swell, lies 0.5 mile SSW of **Roland Point** (51°20'N., 55°55'W.).

Howe Harbor (51°21'N., 55°56'W.) is entered between Roland Point and **Pointe Fendue** (51°20'N., 55°56'W.), the latter ending as a rocky islet. The shores of the harbor are thickly wooded. Mountains and prominent hills back both sides of the harbor. **Mount Mer** (51°22'N., 55°58'W.) dominates the background.

Anchorage.—Lock's Cove (51°20'N., 55°57'W.), SW of Point Fendue, has anchorage off a settlement, in a depth of 16.5m. Howe Harbor affords anchorage, in 14.6 to 21.9m, mud.

8.40 Hare Bay—Inner part.—Between Indre Point and **Goose Tickle Island** (51°16'N., 56°01'W.), about 5.5 miles WNW, the SW side of Hare Bay is indented by an inlet containing many islands and rocks, and is fronted by the Brent Islands. Southern Arm, in the E part of the inlet, leads into Ariege Bay (Bely Bay), then into Prince Edward Bay (Grand Basin). The W part of the inlet contains Goose Tickle Arm and West Brook Arm (Windy Bay). **Alma Hill** (51°11'N., 55°5'W.), 73m high, is a conspicuous eminence.

The **Brent Islands** (51°16'N., 55°57'W.) consist of two large wooded islands and several small islands. Vert Island, the largest and northwesternmost of the small islands, is conspicuous. A light is shown from a white, square tower on the S end of the N Brent Island. All the area around the Brent Islands is shoal and foul, with the shoal area extending W to Goose Tickle Island. A rock lying about 0.2 mile off the E side of the S Brent Island has a depth of 1.8m or less.

8.41 Southern Arm (51°13'N., 55°58'W.) is formed by a group of islands and rocks on its E side and by Long Island its W side. Maria Island (Nentes Island) lies 1.7 miles W of Indre Point. The arm is entered between **Demetre Island** (51°14'N., 55°56'W.) and the N end of **Long Island** (51°14'N., 55°58'W.). Bigue Island (Apron Island) lies about 0.4 mile SW of Demetre Island. **Gilliat Island** (51°13'N., 55°57'W.), one of the islands on the E side, has a conspicuous rocky cliff on its W side. Landing on the islands is difficult because of the constant swell on their outer sides and the rocky flats bordering their inner sides. Pradet Island (Shelbert Island), 24m high, has an ill-defined summit; it is the SW island of the group forming the E side of Southern Arm.

Long Island, on the W side of Southern Arm, lies with its N point about 1 mile W of Bigue Island. South Point, the S extremity of the island, lies about 0.2 mile off the mainland and is almost connected to it by numerous rock ledges and boulders. Cailloux Island, flat and grassy, lies 0.5 mile E of South Point. A light is shown from a white, square tower on the NW side of Cailloux Island (51°12'N., 56°00'W.).

Ariege Bay (51°11'N., 55°59'W.) is entered between Cailloux Island and **Hacketts Head** (51°12'N., 55°59'W.), 0.5 mile ESE. **Salmon Bay** (51°11'N., 56°00'W.), the SW part of Ariege Bay, is shoal. The bay is fronted by Devarenne Island, Paul Island, and Charles Island. The town of Main Brook, situated on the W shore of the bay, has two conspicuous white churches with steeples.

Anchorage.—Anchorage, good holding ground, can be taken, in a depth of 12.8m, with South Point bearing 318° and the NW extremity of Hacketts Head bearing 062°.

8.42 Prince Edward Bay (51°10'N., 55°58'W.), S of Ariege Bay, is indented by small bays and coves which afford good anchorage for small craft.

Drac Bay (Clay Bank Arm) (51°11'N., 55°58'W.) affords a well-sheltered anchorage for small vessels.

Burnt Point (51°10'N., 55°59'W.) is the N extremity of a peninsula on which there is a small settlement. There is an L-shaped public wharf situated 0.5 mile WNW of Burnt Point. The head of the wharf is 76m long and has a least depth of 6.7m. Vessels with a maximum length of 19.8m can be accommodated. A light is shown from the wharf.

8.43 Hare Bay—Head.—The head of Hare Bay is entered between Goose Tickle Island and **Mamelon Point** (51°20'N., 55°59'W.), 4.5 miles NNE. The shore NNW of Goose Tickle Island is low and fronted by shoals and drying flats. The head of the bay is indented by Northwest Arm and Northern Arm. A spit, with a least depth of 1.8m, extends about 0.8 mile SE from the W side of the entrance to Northwest Arm. **Hare Island** (51°21'N., 56°02'W.) is nearly joined with the promontory that separates **Northern Arm** (51°22'N., 56°02'W.) and **Northwest Arm** (51°22'N., 56°04'W.).

Anchorage.—Anchorage, with good holding ground and sheltered from the constant E swell, can be taken, in a depth of 13m, about 0.8 mile NE of Goose Tickle Island.

Anchorage can be taken in Northern Arm, in a depth of 15.5m.

Northwest Arm is open SE, but affords anchorage from off-shore winds, in depths of 9 to 15m.

Hare Bay to St. Anthony Harbor

8.44 The coast from **Goose Cape** (51°18'N., 55°37'W.) to Cape Bauld has many indentations, some forming good harbors, which includes St. Lunaire Bay, about 9 miles S of Cape Bauld. The summit of the White Hills back the region. The Three Mountains, rising 1.75 miles NNW of Goose Cape, form an excellent landmark.

Lobster Point (51°18'N., 55°36'W.) is the low E extremity of the Goose Cape Peninsula. Notre Dame Island, flat, lies 0.2 mile N of the point. Three Mountain Harbor (51°19'N., 55°37'W.), 0.5 mile W of the island, is suitable only for small craft.

Notre Dame Shoal, a rock with a least depth of 3.7m, lies about 0.2 mile N of Notre Dame Island.

Cape Haut-et-Bas, located about 1.2 mile NNW of Lobster Point, is faced by high black cliffs. Whale Grotto, a deep recess in the cliffs, lies nearly 0.3 mile N of it.

Cremaillere Harbor (51°20'N., 53°37'W.) is entered between **Cape Haut-et-Bas** (51°19'N., 55°36'W.) and **Savage Point** (51°20'N., 55°35'W.). Southeast winds raise a heavy sea in the harbor, and NW winds cause violent squalls under the low cape. Anchorage can be taken, in a depth of 18.3m, mud and sand, in the harbor. The coast NE of Savage Point is steep and consists of barren cliffs.

Wolf Point (51°21'N., 55°34'W.) lies just over 1 mile NE of Savage Point. The Pig, which dries 0.6m, lies close off Wolf Point.

8.45 **Anthony Bight** (51°23'N., 55°34'W.) is entered between **Fishing Point** (Fox Point) (51°21'N., 55°33'W.) and **Cape St. Anthony** (51°21'N., 55°31'W.).

Fishing Point is low in contrast to St. Anthony Hill, which is high and faced by a black cliff. A television tower, 225m high and marked by red obstruction lights, is conspicuous on the hill. A microwave tower, 174m high and marked by a red obstruction light, is prominent on a hill about 1 mile SW of Fishing Point. A light is shown and a fog signal is sounded from Fishing Point. Another light is shown from a tower close W of **Moore's Point** (51°22'N., 55°34'W.). A disused radar installation is prominent on a high bluff about 0.3 mile WSW of Fishing Point Light. There is a conspicuous waterfall in the NW extremity of the bight.

Winds—Weather.—East and SE winds usually cause dense fog in St. Anthony Bight. Prevailing winds from May through September are W.

Ice.—Ice usually forms a barrier extending about 5 miles seaward from the bight until mid-June. The bight itself is filled with pack ice until June. The movement of ice into the bay, with SE winds and flood tides, presents a constant hazard to vessels at anchor. After July, no difficulty should be encountered.

Tides—Currents.—Off St. Anthony Bight, the flood current sets NE and the ebb sets SW. The Labrador Current, setting S, may increase or decrease the velocity of the tidal currents, depending on the ebb and flood currents, respectively.

8.46 **St. Anthony Harbor** (51°22'N., 55°35'W.) is entered between **Moore's Point** and **Partridge Point** (51°22'N., 55°34'W.), about 0.3 mile NNW. The entrance fairway is con-



Fishing Point Light

stricted by Harbor Rock, which dries 0.9m and lies 0.5 mile SW of Partridge Point.

Harbor Rock Light (51°21'N., 54°34'W.) is shown from a white and green tower. St. Anthony Harbor Lighted Buoy KA2 lies about 0.1 mile NE of Harbor Rock Light.

Ice.—The harbor may be filled with pack ice to mid-June, but it may be possible to enter the harbor about May 15 with the assistance of an icebreaker. Ice arrives in November.

Depths—Limitations.—Municipal Wharf, 0.1 mile W of Harbor Rock, is 32m long and has a depth alongside of 5.5m. A wharf and fish plant lie on the N shore about 0.2 mile NNW of Harbor Rock. The N face of the wharf, 79m long, has depths of 3.9 to 6m alongside. The S face is 52m long, with depths of 3.7 to 4.9m alongside.

A public wharf, 600m long, with depths of 3.9 to 7.4m alongside, extends in a NW direction from the previously-mentioned fish plant and wharf to a point close SE of Marguerite Point. A shoal, extending about 70m off the wharf, with a least depth of 4.2m, is located about 220m SE of the NW end of the wharf.

An irregularly-shaped public wharf is situated almost due N of Harbor Rock, about 0.15 mile SE of the fish plant wharf. This wharf has a deck elevation of 1.5m and a least depth of 1.2m alongside the outer face.

At the site of the former Grenfell Wharf, about 0.3 mile SW of Marguerite Point, is a floating wharf 15m long and 2.8m wide, and a 3.6m wide boat ramp. Remains of the marine railway located close SE of the wharf are reported to still exist.

An L-shaped public wharf, 147m long and 62m wide at the face, is situated 0.37 mile WNW of Harbor Rock. This wharf



St. Anthony Harbor

has a least depth of 5.7 m alongside the outer face and a deck elevation of 1.5m.

Close E of the public wharf, Penney's Wharf extends 21m from the shore, with a depth of 3.8m alongside a 60m long outer face.

The Municipal Wharf, 32m wide at the face, with depths of 2.6 to 4.9 m alongside, has a deck elevation of 2.7m. The wharf extends in a NE direction from the shore about 0.1 mile W of Harbor Rock. A seaplane wharf is located close SE of the wharf.

Murrays Wharf, situated near Marguerite Point, is abandoned and considered unsafe to use.

Aspect.—The hospital and nearby orphanage, as well as two radio masts SW of the hospital, are all conspicuous. On the NE shore of the harbor, near Marguerite Point, the SE entrance point of Marguerite Bay, is an abandoned wharf and fish plant. About 0.4 mile NNW of the same point is a large water tank on a hill 40m high.

Regulations.—A Canadian Coast Guard Lifeboat, the CCG Pennant Bay (call sign: CGA2542) is stationed adjacent to the previously-described L-shaped public wharf at St. Anthony. The station operates 24 hours from May to December and maintains a daily radio watch from 0830 to 1630 on VHF channels 16 and 51. Contact can be made through MRSC St. John's (telephone: 709-772-5151 or 1-800-563-2444), via the nearest coastal radio station, or by any other available means.

Anchorage.—The best anchorage in St. Anthony Bight is about 0.2 mile off the E shore, with the village church bearing about 062°. Good anchorage, in 11 to 15.5m, mud, can be taken in St. Anthony Harbor.

St. Anthony Harbor to Cape Bauld

8.47 French Bay (51°23'N., 55°30'W.) is small, deep, and clear of dangers, but shoals suddenly near its head. French Point (Crow Head) is the E entrance point of the bay. Two

breakwaters, which dry at their outer end, extend S from the settlement of St. Carols.

Brehat Point (51°25'N., 55°29'W.) is the S entrance point of Great Brehat Bay, locally known as Needles Cove. Brehat Shoal, with a least depth of 4m, lies nearly 2 miles ENE of the point. The sea breaks heavily on this shoal with NE winds, and it is generally marked by ripples.

A cove at the head of the bay affords sheltered anchorage to small vessels, in a depth of 5m, good holding ground. Foundling Rock, on which the sea always breaks, and Needles Rocks, oddly-shaped and conspicuous, lie as far as 1 mile NNE of Brehat Point.

8.48 St. Lunaire Bay (51°30'N., 55°28'W.) is entered between **Granchain Point** (51°29'N., 55°28'W.) and White Dog Point, steep-to and conspicuous about 0.5 mile NNE of Granchain Point. St. Lunaire Bay forms one of the best harbors in Newfoundland, though the squalls during NW gales are heavy. The bay entrance is identified by **St. Lunaire Peak** (51°28'N., 55°30'W.) and **White Cape** (51°31'N., 55°26'W.), a rugged white cliff rising to a grass-covered mount. There is a conspicuous peak about 0.3 mile N of White Dog Point. West gales are stronger in the bay than in adjacent harbors, but a lull occurs at night.

Tides—Currents.—St. Lunaire Bay freezes over in late November or early December, with the ice clearing some time in May. Tidal currents are very weak in the bay; outside the flood currents sets N, the ebb S along the coast, but they are irregular.

Depths—Limitations.—There are least depths of 32.9m in the bay entrance fairway and 11m within the bay. Foul ground extending N from Granchain Island reduces the width of the channel to less than 0.75 mile.

Vanguard Shoal, with a depth of 3.7m, lies in the bay entrance. Salut Island, conical and conspicuous, lies about 0.5 mile NW of Granchain Island. Flat Rock, above-water, lies 90m N of **Salut Island** (51°30'N., 55°29'W.).

St. Lunaire Road is entered between Flat Rock and Nymph Point, about 0.5 mile WSW. Middle Bank, with a least depth of 3.2m, lies in the middle of the entrance to the road.

Anchorage.—Anchorage, good holding ground, can be taken, in depths of 32.9 to 36.6m, in the road.

8.49 Southwest Bay, the inlet at the S end of the road, is entered through a passage 122m wide. Anchorage can be taken, in a depth of 23.8m, off the entrance to the bay; small vessels can anchor within the bay, in depths of 11 to 14.6m.

Northwest Bay, entered NW of Nymph Point, affords good anchorage, in depths of 11 to 38.4m.

The conspicuous peak N of White Dog Point, in line with the N extremity of Elizabeth Island, located 0.75 mile NE of Nymph Island, bearing 085°, leads S of numerous dangers on the N side of the entrance to Northwest Bay.

8.50 Griquet Harbor (51°33'N., 55°27'W.) is entered between the NE extremity of **Camel Island** (51°32'N., 55°26'W.) and Broize Point, 0.4 mile NE. A bridge connects the S end of

Camel Island with the mainland. A settlement is situated on the shores of the narrow channel separating the W side of Camel Island from the mainland.

Griquet Harbor is usually frozen over about the middle of December and clears about March 20. It is usually the first harbor open on the E side of the N peninsula of Newfoundland.

A public pier, with a depths of 2.7 to 5.5m alongside, is situated on the island near the S end of the channel.

North Bay is entered between Broize Point and Cove Point, about 0.5 mile W. An above-water rock lies on a reef in the middle of the entrance. A light is shown from a square tower on the S end of a reef extending from **Cove Point** (51°33'N., 55°27'W.). North Bay affords good anchorage, in depths of 27.4 to 29.3m, but SE winds occasionally cause a swell.

Good Cove, entered between Cove Point and Bay Point, 0.75 mile W, affords good anchorage for small vessels, in a depth of 20.1m, sand.

Northwest Bay is entered between Bay Point and the shore about 0.3 mile W. Anchorage can be taken, in 18.3 to 32.9m, in the bay.

Southwest Bay is entered between the NW extremity of Camel Island and the shore about 0.8 mile W. It affords temporary anchorage for small vessels, in a depth of 16.5m.

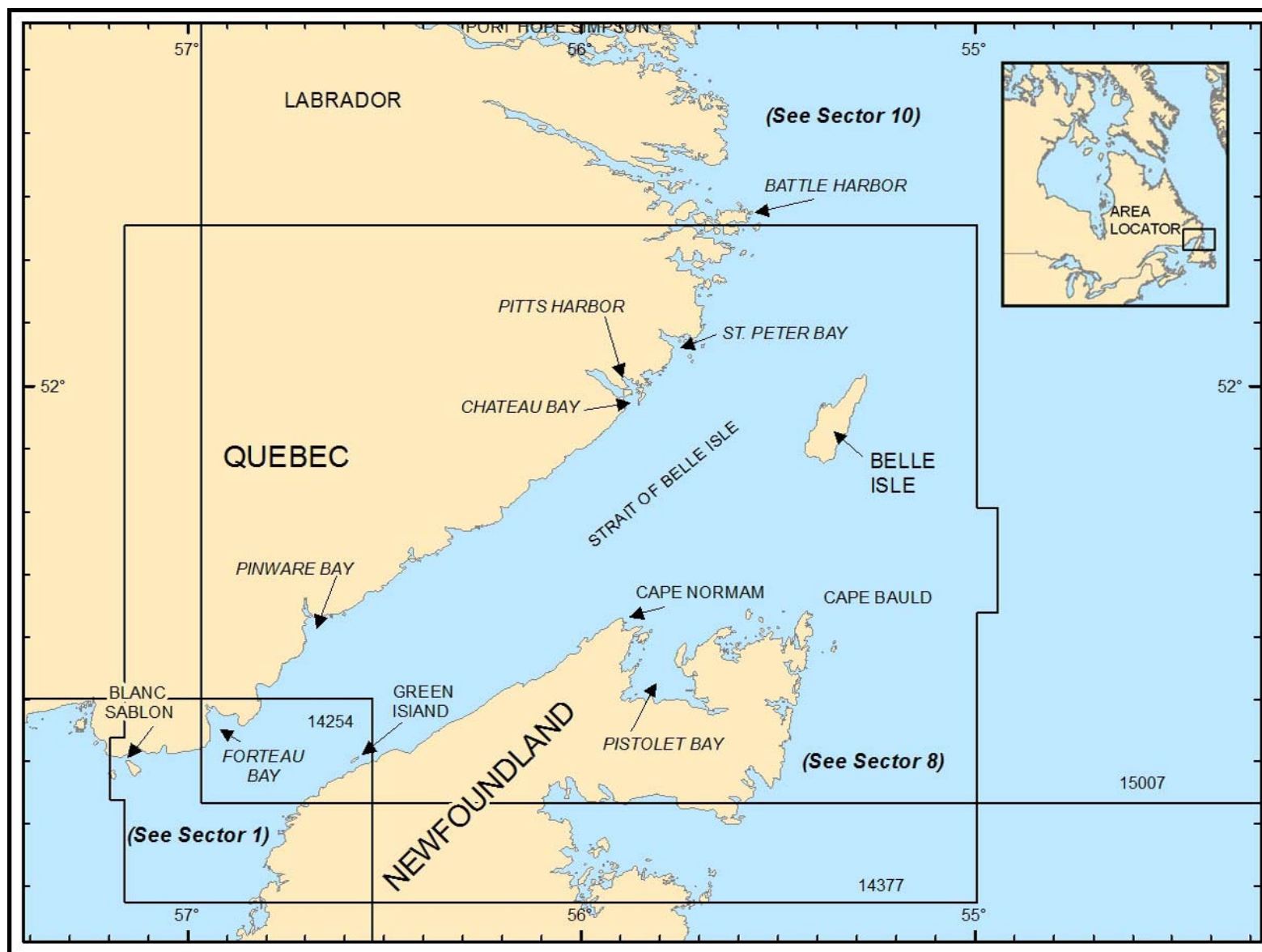
8.51 Partridge Point (51°35'N., 55°25'W.), 2.5 miles NNE of Broize Point, is the NE extremity of Newfoundland. The coast between Broize Point and Partridge Point is fronted by islets, rocks, and foul ground extending at least 0.15 mile offshore.

The **White Islands** (51°35'N., 55°20'W.) consist of three principal islands and rocks which lie off the coast about 2.5 miles E of Partridge Point. White Rocks lie about 1 mile W of the S extremity of the largest White Island. Above and below-water rocks lie as far as 0.4 mile SE of the southernmost White Rock.

Quirpon Island (51°37'N., 55°25'W.) is separated from the NE extremity of Newfoundland by a channel 91m wide. **Cape Bauld** (51° 39'N., 55°25'W.), at the N end of the island, is the N extremity of Newfoundland and is described in paragraph 9.2. Cape Degrat, about midway along the E side of the island, rises to a hill, 153m high. The cape is faced by a steep, 91m high cliff, which is steep-to. South of the cape is a conspicuous light-colored landslide.

Little Quirpon Harbor (51°35'N., 55°26'W.) is formed between the mainland W of Partridge Point and the SE end of Quirpon Island. Holding ground in the harbor is poor. Vessels with a draft less than 2.4m can enter the harbor with local knowledge. Butterpot Rock, generally covered, lies in mid-channel S of Quirpon Island, and an overhead power cable, with a vertical clearance of 21m, crosses the channel near the S end of the island. Local knowledge is recommended.

The coast between Cape Degrat and **Split Point** (51°38'N., 55°24'W.) forms a bay divided by islets and points into several coves, some of which give shelter and mooring to small fishing vessels.



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

SECTOR 9 — CHART INFORMATION

SECTOR 9

THE STRAIT OF BELLE ISLE

Plan.—This sector describes Belle Isle and the Strait of Belle Isle, with its adjacent coasts of Labrador and Newfoundland.

General Remarks

9.1 The Strait of Belle Isle, which lies between the NW coast of the island of Newfoundland and the SE coast of Labrador, forms the N entrance to the Gulf of St. Lawrence from the Atlantic Ocean. The Strait of Belle Isle is about 78 miles in length from the N end of Belle Isle to a position abreast **Greenly Island** (51°22'N., 57°11'W.), and 9.25 miles wide at its narrowest point near **Pointe Amour** (51°27'N., 56°52'W.).

For the purposes of this sector, the N limit of the strait is deemed to be a line joining the **Camp Islands** (52°10'N., 55°39'W.), the N extremity of Belle Isle, and **Cape Bauld** (51°39'N., 55°25'W.), at the N tip of the island of Newfoundland. The S limit lies between Greenly Island and Nameless Point, 17 miles ESE.

Winds—Weather.—During the summer, dense fogs prevail over the Strait of Belle Isle and sometimes last for several days at a time. Thick fogs are equally prevalent with the wind in either direction. With SW winds the fog commences SW and rolls gradually along the Labrador side, frequently extending only a short distance from the coast.

With NE winds the fog is more general on both sides of the strait, but the Newfoundland side almost invariably clears first. These fogs cling closely to the water and the shore, and from a vessel's masthead the summits of the Labrador hills sometimes, though rarely, can be seen.

Fog increases rapidly in frequency in June over the Strait of Belle Isle and its E approaches, to a maximum in July of over 30 per cent of all observations in the strait. The Belle Isle route is difficult at this season. An improvement takes place in August (18 to 21 per cent), which continues through autumn. At no time, however, does the fog risk fall below 5 per cent. There is a marked diurnal variation in frequency of thick weather. In the Strait of Belle Isle, poor conditions are most frequent in the time of early morning and least frequent between 1400 and 1800.

Ice.—In the Strait of Belle Isle, studies of water motion have revealed back and forth tidal currents on which a dominant flow is superimposed so that for a time the inflow is greater than the outflow, and after an indefinite period the reverse situation develops. The controlling factor is the relative atmospheric pressure to the N and S of the strait. Ice floes respond to these horizontal water movements with the added effects of wind drift and other floes. Consequently, the motion of ice into and out of the strait is quite variable. An examination of monthly mean pressure charts reveals that significant periods of NE wind are very rare in the early winter. Ice drifts into the Gulf of St. Lawrence only occur sporadically in most winters.

Locally formed ice develops in the Strait of Belle Isle in the late December and passage of ocean-going ships is often feasi-

ble until about mid-January. After this date, the thickness and extent of the pack in the strait and off the Labrador coast usually makes such passages uneconomic because of the extra time required. During the winter, the pack builds E and may extend as much as 200 miles from Belle Isle by mid-March. Its extent is determined by the onshore or offshore wind component and, as a result, the pack is relatively open with shore leads when it is broadest, and very close and difficult to penetrate when it is narrow.

Early in the winter, the ice in the E approaches to the strait is all of local formation, but wind and current result in a steady S ice drift down the Labrador coast. As a result, the ice present off Belle Isle in March may have originated in the Davis Strait area in November and is thicker than would normally be expected.

The retreat of the pack in spring is very dependent on the wind regime and easy navigation through the strait can begin in early May or be delayed by ice congestion until late June. No escort service has been provided in the area, although, aerial ice reconnaissance does provide information as to when use of the route becomes feasible.

Generally, the bergs that are sighted are small and enter the strait mainly under the combined pressure of strong E winds or icefields. They enter between **Battle Harbor** and Belle Isle, make a deep circuit into the strait, and pass out again between Belle Isle and Cape Bauld.

Icebergs do not arrive in any great number until after the first of April, but from that time until September (or even October), they are numerous and sometimes very large. June and July are the worst months, but many bergs in recent years have been sighted in the strait during the winter months. Any iceberg drawing more than 55m can not reach the S end of the strait without breaking up.

Tides—Currents.—The movement of the water in the Strait of Belle Isle is predominately tidal, but it is also complicated by a frequent tendency to greater flow in one direction than the other. This complication, called "dominant flow," may be in either direction for several days in succession or possibly for a week or more, and at times when the tidal current are weak, it may be sufficiently strong to prevent the tidal current from turning at all.

Current observations made simultaneously on opposite sides of the Strait of Belle Isle showed a dominant flow, as follows:

1. On the N side, the total drift in the double tidal period was about 6 miles E and about 15.2 miles W. Thus, there was a residual W set of about 9 miles per day on the N side of the strait.
2. On the S side, the total drift in the double tidal period was about 15 miles E and about 7 miles W. Thus, there was a residual E set of about 8 miles per day on the S side of the strait.

When uninfluenced by dominant flow, the W tidal current runs until 1 hour 41 minutes after HW at Forteau Bay; then it changes to E, and runs with equal strength for a nearly equal

period. The currents turn regularly in accordance with the rise and fall of the tide.

Because of the very frequent existence of dominant flow to a greater or lesser extent, it is impossible to predict with accuracy the direction of currents in the strait. Practical indications of direction may be drawn from the presence or absence of floating icebergs in the strait, since there are always icebergs in the offing. If a S current exists, the icebergs will make their way into the strait. If, however, a NE current exists, the strait will be free of icebergs which are afloat.

The only definite time relation of practical value between the tide and the current, which can be deduced, is the time of maximum strength in each direction which averages 1 hour 26 minutes after half tide at Forteau Bay, and shows when a vessel would meet with the greatest or least amount of help or hindrance.

The highest actual current velocities ever observed in the strait were W at 3.5 knots during a flood period and E at 2.5 knots during an ebb period.

The effect of the wind in the Strait of Belle Isle in raising a sea quickly is very noticeable, but any direct effect upon the movement of the water is remarkably slight in a strait so open at both ends.

Aspect.—Belle Isle, which rises in bare hills to an elevation of 152 to 213m high near its center, lies in the middle of the E entrance of the Strait of Belle Isle. Belle Isle is separated from the Labrador coast by a channel 13 miles wide and from Cape Bauld by a channel 14 miles wide. Both channels are navigable.



Belle Island Light

The Labrador Coast is steep and formed of granite rising to flat-topped ridges and summits 305 to 396m high. Between York Point and **Longue Point** (51°25'N., 57°12'W.), however, sandstone covers the granite formations. The Newfoundland coast is much lower.

The coast between **Cape Norman** (51°38'N., 55°54'W.) and Flowers Island is low and featureless; it is backed by a wooden ridge, about 31m high, upon which are numerous huts and fish-

ing sheds. There are no marks of any kind on this section of the coast suitable for fixing a position. Between Cape Bauld and Cape Norman, the Newfoundland coast is 31 to 152m high.

Traffic Separation Scheme.—For vessels transiting the Strait of Belle Isle, there is a Traffic Separation Scheme in use. This scheme is mandatory and applies to vessels 20m in registered length or more. Mariners are warned that fishing vessels may be encountered proceeding in any direction in or near the traffic lanes and separation zones. The scheme is not IMO-adapted (1995), but the Canadian authorities advise that the principles for the use of routing systems defined in Rule 10 of "The International Regulations for Preventing Collisions at Sea" apply.

Vessel Traffic Service Zone.—The Canadian Coast Guard has established a voluntary Vessel Traffic Service Zone in the Strait of Belle Isle. Vessels are required to comply with the Vessel Traffic Service Zone Regulations. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean, North Sea, Baltic Sea, and the Mediterranean Sea for further information. The World Traffic Separation Scheme Guide can be accessed on the web at: www.worldvtsguide.org and has been updated to include all 18 of the Canadian VTS entries. The world VTS Guide has been designed to give navigators clear and concise diagrammatic and written information regarding the navigational requirements of the VTS centers of the world.

Vessels are requested to participate in the system by calling "Belle Isle Traffic" on VHF channel 14 when initially in the vicinity of each Reporting Point. The boundary of the Vessel Traffic Service Zone and the locations of the Reporting Points can best be seen on the chart.

Fishing vessels are encouraged to maintain a listening watch or contact "Belle Isle Traffic" to obtain up-to-date information on vessels reported transiting the Belle Isle Vessel Traffic Service Zone.

Caution.—A bank about 15 miles long, with depths of less than 200m, lies about 30 miles ENE of Belle Isle; there is a least depth of 137m on this bank. This bank provides an additional navigational check when approaching the strait in foggy weather. West and SW of this bank, the depths increase again to over 200m before reaching the 200m curve, which lies some 6 to 8 miles east of Belle Isle.

Tooker Bank (51°43'N., 54°59'W.), about 17 miles ENE of Cape Bauld, consists of a series of small banks, the summits of a very uneven ridge. A least charted depth of 10.1m lies near the SE edge of the ridge. Deep-draft vessels should give this patch a wide berth, as it has been reported to break in very heavy seas.

Maudit Bank, 5 miles WNW of Cape Bauld, has a least depth of 13.1m, and the sea breaks over it in heavy weather. Fairway Bank, 0.6 miles NW of Maudit Bank, has a least depth of 29m. In the middle of the south part of the strait, Centre Bank has depths of 40 to 55m.

A local magnetic anomaly has been reported to exist between the SW end of Centre Bank and Cape Norman. A deflection of as much as 3°E has been noted.

With the exception of the above banks and some shoals at the NE end of the strait within 3 miles of the Labrador coast and others close inshore at the SW end of the Newfoundland side, the fairway through the strait is clear of dangers.



Cape Bauld Light

The Strait of Belle Isle and Eastern Approaches

9.2 Cape Bauld (51°39'N., 55°25'W.), the N point of Quirpon Island, is the N extremity of the Island of Newfoundland. Cape Bauld is steep, rocky, and barren, and forms an entrance point for the Strait of Belle Isle. A light is shown from Cape Bauld.

Strong, variable, and eddy tidal currents round Cape Bauld. The tidal currents are W from about 3 hours 30 minutes before to 2 hours 45 minutes after high tide at **Argentia** (47°18'N., 53°39'W.). For the rest of the time they are E. Currents set up by the wind modify these currents considerably.

Belle Isle, which lies in the NE entrance to the Strait of Belle Isle, consists of rocky hills bare of trees. The coastline of Belle Isle is generally steep, with deep water all around the island. On the W and S sides of the island there are numerous places where landing in small boats is possible in calm weather. The E side of the island affords no anchorage. From June to mid-September, the island is frequented by fishermen.

Northeast Point is the N extremity of Belle Isle. A light is shown from Northeast Point.

Anchorage.—Lark Harbor, sheltered by Lark Island, which lies close off the W side of Belle Isle, has depths of 25.6 and 32.9m. The holding ground is only fair and the anchorage is exposed to E winds.

Northeast Ledge, comprising two small rocks, lies 1.2 miles NNE of Northeast Point; the intervening channel is deep.

Black Joke Cove lies on the W side of Northeast Point; it is formed by two low points. The cove provides shelter for two small vessels moored head and stern; local knowledge is required. In heavy E gales, the sea breaks across the reef and renders the cove unsafe.

Wreck Cove (51°58'N., 55°22'W.), on the W coast, is not used for shelter as it is exposed to the N and NW, and also because its inner part is encumbered with above and below-water rocks.

Lark Island, about 37m high, lies about 0.8 mile W of Wreck Cove. A rocky ledge, with a height of 6.1m, extends for about 0.4 mile SW from the island.

Anchorage.—Lark Harbor, lying between Lark Island and Belle Isle, provides shelter for small vessels from June to mid-September. There are depths of 25.6 to 32.9m in its central part. The holding ground is only fair and the anchorage is exposed to E winds.

9.3 Green Cove, entered about 2 miles S of Lark Island, affords fair anchorage and shelter during E winds. There are depths of 31m, sand, between the entrance points, decreasing gradually to the shore.

Wreck Cove (51°58'N., 55°22'W.), on the W coast, has comparatively deep water, but is not used for shelter as it is exposed to the N and NW, and also because its inner part is encumbered with rocks, above and below-water.

Black Joke Cove (52°01'N., 55°17'W.), Lark Harbor, and

Green Cove are not considered safe in the early part of spring or late part of autumn because of the heavy NE swells which roll into them.

Roundhead Rock (51°54'N., 55°26'W.), with a least depth of 4.3m, lies about 0.4 mile off the SW coast of Belle Isle. A depth of 12.8m lies about 0.4 mile W of the SW end of Roundhead Rock.

Range lights, 0.2 mile apart, are shown from South Point, the S point of the island. The lights are in line bearing 028°.

Lighthouse Cove, located 0.7 mile NW of South Point, is used for landing supplies.

The Strait of Belle Isle—Labrador Side—The Camp Islands to Chateau Bay

9.4 The coast of Labrador from the **Camp Islands** (52°10'N., 55°39'W.), the N entrance point of the NE entrance to the Strait of Belle Isle, trends SW for about 15 miles to **York Point** (51°58'N., 55°52'W.). This section of the coast consists of bare, granite hills, which with few exceptions do not exceed an elevation of 213m, but they appear much higher because of their steepness. Several large inlets, with steep-to shores and considerable depth, indent this stretch of the coast. When navigating this coast, caution is necessary, not because of islands and dangers, but due to the frequent fogs, the heavy E swell from the Atlantic, and icebergs which frequently drift into the strait with the current.

The NW coast of the Strait of Belle Isle, between York Point and **Greenly Island** (51°22'N., 57°11'W.), located about 3.5 miles SW of the Quebec-Newfoundland boundary, is steep and formed of granite covered with limestone, rising to flat-topped ridges and summits 305 to 396m.

Tides—Currents.—The Labrador Current sets S at 0.35 knot past the NE entrance of the Strait of Belle Isle and is influenced by the tidal inflow and outflow of the strait.

An inshore current is frequently experienced towards the coast SW of York Point. Off **Pointe Amour** (51°27'N., 56°52'W.) and Forteau Point, 4 miles SW, the currents are very irregular and occasionally reach a rate of 4 to 5 knots.

9.5 The **Camp Islands** (52°10'N., 55°39'W.) are a group of three granite islands and two rocks forming the SE entrance point of Niger Sound. There are several islands and shoals SW of the Camp Islands. Camp Island Light is shown from the E side of the islands.

Carroll Cove (52°10'N., 55°42'W.) is located along the mainland at the SW entrance of Chimney Tickle.

Table Head (52°05'N., 55°43'W.), about 5.5 miles SSW of the Camp Islands' SE extremity, is a remarkably isolated headland formed of basaltic columns upon sandstone, flat on top and precipitous.

Eastern Island, the largest of the Peterel Islands, lies about 1 mile SSE of Table Head. The St. Peter Islands lie about 1.5 miles SW of Eastern Island. These islands are black in color with steep cliffs; the rocks and shoals in their vicinity can best be seen on the chart. Allen Shoal, with a depth of 10.9m, on which the sea breaks in heavy weather, lies nearly 1.5 miles E of Eastern Island.

St. Peter Head, 107m high and the S entrance point to St. Peter Bay, is located nearly 2.5 miles W of Eastern Island. Local

knowledge is required to enter St. Peter Bay, which provides only fair anchorage, in a depth of 46m, sand, about 0.7 mile from the head of the bay.

Chateau Bay

9.6 Chateau Point (51°58'N., 55°51'W.), the S extremity of Castle Island, lies nearly 6.5 miles SSW of St. Peter Head. Chateau Bay is entered between Chateau Point and **York Point** (51°58'N., 55°54'W.), nearly 1.4 miles WSW. **Castle Island**, which forms the E side of Chateau Bay, has a conspicuous flat-topped basaltic cap near its N end, which rises almost vertically to 60m. A light is shown from Chateau Point.

Ice.—Chateau Bay generally freezes about the last week of December, and opens about the first week in July.

Tides—Currents.—The MHW interval at Chateau is 7 hours 30 minutes. The mean range is 0.7m; the spring range is 0.9m.

Caution.—The S extremity of Chateau Point is steep-to on its W side, but a shoal extends nearly 0.1 mile S from it. A shoal patch lies about 0.2 mile SSE of York Point; a rocky shoal patch lies 0.3 mile NE of York Point. **Halfway Rock**, with a depth of 5m, lies about 0.3 mile offshore, in a position about 0.7 mile N of York Point.

9.7 Inner islands of Chateau Bay.—Henley Island lies close NW of the NW end of Castle Island. Black Point is the W extremity of Henley Island. Stage Island, lying close off the SW side of Henley Island, is low and small, and has an 11m hill near its E extremity. Whale Island, with an elevation of 102m, lies at the entrance of Temple Bay.

Temple Bay, entered through Milners Tickle, extends about 3.5 miles in a NW direction and is very deep. Its shores rise steeply from the water, except at its head, where there is a flat of sand and boulders. Milners Tickle separates Whale Island from **Pitts Point** (52°00'N., 55°53'W.) on the mainland and connects Temple Bay with Pitts Harbor and Antelope Harbor. It has a width of about 0.1 mile and a least depth of 7m in mid-channel. To the S of Whale Island, Temple Pass connects Temple Bay to Chateau Bay; the pass lies between two hills and has a width of less than 0.1 mile. The channel has a minimum depth of 5.4m; the bottom is rocky with boulders.

9.8 Harbors within Chateau Bay.—Henley Harbor, which lies between Henley Island and Stage Island, is suitable only for small craft. The town was abandoned in 1995. It is frequented by fishermen, who remain during summer months only for the fishing season.

A swell rolls into the harbor with strong S winds, otherwise, it is reported to be sheltered from all directions.

Antelope Harbor, is entered between Black Point and Grenville Point, 3m high, located about 0.4 mile to the N. Black Rock, 0.6m high, steep-to, and a good mark, lies about 90m W of Black Point.

Strong tidal currents, with rates of 3 to 4 knots, are experienced in the harbor.

Anchorage.—Small vessels can anchor, in about 27.4m, mud, with Grenville Point bearing 310°, distance 0.2 mile.

9.9 Pitts Harbor, entered between Pitts Point and the



Henley Harbor

stony spit extending SW from Barrier Point, is sheltered and provides the best anchorage in Chateau Bay. A good anchorage is available, in 25.6m, mud, with Pitts Point bearing 180°, distant about 0.5 mile.

The Strait of Belle Isle—Labrador Side—Chateau Bay to Forteau Bay

9.10 Man of War Rock, which dries 1.2m, lies about 0.1 mile off the coast, about 4.5 miles SW of York Point. From York Point the straight bold coast trends SW for about 10 miles to **Wreck Point** (51°51'N., 56°06'W.). A rock, which dries 0.9m, lies about 0.1 mile off the point.

Bay Shoal, with a least depth of 9.8m, rock, lies about 2.5 miles S of Wreck Point. There is a heavy swell on this shoal during E gales, and frequently many ripples. The bottom is occasionally visible at the shallowest part of this patch.

Barge Bay is entered to the N of Barge Point, which is low and lies about 5.5 miles SW of Wreck Point. The bay has a wa-

terfall and a small village at its head. Temporary shelter for small vessels from W winds is available in the bay; local knowledge is required.

Black Bay is entered between East Point, located 4 miles WSW of Barge Point, and a 0.9m high islet located close off a point, about 1 mile SW. A cairn surmounts the 76m hill to the W of the S entrance point of the bay. A conspicuous boulder is a good mark, about 0.7 mile NW of East Point. At the end of the bay, boulders and shallow water front a river mouth. The bay affords temporary anchorage during the summer months for small vessels. An anchorage is available, in 21.9 to 25.6m, but the bottom is sand and the holding ground is not good.

Gull Island, 6.1m high, rocky, and covered with moss, lies about 0.3 mile off the coast, 3 miles SW of East Point. Capstan Cove Point, located 0.7 mile W of Gull Island, is barren and composed of red granite fronted by a few above-water rocks. West Point is located about 2.3 miles SW of Capstan Cove Point. Thistle Rock, over which there is a least depth of 0.9m, lies a little more than 0.5 mile S of Capstan Cove Point; the

rock does not show when the sea is smooth, but is marked by a buoy.

9.11 Belles Amours Shoal, with a depth of 12.6m, lies about 1.2 miles to the S of Western Point. The Louse, with a least depth of 9.2m, lies about 0.4 mile SE of West Point. A depth of 14.6m lies about 0.4 mile SW of The Louse.

Red Bay is entered between the W extremity of **Saddle Island** (51°44'N., 56°26'W.) and the mainland to the W. The W side of the entrance rises steeply from the shore and, in places, is composed of red granite cliffs. Tracey Hill, with an elevation of 151m, dominates this side of the entrance. The E side of the bay rises in a series of hills, varying in elevation between 18.3 to 62.5m.

Red Bay Light is shown from a red tower situated on the hill at the W end of Saddle Island. A fog signal is sounded nearby.

Saddle Island, which provides shelter to Red Bay from the S, is connected with the mainland at its E end by a shoal flat. An overhead power cable, with a vertical clearance of 5.2m, runs from the N shore of Saddle Island NE to the mainland.

9.12 The Harbour, located close N of Saddle Island, has depths of 11 to 18.3m in its central part. The entrance channel has depths of 18.3 to 25.6m in mid-channel. The Basin, with general depths of 20 to 33m, lies to the N of The Harbour. Moore Point, with Penney Island close off it, lies on the W side of the short passage connecting The Harbour and The Basin. The settlement of Red Bay is situated principally on the NE side of The Harbour.

An L-shaped government wharf, with an alongside depth of 5.6m, is located at Red Bay, opposite Penney Island. A light is shown from the wharf.

Ice.—The Basin of Red Bay freezes over about the end of November while The Harbor freezes over about the middle of December; both remain frozen until the middle or end of May. Field ice remains until the middle or end of June and icebergs may always be encountered.

Tides—Currents.—The MHW interval at Red Bay is 8 hours 41 minutes. The mean range is 0.8m; the spring range is 1m.

Directions.—Red Bay is easy to access, but the entrance channel for large vessels into The Harbor is only 0.1 mile wide, and that into The Basin only 90m wide. Approaching from the E, steer for the entrance passing S of Thistle Rock and Scab Rock, about 0.2 mile S of the E end of Saddle Island.

From Western Point, the coast continues SW for 3 miles to Carrol Point, which rises to an elevation of 20m.

Caution.—There is a magnetic disturbance in the vicinity of Saddle Island; with an observed variation of 18°52'W on the summit of the island. The variation on the summit of Penney Island was 33°55'W.

9.13 Carrol Cove, located close N of Carrol Point, affords occasional shelter for small vessels; local knowledge is required.

From Carrol Point the coast, backed by elevations of 45 to 97m, trends SW for 4 miles to Nelly Island, a low and bare island located 0.3 mile off the coast.

Lily Island, the NE entrance point of Pinware Bay, lies 1 mile W of Nelly Island. On Lily Island, 9.1m high, there are

some houses and a flagstaff.

Caution.—Soldier Rock, located 0.5 mile SE of Lily Island, comprises two rocks, awash, and a third shoal head covered with 5.5m of water. The Bank, with a least depth of 11m, lies in the entrance to Pinware Bay, about 1 mile S of Lily Island.

9.14 Pinware Bay, entered between Lily Island and St. Modeste Island, about 3.3 miles SW, affords a tolerably safe anchorage in summer though open to SE winds. The bay extends about 1.5 miles NW and is generally deep to within 0.35 mile of its head, where it suddenly shoals. The Pinware River, which has a depth of about 2.4m for 1 mile within the mouth, enters the head of the bay over a shifting bar. A low telegraph wire crosses the entrance of the Pinware River.

St. Modeste Island, 4.6m high and the SW entrance point of the bay, is small and bare. The Tickle is a narrow channel, 90m wide, separating St. Modeste Island from the mainland; it has a least depth of 6.4m in mid-channel. **Ship Head**, 1.5 miles N of St. Modeste Island, is a conspicuous rocky peninsula. An overhead power cable, with a vertical clearance of 6.7m, crosses The Tickle from the S part of St. Modeste Island to the mainland. The settlement of West St. Modeste is situated on the mainland side of The Tickle.

St. Modeste Light is shown from a white tower situated on the N end of the island. A fog signal is sounded from the light.

There is a T-shaped wharf, with an outer face 27m long, with depths alongside of 5.2 to 6.1m. Entrance to and departure from the wharf is made around the N side of St. Modeste Island. Strong tidal currents set through The Tickle off the wharf.

Anchorage.—Vessels should not anchor near the shifting bar at the river mouth because depths here decrease suddenly. The best berth, in 29.3m, lies with the NE end of Ship Head bearing 241°, distant 0.4 mile.

Between St. Modeste Island and the NE entrance point of L'Anse au Loup, about 6 miles SW, the coast is indented about midway by Diable Bay, which affords no anchorage. Cape Diable, nearly 1 mile S of St. Modeste Island, is a black bold promontory which rises to a flat-topped hill, about 225m high.

From Diable Bay the coast trends about 2.5 miles SW of the NE entrance point of L'Anse au Loup. This stretch of coast consists of red sandstone cliffs, about 107m high.

9.15 L'Anse au Loup, about 1.5 miles wide at its entrance, extends 1.25 miles NW to its head. This bay has depths of 9.1m within 0.15 mile of the shore in most places. At the head of the bay, there is a sandy beach which fronts the settlement of L'Anse au Loup. At the settlement, the most prominent landmark is a church with a white spire.

There is a public wharf, 84m long, with depths alongside of 4 to 4.9m.

Anchorage.—Although L'Anse au Loup is open to the SE, vessels anchor in the bay at all times during the summer; the holding ground is good. The best anchorage is in the N part of the bay, about 0.3 mile offshore. Vessels should not anchor in depths of less than 18.3m.

Between the SW entrance point of L'Anse au Loup and Pointe Amour, about 3 miles SSW, the coast is free of dangers and steep-to a short distance offshore.

Pointe Amour (51°27'N., 56°52'W.), the NE entrance point of Forteau Bay, is low but rises in a series of terraces faced by

cliffs to a hill, 58m high, about 0.8 mile N. Several submerged rocks lie within 0.1 mile of the point. A light is shown on Pointe Amour.

Forteau Bay (51°28'N., 56°58'W.)

9.16 Forteau Bay, entered between Pointe Amour and Forteau Point, about 4.5 miles SW, extends about 2.8 miles NW to a shallow and drying inlet at its head. The inlet at the head of the bay lies between English Point, to the N, and Buckle Point, about 0.5 mile W. The E side of Forteau Bay is indented by the open bight Anse aux Morts. The holding ground in Forteau Bay is good, but S winds cause a heavy swell. Forteau Light is shown 0.2 mile S of Admiral Point.



Forteau Harbor

Tides—Currents.—In Forteau Bay, in calm weather, the flood tidal current sets NW off the NE shore and SE off the W shore, and the ebb tidal current in the reverse directions. The tidal currents are so weak in the bay that they are influenced both in strength and direction by the wind. Off Forteau Point and Pointe Amour, the tidal currents are strong and very irregular, occasionally running in one direction at a rate of 4 to 5 knots close to the shore, and in an opposite direction a short distance offshore. In sounding of these points during a survey, three distinct currents were met within a distance of 2 miles, the tide rips were of considerable strength, and these irregularities continually changed from unknown causes.

Depths—Limitations.—Forteau Bay has depths of 18.3m or more within 0.4 mile of the inlet at the head of the bay, decreasing to about 3.7m in the entrance of the inlet. There is an L-shaped public wharf located 0.2 mile S of Admiral Point that extends 50m from shore and has a length of 65m with depths of 1.8 to 3.0m alongside.

Aspect.—On both sides of the bay, the land rises in terraces to hills about 179m high. Chimney Head, on the W side, and Crow Head, on the NE side, are conspicuous lines of cliffs. A sandy beach is located W of the inlet at the head of the bay, and houses, many conspicuous, are situated behind the beach and along the shore S. A waterfall can occasionally be seen from seaward between the first and second lakes above the inlet at the head of the bay.

Anchorage.—The best anchorage is in the NW part of Forteau Bay, in 20.1 to 21.9m, with **Admiral Point** (51°28'N., 56°58'W.) bearing about 078°, distant 0.4 mile.

Caution.—Great care is necessary in approaching Forteau

Bay in foggy weather because of the irregularity and strength of the tidal currents off the entrance points. In addition, the depths close to shore are so great that soundings give but little warning.

A local magnetic anomaly has been reported in the area of Forteau Bay and its approaches.

9.17 The coast trends W to **L'Anse au Clair** (51°25'N., 57°04'W.), a small bay, about 4 miles W of Forteau Point. L'Anse au Clair, a small bight, affords no anchorage.

Between L'Anse au Clair and Pointe Saint-Charles, about 1 mile W, the coast consists of cliffs faced by large slabs of rock; behind the cliffs, flat-topped hills rise gradually to higher ranges inland.

9.18 Baie de Blanc-Sablon is a bight in the Quebec coast entered between **Pointe St. Charles** (51°25'N., 57°06'W.) and Lazy Point, about 2.5 miles WSW. A microwave tower, 182m high and marked by red aircraft obstruction lights, lies on Pointe St. Charles.

Baie de Blanc-Sablon usually provides a safe anchorage during the summer; it is partly sheltered by Ile au Bois and Greenly Island, but S winds cause a heavy sea. On each side of the bay, the land rises in cliffs to hills up to 122m high on the NE side and to a flat-topped hill, 104m high, on the NW side. This latter hill extends to the W in a spur which terminates in a sharp bluff, 53m high, on which stands a shrine.

The shores of the bay are generally rocky and fringed with boulders, but at the head there is a sandy beach. The settlement of Blanc-Sablon, with a few small wharves, is situated at the head of the bay.

Ice.—Baie de Blanc-Sablon freezes over about mid-December until about mid-May. Northern ice usually arrives in late December or early January. Pack ice makes it into the bay during the winter.

Depth—Limitations.—A wharf, with two berths, is 280m long and 15m wide at its face. Berth 1, on the N side, has a berthing length of 110m and an alongside depth of 6m. Berth 2, on the S side, has a berthing length of 65m and an alongside depth of 7m. This wharf is situated on the W side of the bay. Strong tidal currents are experienced close off the wharf.

Aspect.—Range lights, shown about 0.7 mile NW of Pointe St. Charles and in line bearing 063°16', lead to the anchorage.

Oil tanks, conspicuous from seaward, are situated close W of the public wharf.

A light is shown from the outer end of the wharf.

Anchorage.—Vessels can anchor, in 12.8 to 18.3m, sand, with the fall of the cliff on the E side of the Blanc Sablon River, bearing 341°, just open W of the W wharf at Job's Room, and the range lights aligned.

Caution.—Blandford Shoals, with a least depth of 4.3m, lie near the center of Baie de Blanc-Sablon. A shoal, with a depth of 6.4m, is located in the fairway between Greenly Island and the mainland, about 0.6 mile S of Pointe du Paresseux, the W entrance point of Baie de Blanc-Sablon. Ile au Bois, located S of Baie de Blanc-Sablon, is flat-topped with a maximum elevation of 51m.

9.19 **Greenly Island** (51°22'N., 57°11'W.), located about 1.5 miles W of Ile au Bois, consists of two hillocks connected

by a low plateau, forming a cove on each side of the island. Shoal ground completely surrounds Greenly Island, extending as far as 0.4 mile off the NE and SE sides.



Greenly Island Light

A light is shown on the S part of Greenly Island. A fog signal is sounded about 0.1 mile SE of the light.

La Longue Pointe (51°25'N., 57°12'W.) lies about 1.3 miles W of Lazy Point. Longue Pointe is the N entrance point of the S end of the Strait of Belle Isle. The point rises NE to a sharp bluff, 53m high.

Caution.—Rocks and shoals border the shore between Lazy Point and La Longue Pointe to nearly 0.5 mile offshore. Perroquet Bank, with a least charted depth of 6.9m, is a series of shoal heads which extends from 1 to 1.7 miles WSW of Longue Pointe.

The Strait of Belle Isle—Newfoundland Side—Cape Bauld to Cape Norman

9.20 The coast of Newfoundland between Quirpon Harbor and Cape Onion is divided approximately in half by **Cape Artimon** (51°37'N., 55°32'W.), located about 4.5 miles SW of Cape Bauld. Dangers extend 1.5 miles ENE and 1.75 miles E of Cape Artimon. The stretch of coast between Quirpon Harbor and Cape Artimon also contains Wood Bay, Noddy Bay, Maria Bay, and Medee Bay.

The stretch of coast between Cape Artimon and Cape Onion is entirely indented by Sacred Bay, which is 3.3 miles wide across its entrance and extends 3.5 miles SW. Little Sacred Island and Great Sacred Island, comprising the Sacred Islands, lie in front of Sacred Bay.

Foirou Island (51°39'N., 55°29'W.), a rock 3.7m high, lies about 2.3 miles W of Cape Bauld; a shoal bank, with a least depth of 2.7m and over which the sea breaks, extends nearly 0.3 mile SE of the rock.

Great Sacred Island lies about 1.5 miles NW of Cape Artimon. Near its N end is a summit, 73m high.

Little Sacred Island (51°38'N., 55°32'W.) lies about 1 mile ESE of Great Sacred Island, in a position 0.7 mile N of Cape Artimon. Little Sacred Island is moderately high and steep-to. Its SE end is foul.

Tides—Currents.—Between Quirpon Island and Cape Onion, the inshore tidal currents are irregular, but ordinarily the

flood current is WSW. When the wind and the current are in the same direction, the velocity of the current is about 1 knot.

9.21 Quirpon Island, whose extremity is Cape Bauld, is separated from the NE extremity of the island of Newfoundland by a channel about 90m wide. About midway along the E side of Quirpon Island, Cap Degrat rises to 153m, the greatest elevation of the island and of the vicinity.

Quirpon Harbor is located between **Jacques Cartier Island** (51°36'N., 55°27'W.), 41m high, and the W side of the S part of Quirpon Island. The islets are a group of low above-water rocks to the N. The settlement of Quirpon is situated along the S and SW coasts of the harbor.

Ice.—The harbor normally freezes during the middle of December and the ice breaks up the middle of May.

Depths—Limitations.—An L-shaped government wharf stands on the mainland, about 0.2 mile WSW of **Vincent Islet** (51°35'N., 55°27'W.). There is a total berthing length of 64m on the W side of the wharf, with alongside depths of 2.9 to 5.5m.

Aspect.—Range lights are shown on the E side of the harbor, about 0.3 mile within the entrance. In line bearing 109°, the lights lead through the harbor entrance.

Quirpon Light is shown from a tower on the N end of Jacques Cartier Island.

Anchorage.—Anchorage is afforded 0.35 mile N of Vincent Islet, off a wharf on Jacques Cartier Island, in a depth of 13m. Anchorage can also be obtained in Jacques Cartier Road, about 0.2 mile WNW of the islet off another wharf, in a depth of 14.6m.

With local knowledge, good anchorage can be taken in Orleans Cove, 0.4 mile SSE of Vincent Islet, in depths of 12.8 to 14.6m. Vessels should be aware of a 3.7m rock in the approach. This rock lies about 0.2 mile SE of Vincent Islet.

Caution.—An overhead power cable, with a vertical clearance of 21m, crosses between the S tip of Quirpon Island and the mainland.

The coast of Newfoundland is entirely indented by numerous bays between Quirpon Island and bare, rocky Cape Norman, about 17 miles W. The bays offer several anchorages. Cape Onion, 80m high, lies midway on this coast, about 8 miles WSW of Cape Bauld.

9.22 **Noddy Bay** (51°35'N., 55°29'W.) is entered between **Noddy Point** (51°36'N., 55°28'W.) and Cape Raven, 0.75 mile W. An 11m high islet lies off the E shore of the bay, almost 1 mile SSW of Noddy Point. The cove to the E of this islet affords anchorage for a few small craft, in 5.8m, with good holding ground; local knowledge is necessary.

Hay Cove (Maria Bay), located between Cape Raven and **Cape Ardoise** (51°36'N., 55°31'W.), nearly 1 mile NW, affords no shelter. Cape Ardoise rises to a conspicuous round gray hill, 60m high.

Medee Bay lies between Cape Ardoise and Beak Point, about 1 mile W. To the N of Hay Cove and Medee Bay, there are many islands, rocks, and dangers. The settlement of L'Anse-aux-Meadows, is situated on the SE shore of the bay. L'Anse-aux-Meadows is the first recognized site of a Norse settlement in North America and is a UNESCO World Heritage site.

Sacred Bay is entered between Cape Artimon, the NW point of **Warrens Island** (51°37'N., 55°32'W.), and Cape Onion, 3.3 miles W. Cape Onion rises to a height of 80m; a ledge extends about 0.4 mile E from it, on the NE extremity of which stands The Mewstone, 25m high. Onion Cove lies S of The Mewstone. Sacred Bay is encumbered with numerous islets and shoals. Local knowledge is required.

Ice.—The inner parts of Sacred Bay freeze over in December; the ice usually breaks up in May.

Anchorage.—Anchorage in Sacred Bay is suitable for small vessels with local knowledge.

9.23 From Cape Onion, the coast of steep cliffs trends SW for nearly 3.5 miles to Ha-ha Point.

Ha-ha Bay (57°35'N., 55°43'W.) is entered between Ha Point and Burnt Cape, 1.2 miles W. Piton Point, 1.5 miles SW of Ha Point, is the extremity of a peninsula extending from the SE shore of the bay. Ha Mountain, 70m high, lies 0.8 mile ESE of Piton Point. The W side of the bay is formed by Burnt Island, 68m high, which is connected to the mainland by a narrow isthmus at its S end. Fair anchorage can be taken off Piton Point, in a depth of about 9.1m, but it is open from the NNE.

9.24 Pistolet Bay is entered between **Burnt Cape** (51°36'N., 55°45'W.) and Cooks Point, 4.5 miles WNW. The bay extends about 6 miles S; its shores are indented by several shoal bays. The inner part of the bay freezes over in December; the ice breaks up in May.

Whale Cove, located 1 mile SW of Burnt Cape, is a deep hole in a cliff on the W side of Burnt Island; it is prominent from the NNW and WSW.

Milan Arm is entered between **Milan Point** (51°30'N., 55°43'W.) and Micmac Island, an islet 0.4 mile WSW. The arm trends SE and E for 4 miles to its head, where the Outardes River empties onto the bay. Milan Arm is accessible by vessels drawing less than 4.9m.

Tides—Currents.—The HW interval at Pistolet Bay is 7 hours 29 minutes. The mean range is 0.7m; the spring range is 0.9m. It is reported that a constant current, presumed to be caused by the many currents flowing into Milan Arm, sets to the W out of the arm. Caution is necessary to avoid being set onto the shoals extending off **Triangle Point** (51°31'N., 55°49'W.).

Schooner Island is the largest of several islands and islets lying near the W shore of the bay. A light is shown from a white tower situated near the N extremity of the island.

Anchorage.—Vessels may anchor in the area 1.5 miles S of **Isthmus Cove** (51°33'N., 55°45'W.), in depths of 7.2 to 11m. There is anchorage, in 9.1m, sand and mud, about 0.8 mile SE of Chien Rock, where the holding ground is fair.

Small vessels may anchor in Milan Arm, in depths of 5.5 to 7.2m. The best anchorage for small vessels, in about 9.1m, sand and mud, lies 0.6 mile NW of Milan Point. Local knowledge is required to proceed to these small vessel anchorages.

9.25 Cooks Harbor, flanking the NW entrance of Pistolet Bay, is entered between **Black Island** (51°37'N., 55°49'W.) and Cooks Point, the E extremity of a peninsula about 1.5 miles WNW. The NW side of Cooks Harbor is formed by the SE side of the peninsula. A buoy is moored on the E side of the

entrance close off the N side of a rocky bank extending from Schooner Island to Black Island. Norman Rock, with a depth of 4.6m, lies on the W side of the approach to the harbor, about 0.7 mile NNE of Cooks Point. There is an 8.5m patch lying in the middle of the entrance. Prosper Island lies in the middle of the harbor. Starboard and port hand light buoys mark the channel into the settlement of Cook's Harbor.

Depths—Limitations.—At the village of Cook's Harbor, there is an L-shaped public wharf, with a depth of 5.1m alongside the 40m long outer face of the wharf. A private wharf, with an outer wharf 36m long, with alongside depths of 1.9 to 2.6m, lies about 0.2 mile SW of the public wharf.

Anchorage.—Small vessels may anchor, in depths of 7.3 to 11m, sand and mud, in an area SE of **Neige Bay** (51°37'N., 55°52'W.).

Directions.—The entrance of Cooks Harbor is difficult to distinguish from the E because of the uniform height of the land.

9.26 From Cooks Point, the coast trends W for nearly 0.4 mile to an unnamed point, which forms the E entrance to Cape Norman Bay. **Whale Point** (51°37'N., 55°53'W.) forms the W entrance point for this bay. Although there are general depths of 11 to 18.3m in Cape Norman Bay, the bottom is rocky and no safe anchorage is available.

The Strait of Belle Isle—Newfoundland Side—Cape Norman to Flowers Island

9.27 **Cape Norman** (51°38'N., 55°54'W.), about 0.6 mile NW of Whale Point, is bare and rocky, rising to low cliffs; the N side of the cape is steep. A light is shown from the summit of the cliff, about 0.2 mile SW of the N point of Cape Norman.

From Cape Norman, the coast trends about 37 miles SW to **Flowers Island** (51°19'N., 56°46'W.), the S end of the Strait of Belle Isle. The coast is generally low and featureless, backed by a wooded ridge about 31m high. There are fishing huts and sheds along the shore, but few distinctive landmarks.

Boat Head (51°36'N., 56°00'W.), located 4 miles SW of Cape Norman, with an elevation of 15m, is bare, grassy on top, and faced with conspicuous black cliffs; from its summit the head declines SE to a marshy flat separating Boat Harbor from Open Bay.

Boat Harbor, located close E of Boat Head, provides good shelter for small vessels from W winds, however, local knowledge is essential. The anchorage is unapproachable in NE winds. The small settlement of North Boat Harbor lies on the S shore of Boat Harbor.

Open Bay, located close SW of Boat Harbor, affords no protection from W winds, however, small boats can find shelter in its shallow NE end during E winds. Between Open Bay and Lower Cove, 2.5 miles SW, the coast is composed of conspicuous black cliffs.

Unfortunate Cove lies nearly 3 miles SW of Lower Cove. The small settlement of Big Brook is situated on the shores of the cove.

9.28 Between Unfortunate Cove and Watts Point, nearly 9 miles SW, the coast is straight and rocky, with occasional low cliffs. At Four Mile Head, 3.7 miles SW of Unfortunate Cove,

the cliffs are conspicuously black, with an elevation of 11m. There is a small settlement situated on the shores of Four Mile Cove, which is close S of the headland.

Eddies Cove, 4 miles SW of Watts Point, affords good shelter for small boats inside a ledge of rock close E of **West Point** (51°25'N., 56°28'W.) At the settlement, there is an L-shaped public wharf extending 73m to an outer end 20m long, which has depths of 1.3 to 1.9m alongside.

A reef, which breaks, extends parallel to the wharf about 45m off its W side. This wharf is reported to provide some shelter with SW winds, however, it is very exposed with winds from the NE. Close SW, there is a small L-shaped fishing wharf, in disrepair, which dries at its outer end. About 1 mile SW, there is another fishing wharf extending 49m from the shore; it is in disrepair and dries at its outer end. Wharf ruins exist off its W side.

Anchorage.—Open anchorage can be obtained 0.3 mile off the coast between Watts Point and Eddies Cove.

The settlement of Green Island Brook is situated on the shores of a cove, about 2.25 miles SW of West Point. An F-shaped public wharf, 114m long, extends from the W shore of the settlement to depths of 1.9 to 2.5m alongside the S face of its outer 25 m. The seaward face of the wharf is protected by large boulders. Caution is advised as rocks extend about 10m off the end of the outer face of the wharf. A pier, 14m long and 7.4m wide, is located 21m SW of the outer face. Several small boat wharves and a large blue building are located alongside the inner end of the public wharf. An L-shaped wharf, with its outer end in ruins, is located about 0.6 mile WSW of Green Island Brook.

9.29 Green Island (51°24'N., 56°34'W.), located about 2 miles W of Green Island Brook, lies 0.75 mile offshore; it is only 3m high. The shoal banks and drying ledges which extend

from the island can best be seen on the chart. Green Island Rock, with two shoal heads with depths of less than 1.8m, lie 0.4 mile E of the NE end of the island; the sea breaks on it with any swell.

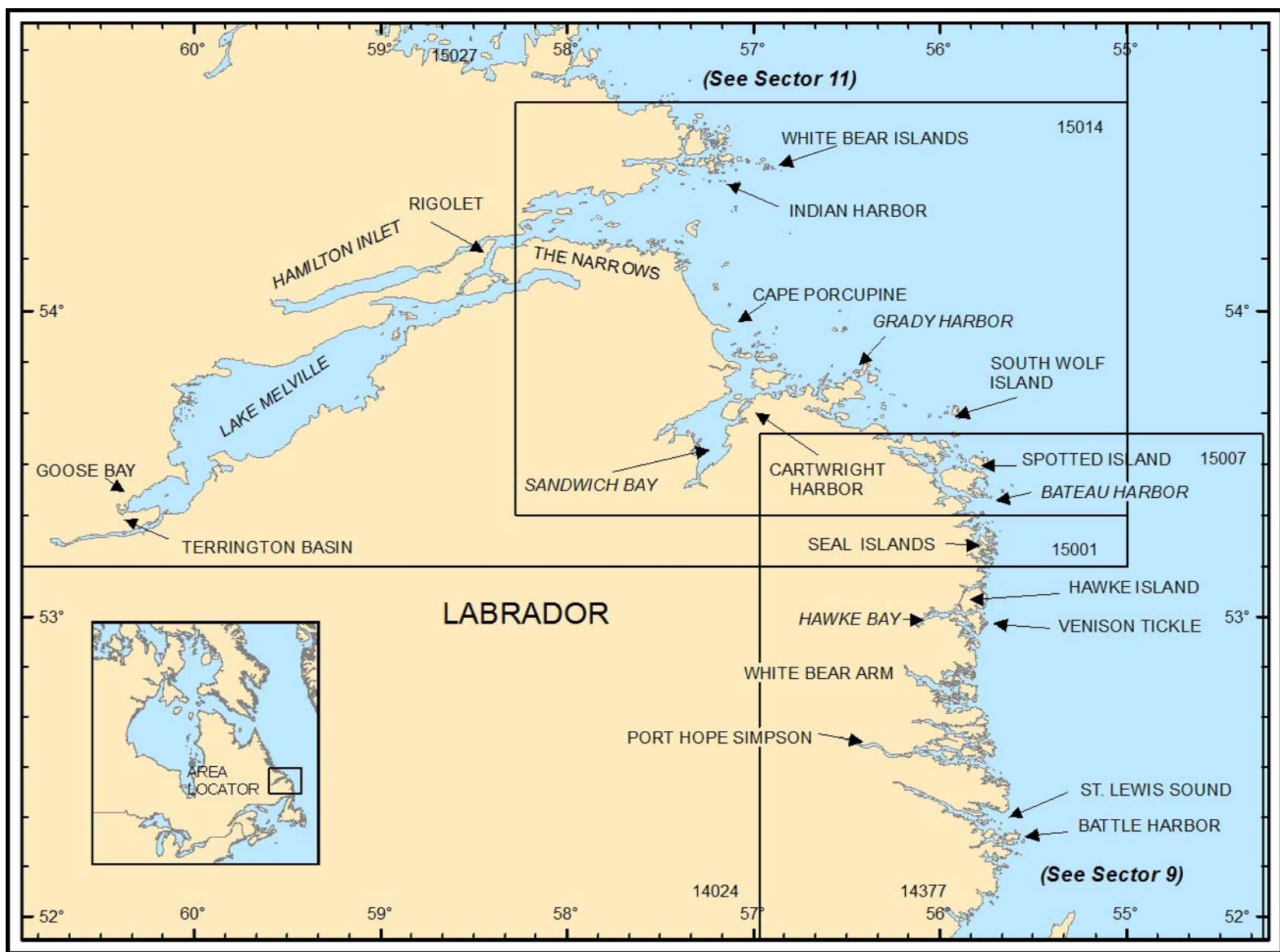
Anchorage.—Green Island anchorage, between the island and the mainland, affords fair shelter from all but E winds, in depths of 9.1 to 11m. The holding ground is not good, the bottom being hard and stony. The tidal currents at the anchorage attain rates of 1 to 2 knots; the ebb tidal current sets NE while the flood current sets in the opposite direction.

9.30 Between Green Island and Savage Point, 6 miles SW, the coast is indented by several coves and is fronted by rocks and shoals as far as 0.8 mile offshore. This part of the coast is low-lying and treeless.

Sandy Cove, located 1.3 miles NE of Savage Point, affords anchorage for small vessels, in a depth of 8.8m, sheltered from winds from the NE, through S to SW; local knowledge is required. There is a settlement on the shores of the cove. A conspicuous white church with a blue roof is situated in the settlement. On the W side of the cove, an L-shaped public wharf extends 82m from the shore. A marginal wharf and a finger pier extend to the S from the head of this wharf.

9.31 Nameless Point (51°19'N., 56°45'W.), about 2 miles SW of Savage Point, is the W extremity of a peninsula separating Mistaken Cove, on the NE, from Nameless Cove, on the SE. It is suitable for small boats. Flower's Island lies in the entrance of Nameless Cove. Flower's Ledge, part of which dries 1.5m, extends WNW of Flower's Island. The tidal currents set strongly over these ledges. A light is shown from a square tower on Nameless Point.

Greenville Ledge, on which the least depth is 0.6, lies about 0.4 mile N of Nameless Point.



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

SECTOR 10 — CHART INFORMATION

SECTOR 10

LABRADOR—EAST COAST—NIGER SOUND TO HAMILTON INLET

Plan.—This sector begins with a description of Niger Sound. The coast N to Roundhill Island and NW to the entrance of Hamilton Inlet is described. The description of Hamilton Inlet includes the islands on the N side of the approach E of **Man of War Point** (54°31'N., 57°15'W.).

General Remarks

10.1 The most notable feature along this section of the coast is Hamilton Inlet, the largest indentation in the coast of Labrador. Goose Bay, the principal port, lies at the head of the inlet, about 140 miles inland from the open sea. The port is active during the navigation season because of its proximity to the Goose Bay Airport. The Hamilton River (Churchill River), the most important river on the E watershed of the Labrador peninsula, flows into the S side of Goose Bay, the outer harbor at the port of Goose Bay. Numerous settlements along this section of the coast have extremely limited port facilities; deep-draft alongside berths are non-existent. Landing beaches or barges are utilized as a substitute whenever possible.

Numerous anchorages for both large and small vessels are available all along this section of the coast.

The distance from the entrance to Hamilton Inlet (54°21'N., 57°18'W.) to Cape Harrigan (55°50'N., 60°19'W.) is about 155 miles. For the most part the coast is rugged, much indented by numerous inlets and bays, and fronted by a maze of islands. Much of the coastal waters described in this section outside the surveyed routes have not been surveyed and some of the charted hydrographic information is of a reconnaissance nature. Un-surveyed waters should not be entered without local knowledge. Caution is recommended in sounded waters.

Nunatsiavut, an area of self-governance by the Labrador Inuit provides special rights related to land use within designated areas of Labrador. Though still a part of the province of Newfoundland and Labrador, the Nunatsiavut Government (NG) has jurisdiction over health, education, and justice and the authority to make laws relating to culture and language within the land claims area. For further information see <http://www.nunatsiavut.com>.

Vessels operating in coastal areas under the jurisdiction of the Nunatsiavut Government and planning shore excursions should be aware of the cultural and historical significance of these areas.

Cruise ships visiting known archaeological sites on Labrador Inuit Lands (LIL), or at places on LIL where, in the opinion of the NG Archaeologist the presence of archaeological sites is likely, are required to have an archaeologist on board working under a permit issued by the Nunatsiavut Government. Operators should make contact with the Nunatsiavut Archaeology Office a minimum of 30 days prior to the cruising of Labrador Inuit Lands or the Inuit Communities.

In the event that archaeological material is accidentally discovered it must under no circumstances be disturbed in any way or be moved from the location of the discovery. Photo-

graphs should be taken of the site/material, the location should be accurately recorded and the Torngâsok Cultural Center must be contacted immediately for further direction (telephone: 709-922-2942 extension 240).

Regulations.—The Historic Resources Act, under the authority of the Government of Newfoundland and Labrador (Department of Business, Tourism, Culture and Rural Development), which protects archaeological sites and materials, states:

1. A person who discovers an archaeological object shall report the discovery immediately to the minister stating the nature of the object, the location where it was discovered and the date of discovery.

2. A person, other than one to whom a permit has been issued under this Act, who discovers an archaeological object shall not move, destroy, damage, deface, obliterate, alter, add to, mark or interfere with or remove that object from the province.

The Labrador Inuit Land Claims Agreement states the title to all Archaeological Material found in Labrador Inuit Lands after the Effective Date is vested in the Nunatsiavut Government. For more information contact the Nunatsiavut Government Archaeologist (telephone: 709-922-2942 extension 240, or e-mail: jamie_brake@nunatsiavut.com).

Pilotage.—Pilotage for ports in this sector is obtained through the Atlantic Pilotage Authority. See Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas for further information.

10.2 Niger Sound (52°11'N., 55°40'W.), entered between the Camp Islands and Cape St. Charles, almost 2.5 miles NNE, is 5.5 miles long and deep with few dangers. There is no habitation on the shores of the sound; however, good anchorage is obtainable in Horn Bay and Islet Bay, in depths of 27 to 37m. Big Duck Island and Little Duck Island lie in the central part of the sound.

Aspect.—The Soldier, 202m high, lies near the N entrance point of the sound. It is a round conspicuous peak and the most prominent landmark in this vicinity.

10.3 Cape St. Charles (52°13'N., 55°38'W.) lies 3.2 miles SW of Double Island. The cape is about 0.5 mile SSW of Elijah Point, the E extremity of the promontory separating St. Charles Channel from Niger Sound to the S.

Fish Rock, 3.9m high, lies about 2 miles E of Cape St. Charles and is steep-to with below-water rocks off its W side. It is the E danger off Cape St. Charles.

St. Charles Gull Island lies 1.2 miles E of Cape St. Charles, with St. Charles Gull Rocks lying close off its SW side.

A group of three shoals lie 0.4 mile NW of St. Charles Gull Island. Wall Shoal, the farthest E, has a least depth of 3.7m. Middle Shoal, as the name implies, has a depth of 7.3m. Inner Shoal, with a depth of 4m, is marked by a buoy and lies 0.3 mile E of **Wall Island** (52°13'N., 55°37'W.). Navigation be-

tween these shoals and Wall Island should not be attempted without local knowledge.

St. Charles Channel lies between the peninsula on which Cape St. Charles is located and the Battle Islands. It is entered between Wall Island on the S and White Point, the SE point of Great Caribou Island, 1.2 miles NNE, and extends W for a distance of 6 miles to the mouth of the St. Charles River.

On the S side of St. Charles Channel, near its entrance, are the Seal Islands, consisting of Fox Island, Tilcey Island, and Wall Island.

10.4 St. Charles Harbor (52°13'N., 55°38'W.) lies between these islands and the mainland to the S. The small settlement of Cape Charles is situated on the S shore. A narrow entrance between Wall Island and Tilcey Island leads into the harbor, having depths of 12.8 to 14.6m. Care should be exercised to avoid a group of above and below-water rocks lying about 0.1 to 0.2 mile W off Wall Island.

Anchorage.—Anchorage for vessels under 69m in length, in a depth of 12.8m, mud, is available in the central part of the harbor. It is reported that the holding ground is not good and plenty of chain should be used. It is also open to E swells.

Directions.—White Bear Bay lies about 3 miles W of the entrance to St. Charles Channel, on its S side. It is entered between **White Bear Point** (52°15'N., 55°42'W.) on the N and the mainland 0.4 mile S.

Depths in the outer half of the bay vary from 18.3 to 54.9m, while the inner half is shoal and encumbered by rocks.

The Narrows is a channel lying between White Bear Point and Hare Island to the N and leads from St. Charles Channel into **The Lodge** (52°16'N., 55°44'W.), an inlet to the W. **Dumpling Island** (52°15'N., 55°42'W.), with the shoal area off its SE end, constrict this passage to about 0.1 mile.

The Lodge is an inlet 2.5 miles long and 0.7 mile wide, with depths of 27.4 to 55m. It can be entered from the E through The Narrows or from the N by means of Nimrod Tickle, a narrow channel lying between Assizes Island and the mainland.

Anchorage.—The Lodge provides good sheltered anchorage from most winds, in depths of 27.4 to 36.6m, mud.

If passage is planned through Nimrod Tickle, caution should be exercised to guard against Nimrod Shoal, marked on its N side by a lighted buoy, lying centrally in the channel and having a least depth of 8.8m.

The Rags, a group of drying rocks and islets, the highest of which is 0.3m high, lies on the N side of Assizes Island, on the SE side of the NE entrance to Nimrod Tickle.

The Battle Islands

10.5 The N side of St. Charles Channel (52°14'N., 55°36'W.) is comprised of the Battle Islands, lying in a general E-W direction. They also form part of the S side of St. Lewis Sound. The Battle Islands are composed of Great Caribou Island, Paddy Bonds Island, Hare Island, Copper Island, and Assizes Island.

Off-lying dangers.—**Double Island** (52°15'N., 55°33'W.) lies about 3 miles NE of **Cape St. Charles** (52°13'N., 55°38'W.). It is separated from a smaller island lying parallel with it by Double Island Tickle, a narrow passage with depths of 12.8 to 16.5m. A light is shown from the N part of the is-

land. Vessels are cautioned to give the S side of Double Island a wide berth because of the shoal spit extending from it.

North Rib, Middle Rib, and South Rib are three detached reefs lying as far as 2.5 miles NNW of Double Island. North Rib, which always breaks, lies about 2.5 miles NNE of Double Island and has several submerged rocks on its center. Middle Rib, close SSE of North Rib, is a rocky 3.2m shoal. **South Rib** (52°17'N., 55°34'W.) is a rock drying 0.9m with shoal water extending 0.1 mile N and S of it. It has been reported that these breaking shoals are radar-conspicuous under certain weather conditions.

Great Caribou Island, the largest of this group, is about 2.8 miles long and 2.3 miles wide, with a maximum elevation of 82m. It is deeply indented on the SE side by Cartridge Bight. A chain of the smaller Battle Islands extends NW from the NE side of Great Caribou Island.

White Point (52°14'N., 55°36'W.) is the SE point of Great Caribou Island and also the S entrance point of False Harbor. Shoal patches extend 0.15 mile SE from White Point.

10.6 False Harbor, on the SE side of Great Caribou Island, is entered between White Point and Loran Point, 0.4 mile N. False Harbor extends about 0.5 mile WNW to its head and affords little protection from the E.

An area of foul ground extends NE, E, and SE of Loran Point. Black Island is the outermost feature of the dangers extending off Loran Point; it is 9.4m high.

Winds—Weather.—Sudden shifts of wind are experienced at False Harbor.

Ice.—Icebergs ground on Indian Rocks and invariably break up there. Large pieces of the bergs are carried into the harbor.

Depths—Limitations.—An 8.2m patch lies about 0.1 mile ESE of White Point. Depths of 18.3m or more extend up to 0.15 mile from the head of the harbor. The N and deeper side of the harbor is steep-to about 36m off the points of land.

Anchorage.—Anchorage may be taken near or just inside the entrance of False Harbor. The anchorage is protected from all but S or E winds, but it is not advisable to remain when the wind is fresh. Vessels should be prepared to leave the anchorage immediately because of sudden shifts of the wind and drifting bergs. The anchorage should be used in daylight hours only.

Directions.—Approach the anchorage by daylight or in clear weather only.

10.7 Cartridge Bight (52°15'N., 55°37'W.) almost divides Great Caribou Island in two. It is entered between **Gunning Point** (52°15'N., 55°35'W.) and an unnamed point almost 1 mile SW. Two small shallow coves, Foxburrow Cove and Benjy's Cove, separated by Foxburrow Point, indent the N shore of Cartridge Bight. The bight is not suitable as an anchorage due to its exposure to E swells and its rocky bottom.

Gunning Rock, an island, lies about 0.1 mile NE of Gunning Point and has an elevation of 6.1m.

Southern Island (52°16'N., 55°35'W.), lying about 0.3 mile NNE of Gunning Point, has shoal water extending off its W and SW sides for over 0.1 mile.

Caution.—Dangers, with depths of 1.8m or less in the vicinity of Southern Island, are The Bull, Gun Rock Shoal, Southern Island Rock, and Mad Moll.

10.8 Gull Island (52°17'N., 55°34'W.) lies about 0.3 mile NNE of Southern Island.

Battle Island (52°17'N., 55°35'W.) lies close off the NE end of Great Caribou Island and is separated from it by Battle Harbor. Crow Island is separated from the E side of Battle Island by Crow Rock Tickle. Gull Island Tickle separates Crow Island from Gull Island.

Skinner Ledge, a reef with a least depth of 10.7m, lies about 0.3 mile E of Gull Island.

Gunning Island lies off the NW side of Battle Island at the N entrance to Battle Harbor. Two small islands, Motion Island and Killick Island, lie off each side of Gunning Island.

Red Island, lying about 0.1 mile NNW of Gunning Island, is separated from it by Gunning Tickle, a shallow passage used only by small craft.

Great Island (52°17'N., 55°36'W.), with a height of 49m, lies about 0.1 mile NW of Red Island, with Red Island Tickle separating them. Great Island can be distinguished from the other islands of this group by its black precipitous appearance, with white horizontal stripes showing seaward. A large white patch is prominent on its W side.

Humphrey Island, 9.1m high, lies close SE of Great Island.

Off the E side of the islands is a chain of dangerous reefs. At the S end of this chain, lying off the E entrance to Gunning Tickle, is Cannon Rock, with three peaks covered by 0.6m. Red Island Rock lies about 0.5 mile off the E side of Red Island. The Flats is an extensive shoal area lying about 1.5 miles off Great Island. Hussey Shoal, lying at the N end of this shoal chain, is a rock with a least depth of 0.3m, and always breaks.

10.9 Battle Harbour (52°16'N., 55°35'W.) is the narrow channel lying between Battle Island and Great Caribou Island. This harbor is considered secure in summer, but in the autumn a heavy ground swell rolls through between the islands, making it untenable. Because there is very little maneuvering room, vessels over 30m in length should enter Battle Harbour only under the best of conditions, and then with local knowledge. Vessels should approach from the W of Great Island and all the islands and rocks lying between it and the harbor, taking care to avoid fishing nets. A rock, with a depth of 2.7m, which lies in the middle of the N entrance on the E side of the fairway, must also be avoided. The settlement is the site of a government weather station and except for weather observers, is inhabited only in the summer.

Ice.—The harbor begins to freeze usually during the last half of December. It normally melts by the first week of June.

Depths—Limitations.—The public wharf with a bent outer end located at the settlement extends from the E shore near the central part of the harbor. This wharf was in ruins in 2016; caution is advised. It is reported that the previously-described public wharf ruins are submerged at higher water levels. The outer end of the S side of the wharf is 20m long and has depths of 3.7m to 4.3m alongside. A depth of 1.8m lies close off the NW corner of the wharf. The NE side of the wharf is foul and nearly dries. The inner end of the S side of the wharf is 19m long with depths of 2.3 to 3.3m alongside. A marginal wharf 20m long, with depths of 2 to 2.5m alongside, extends from the S side of the public wharf. Several small piers and a 9m wide slipway lie close S of the marginal wharf.

Aspect.—A prominent church with a spire is situated at Bat-

tle Harbor. Two large unlit steel towers are conspicuous from seaward.

10.10 South and west sides of Great Caribou Island.

The S side of the island on St. Charles Channel is indented by Hauling Cove and South Pommelly Cove, which are separated by **Shoal Point** (52°14'N., 55°37'W.). Black Head, the SW extremity of the island, rises steeply to a height of 60m.

The W side of the island has three small coves which are only sufficient for small craft.

Indian Island, flat and covered with turf, lies close off the W side of Great Caribou Island and is separated from it by Shoal Tickle, which is not navigable.

Mouse Island lies 0.5 mile N of Indian Island and is separated from Great Caribou Island by Mouse Island Tickle, which is shoal.

Paddy Bonds Island, lying about 0.5 mile W of Black Head, is pyramid-shaped and partly covered with turf. The island is bordered by reefs.

Hare Island lies NW of Paddy Bonds Island and is separated from it by a channel about 0.1 mile wide. Shoal water, with many above and below-water rocks, separates it from Assizes Island, to which it is almost joined at its NW part.

Assizes Island (52°16'N., 55°42'W.), the westernmost of the Battle Islands, lies 1.3 miles WSW of Caribou Point. Its flat summit near the middle of the island is 75m high. It is partially covered with turf and small trees, and is separated from the mainland to the NW by Nimrod Tickle. Assizes Harbor is located at the SE side of Assizes Island and is used by local fisherman. There is an anchorage in the entrance, in a depth of 12.8m, with mud bottom. The swinging room is limited.

Copper Island, lying across the entrance to Assizes Harbor, is 0.5 mile in length with an elevation of 41m near its W end. Its N side rises steeply and is cliffy in places. A light is shown from the SE side of the island.

Dark Tickle is the passage which leads between Copper Island and Assizes Island as well as to the sheltered anchorage near Assizes Harbor.

Caribou Run, a channel connecting St. Lewis Sound with St. Charles Channel, passes between Paddy Bonds Island and Great Caribou Island. This channel is used by local fishermen to reach Assizes Harbor. Nimrod Tickle provides a safer and deeper channel for larger ships.

Caution.—There are three dangerous areas in this passage. A shoal area, with depths of less than 1.8m, lies 0.1 mile off the NE side of Paddy Bonds Island, and the passage between this shoal and the shoal water off Paddy Bonds is very narrow. This shoal is buoyed. **Assizes Rock** lies 0.1 mile off the W side of Indian Island and has a least depth of 1.2m, and is marked by a buoy. Mid Rock lies 0.2 mile N of Indian Island and has a depth of 2.4m.

Saint Lewis Sound

10.11 Saint Lewis Sound (52°19'N., 55°40'W.), which opens NE, is occasionally subjected to a high long rolling swell from that direction; the swell is noticeable among the islands and in the bays along the SW shore as far as the entrance of Saint Lewis Inlet. The swell often comes in without wind, breaks heavily over islets 9.1m high, and prevents landing. The

sea breaks, though only occasionally, on shoals with depths of less than 7.3m.

There are several harbors where small vessels can find shelter; large vessels can anchor in Port Marnham on the N side of the sound.

Ice.—Icebergs sometimes ground in the shallow water N of the River Islands between June and August.

Tides—Currents.—The HW interval at full and change in Saint Lewis Sound is 6 hours 40 minutes; springs rise 1m while neaps rise 0.7m.

Blake Ground (52°18'N., 55°37'W.), Northern Bank, and Eskimo Bank, close within the entrance, should be avoided because the sea is reported to break in depths of 25.6m during winter gales.

10.12 Saint Lewis Sound—South side.—The S side of the sound is made up of the N side of the Battle Islands and the mainland to the W.

The N side of Great Caribou Island is indented by numerous small coves.

Caribou Point (52°17'N., 55°39'W.) is the NW point of the island. It has a black and white striped appearance. A conical hill rises a short distance inland.

Island Point (52°17'N., 55°42'W.), lying almost 2 miles W of Caribou Point, and Kyer Cove Point, 1 mile farther NW, are the extremities of a peninsula separating Nimrod Tickle from Kyer Cove.

A group of four small islands and rocks lies 1 mile NE of Island Point. Shoal water extends around these islands. **Green Island** (52°18'N., 55°41'W.) is grass covered. Middle Rocks, lying close SE of Green Island, are 7.3m, 6.1m, and 2.7m high.

Gull Rocks (52°19'N., 55°40'W.) lie about 1 mile NNE of Green Island. The larger island is 13m high; the one NE of it is 4.9m high. A reef, with a depth of 3.6m, lies about 0.3 mile WNW of the main Gull Rock island.

Caution.—Gull Rocks, Green Island, and Middle Rocks should be given a wide berth.

Kyer Cove (52°17'N., 55°46'W.) should not be entered because it is exposed to the NE swell. Lion's Head rises to an elevation of 41m on the E side of the cove. Marley Rocks, marked by a lighted buoy, lie off the NW entrance to the cove and have depths of less than 1.8m.

Shoal Cove (52°18'N., 55°48'W.) is encumbered with islets and rocks, and is suitable only for small craft.

10.13 Mary's Harbour (52°19'N., 55°49'W.) is suitable only for small vessels. The harbor has depths of 4.1m in the middle of the inner part; the outer part is deeper, but is unsafe due to a NE swell. The inner part of the harbor is entered through a narrow channel, with a depth of 5.9m, S of a peninsula that projects from the N shore. Navigation in Saint Marys Harbor is seldom interrupted by ice.

Mary's Harbour settlement is situated on the shores of the inner harbor; the buildings are conspicuous from seaward. A prominent tower, at an elevation of 226m and marked by lights, stands in a position about 0.5 mile N of Mary's Harbour; the tower is visible from almost anywhere in St. Lewis Sound. A second tower, at an elevation of 69m, stands 0.2 mile N of the public wharf.

A public wharf at the settlement, which extends about 52m from the shore, has depths of 3.6 to 7.4m on its N face and 5 to 6.2m on its S face.

Caution.—A rock, with a depth of 0.5m, is located at the entrance to the inner harbor, about 0.2 mile SSW of the government wharf. A 2.2m shoal lies 0.15 mile NNE of the NW entrance point of the harbor.

The **River Islands** (52°19'N., 55°46'W.) lie off the entrance of Saint Lewis Inlet. The Anthony Islands, the E of the group, consist of two rocks, the NE of which is wedge-shaped, bare, and 8.5m high, and the SW of which is pyramid-shaped, grass-covered, and 14.6m high. Captain Jack's Island and Duck Island are each composed of bare granite. Goose Island and the island close off the E side of Duck Island are 18m and 7.9m high, respectively. Captain Jack's Tickle, between Captain Jack's Island and Duck Island, is foul and not navigable. The channel between the River Islands and the mainland W has considerable depths in it. Anchorage, where available, is insecure because of the swell.

10.14 Saint Lewis Sound—North side.—Fox Harbor (52°22'N., 55°41'W.), which provides excellent shelter from all but S and SW winds, is entered between Fisherman Point and Soldier Island. The settlement of St. Lewis (Fox Harbor) is situated along the shores of the harbor.

Ice.—The harbor is frozen over to a depth of 1.2m, from mid-November to May.

Tides—Currents.—The tidal currents follow the axis of the harbor with a velocity of 1.8 knots; when heavy seas exist outside, the velocity is reported to increase.

Depths—Limitations.—The fairway of the entrance channel is about 135m wide, with a least depth of 6.1m between shoals and reefs on both sides. The channel is marked by lighted buoys.

A public wharf, situated on the E side of Fox Harbor, is L-shaped, extends 40m from shore, and has a depth of 6.2m alongside its 37m long outer face.

Aspect.—Soldier Island, on the W side of the approach to Fox Harbor, is 7m high and is connected to the mainland by a drying reef on its N side. A Loran tower, 221m high, stands 1 mile N of the N point of Soldier Island.

Several houses and jetties form the settlement of St. Lewis.

A schoolhouse with a mast stands near two small piers on the N side of the harbor, about 0.3 mile E of the N entrance point.

An oil storage tank is prominent on the N side of the E entrance point.

Anchorage.—Anchorage can be taken, in 9.1 to 14.6m, mud, in the central part of the harbor. The holding ground is reported good, but precautions should be taken against dragging, especially during gales.

Port Marnham (52°22'N., 55°47'W.) provides anchorage, in depths of 14.6 to 32.9m, mud; the best berth, in 16.5m lies off of a cove in the NE shore. A more convenient berth, but with less room, is in the W part of the harbor.

Long Harbor (52°21'N., 55°48'W.) is exposed E and is considered unsafe for anchorage. The Long Harbor Processing Plant Pier handles breakbulk cargo. This pier has a berth length of 200m which is extended to 240m by dolphins. It can accommodate vessels with a maximum loa of 221m and a maximum

draft of 12.1m.

Caution.—A vessel approaching Saint Lewis Inlet, Shoal Cove, or Saint Marys Harbor is advised to use the passage S of the River Islands between June and August, because icebergs sometimes ground in the shallow water farther N.

10.15 Saint Lewis Inlet (52°21'N., 55°55'W.) can be entered from either N or S of the River Islands. Because of the great depths in its outer part and the exposed nature of the inlet, there is no good anchorage in Saint Lewis Inlet, with the exception of Effingham Harbor, until vessels are about 9 miles inside the entrance. The bottom everywhere is mud.

Navigation becomes intricate above **Black Fly Island** (52°24'N., 56°02'W.). However, vessels with local knowledge, drawing up to 5.5m, can ascend about 5 miles farther to the mouth of the Saint Lewis River.

The shores of the inner part of Saint Lewis Inlet are densely wooded and rise to granite hills; clay cliffs form the shore in the vicinity of the Saint Lewis River. Mosquitoes and black flies abound.

Ice.—Saint Lewis Inlet freezes over about December 25; the ice breaks up about May 10. The approaches are sometimes encumbered with drift ice up to about July 15.

Black Fly Island is wooded and fringed by boulders which extend about 0.3 mile SE from it and from its NW extremity to the N shore of the inlet. The channel SW of Black Fly Island is navigable and has a least depth of 9.1m.

A 5.5m shoal lies in mid-channel 0.5 mile WNW of the W extremity of Black Fly Island. The depth close N of the shoal is 11m; the depth close S of the shoal is 9.1m.

Anchorage.—Good anchorage can be taken, in depths of 9.1 to 16.5m, mud and stones, in a position about 0.8 mile W of the NW extremity of Black Fly Island.

Wood Island (52°25'N., 56°06'W.) is densely wooded with spruce and birch. The channel S of the island is very narrow and has depths of 3.7 to 6.4m. The channel N of the island is wider and has depths of 5.5 to 25.6m.

Cape Saint Lewis to Port Hope Simpson

10.16 This section of the coast is indented by bays, sounds, and inlets, within which numerous harbors provide anchorage to both large and small vessels. These indentations and their approaches are encumbered with islands, islets, and dangers and local knowledge is required to enter. There are no major ports along this section of the coast, but numerous settlements with extremely limited facilities and supplies, have occasional ship communication with other Labrador and Newfoundland ports. If bound for this section of the coast, **Cape Saint Michaels** (52°41'N., 55°46'W.) is a good landfall.

Winds—Weather.—The dry dense fog which occurs with a SW wind seldom extends N of Cape Saint Lewis, though a stream of thick fog may be issuing from the Strait of Belle Isle.

Tides—Currents.—The current off this section of the coast frequently attains velocities of 1 to 2 knots; it brings icebergs from N during the summer, which ground on the banks, sometimes in depths of 55m.

Depths—Limitations.—The 200m curve trends irregularly N along this section of the coast at distances varying from 15 to 35 miles offshore; however, depths of over 200m parallel the

coast in the form of a narrow band which lies within 5 miles of the shore.

Caution.—Uncharted dangers exist within 5 miles of the shore and off the off-lying islands between 53°20'N and 54°20'N. A ferry route lies about 14 miles E of Lewis Sound and extends N to a position about 14 miles E of Cape St Michaels and then continues N to the Island of Ponds. The route extends from Lewis Sound, near charted fishing zone 4, and extends NE seaward about 40 miles.

10.17 Cape Saint Lewis (52°22'N., 55°38'W.) is a promontory which rises precipitously to dark red, granite hills, 122m high. The highest land above the cape is partly wooded and has a double summit falling abruptly to Fox Harbor.

Saint Lewis Rock, 1.2m high and black, lies close to the shore in a position 0.3 mile S of the cape. A 1.8m shoal area extends from the W side of Saint Lewis Rock.

Deepwater Creek Cove is a narrow inlet on the N side of Cape Saint Lewis, having steep rocky sides and general depths of 20 to 24m.

Southern Head (52°23'N., 55°38'W.) is 119m high and steep-to. Northern Head, about 1.2 miles N of Southern Head, is a cliff which rises to a round hill, 105m high, with conspicuous white stripes on its N side.

Petty Harbor, which is approached between Southern Head and Northern Head, lies W of a peninsula, 28m high, extending from the S shore about 1.5 miles NW of Southern Head. From its entrance the harbor extends W for about 1 mile, widening to about 0.4 mile at its head. The entrance channel turns sharply around the NW end of the peninsula and has a depth of 7.3m, but it is contracted to a width of 45m by a rock, with a depth of 2.7m, lying 45m off the S shore close within the narrows. Local knowledge is required.

The HW interval of tides at Petty Harbor full and change is 7 hours 12 minutes; springs rise 1.4m while neaps rise 1.1m.

Hogan Cove indents the N side of the harbor, about 0.3 mile within the narrows. A rock, with a depth of 4.6m, lies about 90m off the W entrance point of this cove.

Barren Bay (52°25'N., 55°38'W.), an open bay with a small shoal area at its head, has general depths of 23.8 to 33m, but affords little protection and is entered between Northern Head and Salmon Bight Point, 0.8 mile N. The shores of the bay are steep, rising to over 61m, while the head of the bay is low and wooded, with a stream emptying into the head.

The Pig, a rock, awash, lies close offshore, about 0.2 mile N of Salmon Bight Point.

Spear Harbor (52°26'N., 55°38'W.) should not be attempted without local knowledge. The outer harbor is exposed to the E. The inner harbor is sheltered by two islands which lie 0.8 mile W of Spear Point.

Ice.—The entrance to Spear Harbor is sometimes blocked by icebergs. West winds normally clear the harbor entrance.

10.18 Spear Point (52°27'N., 55°38'W.) is 62m high; a rock, which dries, lies close SW of it. Offer Bank and Greenfield Shoal, each with a depth of 18.3m, lie about 0.4 mile SSE and 0.5 mile ENE, respectively, of Spear Point. Tinker Bank, with a depth of 7.3m, lies about 0.5 mile NW of Spear Point.

Jack Fling Island (52°28'N., 55°39'W.) is a conical gray island divided into two sections by a narrow shoal channel. A

low black rock lies close off the E extremity of Jack Fling Island. Fling Bank, with a depth of 11m, lies about 0.2 mile N of Jack Fling Island.

Fish Island (52°28'N., 55°40'W.), 20.1m high, lies about 0.4 mile NW of Jack Fling Island. Herringnet Island, 35m high, and High Island, 40m high, lie between Fish Island and the coast SSW. The Scab, a rock with a depth of 2.7m, lies about 0.2 mile WNW of Fish Island.

Mad Moll Rock (52°28'N., 55°40'W.), with a depth of 1.8m, lies between Jack Fling Island and Herringnet Island, in the middle of the approach to Seal Bight.

Seal Bight, about 0.5 mile SW of Jack Fling Island, is not suitable as an anchorage because N gales create a heavy sea.

The **Double Islands** (52°29'N., 55°41'W.) are two bare gray rocks, the higher 19.8m. The rocks are separated from each other by a shallow, rocky channel. They are steep-to except for a reef extending 230m E from the N rock; a rock, with a depth of less than 1.8m, lies on the reef. **Double Islands Bank**, with a depth of 15.5m, lies about 0.5 mile NW of the Double Islands. The sea is reported to break on it during heavy gales.

Flat Island, a black rock, 6.1m high, lies 1.2 miles WNW of the Double Islands; its E and W ends are both foul, and sunken rocks extend 0.1 mile N and 0.12 mile S from its E extremity.

The Skerries (52°30'N., 55°42'W.), a bank with a depth of 14.9m, lies 0.8 mile NE of Flat Island; the sea is reported to break on it during heavy gales.

10.19 Salt Pond Head (52°28'N., 55°42'W.) bold and steep-to, rising to 61m, forms the SE entrance point of an irregular inlet in which Port Charlotte, Mecklenburg Harbor, and Sophia Harbor are located.

Soldier Shoal, a detached 4.6m patch, lies in the entrance to the inlet in a position about 0.2 mile N of Salt Pond Head; an 8.7m patch lies 0.3 mile farther N.

Chapel Island, on the NW side of the entrance of the inlet, is cliff-faced in its NE part, and green and sloping in its SW part. The sea usually breaks over Chapel Island Rock, off the SSE side of the island.

Sophia Harbor, in the SE part of the inlet, is suitable only for small vessels with local knowledge. Mosquito Cove, close W of Sophia Harbor, is open to the NE and provides no shelter. Little Harbor, NW of Mosquito Cove, affords good shelter for small vessels with local knowledge. **Port Charlotte** (52°27'N., 55°45'W.), the largest arm of the inlet, provides good anchorage, but entrance should not be attempted without local knowledge.

Anchorage.—Mecklenburg Harbor, the W extension of the main inlet, has an outer and an inner anchorage. The outer anchorage, as far as Green Island, is easy to access, clear of dangers, and provides sheltered anchorage, in 22 to 33m. The inner anchorage is entered with local knowledge.

10.20 The mainland NW of Chapel Island is indented by a large unsurveyed unnamed bight. Off the N entrance point of this bight three small islands, which are almost connected to the mainland at LW, extend NE. **Swirlers Point** (52°30'N., 55°45'W.), the E extremity of the outer island, is also the S entrance point of Alexis Bay.

Caution.—A large shoal area, with depths of less than 11m, lies about 0.3 mile E of Swirlers Point. Mad Moll Rocks,

which dry, lie on the S extremity of this shoal area. Two shoals lie about 0.3 mile SSE and 0.5 mile SE of Mad Moll Rocks, with depths of 4.3m and 4m, respectively.

Denbigh Island and Granby Island lie in the entrances to Alexis and Gilbert Bays. The channels between the islands lead into the Alexis River and Gilbert Bay, but they contain numerous islands and rocks. Only the channels leading into the Alexis River have been surveyed; the others should not be attempted without local knowledge.

Ice.—The approaches to the Alexis River and Gilbert Bay freeze over about December 25, and the ice breaks up about May 10. These approaches are sometimes encumbered with drift ice until July 15.

10.21 Alexis Bay (52°32'N., 55°52'W.), entered between Swirlers Point and Red Point, about 1 mile NNW, extends WNW for about 16 miles. It is encumbered with numerous islands. The Alexis River enters the head of the bay in its W part.

Denbigh Island (52°33'N., 55°50'W.) divides the approach channel of the Alexis River from that of Gilbert Bay. The island occupies a large proportion of the outer part of Alexis Bay. The S shore of the island is indented by two bights and a shallow inlet about 1.2 miles long. A channel, about 0.3 mile wide, separates the island from Granby Island and Leg Island to the N. Main Tickle separates Denbigh Island from the large island to the NW.

Caution.—A reef, with a depth of 4m, has been reported at the NE entrance to Main Tickle, on the NW side of the channel.

10.22 Bobbs Island (Bobs Island), lying about 0.4 mile WSW of Red Point, is about 15m high and rocky. A light is shown from a white square tower on the S side of the island.

Bold Island (52°30'N., 55°48'W.) and Otter Island are two small conspicuous islands lying near the S side of the channel, about 2 miles W of Swirlers Point.

Saddle Island, a small steep-sided island with a grass-covered summit, lies 0.8 mile NW of Bold Island. A low, rocky, and barren islet lies close W of Saddle Island.

Ship Harbor (52°30'N., 55°50'W.), about 3 miles inside Alexis Bay on the S side, has general depths of 11 to 37m.

Caution.—A reef, with a depth of 2.7m, lies in the entrance to Ship Harbor.

10.23 Gull Rock (52°32'N., 55°53'W.), lying 2.5 miles WNW of Saddle Island, has a sparse cover of grass. A small low-lying bare rock lies close off its NE side.

Ballast Island, lying about 0.4 mile W of Gull Rock, is rocky with patches of grass on it.

Three islands lie in an E-W line SSE of Ballast Island. The central and largest island is prominent. It has steep, dark cliffs on its N side, which contrast with the sand-colored shore to the S.

A reef, with a depth of 11m, lies near mid-channel, about 1 mile WSW of the S end of Ballast Island.

Cartwright Island (52°32'N., 55°57'W.) is separated from Ballast Island on its E side by a narrow shoal channel, 0.1 mile wide.

Barns Cove Water separates Cartwright Island from the large island to the N. Northern Ships Run, on the SW side of Cartwright Island, is the main navigation channel. A small un-

named island, covered with patches of grass and shrubs, lies off the SE side of Cartwright Island.

Lazyman Island (52°32'N., 56°00'W.) forms the S side of Northern Ships Run. It is mainly rocky, with sparsely scattered trees and shrubs. Raft Island is a small rock lying about 0.2 mile off the NE end of Lazyman Island.

Mungo Run is the channel lying between Lazyman Island and the mainland. A shallow spit extends into the channel from the S side of Mungo Run.

Little Coopers Island lies almost 2 miles WNW of Lazyman Island. Nevile Island lies NW of Little Coopers Island from which it is separated by a channel 0.2 mile wide and 20m deep. Nevile Island is steep, rocky, and densely wooded near its W end; the E end is lower, bare, and rocky. The recommended shipping channel leads N of Little Coopers and Nevile Island.

Juniper Island (52°33'N., 56°08'W.) lies 0.5 mile W of Nevile Island at the entrance to the Alexis River. It is low and densely wooded. The channel separating it from the mainland 0.2 mile S is foul.

Grove Island, 52m high, lies 1.6 miles SW of Juniper Island, is heavily wooded, and divides the Alexis River into two channels. It is almost joined to the mainland at its W end where Dark Tickle, the narrow passage N of the island, is nearly closed by a narrow bar with depths of 1.2m.

10.24 Light Tickle (52°32'N., 56°10'W.), the channel S of Grove Island, is part of the main passage to and from Port Hope Simpson and is the narrowest and shallowest of the whole passage. It has an uneven bottom of mud and rock. The navigable width is greatly reduced by shoal water bordering its shores. The limits of this shoal water are marked by lighted buoys.

Light Tickle N-S Range, consisting of lighted range beacons, is situated on the SE shore of the tickle. These lighted range beacons, in line bearing 216°13', lead through the fairway E of Grove Island, in a least depth of 7m.

Light Tickle E-W Range, consisting of lighted range beacons, is also situated on the SE shore of the tickle. These lighted range beacons, in line bearing 106°26' astern, lead through the W reach of Light Tickle, over a least charted depth of 10m.

Seal Rocks (52°32'N., 56°13'W.), a group of low bare rocks, lie on the S side of the river, nearly 0.8 mile W of the W extremity of Grove Island. A shoal, with a least depth of 3.3m, lies 0.1 mile NW of Seal Rocks and another shoal, with a least depth of 5.5m, lies 0.3 mile E of the same rocks. A low-lying densely-wooded point 0.6 mile W of Seal Rocks extends NW from the mainland and has a 2.1m reef lying 0.1 mile N of it. An 8.8m shoal patch is charted about 0.2 mile NNW of the same point.

Port Hope Simpson (52°33'N., 56°18'W.)

10.25 Port Hope Simpson is a settlement situated on the S shore of the Alexis River, 4 miles W of Grove Island. The navigation season is from June to December.

Tides—Currents.—At Port Hope Simpson HHW of large tides rises 1.7m above the lowest normal tides; LLW rises 0.1m.

Depths—Limitations.—A T-shaped public wharf, 86m long, with a depth alongside of 7.3m, is situated about 0.8 mile



Port Hope Simpson

SE of the settlement.

The E side of Denbigh Island is indented by two bays. **Blackguard Bay** is shoal even for small craft. **Merchantman Harbor**, the N bay, affords good anchorage in a depth of 14.6m, in the central part of the harbor. It can be entered from the S or W of Skinny Island. Both entrances are narrow; the N entrance has a least depth of 5.5m.

Aspect.—A conspicuous ravine, about 21m wide, which starts at sea level and penetrates the coastline for about 91m, is cut in the low steep cliff which forms the NNW entrance point of Blackguard Bay.

Five oil storage tanks, near the root of the T-shaped jetty, are prominent.

Anchorage.—A good anchorage, in 14.6m, with a mud bottom, lies 0.8 mile E of the settlement. This anchorage is used by deep-draft vessels when loading at the settlement.

Directions.—When entering Alexis Bay bound for Port Hope Simpson, steer to pass Red Point, the SE extremity of Denbigh Island, at a distance of about 0.4 mile. Then steer to pass 0.1 mile N of Bold Island, until directly S of Saddle Island, at which point course should be altered to the NW to pass midway between the rocky point forming the N end of the peninsula, which projects from the W shore of Ship Harbor, and Denbigh Island. On reaching the center of the narrows between the rocky point and Denbigh Island, alter course to the W to pass about 0.1 mile N of the small bare rock lying 0.7 mile ESE of Gull Rock.

Once past this rock, steer to pass midway between it and Gull Rock, then in mid-channel between Ballast Island and the small islands lying 0.5 mile to the SE. This will lead to the entrance to Northern Ships Run. Caution should be exercised to avoid the reef, 11m deep, lying in mid-channel, 1 mile SW of Ballast Island. The only danger in Northern Ships Run is Raft Island on its NW side.

The recommended track, after leaving Northern Ships Run, leads N of Little Coopers Island and Nevile Island to the entrance of Light Tickle. Care should be taken to give Juniper Island a wide berth in order to clear a shoal, with a depth of

10.7m, lying 0.2 mile NW of the island.

Caution.—Red Point Bank, a reef with a least depth of 5.2m, lies 0.5 mile NE of Red Point. The bank is marked by a lighted buoy. Another reef with a depth of 9.8m lies midway between Red Point and Red Point Bank. Dickies Rocks are a group of several above and below-water rocks lying close off the NNW entrance point of Blackguard Bay.

10.26 Gilbert Bay (52°32'N., 55°44'W.), located close N of Alexis Bay, extends inland for about 16 miles, where it joins the Gilbert River. The bay is entered between Red Point and Shoal Point, the SE end of Granby Island. Gilbert Bay can also be entered through a small channel at the north end of Granby Island and through Main Tickle, the channel joining Alexis and Gilbert Bays, located at the NW end of Denbigh Island.

Vessels drawing as much as 6.1m can navigate for 15 miles into Gilbert Bay, almost to its W limit. Numerous shoals border both sides of the bay and a mid-channel course is recommended.

Anchorage.—The head of Gilbert Bay provides good anchorage, in 12.8m, mud bottom, sheltered from all winds.

Granby Island

10.27 Granby Island (52°34'N., 55°45'W.) rises from its SE extremity, Shoal Point, to a conspicuous flat-topped hill, 156m high. The S shoreline from Shoal Point to Williams Harbor has steep, bare, rocky slopes.

Cooper Island (Copper Island) (52°32'N., 55°43'W.) is a grass-covered island. Its E side rises steeply to a height of 65m, then descends in a gradual slope to the island's W extremity. A beacon, consisting of a high bare mast, stands close E of, and a little below, the SE summit of the island. The Sinker, a rock which dries 1.5m, lies in the middle of the channel between Cooper Island and Granby Island.

Little Cooper Island, a low bare rocky islet, lies close W of the NW extremity of Cooper Island. Shinney Rock, with a depth of 5.5m, lies in mid-channel between Little Cooper Island and Shinney Point, the E extremity of Skinny Island. A lighted buoy is moored about 0.4 mile west of Little Cooper Island, marking the E side of Shinney Rock.

Williams Harbor (52°33'N., 55°46'W.) is the site of a fishing settlement.

A dome-shaped island, with an elevation of 42m, divides the harbor entrance into two channels. Blind Tickle, the E channel, is foul and should not be used. The W channel is 0.1 mile wide, with mid-channel depths of 10.7m. The harbor is protected from all winds, but the swinging room is limited and it is probably too deep for a secure anchorage.

A shoal depth of 4.3m is located in the harbor entrance close SE of the W entrance point. Shelving rock extends NW from this shoal to a rock, which dries 1.2m. An approach slightly favoring the E side of the harbor is recommended when entering Williams Harbor.

An L-shaped public wharf, situated on the N side of the harbor, has an outer end with a length of 19m and an alongside depth of 4.8m. A marginal wharf, 62m long, with depths of 1.8 to 4m alongside, extends W from the inner end of the public wharf.

10.28 Granby Island—East side.—The E side of Granby Island, 1 mile N of Shoal Point, is indented by **Saint Francis Harbor** (52°33'N., 55°43'W.), which is divided into two arms by Round Hill, a promontory, 25m high, which has a low islet close off its SE side, and Chain Rocks, low and flat, close off its NE side.

Anchorage.—Round Harbor, the S arm, provides good anchorage for small vessels, in 8.2m, sand and gravel.

The N arm, entered N of Chain Rocks, has a house and some stores on the N shore. A rock, with a depth of 1.5m, lies about 90m offshore, E of the storehouses.

Cape Saint Francis (52°34'N., 55°42'W.) is the SE extremity of a flat-topped rocky island separated from Granby Island by a narrow boat channel. Magnetic disturbances have been observed near Cape Saint Francis; the principal area lies within 1 mile seaward of a line of bearing between the cape and the NE extremity of **Hare Island** (52°35'N., 55°44'W.).

10.29 Granby Island—North side.—Three small bays, Indian Bight, St. Francis Harbor Bight, and Georges Cove, are located on the N side of the island. **Indian Point**, a steep bluff rising to 59m, lies 1 mile NW of Cape St. Francis. Indian Bight, a deep inlet ending in a ravine, is on the W side of Indian Point.

Burke Island, about 320m W of Indian Point, is separated from the coast by Shoal Tickle, a boat channel. Small summer fishing stations are located in St. Francis Harbor Bight and Georges Cove.

Anchorage.—**Saint Francis Harbor Bight** (52°35'N., 55°44'W.) provides anchorage, sheltered from all winds, in a position SE of the Flat Islands, which are located in a position about 0.2 mile W of Burke Island. A 14m shoal patch lies in the entrance of the bight, about 0.1 mile E of the N Flat Island.

Long Island (52°35'N., 55°44'W.) lies off the entrance to St. Francis Harbor Bight and is separated from Hare Island to the NE by Pipers Tickle.

Hare Island is dark and flat-topped. Red Island lies about 0.3 mile E of Hare Island. A shallow spit ending in a drying rock at its outer end extends 0.1 mile S of the island. Red Island Shoal, 0.2 mile SE of the island, has a depth of 9.4m.

The **Fishing Islands** (52°36'N., 55°45'W.), three in number, form the E and S sides of Fishing Ships Harbor. These islands are Bull Island (East Island), Middle Island, and West Island (Killey Island).

Caution.—The Bull, a submerged rock, lies close off Black Point, which forms the SE extremity of Bull Island. The Cow is a submerged rock lying in the entrance to a narrow cove which indents the N side of Bull Island.

10.30 Fishing Ships Harbor (52°37'N., 55°46'W.) has a radio station and regular vessel communication with other Labrador and Newfoundland ports.

West Tickle, which separates the W end of **West Island** (52°36'N., 55°47'W.) from the mainland, is shoal. Northwest Arm, between West Island and the mainland N, is clear of dangers, except for a rock with a depth of 2.4m, which lies nearly 0.1 mile offshore off the entrance of West Tickle.

Lance Cove, about 0.5 mile W of **Bull Island** (52°36'N., 55°45'W.), is shoal and affords little protection.

Sloop Cove, about 0.2 mile N of the W extremity of Bull Island, provides good shelter to small vessels off the houses at its head.

Caution.—The Chimney is a shoal spot, with a depth of 11m, lying about halfway between the N side of the W part of Bull Island and Sloop Cove Head.

10.31 Caplin Bay, close N of Sloop Cove, affords anchorage to small craft only in a basin in its SW part.

Ship Harbor (52°39'N., 55°45'W.) is entered between Southern Point and Ship Harbor Head, about 1 mile NNE. Southern Point is a narrow projection, rising to two mounds, 12.2 and 18.3m high, respectively. Ship Harbor Head is the E extremity of a rugged promontory, over 183m high, steep-to, and faced by steep bluffs with red patches. There is regular vessel communication with other Labrador and Newfoundland ports.

Anchorage.—Anchorage can be taken in Ship Harbor, in 29.3m, mud, good holding ground, off Russel Cove.

Good Cove, 0.8 mile NW of Ship Harbor Head, is the only place in the vicinity where landing can be effected in ordinary weather, or with even a slight E swell. The cove is entered W of a low point, and then extends SE about 90m; it has depths of 5.5 to 11m.

A rock, with a depth of 7.3m, lies about 0.5 mile N of Ship Harbor Head, and about the same distance E of Good Cove.

The **Twin Islands** (52°40'N., 55°45'W.) front the entrance of Occasional Harbor, about 1.2 miles NNW of Ship Harbor Head. The E and larger island rises in two grass-covered, conical mounds, the higher, 37m high; the W island is a narrow black rock, 9.7m high. The islands should be approached with caution because of the foul ground extending from most of their points.

10.32 Occasional Harbor (52°40'N., 55°46'W.) has depths, in the outer portion, too great for anchorage, but there are several coves within the W reach that provide shelter. It is reported that no swells reach the inner harbor even during heavy weather.

Anchorage.—Anchorage can be taken off the entrance of French Cove in Delaney Cove, in 18.3m, S of the point separating French Cove and Trout Cove, in 20.1 to 25.6m. Arch Cove provides secure anchorage, in 9.1 to 21.9m.

Cape Saint Michael (52°41'N., 55°46'W.) is the NE end of the promontory separating Occasional Harbor from Saint Michael Bay. The cape is high and bold, rising to a height of 171m. Hole in the Wall, a remarkable ridge with a hole through it, lies on the NE side of Cape Saint Michaels.

Saint Michaels Bay (52°42'N., 55°50'W.), where anchorage can be taken in several places, is divided into two parts by Square Island. White Bear Arm extends about 8 miles NW from the head of the bay, but the approaches to this arm are encumbered with islands and rocks, and should not be attempted without local knowledge.

Ice.—White Bear Arm freezes over about December 25; the ice breaks up about May 10. The approaches are sometimes encumbered with drift ice until July 15.

Square Island (52°45'N., 55°50'W.) is bare and rises to a double hill, 155m high; the coasts are bold and intersected by ravines.

St. Michaels Bay

10.33 St. Michaels Bay—South entrance.—The S or main entrance to the bay contains the main channel for vessels bound for White Bear Arm and Charlottetown.

Caution.—Three shoal banks lie in the approaches to the S channel of St. Michaels Bay. Main Cape Bank (52°42'N., 55°46'W.) lies about 0.5 mile NE of Main Cape, the S entrance point of St. Michaels Bay, and has a depth of 10.4m. Hampton Bank (52°43'N., 55°47'W.) lies 1.5 miles NNW of Main Cape Bank; it has a depth of 11m. Mad Moll, a rock with a depth of 2.1m marked by a lighted buoy, lies about 1 mile WSW of Hampton Bank.

10.34 East Island (52°44'N., 55°49'W.) is 73m high at its N end; at its S end there is a rocky hummock, 15m high, which is connected to the island by a strip of low land. The channel between East Island and Square Island forms the N approach to Square Island Harbor. Icebergs frequently drift through this channel during the summer.

West Island (52°43'N., 55°49'W.), lying close S of East Island, rises in a steep bluff at its S side. The channel between West Island and the coast of Square Island is deep and forms the S approach to Square Island Harbor. **Motion Island**, 16m high cliff, lies on the W side of the S entrance to the approach channel. The E approach channel, lying between East Island and West Island, is free of dangers.

The Sisters (52°43'N., 55°48'W.) are three islets which lie about 0.1 mile S of West Island. The E and W extremities of these islets are foul and should not be approached within 0.3 mile.

The Ribs are two rocky patches, marked by breaking water, lying about 1 mile E of East Island. There is a least depth of 3.7m on the S reef. A depth of 14.1m lies about 0.7 mile W of the 7.3m patch of The Ribs.

Square Island Harbor (52°44'N., 55°50'W.), which has regular vessel communication with other Labrador and Newfoundland ports, is a W indentation in the E side of Square Island, abreast the N extremity of West Island. The harbor has considerable depths close inshore, and it is a convenient stopping place for fishing vessels.

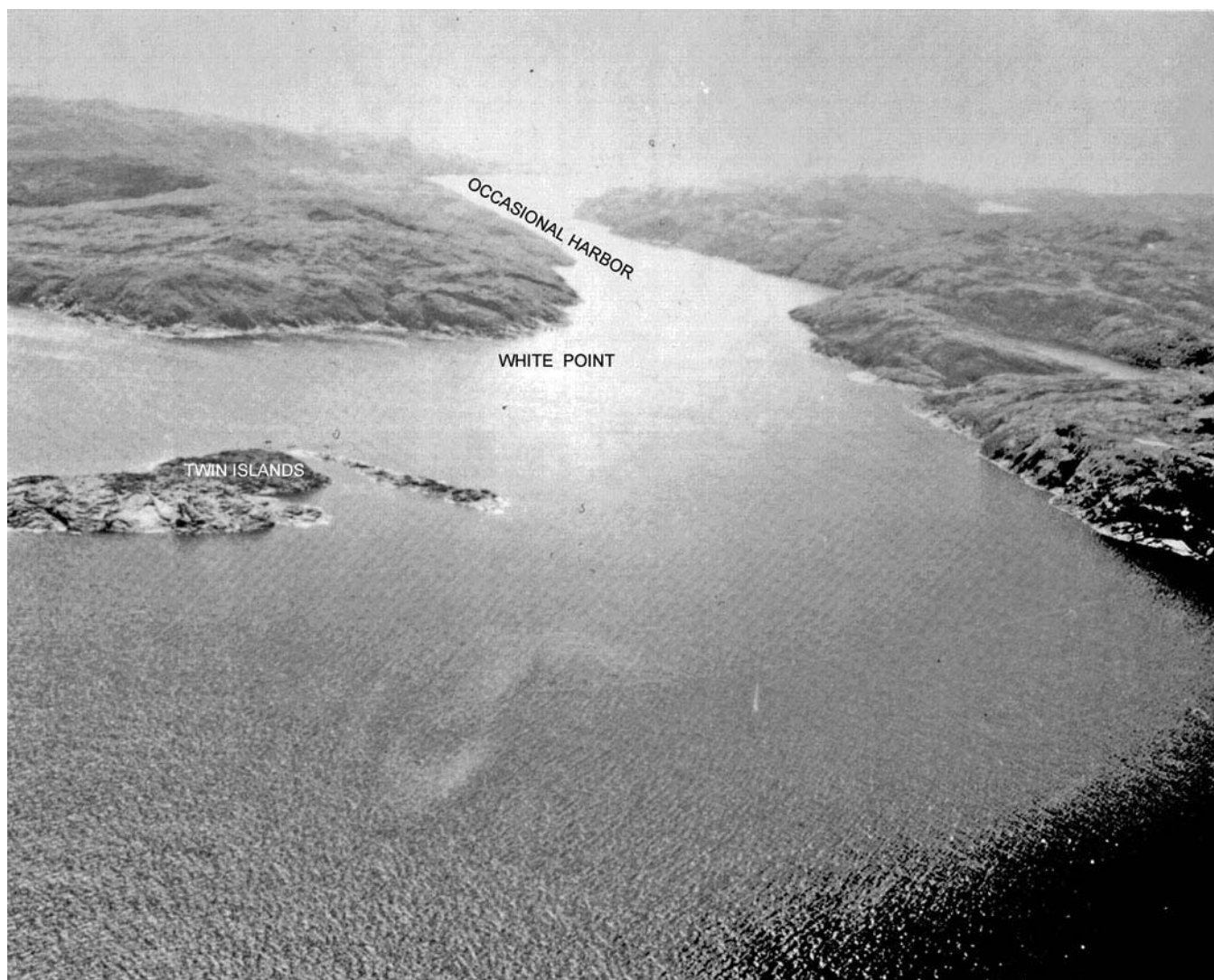
Harbor Rock, 3.4m high, lies off the N entrance point of Square Island Harbor; a shoal, with a depth of 9.1m, lies about 0.1 mile E of it. Harbor Point, the S entrance point, has a rock close off it, and a rock dries inside the harbor on the N side.

Anchorage.—Anchorage can be taken in Square Island Harbor, in 21.9m. There is no swinging room in the harbor, but one or two vessels might anchor and secure to the shore. Vessels should leave promptly, however, at the approach of an E gale. Sheltered anchorage can be found in the N end of the central channel, in 27.4m.

On the S side of the harbor is a small church with a white cross. This structure can be used as a daytime anchorage reference mark.

10.35 St. Michaels Bay—South side.—The S side of the bay is indented with numerous coves and bays. There are also many islands, most of which are not named on the chart.

First Point (52°42'N., 55°49'W.) is the N extremity of Cape St. Michaels; there is a depth of 8.8m close offshore. First



Approach to Occasional Harbor

Point lies 1.5 miles WNW of Main Cape; between these points are several deep coves.

Scrammy Bay (52°42'N., 55°50'W.) is a small indentation that is partially sheltered from the NW by Pinsent Island, which lies nearly 0.3 mile off the bay's W entrance point. Scrammy Islet lies between Pinsent Island and the mainland S.

Pinsent Rock, 0.6m high and steep-to on its NW side, lies about 0.2 mile NW of Pinsent Island. Lazy Bank, with a depth of 10.1m, lies about 0.2 mile NNE of Pinsent Island. Hussey Rock, with a depth of 2.7m, lies 0.1 mile E of Pinsent Rock. Lump Rock, awash, lies about 0.1 mile offshore, nearly 0.5 mile SW of Pinsent Rock.

George Cove, 0.8 mile SW of Pinsent Rock, provides good shelter for boats. An uncharted shoal is reported to lie near the middle of the cove.

Pinsent Arm (52°41'N., 55°54'W.) is clear of dangers as far as the narrows, about 0.5 mile within the entrance. The SE side of the arm rises to mossy hills backed by a range, 252m high,

the highest in the S part of the E coast of Labrador. The NW side is formed by a peninsula, 111m high, with an islet, 11m high, close off its NE extremity. The narrows lie between two hillocks, the N 18m high, and the S lower. Two low islets lie close off the N hillock. A rock, which dries 0.6m, lies close off the S hillock and narrows the channel to a width of 90m; this channel is foul and should not be attempted without local knowledge.

Anchorage.—Good anchorage can be taken, in 9.1 to 12.8m, sand, near the N shore within the narrows. A small settlement is situated on the N side of the narrows.

10.36 Long Island (52°42'N., 55°52'W.) is the E island of the chain located in the S part of St. Michaels Bay. The island appears as a cone from the SE. A chain of above and below-water rocks and shoals extends NW from an islet off the N side of the island.

Anchorage.—Anchorage can be taken, in 14.6 to 21.9m,

coral and rock, on a bank extending 0.3 mile off the E cove on the S side of Long Island.

Pigeon Island lies in mid-channel, 0.5 mile N of Long Island.

Caution.—A reef, with a depth of 1.8m, lies 0.2 mile ESE of Pigeon Island. Another reef, with a depth of 4m, lies 0.3 mile W of the same island.

10.37 Burnt Island lies 0.8 mile N of Long Island and is connected with the SW extremity of Square Island by a drying flat, SE of which a small bay is formed between the two islands. An islet, with a shoal area extending about 135m SE from it, lies in the N part of this small bay. A group of islands W of Burnt Islands obstructs the entrance of White Bear Arm; W of Burnt Island are Whitefish Island (not named on the chart) and Narrows Island (not named on the chart), which form the N side of the channel leading to White Bear Arm. Deepwater Island (not named on the chart) lies 0.1 mile SW of Whitefish Island. The islands, fronting the large unnamed bay W of Pinsent Arm, form the S side of this channel.

The recommended shipping channel in St. Michaels Bay leads between Pigeon Island and Burnt Island; the channel leading through the narrows S of Whitefish Island and Narrows Island is marked with several navigational aids. Past the narrows is a good channel leading through the W part of St. Michaels Bay and along White Bear Arm. Vessels with drafts of up to 5.2m navigate these waters. The channel should not be attempted without local knowledge. Four lighted buoys mark the channel near the W end of Narrows Island. Deep-water Island Light is shown from a mast on the N side of the island.

Caution.—A rocky reef, with a depth of 2.4m and marked by a lighted buoy, lies on the N side of the channel just past the W narrows, 1.7 miles NW of Deepwater Island Light.

10.38 White Bear Arm has deep water throughout with few dangers. The arm is entered about 6.5 miles WNW of Burnt Island.

Goose Island (52°48'N., 56°06'W.), 15m high, lies near the middle of White Bear Arm about 4 miles from its head. A light is shown from a red mast on the E end of the island.

Caution.—A rock, which dries, lies about 0.4 mile ENE of Goose Island.

Charlottetown (52°46'N., 56°07'W.) is a settlement lying on the S shore of an unnamed bay, 1.3 miles S of Goose Island. A wharf, with depths of 5.5m along its W face and 5m along its E face, is situated at the settlement. Shoal depths of 4.3 to 4.9m lie within 105m of the outer end of the wharf.

10.39 St. Michaels Bay—North side.—Sugarloaf (52°46'N., 55°48'W.), the NE extremity of Square Island, rises to a truncated conical point, 67m high. Gull Island lies about 0.1 mile N of Sugarloaf. Close N of Gull Island is an islet, 2.1m high, with a reef extending seaward from it. Snappers Cove, on the S side of Sugarloaf, has two small sunken rocks in it with depths of 8.2m and 9.1m, respectively. Both rocks are steep-to and lie about 0.1 mile offshore.

White Point, a small projection, lies close WNW of Sugarloaf. A rock, with a depth of 2.7m, lies in a position about 90m NE of the point. Nowlan Head, 56m high, lies 0.8 mile W of White Point. Nowlan Harbor, entered 0.25 mile S of Nowlan

Head, is suitable for small craft.

Bar Cove Head (52°47'N., 55°51'W.) rises to an elevation of 93m, 0.5 mile W of Nowlan Head. Bar Cove and Cashman Cove, neither of which provide shelter, indent the coast on the E and W side, respectively, of Bar Cove Head. A rock, with a depth of 0.6m, lies close E of the W entrance point of Cashman Cove, and about 0.2 mile NW of Bar Cove Head. **Red Island**, 4.5m high, lies about 0.1 mile N of the W entrance point of Cashman Cove.

The **Dead Islands** (52°49'N., 55°50'W.), a group of large and small islands, lie close offshore between the N side of St. Michaels Bay and Square Island.

Gull Island, the N island of the Dead Islands, lies about 1 mile SW of Cape Bluff. The island is conical, dark, and conspicuous. Meeting House Island, an islet, lies about 0.1 mile SE of Gull Island.

10.40 North Island (52°49'N., 55°50'W.), lying about 0.3 mile S of Gull Island, is 61m high. Eastern Island, 43m high, lies close N of the E extremity of North Island.

West Island (52°48'N., 55°51'W.), the largest of the Dead Islands, is cliffy and steep-to on its S side. Its NW side is separated from a group of islands by a narrow channel. An islet, 4.9m high, lies near the N end of this channel, and there is a 3.7m shoal about 90m farther NW. Western Point is the SE extremity of an island that lies close S of the SE end of West Island. A 3.7m shoal extends a short distance E from Western Point.

West Island and North Island are separated by **Stowe Tickle**, a narrow channel, the E end of which can be entered by small vessels with local knowledge. A rock, which dries 1.6m, lies in mid-channel at the narrows, where the passage is only 90m wide. The rock is connected to West Island by a shoal, and a shoal area extends about 135m NE from it. The W end of Stowe Tickle is almost blocked by an islet, 0.6m high, surrounded by rocks with depths of 1.8m. The depth in the narrow channel N of this islet is 2.1m; the channel S is foul.

10.41 Bull Island (52°48'N., 55°49'W.) has a conspicuous vein of quartz on its seaward side and marks the S entrance point of Dead Island Harbor. The Bull, a rock with a depth of 2.7m, lies 0.1 mile E of the SE extremity of Bull Island. Butler Island is connected by rocks with the W side of Bull Island. Harbor Island, 0.1 mile NW of Bull Island, is 30m high. The Flats, a group of three islets, lie close together 0.15 mile E of Harbor Island; the NE and largest of these islets is 3.9m high.

Dead Island Harbor, between West Island and North Island and sheltered at the entrance by Harbor Island and Bull Island, has regular vessel communication with other Labrador and Newfoundland ports. It can be entered on either side of Harbor Island, but the better channel is between Harbor Island and Bull Island. Stowe Tickle leads W from the W end of the harbor. Harbor Rock, which dries 1.6m and always breaks, lies just inside the entrance. Another rock, with a depth of 2.1m, lies about 45m SW of Harbor Rock. A shoal area, with rocks that dry 0.9m, extends 0.1 mile NE from Stowe Tickle Point, the NE extremity of West Island.

Anchorage.—Anchorage can be taken in Dead Island Harbor by vessels with local knowledge, in 18.3 to 21.9m. A cove on the E side of West Island, close S of Stowe Tickle Point,

provides good anchorage for small vessels with local knowledge. Vessels can anchor in the middle of this cove, in 6.4m, sand, but should not approach within 0.1 mile of the shores because of sunken and drying rocks.

The N side of St. Michael Bay is indented by three inlets.

10.42 Cape Bluff Harbor (52°51'N., 55°52'W.) is entered between Pigeon Island and the SW side of Cape Bluff. The entrance is about 0.5 mile wide. The harbor extends WNW about 1.5 miles and then divides into Northern Arm, which is narrow, and Southern Arm, which provides good anchorage for small vessels with local knowledge, in depths of 16.5 to 21.9m, mud. A shallow inlet extends SE from Southern Arm.

Harbor Islets, the highest 17m high, lie in the middle of Cape Bluff Harbor, 0.8 mile within the entrance. Foul ground, which is steep-to, extends a short distance from the islets. A rock, with a depth of 2.7m, lies close E of these islets, and a 4.6m shoal lies in mid-channel between them and the SW shore.

A shoal, about 0.1 mile long, with a least depth of 6.9m, lies in a position 0.25 mile E of Harbor Islets and about 0.1 mile offshore.

Vessels with local knowledge can anchor in Cape Bluff Harbor, in depths of 29 to 37m, close NW of Harbor Islets. The anchorage should be approached by the NE channel, and care must be exercised to avoid the shoal E of the islets.

Triangle Harbor (52°50'N., 55°51'W.) is a small indentation in the N shore of Saint Michaels Bay. Triangle Island lies in the middle of the entrance; Pigeon Island, about 0.5 mile N of Gull Island, lies off the harbor's NE entrance point. Triangle Harbor is approached S of Pigeon Island and entered N of Triangle Island through a passage about 40m wide; within the entrance its width is expanded by two coves on the N shore. The shores of the harbor are steep-to, except for a rock off the SE entrance point of the shallow E cove. The W cove affords good anchorage for small craft with local knowledge, in 11.9m, mud. The entrance of Triangle Harbor is sometimes blocked by icebergs.

10.43 Cape Bluff (52°50'N., 55°48'W.), a prominent headland, rises steeply to a double-peaked hill, 219m high, about 0.5 mile inland. The S extremity of the cape is a small rocky peninsula, 33m high, forming the S side of an open cove.

Black Rock Head lies about 1 mile N of Cape Bluff, and Black Rock dries close offshore, about 0.2 mile farther N.

Gull Islet, white and conspicuous, lies 0.2 mile offshore in a position 1.75 miles N of Cape Bluff. A drying rock, close SE of the islet, is surrounded by a shoal area. Two small pinnacles, Gull Rock, with a depth of 2.1m, and Mathews Bank, with a depth of 5.5m, lie 0.75 mile ESE and 1 mile SE, respectively of Gull Islet. Little Gull Islet, 3.6m high, lies between Gull Islet and the coast W. A 5.5m shoal extends a short distance E from Little Gull Islet.

Long Point (52°52'N., 55°48'W.), 0.5 mile N of Little Gull Islet, is the E extremity of a small island lying close offshore. Cronin Point lies about 0.5 mile N of Long Point, with Southern Head, the same distance farther N. Cronin Cove indents the coast close W of Cronin Point.

The Skelligs, a bank with depths of 12.8 to 16.5m, lies 1 to 1.25 miles NE of Gull Islet. Long Point Bank, with a depth of 17.3m, lies 0.8 mile NE of Gull Islet, between the islet and The

Skelligs. The sea breaks on the above banks in heavy weather.

A large unnamed bight indents the coast between Southern Head and **Murray Point** (52°54'N., 55°50'W.), 1 mile NW, which is the E entrance point of Snug Harbor.

10.44 Snug Harbor (52°54'N., 55°51'W.) has a constricted entrance about 0.1 mile wide, but expands into a sheltered basin. Icebergs frequently drift into the harbor.

Anchorage.—Anchorage may be taken in the middle of Snug Harbor, in depths of 37 to 44m. The W side of the basin is foul and unsuitable as an anchorage.

Lord Arm (52°55'N., 55°51'W.) is an open bight lying almost 1 mile N of Snug Harbor. Depths of 12.8 to 37m are found in the bight.

Dark Tickle Island (52°55'N., 53°50'W.) lies across the entrance of Lord Arm. **Banger Island** (52°55'N., 55°49'W.) is a small island lying off the SE side of Dark Tickle Island; foul ground extends about 0.1 mile S from it.

Cooper Island (52°55'N., 55°48'W.) lies 0.3 mile E of Dark Tickle Island. **Delaney Cove** (52°55'N., 55°48'W.) indents the E side of Cooper Island, but offers little protection from the E. Greys Rock Shoal, with a depth of 3.4m, extends about 0.2 mile N of Cooper Island. Vessels should give this danger a wide berth. **Coopers Block**, the S extremity of Cooper Island, is a square rock, steep-to on its E side.

Hawke Bay—Approaches

10.45 Southern Head (52°53'N., 55°49'W.) is the S entrance point of a channel, about 3 miles wide at the entrance, which leads NNW for about 6 miles between the mainland and Stony Island into Hawke Bay. This channel is divided into two parts by Cooper Island, which lies in the middle of the entrance; there are a number of smaller islands, islets, and dangers between this island and the mainland W. The NW part of this channel has only been partially examined; it should not be entered without local knowledge.

Between Cooper Island and **Cooper Head** (52°57'N., 55°48'W.), the S end of Stony Island, there is a passage with deep water leading NW to Martin Bay, Otter Bay, and Hawke Bay. Several islands, rocks, and reefs exist in this area. The main islands are Macy Island, Carnabhus Island, Deepwater Island, Flat Island, and Goose Island.

Carnabhus Island (52°56'N., 55°49'W.), a small island, lies about 0.7 mile N of the NW extremity of Cooper Island. A shoal area extends about 0.2 mile NW from Carnabhus Island. The Knob, a small rock with a depth of 9.1m, lies 0.1 mile off the E extremity of Carnabhus Island.

The NW extremity of Dark Tickle Island is separated from the mainland by Macy Tickle, a channel about 135m wide. Banger Island lies 90m SE of the SE extremity of Dark Tickle Island and is separated from it by a shoal channel. A small black rock lies off the E extremity of Dark Tickle Island, close N of Banger Island. Another rock dries 0.9m close off the E side of Dark Tickle Island, in a position 0.25 mile S of its N extremity. An islet, 17m high, lies about 0.2 mile NNW of the N extremity of Dark Tickle Island. Several rocks lie between this islet and the mainland W.

Macy Tickle (52°55'N., 55°51'W.) is 137m wide and clear of dangers in mid-channel. The approach from the N lies be-

tween Macy Island and the 17m islet to the W. Within the channel, two small drying spits extend a short distance from the mainland side.

10.46 Stony Island (52°59'N., 55°49'W.) lies with its W side about 0.5 mile off the mainland, and with its S extremity, Cooper Head, about 1 mile N of Cooper Island. **Cooper Head** (52°56'N., 55°48'W.) rises to a cone, 123m high; there is a hill, 200m high, near the middle of the E side of the island.

Black Rock, 0.6m high, lies 0.8 mile NE of Cooper Head. A rock dries close S of Black Rock. Shark Rock, with a depth of 2.1m, lies 0.15 mile N of Black Rock.

Tub Harbor (52°57'N., 55°49'W.), on the SW side of Stony Island, should not be attempted without local knowledge as both entrance points are fringed by reefs.

Duck Harbor, which has not been examined, indents the W side of Stony Island in a position 0.8 mile N of Tub Harbor; the entrance is encumbered with rocks.

Venison Island (52°58'N., 55°46'W.), separated from Stony Island by Venison Tickle, rises to a summit 61m high.

10.47 Venison Tickle (52°59'N., 55°46'W.), sheltered from all winds, is frequently used by fishing vessels and has regular vessel communication with other Labrador and Newfoundland ports. There is a large fishing establishment and a wharf with depths of nearly 5.5m alongside.

The S entrance of Venison Tickle is about 45m wide with depths of 3.7m and is used only by small craft. The N entrance has a width of about 90m; within the entrance the channel widens to about 0.1 mile, but the anchorage area is restricted to a width of 90m or less by shoals extending from the shore on either side.

The **White Islands** (52°57'N., 55°47'W.) lie close to the shore of Stony Island, almost 1 mile NE of Cooper Head. Several shallow reefs lie near the White Islands.

Cod Rock, with a depth of 2.1m, lies in the S approaches to Venison Tickle, about 0.3 mile N of the White Islands.

10.48 Eddystone Island (52°59'N., 55°45'W.) appears from seaward as a round black lamp. The Skerries, a rocky shoal about 1 mile NNE of Eddystone Island, is the outermost danger in the N approach to Venison Tickle.

Sculpin Island lies 0.6 mile SW of Eddystone Island with White Shot Island midway between. The passage between these islands should not be used. Sculpin Island consists of reddish-gray rock covered with grass.

Fox Island (52°58'N., 55°46'W.) consists of two dark hills with steep cliffs on its NE side. Pigeon Island, close N of Fox Island, is wedge-shaped and 14.9m high.

Gun Rocks, about 0.1 mile S and 0.2 mile SE, respectively, of the S extremity of Fox Island, are low and black.

The King, a rock with a depth of less than 1.8m, lies about 0.3 mile SSE of the S extremity of Fox Island; the sea breaks on this rock in moderate weather. The Queen, a rock with a depth of 4.6m, lies about 0.1 mile farther SSE.

Wild Bight (53°00'N., 55°47'W.), on the NE side of Stony Island, provides shelter for a few boats, but a heavy sea rolls in with E winds.

Red Island, about 1 mile NE of Wild Bight, has a double summit, 25m high. A light is shown near the SW end of the is-

land.

10.49 Hawke Bay (53°00'N., 56°00'W.), which has only been partially examined, extends W for about 10 miles, where the Hawke River discharges into it. There are three entrances to Hawke Bay, one from the S, between Stony Island and the mainland, one from the E, between Stony Island and Hawke Island, and the third S from Caplin Bay, known as Squasho Run.

Ice.—Hawke Bay freezes over about December 25; the ice breaks up about May 10. The approaches are sometimes encumbered with drift ice until about July 15.

Caution.—Two rocks, which dry 0.6m and 1.2m, are located 0.2 mile NE of Pigeon Island.

10.50 Hawke Island (53°03'N., 55°50'W.) rises in several dark craggy hills with bare summits, and attains its maximum elevation in the W part of the island. Deep valleys, generally wooded and containing ponds, lie between the hills.

Styles Harbor (53°02'N., 55°46'W.) provides good sheltered anchorage, in 3.7m, for vessels with local knowledge. The Pig, a rock 0.3m high, lies 0.5 mile SW of the S entrance point of Styles Harbor. Harbor Island, 4.2m high, lies in a position about 0.1 mile SE of the same entrance point. Black Rock, 2.4m high, lies about 0.2 mile E of Harbor Island.

Styles Rock (53°01'N., 55°45'W.) has a depth of 7.3m and is fairly steep-to. Mad Moll Rock, with a depth of 5.2m, lies in a position 0.3 mile S of Harbor Island.

A vessel entering Styles Harbor should, according to the latest survey, pass N of Harbor Island and Black Rock.

10.51 Hawke Harbor (53°02'N., 55°48'W.) is an excellent harbor with easy access. Three rocks, the W of which covers at HW, lie in the entrance of the harbor; a vessel can pass on either side of them. The channel on the W side, which has depths of 5.5 to 7.3m, is more direct and easier to approach; the channel on the E side is wider and deeper and has a depth of 6.4m. Vessels may enter stern first, and with the assistance of a tug, moor stern to the pier in the NW part of the harbor.

Anchorage.—Anchorage can be taken anywhere in the harbor, in 14.6 to 18.3m, mud, good holding ground.

Eagle Cove (53°01'N., 55°51'W.) is completely landlocked and protected from all winds. The inner landlocked basin beyond the bar, which has a depth of 5.8m, provides anchorage, in 12.8 to 24m, mud, good holding ground.

Caution.—A 4.9m shoal lies 0.2 mile S of the E entrance point of Eagle Cove.

10.52 Holloway Bight (53°03'N., 55°46'W.) is exposed to E winds, which, in summer, fill it with icebergs. The bight affords no anchorage.

A chain of islets extends about 0.2 mile N at a distance of 0.3 mile offshore from abreast the N entrance point of Holloway Bight. Upper Bird Island, 8.5m high, flat and bare, is the S and largest of the group. No attempt should be made to pass between this group and Hawke Island.

Ledge Islet (53°03'N., 55°45'W.), consisting of two cone-shaped grass-covered hills about 18m high, lies 0.3 mile N of Upper Bird Island, with several above-water and sunken rocks between.

Deepwater Island, in a position 0.3 mile N of Ledge Islet,

consists of two, bare, rocky hills, the SW of which is 14m high, and the NE, 13m high; the sea breaks across the low neck connecting them. A low black rock, with a rock awash close SE, lies 0.1 mile SE of Deepwater Island. Black Rock, 0.3m high, lies on a shoal about 0.1 mile N of Deepwater Island, with Beckett Rock, 1.2m high, 0.15 mile farther NE.

Bird Island, 0.25 mile NW of Deepwater Island, rises to a bare dark hill, 20m high; it is separated from Hawke Island by a narrow channel. An islet, 2.4m high, lies about 0.1 mile SE of Bird Island, and a rock dries 0.9m close NW of the islet.

10.53 Kennedy Island (53°04'N., 55°45'W.) is the largest and highest of a group of islands extending 0.4 mile N from a position 0.1 mile N of Bird Island. It is 24m high, gray in color, falls steeply on its SE side, and appears conical from the N. This group of islands, which are nearly connected with each other, are separated from Penguin Head, the NE extremity of Hawke Island, by a narrow channel.

Turr Rocks, 0.5 mile NE of Kennedy Island, consist of two bare brown islets, 4.9m high and close together, and a low black islet close E of them. A rock, with a depth of 0.9m, lies 0.3 mile SW of the E rock and midway between it and Kennedy Island. A rock, with a depth of 3.7m, lies 0.1 mile NNE of the W rock.

Scrape Cove (53°05'N., 55°46'W.) is open NE; the depths in it are too great for anchorage. The shores of the cove are bold and drying rocks lie 0.1 mile within the NW entrance point.

Penguin Harbor is entered close NW of the NW entrance point of Scrape Cove. The harbor consists of two arms separated by a dark, rugged, and conical point, close off which lies Greens Island. The SE arm of Penguin Harbor is exposed to NE winds; a group of rocks lies close off its SE entrance point.

Caplin Bay (53°05'N., 55°50'W.) is a long inlet, the outer part of which lies between the N side of Hawke Island and the mainland N; it is entered between Greens Island and the SE extremity of Stag Island, one of the islands of the Boulter Rock group, 0.8 mile NE. Squasho Run, which separates Hawke Island from the mainland W, leads S from Caplin Bay, and these two channels form the N of the three approaches to Hawke Bay. A small island lies close off the NW extremity of Hawke Island, which forms the NE entrance point of Squasho Run. A steep-to reef, with a depth of 0.6m, extends a short distance NW from this island.

Anchorage.—Anchorage can be taken in a cove on the W side of Squasho Run, in 27.4m, mud, close within the entrance from Caplin Bay.

10.54 Harper Island (53°06'N., 55°47'W.) lies on the S side of Caplin Bay, separated from Hawke Island by a narrow channel encumbered with boulders. The fairway of Caplin Bay lies between Harper Island and Old Jeff Island, one of the Boulter Rock group, where the channel is about 0.3 mile wide.

Big Island, the NW of the two large islands in the Boulter Rock group, is dark and rises to three ridges, divided by steep wooded valleys.

Stag Island (53°06'N., 55°46'W.), the other large island of the group, rises to two summits separated by a deep ravine. The NE side of the island is composed of dark cliffs and a gray projection, 12m high, terminating in Fish Point, the NE extremity of the island. Duck Cove indents the N side of the island near

its W end. The cove, which has depths of 3.7 to 11m, is suitable only for boats.

Old Jeff Island, between Big Island and Stag Island, has a flat summit. Boulter Rock, small, flat, and bare, lies close off the NE extremity of Old Jeff Island, and is connected with it at LW.

Bear Island, the SE of the Boulter Rock group, rises steeply to a flat summit. Rocks, with a least depth of 1.2m, lie up to 0.5 mile SE of Bear Island. The N entrance point of Holloway Bight, bearing about 196° and seen between Turr Rocks, leads E of these dangers. The N extremity of Harper Island, bearing about 284° and well open S of Stag Island, close W of Bear Island, leads S of them; and the NE extremity of Stag Island, bearing about 309° and open NE of Bear Island, leads NE of the rocks.

Anchorage.—Anchorage can be taken between Big Island and Stag Island, with shelter from all winds during summer, in 7.3 to 16.5m. During autumn gales, the anchorage is unsafe with winds from between the N and E. There is regular vessel communication with other Labrador and Newfoundland ports.

Hill Harbor to Corbet Island

10.55 Hill Harbor (53°07'N., 55°48'W.), a bight in the mainland, is entered 0.3 mile NW of the W extremity of Big Island; it is clear of dangers except near its head. A rock, 10.6m high, lies 0.1 mile SE of the N entrance point of the harbor, with which it is connected by a shoal flat.

Anchorage.—Good anchorage can be taken, in 7.3 to 18.3m.

The Hump, a detached shoal with a depth of 8.2m, lies 0.5 mile NE of the N extremity of Big Island and 0.3 mile offshore. The Feather Bed, a 1.8m rocky patch marked by a lighted buoy, lies 0.3 mile farther NE. Jesse Bank, with a depth of 14.6m, lies 0.15 mile SE of The Hump. Bear Island, bearing about 168° and open E of Red Island in the Boulter Rock group, leads E of these dangers.

Salt Pond (53°08'N., 55°46'W.) is a short and narrow inlet. A rock, above-water, lies close off the NE entrance point. There is a depth of 8.2m in the entrance of this inlet, which provides suitable anchorage for small vessels. However, violent squalls and eddying winds are likely to occur.

10.56 Comfort Bight (53°09'N., 55°45'W.) is entered between Comfort Head and Partridge Head. The bight contains two good harbors for small vessels with local knowledge; these harbors, which are sheltered by small islands, are frequented by fishing craft.

Comfort Head is the termination of the N slope of a dark, conspicuous, wedge-shaped hill, which rises steeply from the sea. The S slope of this hill terminates in Cox Head, 0.5 mile S of Comfort Head. Numerous islets, rocks, and shoals, most of which are described below, lie within an area extending 1.3 miles from Comfort Head. Following E gales, this area appears as a mass of breakers.

The Sugarloaf (53°10'N., 55°45'W.), the largest of the islands off the entrance of Comfort Bight, is a dark, conical island that lies 0.2 mile SE of the S extremity of Partridge Head, on the N side of the fairway leading to the bight. The island is surrounded by shoal water except at its S extremity, which is

steep-to.

Old King, a rock with a depth of less than 1.8m, lies nearly 1 mile ESE of Cox Head; it is the SE of the dangers lying off the entrance of Comfort Bight.

Black Rock (53°09'N., 55°44'W.) lies in a position 1 mile ENE of Comfort Head; it is the NE of the dangers off Comfort Head. Shoal patches, on which the sea breaks in bad weather, lie SE through W to N of Black Rock. South Bantam, the outermost of these shoal patches, has a depth of 9.1m and lies 0.5 mile SE of Black Rock.

Mad Moll, a rock 0.9m high and surrounded by foul ground, lies 0.5 mile SSW of Black Rock. Numerous shoal patches and rocks awash lie between Mad Moll and Cox Head, and between Mad Moll and Comfort Head.

Bobby Rocks, two round islets and some small flat rocks, lie about midway between Black Rock and The Sugarloaf; the highest of these rocks is 4.5m.

Jersey Bank, with a depth of 14.6m, lies 0.2 mile SSE of The Sugarloaf and 0.3 mile WSW of Bobby Rocks; the sea breaks on this bank in heavy weather.

10.57 The South Three Islands (53°10'N., 55°46'W.) lies close off the N shore of Comfort Bight. The middle island is the highest, with an elevation of 27m. There is a channel, about 0.2 mile wide, between the two N islands and a rock E. The SW island is connected to the middle island and to the N shore by foul ground; a shoal patch, with a depth of 2.7m, lies almost 0.1 mile S of this island.

Spracking Island (53°09'N., 55°45'W.), dark, conical, and 25m high, lies 150m NW of Comfort Head. Bartlett Rock, 2.4m high, lies 90m NNE of Spracking Island, with Harbor Rock, having a depth of 2.7m, about 0.2 mile farther E. An islet, 4m high, with another islet close SE, lies near the outer extremity of foul ground extending 0.15 mile W from Spracking Island; both of these islets are connected to the shore S by a shoal.

Middle Island, 10m high and flat, lies 0.1 mile NW of Spracking Island with foul ground between. A rock, with a depth of less than 1.8m, lies close off the N extremity of Middle Island. Owl Head Island, about 0.1 mile NW of Middle Island, is flat, bare, and 6.4m high; a rock, with a depth of less than 1.8m, lies close off its N extremity.

10.58 Owl Head (53°09'N., 55°46'W.) is an island which rises gradually from its W side to an elevation of 59m; its other sides terminate in steep cliffs. Owl Head is 0.3 mile long in an E-W direction; its W end lies in the entrance of a small cove, encumbered with boulders, known as Seal Post.

George Harbor, approached between Middle Island and Owl Head Island, is entered between the 4.2m islet W of Spracking Island and a point 0.1 mile W. It extends 0.2 mile S to its head, and several houses stand on its shores. A rock, with a depth of 1.8m, lies at the outer extremity of a shoal about 90m S of the W entrance point. A heavy sea rolls in with N gales.

Penny Harbor is entered between Owl Head and Burke Island, 34m high and dark, about 0.1 mile S. The narrow channel E of Burke Island is suitable only for small craft. The channel W of Burke Island is shoal at its S end, but the N part of this channel forms the harbor proper. A shoal area extends from the N end of Burke Island, leaving a passage about 135m wide be-

tween Owl Head and Burke Island that leads to the anchor-age. A small black rock, which dries about 1.8m, lies close off a conical hill, 46m high, on the NW side of Penny Harbor. Southwest of this rock is foul ground. Harbor Rock dries 0.9m about 45m off the N side of Burke Island.

Anchorage.—Anchorage can be taken, in 10.1m, good holding ground, mud, in a position N of Burke Island and W of Harbor Rock. Vessels approaching this position must take care to avoid Harbor Rock, and should not proceed SW of the drying rock that lies off the NW shore and marks the N limit of the foul ground.

Saunders Island (53°09'N., 55°46'W.), 13m high, lies close off the S shore of Comfort Bight, N of the entrance of Seal Post. A shoal, with a depth of 4.9m, extends 0.1 mile E from Saunders Island, and drying rocks lie close off its N and W sides; the channel between it and the shore S is foul.

Rocky Bay (53°09'N., 55°47'W.) is entered between Saunders Island and the N shore of the bight, 0.4 mile N. The central part of the bay is clear of dangers except near its head, where there is a group of islets surrounded by foul ground. There are two coves at the head of Rocky Bay; the S cove is shoal.

Anchorage.—Anchorage, sheltered from all but E winds, can be taken, in 25.6m, mud, in the middle of Rocky Bay.

10.59 Partridge Head (53°10'N., 55°45'W.) rises steeply to a conspicuous table-topped hill. The NE part of the head is a sharp conical hill, 124m high; between these hills is a deep valley which is conspicuous from the SE. The coast from Partridge Head to Shoal Bay, 5 miles N, is very irregular, with several bays and numerous inlets and islands.

Partridge Bay, NW of the Partridge Head promontory, is incompletely surveyed; the N entrance point is a low grassy hummock, 7.3m high, rising gradually to a high wooded summit. A rock, with a depth of 2.4m, lies 90m S of this point. The bay is reported to be very squally. An island lies 0.5 mile W of the entrance. An arm of the bay, encumbered by several islets and dangers, extends NW from the N part of the bay. Partridge Bay is connected to the inside channel named **Frenchman Run**.

American Cove (53°11'N., 55°46'W.), lying 0.4 mile SE of the S entrance point of Partridge Bay, is only suitable for small craft.

Caution.—A submerged rock, dangerous to navigation, lies 0.1 mile off the entrance to American Cove.

10.60 Several islands, surrounded by foul ground, lie in the approaches to Partridge Bay.

The Duck Islands are a group of islands and rocks lying about 1 mile E of Partridge Head. Local knowledge is essential for navigating the channels between these islands.

Duck Island, at the S end of the group, is the largest and highest, with a round hill at its NE end. An islet, 6.1m high, lies 90m N of the NW extremity of Duck Island to which it is connected by a shoal. Another islet, 11.6m high, lies 0.1 mile W of the same extremity; the channel between this islet and Duck Island is foul. A rock, 4.9m high, lies 90m SW of this islet, to which it is connected by foul ground.

Black Rock, 3m high, lies 0.15 mile NE of Duck Island; shoals extend about 90m NW and SW from the rock.

Little Duck Island, the NE and darkest of the group, lies about 0.3 mile NE of Duck Island, with some rocks, 1.5m high,

about midway between. A rock dries close S, and a rock lies awash 0.1 mile SE, respectively, of Little Duck Island; another rock, with a depth of 2.1m, lies midway between the latter danger and Black Rock.

Flat Island (53°11'N., 55°44'W.) lies 0.5 mile NW of Duck Island, with Flat Island Rock, having a depth of 1.5m, lying nearly midway between. A small round islet, 4.5m high, lies 90m E of the SE extremity of Flat Island, to which it is connected by a shoal. A shoal extends a short distance offshore from the S side of Flat Island, and a detached 8.2m patch lies 150m S of the island. The W side of Flat Island is fringed by a shoal that extends about 90m offshore in places.

Red Island, steep-to on its NW and SW sides, is the W of a group of islands of reddish rock, covered with grass, lying 0.3 mile W of Flat Island. A low black islet lies close NE of the E extremity of Red Island; a similar islet lies 90m farther NE. A rock, with a depth of 2.3m, lies 0.15 mile ENE of Red Island and close W of Flat Island.

10.61 The Hiscock Islands (53°11'N., 55°43'W.), a group of islands and rocks, lie about 0.5 mile N of the Duck Islands; the channel between them is clear of dangers. Hiscock Island, the largest of the group, lies nearly 0.5 mile N of Flat Island; it rises on its E side to a dark serrated cone. Nancy Island, which is flat, lies W of the W side of Hiscock Island and is separated from it by a passage about 0.2 mile wide and clear of dangers. A rock dries at the outer extremity of a shoal that extends 0.1 mile W from the island.

Walker Island, 33m high, dark, and pyramid-shaped, lies 90m off the NW end of Hiscock Island. The channel between Walker Island and Hiscock Island is shallow, but the island is steep-to on its N side.

The **Fling Islands** (53°11'N., 55°43'W.), the farthest E of the Hiscock Islands, have shoal water and islets extending 0.5 mile E of them.

The Pippies (53°12'N., 55°42'W.), with a least depth of 9.1m and marked by a lighted buoy, is a shoal bank lying 1 mile E of the Fling Islands.

Big Pig Island (53°12'N., 55°43'W.) lies in a position about 0.2 mile N of Fling Island. Crocker Island, small and low, lies close E of Big Pig Island. Little Pig Island, 9.7m high, lies close W of Big Pig Island and is connected with it by a shoal area. Mad Moll Rock dries 1.2m in mid-channel between Fling Island and Big Pig Island.

A chain of islands extends N for 4.5 miles from the Hiscock Islands to Corbet Island, lying off the entrance to Shoal Bay.

Hare Island (53°12'N., 55°45'W.), lying 0.2 mile NW of the Hiscock Islands, is 54m high; Little Hare Island lies close NW. The Green Islands, consisting of one elongated islet and one conical islet, lie about 0.2 mile N of Little Hare Island.

Copper Island (53°13'N., 55°45'W.) lies almost 0.5 mile N of Hare Island. It rises to a range of hills, 59m high, the summit of which is in the shape of a small cone. The SE end of the island ends in an abrupt reddish cliff.

10.62 Frenchman Run (53°12'N., 55°46'W.) is an inshore passage which leads from Partridge Bay to the approaches to Shoal Bay, about 5 miles N. It is tortuous, 6.5 miles long, and less than 0.1 mile wide in places. It is sheltered and is reported to have a depth of 11m in the fairway. It has the advantage of

avoiding the ice E of the offshore islands in early summer. There are several useful anchorages in Frenchman Run.

The **Gulnare Islands** are two islands which lie on the W side of the S entrance to Frenchman Run, about 0.3 mile NE and 0.8 mile N of the N entrance point of Partridge Bay. South Gulnare Island is 33m high; Gulnare Island, the N island, is bare in patches and rises in two conical hills, the higher is 48m high.

Tickle Island (53°13'N., 55°46'W.) lies on the W side of Frenchman Run, about 0.2 mile N of Gulnare Island. Shoal water extends a short distance off the S extremity of the island and a drying rock lies off its W side.

Anchorage.—A good anchorage, in 18.3m, mud, is reported in the bay lying W of the Gulnare Islands and Tickle Island. Care must be taken when entering in order to avoid the shoal, with a depth of 8.2m, which extends about 150m S of Tickle Island. Another shoal area, with a least depth of 1.8m, lies in the middle of the bay.

Directions.—From the S entrance of Frenchman Run, between Hare Island and South Gulnare Island, the track trends N to pass between Tickle Island and the W end of Copper Island. The track then leads ENE for 0.8 mile between Copper Island and the mainland, then NNE for 0.5 mile between Frenchman Island and the mainland. Past the narrows formed by Frenchman Island, Sullivan Island, and the mainland, the channel leads WNW towards Sloop Harbor. Several dangers lie near the channel.

10.63 Long Island (53°13'N., 55°42'W.), lying 1 mile E of Copper Island, has a flat summit, 32m, high near its S end and is generally steep-to. Crow Island, lying close off the NE part of Long Island, appears as sharp cone from a N or S approach.

Pollo Rock, lying 0.3 mile E of Long Island, is round, black, and 2.7m high. Pollo Sunkers, a group of above and below-water rocks, lie close SW of Pollo Rock and are always marked by breakers.

The Ravens (53°12'N., 55°41'W.), a group of islets surrounded by foul ground, lie 0.3 mile SE of Long Island. They vary in height from 5.5 to 8.8m.

No-mans-land (53°12'N., 55°42'W.), a reef with a depth of 4.9m, lies close S of The Ravens.

Fish Island, 23m high, lies close E of the E end of Copper Island.

American Island, lying close W of Long Island, is 27m high at its S end. A rock, with a least depth of 0.9m, lies about 90m W of the S end of the island.

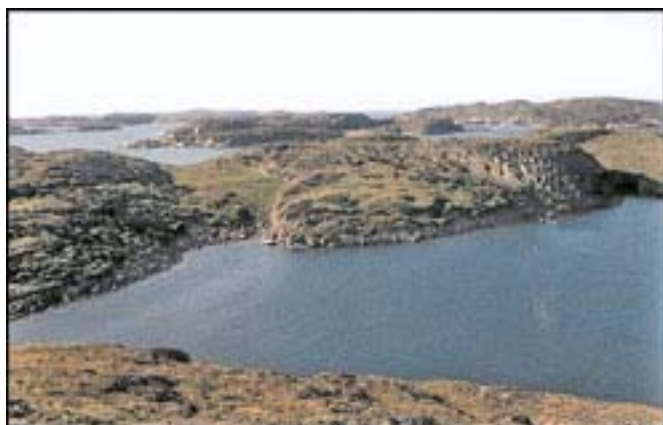
American Tickle (53°13'N., 55°42'W.) is the channel separating Long Island from American Island to the W; a channel, with a mid-channel depth of 6.7m, leads through the tickle.

Anchorage.—The cove which indents the E side of American Island affords anchorage for small craft, in a depth of 4.6m, sand. A reef, with a depth of 2.1m, extends for a short distance from the N entrance point of the cove.

Seine Island, lying 0.2 mile NNW of Fish Island, is 12m high, conical, and grass covered.

Pig Island lies about 0.1 mile NE of Seine Island.

Anchorage, sheltered from all winds, can be obtained, in depths of 20 to 29m, between the reef close N of Seine Island and Frenchman Island.



American Tickle

10.64 Seal Island (53°14'N., 55°43'W.), the largest and central of the Seal Islands, rises in dark ridges, the highest of which is 37m high. Seal Island Harbor, a bight in the SE end of the island, and Hills Harbor, on its NE side, are suitable only for small vessels with local knowledge. At Seal Island Harbor, there is a small wharf with a pier extending 11m to a depth of 3.6m alongside a 6m wide outer end. A white building stands at the inner end of the wharf.

Pike Island, 12m high and dark, is nearly connected with the W extremity of Seal Island. Parsons Island, 8m high, is a gray rock covered with grass and lies about 230m offshore, about 0.1 mile SW of Pike Island.

Anchorage.—Anchorage can be taken in a position SE of Parsons Island, in 20.1m, sheltered from NE winds.

10.65 Gull Island (53°14'N., 55°42'W.), 8.2m high, lies close off the middle of the E side of Seal Island. **The Brandies**, two pinnacle rocks with depths of 2.1 to 4.3m, lies about 0.1 mile E and ESE of Gull Island.

The Fox Islands, two in number, are the NE of the Seal Islands. They are flat, faced by whitish cliffs, and the SW and larger island is foul off its SW side. The NE island has a red vein near its NE extremity and a brown spur near its SE extremity. A sunken rock lies close off the latter point. The two islands are separated by a channel 90m wide and clear of dangers.

Sleepy Island, small and white, lies close NW of the N extremity of the SW Fox Island. Flat Island, 14m high, lies about 0.2 mile W of the SE Fox Island. Sculpin Rocks, which dry 0.6m and on which the sea nearly always breaks, are at the terminus of a chain of rocks which extends about 0.3 mile S from Flat Island. Pigeon Island, close W of Flat Island, is composed of reddish rock covered with grass and is 18m high at its S end. Pig Island, 14m high and similar in color to Pigeon Island, lies close SW of Pigeon Island, and about 0.1 mile NE of the NE end of Seal Island.

Frenchman Island (53°14'N., 55°44'W.) has a round gray hill at its N end. There is regular communication by sea with other Labrador and Newfoundland ports.

Sullivan Island is separated from the NE end of Frenchman Island by a shallow channel, 90m wide, and from Parsons Is-

land, to the NE, by a channel about 0.2 mile wide, which has a charted depth of 23.8m.

Davis Rock, with a depth of 1.8m, lies on the E side of Frenchman Run in a position about 0.5 mile NNE of the NE extremity of Sullivan Island.

10.66 Frenchman Harbor (53°13'N., 55°46'W.) is entered close NNE of Tickle Island. The harbor is clear of dangers in mid-channel and provides good anchorage for small vessels, in depths of 11 to 22m; local knowledge is essential.

Caution.—A mid-channel course through Frenchman Run, between Copper Island and the mainland, leads in a least depth of 11m. About 0.6 mile E of Frenchman Harbor the track turns N. At this point, a shoal with a depth of less than 0.9m lies in mid-channel.

10.67 Sloop Harbor (53°14'N., 55°45'W.) opens from the W side of Frenchman Run and is entered 0.5 mile N of Sullivan Island. A low islet lies close within the harbor entrance near the S side. A rock, with a least depth of 2.1m, lies 90m NW of the S entrance point, restricting the entrance to a width of about 0.1 mile.

Anchorage.—Anchorage in Sloop Harbor may be obtained, in a depth of 12.5m, E of a low point projecting from the N shore, 0.3 mile within the entrance. Small craft can be anchored off the cove in the S side of Sloop Harbor, S of a small, grass-covered island, 9.1m high, which lies in the middle of the harbor.

10.68 Frenchman Run—North part.—From the N entrance point of Sloop Harbor, Frenchman Run trends generally NNW for 2.5 miles to its N entrance. Mid-channel depths of up to 37m occur in this part of the passage. The least depth of 12.5m lies in the 0.1 mile wide narrows between the mainland and the shoal area extending off the W side of Dog Island.

Dog Island, a large island with a flat summit, lies on the E side of Frenchman Run, about 1 mile N of Sullivan Island. The N extremity of Dog Island is a low hillock. A shoal patch, with a depth of 8.2m, lies on the SE side of the channel, between Dog Island and Seal Island.

A narrow islet, 2.1m high, lies about 0.1 mile off the W side of Dog Island on a shoal area, with a depth of 2.7m at its outer extremity, which extends about 0.2 mile from the W side of Dog Island, leaving a channel about 0.1 mile wide between the shoal area and the mainland.

Big Pig Island (53°15'N., 55°43'W.) lies close NE of Dog Island, with which it is connected by foul ground; the bay that is formed on the N side is also foul. Big Pig Island is conical, has cliffs on its NW side, and is fairly steep-to on its SE and NE sides. A fairway lighted bell buoy is moored 0.5 mile E of the N end of Big Pig Island. Harbor Rock, 0.3m high, lies near the middle of Frenchman Run, between Dog Island and Big Pig Island to the S, and Corbet Island to the N.

East Bradbury Island (53°16'N., 55°42'W.), lying 0.5 mile NE of Big Pig Island, is dark and streaked with white bands on its seaward face. Shoal water, with above-water rocks, extends N and E of the island. Black Rock, steep-to, lies 0.3 mile E of East Bradbury Island. Shoal water, with a depth of 4.6m, extends S for 0.5 mile from Black Rock. Bradbury Island, located close W of East Bradbury Island, is separated from it by a nar-

row channel with a least depth of 4.3m. Bryan Island lies 0.1 mile W of Bradbury Island, with foul ground between it and Corbet Island close N.

Corbet Island to Domino Point

10.69 Corbet Island (53°16'N., 55°44'W.) forms the E side of the N entrance to Frenchman Run. This island is nearly divided into two parts, except for a narrow neck of land 37m wide. The N side of the island is indented by three inlets. Herring Cove, the E inlet, is open. Orleans Arm, the middle one, is seldom used as a heavy sea sets in with NE winds. Webber Harbor, the W inlet, is separated from Orleans Arm by a dark peninsula with Lea Island, cliffy and steep-to, lying off its N extremity.

Anchorage.—Webber Harbor affords indifferent anchorage, in a depth of 9.1m, opposite the opening between Lea Island and the peninsula, or farther in, in a depth of 2.1m. Local knowledge is necessary for navigating to these anchorages.

Caution.—Numerous islands, rocks, and shoals extend N for 2.5 miles from Corbet Island and E for a distance of 1.5 miles.

10.70 White Rock (53°17'N., 55°41'W.), 9.1m high, lies 1.7 miles E of the N extremity of Corbet Island.

Red Island (53°17'N., 55°42'W.), with an islet close W, lies 0.8 mile W of White Rocks. Above and below-water rocks and shoals exist in the area between Red Island and Corbet Island. Local knowledge is essential for navigating in this area.

The Punchbowl (53°15'N., 55°44'W.) is an inlet in the mainland entered 0.5 mile W of the NW extremity of Dog Island through a channel about 45m wide, with a least depth of 5.6m. The entrance channel is marked by buoys. Two L-shaped wharves, one with depths of 4.5 to 5.9m alongside its outer end and the other with depths of 2 to 4.7m alongside both sides of its outer end, are located S of the S entrance point of The Punchbowl.

Anchorage.—Anchorage can be taken, in 6.4 to 9.1m, as far in as a point on the NW shore, about 0.3 mile within the entrance. Vessels should not proceed beyond a position with this point bearing 323°, because the depths shoal suddenly within. There is regular vessel communication with other Labrador and Newfoundland ports.

Shoal Bay (53°16'N., 55°48'W.) indents the mainland for a distance of 2.5 miles in a SSW direction. Depths of 22 to 37m exist in its central part. This bay provides anchorage to vessels with local knowledge, but there are several dangers in it.

10.71 Islands and dangers north of Corbet Island.—An isolated shoal, lying 4.3 miles NE of Corbet Island, has a depth of 8.8m.

Flat Island, 5.8m high, bare, rugged, and bordered by a shoal area, lies 0.3 mile N of the middle part of Corbet Island. The Pancake, a flat rock which dries 0.9m, lies about 90m S of Flat Island.

South Black Rock (53°17'N., 55°43'W.) lies just over 0.3 mile N of the NE end of Corbet Island. A rock, with a depth of less than 1.8m, lies close S.

The North Three Islands, the highest being 33m high, wedge-shaped, and formed of reddish rock covered with grass,

lies close NW of Flat Island. A channel, with a depth of 27m, separates the North Three Islands from Flat Island.

Deepwater Island lies 0.3 mile NW of the North Three Islands; this island and the island lying close E are bluff. Gurney Island, lying 0.2 mile S of Deepwater Island, rises to a height of 6.4m. A depth of 3.4m lies 0.2 mile NW of Gurney Island.

American Rock (53°18'N., 55°44'W.), 0.9m high, and a small rock that dries 0.3m close NE, are located 0.5 mile NE of Deepwater Island.

Caleb Shoal (53°18'N., 55°43'W.), lying 1 mile E of American Rock, is a rock, awash.

10.72 Green Island (53°19'N., 55°44'W.), 16.4m high, and Walker Island, 12.2m high, lie about 0.2 mile apart in a SE-NW direction. A rock lies nearly in mid-channel between them. A dark seam runs down the N side of Green Island. A 6.9m patch lies about 0.2 mile N of Green Island, and rocks, 3m high, extend 0.15 mile S from its SW extremity. Walker Rock, 0.6m high, lies about 0.2 mile WNW of Walker Island. A 10.1m patch and an 8.8m patch lie 0.4 mile NNW and 0.5 mile NW, respectively, of Walker Island. Middle Ground, a reef with a depth of 5.2m, and North Black Rock, 1.2m high, lie 0.8 mile ENE of Green Island.

Eastern Rock (53°19'N., 55°43'W.), with a depth of 5.5m, lies 0.5 mile NE of Middle Ground.

Shoal Bay Island (53°18'N., 55°48'W.) lies 1.5 miles NW of Corbet Island near the W entrance point of Shoal Bay. Foul ground extends for some distance from the E and W sides of Shoal Bay Island, and a submerged rock lies midway between its S extremity and the mainland.

Caution.—Depths of 3m and 0.9m lie in the channel, 0.3 and 0.5 mile E and SE, respectively, of the E point of Shoal Bay Island. Goss Island lies at the E extremity of the foul ground extending off the NE side of Shoal Bay Island.

Pigeon Island (53°19'N., 55°47'W.) is 7.6m high, flat, and surrounded by shoals.

Caution.—Uncharted dangers exist within 5 miles of the coast and off the off-lying islands between 53°20'N and 54°20'N.

10.73 Black Bear Bay (53°18'N., 55°50'W.), open E, penetrates the coast for a distance of 4 miles where the Black Bear River discharges. The bay provides good anchorage for vessels, in a depth of 25.6m, with a small waterfall on the N shore bearing 357°; local knowledge is necessary.

Bed Head (53°20'N., 55°48'W.) is the E extremity of a peninsula that separates Black Bear Bay and Open Bay to the N. Shoal water extends N for 1.5 miles from this head; numerous shoal spots lie NE.

Sandy Island (53°21'N., 55°46'W.) lies 0.8 mile ENE of Bed Head and is joined to it by shoal water. Run Island, 16.7m high, lies midway between Bed Head and Sandy Island. There is good anchorage, sheltered from W winds, between Run Island and Bed Head, in 9.1 to 12.8m. Gushue Rock, with a depth of 5.5m, lies 1.1 miles E of the N extremity of Sandy Island. A detached danger, with a depth of 8.7m, lies 4 miles E of the E extremity of Sandy Island. A bank, with depths of less than 18.3m, extends NE and NW from the N extremity of Sandy Island for a considerable distance; in heavy weather the sea

breaks on the numerous shoals on this bank.

Northeast Rock, with a depth of 11.9m, lies nearly 0.5 mile NE of the N extremity of Sandy Island, on the E edge of this bank. East Bank, with a depth of 9.6m, lies 0.8 mile N of the N extremity of Sandy Island on the N edge of the same bank.

Sandy Island Harbor is a rocky bight, open to E winds, on the E side of the island group. It is entered from the E between the SE island and another small island close E of the middle of the main island. A sunken rock lies about 0.1 mile SSE of the N entrance point; the entrance channel S of this rock is about 45m wide.

A vessel entering Sandy Island Harbor should keep the SE island close aboard and, when inside, anchor in a depth of 9.1m.

Caution.—The area N of Sandy Island, bounded by the 20m curve, may have depths less than those charted.

10.74 Open Bay (53°21'N., 55°51'W.), which has not been thoroughly examined, indents the mainland coast in a W direction. Mid-channel depths appear to shoal gradually from 21.9m in the entrance to 9.1m about 1 mile from the head.

The entrance channel is narrowed to 0.35 mile by shoal water extending from its two entrance points. A 5.5m islet, on which the area usually breaks, marks the outer end of the N shoal. Caution should be exercised to avoid the submerged rock lying 0.3 mile SE of the 5.5m islet.

Island of Ponds (53°27'N., 55°55'W.) is the largest island in this part of Labrador. Its interior is dotted with numerous small and large ponds. The island is bounded on the S by Porcupine Bay and on the N by Domino Run.

Porcupine Bay (53°25'N., 55°58'W.) separates Island of Ponds from the mainland to the S and SW. It is entered between **American Point** (53°24'N., 55°47'W.), the steep-to SE extremity of Island of Ponds, and the NW entrance point of Open Bay. It is about 10 miles long.

Porcupine Island (53°23'N., 55°52'W.) lies in the middle of the E entrance to Porcupine Bay. It is 54m high at its central part.

Caution.—Two isolated shoals lie 0.5 mile ESE of the E end of Porcupine Island.

10.75 The E entrance to Porcupine Bay has depths of 55m. Off the W side of Island of Ponds, a channel connects Porcupine Bay and Rocky Bay to the N. The partially-surveyed channel has a least depth of 2.1m; local knowledge is recommended for navigating it.

A shoal lies in mid-channel almost 1 mile WNW of the small island close off Porcupine Island.

Porcupine Harbor (53°23'N., 55°59'W.) indents the S shore of Porcupine Bay, 4 miles inside the entrance.

The **Saddle Islands** (53°25'N., 55°40'W.) are two groups of islands separated by a channel with depths of 5.5 to 37m. The E group is surrounded by a shoal area and consists of four islands, one of which appears as a saddle from the S. A rock, with a depth of 1.5m, and another, with a depth of 0.3m, lie 0.8 mile ESE and 0.5 mile ENE, respectively, of the N extremity of this group. O'Neale Rock, with a depth of 3.7m, lies about 0.7 mile SE of this group.

The W group consists of two small black islets on a shoal bank, about 0.5 mile W of the E group. A rock, with a depth of

0.9m, lies 0.2 mile off the S extremity of the group. A 5.5m patch lies about 0.5 mile SE of the same extremity. A 17.8m patch and a 7.3m patch lie 0.8 mile and 1.2 miles WNW, respectively, of this group. A 12.8m patch lies in a position 1 mile SW of the same group.

10.76 Island of Ponds—East side.—Sandy Bay (53°24'N., 55°48'W.) is entered between American Point and another point 0.8 mile NE. Herring Bank, a shoal with a depth of 8.2m, lies in the middle of the entrance. The inner end of the bay has not been examined, but the outer half has depths of 12.8 to 46m.

Anchorage.—Anchorage can be taken, in 18.3m, in a position 0.2 mile N of the island off the S side of the bay.

10.77 Batteau Harbor (53°24'N., 55°46'W.) is entered between the NE entrance point of Sandy Bay and an unnamed point 0.4 mile NE. The harbor has depths of 5.5 to 7.3m. Queer Island, which lies off the entrance, is separated from the SW entrance point by a shallow boat channel; on the N side of this island is a passage, about 320m wide, which leads into the harbor. Toole Rock, with a depth of 1.8m and marked by a lighted buoy, lies 0.2 mile ESE of Queer Island. Good anchorage is available in Batteau Harbor for small vessels with local knowledge, in 7.3m.

Directions.—The safest passage into Batteau Harbor is that leading between Queer Island and Toole Rock.

Caution.—Between the point about 0.5 mile N of the E entrance point of Batteau Harbor and Domino Point, about 3 miles farther NNE, there is a large, much indented bight, which has not been thoroughly examined. A chain of islands, islets, and rocks stretches across the mouth of this bight and vessels are cautioned not to approach them without local knowledge.

10.78 The Mark Islands (53°24'N., 55°44'W.), lying 1.5 miles ESE of Batteau Harbor, consist of one large and several small islands. **Cosgrave Rocks** (53°23'N., 55°43'W.), 2.4m high, are the three islets lying about 0.4 mile E of the S end of the Mark Islands. Hat Island is the N island of the Mark Islands.

Paine Island (53°24'N., 55°45'W.), surrounded by a shoal area, lies about 0.4 mile W of the Mark Islands. Green Island, lying 1 mile NW of the Mark Islands, is surrounded by shoal water except on its E side. High Hat Rock, with a depth of 3.7m, lies 0.3 mile E of Green Island; Shag Rocks lie 0.2 mile NE of the same island.

Bombproof Island (53°24'N., 55°45'W.), lying N of Green Island, is conical and conspicuous. A shoal area which comprises Timber Rocks extends about 0.2 mile N.

Roundhill Island (53°26'N., 55°37'W.) is the E island lying off the E side of the Island of Ponds; it is hummocky with deep valleys between the hummocks. A light is shown from a mast at the N of the island.

The **Saddle Islands** (53°25'N., 55°40'W.), lying 2 miles SW of Roundhill Island, consist of six islands in two groups. The highest of the E group appears saddle-shaped from the S. The westernmost Saddle Islands, consisting of two black-colored islets, lie close together at the center of a shallow area named Saddle Banks.

Two reefs with depths of less than 1.8m lie 0.4 mile ENE and

0.6 mile NNE of the Saddle Islands. An isolated reef with a depth of 7.3m lies 1.3 miles WNW of the westernmost Saddle Islands.

Between the NE entrance point of Bateau Harbor and Domino Point, 3.5 miles NNE, the E side of Island of Ponds is deeply indented by a large bight. A low islet surrounded by shoal water lies in its N part. The islands extending across the entrance to the bight should not be approached without local knowledge, because of the shoals and rocks in their vicinity.

The islands extending across the entrance to the bight are Murr Island, Cod Bag Islets, Fish Island, and Carrol Island.

Caution.—Anchorage is dangerous in this bight during NE gales, which can be severe in this area. A ferry route exists from the Saddle Islands and Roundhill Island areas and continues NW to Cape North.

10.79 A rock, with a depth of 4.6m, lies about 0.6 mile W of the S extremity of Murr Island. The Flats, lying 0.5 mile WNW of the W extremity of Murr Island, is marked by a stranded wreck.

Cod Bag Islets Light is shown from a tower with an orange and white rectangular daymark on three seaward sides.

Black Tickle (53°27'N., 55°45'W.) is the narrow sheltered channel lying between the NW side of the unnamed island N of Carrol Island and the NE coast of Island of Ponds.

Caution.—Depths of 1.2m lie in the narrows at the N end of Black Tickle.

An overhead cable, with a vertical clearance of 10m, spans the N end of Black Tickle.

A tower, with an elevation of 63m, lies close NNW of Black Tickle. Red obstruction lights are shown from the structure.

Domino Point to Cartwright Harbor

10.80 Domino Point (53°28'N., 55°45'W.) is the S entrance point at the E end of Domino Run. The point is the SE extremity of the island located close off the NE end of Island of Ponds. A light marks the point; a racon is transmitted from the light.

Domino Run is the passage between the N side of the Island of Ponds and the S side of Spotted Island. The E approach to the passage is clear of dangers, but several dangers lie in the middle of the E entrance and there are numerous islands and dangers close outside the W entrance.

Tides—Currents.—At Domino Run, the HW interval at full and changes is 7 hours 23 minutes. Springs rise 1.6m while neaps rise 1m.

Depths—Limitations.—Domino Run has depths of 7.3 to 37m in mid-channel, with lesser depths on the S side of the bar, which extends across the channel midway in the passage.

Aspect.—Southeast Point is the SE extremity of Spotted Island and the N entrance point at the E end of Domino Run; it rises to a conical hill.

Caution.—Black Rocks, lying about 0.6 mile SW of Southeast Point, are two above-water rocks which form part of a shoal area.

10.81 Green Island (53°29'N., 55°45'W.), 19.5m high and conical, lies in the middle of the entrance of Domino Run, 1 mile NNW of Domino Point. Shoals extend 0.3 mile NE, SE,

and NW from the islet, respectively. A group of dark rocks, 0.3 to 4.5m high, lie on the seaward end of the shoal extending SE from Green Islet. A sunken rock lies close N of this group.

Three channels lead through the E entrance of Domino Run. The channel S of Green Island is clear of dangers and has charted depths of 20.1 to 51m. The channel between Green Island and Black Rocks is constricted by the shoal extending NE from Green Island. The channel N of Black Rocks is constricted by shoal patches S of Shoal Point.

Spotted Island Harbor (53°29'N., 55°46'W.) lies at the head of a bay. This inlet, which has an island and numerous islets in the NW part, affords little or no shelter. Vessels anchoring in this harbor should be prepared to get underway on short notice.

Anchorage.—Anchorage is available, in a depth of 27m, sand and rock, about 0.3 mile SSW of South Black Head. Another anchorage, used mainly by tankers, lies about 90m W of the E entrance point of Spotted Island Harbor, in a depth of 7.3m, sand and rock. Although the holding ground is good, anchors may drag in high winds and extreme caution should be exercised when anchoring.

The site of the former settlement situated at the head of the harbor, is now occupied only in summer for fishing. There is an L-shaped wharf at the head of the harbor.

Caution.—A submerged rock lies in the harbor, almost 0.1 mile W of the E entrance point.

10.82 South Black Head (53°29'N., 55°47'W.) rises to a round hill, 54m high. The channel between South Black Head and Mistaken Point, which projects from the S side of Domino Run, is narrowed to a width of less than 0.5 mile. Close W of these points, the channel opens somewhat.

Domino Harbor (53°29'N., 55°47'W.) is entered between Mistaken Point and Tatters Point, about 0.3 mile SW. There are depths of 6.4 to 7.3m in mid-channel of the harbor for a distance of about 0.1 mile S of Tatters Point, then the depths shoal gradually to 2.3m. A shoal patch, with a least depth of 2.7m, lies 0.1 mile N of Tatters Point; a rock, with a depth of 2.3m, lies close to the E shore, 0.2 mile from the head.

Penny Hook Cove is a shoal bight lying about 0.4 mile W of Domino Harbor.

Between South Black Head and Rocky Point, lying 0.8 mile NW, the N side of Domino Run is fronted by ledges from which a shoal area extends across the channel.

Directions.—Green Island, bearing 111° and open S of South Black Head, leads close S of the shallow water extending off Rocky Point.

North Black Head (53°30'N., 55°50'W.), the SW extremity of Spotted Island, lies on the N side of Domino Run, about 2.5 miles WNW of South Black Head.

10.83 Wild Bight (53°29'N., 55°50'W.) is entered between Gunning Point and an islet, 2.4m high, about 1 mile WSW; it is shoal and foul, and the sea breaks across it during E gales.

Entry Island (53°30'N., 55°52'W.), 62m high, flat, and conspicuous, lies about 1 mile NW of Gunning Point; the passage between is shoal, but there is a channel, about 0.2 mile wide, with depths of 5.5 to 7.3m. Foul ground, on which stand some rocks, the highest 2.4m high, extends 0.15 mile E from the NE end of the island.

White Island (53°32'N., 55°53'W.) is dark and has an elevation of 66m in its E part. Its W part, which rises to a whitish cone, 52m high, is joined to the E part by a narrow isthmus. On the N side of this isthmus is a cove with depths of 5.5 to 11m. A patch, with a depth of 9.1m and on which the sea is reported to break in heavy weather, lies about 0.4 mile NW of the NW extremity of White Island. The S side of White Island is bordered by a shoal area; a shoal, with a least depth of 4.6m, extends about 0.2 mile SE from the island's E extremity. Little Duck Island, 29m high, lies about 0.2 mile S of the E part of White Island.

Duck Island, which lies about 0.5 mile SE of White Island, has three flat summits of about equal elevation; the highest is 37m high. A hill, 32m high and faced by cliffs, forms the island's SE extremity. The N and E sides of Duck Island are dark cliffs, and the SW side is mostly shingle beach. Trusty Rock, with a depth of 4.6m, lies 0.2 mile off the SW side of Duck Island on the shoal area extending SW from the island. Grappling Island, 5.5m high, black and bare, lies 0.15 mile off the NE side of Duck Island; a rock, awash, lies 0.1 mile S.

10.84 Pigeon Island (53°32'N., 55°55'W.) consists of two islands close together; the SE island is covered with grass while the NW is flat and faced with cliffs. There is no safe passage between White Island, Little Duck Island, and the Pigeon Islands because of the shoal areas between them.

Grog Island, in a position 0.5 mile SW of Duck Island, rises to a sharp cone; it is surrounded, except on its NE side, by a shoal area with depths of less than 9.1m, which extends 0.2 mile from its SW side. The passage between the 9.1m curves off Grog Island and the shore S is about 0.2 mile wide; between the 5.5m curves the passage is about 0.5 mile wide. Fawn Rock, with a depth of 1.8m, lies on a detached shoal area, 0.3 mile NW of Grog Island.

Centipede Rock, with a depth of less than 0.6m, lies on a detached shoal area about 0.4 mile N of Fawn Rock. Two additional rocks, each with a depth of less than 0.9m, lie on a 1.8m shoal area close S of Centipede Rock.

10.85 Spotted Island shows alternate black and white cliffs on its E side. **Castle Dermot Island** (53°30'N., 55°44'W.), a cliff islet, lies close offshore, about 0.3 mile N of Southeast Point. Ready Rocks, the highest 13.7m high, lie about 0.2 mile offshore in a position 0.8 mile N of Castle Dermot Island.

Northeast Rock (53°31'N., 55°45'W.), with a sunken rock close SW, lies 0.3 mile NW of the NE extremity of Spotted Island and less than 0.1 mile offshore. Gull Battery Rock, 3.3m high, lies 0.1 mile NNE of the NE extremity of Spotted Island. A sunken rock lies about 135m W of Gull Battery Rock. Doolley Ledge, with a least depth of 11m, lies 0.7 mile NNE of the NE extremity of Spotted Island. Farmer Ledge, with a depth of 5.5m, lies 0.4 mile NNW of Northeast Rock.

Wedge Island, wedge-shaped, with dark cliffs and a green summit, lies about 1.5 miles NW of the NE extremity of Spotted Island. A 7.3m patch lies about 0.2 mile NE of Wedge Island, and a 3.7m spit extends 0.1 mile SE from its SE extremity.

Griffin Harbor (53°31'N., 55°48'W.) has depths of 37m in the middle of the entrance, shoaling to 7.3m SE of an islet lying on the edge of a drying bank that extends about 0.1 mile

offshore from the head of the harbor. Harbor Rock, with a depth of 5.5m, lies about 0.2 mile NE of the NW entrance point of the harbor.

10.86 Rocky Bay (53°30'N., 55°57'W.) forms the passage which separates the NW side of Island of Ponds from Musgrave Land to the NW.

Red Point (53°30'N., 55°53'W.), the SE entrance point of Rocky Bay, is a red cliff, 15m high. Rodney Island, 1.5m high, lies nearly 1 mile WNW of Red Point on the shoal area that extends about 1.2 miles NW from the point. The E extremity of an island, which lies 3 miles NW of Red Point and is connected by a drying bank to Salmon Point at the SE end of Musgrave Land, 1.5 miles SW, forms the NW entrance point of Rocky Bay.

Eagle Island lies at the head of Rocky Bay, on the S side of the entrance of the inlet extending NW. A small island, 24m high, lies close N of the NW extremity of Eagle Island, and from its N extremity, a rocky spit extends 0.3 mile NW. Eagle Rocks, two rocks, each with a depth of less than 1.8m, lie on the NW edge of this rocky spit. Duck Rocks, above-water, lie almost 0.5 mile NW of Eagle Rocks; two rocks, awash, lie on a shoal that extends 0.3 mile SE from Duck Rocks. The narrow channel between Eagle Rocks and Duck Rocks leads into Narrow Harbor. This entrance is shoal and only vessels with local knowledge should attempt to enter.

Anchorage.—Anchorage can be taken by several large vessels, in 18.3 to 32.9m, mud bottom, in the W part of Rocky Bay. Shelter is provided from the swell, but the low-lying land forming the bay offers little protection from the wind.

10.87 South Shoal Bay (53°32'N., 56°00'W.) extends W for 2 miles, but has not been examined. Parr Island, 10.9m high, lies in the middle of the bay.

Lynch Island, conical and dark, lies about 1 mile NNE of Salmon Point. Shoal, rocky ground, on which the sea breaks in places, extends 0.4 mile SW from Lynch Island. Deer Island, formed of rugged, red rock-covered with grass, lies about 1 mile NE of Lynch Island. Fish Rock, awash at LW, lies on a shoal midway between Lynch Island and Deer Island.

Indian Island lies with its SE extremity about 1 mile NW of Lynch Island. The island rises steeply to a conspicuous double summit, the N 116m high, and the S 113m high. Indian Head, the NW extremity of Indian Island, is a steep bluff, 78m high and steep-to.

Indian Tickle (53°34'N., 56°00'W.) separates Indian Island from the NE coast of Musgrave Land. The tickle is entered from the SE between Fox Head, the E extremity of Musgrave Land, and the SE extremity of Indian Island. The NW entrance lies between White Point, on Musgrave Land, and Indian Head, the NW extremity of Indian Island.

A light is shown from White Point.

Caution.—White Point should not be rounded too closely because of the shoal water extending from it.

10.88 Between White Point and Cape Greep, the rugged coastline is indented by two open bays.

Red Island (53°35'N., 56°05'W.), the cliffs of which are red, is separated from a point on the mainland by a shallow channel about 90m wide. North Shoal Bay, which indents the coast E of

Red Island, has shoal water extending as far as 0.5 mile from its shores. A dangerous rock lies in the entrance of this bay, 0.8 mile ESE of Red Island. A 16.5m patch and The Knob, a 14.6m patch, lie about 1 mile N and 1 mile NW, respectively, of Red Island.

Cape Greep rises to a dark conical hill 3.3 miles WNW of Red Island; the bay between the island and the cape is foul. A 15.5m patch lies about 2.5 miles N of Cape Greep.

Sand Hill Cove, entered close W of Cape Greep, has foul ground extending about 1 mile from each entrance side, upon which the sea breaks. The cove is considered unsafe for large vessels due to the extensive shoal water off both shores.

10.89 Off-lying islands and dangers.—North Wolf Rock (53°43'N., 55°55'W.) is bare, dark, and steep-to on all sides; it is the N of a group of islands and rocks lying off the coast between Salmon Point and Cape Greep. A shoal, with a least depth of 7.6m, lies in a position about 0.5 mile NW of North Wolf Rock. A bank, with a least depth of 16m, lies 0.8 mile N of the rock.

South Wolf Island (53°41'N., 55°55'W.) rises in the middle to a flat ridge, on the summit of which is a conical boulder. This island is a good landmark in the S approach to Cartwright Harbor and Hamilton Inlet. A light is shown from the NE side of the island.

There is a channel, 135m wide, with a depth of 6.4m, between South Wolf Island and the smaller island N. Shoals extend nearly 0.5 mile N from the smaller island.

South Wolf Rock (53°39'N., 55°54'W.), an above-water rock, has another rock, with a depth of 1.8m, located close S.

Little Wolf Island (53°41'N., 55°57'W.) lies 1.1 miles W of the N end of South Wolf Island.

North Wolf Island lies about 1 mile W of South Wolf Island and is flat-topped. A group of islets close its E side forms a good boat harbor. The E islet is dome-shaped; the harbor is entered on either side of it, avoiding a rock, with a depth of 0.9m, in the middle of the NE entrance. The most sheltered anchorage is at the SW end in a deep cleft in the main island. Islets and rocks lie close SW of North Wolf Island.

Round Wolf Island (53°39'N., 56°00'W.) lies 1.1 miles SW of North Wolf Island.

Offer Red Island (53°40'N., 56°03'W.) is flat-topped, with red cliffs on its N side.

10.90 The Ferret Islands (53°36'N., 55°55'W.) lie 3.5 miles S of South Wolf Island. Numerous above and below-water rocks lie near these islands.

Black Rocks (53°37'N., 56°02'W.) are two islets lying about 3.5 miles WNW of the Ferret Islands. South Black Rock lies 0.8 SSE of Black Rocks. Old King is a reef, with a depth of 2.1m, lying 0.3 mile W of South Black Rock.

Halfway Island lies in a position about 4.8 miles WNW of Offer Red Island. It is the outermost of the islands on the approach to Table Bay and appears as a flat-topped cone.

Collingham Island (53°41'N., 56°18'W.) rises to a conical hill, its E side consists of steep bluffs. The passage between Collingham Island and the low islets that lie within 0.8 mile of its N side should not be attempted.

The Bird Islands, two in number, lie in a position about 2.5 miles NE of Collingham Island. The easternmost of the Bird

Islands is flat-topped. A low black rock lies close W of the W extremity of the E island, and a sunken rock, on which the sea breaks, lies about 0.2 mile farther W.

Devils Lookout Island (53°40'N., 56°19'W.) lies 1 mile S of Collingham Island. Shoal water, with several rocks, surrounds it except on its NE side.

Quakers Hat (53°39'N., 56°21'W.), an island lying about 0.8 mile SW of Devils Lookout Island, is surrounded by shoal water.

10.91 Table Bay (53°40'N., 56°26'W.) is entered between South Head and **Table Bay Point** (53°43'N., 56°24'W.). Lookout Rocks, which lie in on the S side of the entrance, are two flat rocks, 6m high, lying with the S rock nearly 1.5 miles NW of South Head. The rocks should not be approached within 0.5 mile as shoal water extends for some distance from them. A shoal, with a least depth of 6.7m, lies 1.8 miles WSW of the S rock.

Entry Island (53°41'N., 56°23'W.) is low and flat. The island should be given a wide berth.

Ledge Island lies in the middle of the bay, about 4 miles WSW of Entry Island and is 73m high. Shoals, with a least depth of 7.6m, extend 1.8 miles E of Ledge Island and there is a 4m shoal 1.5 miles NE of the island. From this shoal, a bank, with depths of 6.4 to 10.7m, extends 1.8 miles W; the bank lies on the N side of the channel between Ledge Island and Star Island, 35m high, located nearly 1.8 miles N, which leads to North Harbor.

From the W end of Ledge Island, a reef, on which there are some islets, extends 1 mile W. A rock, with a depth of 1.8m or less, lies in the middle of the channel between the outer extremity of this reef and the N shore of Table Bay, which forms the N approach channel to **Table Harbor** at the head of the bay.

Islets and rocks lie up to 0.3 mile S of the W end of Ledge Island and encumber the N side of the W end of South Road which forms the S approach channel to Table Harbor; both of these channels require local knowledge and the harbor itself is dangerous even for small craft to enter.

Anchorage.—Anchorage can be taken in North Harbor (53°41'N., 56°34'W.), in 9.1 to 12.8m, mud.

Anchorage can be taken off the N shore about 1.5 miles E of **Star Island** (53°42'N., 56°32'W.), in a depth of 22m, sand and mud.

South Road affords anchorage, in a depth of 15m, sand and shingle, in the E entrance; anchorage is also available, in a depth of 20m, mud, at the W end.

The North Harbor and South Road anchorages require local knowledge.

10.92 Between Table Bay Point and Cape North, 5 miles NW, the coast for the most part, except for Mullins Cove, has not been surveyed close to shore. There are some rocks close offshore near the N entrance point of Mullins Bay. This area is backed by a range of flat-topped hills with a gradual slope to seaward. The coast W of Cape North is indented by coves and bays as far as the entrance to Sandwich Bay. Off-lying dangers in this general area extend as far as 15 to 20 miles from the mainland.

Mullins Cove (53°44'N., 56°26'W.) lies on the N side of

North Head. Depths in the cove decrease gradually from 20 to 5.5m near its head, where there is an anchorage that is suitable for fishing vessels.

Cape St. Nicolas (53°46'N., 56°26'W.) is a low point with rocks close seaward of it.

Cape North, located about 2.8 miles NW of Cape St. Nicholas, rises to an isolated hill with a double summit, 93m high. A small islet, 21m high, lies close off the N side of this cape, but it is seldom distinguishable. Two cairns stand on the summit of Cape North. A light is shown from Cape North.

10.93 The Flat Islands (53°45'N., 56°20'W.) consist of two groups of islands lying about 1 mile apart in a SE-NW direction. The largest island in the NW group is 16m high. Foul ground extends 0.8 mile W from the SE group, and a 2.7m patch lies about 0.2 mile N of this group. A rock dries 1.8m, 0.1 mile W of the NW extremity of the NW group. A 12.8m patch lies 0.5 mile NW of the NW group, and an 11.9m patch lies about midway between the two groups.

Black Island lies 0.8 mile NW of the NW island of the Flat Islands. It appears as a flat ridge with a sharp peak at either end and looks nearly white. The W side of the island is fringed by a shoal bank that extends as far as 0.4 mile offshore. An islet, 30m high, lies about 0.1 mile off its NW end; the channel between is foul. Black Island Harbor affords anchorage, in a depth of 37m, about 0.7 mile W of the S entrance point.

Offer Wolf Island (53°49'N., 56°21'W.), with steep cliffs on its NE side, lies in a position 1.7 miles N of Black Island. An islet, 10.6m high, lies close N of the N extremity of Offer Wolf Island.

Johnny Paul Rock (53°48'N., 56°17'W.) is the outermost danger off this section of the coast. It lies about 2.2 miles E of Black Island.

Halfway Rock, 4.5m high, lies about 0.4 mile SW of Offer Wolf Island and is bordered by foul ground extending from it as much as 0.15 mile, as defined by the 20m curve; a rock, awash, lies nearly midway between this rock and Offer Wolf Island.

The Wolves are a group of islets, the highest rising 20m, about 0.5 mile ESE of Offer Wolf Island. Two shoal patches, with depths of 7.3m and 11m, lie 0.5 mile WSW and 0.8 mile SW, respectively, of The Wolves.

10.94 Grady Island (53°49'N., 56°25'W.) has a white house close to its summit; a conspicuous radio mast stands about 0.4 mile NW of its SE extremity. Hare Island, 65m high, lies about 0.1 mile E of the NE extremity of Grady Island, the channel between is foul.

Cross Island, 39m high, lies about 0.8 mile SW of the SW extremity of Grady Island. A sunken rock lies close S of Cross Island, and an islet, 3.9m high, from which a shoal extends 0.15 mile S, lies close off its E side.

Little Grady Island, 27m high, is separated from the W side of Grady Island by a channel 0.1 mile wide, through which a draft of 5.5m can be carried by keeping close along the shore of Grady Island and avoiding a rock, which dries 1.5m, near the N entrance. Several dangers exist in this area and ships navigating in this general region should be aware of these dangers.

Stunk Island, about 0.4 mile W of Little Grady Island, is round-topped, steep, and 82m high. Mad Moll, a rock which

dries 0.3m, lies about 0.2 mile S of Stunk Island, with which it is nearly connected by shoal ground. Highrat Bank, with depths of from 14.6 to 37m, lies about 0.7 mile NW of Stunk Island. Grady Reef, with a depth of 27.4m, lies 1.8 miles farther NNE.

10.95 Grady Harbor (53°48'N., 56°27'W.) is formed by Grady Island, Little Grady Island, Cross Island, and Stunk Island.

The harbor extends NE for about 0.8 mile and affords anchorage to local vessels. It can be entered from SW between Cross Island and Stunk Island, from NE through the channel between Stunk Island and Little Grady Island, or through the narrow passage between Grady Island and Little Grady Island.

Ice.—Field ice remains in the vicinity of Grady Harbor until the middle of July. Small icebergs sometimes ground in the passage between Little Grady Island and Grady Island.

Tides—Currents.—It is reported by local inhabitants that the tidal current in the channel between Little Grady Island and Grady Island sets continually S.

10.96 Off-lying islands and dangers.—Boulton Rock (54°01'N., 56°41'W.), with a depth of about 1.8m, lies about 16 miles NNW of Cape North; the sea breaks over it in moderate weather. Deep water exists around Boulton Rock, with the exception of a 14m spot close S of it. Another charted danger, the existence of which is doubtful, was reported to lie 1.5 miles NNE of Boulton Rock. Other submerged rocks, with doubts about their existence, were reported to lie 4.8 miles and 6.4 miles NW and NNW of Boulton Rock.

A reef over which the sea breaks was reported to lie about 3.3 miles NNW of Boulton Rock; a breaking reef lies 2.7 miles NW from it.

The Gannet Islands lie about 8 miles NW of Grady Island. The W island is steep on its NE side and slopes gently to its SW shore, close off which it is foul. The E group consists of several rocky islets, between which vessels should not pass. A sunken rock, dangerous to navigation, lies about midway between the W island and on the E group.

The Gannet Islands have been designated as a bird sanctuary; landing without a permit is prohibited. Due to the sensitive nature of the Seabird Ecological Reserve, only scientific researches with a valid permit are allowed to land on these islands. For further information contact the Government of Newfoundland and Labrador, Parks and Natural Areas Division, Department of Tourism, Culture and Recreation (telephone: (709) 635-4520 or e-mail: parksinfo@gov.nl.ca).

East Gannet Rock lies in a position 2.5 miles ESE of the Gannet Islands. A rock, on which the sea breaks in moderate weather, lies about 0.2 mile NE of East Gannet Rock. East Gannet Rock is reported to give good radar return up to 19 miles.

West Gannet Rock, 3.6m high, lies 1.5 miles SSW of the Gannet Islands. A sunken rock, on which the sea breaks, lies about 0.3 mile NW of West Gannet Rock. In 1953, a reef, with a depth of 8.5m, was reported to exist 2.5 miles SW of West Gannet Rock, and a 7m reef lies about 1.3 miles farther SW.

Outer Gannet Island (54°00'N., 56°32'W.), 45m high, is a flat island with sides smoothed by ice action. A sunken rock lies close W of its extremity.

Meade Shoal, a danger with a depth of 5.8m, lies 2.5 miles SSE of East Gannet Rock.

The Sisters, two islets separated by a shallow channel 0.15 mile wide, lie 0.6 mile NW of the NW extremity of Cape North; the S and higher islet rises 20.4m. Shoal ground extends as far as 0.4 mile from the islets. Pudding Bank, with a depth of 14.6m, lies 0.5 mile W of the N islet of The Sisters.

Curlew Harbor (53°45'N., 56°34'W.) is entered between Curlew Head and a point 0.8 mile SW; the bottom in the harbor is mud and its shores are barren. Depths greater than 18.3m extend 0.7 mile with the entrance at distances greater than 0.2 mile from either shore. Curlew Island, 6.4m high, lies close W of Curlew Head, with a 9.1m patch about 0.3 mile SW. A shoal, with a depth of 7.3m, extends about 0.3 mile N from the island.

Anchorage.—Anchorage can be taken, in 21.9m, mud, with the N extremity of Long Island and the SW extremity of Curlew Island in line bearing 330°.

10.97 Green Island, 48m high, lies about 0.7 mile WNW of Curlew Island; it is connected with Pigeon Island and Sparrowbill Island, about 0.5 mile W, by a ridge of foul ground. Sparrowbill Island, 8.2m high, is the N of the two.

Long Island (53°47'N., 56°36'W.) lies with its S extremity about 0.4 mile N of Sparrowbill Island, to which it is nearly connected by a ridge of rocks. It is 73m high and about 1 mile long. Duck Island, 35m high, lies close off the S part of its W side, with Black Rock, 1.8m high, 0.3 mile farther W. Macfarlane Bank, with a depth of 12.8m, lies about 0.3 mile off the middle of the E side of Long Island.

Round Island, 73m high, W of Pigeon Island, is separated from that island by a channel about 0.2 mile wide. Harbor Rock, with a depth of less than 1.8m, lies at the SW extremity of a patch of foul ground that encumbers the S entrance of this channel. There is a fishing settlement on the S side of Round Island; the principal house has a belfry.

Caution.—The passage between Long Island and the foul ground connecting Green Island, Sparrowbill Island, Pigeon Island, and the islands SW should not be attempted without local knowledge; neither should the channel between Long Island and Round Island.

10.98 Tinker Island (53°49'N., 56°35'W.), 23.5m high, lies about 1.5 miles NNE of Long Island. Tinker Rock, with a depth of 5.9m, is steep-to and lies about 0.4 mile S of Tinker Island. Budget Rock, 1.5m high, lies about 0.7 mile NNE of Tinker Island. Budget Bank, with a depth of 5.5m, extends about 0.5 mile N of Budget Rock.

Isthmus Bay (53°44'N., 56°38'W.) is entered between Toomie Point and the NE extremity of Cartwright Island, about 0.5 mile N. The foul ground, which extends from Toomie Point and from the NE extremity of Cartwright Island, restricts the width of the entrance channel to about 0.2 mile. A draft of 6.1m can be carried through this channel; inside the entrance, the depths increase from 11 to 29.3m, but the head of the bay is shoal. The W side of the bay is formed by a chain of islands and islets extending about 2.7 miles NNE from the mainland, separating Isthmus Bay from Blackguard Bay. The shores of Isthmus Bay are bare except near its head, between which and Table Hill, 132m high, nearly 1 mile S, are swamps and lakes

with small woods around them.

10.99 Cartwright Island (53°45'N., 56°39'W.), about 1.5 miles long in a N-S direction, has a square summit, 59m high. Foul ground extends about 0.2 mile from the NE extremity of Cartwright Island. The 5.5m curve lies from 0.1 to 0.15 mile off the E shore of this island, and within this curve the ground is generally foul. A chain of three islets extends about 0.2 mile off the S end of Cartwright Island; **Indian Head** (53°44'N., 56°39'W.), a grassy, conical islet, 39m high, lies about 0.2 mile farther S. A shingle spit extends about 0.2 mile ENE from the NE side of Indian Head.

Long Point is a drying ledge on the SW side of Cartwright Island, with foul ground extending S for about 0.5 mile. Mad Moll is a rock that dries 0.6m, located 0.2 mile SW of Long Point.

Bull Gut is a channel that leads into Isthmus Bay from Blackguard Bay between the three islets close S of Cartwright Island and a 3.7m rock lying about 0.2 mile N of Indian Head. The channel is 90m wide with a depth of 8.2m, and suitable only for vessels with local knowledge.

10.100 Blackguard Bay (53°45'N., 56°40'W.) is entered between Salmon Point, the NW extremity of Round Island, and Pinchgut Island, a small, rocky island, about 1.8m high, which lies about 2.2 miles WSW. The latter island lies on a shoal bank that extends about 0.3 mile N from the mainland coast. Blackguard Bay is separated from Isthmus Bay by Cartwright Island and the islands S; it is shoal and foul and should not be navigated S of Bull Gut.

The Cobbler, a shoal with a depth of 4.1m, lies in a position about 0.3 mile W of Salmon Point. **Pinchgut Bank** (53°46'N., 56°41'W.), with a depth of 4.6m, lies in the middle of the entrance of Blackguard Bay, nearly 1 mile ENE of Pinchgut Island.

From the NW extremity of Cartwright Island to Long Point, the W extremity of the island, about 0.8 mile SSW, and then to Bull Gut, 0.6 mile farther S, foul ground extends in places as far as 0.3 mile offshore.

Long Rock, a submerged rock, and Gimblet Shoal, with a depth of 4.6m, lie about 0.2 mile N and 0.4 mile W, respectively, of the NW extremity of Cartwright Island.

Approaches to Cartwright

10.101 The approaches to Cartwright and Sandwich Bay, much encumbered by islands and reefs, extend from the head of the peninsula at Pinchgut Island to Cape Porcupine, about 18 miles NW. The largest island, Huntingdon Island, divides the inner approaches into two channels. The passage SE of Huntingdon Island is the main navigation channel. The islands and headlands off and near the approaches to Cartwright are reported to be easy to identify. The many rugged offshore islands show up well on radar.

Off-lying islands.—Farmer Ledge, a rocky reef which is awash except in a flat calm, lies 3 miles E of Cape Porcupine.

Green Island and Haypook Island lie about 5 miles E of Cape Porcupine; the islands are reported to be nearly connected by foul ground. Haypook Island has a conspicuous conical summit. An islet, 5.8m high, with two rocks awash on its N

side, lies about 0.3 mile N of the W extremity of Green Island, and a black islet lies about 0.2 mile N of its NE extremity. A rock breaks about 0.2 mile W of the W extremity of Haypook Island, and the island is foul on its NW side. A shoal area extends about 0.1 mile S from the S extremity of this island.

Bird Rocks (53°57'N., 56°53'W.) lie about 3.3 miles ENE of Green Island. The N islet is 13m high. Black Rocks, about 1 mile S of Bird Rocks, are two above-water rocks; the higher of the two has a height of 6.1m.

Shag Island, 70m high and bluff, lies about 1.2 miles SSE of Haypook Island. Two low islets, with breaking rocks close NE of them, lie 0.3 mile N of Shag Island. A rock uncovers about 0.1 mile NW of the W extremity of Shag Island.

The **Handy Harbor Islands** (53°53'N., 57°00'W.), centered about 1 mile SW of Shag Island, are a group of four principal and numerous smaller islands. Anchorage for small craft may be found, in a depth of 5.5m, about 0.1 mile SE of the SE end of the largest island in the Handy Harbor Islands. Entrance must be made from the SE because all other entrances are foul.

Long Island (53°54'N., 56°57'W.), with a hat-shaped summit, 48m high, lies with its W extremity about 0.5 mile SE of Shag Island. Long Island and a small unnamed island, about 0.3 mile W, are connected by foul ground. Ragged Rocks, connected by foul ground, lie about 1 mile SW of the W extremity of Long Island. Long Island and Ragged Rocks are re-reported to be connected by foul ground.

Flemming Rock, awash, lies about 0.7 mile ENE of the E extremity of Long Island.

The Double Islands, two in number, lie close together, the E about 1 mile SE of the E extremity of Long Island. Three rocks, the highest of which is 0.9m, lie about 0.6 mile S of the W extremity of the E island. A rock, with a depth of less than 1.8m, lies about 230m W of the W extremity of the W island. A 5.8m and an 8.5m shoal patch lie about 0.3 mile and 0.6 mile SW, respectively, of the above-mentioned rock.

Yellow Rock, a bare isolated island, lies 3 miles E of Flemming Rock.

10.102 Inner islands and dangers.—Pigeon Island (53°54'N., 57°06'W.), 25m high, lies about 3.5 miles W of the Handy Harbor Islands.

The **Partridge Harbor Islands** (53°52'N., 57°05'W.) are a group of four islands, 4 miles SSE of Cape Porcupine. Partridge Harbor, formed by the S side of Partridge Island and the NW and NE sides of two other islands of the group, has depths of 3.7 to 7.3m.

Horse Chops Island (53°51'N., 57°03'W.) has numerous cliff-faced hills on it; its summit is 120m high, with a conspicuous bluff of nearly the same elevation close N. Black Duck Cove, shoal, with an islet in the entrance, indents the N side of this island.

Hamilton Island, narrow and 51m high, lies about 1 mile E of Horse Chops Island. Another island, smaller and marked by a light near its S end, parallels its NW side.

Tinker Island, about 0.5 mile W of the NW extremity of Hamilton Island, is conical, cliffy, and 41m high. Grappling Island is separated from the NE extremity of Hamilton Island by a foul channel 0.2 mile wide; it is wedge-shaped with a steep fall on its E side.

Pikens Island, grass-covered, lies about 0.2 mile SW of the

SW extremity of Hamilton Island.

Packs Harbor (53°52'N., 56°59'W.), the channel between Hamilton Island and the unnamed island close NW, provides excellent anchorage for small vessels and is frequented during the summer months by numerous fishing vessels. The NE entrance is encumbered with rocks.

A rock, with a depth of 0.9m, lies close off the SW extremity of Hamilton Island; a similar rock lies in the middle of the channel close off the SW entrance point; and a shoal, with a depth of 1.2m, extends from the low S extremity of the island on the NW side of the harbor.

Anchorage.—The best anchorage is in the SW part, in depths of 5.5 to 7.3m.

10.103 Newfoundland Island (53°51'N., 56°56'W.) lies about 0.8 mile SE of Packs Harbor. A bold bluff, 87m high, is located at its SE end. Pigeon Island, a cone 19m high, lies close off the NW extremity of Newfoundland Island. Dumpling Island, low, fairly flat, and covered with grass, lies about 0.5 mile SE of Luff Point, the SW extremity of Newfoundland Island.

Dumpling Harbor, which lies between Dumpling Island and Newfoundland Island, is a good small craft anchorage, sheltered from all except SW winds.

Independent Island (53°51'N., 56°53'W.) is rugged on its NE side and has several peaks; it rises gently on its SW side.

Flat Island and Farrels Island lie close off the E end of Newfoundland.

Seal Island (53°51'N., 56°50'W.), 17m high, lies about 1.5 miles E of Independent Island; it is surrounded by rocks and reefs. Seal Rock, which is awash, lies about 0.7 mile SE of Seal Island. The passage between Seal Island and Independent Island is reported to be foul and should not be attempted.

Deep Bay (53°49'N., 56°55'W.) is the body of water bounded by Newfoundland Island and Independent Island on the N, and by Huntingdon Island on the S. The bay affords good anchorage.

The Dog Islands, separated by a shoal channel, lie in the middle of the E entrance of Deep Bay.

The Raft (53°49'N., 56°50'W.) is a small islet with off-lying rocks and shoals; it lies a little more than 1 mile SE of the Dog Islands. A rock, with a depth of less than 1.8m, lies about 0.1 mile SE of the E extremity of The Raft. Another rock, existence doubtful, is charted about 0.6 mile ESE of the E extremity of The Raft. Shoal water extends about 0.2 mile from the NE and SW sides of the island. Shoal patches of 10.1m and 9.1m lie between 0.2 and 0.4 mile NW of The Raft.

The Washer (53°48'N., 56°49'W.), a rock, awash, lies about 0.3 mile off the N side of Huntingdon Island.

Pompey Island (53°47'N., 56°45'W.) is round and barren. A cairn stands on the highest part of the island. Two small islets lie off the NE side of the island. Pompey Rock, with a depth of 0.9m, lies about 1.7 miles N of Pompey Island.

10.104 Huntingdon Island (53°47'N., 56°55'W.), largely covered by stunted trees, attains an elevation of 141m at its NE end. The channel S of this island is available for vessels entering Sandwich Bay, but that N and W of the island is reported to be practically closed, even to small vessels, by a bar at its SW end.

Huntingdon Flats connect Huntingdon Island with the is-

lands SW of it, leaving no passage with a depth of more than 1.8m between the SE and NW channels of Sandwich Bay.

Flat Island (53°47'N., 56°47'W.), 2.1m high and bordered by reefs, on which the sea breaks in bad weather, lies about 1 mile W of Pompey Island. The channel between Flat Island and Cape Horn is about 0.5 mile wide between the 18.3m curves. Red Island, small, 11.9m high, and reddish in color, lies about 1.5 miles WSW of Pompey Island. Depths of less than 11m extend 0.8 mile SE from Flat Island and 0.9 mile E from **Red Island** (53°47'N., 56°48'W.).

10.105 Cartwright—Inner approaches.—The channel leading to Cartwright is entered between Cape Horn, the E extremity of Huntingdon Island, and Pinchgut Island.

Venison Head is the NW extremity of a 47m high peninsula which projects from the mainland 1.5 miles SW of Pinchgut Island.

Hare Harbor (53°44'N., 56°46'W.) is fronted by East Hare Island, 111m high, and West Hare Island, 115m high. A cairn stands on the highest elevation of East Hare Island. A rock, 0.3m high, and another, which dries 1.8m, lie on a shoal area about 0.2 mile and 0.4 mile W, respectively, of West Hare Island. The channel between these islands is about 0.3 mile wide with a depth of about 13.7m in the fairway. Hare Rock, with a depth of 1.2m and on which the sea sometimes breaks, lies about 0.5 mile N of West Hare Island. Lighted Buoy NC1 is moored close N of Hare Rock.

Hare Harbor is divided into two parts by a peninsula that projects from the S side; the Hare Islands lie in the entrance. The channel between the peninsula and East Hare Island is about 0.3 mile wide, with depths of 9.1 to 14.6m. A rock, with a depth of 1.8m, is located in mid-channel S of East Hare Island. A 6.9m patch lies in the E part of the harbor in a position about 0.7 mile E of the S extremity of East Hare Island. A rock dries 0.3m about 0.8 mile SSE of the same extremity; a 3.7m patch lies 0.3 mile N of the rock.

Anchorage.—It has been reported that Hare Harbor provides protected anchorage for large vessels, but it is partially open to the W, and would be uncomfortable for small vessels in heavy W weather. Anchorage can be taken in the E part of the harbor, in 8.2m, mud, with the NE extremity of East Hare Island bearing 323°, and just open of the N shore of the harbor. Anchorage can also be taken in the W part of the harbor, in 11 to 18.3m, mud, about 0.3 mile S of the middle of West Hare Island.

10.106 Goose Cove (53°43'N., 56°52'W.) is a large foul bay which nearly dries. Deadmans Island, 39m high, and Fillbelly Island, 26m high, lie in the entrance. A group of above-water rocks lie in Goose Cove, S of Fillbelly Island.

Egg Island, 7.3m high and rocky, lies on the N side of the fairway, about 1 mile N of Fillbelly Island. Depths of less than 11m extend about 0.4 mile ENE, W, and WSW from Egg Island. A rock, with a depth of 5.8m, lies 1 mile SW of Egg Island, on the S edge of a shoal bank which extends up to 0.4 mile offshore W of Egg Harbor.

Little Crab Head (53°45'N., 56°56'W.), 15.5m high, lies about 2 miles WSW of Egg Island on the S extremity of Huntingdon Island, with Crab Head, 31m high, about 0.5 mile farther W.

Shoal Point, 42m high, is the SW extremity of Huntingdon Island. Green Island, 14.6m high, and Leading Mark Island, 3.3m high, lie on Huntingdon Flats, about 1 mile NW and 2 miles W, respectively, of Shoal Point.

Crab Islet, 14.9m high, lies on the N side of the fairway in the entrance of a foul cove between Little Crab Head and Crab Head. The navigable channel between this islet and Black Head, a steep wooded bluff on the mainland SW, as defined by the 9.1m curves, is about 0.8 mile wide.

Tides—Currents.—In the channel between Crab Islet and Black Head, the flood current begins about 4 hours 30 minutes before HW at Cartwright, attaining a velocity of about 2 knots at springs and 0.7 knot at neaps. The ebb current begins about 1 hour 30 minutes after HW at Cartwright, attaining a velocity of about 1.7 knots at springs and 0.8 knot at neaps.

In the NE entrance of Favorite Tickle, the velocities attained at springs are 2.5 knots on the SW flood current and 3.5 knots on the NW ebb current. During the ebb current, there are strong eddies close W and S of Merlin Point.

Earl Island (53°42'N., 57°07'W.) is a large island which separates the approaches to Sandwich Bay into two channels; the E channel, **Favorite Tickle** (53°43'N., 57°02'W.), is the only usable passage leading into Sandwich Bay. The tickle is entered between Curlew Point and Shermoks Point. A lighted buoy is moored at the edge of the shoal water extending NE of Shermoks Point.

Cartwright Harbor to Hamilton Inlet

10.107 Cartwright Harbor (53°42'N., 57°02'W.) is a small natural harbor on the SE coast of Labrador, close S of Hamilton Inlet; anchorage and limited port facilities are available. The harbor is entered between Merlin Point and an unnamed point about 0.8 mile SSE. Its shores are backed by hills covered with small spruce trees.

Ice.—Cartwright Harbor is usually open from the middle of June until the latter part of November, when it freezes over.

Tides—Currents.—In the N entrance to Favorite Tickle, from abreast of Curlew Point to the Cartwright Harbor entrance, at large tides, the SW tidal current attains a rate of 2.5 knots; the rate of the NE tidal current is 3.5 knots. The NE tidal current produces a strong W eddy close S of Merlin Point; at the same time, a SW eddy occurs close W of the same feature. In the harbor, the current are weak and irregular.

Depths—Limitations.—There are depths of 37 to 51m in the fairway of the SE channel for about 5.5 miles within the entrance. The depths are very irregular, the fairway between the 20m curves having a least width of about 45m, and between the 10m curves a least width of nearly 0.5 mile as far as the NE entrance of Favorite Tickle. Mid-channel depths in the N half of Favorite Tickle vary between 12.8m and 37m.

A causeway located 0.2 mile E of Merlin Point extends 213m from the shore. The wharf face at the end of the causeway is 34m wide with a depth of 5.5m alongside. To the S, there is a wharf, 79m in length with a depth of 5.1m alongside.

On the W side of the causeway, there is a fish-processing plant, with a marginal wharf adjacent to it.

The marine service center, closed in 2010, consisting of a storage area and a haulout 6.4m wide and 24m long, is located at the end of the causeway extending S from Merlin Point.

There is a depth of 4m alongside the outer end of the haulout.

Aspect.—Radar, and the fathometer are used as a primary means of navigation, as fog and an overcast sky generally prevent celestial observations. Navigation by radar in this area is greatly facilitated by the many rugged offshore islands, which give a good presentation.

Lighted Buoy NC3 and Lighted Buoy NC5 indicate the limit of shoal water off Merlin Point.

The Grenfell Regional Health Services nursing station, which is large, white, and conspicuous, is situated on the S side of the harbor.

Vessels bound for Cartwright Harbor can obtain accurate fixes by use of radar range of Halfway Island, Black Island, Grady Island, the Gannet Islands, Budget Rock, Tinker Island, Long Island, South Pompey Island, Red Island, and Egg Island.

The recommended landfall in the S approach to Cartwright Harbor is South Wolf Island; the White Bear Islands are the best landfall in the N approach. High hills rise along the coast in the vicinity of Cartwright; the islands and headlands in the approaches are easy to identify. The Mealy Mountains rise to over 549m on the NW side of the inner part of Sandwich Bay and form an excellent landmark. Big Hill, which rises to an elevation of 131m, about 1.5 miles E of Merlin Point, is conspicuous.

Anchorage.—Anchorage, sheltered, is available, in about 9.1m, mud, with the Grenfell Mission pier on the S shore bearing 150° distant 0.25 mile. This anchorage is for small to moderate-sized vessels. Large vessels anchor farther out in Favorite Tickle, in about 36.6m, clay. Large vessels have also anchored outside the 9.1m curve N of Curlew Hill.

Directions.—The following directions for the outer approaches to Cartwright should be used when ice constitutes a hazard along the coast of Labrador. These directions may, however, be used at all times:

1. **Southern approach.**—When bound for Cartwright from the S, pass about 30 or 40 miles to seaward of Belle Isle or near the edge of the pack ice. Follow a N course as far as 52°50'N. Then set course toward a position just E of Roundhill Island (53°26'N., 55°37'W.).

From a position 3 miles E of Roundhill Island, set course to pass 7.5 miles NNE of North Wolf Rock. Then observe the ice conditions and determine which approach to use in passing through the outer islands and dangers to reach the inner approaches to Cartwright.

2. **Northern approach.**—From a position about 3 miles E of East Rock (54°27'N., 56°51'W.), set course to pass about 5 miles E of Outer Gannet Island (54°00'N., 56°32'W.). Then observe the ice conditions, and determine which approach to use in passing through the outer islands and dangers to the inner approaches.

3. **Inner approach.**—From a position 1 mile S of Pompey Island, steer 270°; this course will clear Hare Rock and the shoal area S of Red Islet.

When abeam of the lighted buoy marking Hare Rock, follow a general WSW course.

When abeam of Egg Island, distant about 0.4 mile, alter course to 255°. This track passes close to the 5.8m depth lying almost 1 mile SW of Egg Island and close S of two 9.1m depths located SE of Crab Island.

After rounding Black Head, alter course gradually SW.

This course will carry a vessel clear of the shoal areas on the E and W sides of the approaches to Favorite Tickle, between Curlew Point and Shermoks Point.

Caution.—Great caution is recommended in navigating the Cartwright area because sand bars are formed suddenly in unexpected places and the water is extremely turbid.

A ferry route is established from Cartwright to NE between Huntington Island and Fillbelly Island, then ENE past Cape North, and continues SE to Collingham Island, close E of Table Bay. An additional ferry route is established from close E of Huntington Island N past Bird Rocks, then continues N to Tumbledown Dick Island. The ferry route also continues NW between George Island and South Island and W into Hamilton Inlet to the approach of the Narrows.

10.108 Favorite Tickle continues from Cartwright Harbor and leads into Sandwich Bay. The shores of the tickle are fronted by a foul area extending 0.1 to 0.2 mile offshore; most of this foul ground is covered at HW.

Woody Island (53°41'N., 57°05'W.), in the S portion of Favorite Tickle, is densely-wooded and about 16m high. Woody Island Rock, which dries, lies at the outer end of a boulder spit which extends NE of Woody Island.

Green Island, nearly 0.3 mile E of Woody Island, is 6.1m high and rocky. Green Island is separated from Woody Island by a narrow channel, with a least depth of 5.8m. Another channel, about 91m wide and with a least depth of 5.8m, leads between Green Island and the mainland.

The best channel for clearing the above-mentioned islands leads between Woody Island and Earl Island, W in a least depth of 6.1m.

10.109 The Narrows (53°40'N., 57°04'W.), entered about 0.3 mile S of Woody Island between Salomes Point and Narrows Point, has a least depth of 29.3m and a navigable width of about 0.2 mile.

Tides—Currents.—In The Narrows, the flood current sets in a 230° direction until abreast Narrows Point, where it turns S to 185°, attaining a velocity of 2 knots at springs. The ebb current sets in a 010° direction until abreast Narrows Point, and then turns NE through the channels, between the islands and the mainland, attaining a velocity of 3.5 knots at springs off Narrows Point. Close N of The Narrows and in the channel between Earl Island, Woody Island, Green Island, and the mainland there are strong eddies during both flood and ebb currents. Strong tide rips and eddies are also found close E of Hatten Shoal during both tidal currents.

Hatten Shoal, with a depth of 5.5m, lies nearly 1 mile S of the S extremity of Woody Island and about 0.2 mile off the E side of Earl Island, with which it is connected by a shoal. A lighted buoy marks the edge of the shoal water.

Muddy Bay is entered on the E side of Favorite Tickle between Winters Point, about 0.8 mile S of Narrows Point, and Georges Head, about 0.5 mile farther S. There is little or no tidal current in Muddy Bay.

Anchorage.—Anchorage can be taken in Muddy Bay, in 18.3 to 20.1m, mud, close inside the entrance to the bay.

10.110 Sandwich Bay (53°35'N., 57°15'W.) is entered at the S end of Favorite Tickle, between Longstretch Point and

Waterloo Point.

Caution.—Soundings shown on the chart in the N and W parts of Sandwich Bay are of a reconnaissance nature, therefore, caution must be exercised when navigating in these waters. The few soundings shown could indicate the existence of deep water, however, because the soundings are so widely spaced, the possibilities of uncharted dangers are great.

Depths in the E and S parts of the bay are as charted, with no dangers, from the S end of Favorite Tickle to close above the Paradise River entrance.

10.111 Sandwich Bay—West side.—Sandwich Tickle, the channel separating Diver Island and Earl Island from the mainland, is virtually closed at its N end; it is entered between Main Tickle Point and Diver Island. However, it may be possible, with local knowledge, to enter Sandwich Bay with small craft through Diver Tickle, which lies between Diver Island and Earl Island.

Deep Water Point and Burn Point are the only named features on the W side of Sandwich Tickle.

The White Bear River enters Sandwich Bay at its SW end between Dove Point and Separation Point. The entrance channel at one time had depths of 5.5m and the river was navigable with small craft for about 4 miles; there is a waterfall, 24m high, about 0.3 mile above the head of navigation.

The Eagle River, with its source about 75 miles SW, enters Sandwich Bay between Separation Point and an unnamed point, 2.5 miles ESE. The river is reported navigable for small craft for about 3.5 miles, above which point there are rapids.

Swallow Bank, located 2.2 miles ENE of Separation Point, is the only named danger in Sandwich Bay. Because of the probability of shoal water, mariners are cautioned not to pass SSW of a line joining this bank and Lumpy Island, 2 miles SSE.

10.112 Sandwich Bay—East side.—East Arm, foul at its head, is located 4 miles south of Longstretch Point. Its N part has depths as charted, while the S part comprises a rocky shelf, which extends 3 miles SW from the head of the bay and has a least depth of 3m. Duck Island is located 4 miles SSW of East Arm.

Anchorage.—There is an anchorage in the N part of East Arm, about 0.3 mile off the N shore and about 1 mile from its head.

Paradise Arm is a small bay extending SW from the head of Sandwich Bay. A group of low islets on a drying bank, surrounded by shoals, obstructs the central part of the arm; the W part is foul.

An anchorage, used by vessels calling at the Paradise River, is situated in the E part of Paradise Arm, in a depth of 29m, about 0.4 mile NW of the islet located near the SE entrance point of the arm.

The Paradise River enters the head of Sandwich Bay at Paradise Arm; the river is navigable, with local knowledge, for several miles upstream.

A winding narrow channel, with a least charted depth of 4.9m, leads to the settlement of the Paradise River. Lighted Buoy NV2 is moored at the outer end of this channel.

A private T-shaped wharf, 18m long across its outer face and with a reported depth alongside of about 4m, extends 37m from the shore.

10.113 Cape Porcupine (53°57'N., 57°10'W.) rises to a double peak, 105m high, about 1.5 miles W of its extremity. Gull Island, 19.2m high, is connected with the NE extremity of the cape at LW. The coast both N and S of Cape Porcupine is a sandy beach. The coast between Cape Porcupine and Sandy Point, about 8 miles S, recedes slightly to form a bight, the shore of which is called Porcupine Strand. Numerous un-charted dangers exist in the vicinity of Cape Porcupine. Vessels should use extreme caution when within the area between 53°55'N and 54°04'N, W of 56°56'W.

Between Cape Porcupine and Fish Cove Point, about 14 miles NNW, the coast is low and consists of a sandy beach.

South Stag Island (54°01'N., 57°08'W.) is covered with grass and rises in two flat hummocks, with the higher being 27m high; reefs extend about 0.3 mile SE from its E side.

10.114 Off-lying dangers.—Schmitt Shoal (53°58'N., 57°04'W.) and **Mid Channel Rock** (54°00'N., 56°59'W.) are two dangers lying 3 miles and 6.5 miles ENE of Cape Porcupine. Another danger is **Black Rock** (54°01'N., 57°02'W.), which lies about 3 miles E of South Stag Island.

The North Stag Islands lie in a position about 3.5 miles NW of South Stag Island, and consist of two islands and a number of islets and rocks. The S island is 37m high, dark and conical; the N, 35m high and flat, has a deep ravine on its N side. The channel between the islands, through which a depth of 1.8m can be carried, is encumbered with islets and rocks. Anchorage can be taken W of this channel, in 12.8 to 25.6m. Several detached depths of 8.2 to 17.3m in the vicinity of the North Stag Islands can best be seen on the chart.

Tumbledown Dick Island (54°09'N., 57°10'W.) has a conspicuous round hillock on its summit. A reef extends about 0.2 mile from its NE end; some rocks lie within 0.2 mile of the middle of its NW side. Little Tumbledown Dick Island, 21m high, lies about 0.4 mile SW of Tumbledown Dick Island. A shoal, with a depth of 10.1m, extends about 0.2 mile offshore from the reef which fringes the N side of the island. A rock, awash, lies about 150m S of the SW extremity of Tumbledown Dick Island; elsewhere the channel between the two islands is clear of dangers in the fairway.

Fish Cove Point lies at the N end of the sandy beach which extends about 14 miles NNW from Cape Porcupine. It is faced by dark cliffs which rise to an elevation of 40m. The charted beacon was not visible in 1978.

Caution.—A cable lies about 5.5 miles SE of Tumbledown Dick Island, and extends NW to close S of Round Head Island, then W to close N of South Island. Anchorage is prohibited in this area.

West Bay (54°09'N., 57°22'W.) is entered between Fish Cove Point and Pottles Cove Head. There are depths of 6.1m to 12.2m in the outer part of the bay.

Old Man Island (54°09'N., 57°21'W.) lies close SSE of Pottles Cove Head. Both sides of the channel between them are fringed with rocks. **Pottles Cove Head** (54°10'N., 57°21'W.), which is low, grass covered, and fringed with light-colored rock, should be given a berth of about 91m. A shoal, with a depth of 4m and marked by a lighted buoy, lies about 0.6 mile E of Old Man Island.

Pottles Cove lies close W of Pottles Cove Head; it is partly

sheltered by Old Man Island. In the outer part there are depths of between 7.3 and 11m; depths of 3.7m exist close to the N side. A reef extends for about 0.1 mile from the W side of the cove.

Anchorage.—Anchorage may be obtained, in 10m, off the entrance to Pottles Cove.

Hamilton Inlet

10.115 Hamilton Inlet provides a continuous waterway which permits ocean-going vessels to penetrate nearly 140 miles inland beyond the outer island. In the country around Hamilton Inlet, the transition from the barren outer island to the forested interior is very marked. The E or outermost islands are covered only with lichens, moss, and a variety of flowering plants; trees are entirely absent, excepting a variety of Arctic willow and a dwarf birch. At a distance of not more than 12 miles from the coast, there commences a luxuriant forest growth which covers the whole of the country with the exception of a few areas, chiefly toward the N, called “barrens.” These “barrens” are actually moors or prairies and have supported vast herds of caribou, some of which still remain. High hills and mountains rise in the vicinity of the inlet and the islands are mostly bold and rocky. The White Bear Islands form the best landfall when approaching Hamilton Inlet from the N. It is reported that the only radar conspicuous feature readily distinguishable from icebergs is a wedge-shaped formation in the White Bear Islands. The inlet is composed mainly of three fairly large bodies of water interconnected by narrow channels of Groswater Bay, Lake Melville, and Goose Bay.

Winds—Weather.—The climate a few miles inland is totally different from that on the coast. A considerable rise of temperature was noticed passing through The Narrows to Lake Melville, with conditions improving to the W; at the W end of the lake, the climate is much similar to that of N Ontario around the head of James Bay. The rainfall on the upper reaches of the lake is less than at Rigolet, the E winds from the sea depositing much of their moisture on the high hills before they reach so far inland.

Ice.—The Arctic ice pack generally arrives off Hamilton Inlet between February 1 and February 15, depending on the wind; if strong N winds prevail, it may arrive earlier, and it is impossible to force a passage. Between June 1 through June 15, the ice loosens up; W winds may drive it offshore, leaving a passage inside among the islands, the pack extending many miles seaward. Under these conditions, a passage can be made up the coast in comparative safety, but care must be taken to observe the wind; as the pack ice may be driven against the land again by E winds. The coast is not usually clear of drift ice until well into August.

Ice does not constitute a danger to navigation from **Ticoralak Head** (54°15'N., 58°13'W.) through The Narrows during the navigation season.

It has been reported that the N or due W approach from seaward to the swept channel of Hamilton Inlet is invariably closed by ice in the early part of the season. It is recommended that vessels endeavor to use the S approach, which is not entirely ice-free, but has the advantage of having no pressure ice.

Vessels nearing the inlet should always observe the ice conditions before deciding which approach to use in making the

swept channel.

Tides—Currents.—A strong S set has been reported in the approach to Hamilton Inlet.

Navigation may be limited from the middle of June until the end of November, depending on movements of Arctic ice pack off Hamilton Inlet.

Depths—Limitations.—Along the recommended track in the approaches to, as well as throughout Groswater Bay, the water area, for a width of about 2 miles, has been wire-swept to a depth of 12.5m. The least depth in The Narrows is 13.4m, after which there is a deep water channel through Lake Melville to Goose Bay Narrows. Approximate depths of 9.1m exist through Goose Bay Narrows and vessels must contact the harbor-master at Happy Valley-Goose Bay to ascertain the prevailing depths in this area, as well as those in Terrington Narrows.

The harbor-master of the port of Goose Bay exercises control of shipping through Hamilton Inlet, up to and including Terrington Basin, in the port of Goose Bay. Since silting is continually taking place in the narrow channels leading to Goose Bay and Terrington Basin, it is recommended that vessels loading for Goose Bay should inquire of the harbor-master before departure regarding the limiting depths in these channels.

Approaches to Hamilton Inlet

10.116 Southeast Rocks (54°15'N., 56°49'W.) are the E dangers in the approach to Hamilton Inlet, with the exception of a 5.2m reef, which breaks, about 2.5 miles NE of the N rock of the Southeast Rocks. Southeast Rocks consist of three bare rocks, the higher 15m high, and Chimmo Rock, 9.7m high, about 2.3 miles NNW. Chimmo Rock is steep-to and is reported to give a good radar return up to 8 miles.

An islet, 9.4m high, with a dangerous sunken rock close W, lies in a position nearly 5 miles NW of Chimmo Rock.

The **Herring Islands** (54°20'N., 57°06'W.) is a group of three islands and some rocks. The channel between the two eastern Herring Islands should not be attempted. A light is shown from the NNE island of the group.

Leeming Rock, lying 5 miles SSE of the Herring Islands, has a reported depth of less than 1.8m, is steep-to, and marked by breakers. A reef, with a depth of 2.4m, lies 1 mile W of Leeming Rock. A reef, which breaks, has been reported to exist 2.5 miles NW of the same rock.

George Island (54°16'N., 57°20'W.) lies in the entrance of Hamilton Inlet. The shores of the island are bold. George Island Cove, on the E side of the island, is entered between Round Head Island, a small truncated cone, and Gull Islet, about 1 mile N. An islet, 7m high, with a 1.8m rock close E, lies close S of Gull Islet. A reef, with a depth of 1.2m, lying 1 mile ESE of the N entrance point of George Island Cove, is usually marked by breakers.

Caution.—Unnamed reefs lie 1.8 miles W and 3.3 miles NNW of the W extremity of George Island. An 11m patch lies close S of the recommended track, 7.5 miles WNW of the same point on George Island.

10.117 Black Rocks, a group of islets, lie about 1.3 miles SW of George Island. Isolated shoals lie in the vicinity of these islets.

Anchorage.—Anchorage can be taken in the cove, in 11 to

14.6m, sand, with shelter except from winds between the NE and SE.

Norman Reef (54°15'N., 57°13'W.), with a depth of 4.3m and marked by a buoy, lies 3 miles E of George Island.

Numerous islands, islets, rocks and shoals lie SW of George Island, between it and the mainland. Local knowledge is essential to navigate through this area.

The **South Duck Islands** (54°13'N., 57°24'W.) lie midway between George Island and the mainland. They parallel the mainland for a distance of 2 miles and include many above and below-water rocks. Black Rock, lying between the South Duck Islands and the mainland, is one of a group of three islets lying in shoal water.

Tub Island (54°11'N., 57°24'W.) lies 2 miles NW of Pottles Cove Head and close off the mainland. It has two mounds which are conspicuous; the E and higher mound is shaped like an inverted tub.

Drakes Island (54°11'N., 57°23'W.), lying about 0.6 mile ESE of Tub Island, is 8.2m high. Bakers Ledge and Mad Moll are dangers lying close NE and 1 mile E of Drakes Island, respectively.

New Harbor (54°10'N., 57°23'W.), lying about 1 mile W of Pottles Cove Head, is shallow but affords fair shelter.

Cuff Harbor, lying about 1.3 miles WNW of Tub Harbor, is frequently used as shelter for fishing vessels; local knowledge is recommended. The W entrance point of the harbor is marked by a white beacon. The Cuff Islands, with the main island about 12m high, lie close offshore.

10.118 Hamilton Inlet—North and NE approaches.—

The **White Bear Islands** (54°28'N., 56°56'W.), consisting of three fairly large islands and several islets and rocks, are the easternmost of a chain of islands named the Southern Group, which extends 20 miles E from the mainland on the N side of the entrance to Hamilton Inlet. They form the best landfall when approaching Hamilton Inlet from the N.

Middle Island (54°28'N., 56°56'W.) is barren and rugged; it rises in two flat hills, with a maximum elevation of 48m. Gull Island, 6.1m high, lies in a position about 0.8 mile SSW of Middle Island.

East Rock, the E danger of the White Bear Islands, lies about 2.5 miles ESE of Middle Island. Shoal water and above-water rocks surround East Rock, while isolated depths of 6.4m and 8.2m exist 0.3 E and 1.2 mile ESE of East Rock.

Grappling Island lies about midway between Middle Island and East Rock. A light with a racon is situated on the island. A depth of 2.7m is located about 1 mile SSW of Grappling Island.

Chapel Island lies 0.5 mile W of Grappling Island. A submerged rock, over which the sea breaks, and three islets lie between these two islands. A reef with 2.7m over it lies almost 1 mile S of Chapel Island. Bunkhouse Island lies close N of Chapel Island.

North Island, the N of the White Bear Islands, has a sharp-peaked summit, 81m high. An islet, 0.9m high, lies about 0.2 mile E of the NE extremity of North Island. A 3m patch lies about 0.3 mile E of the islet and breaks in a heavy swell.

Jigger Island, the W of the White Bear Islands, lies about 1 mile SW of North Island; it is formed of dark rock covered with grass. The Cubs, two bare islets, have a small steep-to

rock between them and lie midway between Jigger Island and North Island.

10.119 The Five Islands (54°29'N., 57°02'W.), three in number, lie close together about 2 miles W of North Island. The summit of the E island has the appearance of a knob. A rock, 7m high, lies in the channel between the S and E islands. A reef, which dries and on which the sea generally breaks, lies about 0.5 mile W of the S extremity of the S island.

Lewis Rock, a drying reef, lies about 1.3 miles SW of the Five Islands.

Entry Island, about 0.8 mile W of the NW island of the Five Islands, rises in several hummocks, the highest of which is a sharp peak. Little Entry Island is separated from the SW side of Entry Island by a narrow shoal channel. Jigger Rock, close E of the SE extremity of Entry Island, has an elevation of 23m. The S side of Entry Island should not be approached within 0.4 mile.

Cut Throat Island (54°29'N., 57°09'W.) is one of the larger islands in this area. Near its NE end, it rises to a flat summit with a height of 130m. Cut Throat Point is the E extremity of Cut Throat Island. A light is shown from the point.

Cut Throat Harbor is a small indentation on the S side of Cut Throat Island.

East Harbor, open to Cut Throat Tickle, lies on the S side of Cut Throat Point.

Anchorage.—Anchorage is available for small craft in Cut Throat Harbor. The holding ground is only fair. Cut Throat Harbor offers better protection than East Harbor.

10.120 The Foxy Islands (54°28'N., 57°07'W.), two in number, have conical summits composed of reddish rocks covered with grass. A sunken rock, with a depth of 0.3m, a 9.6m patch, and a black rock, lie about 0.2 mile SW, 0.1 mile SSE, and 0.5 mile SE, respectively, of the N Foxy Island.

Arthy Reef, 2 miles WSW of the N Foxy Island, is a group of above and below-water rocks.

East Big Island, nearly 1 mile SE of the S Foxy Island, is a dark pyramid.

Bacalhao Island, located 1 mile S of Arthy Reef, is a steep-to ridge composed of basalt.

Tommy Rocks, a group of islets and rocks, lie about 2.3 miles S of East Big Island. Bulldog Rock, the W rock of the group, is 2.4m high. Two islets, lying close together, form the E part of the group, the E islet being 8.8m high.

The North Duck Islands, about 1.2 and 2 miles WNW, respectively, of Bulldog Rock, are two grassy islets faced by gray rock.

The Double Islands, 2 miles W of the North Duck Islands, are joined by drying rocks at LW. Drying rocks lie about 0.2 mile S of the South Double Island.

Tinker Island, lying 1 mile WNW of the Double Islands, is a bare reddish steep-to rock.

Mundy Island (54°28'N., 57°14'W.) has a peninsula, which ends in Smokey Head, projecting E from its NE side. Shakespeare Hill, with an elevation of 91m, lies in the middle of the peninsula. A radio mast situated near the W end of this peninsula is conspicuous.

Mann Point, the W extremity of Mundy Island, forms the W entrance point of Edwards Harbor. Edwards Harbor affords

shelter for small craft.

Indian Island, which terminates in Lawrenceson Point at its SW extremity, lies 0.2 mile off Mundy Island. Ponsonby Island, lying off the E side of Indian Island, is connected to it at LW.

Indian Head, close N of Lawrenceson Point, is the S extremity of a pyramid-shaped island which is connected to Mundy Island at LW. An island, known locally as Pomeroy Island, lies about 0.3 mile NE of Indian Head.

10.121 Indian Harbor (54°27'N., 57°13'W.) is formed between the S side of Mundy Island and Indian Island, close S, is available only to vessels with a draft of 3 to 3.3m; however, large vessels can take anchorage in the E and N entrances clear of the encumbering dangers. Pigeon Island protects the harbor from the NE; Ponsonby Island lies close E of Indian Island. Entrance to Indian Harbor should not be attempted without local knowledge.

Anchorage.—For large vessels the best anchorage, especially when there is ice off the coast, is NW of Pigeon Island, in 9.1m, where fair shelter can be found.

Temporary anchorage, in 16.5m, can be taken off a cove formed between the SE side of Indian Island and the N side of Ponsonby Island; the cove is shoal for about 0.2 mile from its head.

Although sheltered from NE by Pigeon Island, considerable swell enters the harbor.

10.122 Marks Island (54°30'N., 57°13'W.), with a maximum elevation of 52m, rises in numerous hills. Green Islet, a small grass-covered rock, lies close off the N side of Marks Island.

Smokey Tickle, lying between Cut Throat Island and Marks Island, can be entered from the S by small boats and from N by larger vessels. An unexamined 9.1m patch lies in the N entrance, about 0.3 mile NW of Long Point, the NW extremity of Cut Throat Island. A 5.5m patch, also unexamined, lies about 0.4 mile SSE of the same point. Vessels entering Smokey Tickle from the N should favor the W side of the channel.

Anchorage.—The anchorages close to the E side of Marks Island, in 32.9m, and 0.5 mile NNW of Hullet Island, in 27.4m, provide shelter from all but E and SE winds. Vessels drawing up to 4m may find these anchorages satisfactory.

Ice Tickle Island (54°29'N., 57°17'W.), close W of Mundy Island, forms the W side of Ice Tickle; the island has three summits, rising on the S central part of the island. On the W side of the island are two peaked hills faced with cliffs and sloping to the SW extremity, which is a dark, narrow, basaltic ridge terminating in a small pinnacle.

Ice Tickle, the channel between Mundy Island and Ice Tickle Island, is so named because the ice remains in it longer than elsewhere in the locality. The S entrance lies between Mann Point and Palmer Point, the SE point of Ice Tickle Island. The N entrance lies between Leith Point and the NW extremity of Mundy Island. The SW approach to Ice Tickle is clear of dangers, with the exception of Black Rocks, lying about 1.2 miles SW of Palmer Point.

The N entrance channel of Ice Tickle has a least known mid-channel depth of 5.8m and a least width of about 91m between the shoal water bordering the entrance points.

Boxer Island lies about 0.2 mile S of Leith Point. A reef lies close to the E side of the island.

Anchorage.—Anchorage can be taken, in depths of 9.1 to 12.8m, in Ice Tickle, S of Boxer Island.

10.123 Run By Guess Island, about 0.5 mile W of Ice Tickle Island, is separated from it by Run By Guess, a channel, which is the best passage among the islands on the N side of the Hamilton Inlet approach. Run By Guess Island rises to a conspicuous peak. A flat-topped hill, surmounted by a boulder, rises at the W end of the island. The S shore of Run By Guess Island is foul and should not be approached.

Anchorage.—Good anchorage can be taken between Run By Guess Island and the mainland, in 25.6 to 31.1m. Temporary anchorage, in 18.3m, can be taken in Run By Guess channel off a foul cove close S of the NE extremity of Run By Guess Island.

10.124 Pottles Bay (54°29'N., 57°30'W.), which indents the mainland W of Run By Guess Island, has only been partially surveyed. The bay has general depths of 14.6 to 18.3m.

Alliuk Bight, which indents the mainland N of Run By Guess Island, has not been examined.

Rattlers Bight, the large bay lying S of Pottles Bay, affords good shelter from N winds in the N arm of the bight. Steep-to reefs lie at the outer end of the shoal area extending from the land in the center of the bight.

East Pompey Island (54°27'N., 57°23'W.) is flat-topped and conspicuous. There are a few trees on this island, although there are none on the islands to the NE. The island should not be approached in less than 18.3m, as there are a number of reefs inside the 18.3m line. Winter Island lies near the mainland, 1 mile W of East Pompey Island.

North Green Island (54°24'N., 57°19'W.), flat and about 24m high, lies 3 miles SE of East Pompey Island. Shoal patches under 9.1m lie about 0.7 mile S and SW of the island.

Puffin Island lies 1.7 miles S of East Pompey Island.

Groswater Bay

10.125 Groswater Bay is the outer part of Hamilton Inlet. From its entrance between Pottles Cove Head and Man of War Point, where it has a width of about 22 miles, the bay narrows gradually and trends W about 35 mile to the entrance of The Narrows. This part of the inlet is bordered by bold rocky shores, gradually increasing in elevation; there are many bold rocky islands.

South Green Island (54°13'N., 57°29'W.) is a sloping grassy island with an elevation of 23m. The beacon charted near the W end of the unnamed island lying 2 miles W of South Green Island was not visible in 1978.

Snook Point, about 9.2 miles W of South Green Island, is low and bordered by rocky ledges and shoal water, and lies at the foot of a 76m hill. Shag Rocks, in a position about 3.5 miles NW of Snook Point, are a group of three low islets in an area of foul ground.

Saddle Island (54°16'N., 57°45'W.) is conspicuous, rising steeply to a double summit, the W of which has an elevation of 172m. A drying reef lies off its N part.

Little Black Island (54°18'N., 57°50'W.), steep-to on the N

and S sides, lies 1.5 miles NW of Saddle Island. The island is marked by a light.

Watch and Chain, lying 1 mile WSW of Little Black Island, is an island group consisting of one fairly high island and three islets.

Nats Discovery Point (54°14'N., 58°03'W.), lying 10.5 miles W of Snook Point, is the E entrance point of Turner Bight. The shore of this bight is thickly wooded.

East Sister Island, about 1 mile S of the W extremity of Big Island, rises to a round summit. West Sister Island, about 0.4 mile SW of East Sister Island, rises in three hummocks; the middle and highest is 50m high.

The **Twin Islands** (54°24'N., 57°32'W.) have elevations of 12m and lie on a large shoal area.

10.126 Bluff Head Cove (54°24'N., 57°35'W.) has depths of 11m in its central part, but shoals rapidly toward its head.

Black Island (54°22'N., 57°47'W.), lying 3.5 miles N of Saddle Island, rises in two summits.

Anchorage.—In N and W winds, while waiting to proceed to Goose Bay, vessels can find anchorage E of Black Island as an alternative to anchoring in Collinghams Cove.

Caution.—A narrow shallow reef lies near Black Island; a large shoal area, with depths of 3.7 to 4m at its outer end, extends W for almost 1 mile. There are several shallow reefs between the outer end of the shoal area and Catos Island, 3 miles farther W.

10.127 Rocky Cove (54°23'N., 57°54'W.) indents the N shore 3 miles W of Black Island. It has depths of 18.3 to 22m in the entrance, but shoals rapidly towards its head. Gull Island, a low feature, marks the outer limit of shoal water extending from the E entrance point of Rocky Cove.

Catos Island (54°21'N., 57°55'W.) is 24m high. A shoal area, marked by a drying rock, lies 1 mile SSE of the E end of the island.

Pompey Island (54°19'N., 58°00'W.) rises to 108m. The island is fringed by a drying ledge which, off its E side, extends for 1 mile. Shoal water, which contains dangerous rocks, extends 0.8 mile E from the drying ledge.

Big Island (54°17'N., 58°04'W.) appears wedge-shaped from the E; its S side is mostly bare rock. A light is shown from the SE side of the island.

Caution.—A shoal area, with a drying rock in its middle, lies in the E entrance to the channel between Pompey Island and Big Island.

10.128 Groswater Bay—West end.—Ticoralak Head, in a position about 4.3 miles W of West Sister Island, is about 152m high, dark, conspicuous, and steep on its S side; it projects E from the mainland and marks the approach to The Narrows. Ticoralak Island, 50m high, lies with its S extremity about 0.7 mile NE of Ticoralak Head.

Snooks Rocks, close SE of Ticoralak Island, are about 3m high.

Mullins Cove, 2 miles S of Snooks Rocks, is shallow; its shores are fringed with drying reefs.

Broomfield Island (Bloomfield Island) (54°13'N., 58°14'W.), small and bare, is 3m high and lies about 2 miles SSW of Ticoralak Head.

Collinghams Cove is entered about 0.5 mile S of Broomfield Island. There are depths of 16.5 to 18.3m in the entrance, which gradually decrease within; the greatest depths are on the N side. The shores of the cove are fringed by a drying reef; drying flats extend a considerable distance from its head.

Anchorage.—Anchorage can be taken close within the entrance, black mud bottom. Anchorage can be taken, in 33m, sand and gravel, off the entrance of the cove, with Smith Island bearing 270° and distant about 1 mile.

Between Collinghams Cove and Lester Point, about 4.7 miles W, the land is sparsely wooded and attains an elevation of 305m about 2 miles from the shoreline; the summits of the hills are quite bare.

Smith Island, grass covered and with a white beacon on it, lies about 2 miles W of Collinghams Cove. There is deep water close off the N side of Smith Island and the islet close E of it, but a shoal area, with a least depth of 6.4m, extends over 0.5 mile W of the islets.

Double Mer, entered close N of Double Mer Point (54°14'N., 58°23'W.), is unsurveyed but reported to be deep; it extends about 45 miles W.

10.129 Man of War Rock (54°13'N., 58°20'W.), with a depth of less than 1.8m and surrounded by shoal banks, lies 0.75 mile from the S shore.

Directions.—It has been reported that the S and E approaches to Hamilton Inlet are invariably closed by ice in the early part of the season. Under such conditions, an approach from the SE is recommended, though this approach may not be completely clear of ice.

The Narrows

10.130 The Narrows, the passage connecting Groswater Bay with Lake Melville, is entered from NE between Lester Point and Double Mer Point, about 1.5 miles NNW. It extends SW, with an average width of somewhat more than 1 mile, for about 6 miles, where it is divided into two channels by Henrietta Island, which lies in the S entrance. The channel W of Henrietta Island is the main channel into Lake Melville. The W channel is further divided by Eskimo Island, a small island lying in the middle of its S entrance. The passage E of Eskimo Island is the one generally used. Pike Run, the channel E of Henrietta Island, leads SE into The Backway. The W shore of The Narrows is thickly wooded on the slopes, although the hill-tops are bare; the E shore is sparsely wooded.

Ice.—The channel rarely freezes over.

Tides—Currents.—Tidal currents in The Narrows attain rates of about 5 knots during the ebb and about 4 knots during the flood, at large tides. During mean tides, the flood and ebb attain rates of about 3 knots.

Double Mer Point (54°14'N., 58°23'W.) is a low point that rises to an elevation of 280m, about 1 mile inland from its extremity. This summit is bare and conspicuous. The point should be given a berth of at least 0.3 mile. Lester Point, the S entrance point at the NE end of The Narrows, should not be approached nearer than 0.75 mile.

10.131 Rigolet (54°11'N., 58°25'W.), the pilot station for Hamilton Inlet, is entered N of Rigolet Point. A shoal area,



Rigolet Harbor

with depths of less than 3.7m, ex-tends from Rigolet Point, which should be given a berth of about 0.4 mile. At the head of Rigolet Cove is a drying mud flat extending about 0.2 mile offshore, which is covered with boulders, the highest of which dries 1.5m. Dart Rock, with a depth of 2.1m, lies close E of the wharf at Rigolet and is marked by a buoy. This rock lies on a shoal area, with depths of less than 5.5m, that extends 0.1 mile NE from the wharf.

Tides—Currents.—The HW interval at Rigolet is 7 hours 24 minutes; springs rise 1.7m while neaps rise 1.2m.

The time of SW in The Narrows at Rigolet can be found approximately, as follows:

1. For HW slack, add 3 hours and 30 minutes to the time of HW at Halifax.
2. For LW slack, add 3 hours and 45 minutes to the time of LW at Halifax.

The average duration of the flood tidal current in mid-channel is 5 hours 40 minutes; the average duration of the ebb current 6 hours 45 minutes. At HWS, the currents change 40 minutes earlier on the W shore of The Narrows off Rigolet Point than in mid-channel. At LWS, the change is 1 hour earlier.

The rate of the flood tidal current is 3.5 knots at springs and 2 knots at neaps; the rate of the ebb current is 5.5 knots at springs and 3.5 knots at neaps.

Depths—Limitations.—An L-shaped government jetty, with depths alongside depths of 4.0 to 5.0m, is located along the ro-ro ramp. The ro-ro ramp, with a width of 16m, is located on the inner end of the W side of the wharf. Other jetties in the harbor are available for small craft.

Aspect.—Rigolet Light is shown from a mast close S of Rigolet Point.

Rigolet Cove Light is shown from the end of the wharf.

From the E, the white buildings of the settlement show up prominently against the dark background.

Radio towers near Rigolet Point are conspicuous. The highest has an elevation of 91m, and displays red aircraft obstruction lights.

Pilotage.—Pilotage is not compulsory, but is available in Hamilton Inlet, SW of the entrance to The Narrows. Pilots should be requested from the Atlantic Pilotage Authority 12

hours in advance and confirmed 6 hours prior to arrival.

The narrow channels are well buoyed and lighted. Pilots will take vessels through the narrows at any time of the day or stage of the tide, even though the current may be running strongly through them.

Anchorage.—Anchorage is available off the entrance to Rigolet Cove, in a depth of about 12.8m. This berth is out of the tidal current, but the holding ground is not good. Farther offshore, in the current, the holding ground is adequate.

Caution.—Do not attempt passage W of Henrietta Island in a low-powered vessel on an ebb tide; such vessels must await HWS at Eskimo Island, which occurs 45 minutes after HWS at Rigolet.

Navigation of the channel E of Henrietta Island is not recommended.

10.132 Strathcona Point lies on the W side of The Narrows, about 1.7 miles SSW of Rigolet Point; it can be approached to within 0.1 mile. The coast between is low and indented.

Holme Point (54°08'N., 58°25'W.), bold and almost steep-to, lies on the E side of The Narrows. About 0.5 mile within Holme Point, the rocky ridges rise to an elevation of over 122m.

Moliak Cove, almost 3.5 miles SW of Strathcona Point, is a shallow cove entered between Alexander Point and Moliak Point.

Aspect.—A conspicuous summit, 357m high, on which there is a microwave radio mast, rises about 2 miles NW of Alexander Point.

Henrietta Island divides the narrows into two passages. For the most part the island is sparsely wooded, the trees being somewhat more numerous on the S protected slopes of the rocky ridges which characterize the island. The E part of the island is higher than the W part.

A light is shown from the W coast of the island on the E side of Cul-de-Sac.

Cul-de-Sac is the channel separating Henrietta Island from the mainland to the W. This channel is used by vessels leaving or entering Lake Melville.

Snooks Cove, where small craft can find anchorage, is located on the W side of Cul-de-Sac. A light is shown from a point close N of Snooks Cove.

10.133 Caravalla Point (54°03'N., 58°35'W.), lying about 1.2 miles S of Snooks Cove, is the S entrance point of Caravalla Cove, and the W entrance point of Cul-de-Sac.

Eskimo Island (54°03'N., 58°34'W.), treeless but with a growth of scrubby bushes, lies in mid-channel at the S end of Cul-de-Sac. A spit, with a depth of 4.6m at its extremity, extends 0.25 mile NNW from the island. Depths of less than 5.5m extend about 90m from its SE extremity; however, it was reported that this shoal extends farther than indicated on the chart. It was recommended that this extremity be given a wide berth.

Eskimo Island can be passed on either side, but the channel E of the island is recommended because it is deeper and wider than the channel W, and its shores are clear of off-lying shoals. The cross-currents and tide rips that occur in this part of The Narrows are less likely to cause difficulty in the E channel.

A light is shown from the SE extremity of the island.

Pike Run (Back Run), the passage E of Henrietta Island, leads into The Backway and is not recommended for navigation except at neap tides, because heavy tide rips and whirlpools are likely to be encountered during spring tides. A group of islets lies in the S entrance on the E side of the fairway.

Ice.—The Narrows from Rigoletto Eskimo Island does not freeze over, as a rule, because of the swift tidal current.

Tides—Currents.—The duration of the flood in mid-channel in The Narrows is 5 hours 38 minutes; the duration of the ebb is 6 hours 47 minutes on average. The velocity of the flood is 2 to 3.5 knots; the velocity of ebb is 3.5 to 5.5 knots. From the best average values, the ebb current is 50 per cent stronger than the flood. On the N shore of The Narrows off Square Rock Point (54°12'N., 58°22'W.), the time at which the current turns in relation to the turn in mid-channel is, as follows:

1. At HWS, 40 minutes earlier than in mid-channel.
2. At LWS, 60 minutes earlier than in mid-channel.

In the channels on either side of Eskimo Island, the flood at springs runs with velocity of 3 to 6 knots, while the ebb at springs runs with velocity of 4 to 6 knots. At neaps, both currents attain a velocity of 3.5 knots. Heavy tide rips and whirlpools occur in these channels, especially at spring tides.

Anchorage.—Anchorage, with good shelter during NE gales, can be taken in the cove at the E end of Pike Run between the group of islets and the coast E. Depths of 14.6 to 18.3m, good holding ground, are found in the cove.

The Backway, which is partially surveyed, extends about 20 miles E into the mainland from its entrance SE of Henrietta Island. Depths of 29 to 165m have been reported in The Backway.

Lake Melville

10.134 Lake Melville, a tidal lake, extends 86 miles SW from Pike Run, at The Narrows, to the head of Goose Bay. North West River, the largest settlement in the district, is situated at the head of Lake Melville. The shores of the lake rise steeply to a height of nearly 610m on its SE side, which is backed by the Mealy Mountains, having a maximum elevation of about 1,158m. Nearly all of the smaller streams descend the steep slopes of the mountains to the lake by a series of rapids and falls. The NW shore of the lake is also backed by high land, with elevations of about 335 to 518m, but there is in places a wide margin of low land between the coast and the rocky mountain slopes. At the head of the lake, the high land is 10 miles inland, leaving a comparatively flat area, densely-wooded and swampy in places, bordering the shore.

Lake Melville is comparatively clear of off-lying dangers until the W part of the middle section is reached; the NW and W shores of this part are fronted by many small islands and shoals. A deep-water channel extends from The Narrows through Lake Melville as far as Sandy Point, at the entrance of Goose Bay.

Ice.—Lake Melville is usually frozen over by December 25. The entrance of North West River, Carter Basin, Goose Bay, and the Hamilton River usually remain open. The breakup usually takes place in April, and the ice is mostly gone by the middle of May; however, the heavy pack ice in the approach to Hamilton Inlet prevents any navigation into the lake until well into June.

Lake Melville—East Part

10.135 South side.—Carrington Island (54°00'N., 58°35'W.), located on the S shore of Lake Melville, is 25m high and covered by dark green moss.

Between Carrington Island and Trout Point, about 9 miles WSW, the S shore is bold and the high land reaches an elevation of 366m a short distance inland.

Port Disappointment is a small bay lying about 0.5 mile SE of Trout Point. It is backed by steep rocky cliffs, rising to 292m, about 1 mile E of the head of the bay; this conspicuous summit can be seen for many miles up the lake. Shelter for small vessels can be obtained behind Trout Island, which lies close off the W side of the bay.

Trout Point is the NE extremity of a high prominent headland, the W extremity of which, about 1 mile WSW, is called Reed Point. The headland rises steeply to 217m.

Between Reed Point and the English River, about 3.5 mile S, the shore is bold, but a sand beach lies about 0.7 mile N of the river mouth.

The **Rocky Islands** (53°56'N., 58°52'W.), a group of steep-to rocks, lie close offshore, 1 mile SSW of Reed Point.

The **English River** (53°53'N., 58°52'W.) has a bold and rocky N entrance. The S shore of the river is sandy, swampy, and low.

Frenchman Point (53°53'N., 58°55'W.) is located about 1.5 miles WSW of the English River entrance. It is nearly steep-to, with the exception of a drying rock close W of the point.

The **Acadia Islands** (53°51'N., 59°00'W.) are a group of bare islets and drying rocks lying 3 miles SW of Frenchman Point.

Etagalet Point (53°47'N., 59°04'W.) lies 4.5 miles SW of the Acadia Islands. The point rises gently and is comparatively low, but about 1.5 miles NE the land rises abruptly, forming a conspicuous bluff.

10.136 North side.—The N shore of Lake Melville, between Caravalla Point and the N entrance point of Valley Bay, about 11.5 miles W, is bold and rocky.

Big Pot Cove and Little Pot Cove are two indentations lying 1.7 miles and about 3 miles SW of Caravalla Point.

Valley Bay (54°02'N., 58°58'W.), lying between two rocky ridges, has a shallow bar across its entrance which blocks entry, except for a narrow channel, suitable for small craft, near the S entrance point.

Burnt Head (54°00'N., 58°56'W.), with foul ground N and S of it, lies about 1 mile S of the S entrance point of Valley Bay. Andy Island, bare, lies almost 1 mile S of Burnt Head; Charley Point lies 5.5 miles SW of the same feature. Charley Cove, a shallow open bight, lies about 0.8 mile WNW of Charley Point.

10.137 Islands and dangers.—Gull Island (54°00'N., 58°43'W.), rocky and mostly bare, lies on the N side of the main shipping track, about 5.5 miles SW of Caravalla Point.

Lareto Shoal, marked by a buoy, is a shallow danger composed of mud and shells lying almost 2.5 miles SW of Gull Island.

Neveisik Island (53°59'N., 58°50'W.), the largest in Lake Melville, is mostly bare rock with some trees and moss, and is bold and steep-to on its S side. Shoal water extends off its NE

side, terminating in Blue Seal Shoal, a dangerous reef. Pelter Cove is an indentation in the S side of Neveisik Island, with bluff rocky shores and deep water.

Shag Island (54°01'N., 58°49'W.) is bare and bold. The S side of this island is an almost perpendicular cliff. A small rock, 0.3m high, which covers at very high spring tides, lies 0.1 mile NE of the E extremity of the island. Stag Island, close W of Shag Island, is quite bare.

Anchorage.—Anchorage can be taken in a position about 0.6 mile NE of Stag Island, in 11m, mud, about midway between Shag Island and the shoal area extending from the mainland.

10.138 Bear Island (54°00'N., 58°53'W.), wooded, is separated from the NW side of Neveisik Island by Shoal Tickle. Indian Island, also wooded, lies close NW of Bear Island.

St. John Island (53°56'N., 58°55'W.) has a bold N extremity. The island is formed of rocky ridges, thickly wooded in some of the hollows, with bare summits; the highest ridge, on the SE part of the island, is 226m high and conspicuous. The island is very bold, especially in the SE part, the E side of which is a perpendicular cliff. The SW extremity of the island is marked by conspicuous white streaks in the rock. Haines Island, close S of St. John Island, is quite bare.

Green Island, about 1.8 miles W of St. John Island, is covered with scrubby bushes. A deep danger-free channel lies between Green Island and St. John Island, but the channel generally followed lies NW of Green Island.

Caution.—The shore between Frenchman Point (53°53'N., 58°55'W.) and Etagaulet Point, about 8 miles SW, should be given a wide berth. Etagaulet Point is comparatively low, but rises gradually, about 3.5 miles inland, to a rocky ridge with an elevation of 498m. About 1.5 miles NE of the extremity of the point, the land rises abruptly, forming a conspicuous bluff.

Lake Melville—Middle Part

10.139 South side.—Etagaulet Bay, for which local knowledge is essential, is entered between Etagaulet Point and Long Point, about 10 miles SW. The bay is backed by high ridges with thickly-wooded slopes and bare hill tops. About 6 miles inland, several bare summits of the Mealy Mountains rise to elevations of 1,097m. Cabot Point, about 3.5 miles S of Etagaulet Point, is a broad promontory. The Etagaulet River, with the conspicuous Etagaulet Falls about 1 mile inland, enters the bay E of Cabot Point. Cabot Island, about 1.2 miles W of Cabot Point, is 9.1m high and wooded. Place Point, about 4.5 miles W of Cabot Point, is wooded and fronted by boulders.

Swallow Harbor (53°45'N., 59°03'W.), entered between Cabot Point and an unnamed point 1.75 miles SSE of Etagaulet Point, lies the SE part of Etagaulet Bay.

Anchorage.—A berth in the N part of Swallow Harbor is open to NW winds. A good anchorage, in depths of 24 to 27m, sheltered from all but NW winds, is situated about 0.3 mile S of the E entrance point of the cove lying 1.5 miles E of Cabot Point.

10.140 Long Point (53°41'N., 59°20'W.) is bare and of an irregular rocky formation. A white building and the skeleton base of a dismantled radome on the high ground S of Long

Point are conspicuous. The point itself shows up prominently from the NE and SW. The bold, abrupt face of the N or outer extremity of Long Point is steep-to, but the shoal water of Etagaulet Bay borders the E side.

Eskimo Paps, in a position about 3 miles SW of Long Point, are two bare cone-shaped hills. The higher hill is 110m high and 0.15 mile from the water's edge. From the W, the hills appear as two lumps on the surface of the lake. The NW and SW sides of the point are steep-to, with 50m being found about 0.3 mile NNW of the extremity of the point. A short distance behind the Eskimo Paps, the land is comparatively low, but it rises abruptly and, 1 mile inland, reaches 329m at a prominent bare summit. This rocky ridge, thickly wooded on the slopes, parallels the shore for about 5 miles SW of the Eskimo Paps and then swings to the SW.

A shallow bay between Long Point and Eskimo Paps has a sand beach fronted by boulders on its inner part.

Anchorage.—Anchorage can be taken on a line of bearing between the entrance points, in 11m, mud, with good shelter from SE winds.

10.141 Kinriakak Point (53°32'N., 59°43'W.), low, wooded, and bordered by foul ground, lies about 14 miles SW of Eskimo Paps. A wooden triangulation beacon stands on the point. Foul ground extends about 2 miles N of this point. The land behind Kinriakak Point is comparatively low and flat, and continues so to the foothills, about 6 miles distant, where there is a gap in the range, through which the Kenemich River is reported to flow. Gillards Bight, close W of Kinriakak Point, has a sandy beach. Adams Point, about 4 miles W of Kinriakak Point, is 6.1m high and thickly wooded.

Charley Point (53°57'N., 59°03'W.) is sparsely wooded. Behind Charley Point, the land is comparatively low, but about 3 miles NW of the rocky ridge it attains an elevation of 384m and is thickly-wooded on its SE slope.

Between Charley Point and Julia Point, about 16 miles WSW, the shore is, for the most part, fringed with boulders; the 5m curve lies from 0.25 to 0.5 mile offshore and should be given a berth of at least 1 mile.

About 1 mile inland, a rocky ridge, 366 to 457m high, extends parallel to the shore to within 2 miles of Lowland Point. Here it curves to the NW, attaining an elevation of 523m, about 2 miles NNW of Lowland Point. The elbow that is formed in the ridge is known as The Highlands. There is a prominent summit, 479m high, about 2 miles NE of Lowland Point.

Lowland Point is abrupt and affords a good landing place; the deep water approaches within a short distance of the beach, and continues so for about 1 mile to the SW.

Caution.—A magnetic disturbance has been reported between Charley Point and Lowland Point.

10.142 Julia Point (53°50'N., 59°28'W.) is low and fronted by large boulders, with deep water 0.3 mile offshore. Between Julia Point and the head of Mulligan Bay, about 13 miles W, the shore is fringed with large boulders, which become more numerous in the W part, where they extend as far as 0.3 mile offshore. The 5m curve generally lies about 0.3 mile offshore. Chevrier Island, about 6.5 miles W of Julia Point, is small and lies close offshore.

Mulligan Bay (53°50'N., 59°50'W.) is deep to within a short

distance of its head. The Mulligan River, which flows into the head of Mulligan Bay through a gap in the Mulligan Hills, is obstructed at its entrance by a shallow bar.

Anchorage.—Anchorage may be found near the head of Mulligan Bay, about 0.3 mile off the S shore.

Caution.—Mulligan Rock, the only isolated danger in Mulligan Bay, lies in the entrance to the bay, 0.8 mile SSE of Pearl Island, which lies off the mouth of the Pearl River.

10.143 Nebavik Point (53°48'N., 59°48'W.) is 12m high, sparsely wooded, and swampy in places. About 2 miles inland it rises to 40m and forms the E extremity of a peninsula. Mokami Hill, a conspicuous cone-shaped peak with a bare summit, rises 487m about 11.5 miles W of Nebavik Point. Shoal ground extends about 1.7 miles E from the point; there is a small islet and numerous drying boulders on this shoal area. Nebavik Point can be rounded at a distance of 1.8 miles with safety; however, two dangerous shoals, Nebavik Shoals and Mulligan Shoal, lie ESE. Mokami Hill, in line with a prominent summit 3.5 miles E, bearing 275°, leads 1 mile N of Mulligan Shoal and Nebavik Shoals. Mokami Hill, bearing 282° and open 0.5 mile S of Nebavik Point, leads nearly 0.5 mile S of Nebavik Shoals and 1 mile S of Mulligan Shoal.

Between Nebavik Point and Montagnais Point, about 17 miles SW, the W shore of the lake is indented with numerous islands and dangers lying as far as 5 miles offshore in places. The outer dangers should be given a berth of at least 1.5 miles.

10.144 Paddon Point (53°43'N., 60°01'W.), densely wooded and comparatively low, is the extremity of a peninsula which forms the S side of Sebaskachu Bay. Paddon Point should be given a wide berth because detached rocks and shoals lie as far as 3 miles ENE of the point.

Sebaskachu Bay is encumbered by islands, islets, rocks, and shoals, and should not be entered without local knowledge. A deep channel leads through the center of the bay, almost to its head. The Handy Islands and Ambrose Island, separated by a deep channel, lie in the S part of the bay.

Anchorage.—Acadia Anchorage lies on the N side of Sebaskachu Bay, between the mainland and the islands extending W of Long Island. A reef, partly awash, extends about 0.5 mile N of the middle of the N side of Long Island which, together with shoal water extending from the mainland shore, restricts the navigable width of the anchorage to 0.5 mile. This anchorage is sheltered from all winds and has a depth of 9.1m, mud.

Anchorage is also available, for small craft with local knowledge, NW of the Handy Islands and near the head of Sebaskachu Bay.

Long Island Shoals, consisting of several shallow reefs, lie 1 mile NE of Long Island.

Montagnais Point (53°34'N., 60°05'W.) is comparatively low and wooded. John Bull Island, 15m high and wooded, lies 0.5 mile NE of Montagnais Point.

Blake Shoal (53°35'N., 59°57'W.), with a least depth of 2.7m, rocks, lies about 1.5 miles ENE of Montagnais Shoal. The channel between Blake Shoal and Montagnais Shoal is not recommended.

Cartier Shoal is located about 3.5 miles ENE of Blake Shoal and is composed of two peaks with depths of 7.3 and 7.9m. An isolated 8.8m shoal lies about 0.5 mile SW of Cartier Shoal. A

strong NW current has been observed setting toward Cartier Shoal at about SW.

Caution.—Cartier Shoal lies in the S sector of a wing tank jettison area, which may best be seen on the chart. Anchoring in this area is not recommended.

10.145 Butter Island and the Montagnais Islands are small islands in the vicinity of Montagnais Point.

The Bight (53°31'N., 60°05'W.) is the sandy shallow estuary of the North West River. A lighted buoy is moored in The Bight to mark the limit of deep water off the entrance to the North West River.

North West River (53°32'N., 60°09'W.) is located on the N side of the North West River, with some houses and a church on the S side. The white build-ings of the settlement are conspicuous from the E.

The current at North West River is always downstream, slackening at HW. At the entrance of the river the velocity varies from 2.5 knots at LWN to 4.5 knots at LWS. The rise and fall in this vicinity is more affected by wind than tide.

Anchorage.—The usual anchorage, in about 9.1m, lies about 0.7 mile NNE of the river entrance. Should E winds be expected, it is better to anchor under the lee of Epinette Point.

Goose Bay—Approaches

10.146 Epinette Point (53°31'N., 59°55'W.) is the W extremity of the low and densely-wooded Epinette Peninsula. A clay ridge, about 1.5 miles E of Epinette Point, is 15.2m high and conspicuous. Epinette Island, about 0.3 mile NW of Epinette Point, is 3m high. A buoy marks the edge of the shoal area extending W of Epinette Point.

North West Point, about 4.8 miles W of Epinette Point, is the NW extremity of a low wooded peninsula.

Two radio towers are situated about 1 mile SW of North West Point. The structures are 56m and 71m high and serve as landmarks for identifying North West Point.

Carter Basin (53°29'N., 59°51'W.) is entered about 2.3 miles SE of Epinette Point. The narrow entrance channel has a depth of about 2.1m.

The **Kenamu River** (53°29'N., 59°54'W.) discharges almost 2 miles SW of the entrance to Carter Basin.

Brule Point, at the NE end of Goose Bay Narrows, has depths under 11m extending about 0.4 mile off it.

Shoal Point, 3.5 miles SW of Brule Point at the SW end of Goose Bay Narrows, has a boulder shoal extending almost 1 mile off it.

The W side of the N approaches to Goose Bay Narrows, between North West Point and Sandy Point (53°26'N., 60°02'W.), 4 miles SSE, is fringed with foul ground extending 1.5 miles off North West Point and progressively farther offshore towards the S. A buoy marks the limit of shoal water of Gibeon Point. At Sandy Point, a tongue of very shoal water projects ENE for 2.5 miles and shoal depths extend S for 1 mile.

Anchorage.—Good anchorage, in 24m, mud, is available in the approaches to Goose Bay Narrows, with Brule Point bearing 170°, distant 1.75 miles.

10.147 Goose Bay Narrows (53°25'N., 60°00'W.) has a buoyed channel with a navigable width of about 61m. Depths

in the channel will vary. Vessels arriving off Goose Bay Narrows early in the navigation season and before the buoyage has been laid are cautioned against passing through the channel depending solely on the range lights. These range lights may be too close together to be a sensitive guide. Because of continual changes in the channel, the range lights and buoys are moved accordingly to mark the best water.

Regulations.—A local regulation states that large tankers in or approaching the Goose Bay Narrows channel have priority over all other vessels, which must not attempt to enter the channel until such tanker is well clear of it.

Directions.—A vessel should enter the approaches to the narrows about 2 miles W of Epinette Point (53°31'N., 59°55'W.), steering S to bring the range lights in line. These range lights lead clear of the banks extending W from Epinette Point and E from Sandy Point. These marks are reported to be surrounded by a dense growth of spruce trees and may not be visible until almost on the range line.

It is important to keep clear of the shallow bank extending ENE from Sandy Point.

Goose Bay

10.148 Goose Bay, the SW extremity of Lake Melville, has deep water throughout its length until Terrington Narrows is approached.

Geyts Point, about 1.8 miles NNW of Charles Point, is formed by a group of small islands separated by narrow creeks; the surrounding land is low, swampy, and wooded.

The Hamilton River (Churchill River) rises about 300 miles inland and is fed by many tributaries. In the spring, the river is a raging torrent, the current extending beyond Goose Bay Narrows and causing a continued outward flow, which is of sufficient strength to overcome the flood current until 1 July.

Rabbit Island (53°24'N., 60°09'W.) is densely wooded, with an elevation of about 24m. The wing tank jettison area, charted N of Rabbit Island, is used by aircraft for the disposal of their wing fuel tanks. It is recommended that vessels do not anchor in this area.

Charles Point (53°20'N., 60°10'W.) is the SE entrance point of the Hamilton River (Churchill River). Here the land is about 4.5m high and thickly wooded.

The Goose River, the delta of which forms the NE side of Terrington Basin, enters Goose Bay close NE of Groves Point, the N entrance point to Terrington Basin.

Terrington Basin (Goose Bay) (53°21'N., 60°24'W.)

10.149 Terrington Basin, sheltering the port of Happy Valley-Goose Bay on its S shore, is located at the W end of Goose Bay. It is the terminal for vessels transporting supplies to the Goose Bay Airport. The settlement of Goose Bay is situated on the S shore of Terrington Basin. It is primarily a military air base. The large air base is also used by Canadian commercial aircraft on transatlantic routes. A flashing white light is shown from the control tower at the airport. Vessels must obtain pratique and clearance from the Canadian Chief Inspector of Customs and Immigration, who is situated at Goose Bay.

Vessels bound for Goose Bay are required to notify the harbor master at least 24 hours in advance of their ETA at Rigolet, amending this if necessary when passing Rabbit Island. If berthing at Government Wharf, the nature of the cargo must be stated.

Ice.—Ice starts to form in Terrington Basin between October 24 and November 19, with complete coverage occurring anytime between November 6 and December 1. During the winter, the ice attains a thickness of about 1.1m. Breakup has occurred between April 25 and June 4.



Terrington Basin—Goose Bay (W Dock)



Courtesy of Happy Valley-Goose Bay, Labrador Home Page
Terrington Basin—Main Wharf

Tides—Currents.—The tides in Goose Bay are more affected by the wind than by lunar influence; E winds force the water into the bay while W winds force the water out of the bay. At Epinette Point, Rabbitt Island, and Terrington Basin, springs rise 0.8m, 0.9m, and 0.7m, respectively; at these same locations, neaps rise 0.4m, 0.5m, and 0.6m, respectively. The spring and neap ranges of tides are greater in Goose Bay than Lake Melville, probably due to the water of the Hamilton River being held back by the flood tide in Goose Bay Narrows.

In Goose Bay Narrows, under normal summer conditions, the tidal currents run at a velocity of 1.5 to 2.5 knots on the

flood and 2.5 to 5 knots on the ebb. During the spring freshets, however, the great volume of water emptied into Goose Bay by the rivers that discharge therein causes a continuous outflow which lasts until July.

While there is no significant current within Terrington Basin, there is considerable tidal current in Terrington Narrows. Under normal summer conditions, the flood runs at a velocity of 1.5 to 2.75 knots; the ebb has a velocity of 3.75 to 5 knots. During the spring freshets, however, there is a continuous outward flow which may last until July 1.

Depths—Limitations.—The main public wharf is situated 1.5 miles WSW of Terrington Narrows; it has a berthing length of 247m. There is a least depth 9.5m alongside the NW end and 9m alongside the SE end of the wharf. A depth of 7.2m is charted about 170m ENE of the NW end of the wharf. A crib, in ruins, is charted 230m ESE of the SE end of the wharf. Mooring buoys are located close NE of the wharf face. Mariners are cautioned that silting takes place, and up-to-date depth information should be obtained from the harbormaster. A large steel shed and two smaller wooden sheds stand alongside the wharf. The office of the harbormaster (telephone: 709-896-0265 or facsimile: 709-896-8455) is in a building on the road leading from the main wharf area.

A second public wharf is situated 0.4 mile NW of the main one. This wharf is closed and barricaded due to safety concerns.

Pilotage.—Complete pilotage information is given with the description of Rigolet in paragraph 10.131.

Regulations.—A local regulation states that when a tanker is seen to be leaving berth in Terrington Basin or is in or approaching Terrington Narrows, it shall be granted the right of way and other vessels must not attempt to enter the narrows

until the tanker is well clear of the channel.

Masters of vessels are cautioned that the movement of a vessel from one berth to another in Terrington Basin can only be done with the consent of the harbormaster.

Garbage, dunnage, and refuse must not be thrown overboard within Terrington Basin, nor are vessels allowed to pump bilges or clean tanks.

Vessels at Goose Bay are subject to the Canadian Public Harbor Board Regulations and Canadian Pollution Regulations, in addition to the usual quarantine and customs regulations.

Anchorage.—Good anchorage, in 11m, mud, good holding ground, can be taken in the central part of Terrington Basin.

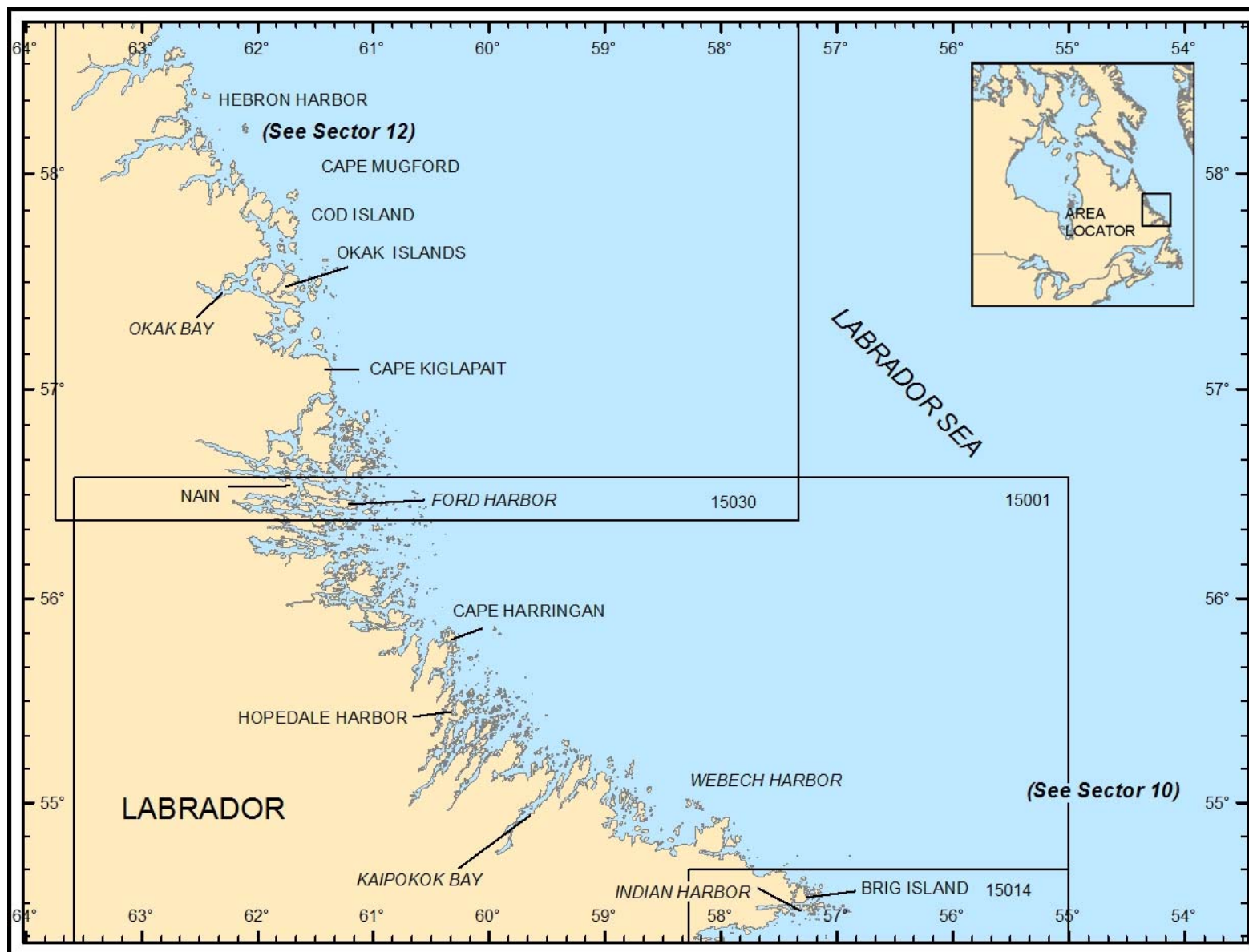
Two mooring buoys are situated 0.1 mile NE of the public wharf.

An area 2 miles ENE of Groves Point, on the N side of Terrington Narrows, is designated an explosives anchorage for vessels carrying dangerous cargo; the depths range from 26 to 35m.

To avoid the shoal areas near Rabbit Island and Geyts Point, vessels should steer 250° from the W end of the Goose Bay Narrows buoyed channel until the W end of Rabbit Island is in line with Mokami Hill. From this position, steer 270° until Sandy Point opens on the left edge of Rabbit Island; then steer 250° to the entrance to Terrington Narrows.

Caution.—Due to changing conditions in the alignment and depths in the channel through Goose Bay Narrows, vessels should ascertain the latest depths from the harbormaster before negotiating the channels through Goose Bay and Terrington Narrows.

An area used by aircraft to jettison fuel tanks extends NW from a line joining Rabbit Island and Sandy Point. Mariners are advised not to anchor in this area.



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

SECTOR 11 — CHART INFORMATION

SECTOR 11

LABRADOR—NORTHEAST COAST—HAMILTON INLET TO CAPE MUGFORD

Plan.—This sector describes the NE coast of Labrador NW from Brig Harbor Island, on the N side of the entrance of Hamilton Inlet, to Cape Mugford, on the N side of the approach to Okak Bay.

General Remarks

11.1 The NE coast of Labrador from **Man of War Point** (54°31'N., 57°15'W.) to Cape Mugford, about 240 miles NW, is an elongated, partially-surveyed bight that recedes about 10 miles SW. Its physical appearance is similar to the entire coast of Labrador. A notable exception are the innumerable islands and dangers that screen this section of the coast and extend as far as 35 miles offshore. Relatively fewer islands and dangers are charted N of Port Manvers, which lies about 55 miles S of Cape Mugford. There are anchorages for both large and small vessels; however, port facilities at all settlements are limited.

The NE coast of Labrador, N of Hamilton Inlet, is fronted by large unsurveyed areas through which caution should be exercised when navigating. It is therefore believed that the mariner will be the best judge of an offshore coastal track, inasmuch as the unsurveyed areas and existing weather and ice conditions will influence the mariner's decision.

The sheltered waters between Holton Harbor (54°35'N., 57°16'W.) and Cape Harrigan (55°52'N., 60°18'W.), as a general rule, freeze over in November, but seldom thoroughly enough to prevent navigation before the November 15, except during early seasons. Navigation of the inside channels closes between December 1 and December 20, at which time all navigation usually ceases and the ice reaches out beyond the offshore islands. Navigation opens toward the end of June or in July.

The harbors in the latitude of Nain (56°33'N., 61°41'W.) occasionally freeze over in October and are frozen solid in November. It is reliably reported that the coast from Nain N to Cape Chidley (60°23'N., 64°26'W.) is seldom clear of field ice before the last week in July, even though the local ice may break up in the part of June.

Hamilton Inlet to Cape Harrison

11.2 Brig Harbor Island (54°33'N., 57°11'W.), the largest of the islands that lie off this immediate coast, is hilly, with a maximum height of 103m near its N end. A light is shown from the NE point of the island.

Teapot Cove, with Teapot Head forming its W entrance point, indents the N side of Brig Harbor Island. Sloop Island lies close off the NE side of Brig Harbor Island.

Caution.—An isolated reef, with a depth of 7.6m, lies 3 miles E of Sloop Island.

Sloop Harbor (54°33'N., 57°10'W.) extends SW nearly 1.3 miles and maintains a width of about 0.4 mile except at its head, and at an indentation on the E side of Brig Harbor Island,

where it narrows slightly. The harbor is clear of dangers except for a short distance off either shore. Depths of 21.9 to 27.4m lie in the harbor entrance, shoaling gradually to within 0.1 mile of its head, where it dries.

Good summer anchorage, in 5.5 to 14.6m, sand, can be taken in Sloop Harbor.

Little Brig Island, lying close off the SE side of Brig Harbor Island, forms the E side of Brig Harbour. Brig Harbour is shallow and unsafe.

Rill Point (54°32'N., 57°12'W.), the S point of Brig Harbor Island, is about 18m high. Double Island lies about 0.6 mile SSW, and Thomey Island lies about 0.4 mile SSE of Rill Point. Camel Island and Butt Island lie close NW of the same point.

Dark Tickle Harbor, formed between the SW side of Brig Harbor Island on one side and Camel Island and Butt Island on the other, affords good shelter for small craft with local knowledge.

Emily Harbor (54°33'N., 57°11'W.), on the W side of Brig Harbor Island, is entered between Brig Harbor Island and Deadman Island, a barren rock, about 0.3 mile SW of the NE entrance point. There is a wharf with a reported depth of 7.3m alongside. Regular vessel communication is available with other Labrador and Newfoundland ports. Local knowledge is essential to enter this harbor.

Anchorage can be taken, in 18.3 to 20.1m, mud, between Deadman Island and Brig Harbor Island.

Pigeon Island lies 0.5 mile S of Little Brig Island; Fairy Island, a dark, bluff feature, lies 0.5 mile SW.

Directions.—**Green Islet** (54°30'N., 57°14'W.), bearing 259° and open S of Fairy Island, leads S of the ledge and detached rock extending from the SE end of Pigeon Island and clear of the drying rock lying about 0.6 mile E of Fairy Island.

11.3 White Cockade Island is the northeasternmost island of the Northern Group. It is conical, with a bluff on its SE side. A drying steep-to rock lies about 0.6 mile E of the island.

The SW side of White Cockade Island, bearing 338° and open E of Sloop Island, leads E; the SW side of the passage between Sloop Island and Brig Harbor Island, in line with the N point of Little Brig Island, bearing about 313°, leads SW of Brig Harbour Shoal. The last-mentioned bearing also leads SW of Isolated Rock.

Bulldog Island (54°44'N., 56°54'W.), the outermost danger along this part of the coast, is an isolated, barren rock, with reefs extending about 1 mile N and about 1.5 miles S.

Numerous shoals, some of which break, lie in the vicinity of Bulldog Island. Bulldog Island and the shoal areas should be given a wide berth.

Bulldog Island is reported to give a good radar return up to 15 miles.

Another shoal area extends about 2 miles in a SSW direction from a position 4 miles SSE of Bulldog Island.

A shoal area, with depths of 2.4 to 10.4m, 5 miles SW of Bulldog Island is normally marked by breakers.

Coffee Island (54°36'N., 57°11'W.), lying about 1.4 miles WNW of White Cockade Island, is a yellow rock with a conical mound at its N end. A drying reef lies about 0.3 mile NW of the island. Teapot Island lies just over 1 mile SSW of Coffee Island. Taylor Rock, a shallow steep-to reef, lies about 0.2 mile N of Teapot Island.

Flat Island lies 1.4 miles WNW of Teapot Island; Black Rock, round and barren, lies about 0.3 mile SW of Flat Island.

The entrance to **Holton Harbor** (54°35'N., 57°16'W.) is foul and encumbered with numerous shoals, rocks, and drying ledges. The harbor should not be entered without local knowledge.

Holton Island (54°38'N., 57°18'W.) rises at its W end to a truncated cone. The shores of the island are rocky and must not be approached within 0.25 mile. The channel between Holton Island and Chance Island, to the SSW, is restricted to a width of about 0.3 mile by islets and shoal water extending NE from Chance Island, but a depth of 14m can be carried through it.

Green Island, lying 1.4 miles ESE of Chance Island, has a foul area extending S from it almost to the entrance of Holton Harbor.

Little Holton is a shallow anchorage situated about 1.4 miles NW of the W entrance point of Holton Harbor.

11.4 Tinker Island (54°42'N., 57°26'W.) is a conspicuous rugged cliffy island. Numerous islets and rocks lie between Tinker Island and the mainland.

Byron Bay lies between **Cape Rouge** (54°40'N., 57°33'W.) and Red Rock Point, about 6.5 miles WNW. Depths in the bay decrease gradually from 18.3m, at about 1.25 miles W of Cape Rouge, to 12.8m at the anchorage in the middle of the bay to the S. The SE side of the bay is a sandy beach through which a stream flows into the sea. A sunken rock lies close off the E shore, about 0.5 mile S of Cape Rouge. A rock, awash, has been reported (1985); other islets are charted across the entrance to, and within the bay.

A bight is formed between a point about 3.5 miles NW of Red Rock Point and the NE extremity of Ship Head, about 2 miles farther NW. The W and largest of the three islets lying off this bight is situated about 1 mile off the mainland; a charted depth of 18.3m lies in the channel between the largest island and the mainland. The remaining two islets of the group lie about 0.4 mile NE and 1.2 miles SE, respectively, of the larger islet.

Ship Head, which rises to a conical hill about 152m high, lies on the S side of the entrance of Jeanette Bay and forms the E side of the small indentation named Ship Harbor. A small island, which lies less than 0.5 mile N of Ship Head, forms the S entrance point of Jeanette Bay and the NE entrance point of Ship Harbor. The SE end of the island is reported to be connected with the mainland by a ridge of rocks.

Quaker Reef, an islet, lies 2.5 miles ENE of Tinker Island. A reef, with a depth of 7.3m, lies about 0.4 mile E, and a shoal area, with a least depth of 2.1m, lies 1.1 miles SSE of Quaker Reef.

Quaker Hat, so called because of its shape, is an island lying 8 miles NE of Cape Rouge.

11.5 Ship Harbor (54°45'N., 57°51'W.) is entered between the NW end of the island N of Ship Head and an islet

about 0.8 mile SW, lying close off the mainland. Charted depths of 18.3m lie in this entrance channel. The S and SE parts of Ship Harbor are reported to be encumbered by stones and boulders.

Jeanette Bay is entered between the island N of Ship Head and the S extremity of False Cape, about 3 miles N. The bay recedes W for about 13 miles, narrowing towards its inner end and is reported to have mid-channel depths over shoals of 6.3 to 15m about 8 miles within the entrance. The bay contracts to a width of less than 1 mile toward the inner end, and is further restricted by several narrow projections from its shores. The chart indicates several islets or rocks in this part of Jeanette Bay.

Good anchorage can be taken in the inner part of the bay, with shelter from all winds. Anchorage is also available off the mouth of Ship Harbor, on the S side of the entrance to Jeanette Bay, in a depth of 21.5m, and 1.6 miles SW of Seal Rocks, in a depth of 20m.

A shoal, with a least depth of 1.1m, lies about 3 miles NE of the NE tip of Ship Head. A rock, awash, lies about 0.5 mile off the S shore, about 3.5 miles within the entrance of Jeanette Bay. An islet lies close off the N shore, about 1 mile NNW of the N extremity of the island N of Ship Head. Seal Rocks, three above-water rocks, lie close together, about 0.5 to 0.8 mile off the N shore, about 1 mile NNE of the rock awash which lies off the S shore.

A chain of shoals, lying in a NW-SE direction, lies about 12.5 miles NE of Ship Head. Depths of 9.1 to 16.5m exist on these shoals, which have not been examined; less water may be found over them and in their vicinity.

False Cape (54°50'N., 57°50'W.), about 5.5 miles N of Ship Head, rises to an elevation of more than 213m at its N end and is marked by a light exhibited from a 26m high tower standing 0.5 mile NE of the cape. A steep-to islet lies about 1 mile E of the N end of False Cape.

Lord Arm, a cove in the SE part of the bay formed between False Cape and Cape Harrison, is entered about 1 mile W of the N extremity of False Cape. A narrow arm, which is reported to provide good anchorage, except in N winds, lies close W of the NW entrance point of Lord Arm.

Sloop Cove indents the NW shore of the bay and is entered about 4.5 miles WNW of False Cape. An islet lies off the middle of the entrance of Sloop Cove.

Bear Island, 46m high at the W end, reddish in color and steep-to on its NE side, lies about 1.7 miles offshore, about 2.3 miles SE of Cape Harrison. A radar dome is reported (2000) to stand, at an elevation of 89m, near the N end of the island. A shoal patch, with a depth of 5m, was reported (1957) to lie about 1.2 miles E of the E extremity of Bear Island.

Cape Harrison to Cape Makkovik

11.6 Cape Harrison (54°56'N., 57°55'W.), a conspicuous bluff faced by steep reddish cliffs, is the NE extremity of a rugged mainland projection. Uivaluk Peak rises to a height of 325m, about 1.7 miles SW of the cape.

The coast, faced by high cliffs and intersected by ravines through which rivers flow to the sea, rises to conical hills from 457 to 732m high. The river banks and the sheltered hollows are wooded, but the higher uplands are mostly barren.

Cape Harrison is marked by a light. A radio tower, at an elevation of 395m, stands 0.1 mile E of the light.

The Labrador Current in the vicinity of Cape Harrison frequently drives the pack ice against the barrier of off-lying islands NW of the cape.

The coast between Cape Harrison and Cape Makkovik, about 46 miles WNW, forms a large indentation, in which lie several bays and island groups. The mainland in this vicinity is known as the Adlavik Region.

Caution.—This section of coast is inadequately surveyed. Several large shoals are reported to be lying offshore, the positions of which are doubtful or are omitted from the chart. They are visible in rough weather. Isolated soundings, shallower than surrounding depths, should always be avoided, as there is no way of determining how closely the spot was examined.

11.7 Webeck Harbor (54°54'N., 58°04'W.), formed between the SW side of Cape Harrison and Webeck Island to the W, provides safe anchorage for vessels of up to about 60m. The harbor has general depths of 9.1 to 29.3m and a width of from 0.4 to 0.9 mile.

Ice.—Icebergs sometimes ground in the entrance of Webeck Harbor.

Tides—Currents.—The MHW interval at Webeck Harbor is 6 hours 10 minutes. The mean range is 1.2m; the spring range is 1.5m.

Depths—Limitations.—There are three channels which lead into Webeck Harbor, as follows:

1. **Main Channel** leads between Morrison Island and Webeck Island to the W. The channel has a general width of about 0.3 mile. Charted depths of 11 to 29.3m lie in the fairway of this channel and it is considered the most suitable channel. The least depth, 11m, is located over a bar in the fairway. During N gales, the sea breaks over this bar.

2. **Clinker Channel**, which leads between Morrison Island and the mainland to the S, is quite narrow. A reef, with a depth of 2.4m, obstructs this channel. It is only navigable by small vessels with local knowledge.

3. **Western Channel**, the SW entrance of Webeck Harbor, is obstructed by islets and shoals and is not recommended.

Aspect.—The middle of Webeck Island is flat, with numerous ponds, but the shores are hilly, with a maximum height of 85m towards its SE side. A group of three above-water rocks lies close NNE of North Head, the N extremity of Webeck Island. The NE extremity of the island, which forms the W entrance point of Main Channel, lies about 1 mile ESE of North Head.

Morrison Island, a small island, 71m high, lies in the N end of Webeck Harbor, about 0.4 mile E of Webeck Island. The island shelters the harbor to the S. A 5.5m shoal area, on which the sea breaks, extends about 0.2 mile NW from the NW end of Morrison Island. The S and SE points of the island, bordering Clinker Channel to the N, are foul for a short distance offshore.

Smoky Island lies off the entrance to Webeck Harbor, about 1 mile NE of the NE extremity of Webeck Island. Foul ground extends about 135m NW from the N extremity of the island, and about the same distance SW from its S extremity.

Harbor Rocks, 2.1m high, are a group of rocks which lie off the middle of the SE side of Webeck Island.

The SE shore of Webeck Harbor, from a position on the mainland abreast Morrison Island, trends SW for about 2 miles to the S entrance point, in the SW end of the harbor. A hill, 113m high, rises close S of this point.

Wreck Bay, which appears shoal for a considerable distance from its head, indents the shoreline close within the NE entrance of the harbor.

Grave Bay, a small cove in the SE shore of the harbor near the SW entrance point, has an islet close off its SW entrance point, and a sunken rock between the islet and the mainland. Harbor Island lies about 0.1 mile NW of the N entrance point of Grave Bay.

Anchorage.—Anchorage can be taken, in 9.1 to 11m, sand and mud, SSW of Harbor Rocks. Anchorage for small vessels can be taken, in 8.2 to 11m, NNE of Harbor Rocks.

11.8 The Ragged Islands (55°00'N., 58°15'W.) is a group of four principal islands with many neighboring islets and rocks. The island nearest Cape Harrison has a fishing station on its W extremity; the third island from the cape is conspicuous and rises at its N end to a summit 195m high, from which sheer precipices fall to the sea. Numerous rocks and islets, on which the sea sometimes breaks, are charted extending about 1.3 miles NE of the latter island. The depths and shoal patches in the vicinity of the Ragged Islands are shown on the chart; however, the hydrography in this vicinity is incomplete and extreme caution is necessary. The W and largest of the Ragged Islands is high, with two round mounds about 152m high.

The Sisters, two small rocky islands, lie about 1 mile S of the W of the Ragged Islands. Little Island lies about 320m SW of the same island. A depth of 5.5m lies in the passage between The Sisters and Little Island.

Jigger Island (54°53'N., 58°09'W.) is 61m high, green, and wedge-shaped. The passage between Jigger Island and the mainland is called Jigger Tickle. Green Hill, conspicuous and 152m high, stands on the mainland about 2 miles SW of Jigger Island. Deus Cape, formed of white cliffs, is the NW extremity of the promontory on which Green Hill rises.

Double Island (54°52'N., 58°23'W.) consists of two parts, both with elevations of 152m, connected by a low neck of land. Its N extremity is a low, rocky point. A rock, 18.3m high, lies about 1 mile NNE of the N extremity of the island.

Bear Island, wedge-shaped and 91m high at its W end, lies about 1.2 miles SSW of Double Island and about 1 mile offshore. Several uncharted islets, which are joined to the mainland at LW, lie S and SW of Bear Island. The unsounded or sparsely sounded area SE of Double Island and E of Bear Island is believed to contain uncharted shoals as well. Scattered drying shoals and spots, with depths as little as 2m, are reported to lie between the W part of Bear Island and the W entrance point of Tuchialik Bay.

11.9 Tuchialik Bay (54°45'N., 58°25'W.), where anchorage can be taken, is an indentation in the mainland about 1.3 miles S of the S extremity of Bear Island. A stranded wreck lies near the edge of a bank, with a least depth of 3.7m, which encumbers the E side of the entrance and reduces the width of the fairway on the W side to 0.2 mile, with a least depth of 7.3m. From the entrance, the bay extends 3 miles S and opens to a width of 2.2 miles, with general depths of 10.4 to 23.5m, to

within 0.7 mile of its head, where they shoal rapidly to an extensive drying bank. An islet lies close off the E entrance point, and between this islet and the W entrance point, the channel is about 0.2 mile wide. Mount Benedict, 740m high and conspicuous, stands about 3 miles SW of the W side of the bay.

Anchorage.—Vessels can anchor 0.5 mile WNW of the E entrance point of Tuchialik Bay, in a depth of 18m, shoaling rapidly to 4.3m about 0.5 mile farther W.

Anchorage can also be obtained, in a depth of 40m, about 0.6 mile NE of Smooth Point, the W entrance point of Tuchialik Bay, or in the bay itself, hard white sand, good holding ground.

Directions.—From a position about 1.5 miles N of Cape Harrison, vessels may follow the charted route and the sounded tracks W and SW to the entrance of the bay, taking care to stay clear of the suspected and uncharted shoals SE of Double Island and E of Bear Island.

11.10 Pamialic Bay (54°46'N., 58°32'W.), the inner half of which dries, is a small open bay. The NW entrance point of this bay is a narrow hilly peninsula which extends about 1 mile NE from the general coastline.

Burnt Island, 122m high, lies about 3 miles W of the NW entrance point of the above-mentioned bay and is separated from the mainland by a channel called Burnt Island Tickle.

The Dog Islands, consisting of two islands, lie between 9 and 13 miles W of Double Island. The E island, 91m high, known as Dog Island, is formed by two hills connected by a narrow beach; the W island, known as Iron Island, is 183m high and flat-topped with steep sides. A rocky islet, 6.1m high, lies close off the SW end of Iron Island. Rocky patches, with 3.7 to 9.8m depths, lie close NW and 0.5 mile SW, respectively, of the island.

Stag Bay (54°50'N., 58°46'W.), into which the Stag Bay Brook empties, is encumbered with shoals near its head.

Seal Point (54°51'N., 58°50'W.) is the NE entrance point of the Big River, the largest river in the region. The point itself is low and backed by a conical hill, 152m high. Porcupine Point, 122m high, in a position about 3 miles W of Seal Point, is the W entrance point of the river. Both sides of the entrance to the river are bordered by a shoal area extending as much as 0.5 mile offshore, which on the W side borders the coast for nearly 1 mile N of Porcupine Point. The river narrows to about 0.1 mile, about 2 miles within the entrance points, then it continues W through high banks for about 4.5 miles.

Indian Island, 61m high, lies close off the mainland, about 4 miles WNW of Iron Island. A sunken rock lies about 1 mile E of Indian Island.

Adlavik Bay (54°55'N., 58°58'W.) is entered close E of Indian Island. An extensive shoal lies in the fairway of the bay, the center of which lies nearly 1 mile E of the N entrance point of the bay. The entrance to the bay is about 0.6 mile wide, from which the bay extends SW for about 1 mile, narrows to about 0.2 mile, and then turns N. A rock, awash, lies about 0.5 mile ESE of the N entrance point. The bay is reported to be an excellent and safe anchorage and the depths in the passage into it are considerable.

Manak Island, 61m high, lies close off the mainland, about 5 miles NNW of Indian Island. The channel between Manak Island and the NW island of the Adlavik Islands has a least charted width of about 1.8 miles, and charted depths of 48 to 93m.

11.11 The Adlavik Islands are a large group of islands in the W part of the bay, formed between Cape Harrison and **Cape Strawberry** (55°07'N., 59°02'W.). Nearly all the islands of the group are high and indented. The channels between the islands, in which lie many islets and rocks, have not been examined. These channels are narrow and intricate, requiring local knowledge.

Conical Island (54°56'N., 58°51'W.), 61m high, and the SW island in the Adlavik Islands, is hog-backed, with shallow gulches down its sides, and lies about 4 miles NW of Iron Island. A rock, awash, and an above-water rock lie on a shoal area extending about 1.3 miles NW of the island. Depths of 12.8m are found in the passage between Conical Island and Indian Island. Caution is advised in transiting this area, as islets, above-water rocks, and shoals are charted in this vicinity.

Kikkertavak Island, the SE and largest island in the Adlavik group, is 150m high in its N part and lies N of the Dog Islands.

Kings Harbor is fronted by Tikaoralik Islet and indents the E side of the island. The entrance is narrow but deep between islets and rocks; with local knowledge, anchorage can be taken, in a depth of 22m. Niunguag Bight is a large indentation on the S side of Kikkertavak Island.

Anchorage.—Anchorage may be taken in the NE part of the bight. Hare Island lies almost 0.5 mile off the SE side of Kikkertavak Island. Rocks, with depths as little as 8.1m, lie 2 miles ESE of Hare Island.

Tikaoralik, an islet with a sharp peak, 61m high, lies at the E end of the Adlavik Islands, about 1.5 miles E of Kikkertavak Island. A channel, with a depth of 5.5m, separates Tikaoralik Islet from an islet 6.1m high lying close N. Flat Island lies 1 mile S and Quaker Hat Island lies almost 1.3 miles NE of Tikaoralik Islet. Shoals, rocks, and an islet lie close by Quaker Hat Island. Two rocks, with depths of 1.8m, lie 2 miles ENE of Quaker Hat Island.

Long Tickle Island, the N island of the Adlavik Islands, is a large island E of Manak Island which rises to a round hill on which stands a cairn. The NE end of the island is a nearly vertical cliff, 122m high. The E side of the island is steep-to.

Adlavik Harbor, located in the channel between Long Tickle Island and the next island SE, affords safe anchorage, with local knowledge, E of the N of two groups of islets off the SE side of Long Tickle Island, in depths of 18 to 22m. The bottom is very irregular, with a number of steep-to reefs, with depths of as little as 4m, in its S part.

11.12 Black Bear Island (55°05'N., 58°39'W.), 61m high and flat, lies N of the Adlavik Islands. Several islets and rocks lie between the Adlavik Islands and Black Bear Island. A reef, with a depth of 6.6m, lies about 3 miles SSE of the S extremity of Black Bear Island, and a second reef, with a depth of 7.6m, lies about 1 mile NE of the first.

Mortimer Shoal, a rock nearly awash, breaks in a slight sea and lies almost 0.8 mile N of Mortimer Island.

The Ironbound Islands are a group of islands lying about 6 miles NW of Black Bear Island. The largest island of the Ironbound Islands is about 4 miles long, N-S and narrow, with a steep cliff at its N end, 122m high, and a deep cleft in the hills, which almost divides the island into two parts. A rock, with a depth of 4.1m, reported in 1983, lies in approximate position 55°10'N, 58°42'W.

Dunn Island (55°13'N., 58°58'W.), 104m high, is bare and rugged. The NE portion of the island, terminating in Gull Battery Point, is almost divided from the rest of the island by a deep gully. The NW side of the island is a small peninsula joined by a narrow neck of land to the main body of the island. Breakheart Point is the S extremity of the island.

The Dog Islands, lying close off the peninsula on the W side of Dunn Island, consist of a group of two islands and some rocks. Numerous shoals extend W and NW of these islands, as far as 0.5 mile, and should be given a wide berth.

Several islets, which should be left to the E, lie between Manak Island and Pomiadluk Point, about 5 miles N. This passage should be navigated with caution, as it passes within a group of low rocks.

Pomiadluk Point (55°07'N., 58°58'W.) is a low sharp point that projects N from a 152m high peninsula. A reef, with a depth of 7.9m, lies about 0.5 mile ESE of the point.

Cape Strawberry (55°08'N., 59°02'W.), 373m high, is faced by terraced cliffs cut by deep ravines.

Makkovik Bay, entered between Cape Strawberry and Cape Makkovik, about 6 miles NW, extends in a SW direction for a distance of about 17 miles. The shores of the outer part of the bay, as far as Big Island, about 5 miles SW, are either steep-to or composed of rocky ledges, and the hills are bare. From Big Island to the head of the bay, the shores are faced by boulder-strewn beaches of gravel, sand and mud. The slopes of the hills become more densely wooded as the distance from the coast increases.

11.13 Makkovik Bay—West side.—The Bluff (55°11'N., 59°08'W.) is a bold, rounded cliff which rises steeply from the shore. Ikey's Point, 2 miles S of The Bluff, has an elevation of 16.7m and is conspicuous from the N. Long Point, 6.5 miles SW of Ikey's Point, is low and shrub-covered. A small uncharted stream, which empties into the bay 1 mile SW of Long Point, is conspicuous and makes a useful landmark.

11.14 Makkovik Bay—East side.—The E side of Makkovik Bay, between Cape Strawberry and Brassy Point, 9 miles SW, is indented by three inlets. The first of these, Fords Bight, indents the coast about 4 miles. Fords Bight is free from dangers. The 11m curve is not more than 0.2 mile offshore; the least depths otherwise are a 14m rocky patch in the middle of the entrance and a 14.9m rocky patch in the center of the inlet. The second inlet of the three mentioned is Makkovik Harbor, entered between White Point to the E and Point of the Bight to the W. Makkovik Harbor indents the coast about 1.5 miles; the E and W shores are backed by densely-wooded hills. Ranger Bight, the third inlet of the three, indents the coast about 0.5 mile. **Burntwood Point** (55°01'N., 59°19'W.) lies 4 miles SW of Brassy Point.

11.15 Northeast Breaker (55°11'N., 59°06'W.), a 0.3m high rock on which the sea breaks almost continuously, lies in the entrance of Makkovik Bay, 1 mile E of The Bluff. Northeast Breaker lies near the NW end of a dangerous rocky shoal area about 0.7 mile long, in a WNW-ESE direction. Jacques Island, 13.7m high, lies 1 mile SSE of Northeast Breaker. Islets, rocks, and shoals extend to 0.5 mile SW and W from Jacques Island. A shoal area about 0.4 mile long E-W, with a least

depth of 6.4m, lies about midway between Jacques Island and Ikey's Point. The Black Family, a group of rocks, lies about 0.8 mile E of Jacques Island. Other rocks and shoals lie as far as 1.75 miles NE of Jacques Island.

Big Island (55°06'N., 59°13'W.), 82m high, divides Makkovik Bay into two channels, the N of which is recommended. Tom's Point is the NW extremity of Big Island. A shoal, with a least depth of 6.4m, lies 0.5 mile SW of Big Island. Drying rocks extend 0.2 mile SW from the W extremity of Big Island. An 8.2m shoal lies about 0.5 mile N of Brassy Point, 15.2m high.

The Narrows is a constriction in Makkovik Bay between Long Point and Brassy Point. A rocky shoal, with a least depth of 5.8m, lies exactly in the middle of The Narrows. Gull Island, 3.6m high, lies 1.7 miles S of Long Point. A dangerous shoal lies about 0.5 mile W of Gulf Island. A shoal, with a least depth of 4.2m, lies about 0.8 mile ENE of North Head. The channel between Burntwood Point and the N shore of Makkovik Bay is narrowed to a width of about 0.2 mile in mid-channel, between the 11m curves. Middle Head lies about 1.7 miles SW of Burntwood Point.

11.16 Makkovik (55°05'N., 59°11'W.), a small settlement, lies in a position about 5 miles SW of Cape Strawberry, on the W shore of Makkovik Harbor. A church, school, and post office are situated here. Berthing facilities, located close W of Trap Point, have depths of 1.7 to 4.7m alongside. Regular vessel communication is maintained with other Labrador and Newfoundland ports. Air service is provided to Goose Bay.

Indian Head, on the W shore of the harbor, is marked by a flagstaff on a conspicuous white cube shaped base. Makkovik Light is shown from a mast, situated on the outer end of a wharf, 0.2 mile SSW of Indian Head.

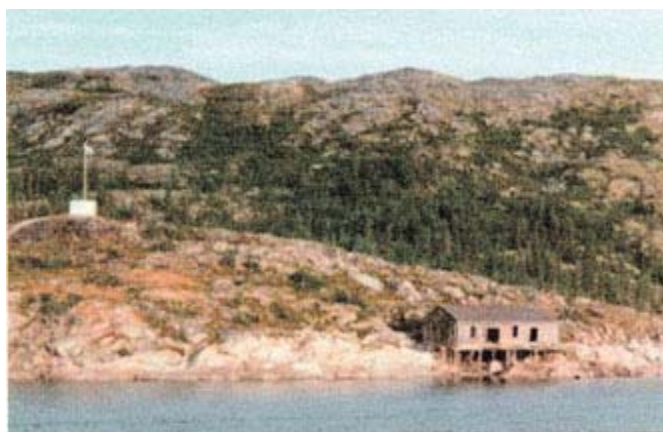


Makkovik

Tides—Currents.—The HHW of large tides at Makkovik rises 2.5m above lowest normal tides; LLW rises 0.1m.

Anchorage.—Anchorage can be taken off the settlement, in 14.6 to 27.4m, mud. The holding ground is good but the harbor is exposed to NE weather.

Directions.—Vessels approaching Makkovik Bay from the S or E, should steer for a position 2 miles N of Gull Battery on



Courtesy of Welcome to Labrador Home Page
Makkovik—Indian Head

Dunn Island, then steer for a position bearing 330°, distant 0.7 mile from Northeast Breaker. When this position is reached, course should be altered to 192°, passing midway between Northeast Breaker and The Bluff. This course should be maintained until a position 0.3 mile E of Ikey's Point is reached. Course should then be altered toward the W entrance point of Makkovik Harbor.

Vessels bound for Makkovik Harbor should hold this course until White Point, the E entrance point of Makkovik Harbor bears 180°; course should then be altered to follow a mid-channel course into the harbor.

Vessels proceeding to the anchorage at the head of Makkovik Bay should alter course when abeam of Measles Point, to follow a mid-channel course N and W of Big Island. After Big Island is rounded at a distance of 0.3 mile, course should be steered to pass midway between the W side of the bay and the 8.2m shoal NNW of Brassy Point. Course should then be altered to pass about 0.2 mile off Long Point, keeping clear of the 5.5m shoal NE of Long Point.

When clear of The Narrows, course should be steered for Burntwood Point, passing 0.5 mile NW of Gull Island and 0.3 mile SE of North Head, to clear the shoal off Gull Island. After clearing the narrow channel between Burntwood Point and the N shore, a mid-channel course should be steered for the anchorage 2 miles SW.

Cape Makkovik to Hopedale Harbor

11.17 Cape Makkovik (55°14'N., 59°09'W.), 146m high, is a steep bluff rising to round summits connected with the inland mountain ranges. The N points of the cape are foul for about 0.2 mile offshore. A conspicuous domed building stands on the summit of Cape Makkovik. The Sisters, two islets, the N of which is 8.8m high and the S of which is 13.7m high, lie within 1 mile E of the cape. A shoal, with three above-water rocks and depth of 0.9m at its extremity, extends about 0.2 mile S from South Sister. A rock, with a depth of 5.2m, lies about 0.3 mile E of South Sister.

Aillik Bay, entered between Cape Makkovik and Cape Aillik, about 2.3 miles W, extends S for about 5 miles. This bay

provides good anchorage.

Cape Aillik is the N extremity of an islet, 22m high, steep-to on its N side, which lies off a narrow peninsula projecting N from the mainland. A dangerous detached 5.5m shoal, on which the sea sometimes breaks, is 1.2 miles N of Cape Aillik.

The W shore of Aillik Bay is steep-to for about 2.2 miles within its entrance. Summer Cove, the first indentation on the W shore, is located about 1 mile S of Cape Aillik. About 1.2 miles S of Cape Aillik lies another cove. A third cove lies about 2.7 miles SSW of Cape Aillik.

The E shore of Aillik Bay is bordered by boulders. Low Point, from which several sunken rocks extend about 300m W, lies nearly 1 mile WSW of Cape Makkovik. A bight, which dries, lies between a point 0.3 mile SW of Low Point and a point about 1 mile SSW of the first. A conspicuous oil tank is situated on Low Point, on the E shore of the bay, about 1 mile SW of Cape Makkovik.

Winds—Weather.—The N and NE winds, which are associated with depressions in the summer months, sometimes blow with considerable force for 2 or 3 days, accompanied by rain or gloomy weather and are sometimes preceded by a bank of sea fog. The squalls which occur during these northeasters are known locally as “flurries.”

Ice.—The harbors in this vicinity begin to freeze from the shore out to the deep water after the middle of November; the N ice arrives about the December 10. Landfast ice forms a straight edge, from island to island or rocks, several miles offshore by the end of December, outside of which the pack ice drifts continuously S from December to June or July. Large fields of ice appear toward the middle of January, drifting S in the same manner, occasionally rafting 1.5 to 6.1m above the sea; small bergs are sometimes seen at this time.

Tides—Currents.—Southsoutheast currents, at 0.8 knot, can be expected in the approach to Aillik Bay.

At Aillik Bay, HHW of large tides rises 2.5m above lowest normal tides; LLW rises 0.1m.

Depths—Limitations.—Mid-channel depths of 12.8 to 35m exist in the bay to within 0.5 mile of its head, where a shoal with a least depth of 2.4m extends from the E shore for about 0.6 mile.

A 5.2m shoal patch lies about 0.2 mile offshore, 2.5 miles SSW of Low Point. A 3.9m shoal lies about 0.7 miles S of Summer Cove. Several other shoals with similar depths lie as far as 0.3 mile offshore on both sides of the N half of the bay.

Anchorage.—Good anchorage can be taken in Summer Cove, in 18.3m, mud, but NW winds in this location are accompanied by heavy squalls. Considerable swells sets into this anchorage with NE winds. The best anchorage in the bay is off the cove about 2.5 miles SSW of Summer Cove, and 0.3 mile N of the shoal that extends from the E shore for about 0.6 mile, in 11 to 14.6m, mud, where the holding ground is good.

11.18 Gull Rock (55°16'N., 59°14'W.) is the E of the islets in the Turnavik Islands. It is about 12.2m high and may be approached on its E side to within 0.2 mile. There are shoal patches, over which the sea breaks, located about 0.7 mile ESE of Gull Rock. Generally, depths of 9.8m exist in this area.

The largest island of the group is Turnavik Island, about 3.5 miles NW of Gull Rock. Near the N part of its E end, the elevation is 100m. Rocks, above and below-water, and islets extend

SE from Turnavik Island, between Gull Island and West Turnavik Island.

A reef lies in a position about 1.8 miles E of the E side of Turnavik Island. A sunken rock is charted about 0.7 mile W of the island, and four sunken rocks are charted within 0.2 mile of the W shore. A shoal area, with depths of 1.8m and marked by breakers, exists about 1.2 miles SW of the SW side of Turnavik Island. A rock, on which the sea breaks, lies about 2.7 miles NNE of the NW extremity of Turnavik Island.

West Turnavik Island, 60m high, lies about 1 mile S of Turnavik Island. Several islets and rocks are charted extending to about 0.8 mile SW of West Turnavik Island. An area, foul with rocks, reefs, and islets, extends 0.8 mile S and SE from the charted S extremity of West Turnavik Island. Two islets are charted close off the N shore of West Turnavik Island. The first islet E of West Turnavik Island has a submerged rock close off its S extremity. A shoal area, about 0.3 mile in diameter, is charted with the approximate center of the area about 0.5 mile SSE of this same S extremity; the least depth in this shoal area is charted 5.8m.

An almost landlocked cove lies on the SE side of West Turnavik Island. Depths in the cove are considerable, but there is no room for a vessel more than 30m long to turn without using warps. A vessel with a length of 56m has used the harbor, but vessels of 30m in length and less can readily use this harbor.

The approach to this cove from off Cape Aillik is clear of dangers, but should only be attempted in daylight, when the dangerous reefs on either side can be seen even in the calmest weather. A reef lies about 0.1 mile S of the SE entrance point. The N half of the cove is foul, with a rock which uncovers at LW in its center.

A considerable tidal current sets N and S past West Turnavik Island.

Good anchorage can be taken off the entrance to this cove, in 24m, in the bight formed by a group of reefs and islets shaped like a horseshoe, with the opening facing seaward.

11.19 The Red Islands (55°13'N., 59°19'W.), 2 miles SSE of West Turnavik Island, are a group of five small light-colored islets, with elevations of about 12.2m. The Black Islands lie about 2.5 miles S of West Turnavik Island, with an elevation of 45m.

Kaipokok Bay, with general depths of 36.6 to 73m in the fairway, except at its head where depths decrease to between 14.6 and 18.3m, extends SW from its entrance SW of Cape Aillik for about 35 miles; the bottom is mud. Soundings charted in mid-channel from Cape Aillik to Postville range from about 20 to 120m. A rock, with a depth of 5.4m, lies in-side the entrance of Kaipokok Bay, 0.8 mile SSE of Cape Roy (Cape Point). Heavily-wooded spruce forests are found at the head of the bay, with the trees reaching a considerable size in the more sheltered areas.

Kaipokok Hill (55°10'N., 59°26'W.), a conspicuous hill 285m high, stands on the NW shore of Kaipokok Bay, about 10 miles SW of Cape Aillik. Long Island, 122m high, on the NW side of which stands a beacon, lies in the middle of the entrance to the inlet. This island restricts the width of the entrance at this point to about 1 mile; the passage on the E side of Long Island dries.

Several small harbors are located in the vicinity of Kaipokok

Bay, but numerous rocks and islets which have not been examined lie in their approaches; local knowledge is essential for navigating in this area.

The Sisters, a group of islets of which the SE, Pugaviks Island, is the largest and upon which stands a beacon, lie in the middle of Kaipokok Bay, about 10 miles SW of Long Island.

English River Island (54°57'N., 59°45'W.) lies about 2.5 miles SW of the SW islet of The Sisters. Harrys Reef extends about 0.8 mile NNW from a position on the SE shore of Kaipokok Inlet, about 2 miles S of English River Island. The reef is marked by a black buoy.

Woody Island, on which stands a beacon, lies in the middle of the S part of the inlet, about 2 miles SSW of The Post. Woody Island Rock, a shallow reef, lies within a foul area which extends N from the island. A rock, with a depth of 4.4m, lies just N of mid-channel, 0.8 mile SW of the wharf.

Additional beacons may be found throughout the bay.

Anchorage can be taken, in 18.3 to 27.4m, S of Woody Island.

11.20 Postville (54°55'N., 59°48'W.), a settlement on the W side of Kaipokok Inlet, about 6 miles SW of The Sisters, is connected by coastal vessels with other Newfoundland ports during the navigation season.

The public wharf at Postville lies at the S end of a causeway which extends from the shore; there are depths of 5.8 to 6.1m alongside the wharf.



Postville Harbor

A microwave tower, having a height of 34m; a radio tower, having an elevation of 31m; and a church spire, having a height of 17m are conspicuous to the NW of the port facilities. Post Hill, 435m high, stands about 1.3 miles SE of Postville.

Postville Light is shown from a mast situated on the outer end of the public wharf.

The coast NW, as far as Hopedale, about 28 miles distant, is irregular and indented by several long, narrow inlets, which for the most part have not been examined.

11.21 The Bay of Islands (55°11'N., 59°43'W.), located about 5 miles NW of Kaipokok Inlet, indents the mainland for

distance of 16 miles in a SW direction. Antons Island, surrounded by islets and shoals, lies in its entrance. Little is known concerning the depths in this bay. The Clusters is a group of small islands lying about 2 miles NE of Antons Island. Several islands and rocky shoals, with depths as little as 3.2m, lie within 2.5 miles of these islands, on each side of the recommended routes.

The Hares Islands are a group of four islands lying 8 to 10 miles W and NW of the NW extremity of Turnavik Island, and from 3 to 7 miles offshore. Several sunken rocks lie between the islands of this group, but there is a passage between these rocks and another passage leads close S of them. Striped Island, the S island of this group, is 84m high, conspicuous and takes its name from the black and white horizontal bands of strata from which it is composed. The Clusters Light is shown from the N island of the group.

A sunken rock lies about 1.7 miles S of Striped Island; a rock, 1.5m high and surrounded by foul ground, lies 0.9 mile SW of the island. Numerous rocks, some of which break, lie within 4 miles E of Striped Island. It was reported (1951) that a shoal was observed S of the Hares Islands, midway between Striped Island and the W island of the Hares Islands. Ephus Island and Tailor Island, both with elevations of about 21m, Sweethome Island, and several unnamed islands lie close S of Hares Island. A rocky shoal, with a depth of 4.3m, lies close S of Sweethome Island.

Numerous islands and above and below-water dangers lie up to 23 miles offshore E of Hopedale and encumber the approach. An excellent deep approach channel leads W between the islands to Hopedale Harbor.

11.22 Hares Island (55°21'N., 59°41'W.) is separated from an islet, 9m high, close off its N side, by Hares Tickle. Rocks and reefs extend ENE from Hares Island and encumber the passage between it and a group of islets and rocks surrounded by shoal water 1 mile ENE.

Dumb Shoal Island and Snow Island lie close N of Hares Island. The water between them is shoal and contains numerous drying rocks.

White Bear Island (Nanuaktok Island) (55°26'N., 59°31'W.), flat and fringed by low rocks, is the E of the off-lying islands in the entrance to Hopedale Harbor. This island provides a good mark for making the Hopedale approach channel, which is entered between this island and Blockstones Island, about 7 miles NW. A light is shown from a tower with a daymark on White Bear Island; a racon is operated from the light structure.

Gull Island, faced with cliffs, lies on the N side of the approach channel, about 0.8 mile WNW of Blockstones Island. A rock, on which the sea breaks, lies between Gull Island and Blockstones Island. Beluga Rocks lie about 1 mile E of Blockstones Island, also on the N side of Hopedale Run, and Fulmer Shoals, with a least depth of 9.1m, lie about 4.7 miles farther E; it lies on the N side of the entrance to Hopedale Run.

Shearwater Shoals (55°22'N., 59°27'W.), with a least depth of 0.9m, lie about halfway between Turnavik Island and White Bear Island.

Winsor Harbor Island, about 1.3 miles W of Hares Island, is about 30m high. Winsor Point, marked by a light, forms its NE extremity.

11.23 The Fish Islands (55°23'N., 59°44'W.), comprised of two fairly large islands and several smaller ones, lie 1.8 miles N of Winsor Harbour Island. Stump Island lies close SSW of Fish Islands.

The Mussel Islands, 0.5 mile N of the Fish Islands, are separated by a shallow, narrow channel and fringed to the E by shoals. The White Mark Islands, 0.7 mile to the NNE, are separated by a shallow channel.

Kokkorvik Island, about 2 miles SE of the White Mark Islands, has shoals extending off its N side and several detached reefs between it and the islands W and NW of it.

The Plant Islands, 1.2 miles NE of the White Mark Islands, have isolated reefs lying up to 0.8 mile off them.

Several bays indent the coast between Winsor Harbour Island and the mainland shore, about 20 miles W. These bays have not been surveyed.

Hopedale Run, the main approach channel to Hopedale Harbor, is deep and free of mid-channel dangers. It is entered from the NE between Blockstones Island and Naugatsigarsuk Island, 3 miles to the SW.

The **Dory Islets** (55°29'N., 59°47'W.), lying 3.5 miles WSW of Blockstones Island, consist of three closely grouped islets. A shoal area lies about 0.4 mile NE; Finback Rock lies 0.2 mile SW, surrounded by shoals. The Red Islands and the Grey Islands border the N side of Hopedale Run, 5.5 miles SW of Blockstones Island.

The Double Islands, a large group of islands lying about 2 miles W of the Grey Islands, have isolated reefs up to 0.35 mile S of them.

Naugatsigarsuk Island (55°27'N., 59°46'W.) lies on the S side of Hopedale Run at its E entrance.

The Kingitok Islands border the S side of Hopedale Run for about 7 miles.

Torartok Island (55°26'N., 59°47'W.), the E island of the Kingitok Islands, lies 1.4 miles SW of Naugatsigarsuk Island.

Crab Island, 0.3 mile W of Torartok Island, is almost divided in two parts by Trap Cove.

Arlorkak Island lies 1 mile SW of Crab Island. Numerous islets, rocks, and shoal water encumber the area between these two islands. Guillemot Island and an unnamed island lie SSW and S of Arlorkak Island.

Assungak Island, the N island of a group lying SE of Guillemot Island, has shallow reefs lying up to 0.35 mile N of it. Coupling Island, Dovekie Island, Brown Islet, and an unnamed island lie 1.5 to 3 miles SW of Assungak Island.

11.24 Eastern Kingitok Island (55°26'N., 59°53'W.), a dark conspicuous island, appears conical from all directions. Western Kingitok Island, about 1 mile SW of Eastern Kingitok Island, is dark and conspicuous and appears conical from the W. The summit of Eastern Kingitok Island is marked by a cairn.

A shoal, with a depth of 0.6m, lies on the N side of the main approach channel, about 1.7 miles NE of the summit of Eastern Kingitok Island. An uncharted buoy marks this shoal, but due to varying ice and weather conditions its existence, at all times, is uncertain.

Sennigardlek Island, close off the NE shore of Western Kingitok Island, has several small islets off its W end and a drying ledge extending from its E end. Jaralak Island is sep-

parated from the NE end of Western Kingitok Island by a deep channel, 0.2 mile wide.

Amikojoak Island, 1.5 miles SSE of Western Kingitok Island, and North Imnalik Island are the outermost of the islands fringing the E shore of Cross Island. Tick Islet lies almost 1 mile NE of Amikojoak Island.

Cross Island (55°22'N., 60°01'W.) is a large island with a sharp peak. Some promontories, each with a conical hill 61 to 91m high, lie at the N end of the island. Niachungoat, on the NE end of the island, is a hill surmounted by a stone beacon. The shore off this point is bold, with deep water 135m off.



Cross Island

Napajotalik Island (Flagstaff Island) lies almost 0.5 mile off the SW side of Western Kingitok Island, the passage between them being unnavigable. The channel between Cross Island and Flagstaff Island, known as Flagstaff Tickle, forms part of the S and small vessel approach to Hopedale.

11.25 Hopedale Run—Inner part.—Search Island (55°25'N., 59°58'W.) lies close W of Western Kingitok Island. Mallet Island, 0.5 mile farther W, has a 7m shoal lying 0.15 mile N of its W extremity. A shoal spit extends 0.2 mile SW of its W end. Stake Rock marks the outer end of the spit; a shallow reef lies close N.

Nuvutsuakulluk Island, close off the NW side of Cross Island, rises sharply to an elevation of about 76m in its SSW part.

Pitsiutatsitikulluk Island, on the S side of the approach to Hopedale about 2.2 miles W of Mallet Island, rises to about 15m.

Satok Island (55°27'N., 60°02'W.) lies on the N side of Hopedale Run, 1 mile W of the Double Islands. Isolated shoal patches, including a low islet, lie up to 1 mile W; shoal patches lie the same distance WSW of the island. A shoal spit extends 0.3 mile SE of Satok Island.

Potongak Island (55°27'N., 60°05'W.), 1.35 miles W of Satok Island, is about 61m high.

Okaliak Island, located about 1 mile W of Potongak Island, is low and rises only to about 15m. A 3.7m high islet and a drying rock lie in a shoal area about 0.2 mile E of the island. A shoal spit extends S for 0.3 mile.

Okalik Island, on the S side of the channel, is a good mark

for setting course for Hopedale. There is deep water close off its N side.

Anniowaktook Island (55°27'N., 60°09'W.) lies about 1 mile E of the entrance to Hopedale Harbor.

Ellen Island has a large shoal area extending from its W and NW sides. Seneraluk Rock, white, is an islet lying about 0.4 mile NNW of Ellen Island.

Satoarsook Island lies almost 1 mile S of Ellen Island in the entrance to Tooktoosner Bay.

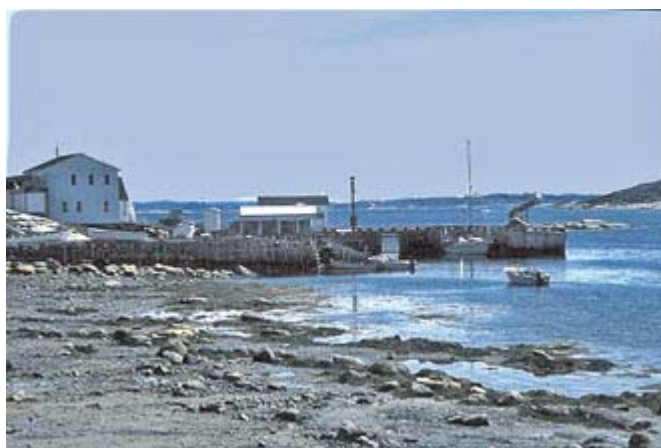
Hopedale Harbor (55°27'N., 60°12'W.)

11.26 Hopedale Harbor is a small bay in the mainland. Hopedale has frequent communication by sea with other ports in Labrador and Newfoundland.



Courtesy of Welcome to Labrador Home Page
Hopedale Harbor

Ice.—Break-up normally begins during the third week of May, with the harbor clear of ice by the middle of June. Freeze-up usually occurs during the first week of December, with complete ice cover developing by the third week. Two to three weeks variation in these dates may occur.



Hopedale Dock

Tides—Currents.—The HW interval at Hopedale is 6 hours 23 minutes.

A tidal current of 0.5 to 1 knot has been observed at maximum ebb. The current off the coast between Occasional Harbor

and Hopedale Harbor almost invariably sets SE, unless countered by S and SE gales.

Depths—Limitations.—The bottom is very uneven and consists of sand, gravel, and, in some places, rock. There is a least depth of 7.9m in the outer harbor, almost 0.2 mile ENE of Kretschmer Island. The least charted depth in the entrance channel leading into the inner harbor is 7m. The S basin is accessible only by small craft.

There is a pier on the SW side of the harbor that has a length of 43m and a width of 32m across the face, with a least depth alongside of 5.2m. Vessels 90m in length and drawing 5m are reported to be able to berth alongside, but caution must be exercised as the bottom is rocky. There is an oil pipeline on the pier used for the discharge of bulk cargo; at its inner end is a transit shed with flood lighting for night work.

An L-shaped public wharf is situated at the settlement. It is 25m long, with depths alongside the outer face of between 5.8 to 6.1m. The approach to this wharf is difficult and requires local knowledge.

Aspect.—Sektinek Hill, 1 mile W of the harbor, is prominent. The church belfry is a good navigational mark.

Range lights, in line bearing 278°, lead to the pier on the W side of the harbor from Umeakovik Anchorage.

Pilotage.—Pilots are not available at Hopedale, however, entrance can be made through Hopedale Run without much difficulty. Unlicensed pilots can be obtained at Saint John's by arrangements with individuals familiar with the area.

Anchorage.—Anchorage can be taken, in 11 to 18.3m, in the outer part of the harbor E of the shoal extending S from the N entrance point.

Anchorage can be taken in Umeakovik Anchorage (55° 27'N., 60° 12'W.), between Ellen Island and the mainland to the SW, in 11 to 25.6m, mud, shell, and gravel.

Caution.—Most of the "route usually followed" between Hopedale and Davis Inlet was surveyed between 1952 and 1975, but the bays and inlets and a 10 mile wide corridor outside the coastal route remain unsurveyed, and some of the charted information is of a reconnaissance nature. Unsounded waters should not be entered without local knowledge. Special caution is recommended even in sounded waters.

Hopedale Harbor to Cape Harrigan

11.27 Deep Inlet, entered SSE of Hopedale Harbor, is about 4 miles wide at its entrance and indents the mainland for a distance of 14 miles, at which point it divides into two arms, Ugjoktok Bay and Adlatok Bay. These two bays have not been examined, but Ugjoktok Bay, the SE and longer arm of Deep Inlet, is encumbered with many dangers.

Soundings have been taken in the outer 5 miles of Deep Inlet, where depths of 91 to 164m exist. Shoals and drying rocks lie up to 0.5 mile off the W side of Umiatoriak Island.

Achvitoaksoak Island (55°29'N., 60°13'W.) is a dark cliffy island N of Hopedale Harbor. Little Hopedale Beacon, surmounted by a semicircular disc, curved side down, stands on a headland of the mainland, about 0.5 mile NW of the S end of Achvitoaksoak Island.

Caution.—From Hopedale to Cape Harrigan, 24 miles NNW, the coastal waters have only been partially surveyed. Several inlets and bays indent this sector of the coast; numer-

ous chains of islands and rocks extend as much as 15 miles off the coast. Vessels proceeding N from Hopedale should keep outside or inside the coastal chain of islands. No attempt should be made to navigate among these islands, as the shoals and breakers, even in a moderate sea, are so close together.

11.28 Napakataktalik Island (Manuel Island) lies NNW of Achvitoaksoak Island. A stone cairn stands on the summit of the N part of the island. A light stands near the NW extremity of the island.

Napatalik Island (55°38'N., 60°21'W.) has a height of 172m at its NW side. It lies, along with other islands and islets, in the approaches to an inlet that indents the coast for a distance of about 4 miles W and then turns S for 4 miles. The inlet has not been surveyed. Several islands and islets extend as far as 1 mile off the E side of Napatalik Island. An island, with an elevation of 18.3m and cliffy sides, lies in a position 2.5 miles E of the N end of Napatalik Island.

An island, 1.5 miles long and 66m high, lies 0.4 mile N of Napatalik Island. The channel between these two islands is clear of dangers and has a least depth of 10m. A group of small islands lie off the E side of the above island, the highest is 39m, and they are joined to the above island at LW. Depths between this 1.5-mile long island and the mainland 1.25 miles W, are about 49m and there appear to be no dangers.

Multa Island (55°41'N., 60°18'W.) lies about 2.5 miles NNE of Napatalik Island, and is high and sharp with a height of 56m. An island, 134m high, with a smaller island midway between, lies 0.5 mile NW of Multa Island. Several small islets lie close off the E side of Multa Island, with heights ranging from 1.5 to 2.1m. A roundshaped island lies 0.4 mile E of these islets, with a height of 30m. A least depth in mid-channel between them was found to be 11m.

Numerous other islands lie N of Multa Island, but as the intervening water areas have not been surveyed, vessels without local knowledge should keep E of these islands.

A large unnamed island, with a height of 183m at its N end, lies 2.2 miles N of Multa Island.

11.29 The **Kikkertaksoak Islands** (55°43'N., 60°10'W.) are a group of four islands and numerous small islets, two of which are prominent islands with sharp peaks, 76m high. Two rocks, the S of which is 3.1m high and the N of which dries about 2.1m, lie about 1 and 2 miles N, respectively, of the E island of the Kikkertaksoak Islands. Two islets lie 1.7 and 3.2 miles NE, respectively, of the E island of the same islands; an islet, 9.1m high, lies about 3 miles NNE of the E of the above islets, and a rock, 3m high, lies about 2.7 miles NE of the same islet.

The Nanuktok Islands lie 10 miles NE of the Kikkertaksoak Islands and consist of several small islets and rocks. Many shoals, on which the sea breaks in a strong breeze, lie between the Nanuktok Islands, Kikkertaksoak Islands, and Cape Harrigan; therefore, navigation in the vicinity is dangerous.

Clinker Rock, with a depth of less than 1.8m, lies 7 miles NW of the Nanuktok Islands. A similar rock lies about 4.2 miles ENE of Clinker Rock.

11.30 **Nunaksaluk Island** (55°48'N., 60°20'W.) is the N and largest of the island groups which form the E side of Windy Tickle and the N side of Shoal Tickle. It is about 196m

high, falling in hummocks toward the NE. Three small coves indent the E side of the island, but they are either too exposed or too shoal to provide anchorage. An islet, 16.8m high, lies about 1 mile off the E shore of Nunaksaluk Island, about 2.2 miles SSE of the N extremity of the island. Three rocks, awash, lie 0.2, 1.5, and 5.5 miles, respectively, off the E side of Nunaksaluk Island; a line of breakers, indicating a reef, lies about 1 mile off the SE part of the island.

Windy Tickle, about 3.2 miles long in a N-S direction, is a channel between the S part of Nunaksaluk group, S of the E end of Nunaksaluk Island and the mainland W. A shoal extends off the first bight on the NE side of Windy Tickle, but there is a passage clear of dangers along the SW side. The shores of the passage are bold. Winds between the NW and N blow violently down Windy Tickle. There are depths of 15.2 to 24.4m in the S portion of the tickle, while the N part has deeper water, with depths from 40.2 to 47.2m.

Shoal Tickle is formed by the S shore of Nunaksaluk Island and the mainland to the S. It is about 3 miles long and about 0.8 mile wide at its E end, where it joins Windy Tickle. The channel is narrowed to about 0.2 mile by a point of land projecting from the S shore and a shoal extending from the N shore, about 1.5 miles W of its E entrance. A sunken rock lies about 1 mile E of the SW entrance point at the E end of Shoal Tickle; the rock is bordered by a shoal area which extends nearly 1 mile NE.

A draft of 4.6m can be carried through Shoal Tickle by vessels possessing local knowledge.

Anchorage.—A bay, with an islet in the middle which forms two anchorages, lies on the N shore of Shoal Tickle. A shoal extends nearly to this islet; vessels should not anchor in depths of less than 22m, or attempt to proceed inside the islet, where depths decrease suddenly from 18.3m to nearly zero.

Anchorage can be taken, centrally, in the bight in the mainland near the W entrance to Shoal Tickle, in about 37m, clay. This anchorage provides good holding ground and excellent weather shelter.

Two small islets lie in the E approach to Shoal Tickle. The larger and higher, 47m, lies in the middle of the fairway. The smaller island, 15.8m high, lies about 0.3 mile SSE.

Cape Harrigan to the West End of Davis Inlet

11.31 Cape Harrigan (55°51'N., 60°18'W.), an island about 0.8 mile N of the N side of Nunaksaluk Island, is steep-to with a steep face and a sharp black summit, 91m high. A light is shown from Cape Harrigan.

A shoal, with a depth of 4.6m, and another shoal, with a depth of 0.6m, lie 1.5 miles and 2 miles WNW, respectively, of Cape Harrigan Island. A rock, which dries 1.5m, lies 0.5 mile W of the island. A rock, with a depth of 1.8m, is reported to lie 1 mile WSW of the island.

Caution.—Magnetic disturbance was reported (1932) to exist between positions about 18.3 miles NE and 28 miles E, respectively, of Cape Harrigan island.

11.32 The coast, from a position off the W entrance point of Shoal Tickle to Zoar, is marked by numerous indentations, many of which are unsurveyed. Islands and dangers extend about 30 miles off the NW part.

The coast between Zoar and Nain is deeply indented by three irregular inlets. The S, named Voiseys Bay, is unsurveyed; the N is divided into two narrow branches named Nain Bay and Tikkoatokak Bay. The coast is screened by numerous islands, outside of which are numerous islets and dangers. The outermost dangers lie as much as 35 miles off the mainland shore.

The mainland between the W entrance of Shoal Tickle and the E entrance to Davis Inlet is indented by **Big Bay** (55°48'N., 60°33'W.) and Flowers Bay, two large and unsurveyed bays. South Tikigakjuk Point (South Tikiratchuk Point), about 3 miles W of the SW extremity of Nunaksaluk Island, is the E entrance point of Big Bay. This point and a point next E are bordered by shoal areas which extend nearly 1 mile NE; a sunken rock lies close within the outer limit of the shoal area off the E of these points. **North Tikigakjuk Point** (North Tikiratchuk Point) (55°50'N., 60°38'W.) is the E entrance point of Flowers Bay. A shoal extends 0.3 mile N of North Tikigakjuk Point. The coastline in this vicinity is fronted by scattered offshore islands and is similar to the remainder of the general coastline.

11.33 Umuavik Island (55°51'N., 60°27'W.) has a island, with a conspicuous 91m high conical summit, lying 0.6 mile SE of it. A rock lies close W of Umiavik Island. Two islets, one of which is 21.3m high, lie about 0.5 mile NW of the island, and a sunken rock lies close W of the two islets; a sunken rock lies about 2.5 miles NE of the island and another rock was reported (1913) to lie about 1.8 miles E of the island. A rock, 3m high, lies about 5 miles NNE of the island and about 5.5 miles NNW of Cape Harrigan. The several islets and rocks in the vicinity of this island should be given a wide berth.

Caution.—A breaking reef lies at the mouth of a cove about 3.4 miles SSE of the island with the conspicuous conical summit.

Breakers exist 1.3 miles E of the N extremity of the island.

Kutallik Island (Massacre Island), 61m high, lies in a position 1.25 miles NNE of North Tikigakjuk Point. Foul ground extends for about 0.5 mile from its NE and E sides.

11.34 Katauyak Island, with a double summit, lies about 3.5 miles NNE of Kutallik Island; between them lie three islets, one which has a sharp, dark summit, 46m high. A small, sharp rock, 3m high, lies about 0.5 mile NE of Katauyak Island; a sunken rock lies close off the SE extremity of the islet nearest Kutallik Island.

The Solomon Islands, two islands separated by a channel about 0.2 mile wide, lie about 2 miles WSW of Katauyak Island. An islet, 15m high, lies close off the SW extremity of the W and larger island, which is 61m high.

Ukasiksalilik Island (55°54'N., 60°48'W.) is an irregular island about 6 miles long E-W and about 4 miles wide. The 244m high, N side of the island is indented by a series of bays, with clifly sugarloaf hills forming the points. An islet, 30m high, lies about 0.5 mile ENE of the E extremity of the island. A sharp dark rock, 6.1m high, lies a short distance E of the islet. A small rock, awash, lies 45m E of the 6.1m rock.

A small, high rocky islet lies close N of the SW extremity of Ukasiksalilik Island and is joined by a shoal bar. The island lies close outside the W entrance to Davis Inlet.

11.35 Davis Inlet (55°50'N., 60°50'W.) is formed between the S shore of Ukasiksalik Island and the mainland to the S. The inlet, which has been cursorily examined as far as a position on the N shore, about 4 miles within the E entrance, is about 6 miles in length, with charted depths of about 7.3 to 18.3m. A rock, with a depth of less than 1.8m, lies inside the E entrance, about mid-channel.

The W entrance is narrow and tortuous, with swift tidal currents; it is occasionally used by fishing vessels with local knowledge when taking the inside run to avoid the ice. The high rocky islet, mentioned above, lies close outside the W entrance.

Flat Island (55°52'N., 60°44'W.), 9.1m high and flat, lies about 0.5 mile SE of the SE extremity of Ukasiksalik Island. The channel between it and Ukasiksalik Island is shoal.

Entry Island, in the middle of the E entrance to Davis Inlet, is 36.6m high and steep-to. The channel between it and Flat Island is about 0.7 mile wide and clear of dangers in mid-channel, with depths of 9.1 to 34.7m.

The shores of Davis Inlet are wooded and backed by steep hills. Twelve O'Clock Mark is a conspicuous dark vein in the rock located on the S side of the inlet, about 4 miles within the E entrance. Post Hill, 261m high, rises about 1.4 miles NNW of Twelve O'Clock Mark.

Pigeon Island, 9.1m high, lies about 0.3 mile offshore, on a shoal extending off the SE entrance point of Davis Inlet. The channel between Pigeon Island and Entry Island is about 0.7 mile wide and free of dangers, with charted depths of 35 to 44m. About 1 mile within the E entrance of Davis Inlet, at the junction of the two entrance channels, mid-channel charted depths are irregular, with depths ranging from 7.3 to 23.8m.

A drying flat extends from the S shore of Davis Inlet for an average distance of 0.2 mile, widening at its E entrance to a width of about 0.4 mile, where it connects Pigeon Island with the mainland.

A drying flat extends about 0.2 mile S from the N shore of the inlet. A bar, 0.3m high, lies close S of the extremity of this flat; a shoal area extends about 90m S from the bar.

A shoal area was reported to extend about 0.4 mile off the S shore from a position about 0.5 mile E of Twelve O'Clock Mark.

Red Island, 6.1m high, is connected with the S shore of the inlet by a reef which dries about 2.1m, about 2 miles within the E entrance. Red Island Rock, with a depth of 1.8m, lies in the fairway of the inlet, about 0.4 mile NE of Red Island. The channel between the rock and N shore is about 0.2 mile wide, and has a least charted depth of 7.3m.

Tides—Currents.—There is reported to be a strong tidal current, with velocities of 2 to 3 knots, in the anchorage. The flood current in Davis Inlet is W, and the ebb E, with velocities from 2 to 3 knots at spring tides. Strong tide rips prevail at the E entrance.

Anchorage.—Anchorage can be taken off the site of a former settlement, in 7.3m.

The Rattle runs N from Davis Inlet towards the new settlement of Davis Inlet. It is narrow, tortuous, and shallow with strong tidal currents, but is used occasionally by small craft with local knowledge.

The community of Davis Inlet is in the SW part of an unnamed bay just W of Ukasiksalik Island, about 1 mile NNW of

The Rattle. There is a public wharf marked by a light at the community.

The West End of Davis Inlet to Humbys Island

11.36 The coast from the W end of Davis Inlet to **Zoar** (56°12'N., 61°21'W.) is irregular and only partially surveyed. Sanga Bay and Merrifield Bay are indentations, from S to N, along this stretch of coast, but neither of these inlets have been surveyed. The islands lying offshore are so numerous and difficult to identify from the chart that only those lying near navigable tracks are described.

The **Freestone Islands** (55°59'N., 60°40'W.), three in number, are each about 1.5 miles long, and the entire group is surrounded by foul ground. A rock lies close off the SW extremity of the SW island; a sunken rock lies about 0.8 mile NE of the same point.

Nunaksuk Island lies about 7.5 miles ENE of the Freestone Islands, about 15 miles off the mainland shore. It is 30.5m high and steep-to on its SE and NE sides. It has three lumps on its summit. The water is foul, with many sunken rocks, for a distance of about 4 miles SW of Nunaksuk. The S extremity of this foul area consists of a small group of rocks, about 3m high.

A sunken rock lies in the channel between the Freestone Islands and Nunaksuk.

11.37 Kasungatak Island (55°59'N., 60°54'W.), about 122m high, is about 4.5 miles long. A group of smooth-sloped, greenish islands, the S extremity of which is bordered by a shoal area extending a short distance offshore, lies about 2 miles W of Kasungatak Island.

Tunungayualok Island (56°05'N., 61°04'W.), 280m high, has steep tree-covered sides. Pigeon Islet lies close W of the SW side of Tunungayualok Island. The islet has a knoll of dark rock rising sharply from nearly level ground covered with pale green moss, and appears as a distinct band of light colors above the green timber at the water's edge.

A shoal extends 0.3 mile off Tunungayualok Island, between 0.2 mile and 0.4 mile E of Pigeon Islet. Another shoal, the position of which is doubtful, lies about 1 mile ESE of Pigeon Islet. The passage between Tunungayualok Island and the mainland is called Tom Gears Run.

Pakertuk Island, 42.7m high, is the W islet of a group of small islets which lies about 4 miles E of the N extremity of Tunungayualok Island. An above-water rock lies about 1.8 miles WNW of Pakertuk Island.

Spracklins Island (55°08'N., 60°46'W.) has two sharp peaks at its S end and a high mound at its N end. There is a small harbor on its E side, sheltered by several islets.

Numerous islands lie between the Freestone Islands, some of which are unnamed and others of which are only partially surveyed. Sioralik Island, 61m high, lies about 1.5 miles W of the Freestone Islands; a rock lies about 1 mile N of Sioralik Island.

11.38 Koriaravik Island (56°04'N., 60°40'W.), 62m high, lies about 3.5 miles N of the Freestone Islands. An islet, with a sunken rock close off its E side, lies about 0.8 mile NE of Koriaravik Island. A number of islets and rocks lie close to this island.

Cairn Island (56°09'N., 60°52'W.), 3 miles W of Sprack-

lins Island, is separated from it by a passage called Drawbucket Tickle, in which there is a least reported depth of 7.6m. A light is shown on the E extremity of the island.

Ukallik Island, with a double summit, 77m high, about 5.5 miles NE of Spracklins Island.

The **Kidlit Islands** (56°15'N., 60°28'W.), two in number, are 30m high. The E and lower of the islands is divided into two parts and may be approached to a distance of 0.5 mile. Two rocks, 9.1m and 15.2m high, lie about 1.7 miles and 3.2 miles N, respectively, of the westernmost Kidlit Islands.

Iglosiatik Island (56°14'N., 61°05'W.) is a narrow island about 6.5 miles long. A small harbor lies on the E side of the island. It is reported that the harbor provides protection from N and NE winds, and anchorage can be taken, in 5.5 to 9.1m.

An uncharted rock lies just off the island to the E of the above anchorage. A reported shoal, with a depth of 1.8m, lies in an approximate position 3.5 miles E of Iglosiatik Island.

Aklatalik Island, about 1.5 miles S from the SW part of Iglosiatik Island, is 152m high with numerous conical mounds.

Akpiktok Island (Achpitok Island) lies 2.5 miles W of Aklatalik Island. The W extremity of the island is low and grassy. An islet, 9.1m high, lies about 2 miles N of the NW extremity of Akpiktok Island.

11.39 Nuasurnak Island (Nuasornak Island) (56°17'N., 61°16'W.) is conspicuous, conical and 165m high.

Tukuinak Island (56°08'N., 61°15'W.) lies about 1 mile N of the W extremity of Tunungayualok Island. A steep cliff rises to a 240m high hill at the island's E end. A sloping green hill lies on the NW part of the island and is separated from the other hill by a deep gully.

South Tunvungayukuluk Island (56°09'N., 61°06'W.) lies about 1 mile NE of Tukuinak Island; it is wedge-shaped and higher near its SE end, off which lies a shoal.

The passage between Tukuinak Island and South Tunvungayukuluk Island is called Perrets Tickle; its shores on both sides are high and bold. A rocky islet lies on the NE side of Perrets Tickle, near the middle of this passage.

11.40 Iuikoyak Island (55°54'N., 61°07'W.) lies about 1 mile W of Ukasik Salik Island. The settlement of Davis Inlet stands at the head of a bay on its NE side. Communications with other Labrador and Newfoundland ports is provided by commercial vessels.

Bear Island (56°03'N., 60°55'W.) lies about 0.5 mile W of Tunungayualok Island, across the entrance of Tasyuik Bay. It is wooded and is 122m high.

Voisey Bay (56°14'N., 61°24'W.) is a 16-mile long inlet with wooded shores. The bay has not been surveyed.

Kiuvik Island is located about 1 mile E of the N entrance point of Voisey Bay. It is partly wooded, with a height of about 244m. Another unnamed island lies off the S entrance point, with a steep E side rising to 330m. Two other lower islands lie between the above 2 islands.

Kangeklualuk Bay, 5 miles long, is a narrow unsounded bay located 5 miles N of Voisey Bay.

11.41 Sungilik Island (56°15'N., 61°19'W.), 122m high, is a small island lying close E of Kiuvik Island. A number of small islets lie S and SE of it.

Satok Island, about 61m high, lies 1.5 miles N of Nuasurnak Island, with 2 small islets close S.

The S approach to Ford Harbor, Kauk Harbor, and Nain leads through the inner coastal islands and dangers, heading E of Paul Island when making for Ford Harbor and S of the same island and N of Kikkertavak Island when making for Kauk Harbor and Nain.

Ford Harbor, a bay in the E end of Paul Island, and Kauk Harbor, in the mainland projection on which Nain is located and abreast the W end of Paul Island, are good anchorages in the S approach.

The E approach to Ford Harbor, Kauk Harbor, and Nain leads E of the maze of off-lying islands and dangers located E of Paul Island, and then N of the same islands and dangers. Ford Harbor is approached from the NW end of Skull Island to the SW. Strathcona Run is entered W of the Red Islands and leads along the N side of Paul Island to a position off the NW end of the same island, where Nain and Kauk Harbor can be approached to the SW and S, respectively.

It has been reported that considerable difficulty may be experienced in identifying the various islands in the Nain approaches, because of their great number and generally undistinguished appearance.

Humby's Island to Nain

11.42 Humby's Island (Kikkitsuak Island) (56°20'N., 60°59'W.) is flat and terminates in a cliff, 129m high, near its NW extremity. A group of rocks and shoals extends about 1 mile W and 2.5 miles NW from the NW extremity of the island. The NW of these dangers lies about 2.2 miles NW of the NW extremity of Humby's Island and consists of a rock 2.1m high and a rock 3.6m high about 485m NE of the latter. A rock, which dries 1.2m, lies about 0.5 mile NW of the NW extremity of the island; two islets, 1.8m and 3m high, lie 0.1 mile and 0.3 mile NW, respectively, of the rock which dries 1.2m.

Nukasusutok Island, hilly with a maximum height of 299m, lies about 7 miles W of Humby's Island; the island is irregular in shape. Two bays indent the N shore of the island.

Anchorage.—Anchorage can be taken near the head of the E bay, in 22 to 26m, mud.

A group of islands and islets lies close off the E side of Nukasusutok Island. An islet, 15m high with an islet 12m high close NE, lies about 2.5 miles SE of the NE extremity of the island; these islets are the easternmost of the group. A rock, which dries 1.8m, lies close S of the 15m islet, and a rock, 3.3m high, lies about 0.4 mile NE of the same feature.

Nochalik Island (56°20'N., 61°23'W.), 128m high, is small with a deep ravine traversing its NW end. Two islets lie from 0.5 to 1 mile N of the E extremity of Nochalik Island; the N islet is 40m high, with a 3.9m high rock close NE, and the S islet is 53m high. Another islet, 43m high, lies about 595m SE of the S islet; between the latter two islets lies a rock which dries 0.3m. A 3.9m shoal patch lies about 0.2 mile off the N extremity of Nochalik Island.

Little Gull Island, a small, low islet named, lies close W of the S end of Nochalik Island. A pinnacle rock, with a depth of less than 3.6m, lies within 135m SW of Little Gull Island. A vessel struck this rock in 1931 and reported that it was apparently a small ledge of dark rock, as it was not visible from the

deck after the vessel had struck it.

An islet, 58m high, lies about 1 mile N of the NW extremity of Nochalik Island. A shoal, on the outer end of which is a depth of 3.6m, extends about 0.3 mile E from the E extremity of the 58m islet; a rock lies on this shoal. Two rocks and a shoal patch, with a depth of 3.6m, lie within 0.3 mile SSW of the S extremity of the islet. A 4.2m shoal patch, with two rocks drying 0.3m close S, lies about 0.3 mile SSE of the SE side of the 58m islet.



Kikkertavak Island

11.43 Kikkertavak Island (56°23'N., 61°35'W.) has numerous hills 137 to 259m high at its E end and a height of 386m at its W end. This island is the largest island on the S side of the S approach to Kauk Harbor and Nain. Itikaut Bay, an inlet in its E side, provides excellent anchorage, in 12.8m.

The channel between Kikkertavak Island and Nochalik Island is encumbered with rocks, shoal patches, and islets, previously described with Nochalik Island in paragraph 11.42. An islet, 34m high, steep to on its N and W side, lies about 0.2 mile off the E side of Kikkertavak Island, about 1 mile NW of the NW end of Nochalik Island. The islet may be passed on either side. A rock, awash, lies in mid-channel between the NW extremity of Nochalik Island and the E side of Kikkertavak Island. A dark islet, 12.2m high, lies close off the E side of Kikkertavak Island, near its S end. The NE extremity of Kikkertavak Island, behind which rises Taktok Bluff, 259m high, is boulder-strewn and should be given a berth of about 0.1 mile.

11.44 Taktok Island (56°25'N., 61°29'W.), about 0.5 mile N of the NE extremity of Kikkertavak Island, is small, 88m high, and foul off its E side. The channel south of the island has a least depth of 13.4m. On the S side of this channel, the N shore of Kikkertavak Island is boulder-strewn and should be given a berth of at least 0.1 mile.

Niatak Island, over 244m high, lies about 1 mile E of Taktok Island. The island is cliffy and indented on its N side. The channel S of Niatak Island, lying between Niatak Island and Nukasusutok Island to the SE, and Niatak Island and Kikkertavak Island to the SW, has a least charted depth of 25.6m; the S side of Niatak Island, for the most part, is deep and steep to. The passage between Niatak Island and Taktok Island is foul

for a considerable distance off either shore, with a least depth of 5.3m in mid-channel.

Uigortlek Island, small and 114m high, lies close E of Niatak Island. A rock, 0.6m high, and a rock, which dries 0.9m, lie off the SW side of the island. The passage between the island and Niatak Island has a charted width of 0.1 mile, and a least charted depth in mid-channel of 2.9m. The passage S of Uigortlek Island lies between Uigortlek Island and the dangers lying off the N side of Nukasusutok Island; the passage has a least charted width of about 0.5 mile between the 40m curves on either side.

Kugyautak Island, 80m high, lies off the SE side of Paul Island, about 1.2 miles NNE of the NE extremity of Nukasu-sutok Island.

11.45 Sandy Island (56°25'N., 61°03'W.) lies on the SW side of the approach to Ford Harbor. A shoal area, with depths of 0.9 to 6.4m, extends 0.7 mile NE and 0.3 mile NW, W, and SW from the W extremity of the island.

The following dangers are located as indicated from the W extremity of Sandy Island:

1. A reef, with a least depth of 4.2m, about 1.3 miles SE.
2. A reef, with a least depth of 3.6m, about 1.2 miles SW.
3. A rock, with a depth of 2.7m, about 2.5 miles S, close E of a rock 4.9m high.
4. A reef, which dries 0.9 to 2.4m, about 1 mile WNW.

Amushavik Islet, about 4.5m high, lies off the SE end of Paul Island, about 1.8 miles WNW of the W extremity of Sandy Island. A shoal extends about 0.2 mile NNE from the islet, with a depth of 9.7m at its outer end. Uncharted depths as little as 8m lie near mid-channel between Amushavik Islet and the drying rocks 0.8 mile SE.

11.46 False Start Island (56°27'N., 61°06'W.), 27m high, lies about 0.5 mile off the SE end of Paul Island. The S entrance point of Ford Harbor lies about 1.7 miles W of the island. The island is foul for a distance from 0.1 to 0.2 mile off its E, S, and W shores.

Paul Island (56°30'N., 61°25'W.) is indented on its E and W ends by long inlets, the heads of which are separated by only a narrow isthmus. The E of these inlets is Higher Bight, and the W is Ten Mile Bay. Higher Bight is unsurveyed, but it is reported to afford good anchorage to vessels with local knowledge, in 18.3m, mud, in the E indentation of its S shore. Ford Harbor, described in paragraph 11.47, indents the SE extremity of the island.

Paul Island is covered with spruce trees and small plants, except on the hilltops. **Mount Pownal** (56°28'N., 61°26'W.), 398m high, which rises in about the middle of the S part of the island, is a convenient mark on which to take bearings from seaward.

11.47 Ford Harbor (56°28'N., 61°11'W.) is a sheltered bay in the E end of Paul Island. The bay, entered about 2 miles NW of the N end of False Start Island, is about 1.2 miles wide at its entrance and extends 2.5 miles WSW. The main part of the bay has depths of 15.5 to 53m, except near the shore where the bottom shelves steeply. Least depths of 7.3m and 13m lie 1.6 miles ENE and 1.1 miles NW of Ford Harbor Light.

Tides—Currents.—The HW interval at Ford Harbor is 6 hours 36 minutes. Springs rise to 1.7m; neaps rise 1.4m.

Aspect.—A light is shown on the N entrance point.

Hills along the N side of Ford Harbor rise to a height of 119m and slope at their W end to a raised beach, at the head of which is a small cove encumbered with boulders. A rocky point extends from the W side of the harbor and forms the S entrance point of this cove. The hills on the W side of the harbor rise to a height of more than 183m, and slope on their SE sides to a low-lying strip of land, about 0.2 mile wide, at the head of the harbor. Low rounded hills rise on the S side of the harbor to a height of 94m from a terrace at their W end.

The shores of the bay, except at the N entrance point and the rocky point at its head, are strewn with boulders and provide poor landing.

The harbor provides good shelter from all but E winds, which may send in a short sea; however, the off-lying islands afford protection from heavy seas.

11.48 Palungitak Island, about 1.7 miles W of Taktok Island, has a ridge with two peaks, 319m and 305m high, respectively, in its NE part.

Sentinel Hill (56°25'N., 61°33'W.), over 122m high, rises near its SE extremity; a conspicuous boulder stands on the S shore of the island, about 1.2 miles W of Sentinel Hill. The island is separated from the W end of Paul Island to the N, by a channel called Bridges Passage. The channel S of the island has not been sounded.

Bridges Passage is entered between Sentinel Hill, on Palungitak Island, and a point on Paul Island, about 1.5 miles NE. Drying boulder flats extend from the SW side of Paul Island for 760m and from the NE side of Palungitak Island for about 340m, thus narrowing the channel about 1.7 miles within its E entrance, to a width of about 275m, between the 5m curves; the narrowed portion of this passage has a least charted depth of 5.5m. Rain Islet, 33m high at its W end, lies near the S edge of the above-mentioned drying boulder flats off Paul Island. Anchor Knoll, 28m high, rises on Paul Island and on the N shore of Bridges Passage, about 0.5 mile N of Rain Islet. A conspicuous boulder, 3.6m high, stands about 0.3 mile ESE of Anchor Knoll. Dick Hill, 162m high, rises on Paul Island and on the NW shore of Bridges Passage, about 1.5 miles WNW of Rain Islet.

The tidal current through Bridges Passage attains its greatest velocity of 1.5 knots, bearing 146° at springs, between 3 and 4 hours after HW at Nain. A velocity of 1.4 knots, bearing 315°, runs at springs, between 2 and 4 hours before HW at Nain.

Turn Island, 55m high, lies on the SW side of the approach, about 0.8 mile WNW of the NW extremity of Palungitak Island. A group of rocky islets lies S and SW of Turn Island.

11.49 Stony Point (56°28'N., 61°38'W.) is the SW extremity of Paul Island. A conspicuous boulder, 1.2m high, lies close off the point.

Jenks Rock, which dries and is marked by a lighted buoy, lies about 0.9 mile WNW of Stony Point. A shoal patch, with a depth of 3.3m, lies about 0.5 mile NW of Jenks Rock. A depth of 9.5m lies in mid-channel, about 0.4 mile NNW of Jenks Rock.

A group of rocks, the highest being 2.4m high with a sunken

rock close SW, lies on the W side of the approach, about 1.2 miles WNW of Stony Point. A shoal, with a depth of 7m, lies about 1 mile NW of the same point.

Glassis Point, located on Paul Island, about 1 mile NNW of Stony Point, has a shoal spit, with a least depth of 3.7m, extending about 0.3 mile SW.

A small bay is formed between Stony Point and Glassis Point. A rock, which dries 0.1m, lies near the middle of the approach channel, about 0.6 mile WNW of Glassis Point. Ten Mile Bay and Two Mile Bay indent the W shore of Paul Island in this approach, N of Glassis Point, but neither bay has been examined.

Kauk Bluff Island, cliffy with the conspicuous Kauk Bluff, 178m high, on its E side, lies close off the mainland shore on the W side of the approach channel, nearly 2 miles NW of Stony Point. South Channel Cairn, a conspicuous hill 266m high, is located on the mainland, about 2.2 miles N of Kauk Bluff.

The approach channel, leading N between Kauk Bluff Island and Paul Island, is entered off the W entrance to Bridges Passage, between Stony Point and an islet 58m high, about 1.8 miles WNW.

11.50 Kauk Harbor (56°30'N., 61°41'W.), in the mainland on the W side of the approach channel leading to Nain, is sheltered from the S by Kauk Bluff Island. The harbor, with depths of 11 to 24m in mid-channel, is a narrow inlet which recedes W for about 1.5 miles and then S for about 0.5 mile. The S side of the harbor is formed by Kauk Bluff Island and a peninsula close W, which is joined to the mainland by a narrow neck of land. The harbor has an outer and an inner basin, separated by a narrow channel between two rocky points.

Kauk Harbor is considered the best harbor in the vicinity for vessels wintering on this coast. The tidal currents are not felt and the shape of the harbor affords protection from the ice pressure or the possibility of a vessel being carried along with the ice masses. A trail over the hills makes the harbor easily accessible from Nain, about 2.5 miles N.

A rock, which dries 0.3m, lies about 0.1 mile off the S shore of the harbor, about 0.7 mile within the entrance.

Anchorage.—Anchorage can be taken in the middle of the outer basin, in 26m, mud. Anchorage can also be taken in the middle of the inner basin, in 14.6m, mud; however, a vessel must moor at this anchorage.

Flat Rocks (56°22'N., 60°30'W.), two in number, the W and higher of which is 9.1m high, are the SE dangers in the E approach to Ford Harbor and Nain. The NE side of these rocks is steep-to.

The Negro Islands, three in number and each about 30m high with narrow channels between them, lie about 1.5 miles WSW of Flat Rocks. The middle and highest island, 33m high, is round and black, contrasting strongly with the other two islands, which are light-colored.

A drying rock lies close N of the middle island.

11.51 The Fulmar Islands (56°24'N., 60°35'W.), about 3 miles NW of Flat Rocks, are a group of six above-water rocks which form a chain, E-W. The highest, largest, and E island of the group is 20m high, with a dark rounded top. Several rocks, one of which dries, lie within 1.3 miles N and NW of the

group, an isolated above-water rock lies 0.4 mile NE of the 20m rock, and another rock, that dries, lies about 0.7 miles N of this same rock.

The Pyramid Islands are a group of three islands lying between 5 and 6 miles NNW of Flat Rocks. The two W and highest are 49m and 30m high, respectively, from N to S; a narrow channel at the E end of which lies a rock, 1.5m high, separates these two islands. They appear as one pyramid from the NE, and as two pyramids from the SE. The E island is 12m high. A small rock, 61m high, lies about 395m N of the NW and higher island. A rock, which dries, lies about 0.1 mile NNW of the N end of the 12m island. Two rocks, 8.2m and 13.7m high, are located 0.5 mile SE of the Pyramid Islands, and a rock, with a depth of less than 1.8m, lies 0.45 mile E of these same islands.

A number of islands, rocks, and breakers lie W of the Negro Islands, the Fulmar Islands, and the Pyramid Islands as far as the inshore coastal islands, but this area has not been examined. The most conspicuous of these islands are The Castle and The Barbican. The Castle, with a dark cliffy flat-topped hill rising steeply to a height of 77m in the middle of the island from the lower ground surrounding it, lies about 3 miles W of the Negro Islands. The Barbican, small, cliffy, dark, and 156m high, is about 0.5 mile N of The Castle. Lambda Islet lies about 1.5 miles ENE of The Castle. A drying rock lies about 1 mile S of the islet; two small islands lie within 0.5 mile SSE of the islet. The Kappa Islets, the E of which is larger and 19.2m high, lies about 0.7 mile NNW of The Barbican; breakers are located about 1 mile N of the N extremity of the easternmost of the Kappa Islets. Iota Islet, 11m high, lies about 2.3 miles NNE of Kappa Islets. Breakers, the position of which is approximate, are reported in a position about 1 mile N of Iota Islet.

11.52 The Lost Islands (56°27'N., 60°41'W.) are six in number. The S and larger, 58m high, is steep to on its N side, and slopes toward its S side, close off which lies an above-water rock.

Hen And Chickens, on the S side of the E approach to Ford Harbor, Kauk Harbor, and Nain, are a chain of seven above-water rocks ranging from 7.9 to 22m high, and extending in a line about 1.8 miles WNW from a position about 3.7 miles N of the Pyramid Islands; the middle rock is the highest. A light is shown from the middle rock. Several breakers lie between these rocks and the Pyramid Islands. A reef, nearly 0.5 mile in extent, E-W, lies about 1.2 miles S of the highest of the Hen and Chickens. A shoal, with a least depth of 3.2m, lies nearly 1.5 miles SSE of the same rock. Four rocky patches, with depths of 8.2 to 11.3m, lie within 1 mile NW of the W rock of Hen and Chickens. An 11m rocky patch lies in the fairway of the E approach, about 2.7 miles NNW of the same feature. In 1979, a depth of 7.3m was reported to exist about 2 miles NE of this W rock.

The depths in the area immediately E of Hen and Chickens are very irregular, rising suddenly in rocky ridges from depths of over 200m; however, several depths of 12.8 to 14.1m lie within 2 miles E, ESE, and SSE of the E rock of Hen and Chickens.

Fairway Rock, with a depth of less than 1.8m, lies near the middle of the E approach channel, about 4.2 miles WNW of the W rock of Hen and Chickens. A 7.8m rocky patch lies about 0.4 mile NE of Fairway Rock.

A S and SW current set has been observed in the vicinity of Fairway Rock, varying in strength and direction with the state of the tide. Its greatest velocity runs at about 0.3 knots during springs.

Sentinel Rock (56°48'N., 60°49'W.) is an isolated dark gray rock, steep on its NE side and sloping towards its SW side. This rock is the northeasternmost known danger in the E approach.

Notch Rock (56°49'N., 60°55'W.) has a conspicuous gap in its SE part, which shows on SW bearings.

The **Savage Islands** (56°45'N., 60°53'W.) are four in number, with the largest and S island having a broad summit, 127m high, near its S end.

The **Dawes Islands** (56°36'N., 60°52'W.), the largest and N island, which is 46m high, lies N of the E approach. The channels between the Dawes Islands are foul; a drying rock lies about 0.3 mile W of the largest of the Dawes Islands.

Hampson Rocks, two in number, the highest and W rock, which is 3.6m high, lie N of the E approach, about 1.7 miles SW of the largest of the Dawes Islands.

11.53 Wood Island (56°32'N., 60°57'W.), small, dark, and rounded, lies on the N side of the E approach channel. The island shows up well from seaward. Several above-water rocks and one sunken rock lie within 0.6 mile N of Wood Island. A rocky shoal, with a least depth of 6.1m, lies about 0.2 mile ESE of the island. A rock, awash, lies on the N side of the fairway, about 1.2 miles ESE of Wood Island.

Stevenson Rocks, two in number, the W and higher being about 9.1m high, lies on the S side of the E approach channel, about 2.7 miles SSE of Wood Island. A rock, awash, lies about 1 mile NE of Stevenson Rocks; some rocks, with depths of less than 1.8m, lie about 0.2 mile WNW and 2.2 miles E of the W rock of Stevenson Rocks.

The Clusters (56°26'N., 61°00'W.), a group of more than 50 small islands, lie S and SW of Stevenson Rocks. Satoaluk Island, the largest of the group, which lies about 2.2 miles SSE of Stevenson Rocks, is flat with a cleft which is visible from the E. Crossbones Island, the highest of the group lying about 3.7 miles WNW of Satoaluk Island, is 68m high with a conspicuous dark summit. Alpha Islet and Beta Islet, 8.2m and 20m high from the N to S, respectively, lie about 1.7 miles E of Satoaluk Island. Two breakers, the positions of which are approximate, lie about 0.3 mile NNW and 2.7 miles NE of Alpha Islet. Other islets and dangers, the positions of which can best be seen on the chart, lie in the area S and SW of Satoaluk Island.

The Clusters Light is situated on the N island in the group from a square tower.

11.54 Monk Island (56°33'N., 60°59'W.), 8.2m high, lies on the N side of the E approach, about 1.5 miles NW of Wood Island. Jenks Island, with an islet 17m high close SSW, lies about 1.5 miles WSW of Monk Island. A sunken rock lies between Monk Island and Jenks Island.

Baker Island, 37m high with several rocks and islets close SW and S, lies near the N side of the E approach channel, about 4 miles W of Wood Island. Tiddler Rock, small and 5.8m high, lies about 0.5 mile SE of Baker Island; a rock, which dries 1.8m, lies about 230m NE of Tiddler Rock.

Whale Island (56°31'N., 61°08'W.) rises to a well-defined summit, with three low hills extending NNW from the summit. The island can be identified from seaward by gullies which score its hillsides. The NE shore is rocky and indented; the SW shore is low and sandy.

The tidal currents about 0.5 mile W of Whale Island reach their greatest velocity of 0.6 knots, bearing 193°, at springs, about 1 hour after HW at Nain.

The Karl Oom Islands, four in number and the largest and highest of which is over 61m high, lie from 0.7 mile to 1.5 miles N of Whale Island. The channel between Whale Island to the S and the Karl Oom Islands and Baker Island to the N is clear of dangers, with a least width of about 0.4 mile between the 37m curves on either side.

11.55 Siorakuluk Island (56°33'N., 61°14'W.), a hog-backed island, 67m high, lies S of Dog Island, about 1.7 miles W of the Karl Oom Islands. The W end of the island is low and sandy, from which foul ground extends about 0.5 mile W. Shoal water, as defined by the 5m curve, fringes the S side of the island out to a distance of 0.2 mile. **Bald Island** (56°34'N., 61°15'W.), about 0.5 mile N of the NW side of Siorakuluk Island, has a light-colored rocky summit. The W and S sides of this island are foul out to a distance of 0.2 mile. A least charted depth of 12.2m lies in the narrow fairway of the channel between Siorakuluk Island and Bald Island, but the 5m curves extend about 0.3 mile off both shores. Charted depths of 18.3 to 40m lie in the channel between Bald Island and Dog Island; however, this channel and the channels to the N should be used with great caution, as the channels have not been examined, except in mid-channel.

Challenger Rock, with a least depth of 0.9m, lies midway between Siorakuluk Island and the Karl Oom Islands.

Noazunakuluk Island (56°34'N., 61°20'W.), about 2.2 miles WSW of Bald Island, is a small island with two summits, the W of which is 63m high and well-defined. Noazunakuluk Island, 147m high and located about 0.6 mile N of Noazunakuluk Island, is a dark-colored island with steep sides and a nearly level top.

11.56 Skull Island (56°30'N., 61°05'W.), on the S side of the E approach channel, about 1.2 miles SSE of Whale Island, is rocky, mostly covered with moss, and rises to a dark rounded hill, 118m high at its NW end, which slopes steeply to the sea. A cove in the N side of the island nearly divides it into two distinct islands. A rock, with a depth of less than 1.8m, lies on a reef extending about 0.3 mile N from the N side of the E part of the island; a small rocky islet, 5.2m high, lies about 0.2 mile N from the N side of the W part of the island. A chain of islets and above-water rocks, the higher of which is 40m high, extends about 1.2 miles SSW from the SE extremity of Skull Island.

Turtle Islet and Tortoise Islet lie within 0.8 mile off the W side of Skull Island, and about 0.5 mile apart N and S. Turtle Islet, the N of the two, is 20m high; Tortoise Islet is 17.3m high. A rock, which dries 1.5m, lies about 0.2 mile ENE of Turtle Islet; a shoal patch, with a depth of 6.4m, lies close E of the rock. A sunken rock lies close SE of Turtle Islet. A 3.9m shoal patch lies about 410m NE of Tortoise Islet.

Shark Islet (56°29'N., 61°10'W.), 24m high, lies about 1.8

miles W of Skull Island. The 5m curve lies about 320m off the S shore of the islet. A rock, which dries 1.2m, lies close off the SE side of Shark Islet. Dugong Islet and Grampus Islet, 19m and 33m high, respectively, lie close together between 0.5 and 0.8 mile SSE of the SW extremity of Whale Island. A 5.2m shoal, on which lies a rock with a depth of less than 1.8m, extends about 0.2 mile SW from the SW extremity of Dugong Islet; a 4.2m patch lies about 0.4 mile WSW of the same extremity. Shoal depths extend up to 0.1 mile off the E and W ends of Grampus Islet.

Dolphin Island, 61m high, lies about 1 mile W of Shark Islet. The 5m curve extends about 0.1 mile off its E end and about 0.2 mile off its W end.

Dog Island (56°38'N., 61°10'W.) is one of the largest islands in the vicinity. **Naksaluk Hill** (56°36'N., 61°13'W.), a dark rounded hill, 299m high, rises near the S end of Dog Island. Alagaiai Hill, cone-shaped and 245m high, rises near its N end.

Starvation Island, 67m high, lies about 2.5 miles SE of Dog Island. Two rocks, 2.4 and 1.8m high, lie close W of Starvation Island and a sunken rock lies close S of these rocks. A 7.3m patch, which has not been examined, lies about 0.3 mile NNE of the N extremity of Starvation Island.

11.57 The Red Islands (56°31'N., 61°16'W.), two in number, lie off the N side of Paul Island. West Red Island, the higher and W of the two islands, has a rounded summit, 176m high. Red Cliff, on the E slope of the N extremity of the island, is conspicuous from seaward. An islet, 42m high, lies close off the NW side of West Red Island. East Red Island, with a maximum height of 162m, is separated from West Red Island by Soapstone Tickle.

Soapstone Tickle has a least charted depth of 6.7m, but a rock, 2.1m high, lies in mid-channel. The passage should be navigated only when possessing local knowledge, passing to the E of the 2.1m rock. Clarkes Tickle, a narrow channel separating West Red Island from a point on the N shore of Paul Island, has a rock with a depth of less than 0.9m in mid-channel. Another rock, which dries 0.6m, lies 0.1 mile N of the latter rock. A depth of 12.8m is charted in the passage S of the rock with a depth of less than 0.9m, however, caution is required, as a strong tidal current, reported to be in excess of 4 knots, runs through the passage.

A rocky patch, with a depth of 9.4m, lies about 0.4 mile NE of the E extremity of West Red Island. Otherwise, the approach channel between the Red Islands and Siorakuluk Island is clear of dangers.

The N shore of Paul Island, W of the Red Islands, trends about 4.5 miles to the entrance of Strathcona Run, where the hills fall steeply to the sea. Several small bights, the heads of which are foul, are located along this section of shoreline.

An 11m rocky shoal lies near the middle of the approach to Strathcona Run, about 2.2 miles W of the N extremity of the westernmost Red Islands.

11.58 Shot Islet (56°32'N., 61°26'W.), 10m high, lies about 0.5 mile N of the middle of the N side of Paul Island, about 4.8 miles W of the N extremity of West Red Island. A shoal area, on which lies a rock 1.5m high, extends about 0.1 mile NW from Shot Islet. The hills on Paul Island to the S fall steeply to the sea. Cap Islet, 24m high, lies on the SW extremity of a

boulder flat extending off Hillsbury Island, about 0.8 mile NNW of Shot Islet. The boulder flat extends about 0.3 mile E from the islet, with shoal depths of 5.5m or less extending about 0.7 mile farther ESE. A shoal area, with depths of about 7.3m, extends about 0.5 mile W from Cap Islet. A rocky patch, with a least depth of 8.5m, lies near the fairway of the entrance to Strathcona Run, about 0.5 mile SSW of Cap Islet.

Hillsbury Island lies about 1.5 miles N of Paul Island. The E and W groups of hills on the island are divided in the middle by a deep valley, the W group of which is named Iviyangyak Peaks, having three distinct summits, the highest 290m high. Conspicuous cliffs, 244m high, front the middle of the N shore of Hillsbury Island. The E group of hills on the island, which rises in a long ridge, attains a height of 328m and falls steeply at the E end to a low point. A drying boulder-strewn flat extends about 1.5 miles E and 0.5 mile S from the SE extremity of Hillsbury Island.

Uigomigak Island, about 62m high, lies on the E end of the above-mentioned boulder-strewn drying flat, about 1 mile E of Hillsbury Island. An isolated shoal, with a least depth of 4m, lies 1 mile SSE of Uigomigak Island in the middle of the approaches to Strathcona Run.

Pillar Islet, 26m high, lies off the S shore of Strathcona Run, about 1.5 miles W of Cap Islet and about 0.4 mile off the N shore of Paul Island.

Strathcona Rocks, awash, lie at the SW end of Strathcona Run, about 0.3 mile N of the NW extremity of Paul Island, with which it is connected by a rocky spit.

11.59 Rhodes Island (56°35'N., 61°38'W.) lies close W of Hillsbury Island and is separated from it by Shoal Tickle, a narrow channel with a depth of 1.8m. The island is hilly, rising to 251m; at the W end of the island is a conspicuous crag, 220m high, the N and W slopes of which are steep. The S shore of Rhodes Island is clear of dangers, but a rock, with a depth of 0.9m, lies about 0.4 mile WNW of the W extremity of the is-

land.

Pikaluyak Islet (56°35'N., 61°46'W.), conspicuous and 58m high, with steep cliffy sides, lies close off the N side of the mainland projection on which Nain is located, about 5.8 miles WNW of the NW extremity of Paul Island.

Akpiksai Bay is a small bay in the mainland close NW of Unity Bay, described in paragraph 11.60. The hills on its N side rise to a height of 109m. The depths shoal gradually from 34.7m at its entrance towards its head.

Tides—Currents.—The tidal currents are weak and not appreciable between Skull Island and the entrance to Strathcona Run, except in Clarkes Tickle. Between Cap Islet and Paul Island, the currents attain a velocity of over 2 knots at springs, with strong eddies over the edge of the shoal area W of the narrows. The E current in the narrows begins about 30 minutes after HW at Nain, and the W current, about 6 hours before HW at the same place.

11.60 Unity Bay (56°32'N., 61°40'W.), in which lies the settlement of Nain, is a cove entered between Southern Point, a rocky point about 2 miles SW of the NW extremity of Paul Island, and Northern Point, about 1.2 miles NW of Southern Point. Northern Point is low and grassy, with boulders lying off the point. Depths of less than 5.5m extend about 0.1 mile offshore from both Northern Point and Southern Point.

Unity Bay has depths of 39 to 50m in its entrance, shoaling gradually to 20.1m and 21.9m at the anchorage near its head. The head of the bay is foul for a distance of about 0.1 mile offshore. The S shore is overlooked by cliffy bluffs rising to a height of 237m. The NW shore rises gradually to hills 227m high, at the foot of which is the village of Nain.

The white wooden church at the village is conspicuous. Two hills are located at the head of the bay; the E hill is 122m high and the W hill, about 0.7 mile WSW of the 122m summit, is 143m high.



Unity Bay

Winds—Weather.—The summer is usually quiet, without strong winds, but there may be a good deal of rain and fog. The autumn is stormy, with strong gales, rain, and snow.

Ice.—The harbor is open from about the end of June until sometime in November, when it freezes.

Tides—Currents.—The HW interval at Nain is 7 hours 23 minutes; HHW of large tides rises 2.9m above lowest normal tides, LLW rises 0.1m. The tidal currents in Unity Bay are weak.

Anchorage.—The best anchorage in the bay lies between 0.2 mile and 0.3 mile off the wharf, in depths of 12.8 to 21.9m, mud. The holding ground is good, but the anchorage is exposed to E and NE winds, which raise a considerable sea.

11.61 Nain (56°33'N., 61°41'W.) is situated on the W side of Unity Bay. The most conspicuous landmark is the white church with a tower and green roof. A school, a post office, an RCMP detachment, and a small hospital are situated in the settlement.

A U-shaped wharf is situated at the settlement. The longest berthing area is on the N side of the pier, and is 50m in length with a least depth of 6.1m alongside.

Nain to Cape Mugford

11.62 The coast N from Nain to Port Manvers remains screened by numerous islets, islands, and dangers extending as far as 26 to 31 miles offshore in places.

Nain Bay and Tikkoatokak Bay indent the mainland WNW of Nain. These bays are unsurveyed, but have been partially examined to a short distance within their respective entrances.

A vessel proceeding from Nain to Port Manvers has a choice of three routes, all of which are imperfectly surveyed.

The first or inner route, which has a least charted depth of 7.3m, passes N along the mainland coast and is about 36 miles long. The second route, about 38 miles long, passes through Strathcona Run to the Red Islands, and then by a track between the coastal islands and islets. The outer route, no details of which are available, passes E through Strathcona Run and the E approach to Nain and Ford Harbor to Hen and Chickens, and then N outside all the coastal islands, making a total run of 69 miles. This latter route has been only roughly surveyed N of Hen and Chickens, and many uncharted shoals are reported to exist. Extreme caution should be taken.

The coast N from Port Manvers to Cape Mugford is indented by a large bight at the head of which lies Okak Bay. The islands in the vicinity of Okak Bay are so numerous and so incompletely charted that only the outer islands lying near recommended tracks are described.

11.63 Barth Island (56°36'N., 61°47'W.) forms the N side of the entrance of Nain Bay and the S side of the entrance of Tikkoatokak Bay. The island is low at its W end, but rises to a hill with two summits, 201m high, at its E end.

A rocky islet, 3.6m high, lies about 0.3 mile SSE of the E extremity of Barth Island.

Nain Bay, a long unsurveyed inlet, is entered close NW of Akpiksai Bay and is reported to be about 18 miles long in an E-W direction and about 2 miles wide. Pikaluyak Islet lies close off the S shore of the entrance to Nain Bay and about 1.5 miles

within its entrance.

A chain of large lakes, connected by rapids, lies at the head of Nain Bay and extend inland between towering cliffs for 28 miles from the head of the bay.

Nain Bay has adequate depths for about 12 miles in mid-channel. In this position, about 2 miles E of a high cliff on the S shore of the bay, rocks and shoal water were seen extending WNW diagonally across the bay to its N shore. Bottom samples of Nain Bay showed mud, sand, and boulders.

Tikkoatokak Bay, entered N of **Barth Island** (56°36'N., 61°44'W.), indents the mainland in a W direction for a distance of about 28 miles; the bay is from 0.5 to 2 miles wide and its shores are mountainous. Tikkoatokak Bay contracts to a width of 0.5 mile and then opens out, and 1 mile beyond lies Ukpaume Island, nearly 2 miles long, in the middle.

Winds—Weather.—Heavy squalls and sudden storms can sweep through Tikkoatokak Bay, blowing directly in or out.

Anchorage.—Depths are too great for anchorage in the outer part of the bay, but above Ukpaume Island good anchor-age is available anywhere, and the head of the bay affords excellent anchorage over a sandy bottom.

11.64 The first or inner route trends generally N through First Rattle, Port Manvers Run, Second Rattle, and then to Manvers Bay, with South Aulatsivik Island and Base Island forming the E side of the route and approaches and the mainland shore, and a large peninsula extending there forming the W side of the route.

In the approach to First Rattle, a rock with a depth of 0.9m lies on the E side of the passage between Rhodes Island and Barth Island, about 0.4 mile WNW of the W extremity of Rhodes Island.

Petchs Patch, with a depth of 1.8m or less, lies in the middle of the fairway, about 0.8 mile NW of the NW extremity of Rhodes Island. An 8.8m patch lies close NE of Petchs Patch and an 11.6m patch lies about 0.3 mile SE of the same feature. Another patch, with a depth of 11.6m, lies midway between Petchs Patch and Rhodes Island. Foul ground fringes the NW side of Rhodes Island out to a distance of about 0.3 mile.

Harmony Run (56°36'N., 61°35'W.), an unsurveyed passage between Rhodes Island and Hillsbury Island, on the S, and Base Island, on the N, has a least width of about 0.7 mile at its W end between Rhodes Island and the shoal area extending off the SW side of Base Island. The Turnpikes, two rocky islets, the higher and N of which is 13.4m high, lie at the W end of Harmony Run, within 0.5 mile off the N side of Rhodes Island. The N islet is foul off its W side. Rattle Rock, 6.7m high, lies near the E end of this same run and about 0.4 mile off the N side of Hillsbury Island.

11.65 Sakotalik (56°38'N., 61°42'W.), 332m high, is the summit of a large peninsula which extends E from the mainland forming the SW side of the first or inner route leading to Port Manvers. Sandy Point is a low sandy cliff at the SE extremity of the peninsula. Sakotalik, the above-mentioned summit, is located a little more than 1.2 miles NW of Sandy Point. The S slopes of the hills on this peninsula are wooded with spruce. The E side of the peninsula is fringed by rocks and boulders, but its shores are clear of off-lying dangers. West Base Point, steep, the E extremity of the peninsula, lies 1.7

miles NNE of Sandy Point; from West Base Point, the shore of the peninsula trends NW and W forming the S side of First Rattle.

Base Island lies on the N side of Harmony Run and forms the SE side of first or inner route. The S side of the island has rounded hills. A range of low hills, about 61m high, rises along its N side, but the middle of the island is swampy and nearly flat. Base Point is the NW extremity of Base Island. A rock, 0.9m high, lies about 0.1 mile W of Base Point. A shoal patch, with a depth of 6.4m, lies on the N side of a bank which extends about 0.7 mile N of Base Point.

A rocky shoal, with a depth of 3.9m, lies near the middle of the passage between the aforementioned peninsula and Base Island, about 0.5 mile NNW of the W extremity of the island. The SW side of Base Island is fringed with a foul area to a distance of 0.2 mile offshore.

Kruger Kop Island, 55m high, lies close E of Base Island and is joined to it by a drying sand and boulder bank.

The tidal currents off the E approach to First Rattle, about 1 mile E of Topsy Point, attain their greatest velocity of 0.6 knot, at springs, bearing 004°-011°, between 1 and 2 hours before HW at Nain.

11.66 First Rattle (56°40'N., 61°42'W.), the S entrance to the first or inner route to Port Manvers, is a narrow channel between the previously-mentioned peninsula and a projection named the Itilialuk Peninsula extending from the SW side of South Aulatsivik Island. Tidal currents in First Rattle are reported to have velocities of 4 to 6 knots.

South Aulatsivik Island forms the E side of the first or inner route to Port Manvers and the W side of the second route. The S part of the island rises to a height of 350m near the middle of the E side. Amerak, a conspicuous crag, 332m high, lies near the middle of the S part of the island. Numerous lakes and wooded valleys are located in this part of the island. The Itilialuk Peninsula projects from the SW side of the island and forms the N side of First Rattle.

First Rattle is entered between Topsy Point, about 1 mile NW of West Base Point, and a rock, 3.3m high, about 0.5 mile N of Topsy Point. A narrow shoal, with depths of less than 5.5m, extends NE from near the NE side of the above rock to the vicinity of Stony Islet, 3.9m high, which lies close off the SE side of the Itilialuk Peninsula. A 7m rocky ledge extends about 0.2 mile SSE from the narrow shoal in the vicinity of the rock 3.3m high.

A shoal spit, with a depth of 5.2m at its extremity, extends about 0.5 mile E from Topsy Point.

Leading Hill (56°40'N., 61°45'W.), 142m high, stands on the N side of the peninsula forming the S side of First Rattle, about 3 miles WNW of Topsy Point.

11.67 Rattle Point (56°40'N., 61°43'W.), the SW extremity of the Itilialuk Peninsula, forms the N entrance point at the W end of First Rattle. A rocky ledge extends about 0.1 mile SW from Rattle Point; the channel between the point and the S side of First Rattle is about 0.3 mile wide.

Skua Islet, rocky and about 3m high, lies about 0.5 mile WNW of Rattle Point. The fairway leads between the point and Skua Islet, and then turns NNE. A 7.3m patch lies about 0.4 mile NE of Skua Islet.

From the W end of First Rattle, the first or inner route trends NNE along the E side of the mainland and Webb Bay, and the W side of South Aulatsivik Island, to the vicinity of Igloo Island and the entrance of Port Manvers Run.

Sachem Bay, an indentation in the mainland, is entered close NW of Skua Islet. The bay has two branches; one recedes WNW for about 3 miles from the entrance to the bay while the other recedes S for about 2.5 miles from the same entrance. The bay is unsurveyed, but it has been reported considerable depths exist in mid-channel.

Webb Point (56°43'N., 61°41'W.) is fringed with boulders. Two rocks, which dry 0.3m and 0.6m, lie about 0.1 mile and 0.3 mile E, respectively, of the point. West of Webb Point, the hills rise to Tikkiraluk, 425m high, which slopes steeply S to the N shore of Sachem Bay and more gradually N to the S shore of Webb Bay. The navigable channel E of Webb Point is about 0.7 mile wide.

Caution.—Webb Point should be given a wide berth as a shoal bank is reported (1993) to extend E of the point.

11.68 Challenger Cove is entered E of Webb Point. The cove, about 1.3 miles wide between the N and S entrance points, recedes about 1.3 miles E and N, narrowing gradually toward its head. The N shore of Challenger Cove is a hilly promontory, the summit of which is Challenger Knoll, 182m high. A rock, 0.3m high, lies about 0.2 mile offshore, about 0.5 mile SE of the N entrance point. This cove affords anchorage near its head in, a depth of 20m, mud, good holding ground.

Webb Bay, entered NW of Webb Point, extends about 7 miles W into the mainland off the W side of first or inner route. The narrowest part of the main bay is about 1.5 miles wide. The shores of Webb Bay are wooded with high hills on both sides, except at its head where it is low and swampy.

Anchorage.—Anchorage can be taken in the NE bight of Webb Bay, in 11 to 27.4m, mud. The W side of Igloo Island should be given a berth of at least 0.4 mile when approaching this anchorage so as to avoid the shallow water extending from the island.

11.69 Igloo Island (56°47'N., 61°41'W.) rises to a height of 61m at each end and forms the W side of the narrow S entrance channel into Port Manvers Run. A depth of 11m was reported to exist in the channel SE of the island and less water may exist. Red Point, so named because of the color of the rocks from which it is formed, lies at the N extremity of the projection extending from South Aulatsivik Island, about 2 miles NNE of Cleat Point. The channel between Red Point and the E extremity of Igloo Island has a width of less than 0.5 mile.

A 5.5m shoal lies about 500m SW of the NW point of Igloo Island. A 5.5m shoal, which extends NW from the aforementioned projection of the W side of South Aulatsivik Island, lies about 0.6 mile SE from the SE summit of Igloo Island.

A rocky 5.9m shoal lies 0.7 mile NW of Cleat Point. A 5.5m shoal lies 0.4 mile S of the SE tip of Igloo Island. A depth of 3.7m is located 0.7 mile NNE of the NE corner of Igloo Island. Mariners should exercise caution in this area.

Port Manvers Run trends N about 12 miles between the mainland and the NW side of South Aulatsivik Island. The shores on both sides of Port Manvers Run rise to mountains more than 610m high; those on the mainland are steep, with

cascades in places. Depths in Port Manvers Run and approaches are uneven; they range from about 7.3 to 77m, except in Pierrepont Canal, near the N end of Port Manvers Run, where a least depth of 7.3m is charted.

Double Island, in two parts, has a height of 11.6m and lies on the W side of the fairway of Port Manvers Run, about 0.2 mile off the mainland shore, in a position about 2 miles N of Red Point.

A narrows, about 0.5 mile wide, is formed between Approach Point, on the E side of the run about 4.5 miles NNE of Double Island, and **Anchor Point** (56°53'N., 61°37'W.), on the opposite shore. The run again widens for a distance of 1 mile NE of the narrows to the entrance of Second Rattle.

Second Rattle, about 1 mile NE of Approach Point, is only 0.1 mile wide, with a depth of 12.8m in mid-channel. The shores of the rattle are steep. An above-water rock lies near the NE end of Second Rattle and close off the mainland shore. A depth of 9.1m lies close N of the N end of Second Rattle. Strong tidal currents run through Second Rattle.

Port Manvers Run, N of Second Rattle, widens to about 1.5 miles with a bay on either side. The bay on the W side is shoal, but the other has apparently great depths. A 3.7m shoal is reported (1954) to lie on the E side of the N entrance to Second Rattle. The exact location of this shoal is not known, therefore, for this reason and because of the strong tidal currents running through Second Rattle, extreme caution is recommended.

First or inner route leads 1.25 miles NNE from the N entrance point of Second Rattle and passes between a group of rocks, 10m high, close off the W shore of the mainland, and Eddy Cliff, 120m high, on the shore of South Aulatsivik Island. Close N of Eddy Cliff, a bay indents the E shore of the passage. The head of this bay is separated from Caplin Bay, the W bay of Port Manvers, by a narrow neck of land.

Anchorage.—Vessels may anchor, in 20.1m, in a small bight close S of Eddy Cliff, and about 0.2 mile offshore. This anchorage is free of the swift tidal currents which run through Second Rattle and Pierrepont Canal.

11.70 Pierrepont Canal, between the SW side of a peninsula projecting from South Aulatsivik Island in a NW direction, and the mainland about 0.5 mile W, leads NNW and then NE into Port Manvers. The mainland shore of Pierrepont Canal is boulder-fringed and overhung by cliffs, 436m high. The boulder flat, which extends from the mainland shore, narrows the passage to a least width of 0.2 mile. The least depth found in Pierrepont Canal is 7.3m, about 0.2 mile W of Hare Point.

The second route from Nain to Port Manvers leads E from Nain through Strathcona Run to a position N of the Red Islands, a distance of 13 miles. Then the route runs N for 25 miles to the E entrance of Port Manvers, passing within the coastal islands which lie between Dog Island, on the SE, and South Aulatsivik Island, on the W. Port Manvers is entered N of the maze of islets and islands fringing this coast.

The only features adjacent to the sounded fairway of the second route are described. The remaining features lie on un-surveyed areas, not immediately adjacent to the route and their positions can best be seen on the chart.

A rocky shoal, with a depth of 9.7m, lies about 0.8 mile E of the E extremity of **Noazunaluk Island** (56°35'N., 61°20'W.). Another shoal, with a depth of 6.7m, lies about 2 miles NE of

the same extremity. Both shoal patches lie near the fairway of the second route.

Web Island and Henry Island, about 0.8 mile off the W side of Dog Island and parallel to the latter island, are 128m and 101m high, respectively; each have rounded hills very similar in appearance.

A small rocky islet, 14.3m high, lies close off the NW side of Dog Island, on the E side of the second route about 1.5 miles NE of the N extremity of Web Island; the islet is connected to Dog Island by a drying flat.

A shoal, the position of which is approximate, lies near the E side of the fairway, about 0.8 mile ESE of the N extremity of Henry Island.

Oakes Cone (56°40'N., 61°10'W.), 108m high, rises steeply from the S shore of a bay, which indents the NW side of Dog Island.

Red Rocks, 14.6 and 19.8m high, lie about 1 mile W of the N extremity of Dog Island, with which they are connected by shoals.

Spruce Island (56°41'N., 61°14'W.), 51.8m high, lies about 0.5 mile N of Henry Island. An islet, 14m high, lies close NE of Spruce Island.

11.71 Club Island, Dumbell Island, and **Misfit Island** (56°40'N., 61°17'W.), 30m, 67m, and 46m high, respectively, lie on the W side of the second route in positions from 0.5 to 1.3 miles W of and parallel to Web Island and Henry Island. An islet, 14m high, with a rock 3m high close N, lies about 0.4 mile SE of the S extremity of Club Island. A sand and boulder spit extends about 0.4 mile from the SE side of Club Island, thus narrowing the passage to about 0.3 mile in width. Club Island and Dumbell Island are joined at LW; an unexamined passage lies between Dumbell Island and Misfit Island. An islet, 50m high, lies close E of the N extremity of Misfit Island.

The channel E or W of Web Island and Henry Island can be used for piloting in this part of the second route; however, the channel W of Web Island and Henry Island has an 11m patch near the fairway, about 0.7 mile SE of the S extremity of Club Island, and the tidal currents run strongly through this channel, causing rips and eddies. Also, the channel is reduced to a width of 0.3 mile by the sand and boulder spit extending from the SE side of Club Island.

11.72 **Carey Island** (56°43'N., 61°12'W.) rises to a long light-colored summit, 130m high. Two rocks, 3m and 3.6m high, lie close off the middle of the SE side of Carey Island. A shoal, with a least depth of 5.8m and extending about 0.2 mile offshore, lies about 0.5 mile N of the SW extremity of Carey Island; a shoal, with a depth of 8.8m, lies in mid-channel, about 0.6 mile NW of the same extremity.

Two rocky islets, 3m and 8.2m high, lie about 0.5 mile and 1 mile, respectively, W of the N extremity of the island. A shoal area, with a depth of 3.7m, extends about 0.3 mile NW from the 8.2m islet.

Nest Island (56°42'N., 61°15'W.), rocky and 24m high, lies about 0.8 mile W of the S extremity of Carey Island. A 7.3m shoal area lies about 0.7 mile SW of Nest Island.

Fermoy Island lies about 2 miles W of Carey Island. A gravel beach lies on the E side of the island, near its S end. A conspicuous boulder, 6.1m high, stands near the shore on the NW

side of Fermoy Island.

Lopcar Island, 63m high, lies about 1 mile NW of the N extremity of Fermoy Island. The island is shoal off its NW side; a rock, which dries 1.5m, lies about 0.2 mile N of its W extremity.

11.73 Turnagain Island (56°45'N., 61°18'W.), 57m high and the W of a group on the E side of the second route, lies about 0.5 mile WNW of Christine Island. The SW end of the island is low, with boulders extending about 0.2 mile offshore. Two rocky islets, with heights of 3.4 and 7.3m, lie 0.2 and 0.4 mile, respectively, off the NE extremity of Turnagain Island.

Black Harbor, about 1 mile NW of Turnagain Island, is a small bay in an island, 141m high, lying close off the E side of South Aulatsivik Island, from which it is separated by St. John's Harbor and Seal Tickle.

The N and E sides of Black Harbor are protected by the Black Islands, a chain of dark-colored islands and rocks. Big Black Island, the N and largest of the islands, rises to a summit with a knob 93m high, and is separated from Black Island, 66m high, the next one S, by a narrow boat channel. A small bank, with a least depth of 16.5m, was reported (1949) to lie about 0.6 mile E of the summit of Big Black Island.

Next S in the chain is a rock, 27m high, separated from another rock S, 11m high, by Main Tickle, the entrance to Black Harbor. Main Tickle is about 0.1 mile wide, with a depth of 16.5m in mid-channel. A rock, with a depth of less than 1.8m, lies about 0.2 mile S of the 11m rock. All entrances to Black Harbor, except through Main Tickle, are navigable only by boats.

The depths in the middle of Black Harbor are considerable, although vessels with local knowledge can anchor, in 21.9m, mud, in a small cove S of some settler's huts. Seal Tickle and St. John's Harbor are suitable only for boats.

Kolotulik Bay, in the E side of South Aulatsivik Island, is entered N of Big Black Island, which shelters the bay from the SE. A vessel has anchored in the bay, in 35m, stone and shell.

Quest Island (56°49'N., 61°24'W.), 102m high, forms the N entrance point of the bay and lies about 1.7 miles NW of Big Black Island. Quest Island is joined to South Aulatsivik Island by a boulder ridge that dries. Several rocky islets, 1.2 to 14.3m high, lie within 0.2 mile N, E, and SE of Quest Island; a rock, which dries, lies about 0.2 mile S of the island.

A rock, which dries, lies about 2 miles W of Big Black Island, about 0.2 mile off the S shore of Kolotulik Bay.

Tigalak Inlet, the N arm of Kolotulik Bay extends N from the NW side of the bay; its entrance is blocked by boulders. A conspicuous hill, 312m high, stands about 0.7 mile W from the head of Kolotulik Bay.

11.74 Amagvik Island (56°49'N., 61°21'W.), 42m high at its N end, lies about 1 mile E of the NE end of Quest Island. A pointed hillock, 32m high, lies near the SW extremity of Amagvik Island. A shoal, the position of which is approximate, was reported to lie about 0.5 mile S of the SW extremity of Amagvik Island. Several rocky islets, 2.7 to 19.8m high, lie within 0.5 mile S, 0.4 mile E, and 1 mile NNE of Amagvik Island. A reef, that dries, lies about 0.4 mile N from about 1 mile N of the N end of Amagvik Island.

The foregoing dangers lie W of the fairway of the second

route leading to Port Manvers.

Sculpin Island, 50m high, lies with its NW extremity about 1.8 miles E of Amagvik Island and on the E side of the fairway of the second route. Tent Island, 73m high and conical, lies about 0.5 mile N of Sculpin Island. Rocky islets lie about 0.4 mile E and W of Tent Island.

David Island (56°50'N., 61°09'W.) and Jonathon Island, 128m high, lie about 2 miles E and 0.5 mile NE, respectively, of Sculpin Island; both islands are rugged. Bulldog Island, reddish in color, lies with its W extremity about 2 miles N of David Island.

Backsight Hill (56°51'N., 61°24'W.), 373m high, is located on the E side of South Aulatsivik Island, about 2.5 miles NW of Amagvik Island. The hill slopes E to a point about 0.7 mile NNE of which lies an islet, 35m high. Green Cove lies on the S side of the point.

A small rocky islet, 7.9m high, lies about 0.3 mile off the shore of South Aulatsivik Island, about 1 mile NNW of **Slam-bang Bay** (56°53'N., 61°24'W.).

The outer route from Nain to Port Manvers has been only roughly surveyed N of Hen and Chickens; many uncharted shoals are reported to exist. A vessel using this route must give the Nain archipelago a wide berth, as it is a mass of islands, rocks, and skerries. Pass N of the breaker charted about 5.5 miles E of Port Manvers. Orphan Island is a good radar target when approaching Port Manvers in poor visibility.

Medusa Bluff, on the NE extremity of South Aulatsivik Island, is cliffy with a conspicuous pointed crag, 118m high, above it. It marks the S side of the E entrance to Port Manvers.

11.75 Willis Rocks (56°56'N., 61°20'W.), the highest of which is 3m high, lies between 0.6 and 0.8 mile NNE of Medusa Bluff. These rocks are reported to always be visible, either above water or breaking, and the depths are apparently great to within 90m S of the rocks.

A rock, with a depth of less than 1.8m, the position of which is only approximate, is charted about 0.3 mile N of Medusa Bluff. A rock, with a depth of less than 1.8m, lies in the middle of the entrance fairway, about 0.7 mile NNW of Medusa Bluff; there are tide rips over the latter rock.

Fletcher Point, the S entrance point of Port Manvers, lies about 0.8 mile NW of Medusa Bluff. The point rises steeply to the E spur of Mount Thoresby.

Thalia Point (56°57'N., 61°21'W.), the N entrance point of Port Manvers, lies about 0.5 mile NNE of Fletcher Point and is the S extremity of a S projecting peninsula. The point rises to low hills separated from the main range by a sandy neck. A chain of above-water rocks lie between 0.1 mile and 0.2 mile SE of Thalia Point; several above-water rocks lie close off the E side of the point.

11.76 Port Manvers (56°56'N., 61°21'W.) is a safe and commodious harbor with charted depths of about 26 to 81m in its central part. The water in this harbor is so clear that the bottom is visible, even in depths of 14.6m.

From its E entrance, Port Manvers recedes W for about 6.5 miles and is divided into two basins; Medusa Bay is the E basin and Caplin Bay is the W basin.

Tides—Currents.—The HW interval of Port Manvers is 6 hours 16 minutes. The mean range of tide is 1m, the spring

range is 1.2m.

Aspect.—Village Bay, an indentation in the NW side of the peninsula extending S to Thalia Point, lies about 1.7 miles NNW of Thalia Point. A few houses are situated at the head of Village Bay. Fishing craft, with local knowledge, anchor in the bay.

Hills rise to a height of over 305m along the N shore of Port Manvers; halfway along this shore is a conspicuous cascade.

Mount Thoresby, about 914m high, rises from the S shore of Port Manvers. The upper part of this mountain is precipitous, and its lower slopes are steep to the water's edge. Its E end rises steeply from Medusa Bluff in three steps, with a long smooth slope running S and terminating in a steep fall to low land.

A N spur of Mount Thoresby extends into Port Manvers, forming a point with three prongs, which divides the harbor into Medusa Bay to the E and Caplin Bay to the W. Salterne Point forms the E prong of the spur, on the NW side of Medusa Bay. Partridge Point, the N prong, lies about 0.5 mile NW of Salterne Point. Lilly Rocks lie between the latter two points. Challenger Point, the W prong, lies about 0.7 mile SW of Partridge Point; two rocky islets lie close offshore SSW of Challenger Point.

Anchorage.—Anchorage can be taken in Medusa Bay, about 0.3 to 0.4 mile offshore, or in Caplin Bay, where the bottom is soft and the holding ground is good.

Caution.—A local magnetic anomaly, causing a variation of up to 5°E, was reported off the entrance to Port Manvers.

11.77 The Kiglapait Mountains (57°07'N., 61°33'W.) extend in a range about 12 miles long. The summits on the N part of the range have a jagged appearance and are conspicuous. The highest part is a broad, round summit, and there are nine other peaks. Both the SW and NE extremities of this range fall sharply to low land.

Orphan Island (57°02'N., 61°09'W.) is about 31m high and radar conspicuous; it is the outermost island shown on the chart in this vicinity. An islet, charted 1 mile W of Orphan Island, reportedly does not appear on air photographs; a shoal may exist in this vicinity.

Beachy Island (57°08'N., 61°20'W.) is 152m high near its N end. Two small islands lie off the N side of the island and one off its S extremity. A rock, awash, lies 1.3 miles E of the S extremity.

Graveyard Island, over 305m high, with steep shores, lies about 4 miles NW of Beachy Island. Five small islands, which include Sutton Island and Treat Island, lie within 2 miles of the SE shore of Graveyard Island.

Kikiktaksoak Island (Kikkertasoak Island), about 1.5 miles N of Graveyard Island, has steep sides and an elevation of 273m at its N extremity.

11.78 Dawes Harbor (57°15'N., 61°29'W.), a small inlet in the SE side of Kikiktaksoak Island, is entered N of an islet that lies close off the S entrance point. There is reported to be good anchorage in the harbor, but the N shore is foul for a considerable distance offshore. A small islet lies about 4.5 miles E of Kikiktaksoak Island. A dangerous shoal, about 1.5 miles S of this unnamed islet, breaks in a moderate sea.

The Okak Islands, two in number, lie with the E extremity of



Kiglapait Mountains—Aerial View

the E island about 7.8 miles NNW of the N extremity of Kikiktaksoak Island. This E extremity, Niakok Point, is a headland with a dark, rocky knoll having a conical summit. An extensive 5.5m shoal lies 1.5 miles SE of Niakok Point. The Okak Islands are separated by Moores Island Tickle, a narrow channel, the S part of which is named Woody Bay; two shoal areas obstruct this channel, one at the S end and the other close N of Woody Bay. The W island attains its greatest elevation of over 427m at Tigerschmitt Hill, near the NE extremity.

Anchorage.—Anchorage can be taken off the abandoned settlement of Nutak, on the W side of Moores Island Tickle, in 5.5 to 12.8m, gray sandy mud, good holding ground.

Okak Harbor (57°34'N., 61°56'W.), the shores of which are surrounded by high bare hills, indents the N side of the W Okak Island. A shoal, nearly awash, lies in the N part of the harbor off the site of a former mission station.

Anchorage.—There is anchorage for vessels with local knowledge, in 24m, near the abandoned mission station, where the harbor is about 0.4 mile wide.

11.79 Cut Throat Island (57°28'N., 61°37'W.) is 122m high. A small islet lies close E of the NE extremity and two small islets lie close to the N extremity of Cut Throat Island, respectively. Erdman Island lies about 1 mile N of the N extremity of Cut Throat Island. The E side of Cut Throat Island is indented by two bays. Cut Throat Harbor is a summer camp for

Inuit salmon fishermen.

A rock, which covers at HW, lies in this bay, with the abandoned house bearing 332° and distant 0.65 mile.

Anchorage.—The harbor affords anchorage for small craft, in 18.3m, with protection from all but E winds.

11.80 Saddle Island (57°36'N., 61°25'W.) is 331m high. Although many islands in the vicinity might be called Saddle Island because of their appearance, Saddle Island is said to be easy to identify by its double-peaked outline. Most of the other islands in the vicinity are comparatively low.

Poktok Island and Stirrup Island, two rocks, 15m and 61m high, respectively, lie about 3 miles SE of Saddle Island.

Coffin Island, a small island, with an elevation of over 305m, lies close off the N side of the E Okak Island and off the entrance of Moores Island Tickle. A small bank, with a depth of 18.3m, lies about 1.3 miles E of the SE extremity of Coffin Island. Breakers were observed about 3.2 miles E of the N extremity of the island.

The Kingnektut Islands, lying in a position about 1.3 miles NW of Coffin Island, are a group of small islands and rocks. Foul ground, dangerous to navigation, extends as far as 0.8 mile W of this group.

Okak Bay, which may be entered from the S or N of the Okak Islands, penetrates the mainland to the W for about 25 miles. It has not been fully surveyed, but the soundings available indicate depths in mid-channel of 12.8 to 180m. A 3m depth lies 3 miles inside the S entrance, while an 11m depth lies 8 miles from the head of the bay.

A group of three principal islands and a number of small islets lie S and SW of the SE extremity of Cod Island. The E island, Coopers Island, 244m high, lies about 1.5 miles S of the SE extremity of Cod Island. The SW island, Green Island, 122m high, lies about 3.3 miles SW of Cod Island. The NW island, Opingivik Island, 183m high, lies about 3 miles W of the extremity of Cod Island.

11.81 Cod Island (57°46'N., 61°46'W.) is a large moun-



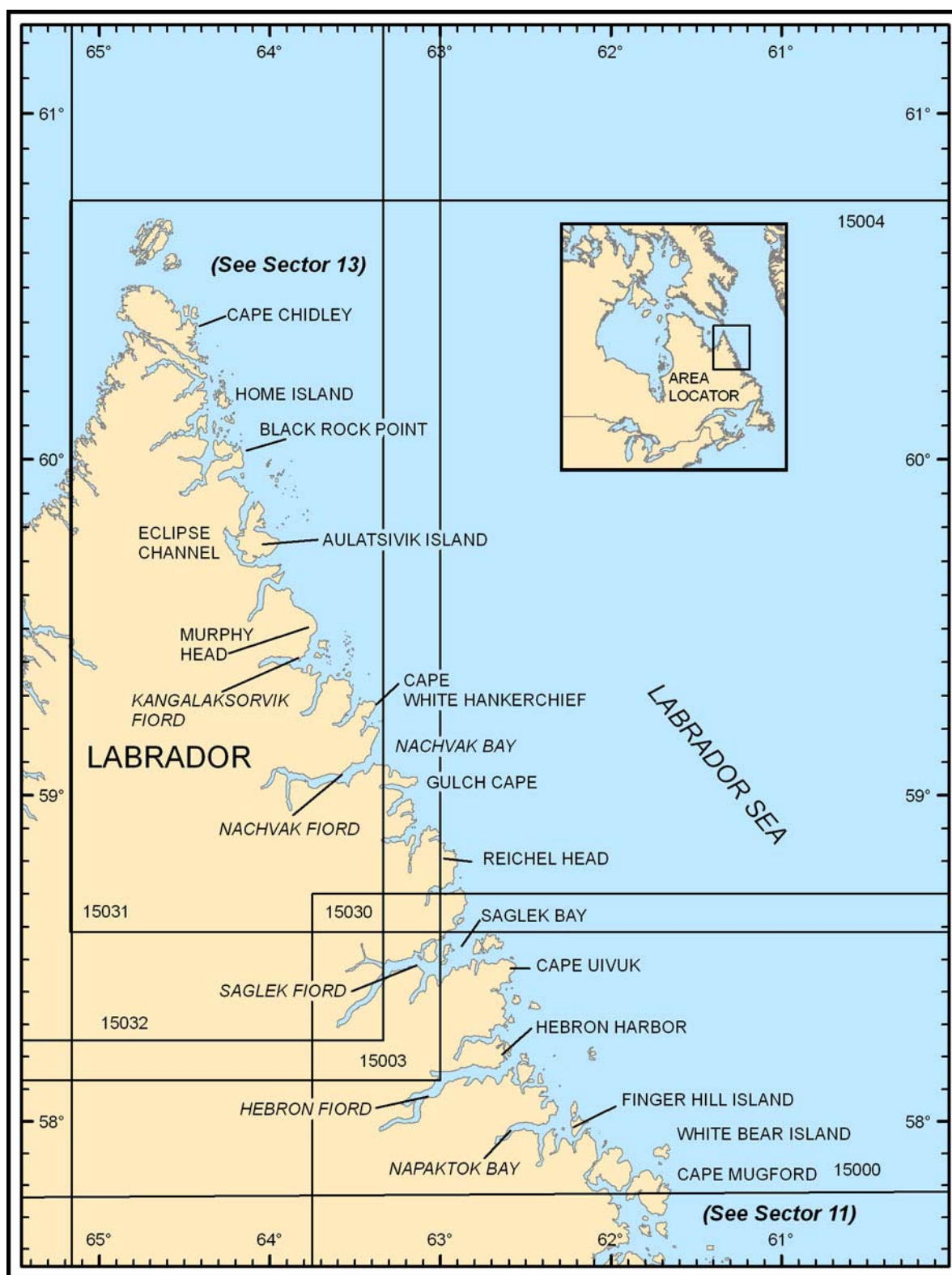
Okak Harbor—Abandoned Mission Station

tainous island. Table Hill, at the SE end of Cod Island, rises almost straight out of the sea to an elevation of 732m and marks the S end of the Kaumajet Mountains.

Parkavik Island (57°40'N., 61°54'W.) lies close off the mainland, about 2 miles W of the NW extremity of Green Island. A depth of 27.4m was reported to lie about 3 miles E of Coopers Island. A small islet lies close off the SW extremity of Green Island. A rock lies awash about 0.5 mile W of the SW extremity of Opingivik Island. A shoal and a low rock lie about 0.3 mile SE and close SSW, respectively, of the rock, awash.

Anchorstock Bight (57°45'N., 61°51'W.), on the W side of Cod Island, is not completely surveyed, but appears to be a promising anchorage area. The bottom is fairly smooth, with depths of from 16.5 to 36.6m. Bottom samples of gray mud and sand with shells and pebbles were taken. This prospective anchorage is protected from N and E winds and has easy access from the sea in the deep water channels through Mugford Tickle, S of Cod Island.

Cape Mugford (57°50'N., 61°43'W.), the NE extremity of Cod Island, is described in paragraph 12.2.



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

SECTOR 12 — CHART INFORMATION

SECTOR 12

LABRADOR—NORTHEAST COAST—CAPE MUGFORD TO CAPE CHIDLEY

Plan.—This sector describes the NE coast of Labrador, between Cape Mugford and Cape Chidley. The sequence of description is NNW along the coast from Cape Mugford.

General Remarks

12.1 The coast between Cape Mugford and Cape Chidley, about 175 miles in extent, is indented by three large fjords and numerous small inlets and bays. This part of the coast is more rugged and mountainous than the area S of Cape Mugford. The Torngat Mountains, rising 610 to 1,220m, parallel this section of the coast. The coastal terrain has many precipitous cliffs, gorges, and ravines, all of which are barren.

Many of the inlets afford shelter, but soundings are sparse or non-existent. There are fewer offshore islands along this part of the coast, although there are many detached rocks and shoals lying as far as 14 miles offshore. Vessels usually keep to the E of these dangers as they and the area between are not fully examined.

Settlements are small and lacking in port facilities.

The Torngat Mountains National Park extends from Saglek Fiord in the S, including all the islands and islets, to the N tip of Labrador. From W to E, it extends from the provincial boundary with Quebec to the Labrador Sea. It can be accessed by air and water only during the summer. Aircraft landings in fresh water in the park are strictly prohibited; special permits may be acquired from Parks Canada for helicopter landings. Additional information can be obtained at <http://www.pc.gc.ca/eng/pn-np/nl/torngats/index.aspx>.

Access to or across Labrador Inuit Lands requires the consent of the Nunatsiavut Government. There is an approximately 9 km² section located on the Labrador coast at Iron Strand that is not part of the park. Before entering this area, visitors are required to obtain permission by contacting a representative of the Nunatsiavut Government (telephone: 709-922-2942). A permit is required to enter the park. It can be obtained by contacting Parks Canada, Torngat Mountains National Park, Box 471, Nain, Newfoundland and Labrador, A0P 1L0. Contact can also be made, as follows:

1. Telephone: 1-888-922-1290 (toll free)
709-922-1290 (English)
709-458-2417 (French)
2. Facsimile: 709-922-1294
3. E-mail: torngats.info@pc.gc.ca

Dangerous wildlife such as polar bears, black bears, wolves, and foxes may be encountered within the national park and the limits of this publication; caution is advised. Firearms are prohibited within the Torngat Mountains National Park. Approved deterrents or the service of Inuit Guides can be arranged by contacting the Torngat Mountains National Park staff.

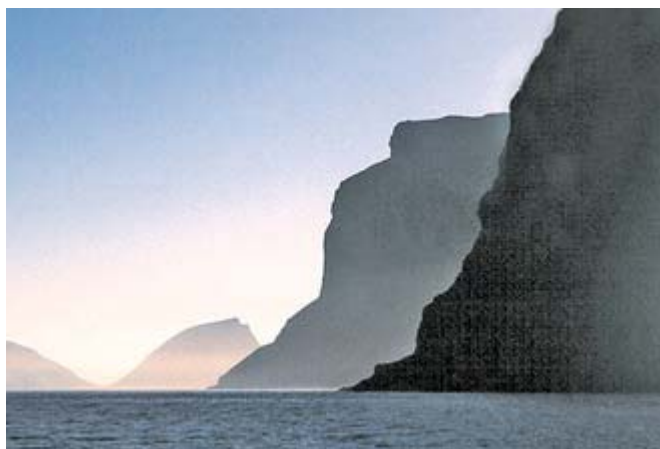
The Torngat Mountains Base Camp and Research Station is located at the head of St. John's Harbour in Saglek Fiord. It operates annually in July and August. This facility, which is oper-

ated by the Nunatsiavut Group of Companies, NGC Solutions, has a floating wharf for use by small boats. Medical personnel are available. Transportation is provided by a helicopter stationed on site and marine transportation can be provided while the base camp is operational. Diesel fuel and gasoline are available for purchase in limited quantities. Accommodations, meals, showers, and communication by satellite phone are available. Park registration, orientation, logistics, and planning support are available with park staff on site. The base camp can also provide the service of local bear guards and guides. Additional information can be obtained by contacting NGC Solutions, as follows:

1. Telephone: 709-896-8505 (Happy Valley-Goose Bay)
403-799-7137 (Torngat Mountains Base Camp and Research Station)
2. E-mail: basecamp@ngc-ng.ca

Cape Mugford to Cape White Handkerchief

12.2 Cape Mugford (57°50'N., 61°43'W.) is the NE extremity of (57°46'N., 61°46'W.). The island is separated from **Grimmington Island** (57°50'N., 62°00'W.) by **Mugford Tickle** (57°48'N., 61°53'W.), a channel deep and clear of dangers.



Cape Mugford

Caution.—Shoal water has been reported (1993) about 1.8 miles NE of the cape.

White Bear Island (57°54'N., 61°42'W.), 4 miles N of the cape, is rugged, steep, and very conspicuous from offshore because of its three peaks and light coloration. Tidal currents are strong between White Bear Island and the mainland. Ice appears probably 7 to 10 days earlier at the island than at **Aillik Bay** (55°14'N., 59°12'W.).

12.3 Bishops Mitre (57°54'N., 62°00'W.) is a conspicuous double summit near the N end of Grimmington Island. The notch between summits, cleaving the mountain to its base, is open except on W bearings. There are sheer, high cliffs N of Bishops Mitre. **Cod Bag Harbor** (57°53'N., 62°05'W.), an inlet, separates the NW part of Grimmington Island from the mainland. The **Cod Bag Islands** (57°56'N., 62°02'W.) lie in the approaches to the harbor.



Mugford Tickle

Anchorage can be taken, with local knowledge, in a depth of 13m, about 0.2 mile offshore in a sheltered cove 1.5 miles within the SW entrance of Mugford Tickle. Another cove, mid-way along the E side of the tickle, affords anchorage, although there is a depth of 45.7m within 135m of the shore.

Finger Hill (57°55'N., 62°10'W.) is flat-topped and 975m high. Finger Hill Island, lying 1 mile NW of the hill, is high and steep-sided. Finger-shaped rocks lie off the N end of the island.

Cod Rock (58°00'N., 62°04'W.), above-water, lies 1.5 miles E of the island and **Soapstone Island** (58°02'N., 62°14'W.), close N. **Sunday Run** (57°58'N., 62°10'W.) is the deep 1-mile wide passage between Finger Hill Island and the mainland.

Moss Harbor (57°45'N., 62°00'W.) affords anchorage, protected from all but E winds, in 13 to 31.1m, good holding ground, mud and sand.

Napaktok Bay (57°57'N., 62°30'W.) is entered W of **Finger Point** (57°58'N., 62°20'W.). The shores of the bay are steep and spot soundings of the bay indicate depths of 65.8 to 215m. **Pistolet Bay** (57°56'N., 62°25'W.) extends S from the entrance of Napaktok Bay.

Anchorage has been reported at the head of Napaktok Bay, in depths of 23.8 to 42.1m.

12.4 Jensen Inlet (58°03'N., 62°23'W.), with depths of 43.9 to 109.7m in mid-channel, is apparently danger-free. Ferdinand Inlet lies close N of Jensen Inlet. **Takkatat Inlet** (58°07'N., 62°30'W.) is sheltered by an island lying off its entrance. There is a small islet off its S entrance point having depths of 21.9 to 80.5m in mid-channel of the inlet. **Illuver-talik Island** (58°08'N., 62°25'W.), rising over 152m, lies E of the inlet.

Watchman Island (58°13'N., 62°07'W.) is a crescent-shaped island rising to height of 305m in its N part. The island appears remarkably white in color on N bearings and its NE and NW sides are steep-to. A depth of 12.8m reportedly lies 3.5 miles S of Watchman Island.

12.5 The Harp Peninsula (58°09'N., 62°30'W.), wedge-shaped, is joined to the mainland by a narrow isthmus separating Takkatat Inlet and another inlet entered W of the peninsula. **Kingmirtok Island** (58°11'N., 62°30'W.) is about 2 miles long and low. The passage between the island and the Harp Peninsula is obstructed by islets and above-water rocks. A cairn stands in the middle of its N side. **Kruth Island** (58°10'N., 62°24'W.) lies 1.5 miles E of the peninsula; Flat Island 4.5 miles NE.

Hebron Fjord (58°09'N., 62°45'W.), 23 miles long, is entered between Grubb Point and **Cape Nuvotannak** (58°12'N., 62°36'W.). Three small bays lead off the S shore of the fjord. Depths in the fjord are considerable and there are apparently no dangers in mid-channel. Soundings of over 183m exist for a distance of 12 miles within the entrance.



Along Hebron Fjord

Anchorage can be taken in **Winnie Bay** (58°07'N., 62°50'W.), the W of the three bays indenting the S side of the fjord. There are depths of 45.7m at Winnie Bay entrance, shoaling gradually to 14.6m at its head. The bottom is sand, mud, and stone.

12.6 Hebron Harbor (58°12'N., 62°38'W.) is located about 2.5 miles NW of the Harp Peninsula, with the site of the former small settlement of Hebron on its W side. The settlement was abandoned in the early 1960s but is still occupied occasionally for short periods of time by Inuit families from Nain. This side of the harbor is shoal on its W side. Several small islands, known as the **Dog Islands** (58°11'N., 62°36'W.), encumber the approach to the site of the former settlement. Depths in the harbor vary from 18.3 to 73.2m, except on the shoal W side.



Hebron - primarily abandoned

Anchorage can be taken at the head of Hebron Harbor, in depths of 18.3 to 25.6m, mud and rock, fair holding ground. The harbor is sheltered from all winds except from the SE.

Outer Run.—In this passage outside the outer islands, the depths appear to be considerable, with no indications of off-lying dangers.

A course of 357° will pass Stirrup Island 0.5 mile to the E, after which course should be altered farther NW to pass inside White Bear Island, Cub Island, and the charted breakers NE of Cape Mugford, then steer 320° to pass 0.5 mile off Cape Mugford.

From this point, a course of 314° for approximately 34.2 miles will lead outside Cod Rock, Murchif Island, and Kruth Island, and the 23.8m bank about 1 mile NE of Kruth Island, to a position 1.7 miles NE of Kingmirtok Island, after which Hebron Harbor or Hebron Fjord may be entered.

12.7 Morhardt Point (58°16'N., 62°39'W.) is the E entrance point of Iterungnek Fjord, a deep-water inlet. Small bays indenting the coast between the point and **Cape Uivuk** (58°29'N., 62°34'W.) are either foul or exposed to E winds and do not afford good anchorage. Several off-lying islands and islets lie off the coast between point and cape. **Fish Island** (58°21'N., 62°27'W.) has a smooth round summit with small

deep gulches on its NW side. **Maidmonts Island** (57°23'N., 62°33'W.) is about 152m high, and lies 2 miles WNW of Fish Island.

Cape Uivuk (58°29'N., 62°34'W.), the SE entrance point of Saglek Bay, is a prominent precipitous headland rising 442m. The Domes, two conspicuous round hills, rise 5 miles WSW of the cape to a height of 830m.

Several buildings and oil tanks are situated 1 mile W of the cape. A large white dome and a number of white buildings situated near the cape are conspicuous from seaward. An aero-nautical light and several towers equipped with obstruction lights are situated at the N end of the airstrip.

White Point (58°26'N., 62°36'W.) is the conspicuous E end of a short peninsula extending from the mainland south of the cape.

12.8 Saglek Bay (58°35'N., 62°50'W.), a large open bay about 14.5 miles wide at its entrance, extends W for 12 miles where it constricts to form Sag-lek Fjord which divides into two arms.

Saglek Bay can be entered between **Big Island** (58°33'N., 62°42'W.) and **Bluebell Island** (58°30'N., 62°35'W.), lying one mile N of Cape Uivuk. The bay can also be entered N and W of **Shuldham Island** (58°32'N., 62°47'W.), although the entrance S of Big Island is preferable. There is a channel with depths of 16.5 to 32.9m between Bluebell Island and the mainland. A small islet lies close W of the island.

Depths of 91 to 146m exist in the channel N and W of Shuldham Island. A least depth of 14.6m exists 1 mile E of **Upper-navik Island** (58°29'N., 62°59'W.) in the S channel.

Ice.—Ice closes Saglek Bay to navigation by October 1. By July 1, ships with icebreaker assistance can usually enter the bay.

Tides—Currents.—Tides, with an average range of 1.5m, are reported at Saglek Anchorage; a W current of 3 knots was observed setting into Saglek Bay.

Saglek Bight, which indents the S side of Big Island, is reported to afford good shelter from most winds for vessels with local knowledge. The NE entrance point of the bight is a conspicuous bluff which has a wide stripe the length of its NE face. Gull Cliff is the steep E end of Big Island. Depths in the bight vary from 73.2m at the entrance, shoaling to 21.9m near its head, with no dangers. There is a 9.1m shoal lying 0.5 mile S of the E entrance point of the bight.

12.9 Shuldham Island (58°32'N., 62°47'W.) is separated from Big Island by a partly-drying narrow channel. **Handy Island** (58°31'N., 62°45'W.) lies in the S entrance of the channel. Eastern Harbor and Western Harbor, both very small, afford shelter on either side of the island with local knowledge.

Jens Haven Island (58°32'N., 63°04'W.), lying in the N approach to Saglek Fjord, is a rugged mountainous island rising 580m. There is anchorage, in 36.6m, mud, approached from the S between the N part of Rose Island and Jens Haven Island.

Saglek Anchorage (58°30'N., 62°42'W.), a wide open bight 3 miles W of Cape Uivuk, is used as an anchorage for off-loading supplies for the military installation at the cape. Two beaches are available for landing craft. The beaches are narrow, bounded by rocks, and must be approached head-on. Vessels are advised not to anchor to the W of the beaches because foul

ground there has claimed at least three anchors. In strong winds, Saglek Anchorage becomes very rough and vessels should seek shelter in Saglek Bight, in St. John's Harbor, or in the anchorage W of **Rose Island** (58°32'N., 62°58'W.).

St. John's Harbor (58°28'N., 62°47'W.), entered close W of Saglek Anchorage, is marked at its E entrance point by a yellow beacon. The Torngat Mountains Base camp and Research station is located at the head of St. John's Harbor. The sides of the harbor are steep and precipitous, rising over 305m. Depths range from 91.4m at the entrance to 14.6m near its head.

Caution.—The charted beacons are no longer maintained and may not exist.

12.10 Torr Bay (58°28'N., 62°50'W.) has depths of 16.5 to 36.6m in its outer part, shoaling to its head.

Kiyuktok Cove (58°25'N., 63°00'W.) affords anchorage close inshore, but is unprotected from the winds.



Saglek Fjord

Saglek Fjord (58°30'N., 63°00'W.) is divided into two main branches, each at least 40.2m deep. The larger branch is Ugjuktok; the smaller is West Arm. Ugjuktok is wide and deep, with steep shores rising over 610m. A river empties into the head of the fjord. Anchorage is not recommended in the fjord due to the extreme depths and sudden wind squalls.

Pangertok (58°25'N., 63°07'W.), an inlet extending SSW for 6 miles, has depths of 14.6 to 84m, with no apparent dangers in mid-channel. Anchorage can be taken about 0.5 mile off the flats at the head of the inlet, good holding ground, but subject to occasional SW winds. **Mount Pinguksuak** (58°25'N., 63°12'W.) is a conspicuous feature.

Anchorage.—Anchorage can be taken in Eastern Harbor, in depths of 13 to 16.5m, mud and rock. In Western Harbor, vessels have anchored in 40.3m in the harbor entrance, but have dragged anchor during N gales. There is sheltered anchorage from the entrance of St. John's Harbor to its head, in depths of 14.6 to 47.6m, with the best holding ground near the head of the harbor.

12.11 Itigaiyavik (58°40'N., 62°51'W.), a cape, is the N entrance point of Saglek Bay. **Bears Gut** (58°43'N., 63°00'W.), an inlet, has sides over 610m high. **Blow Me Down Mountain** (58°46'N., 63°06'W.), with vertical black seams and a square top, is conspicuous. **Reichel Head** (58°49'N., 62°55'W.) is a prominent high headland. The Muzzle is a triangular-shaped peninsula, rising to 610m, located on the NW side of **Bell Inlet** (58°52'N., 63°00'W.).

Ramah Bay (58°54'N., 63°08'W.) is entered between **The Muzzle** (58°53'N., 63°03'W.) and **North Head** (58°55'N., 63°09'W.). The bay is deep, but soundings are few as far as the shoal head. Anchorage can be taken, with local knowledge, in a depth of 12.8m, close inshore and off the old mission site on the N shore. There is a settlement close E of the former mission.

Reddick Bight (58°57'N., 63°12'W.) affords anchorage for small vessels, in 27.4m, off the N shore, 1.2 miles within the entrance.

Rowsell Harbor (58°58'N., 63°15'W.) is entered close N of **Rowsell Head** (58°59'N., 63°10'W.). The harbor extends about 5 miles in a SW direction and affords anchorage for vessels with a draft of 4.9m close off the SE side, 3 miles inside the entrance. Quartzite Mountain and Cirque Mountain, 900m and 1,700m high, respectively, are conspicuous W of the harbor head. Mount Dalhousie, a serrated mountain 1,100m high, separates Rowsell Harbor from **Delabarre Bay** (59°01'N., 63°14'W.).

Gulch Cape (59°02'N., 63°09'W.) is the E extremity of a 6-mile long peninsula separating Delabarre Bay from Nachvak Bay. A SE current of 2 knots velocity has been observed off Gulch Cape, which rises inland to a dome-shaped summit, about 305m high.

12.12 Nachvak Bay (59°07'N., 63°21'W.), a large bight, lies between Gulch Cape and **Cape Daly** (59°12'N., 63°23'W.). Three known dangers in the bay are **Passage Reef** (59°06'N., 63°20'W.), with a depth of 1.8m and on which the sea breaks occasionally; Southeast Rock, of similar depth, lying 2.2 miles NE of the reef; and **Big Reef** (59°08'N., 63°20'W.), drying 3m, which has breakers extending 0.5 mile SE. **Bigelow Bay** (59°05'N., 63°17'W.), on the S side of Nachvak Bay, is unsurveyed.

Nachvak Fjord (59°02'N., 63°44'W.) is entered between **Southeast Entrance Point** (59°06'N., 63°24'W.) and **North Head** (59°08'N., 63°25'W.). The mountainous shores of this deepwater fjord and bay are high, reaching an elevation of 905m and 1,100m in Kammarsuit Mountain and Mount Razorback, respectively.



Nachvak Fjord

Three small coves which afford anchorage indent the shore of the fjord. **Naksaluk Cove** (59°04'N., 63°27'W.) is open to NE winds, but otherwise offers fair protection. **Tinutyarvik**

Cove (59°02'N., 63°32'W.) is reported to afford good anchorage, in 12.8 to 14.6m, for vessels with local knowledge. **Ivitak Cove** (59°01'N., 63°44'W.) affords anchorage, in depths of 12.8 to 14.6m. Korlortoaluk Cascade, a conspicuous waterfall, is located on the N shore, about 3 miles NW of Ivitak Cove. **Tallek Arm** (59°03'N., 63°54'W.), extending S for 6 miles, has steep and precipitous shores rising about 1,100m. **Tasiuyak Arm** (59°02'N., 64°00'W.), extending SW, also has steep, high shores. Both arms are deep.

Directions—When entering Nachvak Fjord, no attempt should be made to pass between Passage Reef, Southeast Rock, and Big Reef, the dangers in the entrance of Nachvak Bay. The channel between Passage Reef and the mainland S is safe for vessels with a draft of 4.9m. The mainland shore should be kept close aboard on entering the fjord. The fjord may be entered from the NE by keeping about 0.5 mile E of Cape Daly and passing close E of North Head. Caution should be exercised to avoid the reefs off Razorback Harbor (59°13'N., 63°26'W.).

Caution.—It is reported that anchorage in the various coves in Nachvak Fjord are subject to very strong squalls (katabatic winds) and are not safe under these conditions.

12.13 Razorback Harbor (59°13'N., 63°26'W.), located two miles WNW of Cape Daly, extends 2.5 miles SW. Its shores are steep and high. Depths of 9.1m or less exist on a bar which extends for 0.8 mile across the entrance from the harbor's S entrance point. There are depths of 23.8m in the central part of the harbor.

Wilder Rocks (59°14'N., 63°22'W.) consist of several groups of above and below-water rocks lying 1.3 miles N of Cape Daly. The rocks and foul ground encompass an area 2 miles long and 0.8 mile wide.

Prebble Rocks (59°13'N., 63°24'W.) are a chain of rocks extending 1.3 miles NW of Cape Daly. Vessels should not attempt to pass between Wilder and Prebble Rocks.

There are numerous uncharted submerged rocks in the area between Wilder and Prebble Rocks.

Anchorage.—Anchorage can be taken near the sheltered head of Razorback Harbor, in a depth of 5.5m.

Cape White Handkerchief to Cape Chidley

12.14 Cape White Handkerchief (59°59'N., 63°23'W.), rising to a height of 524m, has a conspicuous square of light-colored rock extending from its base upward for 150m. A rock, with a depth of less than 1.8m, lies 1.5 miles E of the cape; a 7.3m shoal lies between the rock and cape.

From Cape White Handkerchief to Cape Kakkiviak, 49 miles NNW, the coast remains similar in character, and is fronted by numerous islands and dangers, some as far as 14 miles offshore, and by unsurveyed areas.

Hogs Back Reef (59°32'N., 63°26'W.) is a large, undetermined shoal area, dangerous to navigation. It is reported this reef consists of low, black rocks surmounted by islets.

Sapogatsiak Bay (59°18'N., 63°30'W.) is entered between Cape White Handkerchief and **Deacon Head** (59°20'N., 63°34'W.), high and precipitous. The bay leads into **Trout Trap Fjord** (59°14'N., 63°33'W.). **Nautilus Rocks** (59°20'N., 63°31'W.) are a group of four rocks surrounded by shoal water

lying 1 mile SE of Deacon Head. Tide rips occur close NW of a 5.5m shoal bank in the bay entrance.

Trout Trap Fjord leads SW for about 6 miles. The S side of the fjord is higher and more steep than the N side, with elevations up to 610m.

12.15 Big White Bearskin Island (58°22'N., 63°32'W.) is reddish in color and over 152m high. A rock, with a depth of less than 1.8m, lies 0.7 mile SE of the island. A group of islands lies 3 miles E of Big White Bearskin Island.

Bryant Island (59°23'N., 63°33'W.) is a group of three islets and numerous rocks extending for 1 mile E and N of the islets. Numerous islands and rocks lie in a large area of foul ground extending 6 miles N of the Bryant Islands. This entire area is unsafe for navigation. **Beacon Island** (59°21'N., 63°36'W.) has rocky, foul ground extending off its SW side.

Komaktorvik Fjord (59°21'N., 63°42'W.), formed E by Abbate Point, extends SW for 5 miles and W to the mouth of a river. **Peabody Point** (59°22'N., 63°43'W.), a low point, forms the W entrance point of the fjord, of which little is known. **Shoal Cove** (59°23'N., 63°44'W.) is entered W of Peabody Point. **Niakungutialuk Head** (Big Head) (59°23'N., 63°46'W.) is a 2-mile long peninsula, about 215m high, that separates Shoal Cove from Seaplane Cove.

Seaplane Cove (59°22'N., 63°48'W.) is sheltered and affords good anchorage, in depths of 12.8 to 16.5m. A glacier on the N side of **Mount Tetragona** (59°18'N., 63°54'W.) is conspicuous from the cove.

Kangalaksiorkvik Fjord (59°24'N., 63°53'W.) extends 7.5 miles W from the entrance of Seaplane Cove. Depths in the fjord range from 91.4m at the entrance to 20.1m within 0.5 mile of its head. Anchorage can be taken in the small cove just within **Brownell Point** (59°24'N., 63°50'W.), the N entrance point of the fjord.

12.16 Seven Islands Bay (59°26'N., 63°36'W.) is the large bight between **Abbate Point** (59°21'N., 63°38'W.) and **Murphy Head** (59°31'N., 63°44'W.). Several islands lie in the bight. **Amiktok Island** (59°25'N., 63°43'W.) and **Whale Island** (59°27'N., 63°42'W.) are the two largest islands in the bay. **Lone Rock**, 0.6m high, lies 1 mile S, and a 2.7m shoal 0.3 mile farther S, of the SW end of Amiktok. Numerous groups of rocks and some islets lie in the vicinity of the principal islands.

Murphy Head (59°31'N., 63°44'W.) is a steep promontory, 297m high, backed by four high conspicuous peaks of the Torngat Mountains. The coast for 32 miles NNW to **Cape Kakkiviak** (59°59'N., 64°10'W.) is indented by four fjords and fronted by many dangerous rocks and shoals. The Torngat Mountains closely parallel the coast.

Iron Strand (59°33'N., 63°49'W.) is a stretch of black sandy beach extending for 6 miles from Murphy Head NW to the Helga River. **Hassel Head** (59°37'N., 63°53'W.) is a bold headland about 340m high. The four peaks backing the strand are conspicuous. The coast between Murphy Head and Hassell Head should be given a berth of at least 0.5 mile.

Drying reefs are charted 7 miles ENE and E of Hassell Head. A depth of 0.3m lies about 1.4 miles ESE of Hassell Head. A depth of 6.7m lies near the track, 2.4 miles NE of Hassell Head.

12.17 Ryans Bay (59°38'N., 64°00'W.) is a long fjord-like bay with steep shores that has not been sounded. **Osborne Point** (59°40'N., 63°55'W.) is the NE extremity of a long conspicuous peninsula known as the Pemluak Peninsula, which is level, serrated, and rises to about 460m. The lower cliffs of the peninsula are red, darkening as they ascend, while the top part is almost black. Breakers occur about 7 miles E of the peninsula.

Collins Point (59°41'N., 63°57'W.) is a long narrow point extending E from the NE end of the **Goodfellow Peninsula** (59°40'N., 64°00'W.). A chain of above-water rocks lies close off the S side of Collins Point. **Dry Reef** (59°44'N., 63°43'W.) and breakers lying 2.5 miles farther NE are dangers lying off this part of the coast.

North Aulatsivik Island (59°45'N., 64°05'W.), the largest island along this part of the coast, is marked by **Cape Territok** (59°45'N., 63°54'W.), its SE end. The island is 945m high at its S part. False Bay almost divides the island into two parts. Dangerous rocks and shoals extend 10 miles E from the island, and 16 miles N from the S extremity of the island. Local knowledge is essential in navigating along the coast in this area.



Castle Mountain

Gladwin Rocks (59°45'N., 63°53'W.) is a group of rocks drying 3m. Atlantis Rock, drying 1.5m, lies 1.5 miles NNW of Cape Territok. **Matthew Rock** (59°48'N., 63°57'W.) dries 3m.

Eclipse Channel (59°42'N., 64°03'W.) is entered between Collins Point and Cape Territok, the E extremity of North Aulatsivik Island. The head of the channel divides into two arms, the NE of which is known as French Bight, which leads into Eclipse Harbor to the N through a narrow channel encumbered by rocks. Only small boats can use this channel.

12.18 Eclipse Harbor (59°51'N., 64°09'W.) is entered between **Mount Bache Point** (59°52'N., 64°05'W.) and **Murray Head** (59°54'N., 64°08'W.). **Castle Mountain** (59°54'N., 64°13'W.) is conspicuous from seaward. The W side of the harbor rises over 610m. There are depths of 18.3 to 54.9m in the harbor.

Anchorage, good holding ground, can be taken, in depths of 7.3m to 21.9m, near the head of the harbor.

Directions—Murphy Head to Eclipse Harbor.—These directions are based on a charted track of a single line of soundings to be used only by small vessels. From a position about 0.8 mile E of Murphy Head, steer a course of 332° for 14 miles. Change course to 348° and proceed until abeam of Cape Territok. This course leads W of the off-lying dangers including Gladwin Rocks. Cape Territok should be rounded at a distance of 0.7 mile, setting a course to pass W of Atlantis Rock. From a position 0.7 mile W of the rock, steer a course of 342° for 4.5 miles to pass close E of **Nones Head** (59°51'N., 64°02'W.). Change course to pass between Mount Bache Point and Ashe Rocks, where there is a least depth of 13m. The N extremity of the point should be given a berth of 0.5 mile to avoid the above-water rock lying off this point.

Vessels proceeding S from a position 0.5 mile E of **Cape Kakkiviak** (59°59'N., 64°09'W.) steer a course of 162° for about 5 miles to a position 1.2 miles E of Murray Head and about 1.5 mile ENE of Chance Rocks. Course should then be changed to 192° for the entrance of Eclipse Harbor.

Caution.—Dangers lying in the approach and entrance to Eclipse Harbor include the **Galvano Islands** (59°57'N., 63°57'W.), a group of widely-scattered islets and rocks lying 4.5 miles to 8 miles NE of the harbor. The Platt Islands lie 1 mile W of **Mount Bache Point** (59°52'N., 64°05'W.). **Ashe Rocks** (59°53'N., 64°03'W.), above-water, and **Chance Rocks** (59°54'N., 64°06'W.), 0.5 mile E of Murray Head, lie in the harbor entrance.

12.19 Cape Kakkiviak (59°59'N., 64°09'W.) is a conspicuous promontory rising to two peaks. From the cape to Cape Chidley, the coast is indented by five major inlets fronted by several off-lying islands and many islets. **Black Rock Point** (60°02'N., 64°11'W.) is the N end of a peninsula forming the E side of Shoal Bay. A charted route located E of Cape Kakkiviak extends into Williams Harbour and Martin Bay. A shoal, with a least depth of 3.5m, is located about 2.4 miles SSE of Black Rock Point. A drying rock lies about 1.2 miles ESE of Black Rock Point. Shoals, with least depths of 2.2 to 5m, lie about 0.7 mile N and NNW of the drying rock. Another shoal, with a least depth of 3.6m, lies 1 mile NNW of Black Rock Point. Numerous rocks and shoals dangerous to navigation, which can be best seen on the chart, exist in this area. Caution is advised.

Iselin Harbor (60°03'N., 64°18'W.) affords anchorage, in a depth of 13m. **Gordon Point** (60°03'N., 64°19'W.) forms the W entrance of the harbor and the E entrance point of **Ekortiar-suk Fjord** (60°02'N., 64°21'W.). The fjord is about 10 miles long and has two arms. Depths in the fjord vary from 36.6 to 73.2m, with no dangers in mid-channel. The N approach to the fjord lies between the W side of **Oo-olilik Island** (60°06'N., 64°20'W.) and the W side of the Hutton Peninsula, about 1 mile W.

Off-lying islands.—**Gosling Island** (60°03'N., 64°10'W.) has rocks lying close W and N of it; drying patches lie 5.5 miles ENE and 6 miles NE of it. An islet encircled by reefs lies about 1 mile N of the island. The **Avayalik Islands** (60°07'N., 64°14'W.) consist of two islands and several islets and rocks. The area around the off-lying dangers has not been adequately surveyed.

12.20 Telliaosilk Fjord (60°00'N., 64°20'W.) extends E for 3 miles and has depths in its outer part of 12.8 to 18.3m. A mid-channel course is recommended to avoid the shoals off its N and S entrance points. **Williams Harbor** (60°00'N., 64°15'W.), forming the inner part of the fjord, is reported to afford sheltered anchorage to vessels with local knowledge, in a depth of 13.4 to 14m. The middle of the harbor has depths of 5.5 to 14.6m. There is also good anchorage, in 5.5 to 7.4m, at the head of **Noodleook** (59°54'N., 64°30'W.).

Directions—Cape Kakkiviak to Telliaosilk Fjord.—From a position midway between Black Rock Point and Gosling Island, steer a NW course to arrive about 1 mile W of Gosling Island. Change course to 279°, which leads clear of dangers to a position N of **Tait Point** (60°03'N., 64°16'W.), where a course should be steered to pass at least 0.3 mile N of Gordon Point. When Ekortarsuk Fjord is open, steer through it on a mid-channel course to the anchorage. A shoal, with a least depth of 3.5m, lies about 0.2 mile N of Tait Point.

Approaching Ekortarsuk Fjord from the N, steer for a position about 0.8 mile S of **Mermaid Island** (60°18'N., 64°18'W.) on a WSW course. Change course to 221° heading for **Amity Island** (60°15'N., 64°22'W.). When the N extremity of the island bears 270°, distant 0.4 mile, change course to 172°, steering to pass about 0.7 mile E of **Rowland Point** (60°10'N., 64°22'W.). From this position, steer 179° passing about 0.3 mile W of Oo-olilik Island and entering Ekortarsuk Fjord about 0.7 mile W of Gordon Point.

Caution.—Passage by vessels should not be attempted between the Avayalik Islands and **Home Island** (60°10'N., 64°17'W.) because of the several dangerous rock pinnacles that have not been accurately positioned.

12.21 Jolliet Inlet (60°12'N., 64°24'W.), entered 2 miles NNW of Rowland Point, is marked by a conspicuous sharp-rising peak at its S entrance point and by three above-water rocks off its N entrance point.

Joksut Inlet (60°14'N., 64°25'W.) has a wide entrance extending W to **Bourgin Point** (60°14'N., 64°27'W.), where the inlet divides into two arms. Good anchorage can be taken in the inner part of the inlet, sand bottom.

The **Duck Islands** (60°14'N., 64°20'W.), a chain of islets, front the entrance of the inlet. Amity Island (60°15'N., 64°22'W.) lies about 0.3 mile NE of the N entrance point of the inlet. The fairway between islands is deep and 0.5 mile wide.

Caution.—Breakers have been reported (1995) 0.25 mile N of Duck Island.

12.22 Shungmiyuk Inlet (60°12'N., 64°27'W.) is entered between **Beck Point** (60°13'N., 64°23'W.) and Bourgin Point. A least depth of 9.1m exists in the inlet entrance, with greater depths reported within the inlet. Anchorage can be taken, in 36.6m, mud, good holding ground, about 1.5 miles inside the entrance.

Tunnissugjuak Inlet (60°15'N., 64°29'W.) extends about 11 miles inland to its head. It is reported as deep in mid-channel. **Mount Sir Donald** (60°17'N., 64°32'W.) is a conspicuous peak on the N side of the inlet. The outer part of the inlet is separated from Grenfell Sound by **Cape Labrador** (60°15'N., 64°27'W.), an 8 mile long, rocky peninsula.

Anchorage can be taken in a cove on the N side of the inlet,

in 11m, mud. Another good anchorage is reported just off the cove on a sandy bottom.

12.23 Grenfell Sound (60°16'N., 64°25'W.), entered N of **Swaine Point** (60°15'N., 64°23'W.), is the wide E entrance to McLelan Strait, 3.5 miles NW. Depths in the sound are 25.6 to 54.9m. The shores of the sound rise over 305m on the N side and 183m on the S side. In the approach to Grenfell Sound, a strong N set has been reported during flood tide, while a strong set to the S has been reported during ebb tide. Currents in the sound have attained a velocity of 5 knots on the ebb, less on the flood. A shoal, with a least depth of 6.9m, is charted near mid-channel about 1.5 miles within the entrance. A shoal bank, with a least depth of 6.8m, is located 0.8 mile SE of the S tip of Parmenter Island. Caution is advised.

Clark Harbor (60°14'N., 64°23'W.) is a constricted inlet S of Swaine Point and between the E end of Cape Labrador and Amity Island. There are depths of 6.1m in the S entrance and 0.9m in the N entrance of the inlet, which is suitable for small craft only.

Anchorage.—Anchorage can be taken in Grenfell Sound, almost 1 mile N of Swaine Point, in 36.6m, mud. This anchorage is exposed to strong winds funneling down McLelan Strait. Anchorage is also afforded in the bay on the S side of the sound, close W of the E entrance. In Clark Harbor, there is anchorage for small craft close within the W entrance point, in a depth of 13m.

Caution.—Numerous uncharted shoals are reported to exist in the SE entrance to Grenfell Sound.

Recent corridor surveys (2005-2007) in this region have enabled more accurate and complete charting in some areas. These corridors are marked on the charts and are shown on the relevant source diagrams. Caution is advised when navigating outside these corridors.

12.24 Home Island (60°10'N., 64°17'W.) is the largest of a group of islands lying in the approaches to Grenfell Sound. The island is encircled by numerous small islets, rocks, and foul ground for 0.5 mile. **Nimbus Island** (60°11'N., 64°19'W.) has three small islands lying off its NE side. A chain of small islands extends 4 miles N of Home Island. The **Gasper Islands** (60°15'N., 64°17'W.) lie at the N end of this chain.

The outermost dangers in this area are an islet located 6 miles E of Home Island and shoals charted up to 3 miles farther E and NE. This islet is small and rocky. Tide rips have been observed NE of the islet.

Austin Island (60°17'N., 64°22'W.) lies 1.2 miles N of Swaine Point. **Parmenter Island** (60°17'N., 64°24'W.), with a dome-shaped summit, forms the N entrance point of Grenfell Sound. Mermaid Island and **Argo Island** (60°20'N., 64°19'W.) have above and below-water rocks and shoals in their vicinity. Strong tide rips occur 1.2 miles NW and 2 miles NE of Argo Island. There are numerous uncharted shoals lying around the SE entrance of Grenfell Sound.

12.25 McLelan Strait (60°20'N., 64°35'W.), entered at the narrows about 3.5 miles NW of Grenfell Sound, is a constricted passage about 10 miles long that leads into **Forbes Sound** (60°23'N., 64°49'W.). The strait separates the mainland of Labrador from **Killinek Island** (60°26'N., 64°40'W.).

There are 7 knot tidal currents in the strait; passage is not recslack water.

Depths are 25.6 to 73.2m. Small islets in the strait should be passed with caution. It is reported small icebergs have passed through the strait formed by steep hills of dark rock.

12.26 Jaynes Bay (60°20'N., 64°26'W.), entered W of Thomas Point, extends SW for 1 mile, but it has not been examined. A chain of small islands stretches NE for 0.8 mile from the low point.

Bowdoin Harbor (60°20'N., 64°29'W.) is a sheltered harbor about 0.8 mile NW of Jaynes Bay. Depths of 7.3 to 12.8m exist in the harbor. In the constricted entrance, about 90m wide, there is a depth of 12.8m in mid-channel. The entrance to the harbor lies N of an islet that is connected to the S shore by a drying flat.

Anchorage.—Anchorage can be taken, in depths of 7.3 to 11m, mud, off the entrance to a cove on the S side of the harbor.

12.27 Crowell Inlet (60°21'N., 64°27'W.), a narrow unexamined inlet 0.5 mile N of Bowdoin Harbor, has a length of 1 mile.

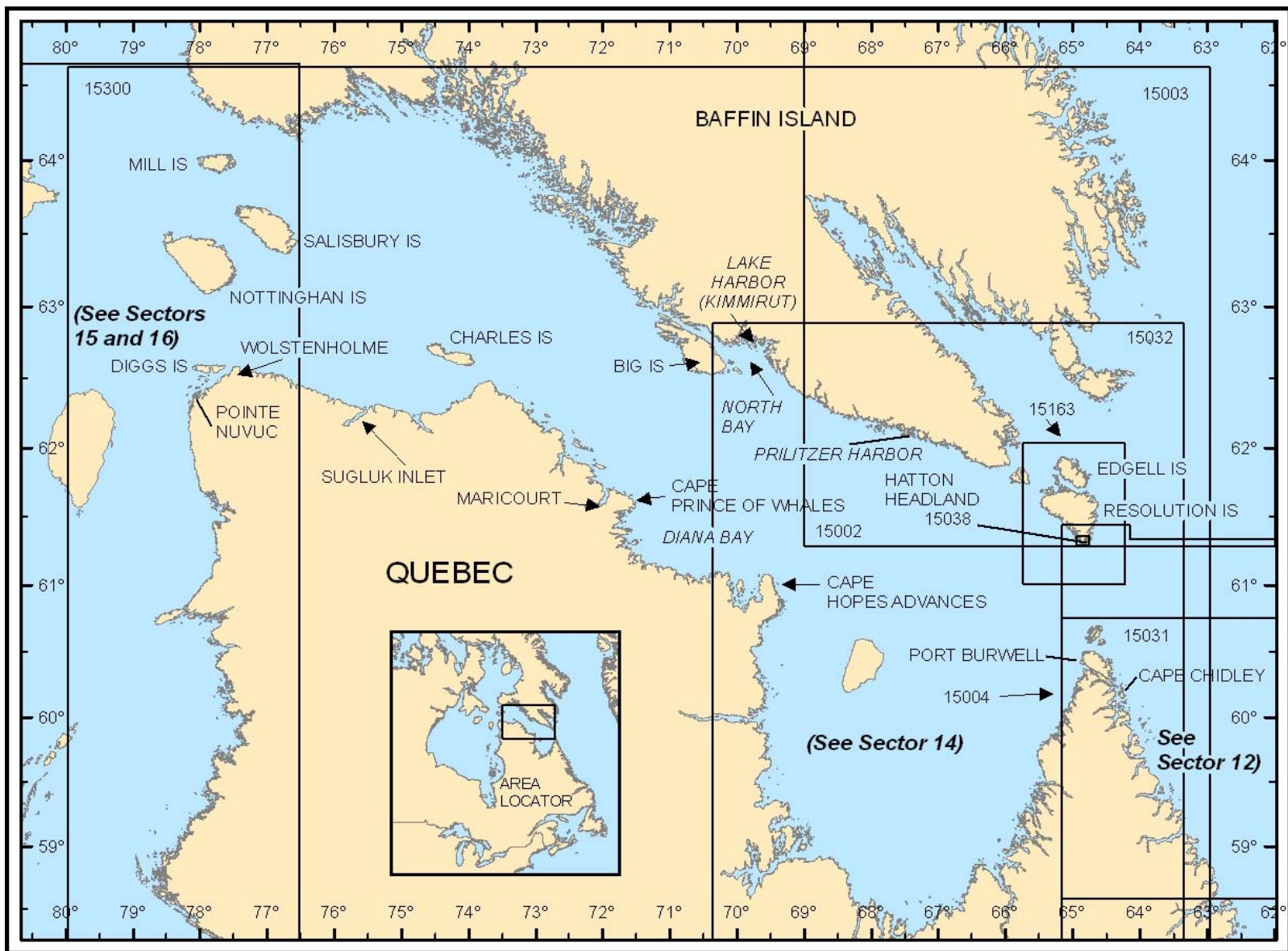
Killinek Island (60°26'N., 64°40'W.), about 18 miles long and 7 to 8 miles wide, is considered the N part of Labrador, although for administrative purposes the greater part of the island is under the jurisdiction of Northwest Territories. Be-



Bowdoin Harbor

tween the SE end of the island and Cape Chidley, about 6 miles NNW, the island is indented by three small bays. The high, steep headlands in the vicinity of the cape are in marked contrast to the low ragged coastline in the area around Grenfell Sound.

Cape Chidley (60°23'N., 64°26'W.) is described in paragraph 13.9.



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

SECTOR 13 — CHART INFORMATION

SECTOR 13

HUDSON STRAIT

Plan.—This sector describes Hudson Strait, beginning with the E entrance between Resolution Island and Cape Chidley. The N side of the strait is described next, from East Bluff to Lloyd Point, including Nottingham Island, Salisbury Island, and Mill Island at the W end. The S side of the strait, from Cape Hopes Advance to Pointe Nuvuk, is covered last.

General Remarks

13.1 Hudson Strait is a long straight passage leading WNW from the Atlantic Ocean into Hudson Bay and Foxe Channel. The strait separates Baffin Island, in the Northwest Territories, from the Ungava Peninsula, in the province of Quebec.

From the E, the passage is entered between Cape Chidley on Killinek Island, at the N extremity of Labrador, and Resolution Island. The W limits of the strait are formed by a line between Pointe Nuvuk, at the NW tip of Quebec, and Seahorse Point, on Southhampton Island, and Lloyd Point, at the SW corner of Baffin Island.

Hudson Strait is about 450 miles in length, the width varies from 60 to 150 miles throughout its length. The E entrance is about 37 miles wide between the Button Islands and Resolution Island, the W entrance is 120 miles wide.

Both the N and S shores of the strait are generally high and rugged, with numerous off-lying islands fringing the shoreline which is broken by numerous bays, inlets, and fjords. Several larger islands lie in or near mid-channel including Resolution Island, the Button Islands at the E entrance, Akpatok in Ungava Bay, Big Island close off the N shore about midway of its length, Charles Island on the S side of the strait near its W end along with Nottingham, and Salisbury Island and Mill Island in mid-channel at the W entrance.

Ungava Bay lies on the S side of Hudson Strait, immediately within the E entrance. It is described in Sector 14.

Navigation of the Hudson Bay route is not intricate in ice-free waters, the route is wide and almost free of dangers, and the complete passage from the E entrance of Hudson Strait to a position off Churchill Harbor, a distance of approximately 950 miles, can be accomplished in only four courses.

Caution.—The magnetic compass is very unreliable and weak in Hudson Strait, particularly in the W part. Areas of local magnetic disturbance occur at several places within the strait.

Winds—Weather

13.2 Hudson Strait is frequently subjected to storms. The more intense of these occur in the September to January period. After January, the preferred track for most of the major storms affecting Hudson Strait skirts the W coast of Greenland.

The following are features of Hudson Strait have an important bearing on the climate:

1. Even in winter the E end is not far removed from the

open waters of the Labrador Sea and South Davis Strait. Furthermore, some open areas are always present in the ice cover, mainly in the E half.

2. After most of the ice has cleared from the strait, in summer, the cold Canadian Current keeps surface water temperatures barely above freezing.

3. Channeling of winds, evident along the entire length, is pronounced in the central segment between Cape Hopes Advance and Cap de Nouvell-France, where terrain heights rise inland to about 548m along the S side, and nearly 915m on the Meta Incognita Peninsula of Baffin Island.

The effect of the warming by open waters is noted as January temperatures show a pronounced gradient, from -17.8°C at Resolution Island to -24.4°C at Nottingham Island.

In the same month, infrequent intrusions of Atlantic air can bring temperatures above freezing as far west as Nottingham Island. The high frequency of strong winds, as evident at Cape Warwick, can make for bitterly cold weather, often accompanied by blizzards.

In March and April, before the melt begins, the daily hours of sunshine can be quite long, especially over the central and W portions of the strait. In May, though the hours of daylight continue to increase, the hours of sunshine are reduced by the increasing cloud amounts. Cape Hopes Advance, for example, has an increase from the winter minimum of about 50 per cent cloud cover in February, to a maximum of about 80 per cent in May.

Through July and August, high cloud amounts continue. Rainfall averages about 40mm. Although snowfall at sea level is rare, higher elevations have some light falls. Temperatures in midsummer remain cool over the waters (daily mean at Resolution Island in July is 3.2°C), but can be considerably higher inland (Fort Chimo is 11.4°C).

The first fall of snow at sea level can be expected over the W end by late August, over the E end by early September. With increasing storm intensity, and the passage of Arctic air over the open waters, monthly snowfall amounts of 20 to 30cm occur along the strait, October through December.

In the fall, with heating of the frigid Arctic air by the open water, dense snow squalls occasionally restricts visibility to zero. However, very low visibility is still much less common in the fall than in the summer. For example, at Cape Hopes Advance, the average number of hours of visibility of 0.1 mile or less in October is 30, in August the average is 15.

Although the comments made are probably applicable also to the N parts of Ungava Bay, these cannot be verified by data. Quite likely the S parts of Ungava Bay and the coastal areas along the W and E sides are less windy than the open areas of the strait. However, the navigator must not assume that the Fort Chimo data are representative of the open area of Ungava Bay. Fort Chimo, situated 10 miles up the Koksoak River, has its wind directions strongly influenced by local topography and its wind speed dampened by the roughness of the terrain.

In the analysis of gale force winds it is assumed that the three weather observing sites of good exposure, now closed,

(Resolution Island; Cape Hopes Advance; Nottingham Island), along with the present station at Cape Warwick offer a reasonably reliable indication of the wind regime along the strait.

Cape Warwick, 368m high, has a very windy environment. Days with gales average 5 in July and 14 during October through March. Through the shipping season there have been insufficient ship reports to confirm the relationship between the winds at sea and those reported at Cape Warwick. The frequency of strong winds at sea level is usually less than what is reported at Cape Warwick, but at the same time, considerably more than what the figures show for the less elevated station at Resolution Island.

The preference of storm centers to gravitate towards Hudson Strait and Davis Strait makes strong winds a possibility in any month of the year. Normally, July is the most quiet month with possibly no strong winds and likely not more than 5 days. Given a July of vigorous storms, 10 days or so may be windy in the portion of the strait between Cape Weggs and Cape Hopes Advance, where the narrow width acts to channel the winds. In August, even before the ice has completely cleared from the strait, the probability of strong winds starts to increase, and this increase continues right through to November at Cape Hopes Advance and Nottingham Island, December at Resolution Island, and January at Cape Warwick. In a windy August, any part of the strait can have as many as 12 days with strong winds, although the average is 1 at Nottingham Island, 1 at Cape Hopes Advance, and 2 at Resolution Island. With the advent of winter storms, strong winds become rather common, occurring on about one-third of the days in the central strait. Even in October, one of the stormy months, Nottingham Island may have no strong winds, Cape Hopes Advance as few as 6 days with gales, and Resolution Island as few as 5 days. If the strait is visited by many vigorous storms in October and/or November, strong winds are possible on three days out of four, especially in the E end.

As freeze-up starts in late October, many of the intense storms follow a more S course, then curve towards the E end of the strait, the N Labrador Sea or Davis Strait. Accordingly, the frequency of strong winds drop off in the W, but the storms, steadily growing more intense, batter the E entrance with frequent gales.

For those who are in the strait past late October, there is a particular type of dangerous storm that bears careful watching. With blocking of systems in the Atlantic, storms may be forced to disregard the normal tracks and head in a N direction from the Gulf of St. Lawrence, or NE from the Labrador Sea. Approaching the strait they may cause winds of hurricane force. Storms of this nature may carry sustained winds of as much as 102 knots and are predominantly NE.

The strength of winter storms is aptly illustrated by an extreme event that occurred in 1931. Late on November 17, an intensifying low center moved into Hudson Bay in the vicinity of York Factory, then sped NE to lie, with a central pressure of near 975 millibars, at the mouth of Frobisher Bay. On its passing through central Hudson Strait, the winds at Cape Hopes Advance veered from SW at Force 6 to the NW, where they increased to exceed a steady Force 12 for 16 hours. For the 5-hour period from 1700 to 2200, the wind maintained a speed in excess of 85 knots; for the first hour of this period it sustained a steady speed of nearly 110 knots.

Although the deep storms that visit the strait in the fall and early winter rarely reach such intensity, they do create a high frequency of strong NW winds. At Cape Hopes Advance the NW winds exceed force 6, for example, 21 per cent of the time in September, 38 per cent in October, 28 per cent in November, and 24 per cent in December.

Resolution Island reports are a reliable indicator of the fog-giness across the E entrance to Hudson Strait. The frequency of summer fog in this area is related to the high frequency of E winds, and the steep temperature gradient between the cold waters of the Canadian Current and those of the Labrador Sea. Air with a long trajectory across the Labrador Sea accumulates moisture. Crossing the edge of the Canadian Current, it is abruptly cooled and fog generally forms or thickens. In the months of July and August, if the winds are blowing into the strait the chances are approximately 50 per cent that fog will occur sometime during the day. With W winds, usually drier and cooler, the chances are lower, being about 20 per cent.

More than half the days, in July and August, are fog days over the E half of the strait. Towards the W end, fog days are fewer, averaging at Nottingham Island 33 per cent in both July and August. With changing storm tracks causing more frequent NW winds, the probability of fog decreases slowly after the middle of August. By the end of September, about one-third of the days have fog between Resolution Island and Cape Hopes Advance; Nottingham Island one day in six. By the end of October fog days are unusual at sea level. By that time the restriction to visibility is more likely to come from heavy snow precipitation.

Although the much higher fog frequencies at Cape Warwick may better indicate the frequency of fog over the sea, the observations at any instant may be a disappointment, for often the observers at Cape Warwick are seeking inside a cloud deck while ships are making headway in good visibility. At other times the observers at their elevation of 368m are able to look over the top of widespread fog that blankets the sea below. This is merely a note to the mariner to consider the elevation of the Cape Warwick site when interpreting its weather observations.

Ice

13.3 The ice of Hudson Strait is mostly formed locally, but winds and currents can carry floes from Foxe Basin and Foxe Channel, or from Baffin Bay and Davis Strait into this area. The Foxe Basin ice is of one winter's growth (first year or young ice) almost exclusively, and is distinguishable by its extreme roughness and a discolored appearance. It is mainly found in the W portions of the strait and can be present from spring break-up until October. Baffin Bay ice can be carried into the strait and bay by E winds. This ice can include numerous old floes from Baffin Bay, but first year ice is more common. Icebergs also affect eastern Hudson Strait and Ungava Bay.

Freeze-up in this area usually begins in late October in the W end of Hudson Strait and ice formation progresses E to cover the whole area by late November. Fast ice becomes extensive among the islands from Lake Harbor to Cape Dorset, and in the bays and inlets of Ungava Bay, but elsewhere steep shores and strong tidal action limit its development. Level fast ice grows to 60 to 75cm by 1 January and to 110 to 160cm by mid-May.

Because of strong tidal currents and frequent gales, the ice in

the offshore areas is in constant motion throughout the winter. Some ice is "exported" to the Labrador coast during winter, but the actual amount is not known because it mixes with pack ice from Davis Strait.

In May, leads become more persistent as temperatures rise and the rate of refreezing is reduced. By the end of July the ice pack is usually confined to central Ungava Bay and the S side of Hudson Strait, but wind conditions have a great effect on this distribution. As a rule the best entry route early in the shipping season lies near the Baffin coast as far W as 72° W, then on a track passing S of Nottingham Island.

The best area for crossing from the N to the S side of the strait can vary from day to day and week to week depending on meteorological conditions.

Complete clearing of the sea ice usually occurs during the second week of August, and for the remainder of the shipping season icebergs from Davis Strait and occasional intrusions of sea ice from Foxe Basin are the only ice hazards.

Canadian Ice Advisory Service.—The Canadian Government conducts a comprehensive ice reconnaissance and data gathering program, and through Ice Forecasting Central in Ottawa, provides a full ice forecast and advisory service for the assistance of winter shipping on the E seaboard and summer shipping in Ungava Bay, Hudson Strait, and Hudson Bay. Aerial reconnaissance is conducted by trained observers whose reports are sent to Ice Forecasting Central, where they are coordinated with data from satellites, and shore and ship reports of ice sightings.

Ice forecasts are normally for 36-hour periods, with an outlook for a further 24 hours. During periods when the ice is light and of no immediate concern to shipping, a five day forecast may be substituted. Ice charts are broadcast daily by radio facsimile, and the ice forecasts and bulletins are broadcast over the coastal marine radio stations.

Caution.—At certain times of the year, particularly in the spring and early summer, ice presents a formidable hazard to shipping approaching the E coast of Canada. Icebergs, growlers, and large masses of sea ice extending out to 110 miles from the coast are carried S by the Labrador Current. This danger is further compounded by the prevalence of fog at this same time of year along the Labrador coast and S to the waters off Newfoundland.

Tides—Currents

13.4 To understand the tidal phenomena of the area, it is necessary to have clearly in mind two concepts. The first is the existence of a tidal undulation in the open ocean which moves forward in a W direction, opposite to the direction of the earth's rotation. This undulation is accompanied by tidal currents. The second concept concerns the modifications which occur when the tide encounters irregular distributions of land associated with continents and islands.

Tidal movements are periodic vertical oscillations above and below mean sea level, while tidal currents are periodic horizontal oscillations over a fixed point on the earth's surface, or in open waters, an elliptical movement around a fixed point. The periods of these oscillations are identical to those of the forces to which they respond, i.e. the rotation of the earth on its axis, the revolution of the moon around the earth, and the revolution

of the earth around the sun.

The non-periodical horizontal movements of the sea comes under the general heading of currents. Solely under the influence of currents, a particle of water will change its position over the earth's surface either progressively or seasonally, or with non-periodical fluctuations.

The term flow has the same meaning as horizontal water movement, as it is the combination, at any instant, of the tidal current and current.

Hudson Strait.—The main tidal currents in Hudson Strait are strong and definite, with no cross currents setting to either shore. Flood waters entering the strait are curved somewhat to the S by the indraft to Ungava Bay; consequently, the progress of the tidal undulations is more rapid along the S side of the strait than on the N shore. The time of HW at Wakeham Bay is only a little later than at Port Burwell, while at Ashe Inlet, immediately opposite Wakeham Bay, HW occurs considerably later. The same relation holds for the time of LW at those points, but it is likely that the main ebb holds farther N across Ungava Bay than the flood.

In addition to the ordinary tidal pulsations in Hudson Strait, there are general progressive movements or circulations of water. Icebergs which enter the strait can do so only around Resolution Island and through Gabriel Strait. In their S journey from Davis Strait, they are drawn in by the flood and some fail to go out with ebb. These work W, indicating a general movement of the water in the N part of the strait in that direction. They are found W as far as Charles Island, and one has been reported even further W in the vicinity of Nottingham Island. If they are carried to the S side of the strait, they will be borne to the E.

Observations of the ice movement S of Resolution Island over a period of several months show the duration of the flood and ebb currents to be about equal. The outward flow from Hudson Bay is evident as a dominant E set along the N side of the Digges Islands and off Cape Wolstenholme, where it becomes locally, and perhaps for some distance, a constantly outward current. Doubtless, the movement continues along the S side of the strait.

The strength of the tidal currents between Resolution Island and Cape Chidley is given as 5 knots on the charts, but no determinations have been made elsewhere in the straits.

The currents in Digges Sound and its approaches are not considered dangerous to navigation. There is an ebb and flood rate of 2 to 3 knots between Capes Digges and Wolstenholme. The flood approaches Digges Sound from the NE as an undercurrent and turns to the S on entering the strait. The ebb, flowing NE past Cape Wolstenholme, turns E into a constantly outward current starting at the W end of the Digges Islands and continuing past Erik Cove. At Erik Cove, there is a 3 knot current which slackens to a low rate with flood effect.

Off Erik Cove and extending W to Cape Wolstenholme, there is a shelf with moderate depths of 91m to 128m extending 0.5 mile or more from the shore. Beyond this shelf, soundings indicate a sharp drop to depths approaching 457m. This deep body of water, moving in one direction, causes heavy rips, swirls, and eddies over the shelf, which during strong winds, create a danger to small craft.

Centrally in the sound, off the easternmost Digges Island and off Staffe Island, the direction of the ebb is with the channel.

Information on the direction of the flood current is not available. Off Ivugivik Point and Nuvuk Harbor, the ebb runs with the channel. The flood is variable and turns at times toward the Nuvuk Islands. These conditions are also found, to a lesser extent, S of Fairway Island. One mile S of North Skerries, the flood and the ebb run W and E.

From the information available, it seems that the ebb current has much longer duration than the flood. Between Nuvuk Harbor and the Fairway Islands, the flood period seems to be 4 hours 45 minutes and the ebb nearly 8 hours. No definite times can be given for the turn of the tidal currents, but from Ivugivik Point E, HWS in Eastern Standard Time may occur 3 to 4 hours after the time of HW, and the LWS 4 to 5 hours after the time of LW, as given in the tide tables for Diana Bay.

Similarly, in the W approach to the sound to Fairway Island, the HWS may be 5 to 6 hours after the times of HW, and the LWS at approximately the times of LW, as given in the tide tables for Diana Bay.

A very large increase in the range of the oceanic tides occurs along the SE coast of Baffin Island and across the entrance to Hudson Strait. To the SW of that entrance, the range is still further increased by the topography of Ungava Bay, at the head of which an extreme range of nearly 15.2m is reached. In the strait itself, the range occurs on the N side in the vicinity of Big Island, where the extreme range is over 12.2m, while on the opposite shore, near Wales Island, it is only 10.1m.

The differences in the tidal ranges on the two sides of the strait are due to the gyroscopic force which arises from the earth's rotation about its axis, and to the fact that the currents are setting at their maximum rates to the W when the tide is high and to the E when the tide is low. The gyroscopic force causes particles of water moving over the earth's surface in the N hemisphere to be deflected to the right. In a strait, this force creates a gradient, sloping upwards across the strait towards that side which lies to the right of the direction in which the water is flowing, so that when the tide is high and the current is setting W, the water level is raised on the N side and correspondingly depressed on the S side. The reverse occurs when the tide is low and the current is setting E. Thus, on the N side the range is increased by the raising of the high water level and the lowering of the low water level, while on the S side the range is decreased by the lowering of the high water level and the raising of the low water level. For this reason, the tidal range along the N side of Hudson Strait and along the E side of Foxe Channel is notably larger on the opposite shore. The exception is in the E entrance. There the tidal currents are slack near to the times of high and low tide, and in consequence there is no gradient at these times to affect the range of the tide. In this area the range is greatest on the S side owing to the topography of Ungava Bay.

Depths—Limitations

13.5 The passage through Hudson Strait presents no navigational problems, there is deep water throughout and only a few alterations of course are necessary. These waters have not been fully covered by systematic and detailed surveys, but it seems certain that no dangers to navigation exist in or near the main channel through the strait.

Regulations

13.6 Arctic Canada Traffic System (NORDREG CANADA).—Mariners should be aware of the existence of the Arctic Canada Traffic System and the advantages of reporting to this system, which is required by certain vessels for Vessel Traffic Service covering the waters N of 60°N and all of Ungava Bay, Hudson Strait, and Hudson Bay.

During the Arctic navigation season, a NORDREG office based at Iqualuit (Frobisher Bay) is staffed with an Ice Operations Officer who provides information on ice conditions and vessel routing in ice. Icebreaker assistance, when requested, may be arranged through the Ice Operations Officer. For further information on NORDREG CANADA, see Pub. 140, Sailing Directions (Planning Guide) North Atlantic Ocean and Adjacent Seas or Pub. 180, Sailing Directions (Planning Guide) Arctic Ocean.

Directions

13.7 Hudson Strait approach.—Vessels approaching Hudson Strait from the E should give Greenland a berth of about 100 miles in order to avoid ice, which in summer is carried S along the E coast of Greenland by the East Greenland Current, and then around Kap Farvel and into Davis Strait. Vessels approaching from the S should, after passing Belle Isle and if field ice is present off the Labrador coast, lay a course to pass 50 to 75 miles offshore until abreast the E entrance of Hudson Strait, and if necessary, await a favorable opportunity to enter. This course is much safer than attempting to take advantage of an inside passage that may be offered in W winds, for a change to E winds could close the ice pack on the shore. Vessels approaching the entrance from the S must take care to avoid Labrador Reef.

Note.—After entering Hudson Strait, if it is desired to pick up the S shore W of Ungava Bay, it will be better to make Wales Island rather than to attempt to make the land to the E. Wales Island is bold and easily identified.

Hudson Strait—East Entrance

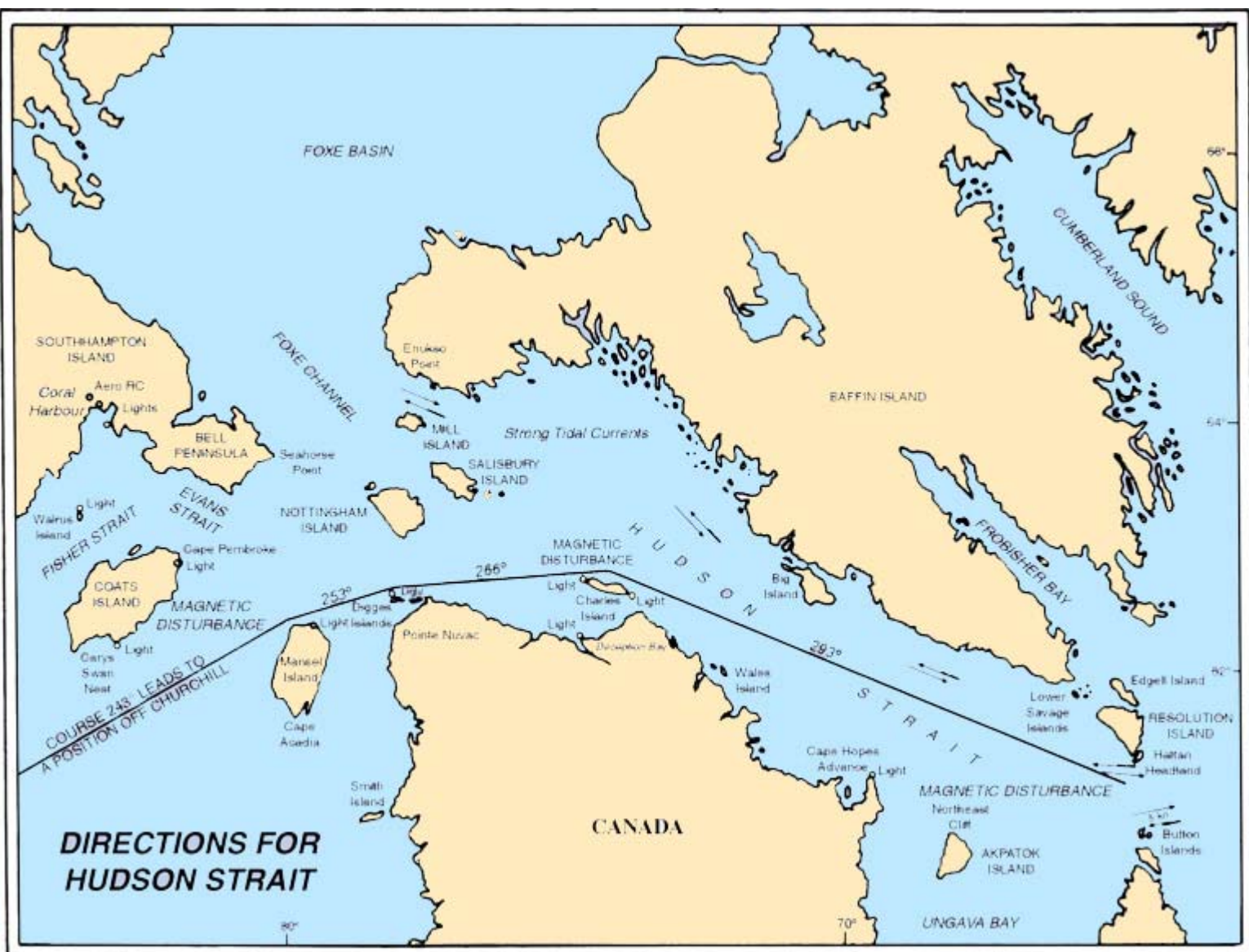
13.8 The main channel at the E entrance of Hudson Strait, between the Button Islands on the S and Resolution Island on the N, is about 37 miles wide.

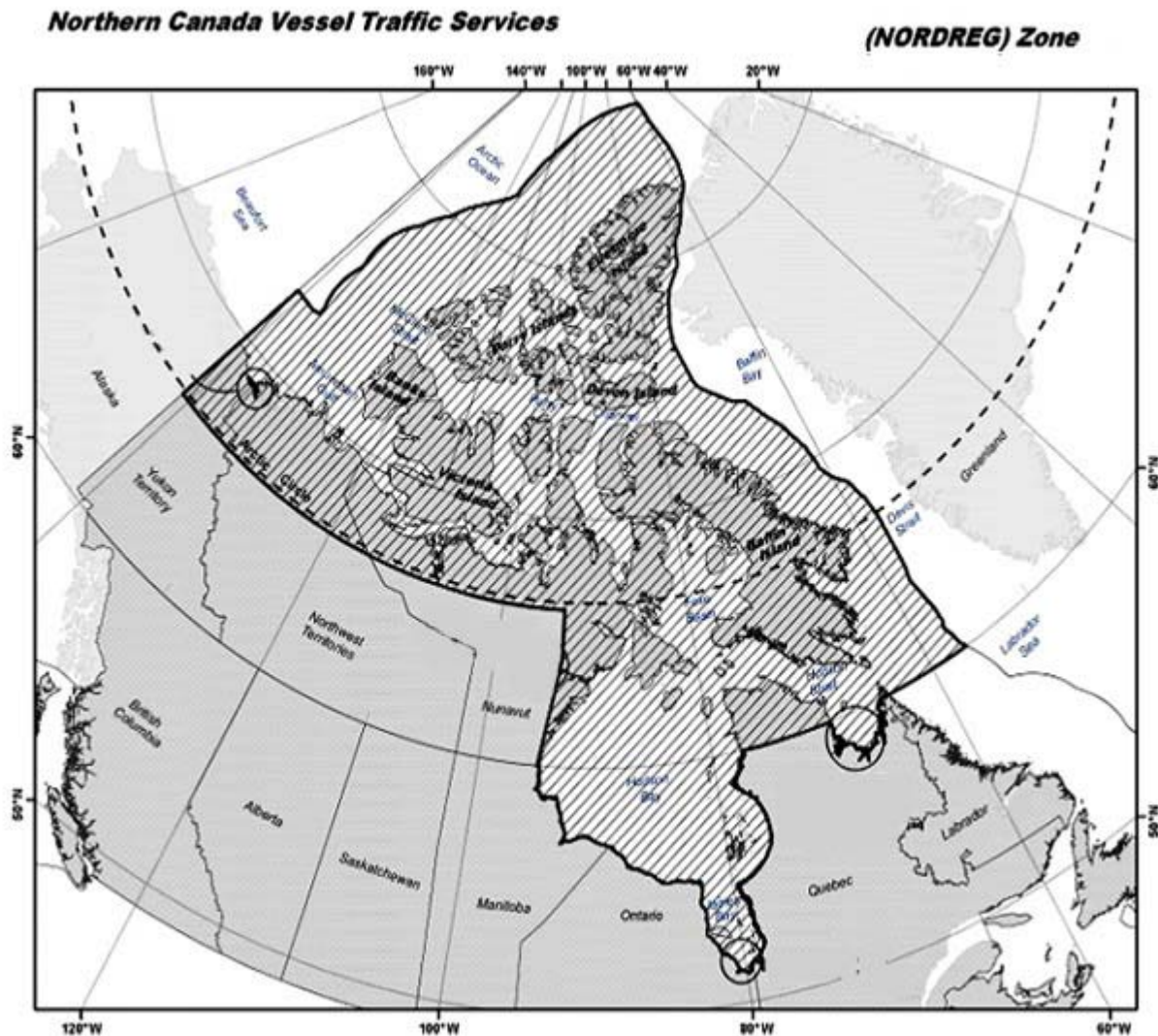
Labrador Reef (60°38'N., 64°24'W.), the only major danger in the approach, lies 6 miles ENE of the summit of the Knight Islands. This drying reef covers 4.6m at HW and presents a serious danger. The water in the vicinity of the reef is very deep and no warning of its presence can be detected by soundings.

Hudson Strait—East Entrance—South Side

13.9 The NE and N sides of Killinek Island, from Cape Chidley to Flat Island, Gray Strait, and the Button Islands, form the S side of the E entrance of Hudson Bay.

Cape Chidley (60°23'N., 64°26'W.) rises steeply to an elevation of 350m; it is conspicuous at a distance of 10 to 15 miles. The bold high cape cannot be mistaken for the Button Islands, which are high and stand offshore.





Canadian NORDREG Zone

Between Cape Chidley and Port Harvey, 10 miles to the NW, the coast is broken by three inlets; the Cape Chidley Islands lie off the S end of this stretch of coast.

Gould Point (60°24'N., 64°26'W.), the E entrance point of MacGregor Strait, lies 1 mile N of Cape Chidley. It has an elevation of 274m.

O'Brien Harbor (60°24'N., 64°33'W.), entered W of Le-casse Point, extends S for 2 miles, then W for 1 mile. The entrance to this small landlocked harbor is only 0.2 mile wide. Three sunken rocks lie on a shoal area that extends N from the E entrance point. One of the rocks always breaks, even at HW. Anchorage is available, in 16.5m, with good holding ground. Tide rips are reported in the harbor entrance and at times strong gales sweep down through the inlet from the highland to the SW.

13.10 The Cape Chidley Islands (60°26'N., 64°30'W.), two bold steep-to islands, lie off the NE coast of Killinek Island. They are separated from the island by MacGregor Strait.

Cabot Island, the E island, is 2 miles long with two summits, 401m on the N and 325m on the S.

Pert Island, 0.5 mile to the W, is slightly smaller than Cabot Island and has an elevation of 385m.

Tides—Currents.—Tidal currents with a velocity of 5 knots on the rising tide have been reported near the E side of Cabot Island; a current of about 3 knots sets N between Cabot Island and Pert Island. Also, whirlpools have been experienced from off Gould Point around Cabot Island to the N and E.

MacGregor Strait (60°25'N., 64°29'W.) extends from Gould Point to the SE entrance point of Blandford Harbor, a distance of 4 miles, with the Cape Chidley Islands forming its N and E sides. Mid-channel depths in the strait are 86 to



Cape Chidley Islands

122.5m.

13.11 Blandford Harbor (Burgess Inlet) (60°26'N., 64°34'W.) lies 2.5 miles NNW of O'Brien Harbor and branches into two arms at its head. The open bight is too exposed for anchorage and, with a falling tide, the currents off the harbor reach a velocity of 5 knots.

Lady Job Harbor (60°28'N., 64°36'W.), lying 2 miles NNW of Blandford Harbor, also branches into two arms.

Bush Island (60°30'N., 64°45'W.) lies close off the N end of Killinek Island. It is 2.5 miles long and about 1.2 miles wide, with an elevation of more than 152m. It is separated from Killinek Island on the E by Port Harvey, a small bay connected by a narrows to Kelloway Bay, which separates Bush Island on the S.

Perrett Island, Hettash Island, and Flat Island are the largest islands in the group lying off the W end of Bush Island; they are separated from Bush Island by Lenz Strait.

13.12 Gray Strait (60°32'N., 64°40'W.), the passage lying between Killinek Island on the S, and the Button Islands and the Knight Islands to the N, is about 9 miles long with an average width of 3.5 miles. Depths in Gray Strait range from 274m in its E entrance to 732m in the central part and about 676m in the W entrance.

Tides—Currents.—Strong tidal currents run through the strait at velocities of 5 to 7 knots, creating very heavy tide rips at times, particularly in the W entrance. Low-powered vessels should pass N of the Button Islands. During periods of strong W winds in Ungava Bay, extremely heavy squalls occur in Gray Strait.

The **Knight Islands** (60°34'N., 64°35'W.) consists of two large islands and several smaller islands and islets lying on the NE side of Gray Strait. The largest island, 2.5 miles long and 1.7 miles wide, rises to a height of 213m at Knight Summit, at the N part of the island.

The Button Islands, on the N side of Gray Strait, consists of two groups of barren, long, and narrow islands lying in a general NE-SW direction. A navigable channel, about 0.2 mile wide, separates the two groups.

13.13 Lacy Island (60°41'N., 64°36'W.), the NE and highest island in the group, is roughly square in shape with a height

of 290m. The NE end of the island rises sheerly from the water and the summit of the island is visible from all points of approach. There is a sheltered landing place on the SW side of the island.

Goodwin Island, located 0.5 mile WNW of Lacy Island, is 178m high. A light is shown from the NE extremity of the island.

Lawson Island (60°37'N., 64°38'W.), the largest island in the group, lies close SSW of Lacy Island. Button Hill, the prominent summit, rises to a height of 255m near the middle of the E side of the island.

MacColl Island (60°39'N., 64°42'W.) lies close W and parallel to Lawson Island. It is about 5 miles long and 152m high.

13.14 Erhardt Island (60°40'N., 64°46'W.), 1.5 miles W of MacColl Island, is 107m high. A chain of islands, 5 miles long, lies between Erhardt Island and MacColl Island.

Clark Island (60°36'N., 64°54'W.), the W island in the group, lies 1.2 miles WSW of the S end of MacColl Island.

King Island, close SW of MacColl Island, has a conspicuous cliff on its SE side.

Holdridge Island (60°35'N., 64°45'W.), close W of the S end of Lawson Island, is about 91m high.

Leading Island (60°36'N., 64°45'W.), a small islet only 9m high, lies close W of Holdridge Island.

Niels Island and Dolphin Island, two small islands, lie close SW of Holdridge Island.

The passage leading through the middle of the Button Islands group is 0.2 to 0.6 mile wide, with a least mid-channel depth of 3.7m at its NE end between Lacy Island and Goodwin Island. A depth of 12.8m can be carried by favoring the E side of the channel. The passage can be entered from either end.

Anchorage.—Minto Anchorage, close off the SW side of Lawson Island, provides good anchorage, in 36.6m, gravel and clay. Vessels approaching from the SW should bring the SE tangent of Leading Island in line with Button Hill, bearing 063°. From the SW entrance, a mid-channel course can be steered, but Observation Island, at the N end of the anchorage, must be rounded on the N side to avoid dangerous rocks to the S.

Icebergs occasionally enter the channel leading to the anchorage.

The passage between Lacy Island and Lawson Island is unsuitable for anchorage due to a solid rock bottom and the strong tidal currents with rates of 5 to 7 knots.

Caution.—Caution should be exercised if entering from the N, as there are dangerous tide rips at the entrance, as well as a dangerous rock and a small islet near the W side about 0.6 mile inside the entrance.

Hudson Strait—East Entrance—North Side

13.15 The Resolution Islands form the N side to the E entrance to Hudson Strait. The group consists of Resolution Island, Edgell Island, and numerous smaller islands.

Resolution Island (61°30'N., 65°00'W.) is located at the NE side of the E entrance to Hudson Strait. The island is roughly triangular in shape, with a length of 23 miles N-S and a breadth of 24 miles E-W. Numerous bays and inlets break the shore, which is low along the SW side, but rises in steep cliffs else-

where. The island is barren and rough with many lakes in the depressions. The summit, located in the N central part, is over 488m high. Only four of the coves that indent the coast have been examined. They are Sorry Harbor and Brewer Bay, in the NE part of the island, and Acadia Cove and Resolution Harbor, near the S end. Some of the other inlets might provide shelter in an emergency, but they have not been surveyed.

13.16 Hatton Headland (61°19'N., 64°45'W.), the SE point of Resolution Island, is the most prominent landmark in the approach to Resolution Island. Strong tide rips exist and tidal currents of 5 knots, setting E and W, have been reported in the area 10 miles S of the headland. Closer to the SW shore, the tidal currents set parallel to the land, at velocities of 6 to 7 knots.

Foul Passage, bounded on its W side by the Watt Islands and Star Island, is encumbered by shoals in its N part.

Resolution Harbor (61°21'N., 64°50'W.) is entered through Resolution Tickle, a narrow channel about 3.5 miles WSW of Hatton Headland, extending N from Hudson Bay. Fairway depths range from 65.8m at the entrance to 12.8m at the N end of the narrow channel, which is only 46m wide W of Star Island.

Good shelter, and very good holding ground, with ice-free conditions during the navigation season, have been reported in Resolution Harbor.

Directions.—A course of 014° on the W tangent of Haven Island leads through the narrow channel W of Star Island. Vessels should steer between Beak Point, the SW point of Haven Island, and Mark Island to the W, followed by a mid-channel course E of Mizzen Island to the anchorage SE of Twin Rocks.

The strong tidal currents in the approach set directly across the entrance to Resolution Tickle. Entry should be attempted only at SW.

Topsail Head (61°18'N., 64°51'W.), a high bluff, is the W entrance point to Resolution Tickle. An area of heavy tide rips, The Swirlers, which extends for 2 miles W of Topsail Head, can be very dangerous during bad weather. A beacon situated close W of Topsail Head may no longer exist.

13.17 Radio Island (61°18'N., 64°53'W.) lies about 2.5 miles W of Resolution Tickle. A light is shown from the W side of Radio Island. Two radio towers stand close N of the light. A fluorescent orange day beacon marks the light structure.

Acadia Passage (61°19'N., 64°55'W.), located about 2.2 miles NW of the light on Radio Island, is entered S of Sentinel Island and N of the Hen and Chicks Islands. Depths in the passage are greater than 27.4m, except for a shoal bank half-way across the entrance with a least depth of 6.4m.

Acadia Cove (61°20'N., 64°54'W.) is protected by Cockade Island and the Sentinel Islands on the W and Boatswain Island to the S. Depths in the cove are 14.6m to 42.1m. Bilge Rocks, the only danger in the middle of the cove, lie about 0.2 mile E of Sentinel Island. Vessels seeking shelter in Acadia Cove should pass E of these drying rocks when proceeding to anchorage.

From December to July, the cove is unusable on account of the drift ice, small bergs, and growlers. Freeze-up occurs in the middle of November and heavy drift ice can be expected. Break-up takes effect about July 20, but ice may be encountered

in the cove until mid-August. Small bergs and growlers frequently ground on the shoal at the entrance to Acadia Passage throughout the navigation season.

Fog is prevalent during the navigation season when there is ice in the vicinity.

Anchorage is available in the NE section of Acadia Cove, in 36.6m, mud and clay. Elsewhere in the cove the bottom is reported to be rocky. Shelter in the cove is considered good, with the prevailing winds from the NW through N to SE. Some swell enters the cove with S winds and in heavy E gales. Shelter from W winds is limited.

Directions.—Vessels commencing entry into Acadia Passage should first identify Radio Island to establish their position, as the entrance itself is very difficult to distinguish. Very strong tidal currents set across the entrance and it is recommended that vessels enter at the time of HW, which coincides with SW in the approach. Vessels should be steered on the line of the leading beacons, although these beacons may not be maintained. Extreme caution should be exercised until inside the islands, if the current is running strong across the entrance. The leading line passes very close to the end of a shoal spit extending N from the Hen and Chicks, which may be shallower than charted. Continue on this course then alter course N for the anchorage, taking care to avoid a reef extending 100m E from Bilge Rocks.

13.18 Cape Warwick (61°36'N., 64°37'W.), located 17 miles NNE of Hatton Headland, is a high red cliff rising steeply to an elevation of 362m. It is a good radar target up to 40 miles offshore.

Cape Warwick was formerly the site of a USAF facility as well as a Canadian Coast Guard radio station. These facilities have been abandoned. A large dome atop a tower and a nearby abandoned radar installation on the cape are conspicuous from seaward.

Except for the approaches to Brewer Bay and Sorry Harbor, the area off this side of Resolution Island has not been surveyed and there are many unexamined dangers. Vessels should stay 8 to 10 miles off the E side of the island.

Brewer Bay (61°35'N., 64°38'W.) lies close SW of Cape Warwick. Depths in the bay range from 36.6m at the entrance to 11m at its head. Depths of less than 5.4m extend up to 90m offshore in places. Small vessels, up to 73m long, have anchored in this harbor, but due to the occasional heavy ground swell and lack of shelter from the sea, larger vessels usually anchor in Sorry Harbor to the NW of Cape Warwick.

Directions.—When within 2 miles of the cape, the conspicuous oil tanks in Brewer Bay will be seen slightly on the port bow. This gives positive identification of the harbor and course may then be steered in mid-channel to the anchorage.

The entrance to Brewer Bay is about 0.2 mile wide between the islets. Yellow Beach boat landing lies at the head of a narrow inlet located on the SW side of Brewer Bay, close inside the entrance. Stores for the installations in this area are unloaded here. High hills on either side protect the landing. Winds and currents may block the landing area with ice.

Tankers moor with both anchors on a heading of 045° off the entrance to the inlet, in 14.6m, with stern lines secured to ringbolts ashore. Oil is transferred via floating hose lines. The berth is described as dangerous.

Caution.—A dangerous wreck lies on the N side of the entrance to Brewer Bay. Ice has shifted the wreck, making the exact position and depth of water over the wreck unknown.

13.19 Sorry Harbor (61°36'N., 64°42'W.) lies on the NW side of the peninsula of which Cape Warwick is the E extremity. The harbor is entered between an unnamed point 1 mile N of Cape Warwick and a group of islets 1.5 miles NW of the point. Numerous islets and rocky shoals encumber both sides of the harbor. Depths range from 11 to 91m. The controlling depth in the entrance is 32.9m.

Sorry Harbor is more protected than Brewer Bay, but the shelter is described as only fair. The anchorage is exposed to ice and winds from the E. The bottom is generally rocky, with areas of mud, hard clay, and shale. The holding ground is in-different.

The beacons charted in Sorry Harbor are no longer maintained and their condition is not known.

Graves Strait (61°43'N., 65°00'W.) is the passage separating Resolution Island from Edgell Island to the N. The strait is about 12 miles long and 2 miles wide. Depths in or near mid-channel are 40.2m to 126.2m. Numerous islets and rocks encumber the entrances. The strait has only been partially surveyed and additional dangers may exist.

Edgell Island (61°50'N., 65°00'W.), on the N side of Graves Strait, is about 16 miles long, with an average width of 7 miles. The summit, at the N end of the island, is 254m high. **Black Bluff**, the headland at the N end, is the only named feature on the island. Numerous rocks and islets fringe the shoreline which has not been examined. There are indications of tide rips or very strong currents off the SE point of Edgell Island at the E entrance to Graves Strait.

13.20 Gabriel Strait (61°45'N., 65°30'W.) separates Resolution Island from East Bluff, at the SE end of Baffin Island. The strait is about 20 miles wide and is divided into two passages by the Lower Savage Islands. Gabriel Strait is the SE passage and the NW passage is Annapolis Strait; however, the name Gabriel Strait is often applied to the entire strait. Fairway depths in both channels are nowhere less than 183m.

Tides—Currents.—Tidal currents run with great strength through the strait at rates of up to 5 knots. These currents cause a confused sea, with whirlpools and strong tide rips in the vicinity of the Lower Savage Islands. During spring tides, navigation in small craft is often hazardous and at their maximum the tide currents can set a vessel strongly towards the islands.

The **Lower Savage Islands** (61°48'N., 65°48'W.) lie 9 miles NW of Resolution Island. The three islands are separated by long narrow steep-sided channels. The group is 8 miles long and about the same in width, with an elevation of 213m. The regular shorelines of the N and E coasts are relatively free of off-lying islets, but the SW coast is broken by small bays and coves, and fringed with numerous rocks, reefs, and underwater dangers along its entire length.

The channel between the main central and W islands is about 5 miles long, steep-walled, and narrow, except at its N end, where it widens to form an inlet about 0.4 mile wide and 1 mile long. This inlet has not been surveyed. A cluster of rocks and islets completely blocks the S entrance.

Caution.—The possibility of uncharted dangers exists in the

vicinity of the Lower Savage Islands.

13.21 Savage Harbor (61°50'N., 65°46'W.) is an anchorage situated near the NE entrance of a large inlet which continues S as a channel between the E and the central main islands. The entrance is about 0.3 mile wide and broadens out into the harbor proper. Four islands lie close off the S shore of the harbor. The anchorage lies N of the islands. East of the islands, the depths in the entrance are 25.6 to 128m, and the channel leading between the E island and the N shore of the harbor has a mid-channel depth of 23.8m; however, the narrow channel is only 82m wide. Once through this narrow passage, depths increase to 36.6 to 47.5m.

Anchorage.—Anchorage is limited to an area 0.4 mile long and 0.3 mile wide, in 40.2m, mud, about 0.2 mile N of the islands in the central part of the harbor. This anchorage is sheltered from all winds.

Caution.—Care must be taken when entering the harbor due to the strong currents in Gabriel Strait.

Shoal spits and reefs extend from both shores on the approach to the anchorage. A least depth of 14.6m is charted, but lesser depths may exist.

Hudson Strait—North Shore

13.22 The N side of Hudson Strait, W of Resolution Island and the Lower Savage Islands, is formed by the S side of Baffin Island extending from East Bluff on the E, to Lloyd Point on the SW side of the Foxe Peninsula.

Numerous inlets and bays break the S shore of Baffin Island, which generally rises steeply from the sea, particularly along the S section of the Meta Incognita Peninsula, where elevations of over 853m occur on top of the snow field of Terra Nivea. At the W end of the strait, there are elevations of 366m in the mountains of the Foxe Peninsula.

Innumerable islands and rocks fringe this shore, extending up to 15 miles offshore in places, and making the approach to the shore difficult. Beyond the offshore limits of the islands and rocks, the water deepens rapidly; there are no known isolated dangers farther out in the strait.

Between East Bluff and the Middle Savage Islands, 57 miles to the WNW, the coast is broken by numerous small inlets and fringed by many rocks and small islets.

East Bluff (61°53'N., 65°56'W.), the SE extremity of Baffin Island, rises sheer 122m from the water, with heights of 183m immediately inland. It is the S termination of a great high wall of solid rock extending for 3.5 miles along the SE tip of the Meta Incognita Peninsula.

The headland deflects the strong tidal currents in the area out into the strait.

South Reefs (61°51'N., 66°15'W.), a small group of islets and rocks lying 8 miles WSW of East Bluff, has the appearance of a spit jutting out from the shore. The largest islet is 49m high and the outermost danger in the group, a rocky depth of less than 1.8m, lies 1.25 miles offshore.

13.23 Nannuk Harbor (61°53'N., 66°24'W.), 4.7 miles WNW of South Reefs, is a steep-sided narrow gorge 2.5 miles long but only 0.2 mile wide. Depths range from 7.3 to 23.8m. Fresh water may be obtained from a small overhanging fall on

the W side, 0.5 mile inside the entrance. Small vessels can shelter in the inlet.

An unnamed inlet, 8 miles WNW of Nannuk Harbor, has depths of 11 to 43.9m and could provide shelter in an emergency.

Sister Islets (62°00'N., 66°53'W.), three small islets, lie 15 miles NW of Nannuk Harbor.

Another unnamed inlet lies 8 miles farther to the NW. Small vessels can take shelter in this inlet, which branches into two arms, but the entrance is difficult to identify from seaward due to the rocky islets and drying ledges in the entrance.

Pritzler Harbor (62°08'N., 67°21'W.), the best harbor in the area, is 4 miles long and 1.5 miles wide. Depths in the 1-mile wide entrance range from 91 to 109m, and in the harbor itself the irregular depths vary from 12.8 to 73m. There are no known dangers in the harbor or in the approach, and the anchorage is protected from all but S winds.

Between Pritzler Harbor and the Middle Savage Islands, 14.5 miles to the WNW, the coast is bare and rugged, with hills rising to 183m close to the shore and higher farther inland. Numerous bays and inlets indent the coast and many islets, dangerous rocks, and shoals lie close offshore.

13.24 The Middle Savage Islands (62°09'N., 67°57'W.) cover a wide area. One large island, several small islands, islets, rocks, and drying ledges make up the group.

Saddleback Island, the largest, is 148m high; it lies near the middle of the group. Duck Island, located 2.75 miles SE of Saddleback Island, lies the farthest to the SE, and Lyon Rocks, 6 miles W of Saddleback Island, is the W island in the group. Foul ground extends 5 miles SE and 7 miles SW of Saddleback Island.

Tides—Currents.—Spring tides in this locality rise to a height of 10.7m. Extreme caution is required when anchoring. The tidal currents run very strongly among the offshore islands and a heavy confused sea makes up when the wind opposes the current. At the S limit of the Middle Savage Islands, the tidal currents reach velocities up to 5 knots.

In the vicinity of the Middle Savage Islands the 91.4m curve lies 7 miles offshore. Farther W, off Wight Inlet, it is only 3 miles off the coast.

13.25 Bond Inlet (62°11'N., 67°49'W.) lies 2 miles NE of Saddleback Island. The almost landlocked bay is about 1 mile square. Depths in the inlet range from 18.3 to 53m and in the approach channel from 9.1 to 29.3m. Mariners unfamiliar with the area should not attempt the long intricate approach channel.

Wight Inlet (Jackman Sound) (62°13'N., 68°12'W.), 10 miles WNW of Bond Inlet, extends inland about 6 miles in a NNW direction. This long narrow inlet dries at LW, except for a small area at the entrance, which is almost completely blocked by islets and reefs.

From Wight Inlet to Balcom Inlet, about 16 miles WNW, the coast is relatively regular. A group of small islands, the Gray Goose Islands, lies 1 mile offshore, 6 miles W of Wight Inlet. Five miles farther W, a small unnamed inlet extends inland for 2.5 miles. The entrance, 0.2 mile wide, is encumbered with rocky islets and reefs; the head is shoal. **Balcom Inlet** (62°19'N., 68°41'W.) extends inland for 4 miles, about 15.5

miles WNW of Wight Inlet. It affords a sheltered anchorage, but there is a depth of 4.6m in the entrance and only 3.7m in the narrows leading to the basin near the head of the inlet. The entrance, which is encumbered with dangers, can only be used at certain stages of the tide, and then only with local knowledge. At low tide the heavy seas against the outgoing current break to the bottom.

Barrier Inlet (62°21'N., 68°50'W.), 3.5 miles NW of Balcom Inlet, extends N about 8 miles. Its average width is about 0.5 mile and it has deep water in the N part. At the entrance the inlet is 1.5 miles wide, but about 2 miles inside the entrance it narrows to a width of 0.7 mile. Several rocky islets, which are connected at low stages of the tide, lie in the narrows creating a dam effect and leaving only two narrow channels less than 90m wide. As the free flow of the tide into and out of the N end of the inlet is restricted, the resulting head of water creates a reversing falls.

Because of the shoal water in the entrance of the main fjord and the reversing falls, Barrier Inlet is not suitable for anchorage and should not be entered by strangers.

13.26 Shaftesbury Inlet (62°31'N., 69°19'W.) lies about 15 miles NW of Barrier Inlet. The intervening coast is comparatively free from offshore islets and reefs, it rises abruptly from deep water to rugged hills, 122m high. Several small, shallow bays break the shoreline.

The inlet extends N for 8 miles, with an average width of 0.5 mile. Rocky hills, 152m high, rim the steep-to shore. General mid-channel depths range from 36.6 to 73m, except for a depth of 9.1m in the entrance.

Shaftesbury Inlet is entered between Sentry Islet on the E and Michael Point on the W. A rock, which dries 4.9m, lies in the approach to the narrow channel, about 1 mile SSW of Michael Point. Depths of 4.6m, 9.1m, and 4.6m lie 2.2 miles SSW, 1.5 miles S, and 0.5 mile SSW of Michael Point.

Carew Bay (62°33'N., 69°23'W.), immediately W of and parallel to Shaftesbury Inlet, lies between Michael Point and Maniittur Cape (Cape Weymouth). The unsurveyed inlet extends N about 6 miles.

Maniittur Cape (Cape Weymouth) (62°33'N., 69°25'W.), 31m high, lies at the S tip of a long, low, rocky peninsula.

From Maniittur Cape to Fair Ness, 90 miles NW, the coast is very rugged and indented, with numerous fringing islands and groups of offshore islands. Big Island, about 34 miles long, occupies much of this section and lies from 3 to 6 miles off the mainland. The coastal hills range in height from 15 to 213m, and 10 to 15 miles inland the mountain ranges increase in height from 305 to 457m. The inland mountain plateau is more generally rounded and rolling than the coastal hills.

North Bay

13.27 Between Maniittur Cape and the NE entrance to White Strait, 26 miles NW, the coast is indented by North Bay, with several bays and inlets leading off its E and N sides. Big Island forms the W side of the bay. The NE part of North Bay is encumbered by shoals, rocks, and drying ledges. The Upper Savage Islands lie in the W part of the bay, close off the E end of Big Island. Depths in North Bay are irregular, ranging from 36.6 to 182.9m.

From Maniittur Cape to Cape Tanfield, 8 miles NNW, the low rocky coast is broken by several small bays; numerous small islands lie close offshore. The water area up to 2 miles offshore has not been sounded.

Juet Island (62°36'N., 69°30'W.), the largest island along this stretch of coast, lies 4 miles NNW of Maniittur Cape in the entrance to three unsurveyed bays. The low rocky island is 22m high at its NW end.

13.28 Itivirk Bay (62°41'N., 69°30'W.), entered N of Cape Tanfield, extends NE for 5.5 miles. The bay has not been sounded, but it is reported that deep water exists close inshore.

Mount Chaunslar, 289m high, gray and reddish in color, is a conspicuous landmark at the head of the bay and lies about 6.5 miles ENE of Cape Tanfield.

The **Sheer Islands** (62°42'N., 69°34'W.) lie 1 mile N of Cape Tanfield. They form part of the N side of Itivirk Bay. The group consists of Forder Island, the N entrance point to Itivirk Bay, Lee Island, close NE of Forder Island and joined to it at low water, with Lavoie Island and Wishart Island almost connected close NE.

McKellar Bay (62°45'N., 69°35'W.), immediately N of Itivirk Bay, is entered between Lee Island and Napparti Point. The Pudlatin Islands, a group of low, rocky islets and drying reefs, lie 0.5 mile SSE of Napparti Point. The entrance is 2.5 miles wide. McKellar Bay has not been sounded.

Caution.—Several reefs and islets lie in the approach to Westbourne Bay.

13.29 Larch Reef (62°41'N., 69°41'W.) lies 2 miles W of Forder Island. The reef is 0.5 mile long and dries 4.3m. Isolated rocky depths of 1.2m to 4.9m lie up to 1.5 miles off the E, W, and SE sides of Larch Reef.

Beacon Island (62°41'N., 69°44'W.), 0.75 mile NW of Larch Reef, is surrounded by drying reefs which extend 0.3 mile NW of the islet.

A large wooden beacon, painted white, stands on the summit of Beacon Island. The condition of this beacon is not known (1959). The beacon has been seen, in excellent visibility, at a distance of 7 miles.

Stanley Reef (62°43'N., 69°44'W.), 1 mile NW of Beacon Island, is awash at HW.

Westbourne Bay (62°44'N., 69°45'W.) is entered between Napparti Point (Noovoksit) on the E and Nuvursirpaaraaluk Island (Noovoserparalo Island) on the W. It is the S island lying off Cape Wight, on the W. The bay is encumbered throughout most of its length by islands and drying ledges.

These islands divide the bay into two navigable channels which pass on either side of Glasgow Island (Takeyoola Island), the largest island in the bay.

Cape Wight (62°44'N., 69°45'W.), 1 mile NNW of Stanley Reef, is the S end of the peninsula forming the W side of Westbourne Bay.

Western Reefs, a large foul area of shoals and drying ledges, lies close inside the entrance to Westbourne Bay. The ship channel passes E of these reefs.

Tasseoyak Bay (62°46'N., 69°39'W.) is entered 2 miles NNW of Napparti Point. Depths in the bay range from 36.6 to 109.7m, but it has not been completely sounded.

Sealer Narrows (62°48'N., 69°49'W.) is the narrow passage



Lake Harbor (Kimmirut)

between the NW end of Glasgow and the SW side of the Uugalauiit Islands (Ongalaota Islands), about 0.2 mile to the N. Baldpate Island, a small islet, only 3m high, lies 0.3 mile NW of the N end of Glasgow Island. There are depths of only 4.9 to 5.5m in the N section of the passage between Uugalauiit Island and Baldpate Island.

Nascopie Point (62°49'N., 69°50'W.), 0.75 mile N of Baldpate Island, is the S end of a peninsula separating Lake Harbor from Glasgow Inlet. The inlet has not been completely surveyed.

13.30 Lake Harbor (Kimmirut) (62°52'N., 69°52'W.) settlement is situated on the W shore at the head of Lake Harbor, a narrow inlet extending 2 miles NNW from Nascopie Point. The Heel (Kingmore Point) is a peninsula at the head of the harbor. It consists of a Hudson's Bay Company store, a detachment of the Royal Canadian Mounted Police (RCMP), a nursing station, post office, and an Anglican Mission.

Transportation is available from Iqualuit (Frobisher Bay) by plane and supply ships during the navigation season. Accommodation, limited to emergencies, is at private homes and the Anglican Mission.

The Itijjagial Trail, used by the Inuit for centuries, leads 120km from Kimmirut up through the Soper River valley and across Meta Incognita to Frobisher Bay.

Communication with the settlement is through Resolution Island, which in turn contacts the private radio station at the settlement.

Ice.—The ice normally breaks up in mid-July, but may occur as late as early August. The bay normally freezes over again in the latter half of November.

Depths—Limitations.—Harbor depths are irregular; they range from 11 to 54.9m. Although the inlet is narrow, only 0.15 mile wide in its narrowest part, the water is generally deep, with a least mid-channel depth of 12.1m.

Pilotage.—Lake Harbor has the best and most important harbor in the region, but it should not be approached without a pilot. It is recommended that a local pilot be requested from Lake Harbor, he will meet the ship 2 or 3 miles S of Beacon Island. Pilotage is advisable at all times and is essential for the

upper part of the inlet.

Anchorage.—A vessel, 113m long, has lain to a single anchor about 0.4 mile SSE of The Heel; a vessel, 69m long, has moored to bow and stern anchors 0.1 mile SSE of The Heel; both vessels dragged in NW gusts of 25 to 30 knots, although the holding ground had previously been reported to be good. An anchorage about 0.4 mile SE of Sealer Narrows is not recommended in bad weather.

The recommended berth is about 0.4 mile SSE of The Heel, in 48m, on a SE heading, with stern lines out to the W shore and to the point SSW of the RCMP building.

13.31 Pleasant Inlet (62°48'N., 69°58'W.) lies 6 miles NW of Cape Wight. It extends inland in a NE direction for about 5 miles. At the head of the inlet the Soper River discharges through Soper Lake. Two miles within the entrance the inlet is blocked by numerous rocks and drying reefs, through which the tidal currents run strongly. More islets and drying reefs encumber the approach. Pleasant Inlet has not been sounded.

The **Upper Savage Islands** (62°35'N., 70°03'W.) are a group of small islands and islets lying close off the E end of Big Island in the SW part of North Bay.

High Bluff Island, the largest and only named island in the group, has high cliffy shores 122 to 153m high. The summit rises to a height of 213m. All the other islands are about 61m high.

Big Island (62°42'N., 70°40'W.), on the W side of North Bay, is separated from the S coast of Baffin Island by White Strait. It is the largest island on the N side of Hudson Strait, with a length of 34 miles and a maximum width of 14 miles. The summit, near the NE end of the island, is 366m high. Along the N coast, sheer cliffs rise steeply out of deep water to heights of 224m to 274m; the S coast is lower, with general heights of 61m. Numerous rocky islets and drying ledges lie off the SW side of the island.

Reeves Harbor (62°32'N., 70°21'W.), 5 miles WSW of the E end of the island, is a small harbor about 0.3 mile in diameter, with good holding ground in depths of 9.1 to 25.6m. An island in the entrance divides the passage into two deep, but narrow channels. It is reported to be a better anchorage than Ashe Inlet.

13.32 Ashe Inlet (62°32'N., 70°34'W.), 5.5 miles W of Reeves Harbor, extends inland for 2 miles in a NW direction. Depths in the outer part of the inlet range from 9.1 to 18.3m. The inner part dries. A least depth of 5.5m lies close inside the entrance. Several islands lie on the SW side of the entrance; the largest and E island is Rabbit Island, 67m high.

Ashe Inlet Light is shown on the E end of Rabbit Island and shows an orange rectangular daymark.

Anchorage.—Ashe Inlet is open to the SE; SE gales send in a heavy sea. During such times, the anchorage is not safe. The recommended berth is 1.2 miles NW of the light on Rabbit Island, in a depth of 26m, mud.

White Strait lies between the N side of Big Island and the S coast of Baffin Island. It has a length of 32 miles and a least width of 2 miles. The N shore of the strait is fronted by low-lying, bare, and rocky islands. Two fairly large islands lie close inside its W entrance. Mid-channel depths in the strait range from 7.3 to 62m. The strait has not been fully examined.

Bosanquet Harbor forms a break in the cliffs on the NE coast of Big Island, 7 miles W of the E end of the island. The inlet, less than 1 mile wide, extends inland about 2.5 miles. About 1.5 miles inside the entrance the water shoals rapidly and there are drying mudflats in the upper reaches. The harbor, although sheltered, with steep cliffs on all sides except at its head, is probably only suitable for small craft.

Another inlet located 10 miles farther NW is similar to Bosanquet Harbor, but little is known concerning depths and anchorage possibilities.

13.33 Beaumont Harbor (62°56'N., 70°52'W.) lies on the N side of White Strait, about 22 miles NW of Bosanquet Harbor. The narrow irregular inlet is entered through a break, more than 1 mile wide, in a broad rocky ridge that rises steeply from the water to a height of 183m.

Henderson Harbor (62°58'N., 70°58'W.) lies 3 miles NW of Beaumont Harbor. It winds inland for 8 miles between high rounded hills, 274m to 305m high. Midway along its length the channel is reduced to a width of less than 90m by reefs and a rocky island which almost block the passage completely.

Crooks Inlet (63°00'N., 71°10'W.) is entered close E of Cape Colmer, its W entrance point. Immediately inland from the cape the land is low and rocky, two small islets lie about 0.5 mile off the point. The E entrance point to Crooks Inlet is a steep bluff that rises 91m out of deep water and declines gradually E. Inland from the entrance the shores are generally high and precipitous, with the land rising rapidly to heights of more than 244m. The inlet extends NE for 13 miles to its head, where it branches into two arms, Noel Harbor and Irving Bay. A rock, with a depth of 0.6m, lies almost in the center of the entrance.

Cape Colmer (63°00'N., 70°14'W.) is the NW entrance point to White Strait and the W entrance point to Crooks Inlet. An islet lies 3 miles S of the cape, with a depth of 1.8m close W, another depth of 1.5m is located 1 mile SE of the islet.

Hudson Strait—North Shore—Big Island to Cape Willingdon

13.34 Between Big Island and Cape Willingdon, 150 miles NW, the S coast of Baffin Island is broken by many bays and inlets and fronted by numerous islets. Close inland this stretch of coast is backed by rugged, bare hills, 244m to 305m high. The inlets and bays have not been surveyed, nor has the area offshore up to 20 miles from the coast.

The **Strathcona Islands** (63°00'N., 71°22'W.), consisting of several small rocky islands and one larger one, lie from 2 to 9 miles W of Cape Colmer. The N side of the larger island rises steeply in a series of rocky ridges to a height of 183m. The S side is lower and more irregular.

Glencoe Island (63°04'N., 71°28'W.), one large island, 122m high, and several small islets, are located 2 miles N of the Strathcona Islands. The islands lie across the entrance to Canon Inlet, which extends inland for 8 miles in a NE direction where it broadens to form Overflow Lake. Steep rocky cliffs, 305m high, form the sides of the inlet. The entrance is encumbered by a large shoal and two submerged rocks.

Between Canon Inlet and Fair Ness, 27 miles to the NW, the coastline is broken by the small inlets of Chudliasi Bay, Whar-

ton Harbor, Akuling Inlet, and Bedford Harbor.

Fair Ness (63°26'N., 72°07'W.) is a bold rocky cape, 46m high, at the W end of the peninsula forming the S side of Markham Bay. Numerous rocky islets lie N and W of the headland.

Markham Bay is a large bay entered N of Fair Ness. It extends E almost 20 miles. The irregular shoreline is broken by many small bays and inlets fronted by numerous rocky islets. A chain of islands extends NW from Fair Ness for 34 miles across the entrance to the bay.

13.35 The Islands of God's Mercie (63°30'N., 72°04'W.) lie in two general groups NW of Fair Ness, at the SE end of this chain. The SE group consists of four small, low islands, all less than 30m high. Four large islands, 61m to 114m high, comprise the NW group. The large islands are rugged and irregular in shape, with many small rocky islets lying within the area extending 10 miles to the SW.

Hector Island (63°38'N., 72°27'W.) lies 15 miles NW of Fair Ness. The irregular, rocky island is 183m high.

Macdonald Island (63°40'N., 72°40'W.), the largest island in the chain, lies 2 miles NW of Hector Island. The island is about 10 miles long, low in its SW part, and rising to 122m in its NE part. Numerous islands and rocky islets extend W from Macdonald Island for 15 miles.

Between the N entrance point to Markham Bay and Amadjuak Bay, 25 miles to the NW, the irregular coast line is broken by inlets and small bays. Many small islands and islets front the coast, extending up to 18 miles offshore. There are indications of strong tidal currents between the islands and in the entrances to the bays and inlets.

Aberdeen Bay (63°40'N., 72°11'W.), entered close W of Markham Bay, extends N for about 7 miles.

13.36 White Bear Bay (63°46'N., 72°18'W.), 8 miles NW of Aberdeen Bay, has two parallel branches. It appears to be inaccessible due to the islets and rocks encumbering the entrances. Near LW, there is a strong ebb flow out of the bay.

Amadjuak Bay (64°01'N., 72°37'W.), 13 miles NW of White Bear Bay, is 8 miles long. The anchorage off the unoccupied Hudson's Bay Company post at the head of the bay has been used by the company's supply vessel and is reported to be good. Pilotage is essential, since the approach from sea-ward is long and intricate. It leads between islets and drying reefs and should not be attempted without a pilot. Strong tidal currents have been reported in the bay.

Ice.—Probable break-up time is reported to be during the first week of July; freeze-up is reported to be during the second week of November.

Between Amadjuak Bay and Chorkbak Inlet, 56 miles to the NW, the coast is an irregular complex of bays, inlets and islets. The shoreline is very rugged with the landing rising only from 61m to 152m. The islands and peninsulas are generally below 61m and the outer islands are mostly small and low.

13.37 Rawson Island (63°56'N., 72°56'W.), 4 miles W of the entrance to Amadjuak Bay and the largest island in this group, is about 91m high.

Chamberlain Island (64°06'N., 73°46'W.), the largest of the outer islands in this section, lies 22 miles WNW of Rawson Island and is 61m high at its N end.

Hobart Island (64°10'N., 73°20'W.), the only other named island in this area, lies 8 miles NE of Chamberlain Island. It is 7.5 miles long and does not exceed 30m in height.

Only a few of the many inlets and islands between Markham Bay and Chorkbak Inlet have been named.

Chorkbak Inlet (64°24'N., 74°26'W.) is about 5 miles wide at its entrance. Its E side is blocked by an irregular mass of islands for a distance of 12 miles N so that the channel, 1.5 miles wide, follows the irregular W shore. Rocks, reefs, and rocky islets, some uncharted, encumber the approaches. Ten miles within the entrance, Shugba Bay branches NE from the inlet proper, which leads NW to its head where it divides into two arms. Shukbuk Bay is the E arm and the continuation of Chorkbak Inlet is the W arm.

In 1958, a vessel drawing 4m entered Chorkbak Inlet 6 miles SW of the island from position 64°16'N, 74°14'W. After rounding the island to the E and N, at a distance of 0.5 mile, a NW course was steered favoring the W side of the passage between the chain of offshore islands and the mainland. A shoal depth of 3.7m was reported 0.5 mile E of Julian Point at the entrance to the inlet. It was noted that the bottom in the approaches was very irregular and there were several uncharted shoals and reefs, many of which were visible at LW.

Tides—Currents.—Strong tidal currents were reported in Chorkbak Inlet. Tidal rise was between 6.1m and 7.6m at springs and 4.6m at neaps.

13.38 From Chorkbak Inlet to Cape Willington, 29 miles to the WSW, the shore is broken by several bays, the largest is Andrew Gordon Bay. The same general pattern of islands exists in the offshore areas as to the E. The coast is low along this stretch, elevations range from 30m to 122m.

Andrew Gordon Bay (64°20'N., 75°20'W.), located 18 miles W of Chorkbak Inlet, is 22 miles long and 12 miles wide at its entrance. Several chains of low rocky islands lying in a NW to SE direction divide the bay into two major parts. Alareak Island lies at the SE end of a 7-mile long peninsula forming the SW side of Andrew Gordon Bay.

Cape Willington (64°19'N., 75°31'W.) is the E point of Alareak Island, a low-lying rocky island with an average height of about 30m.

Strong tide rips occur in Andrew Gordon Bay. They are very heavy at the entrance to Terreoukchuk Bay, a bight in the NE shore. In the narrow, and apparently shoal passage between Alareak Island and the mainland, the rips are reported to be heavy.

The West Foxe Islands (64°17'N., 75°48'W.) are a group of low rocky islands lying 3 miles SW of Alareak Island. None of them exceed 9m. A similar group of islets lie 5 miles WNW of the West Foxe Islands.

From Cape Willington to Lloyd Point, the SW extremity of the Foxe Peninsula, 72 miles to the WNW, the coast extends SW for 28 miles to the Cape Dorset area, then NW to Lloyd Point. This part of the coast is much higher and rugged, with rounded hills rising to almost 305m. The coast is more regular, not as many bays and inlets break the shoreline, and there are fewer offshore islands.

Caution.—The magnetic compass is very erratic off the Foxe Peninsula.



Cape Dorset Harbor

13.39 Iglukjuak Point ($64^{\circ}18'N$, $76^{\circ}12'W$), 14 miles W of the SW tip of Alareak Island, forms the S entrance point to Pudla Inlet. A large island divides the apparently foul inlet into 2 parts. The Shemia Islands lie close S of Iglukjuak Point, with the Neta Islands about 4 miles farther to the SW. Between the Neta Islands and Dorset Island, about 7 miles SW, the inlets of Negus Bay, Parketuk Bay, Tellik Inlet, and Tellik Bay break the mainland coast.

Cape Dorset, 27 miles WSW of Cape Willingdon, is the S point of Dorset Island, which with several adjacent islands, also forms the S extremity of the Foxe Peninsula. Other islands in the Dorset Island group include Mallik Island, Okolli Island, and Sakkiak Island.

Dorset Island ($64^{\circ}13'N$, $76^{\circ}32'W$), the largest in the group, is 4 miles long and 2 miles wide, with a maximum height of 220m.

Sakkiak Island ($64^{\circ}09'N$, $76^{\circ}33'W$) lies 1.5 miles SSW of Cape Dorset. It is 2.25 miles long, 1 mile wide, and 65m high. There appears to be deep water between Cape Dorset and Sakkiak Island.

Okolli Island ($64^{\circ}10'N$, $76^{\circ}37'W$) is 4.5 miles long, 1.5 miles wide, and 107m high. A smaller island, 139m high, lies 0.3 mile to the N.

Mallik Island ($64^{\circ}15'N$, $76^{\circ}37'W$), close NW of Dorset Island, is joined to it by a drying flat of sand and boulders. The W part of the island is 274m high.

West Inlet ($64^{\circ}13'N$, $76^{\circ}35'W$) is the narrow passage between Mallik Island and Dorset Island, on the N and NE, and Okolli Island, on the S. An arm of the inlet branches N between Mallik Island and Dorset Island. Depths in the E part of the inlet are very irregular. There is a least depth of 7.9m in mid-channel in the E entrance. Elsewhere, depths range from 18.3 to 27.4m. In the N arm there are depths of 18.3 to 47.5m.

13.40 Cape Dorset Harbor ($64^{\circ}14'N$, $76^{\circ}33'W$) lies between the peninsula forming the NE end of Mallik Island and the NW side of Dorset Island. Cape Dorset was named by Captain Luke Foxe in 1631 in honor of the Earl of Dorset.

Cape Dorset settlement is situated on the SE side of the harbor at the NW end of Dorset Island. There is a landing beach



Cape Dorset Harbor

for barges and boats in front of the Hudson's Bay Company store. Supplies may be landed here within 2 hours of HW.

The settlement consists of a Hudson's Bay Company store, an RCMP detachment, an Anglican mission, a nursing station, and a school.

Winds—Weather.—Prevailing winds are reported to be NW, at 10 to 15 knots. They may be strong during September and October. At times, there are heavy swell conditions in the anchorage. Fog is fairly frequent during the navigation season.

Ice.—Average time of break-up is mid-July, while freeze-up occurs about November 1. The navigation season may be regarded as from August 1 to mid-October. Winter ice reaches a thickness of about 1.2m.

Tides—Currents.—Tidal range is reported to be 7.6 to 8.5m.

Depths—Limitations.—The harbor, about 0.8 mile in extent, can be entered only from the E. A drying flat of sand and boulders blocks the W end. Depths within the area are very irregular, generally ranging from 7.8 to 18.3m. A shoal, which dries 2.7m, lies in the middle of the harbor.

The principal dangers in the approaches to Cape Dorset Harbor lie about 1.5 miles E of Dorset Island. A depth of 8.8m lies 3 miles E of Sakkiak Island. Two other shoal depths of 9.4m and 9.1m lie 1 mile and 2.2 miles SW of the 8.8m shoal. An islet, awash at HW, lies 0.7 miles NE of Cape Dorset, with a shoal over which there is a least depth of 3.6m extending 0.5 mile ESE from it. A stranded wreck lies near the SE entrance point of the harbor.

Two dangers are reported to lie off the harbor entrance. The first, a rock with a depth of 8.2m, lies about 275m, bearing 151° from the E end of the islet off the N side of the entrance. The second danger, a shoal area with depths of less than 1.8m, is located about 0.2 mile off the E end of Mallik Island, just N of the harbor entrance.

Aspect.—The rugged hills of the Kingnait Range extend along the SW coast of the Foxe Peninsula rising to their maximum height, about 366m, 20 miles NW of Dorset Island. They are particularly conspicuous from the E and still prominent at

distances of 30 to 40 miles.

Eegatuak Hill, 99m high, is the most prominent landmark when approaching Cape Dorset from the SE. The distinctive bowl-shaped hill, surmounted by a cairn, is located on the SE coast of Dorset Island, 0.7 mile N of the cape.

Apalooktook Point (Red Point), on the NE extremity of Dorset Island, is 58m high. A cairn stands on the red granite summit.

Kingnait Hill rises to a height of 208m on the NW side of Dorset Island.

Anchorage.—Anchorage is available 0.6 mile N of Apalooktook Point, in 45m, mud. Tankers anchor 0.1 mile offshore, in 18m, with stern lines to the shore abreast pipeline manifolds, 0.85 mile W of Apalooktook Point. A vessel, 91m long, has anchored, in about 18.3m, about 0.5 mile N of the settlement, over a good gravel holding ground. Shelter is poor in all these anchorages.

Directions.—From a position 5.75 miles E of Cape Dorset, follow a track of 304° to pass 1.5 miles NE of Beacon Island. When Apalooktook Point is abeam, distant 0.5 mile, alter course to 270° for 1.2 miles, then to 240° for the anchorage.

Caution.—The magnetic compass is reported as erratic in this area.

13.41 Beacon Island (64°12'N., 76°26'W.) lies almost 1 mile off the E side of Dorset Island. Another islet lies 0.5 mile NE of Beacon Island. Drying ledges extend 0.1 mile from these low islets, which are difficult to see until within 3 miles of them.

Nascopie Reefs, an area of dangerous shoals, rocks, and drying ledges, extends 0.5 mile NE through E to S from Beacon Island. An islet lies 0.3 mile SE of the island, with a drying reef midway between them.

Vessels approaching Cape Dorset from the W should maintain a distance of 4 miles E of Sakkiak Island and 2 miles E of the SE extremity of Dorset Island, to clear these dangers.

From the vicinity of the Dorset Island group to King Charles Cape, 20 miles WNW, the coast forms a wide bight, broken by several small inlets. The NW side of the bight is shoal, with an irregular, low, shelving rocky shoreline. Close inland the hills, part of the Kingnait Range, rise quickly from 213 to 305m. Numerous offshore islets fringe this stretch of the coast.

13.42 King Charles Cape (64°14'N., 77°23'W.) is the SW extremity of a promontory, 61m high, which slopes gradually to a low rocky bluff. A group of very low rocks and islets lie close W.

The **Shuke Islands** (64°13'N., 77°10'W.), all less than 30m high, lie 5 miles ESE of King Charles Cape. They are the outermost islands off this part of the coast.

Between King Charles Cape and Lloyd Point, 20 miles NW, the coast is broken by several inlets. The largest, Lona Bay, 6 miles NW of the cape, is square-shaped with high land, rising to 152m around its shore. A number of small islands lie up to 1 mile offshore.

Lloyd Point (64°26'N., 78°02'W.), the SW point of the Foxe Peninsula, lies at the tip of the largest of a series of rocky ridges that project seaward in an E-W direction. The point itself is only 30m high. Close inland, the ridge rises to 91m.

13.43 Schooner Bay (64°24'N., 77°54'W.) is entered about 3 miles SE of Lloyd Point. The landlocked harbor is the only anchorage for small vessels on this part of the coast. A large island divides the entrance into two narrow but deep channels; several other islands lie in the harbor. The oval-shaped harbor is 2.5 miles long and 1.5 miles wide; a river flows into its E end.

Mill Island (63°59'N., 77°45'W.), 25 miles SSE of Lloyd Point, is the main island of a group of three islands and numerous rocky inlets lying in the W entrance to Hudson Strait. Mill Island is 11 miles long, 7 miles wide, and 152m high. From the N and E, the islands present a rugged appearance, rising steeply from the sea to heights of 61 to 91m. From its central part, the main island slopes gradually W and S, the W coast is low and irregular with a narrow belt of shoal water and rocky islets.

Hurin Throughlet, the narrow channel separating Mill Island from the small unnamed island to the W, is obstructed by a group of islets in its N entrance and by two rocks in the S part of the passage.

Putnam Island (63°59'N., 77°32'W.), close E of Mill Island, is similar in appearance. It is 91m high. The passage between Putnam Island and Mill Island is less than 1 mile wide, with steep regular shores, and can only be entered from the NE.

Morrissey Harbor (64°00'N., 77°34'W.), located about midway along the N side of Mill Island, is a wide bay sheltered by a group of small islands in its approach. Anchorage is available in the SE part of the bay, in 12.8m, mud. Strong tidal currents and whirlpools have been reported close outside the harbor. The anchorage is reported to be sheltered from all directions.

A narrow inlet near the W end of the N coast lies between high hills and is open to the NW.

Tides—Currents.—Strong tidal currents are reported between Mill Island and the SW side of the Foxe Peninsula to the N. A heavy sea makes up in the vicinity of Mill Island when the wind direction opposes the tidal current.

13.44 Salisbury Island (63°33'N., 76°59'W.), 17 miles SE of Mill Island, is 27 miles long, 10 miles wide, and over 305m high. A group of irregular islands and islets lies off each end of the main island. The NE coast is bold and precipitous, rising sheer from the sea for 152 to 305m. From the NE, the island appears to rise as a massive wall with a smoothly rounded summit, sloping gradually seaward at either end. The other coasts are much lower.

Pricket Point (63°27'N., 76°32'W.), the E extremity of Salisbury Island, is also the SE entrance point to a deep inlet at the SE end of the island's NE coast. A high cape, between 152m and 213m high, with steep cliffs, forms the NW entrance point to the inlet which is 4 miles wide at the entrance. Three miles within the entrance, the inlet narrows to less than 0.5 mile, continuing SW for 3 miles between smooth, rocky shores 61 to 91m high. Apparently the inlet is deep.

The SE coast of Salisbury Island is relatively low, between 30m and 91m high. The irregular islands lying offshore are separated from the main island and each other by narrow, drying channels, choked by numerous islets and rocks. Foul ground extends 2 miles off the coast. Treacherous currents make the area dangerous.

Minion Rock, 4 miles S of Pricket Point, is 3m high. A sunken rock, position doubtful, lies 4 miles SW of the rock.

Trinitie Rock, 6.5 miles SE of Pricket Point, is 12m high. A sunken rock, position doubtful, lies about 3 miles SW of Trinitie Rock.

Edaloh Inlet (63°37'N., 77°24'W.), near the W extremity of the island, extends inland about 4 miles.

Anchorage, protected from all but W winds, is available about halfway along the N side of the inlet, in 18.3m, mud. A small stream flows into the inlet just N of the anchorage, vessels have watered here. In 1960, a motor vessel drawing 4.6m anchored in the inlet. The strong currents which flow between Salisbury Island and the offshore islands set across the entrance to the inlet. Inside the inlet proper the currents are negligible.

13.45 Nottingham Island (63°15'N., 78°00'W.), 12 miles SW of Salisbury Island, is the largest island in the group at the W end of Hudson Strait. It is 32 miles long and 19 miles across at its widest part. Similar to the other islands, the N and E coasts are bold and steep with heights of more than 183m. Farther inland there are heights of 244 to 274m. The S and W coasts are low and irregular.

A light is shown on the S point of Nottingham Island. The light tower is fitted with a radar reflector. A racon also operates from the light.

A tide rip, which gives a good radar response, is reported to form off the point S of the light tower.

Barry Rock, with a depth of less than 1.8m and whose position is doubtful, is charted 6 miles E of the E extremity of Nottingham Island.

Port de Boucherville (63°11'N., 77°30'W.), a small inlet at the E extremity of Nottingham Island, has depths of 7.3m to 14.6m in its outer narrows. Anchorage is available in a very restricted area inside the narrows, in 7m, mud. This anchorage can only accommodate small vessels.

There are numerous tide rips and overfalls in the passage between Salisbury Island and Nottingham Island. The main channel from Hudson Strait to Hudson Bay passes S of Nottingham Island.

Fraser Island (63°29'N., 78°28'W.) lies close off the NW end of Nottingham Island. It is about 3.5 miles long and 1.5 miles wide. Several islets lie off its N side. The bare and rugged island is 91m high. A narrow but deep passage, about 0.5 mile wide, separates Fraser Island and Nottingham Island.

On the W side of the S point of Nottingham Island there is a bay, 2 miles wide and entirely open to the S and W. Anchorages are available off the bay, in a depth of 27m, and in the bay, in a depth of 13m. The latter berth lies with the highest of the radiobeacon towers bearing 049°, in line with the E entrance point of the inlet, distant 0.6 mile from that point.

Anchorage.—The anchorage can be approached on this transit in depths decreasing from 44m, which is found 1 mile from the anchorage. Over this approach the tidal current may set strongly E, even on the flood.

Hudson Strait—South Side

13.46 The S side of Hudson Strait, from Cape Hopes Advance to Pointe Nuvuk, is generally high and rugged, with numerous bays and inlets. Charles Island lies about midway

along this stretch of the coast, and the Digges Islands lie near the W entrance of the strait. The description is from E to W.

Between Cape Hopes Advance and Cap de Nouvelle-France, 150 miles to the NW, the coast is indented by several good harbors and many small bays. Deep water is generally found close offshore. From Diana Bay to Burgoyne Bay, the rugged coast reaches elevations of 213 to 305m. Farther NW, between Burgoyne Bay and Prince of Wales, the coast is low and the hills inland do not exceed 152m high. Sunken reefs and rocks with strong tidal currents make this part of the coast dangerous. From Cape Prince of Wales to Cap de Nouvelle-France, the high rocky coast is broken by fjords and bays, and fronted by numerous off-lying islands.

Cape Hopes Advance (61°04'N., 69°30'W.), the W entrance point of Ungava Bay, lies 140 miles WNW of Killinek Island. The cape is the N extremity of a flat peninsula, 5 to 10 miles wide with a general elevation of 76m, separating the NW end of Ungava Bay from Diana Bay to the W. A light is shown on the cape.

13.47 Diana Bay (61°04'N., 69°40'W.) is entered between Cape Hopes Advance and Pointe Jean-Talon, 16 miles to the W. The bay extends 17 miles inland to Kamik Bay at its head. From seaward, it appears as two bays due to a group of bold islands off the W shore of the bay.

The channels on either side of these islands are known as Eastern Passage and Western Passage, respectively. The latter is 1 mile wide and has mid-channel depths of 128 to 183m. It is free from shoals and affords access to the S part of the bay, where the depth of water is suitable for anchorage in a number of places. Eastern Passage is wider but its use is limited by the islands at the S end of the chain which encumbers the approaches to the recommended anchorages. Local knowledge is required for this passage.

Sheltered anchorage with good holding ground is available in several locations in Diana Bay.

Tides—Currents.—The range of tide in the bay varies from 6.3m to a maximum of 9.1m. Off Cape Hopes Advance and the entrance to Diana Bay the tidal currents are strong; in the S part of the bay, the currents reach a velocity of 2 knots.

13.48 Short Point (61°05'N., 69°37'W.), the W extremity of Cape Hopes Advance, forms the NE entrance point to Diana Bay. A rock, with a depth of 2.7m, lies 0.3 mile SW of Short Point. From here the E side of the bay extends SW for 18 miles to Heel Cove.

Hearn Island (61°04'N., 69°41'W.), 88m high, lies about 2 miles W of Short Point.

Ships supplying the settlement of Koartak anchor between Hearn Island and the mainland. The shelter is only fair and the holding ground is reported to be poor. Tidal currents in the passage run strongly, with evidence of tide rips. During gales out of the W and N, there is a heavy sea around the island.

Mission Cove (61°03'N., 69°39'W.), with the settlement of Koartak at its head, lies 1.5 miles SE of Hearn Island. The bell-fry of the Roman Catholic Mission is reasonably conspicuous.

The bay is reported to be deep, but due to boulders, close in-shore landings can be made only in daylight and then with difficulty.

The cove can be entered either side of a rock which dries 9m

in its mouth. The passage on the N side of the rock has a depth of 18.3m, while the passage on the S side has a depth of 7.3m.

Hall Bay (60°54'N., 69°42'W.), a large unsurveyed bay about 2.5 miles by 3 miles in extent, lies about midway along the E shore of Diana Bay and is reported to be shallow.

Jagged Head (60°55'N., 69°45'W.), the W entrance point to Hall Bay, is the N extremity of Jagged Hills, the 2.5 mile long peninsula forming the W side of Hall Bay. Dog Island lies 0.5 mile E of Jagged Head at the E end of a drying spit.

Mary Island (60°57'N., 69°47'W.), 40m high, lies 1.5 miles NNW of Jagged Head Islets. Drying reefs and shoals lie on all sides of the island.

Iceberg Shoal, with a depth of 10.7m, is the N danger off Mary Island. The shoal lies 2.5 miles N of Mary Island on the E side of the Eastern Passage.

From Jagged Head, the coast continues SW for 8 miles to Heel Cove at the head of Diana Bay.

Pain Head, 82m high and marked with a dark diagonal fault, lies 2 miles SW of Jagged Head. The point is conspicuous from the N, it forms the W entrance point of a small unsounded cove.

13.49 Igloo Island (60°50'N., 69°54'W.), 122m high, lies 3 miles SW of Pain Head. A drying flat of mud and boulders connects the NE end of the island to the mainland.

Kamik Bay, lying between Igloo Island and the mainland to the W, extends SE then NE around the S and E sides of Igloo Island. Heel Cove, the S extremity of Kamik Bay, is reported to afford good anchorage, in 18.3 to 31m. A sheltered small craft anchorage is situated 0.8 mile ENE of Grave Point, the S tip of Igloo Island.

A chain of islets, shoals, and drying rocks extends NNW from Igloo Island to the S extremity of Diana Island, 5 miles to the NNW.

Point Buteo (59°51'N., 70°00'W.), 61m high, lies 2 miles W of the NW end of Igloo Island.

Theron Bay (60°51'N., 70°03'W.) lies 1.5 miles W of Pointe Buteo. Theron Point, with the Point Islands, forms the N side of the bay which is 1 mile wide at the entrance and free of dangers. A narrow boulder-strewn flat fronts the steep-to shores.

Excellent anchorage is available in the NW part of the bay, in 5 to 21.9m, good holding ground. Vessels have ridden out even strong E gales at this anchorage.

Agvakvik Bay (62°53'N., 70°06'W.) lies 1 mile NW of Theron Bay. The bay is best approached from the N between Narrow Island and the mainland. Baldpate Rock, 0.5 mile NE of Theron Point, obstructs the S approach.

Swinging room is limited in Agvakvik Bay, but anchorage is available, in 23.8m, clay, good holding ground, in the central part of the bay.

Narrow Island (60°53'N., 70°03'W.) lies in a N-S direction, 1 mile offshore, across the entrance to Agvakvik Bay. Narrow Island is 2 miles long and 0.5 mile wide at its widest part. The summit at the S end of the island is 105m high.

13.50 Diana Island (60°59'N., 69°58'W.), the largest island in the bay, lies 2.5 miles offshore, 2 miles NE of Narrow Island. It is 6.5 miles long, N-S, and 3 miles across at its widest point, with a maximum elevation of 244m in its central part. A flat-topped steep-sided hill, 213m high, located 2 miles S of the

W extremity of the island, is conspicuous.

Pink Island and Taktuk Island, two small islets, lie close off the NE side of Diana Island.

Hannah Island (60°58'N., 69°55'W.) is the largest island off the E side of Diana Island. It is 2 miles long, 0.75 mile wide, and 134m high. La Petite Ile, an islet, lies close off the E side of Hannah Island.

A group of five small islands lie close S and SE of the S end of Diana Island.

Slim Island (60°58'N., 70°05'W.) lies 2 miles NNW of Narrow Island, 0.4 mile off the mainland. Paw Island and Claw Rock, two islets, lie S of Slim Island and Solomon Island is located 0.5 mile NE of the N end of Slim Island.

Ford Island (61°01'N., 70°05'W.) lies 2.5 miles N of Slim Island. Imnak Island and Smooth Island lie between Ford Island and the mainland. Anchorage can be taken about 0.4 mile SW of Ford Island, in depths of 20 to 31m, good holding ground. The tidal currents are weak in this area.

13.51 Tuvak Bay (61°04'N., 70°08'W.), a small unsurveyed cove, lies between Pointe Duchesneau (Tuvak Head) and Pointe Jean-Talon.

Vessels seeking shelter at the head of Diana Bay should use the Western Passage which leads between Diana Island, Solomon Island, and Slim Island. The fairway is deep throughout and leads directly to the anchorage. The islands N of Igloo Island encumber the S end of the Eastern Passage; it should not be used by mariners unfamiliar with the area.

From Pointe Jean-Talon to Burgoyne Bay, 40 miles WNW, the coast is broken by numerous small bays with deep water close inshore. The steep and rugged coast rises directly from the sea to heights of 213 to 305m. A few miles inland the general level of the country is 457m.

Pointe Jean-Talon (Strangulation Head) (60°05'N., 70°08'W.), a steep-to headland, 101m high, is the W entrance point to Diana Bay.

Baie Hericart (61°02'N., 70°26'W.), 8 miles W of Pointe Jean-Talon, divides into two branches close inside the entrance. The bay appears to be deep.

Pointe de Tracy (Dyke Head) (61°05'N., 70°44'W.), 18 miles W of Pointe Jean-Talon, is a conspicuous headland over 305m high.

13.52 Burgoyne Bay (61°12'N., 71°32'W.), 24 miles WNW of Pointe de Tracy, divides into two branches close inside the entrance. Good anchorage is reported, but little is known concerning the depths in the bay, which is open to N winds. A dangerous rock, 2m high, lies 6 miles NE of the entrance to Burgoyne Bay. A group of islets and rocks, including one which dries 5.5m, lies 5 miles N of the entrance to the bay.

Between Burgoyne Bay and Cape Prince of Wales, 20 miles to the N, the coast is comparatively low. Elevations seldom exceed 152m. A number of shallow, irregular bays break the shoreline. Whitley Bay and Joy Bay, both of which dry, are the largest. Strong tidal currents setting between the numerous sunken reefs and offshore rocks along this section of the coast make navigation dangerous.

Stupart Bay (61°34'N., 71°34'W.), entered between Tuttle Point and Neptune Head, 1.5 miles to the NE, extends W for 2 miles. A reef on which there are some islets extends 1.5 miles

ENE from Tuttle Point. A below-water rock, which is dangerous to navigation lies close offshore 0.5 mile W of Neptune Head. These dangers reduce the width of the navigable channel into Stupart Bay to 0.3 mile, in which there is a least depth of 12.8m.

Anchorage for small vessels is available, in 7m, in the NW part of Stupart Bay. The anchorage area is protected from all but S and SE winds.

13.53 Cape Prince of Wales (61°36'N., 71°31'W.) is the N extremity of a low-lying island connected to the mainland close W by a drying reef. An islet lying on a drying reef lies almost 4 miles E of the cape. Depths of less than 10.9m extend up to 3 miles NW of the islet. Reefs, which dry 1.5m and 0.9m, lie 1.7 miles WNW and 1 mile SW, respectively, from the islet. Between these dangers, the navigable channel E of Cape Prince of Wales leading to Stupart Bay, is 1.5 miles wide and has a least depth of 11.6m.

Caution.—Extreme caution is advised when making the land in the vicinity of Cape Prince of Wales. The extensive shoals off the low-lying land should be given a wide berth.

13.54 From Cape Prince of Wales to Cap de Nouvelle-France, 86 miles NW, the coast is penetrated by fjords and bays with many off-lying islands.

Doctor Island (61°40'N., 71°35'W.) lies 3.5 miles NW of Cape Prince of Wales, 1 mile offshore. Several islets lie on the rocky ledge extending W from the island, which is only 15m high and difficult to distinguish from seaward against the high dark background of the mainland. A rock, with a depth of 0.6m, is charted 1 mile NNW of the island. Shoal depths of less than 10.9m extend SE from the island to Cape Prince of Wales.

The Uglik Islands, two in number, lie 2 miles WNW of Doctor Island, 0.7 mile offshore.

Walrus Island (61°43'N., 71°51'W.) lies 5 miles WNW of the Uglik Islands, 1 mile offshore. Drying ledges extend WSW from the islet for almost 1 mile.

Daryl Rock and Pelican Rock, two drying ledges, lie 2 miles NW and 2 miles WNW, respectively, of Walrus Island.

Wakeham Bay (61°42'N., 71°56'W.), located 15 miles NW of Cape Prince of Wales, extends inland for 14 miles. The bay leads S for the first 6 miles, then turns W and SW to its head where the Wakeham River flows into the bay.

Depths in mid-bay exceed 183m and the rugged and rocky shores are over 305m high in places. The inlet has an average width of 2 miles until it swings W where it narrows gradually to its head.

13.55 La Boule (61°42'N., 71°56'W.), located 2 miles WSW of Walrus Island, forms the E entrance point to Wakeham Bay. The promontory rises gradually to a height of 226m. From the NE it appears as a high, bold island. A low neck of marshy land joins it to a sheer cliff, 319m high, to the E. From seaward the cliff has a distinct reddish color under certain atmospheric conditions and frequently shows other colors as well. A diagonal white fault across its face also helps identify the promontory.

Boat Cove, a small cove on the NE side of La Boule, affords shelter to small craft from all but NW winds. A heavy swell sets into the cove.

Nannuk Rock, which dries 2.4m, lies 0.3 mile NW of the entrance to Boat Cove. Shoal depths of less than 11m, with a least depth of 2.4m, extend 0.4 mile NW of the rock.

A sheer cliff, 392m high, 3.7 miles WNW of La Boule, forms the W entrance point of Wakeham Bay. The N end of the cliff, which rises steeply from the water, slopes to a low point that extends 0.2 mile N from the cliff. A rounded hummock on the point is conspicuous.

Berthe Islet (61°45'N., 72°01'W.), only 0.3m high, lies 0.7 mile NNW of the above point.



Maricourt-Kangiqsujaq settlement (left side)

13.56 Maricourt (Wakeham) (Kangiqsujaq) (61°36'N., 71°57'W.) is a small settlement situated on the E side of the inlet, 6.5 miles inside the entrance on the sandy shore of a bight. There is a private radio station at the Roman Catholic Mission in the settlement.

Depths—Limitations.—Depths in the approaches to Wakeham Bay range from 91.4 to 128m. A sill, typical of most fjords, extends W from La Boule to the opposite shore, with depths of 65.8 to 78.6m. South of the sill, the depths increase rapidly to 214m, 2.5 miles S of the entrance; this is probably the deepest part of the fjord. In the W leg of the fjord, the depths range from 54.9 to 109.7m and decrease to a mid-channel depth of 12.8m in The Narrows. West of The Narrows, the depths in the basin vary from 47.5 to 80.5m. Drying flats extend for a distance of 2.5 miles from the head of the fjord.

Aspect.—The following bearings are useful for compass adjustment:

1. Inside Wakeham Bay, the E extremity of Wales Island, in line with the W extremity of La Boule, bearing 358°.
2. The summit of Dark Island, which lies 0.5 mile W of the W end of Wales Island, in line with the W entrance point of the bay, bearing 337°.
3. Outside Wakeham Bay, Dark Island summit, in line with the S extremity of Wales Island, bearing 298°.

Anchorage.—Despite the deep water in Wakeham Bay, several anchorages are available.

Fair anchorage can be obtained off the settlement in 55m, good holding ground. This anchorage is sheltered from the sea, but open to the winds that funnel down through the fjord.

To anchor, in 55m, at LW, 0.45 mile offshore, approach with the radio mast bearing 140° and anchor when Ford Point, 1.5

miles W of the radio mast, bears 253°.

Anchorage is also available, in 36.6m, on the W side of the fjord opposite Ford Point and S of the middle of three small islets connected to the shore N of them by a drying flat. To anchor, keep Ford Point in line with the summit of a 131m high hill close behind the settlement.

Small vessels anchor, in 36.6m, in the center of the small bay close S of La Boule. The anchorage is sheltered from the wind and out of the tidal currents.

Directions.—Vessels approaching Wakeham Bay from seaward should determine their position relative to the E side of Wales Island, located 9 miles NNW of Walrus Island. If the weather is clear and the entrance identified, a direct course can be steered to the entrance to pass between Daryl Rock and Pelican Rock. It is not advisable to attempt to pass between the rocks in darkness or in fog. Although these rocks lie 6.5 miles from Wales Island, the tidal current may set a vessel dangerously close to either rock.



Maricourt—Kangiqsujuanq (Wakeham Bay approach)

13.57 Fisher Bay (61°47'N., 72°10'W.), entered 4 miles NW of Wakeham Bay, is 1.5 miles at the entrance and extends inland in a SW direction for 3.5 miles. The entrance points of the bay are low when seen against the land in the background. Cap La Potherie, the N entrance point, is about 61m high. Fisher Rock, which dries 8.8m, lies midway between Cap La Potherie and Cantley Point. Depths of less than 3m extend 0.3 mile S of this rock.

Cantley Point divides the bay into two branches. The N branch dries at LW. The S branch is encumbered by Parsons Island and Chalmers Island, which are joined to the mainland by drying banks of sand and boulders, and Shepherd Island. Mount Albert Low, 560m high, and Mount Young, 526m high, are conspicuous 1 mile S of Fisher Bay.

Anchorage.—Anchorage is available off the W side of Chalmers Island, in depths of 9 to 21.9m, mud, good holding ground. The passage between Shepherd Island and Chalmers Island is 0.15 mile wide between the 5m curves, but only about 0.1 mile wide between the 10m curves. Strong squalls blow down from the high hills S of the anchorage.

Caution.—The outgoing tidal current sets NW out of the passage between Parsons Island and Chalmers Island.

Temporary anchorage can be obtained leeward of Cap La Potherie, in depths of 10 to 18m. This anchorage is sheltered from all winds except those from the NE through E to SE.

13.58 Pinnacle Bluff (61°50'N., 72°10'W.), 2.5 miles NW of Cap La Potherie, is a conspicuous hill rising directly from the shore to a height of 75m. From the E, it resembles a sharp pinnacle, but from the N it resembles a sugarloaf. It is a good landmark when approaching Wakeham or Fisher Bay.

The **Woman Islands** (61°51'N., 72°09'W.), a group of three islands, lies 0.5 mile offshore, 0.5 mile NNE of Pinnacle Bluff. The passage between the islands and the mainland is shoal. Detached rocks with 3.4m, 6.7m, and 10.7m lie 1.3 miles ENE and 1.5 miles and 1.75 miles SE, respectively, of the Woman Islands.

Wales Island (61°53'N., 72°03'W.), 4 miles NE of Cap La Potherie, is 2.7 by 1.5 miles in extent and 244m high. It can be identified by the chain of small islands extending NNW from its W end.

Drying flats and rocky ledges fringe all but the E end of the island. Shoal water, with numerous drying reefs extend 1.3 miles S from the S side of the island.

A light is shown on the E end of Wales Island. Wales Sound, the passage between Wales Island and the mainland, has depths ranging from 45.7 to 72.2m in the S half of the sound, and 21.9 to 36.6m in the N part of the passage.

Dark Island (61°53'N., 72°10'W.) is a high steep island with two summits. It is 0.6 mile long, 0.3 mile wide, and over 122m high at its E end. The island, dark in appearance and very conspicuous from the S, lies 0.4 mile W of the W end of Wales Island. Drying reefs fringe the N and W sides of the island.

Tides—Currents.—Between Wales Island and the mainland, particularly in the passage between Wales Island and Dark Island, the tidal currents run strongly in both directions. Opposing winds cause heavy tide rips in the passage.

13.59 Wivanhoe Island (61°55'N., 72°08'W.), 24m high, lies 0.7 mile N of the W end of Wales Island on the outer edge of the drying ledge extending NNW from the island. Wales Rock, 0.5 mile N of Wivanhoe Island, dries 3m. A detached 11m shoal lies SW of Wivanhoe Island, while a rock, with a depth of 8.2m, lies 1.2 miles E of the island.

Between Gilliam Point, which lies 5 miles NW of Cap La Potherie, and the S entrance point of Douglas Harbor, 12.5 miles WNW of Gilliam Point, the coast is broken by several small shallow bays and backed by high land rising from 213 to 488m. A chain of islands roughly parallels the coast about 6 miles offshore.

Peak Island (61°59'N., 72°11'W.), the E island in the chain, lies 3.2 miles NNW of Wivanhoe Island. Its summit, 101m high, is a conspicuous landmark. A small islet lies close off its SE point.

Heavy tide rips occur off the N part of the island. An isolated 15.2m depth is charted 2 miles N of Peak Island. A heavy swell is encountered here during strong E winds.

Double Island (62°00'N., 72°15'W.), two islets, 45m and 119m high, lies about 1 mile W of Peak Island.

Smooth Island (62°00'N., 72°15'W.), 149m high, lies 0.75 mile W of Double Island. Shoal water, with two small islets, lies up to 0.5 mile off the NW side of Smooth Island.

13.60 Maiden Island (62°01'N., 72°24'W.), 4 miles long, 1.25 miles wide, and 210m high, is the largest island in the chain. It lies about 0.8 mile WNW of Smooth Island, but the passage between the islands is foul. Cairn Islet lies close off the SE end of Maiden Island.

Bold Point (62°02'N., 72°28'W.), a perpendicular headland at the W end of Maiden Island, is bastion-like in appearance and is a useful landmark for making Douglas Harbor.

Anchorage, with shelter from NW through NE winds, good holding ground, can be obtained under the S side of Maiden Island.

Pinnacle Island (62°04'N., 72°23'W.), a group of three islands, lie 1 mile N of Maiden Island. The W and largest island is 161m high.

Saddle Island (62°07'N., 72°27'W.), a saddle-shaped island 37m high, lies 2.5 miles N of the Pinnacle Islands. Two islets lie on a rocky reef 0.4 mile W of Saddle Island, and Flat Island, 18m high, is located almost 1 mile NNW of Saddle Island. A drying reef is located midway between Saddle Island and Flat Island.

Strong tidal currents are deflected among all these islands.

13.61 King George Sound (62°00'N., 72°30'W.) is the wide passage separating this chain of off-lying islands from the mainland. Average depths in the sound range from 36.6 to 54.9m.

Middle Island (61°57'N., 72°24'W.), 43m high, lies in mid-passage 3.5 miles SSW of the SE end of Maiden Island. Depths of less than 10.9m extend up to 1 mile NW and 1.7 miles SE of the island.

Cleft Island (61°57'N., 72°31'W.) lies 1.5 miles E of the S entrance point of Douglas Harbor. The island's three summits make it a good landmark; the central and highest is 74m high. Depths of 10.9m extend 0.5 mile NW and 0.8 mile SE of the island.

Douglas Islet (61°58'N., 72°33'W.), 2m high, lies on a drying ledge 0.9 mile NW of Cleft Island. Douglas Rock, 0.3 mile W of Douglas Islet, dries 7m. Both of these dangers lie in mid-channel at the entrance to Douglas Harbor.

Entrance Island (61°58'N., 72°34'W.) lies on the SE end of a drying ledge that extends E from the N entrance point to Douglas Harbor. The island is 61m high. Depths of less than 1.8m extend E from the island for 0.2 mile. An isolated depth of 4m lies 0.7 mile E of Entrance Island.

13.62 Douglas Harbor (61°58'N., 72°33'W.) is entered from the SW side of King George Sound. The inlet extends inland in a generally S direction for 5 miles, where it branches into two arms. The Southeast Arm continues S for about 5 miles. The Southwest Arm extends SW for a similar distance.

The N entrance point is 186m high, while the S entrance point is only 79m high. The entrance itself is 1 mile wide. For the first 5 miles the inlet has an average width of about 1.7 miles between high shores of over 305m.

There is no settlement and facilities are nonexistent at Douglas Harbor.

Tides—Currents.—When the wind opposes the outgoing tidal current, a choppy sea makes up in the harbor entrance.

Depths—Limitations.—Depths in the approach range from 18.3 to 25.6m, but inside Douglas Rock depths increase sud-

denly from 54.9 to 73.2m. The greatest depth in the harbor, 86m, is found about 0.5 mile inside the entrance. A least depth of 37m can be carried almost as far as the head of the Southwest Arm, which is deep and free from dangers. The Southeast Arm is shallower, having depths of 18.3 and 37m. Shoals extending from the entrance points reduce the entrance to a width of only 180m. A drying boulder-strewn flat fringes the E shore and completely fills the head of the Southeast Arm.

Aspect.—Two pink-colored bluffs, both over 122m high, are conspicuous on the E side of the harbor, 1.8 miles SSW of the S entrance point.

The Helmet, a sharp-pointed hill on the E shore of Douglas Harbor, rises to a height of 219m, 1.7 miles SSW of the pink bluffs. A peak, 506m high, is located 1.7 miles E of The Helmet.

Anchorage.—Vessels can obtain anchorage as convenient, in good holding ground, anywhere the depth is suitable, almost any place in Douglas Harbor or its SW branch. The inlet is sheltered from the sea. Vessels have anchored 1 mile N of The Helmet, in 54.9m, clay; however, this anchorage is exposed to SW gales which blow down through the SW branch with great violence. Another anchorage is situated about 1.8 miles farther to the NNW.

Caution.—It is inadvisable to pass between Douglas Rock and Entrance Island, as this rock covers at HW and constitutes a danger. When Douglas Rock is visible, the harbor can be entered in mid-channel, between it and Entrance Island, in a least depth of 20m.

From the N entrance point of Douglas Harbor to Promontoire de Martigny, 8.5 miles to the NNW, the coast is broken by several small bays and inlets, most of which dry completely at LW. An area of foul ground, with a few islets lying on the drying reefs, lies 0.8 mile off the mainland, 2.7 miles N of Entrance Island.

13.63 Promontoire de Martigny (62°07'N., 72°40'W.), a high bold headland, projects out from the general trend of the coast. From seaward the headland presents a steep face rising to a height of 259m.

The coast changes direction at Promontoire de Martigny from NNW to NW and continues in this direction for 40 miles to Cap de Nouvelle-France.

Foul Bay (62°09'N., 72°50'W.), lying between Promontoire de Martigny and Pointe Radisson, 20 miles NW, is encumbered by numerous small islands, islets, drying ledges, and above and below-water rocks.

Off-lying Islands

13.64 Davies Island (62°14'N., 72°50'W.) lies 5 miles NNW of Promontoire de Martigny and 11 miles NW of Flat Island. The island is 2.5 miles long, 0.75 mile wide, and 91m high on its W side.

Weggs Island (62°19'N., 73°05'W.), about 1 mile in diameter, lies 6.5 miles NW of Davies Island. The island is about 122m high with steep cliffs on its N side.

Outer Island (62°26'N., 73°16'W.), 15m high, lies about 5 miles offshore, 8.7 miles NW of Weggs Island. The barren island is steep-to on its E side and yellow in color. Sunken rocks are reported off the NW and SE ends of the island.

Cap de Nouvelle-France (62°28'N., 73°42'W.) is the E extremity of a high irregular promontory with a seaward face about 2 miles long. It is over 183m high and conspicuous from both the E and the W.

13.65 Charles Island (62°40'N., 74°20'W.), about 23 miles long in a general E-W direction, has a maximum width of 5 miles. The E end of the island lies 12 miles NW of Cap de Nouvelle-France. The barren island is separated from the mainland by a passage from 10 to 30 miles wide. A 14m patch lies in this passage, about 15 miles WSW of Cap de Nouvelle-France. Elevations on the N and E sides of Charles Island range from 61 to 183m.

Cape Moses Oates (62°36'N., 73°56'W.), the bold E end of the island, exhibits a light. A light is also shown on the W end of the island.

Foreman Island (62°35'N., 74°00'W.) lies close off and parallel to the SE side of Charles Island. The island is 2 miles long, 0.2 mile wide, and 24m high. Two islets lie close E of the E end of the island.

Charles Inlet, the narrow inlet between Foreman Island and Charles Island, can be entered only from the E. A shallow bar, with depths of only 1.8m, blocks the W end of the inlet.

Anchorage.—Anchorage is available in the E end of Charles Inlet, in 18 to 32.9m, sand. The anchorage is protected from all but E winds.

Anchorage is also available in Charles Bay, the bight on the N coast of Charles Island. The bay is protected from winds from the SE through SW, but is open to all N winds.

Caution.—An extensive magnetic anomaly has been reported within an area extending from 10 miles E to 5 miles W of Charles Island. Abnormal variations are also reported N and S of this island.

Between Cap de Nouvelle-France and Deception Bay, 33 miles to the SW, the coast gradually increases in elevation from 152 to 305m.



Pointe Rouge

13.66 Pointe Rouge (62°15'N., 74°42'W.), the E entrance point to Deception Bay, has an elevation of 90m.

Deception Bay (62°14'N., 74°46'W.), entered between Pointe Rouge and Neptune Island, 2.7 miles WSW, extends in-

land about 9 miles in a general SE direction. The width varies from 1 to 2.5 miles.

The shores rise steeply from the sea to over 427m on the W side and 366m on the E side.

General depths range from 23.8 to 32.9m in the entrance and outer part of the bay, to 45.7 to 64m in the inner part. A drying flat fills the head of the bay. The DC Dock handles breakbulk cargo and can accommodate vessels with a maximum draft of 10m.

Arctic Island (62°14'N., 74°46'W.), a small island 29m high, lies in mid-fairway. It divides the entrance into East Channel and Main Channel. A shoal bank, with depths of less than 11m, extends NE from the island for a distance of 2 miles, and an isolated rock of 8.8m lies 0.6 mile ENE of Arctic Island.

A light is shown on the island. The light structure has a fluorescent-orange daymark.

Neptune Island, 58m high, is located 1 mile W of Arctic Island. It lies on the drying flat extending from the mainland and forms the W entrance point of the bay.

Pointe Noire is a prominent dark-colored point, 11m high, on the E side of the bay, 3 miles SW of Pointe Rouge. Black Rock, a drying rock, lies 0.2 mile SW of Pointe Noire. Channel Rock, with a depth of 1.8m, lies 0.5 mile SSE, of Pointe Noire.

The Moosehead Islands, three small islands, lie on the SE end of a shoal spit extending almost 2 miles SE from Pointe Noire. **Theron Point** (62°09'N., 74°43'W.), 1.5 miles S of the Moosehead Islands, forms the E entrance point to Careenage Arm.

13.67 Careenage Arm (62°09'N., 74°44'W.) branches SW for 1.5 miles, with an average width of 0.5 mile. Depths in the arm range from 29.3m in the entrance to 18.3m close off the drying flats at its head.

Tides—Currents.—A tidal range of 5.5m has been reported in Deception Bay; HW occurs about 1 hour after that at Diana Bay. It was reported that a current setting 270° at about 2 knots was found between 9 miles and 11 miles off the entrance to the bay. A W set was observed in the bay between Pointe Noire and Bombardier Beach.

Depths—Limitations.—Falconridge Limited Wharf is situated about 1 mile SE of Theron Point. There are depths of 11.0 to 13.4m at the wharf. The Y-shaped wharf is constructed of gravel-filled steel cells. Vessels berth on the E side of the cells, about 76m apart, on an alignment of 004°-184°.

Aspect.—A large storage shed is situated close SW of the wharf. A conspicuous tank farm is situated 0.2 mile farther S.

A daybeacon range, in line bearing 174°, situated 2 miles SSW of Pointe Noire, marks the middle of the fairway leading between Arctic Island and Neptune Island into the bay. This range leads over a least depth of 21.9m. Both structures have fluorescent-orange daymarks.

A daybeacon range, established on the W shore near the head of the bay, in line bearing 141°30', intersects with the range described above and leads toward the wharf. The daybeacons, fluorescent-orange, are shown from square aluminum skeleton towers.

Pilotage.—A pilot can be obtained to berth ships alongside the wharf and boards about 1.5 miles NW of the anchorage, off Bombardier Beach.

Vessels normally proceed alongside in daylight, but can leave at any time.

Anchorage.—Anchorage is available in Careenage Arm, in 20m, mud, about 0.2 mile offshore, 0.8 mile inside the entrance. Vessels also anchor 0.4 mile SE of the Moosehead Islands in 20m, and off Bombardier Beach at the head of the bay in 20 to 31m.

Directions.—The daybeacon range established on the cliff top WSW of Moosehead Island leads through Main Channel between Neptune Island and Arctic Island into Deception Bay.

13.68 Between Deception Bay and Sugluk Inlet, 20 miles WNW, two promontories separated by an unnamed bay dominate the coastline of high bold cliffs, with heights in excess of 305m. Promontoire Maurepas is the E promontory; Promontoire Pontchartrain is the W.

East Cove (62°18'N., 75°26'W.) is entered between Cap Daulat on the E and Cap du Long-Sault, the W entrance point. The cove, about 0.8 mile wide, extends inland 2.5 miles between steep shores with heights of more than 305m. Depths range from 45.7m at the entrance to 7.3m off the drying flat at the head of the cove.

Sugluk Inlet (62°17'N., 75°30'W.) is entered between Cap du Long-Sault on the E and Sugluk Island, 2.5 miles to the SW. The inlet extends inland about 12 miles in a SW direction with an average width of 1.2 miles. The shores of Sugluk Inlet are not as high and rugged as other harbors along this coast. The hills are smooth and rounded, with considerable grass and moss. General elevations range from 183 to 213m.

The settlement of Sugluk lies in a small cove on the E shore of the inlet, about 6 miles inside the entrance.

Cap du Long-Sault (62°18'N., 75°27'W.), the E entrance point, is 279m high.

Sugluk Island (62°17'N., 75°33'W.) lies in the entrance close NE of Cap Valets, the W entrance point, which rises to a height of 218m. The island is 117m high.

Ford Channel, the passage separating the island from the mainland, is shoal and navigable only by small craft.

13.69 Sugluk Inlet (62°12'N., 75°38'W.) settlement consists of a Hudson's Bay Company store, an Anglican Mission, a Roman Catholic Mission, and an establishment of the Department of Indian and Northern Affairs.

Ice.—Freeze-up in the inlet usually occurs in the middle of November; the bay usually opens by the first week in August.

Tides—Currents.—The tidal range at Sugluk is 3.4 to 5.5m.

Depths—Limitations.—Except for an isolated depth of 10.4m, the fairway between Sugluk Island and the mainland to the E has a width of 0.5 mile between the 10m curves. Within the entrance, the depths increase rapidly to 91.4m and 109.7m.

Ten miles inside the entrance the navigable width of the inlet is reduced to a width of 0.2 mile by drying flats extending from the N and S shores. A least depth of 7.3m can be carried through The Bar into Sugluk Basin. Depths within the basin range from 54.9 to 64m.

Aspect.—From seaward the entrance of the inlet is easily recognized by the depression in the coast. Sugluk Island lies in the middle of the dip.

Between Sugluk Inlet and Cap Wolstenholme, 57 miles to

the WNW, the irregular shoreline is broken by numerous coves and gorges. Cliffs, with deep water close inshore, rise to heights of 610m along this section of the coast.

Dome Hill (62°18'N., 75°45'W.), 305m high, is a prominent landmark 4.5 miles W of the inlet.

An ice-filled crevice, located about 1.5 miles SW of Cap du Long-Sault, appears as a permanent white patch from seaward.

Black Point (62°14'N., 75°37'W.) lies on the E side of the inlet 5 miles inside the entrance. This dark promontory rises gradually to a height of 73m. It is the most conspicuous landmark in the inlet.

Anchorage.—The best anchorage in the inlet is 0.5 mile E of the bar, in 27m to 54.9m, good holding ground.

Ships serving the settlement usually anchor just outside the cove, in 54.9m, mud. The holding ground is reported to be poor.

13.70 Kugluk Cove (62°21'N., 76°01'W.), 13 miles WNW of Sugluk Inlet, is one of the largest coves along this part of the coast. It is entered between steep cliffs which are difficult to distinguish from the surrounding cliffs. The shores are steep-to, with deep water in the cove, but the holding ground is poor.

The inlet is open to the N wind and swell and offshore winds funnel down the cove with gale force, making it untenable for anchorage.

Another smaller cove lies close W of Kugluk Cove, with Cap Hebert, 433m high, forming its W entrance point.

Promontoire Colbert (62°32'N., 77°06'W.), 427m high, located 29 miles WNW of Cap Herbert, is the only other named feature along this section of the coast.

Erik Cove (62°34'N., 77°24'W.) is entered between Cap Dalmas on the E and Cap de Chateauguay on the W. The E entrance point is a sheer cliff, 393m high. Erik Cove extends inland about 2 miles in a S direction to a fine sandy beach at its head. It narrows from a width of 1 mile at the entrance to 0.5 mile at the S end of the cove.

Depths range from 91.4m at the entrance to 18.3m within 0.3 mile of the beach. There are no dangers in mid-channel.

Caution.—A local magnetic anomaly of 10° has been reported in the entrance to Erik Cove.

13.71 Wolstenholme (62°30'N., 77°24'W.), containing the buildings of an abandoned Hudson's Bay Company store, lies on the SE shore of Erik Cove.

Ice.—Erik Cove is generally frozen over by the middle of November and is clear of ice about the first week of August.

Anchorage.—Anchorage is available 0.6 mile from the head of the cove, in 36.6m, sand, but the anchorage is open to winds and sea from the N and at times violent squalls sweep through the cove from the S.

13.72 Cap Wolstenholme (62°35'N., 77°30'W.), the NW extremity of the Wolstenholme Peninsula, projects N between Erik Cove and Digges Sound. The bold headland rises in sheer cliffs from deep water to a height of 384m.

Tides—Currents.—Strong tidal currents set continuously E off Cap Wolstenholme, attaining a rate of 3 knots at springs off Erik Cove. With the rising tide, the current becomes weaker. When the E current is opposed by E winds, a heavy sea with strong tide rips and eddies makes up about 0.5 mile offshore.

The tidal current that flows NE past Cap Wolstenholme with the falling tide turns E joining and strengthening the E current.

From Cap Wolstenholme to Pointe Nuvuk, 21 miles to the SW, the coast is generally high and steep, rising to 305m with deep water close offshore, but approaching Pointe Nuvuk the rugged rocky formation gives way to the low swampy shores of Hudson Bay. The Digges Islands lie offshore, separated from the mainland by Digges Sound. Except for the deep channel through the sound, the entire area between the Digges Islands and Pointe Nuvuk is heavily encumbered with numerous islets, rocks, and shoals.

13.73 Ivujivik Harbor (62°24'N., 77°53'W.), about 14 miles SW of Cap Wolstenholme, is entered E of Ivujivik Point; it extends inland 1.5 miles in a SE direction. Depths in the inlet range from 23.8 to 91.4m.



Ivujivik Harbor

An Inuit settlement is situated on the W shore of the inlet.

Anchorage is available off the settlement, in a depth of 55m, but the berth is not good because of the great depth and exposure to winds.

Nuvuk Harbor (62°24'N., 77°58'W.), located 1.3 miles SW of Ivujivik Point, is formed between the mainland and the Nuvuk Islands to the W. This harbor is entered from the N between the N island of the Nuvuk group and a point on the mainland 1.5 miles to the NE. A narrow T-shaped inlet indents the mainland on the SE corner of the harbor. The normal navigation season is from the end of July to late October.

Anchorage.—Anchorage, protected from E gales, is available in the SE part of the harbor, in 40m, mud and clay, good holding ground, with the E entrance point of the harbor bearing 014°, and the W entrance point of the T-shaped inlet bearing 110°. During W and SW winds, anchorage can be taken in the lee of the Nuvuk Islands in the SW part of the harbor, in 38m, mud and clay, with the W entrance point of the harbor bearing 003°, and the W entrance point of the inlet bearing 088°. Shelter from NE winds can be found off the entrance of the SW arm of the T-shaped fjord.

Pointe Nuvuk (62°22'N., 78°05'W.), the NE entrance point of Hudson Bay, is an inconspicuous point lying S of the Nuvuk Islands.

Off-lying islands.—Numerous islands lie off the coast between Cap Wolstenholme and Pointe Nuvuk. Digges Sound separates the islands from the mainland.

13.74 The Digges Islands (62°34'N., 77°50'W.) lie 3.5 miles W of Cap Wolstenholme. The two islands are separated by a narrow, but deep, channel with depths of 49 to 106m. The

E Digges Island is 5.5 miles long, 3.5 miles wide, and 293m high.

Cape Digges (62°35'N., 77°38'W.), the E point of the island, is 122m high. A small island lies on a drying ledge close E of the point.

The westernmost Digges Island is 7 miles long, 3 miles wide, and 200m high near its NE end. From the high point the island slopes to an elevation of 61m at its W end, which is almost separated from the island by two inlets. The S inlet is known as Port de Laperriere. The N inlet almost dries and is foul off the entrance.

Digges Harbor (62°34'N., 77°52'W.), a small inlet at the E end of the westernmost Digges Island, is about 1 mile long and 0.2 mile wide.

13.75 Port de Laperrière (62°34'N., 78°03'W.), a small inlet on the S side of the W end of the westernmost Digges Island, is about 1 mile long and 0.2 mile wide. The inlet shoals rapidly to a drying flat at its head.

Anchorage.—Anchorage can be taken in the passage between the Digges Islands, with the NW point of the easternmost Digges Island bearing 000°, and the SW point of the same island bearing 150°, in 54.9m, good holding ground of mud and sticky clay. This anchorage is secure in E gales and in moderate winds from all directions. It is a good seasonal anchorage, being easy to access. Vessels can leave without difficulty at any time.

Small vessels can find sheltered anchorage in the small basin at the head of Digges Harbor, in 12.8m. Anchorage, sheltered from W and S winds but open to the N, is available off the entrance to Digges Harbor, in 38m. Anchorage is not recommended in N winds, as the harbor will act as a wind funnel. Small vessels can take shelter from all but S winds near the entrance in Port de Laperriere, in 12.8m.

Digges Islet (62°35'N., 78°07'W.), a small rocky islet 16m high, lies 0.3 mile NW of the W end of W Digges Island. A seasonal light is shown from the islet.

13.76 Off-lying dangers.—A rocky depth of 6.4m lies 1.5 miles W of Digges Islet. Two islets lie 1 mile W of the W end of W Digges Island.

Snelgrove Rock (62°34'N., 78°24'W.), a rocky depth of 8.2m, lies 7.8 miles W of the Digges Islands.

Southwest of the Digges Islands, a large group of islands, drying rocks, and shoals parallel the coast for a distance of 10 miles, forming the NW side of Digges Sound Passage.

Dome Islet (62°31'N., 77°58'W.), 60m high, lies 1.5 miles S of the Digges Islands along the N edge of the island group.

Fairway Island (62°26'N., 78°03'W.) lies 3 miles W of Ivujivik Point, at the SW end of the island group. It is the largest of the islands, with an elevation of more than 31m.

North Skerries (62°26'N., 78°10'W.), a group of nine bare rocks, lie 1.5 miles W of Fairway Island. A detached depth of 9.1m is located about 1 mile S of North Skerries.

A depth of 12.8m was reported (1961) to lie 1 mile NE of North Skerries.

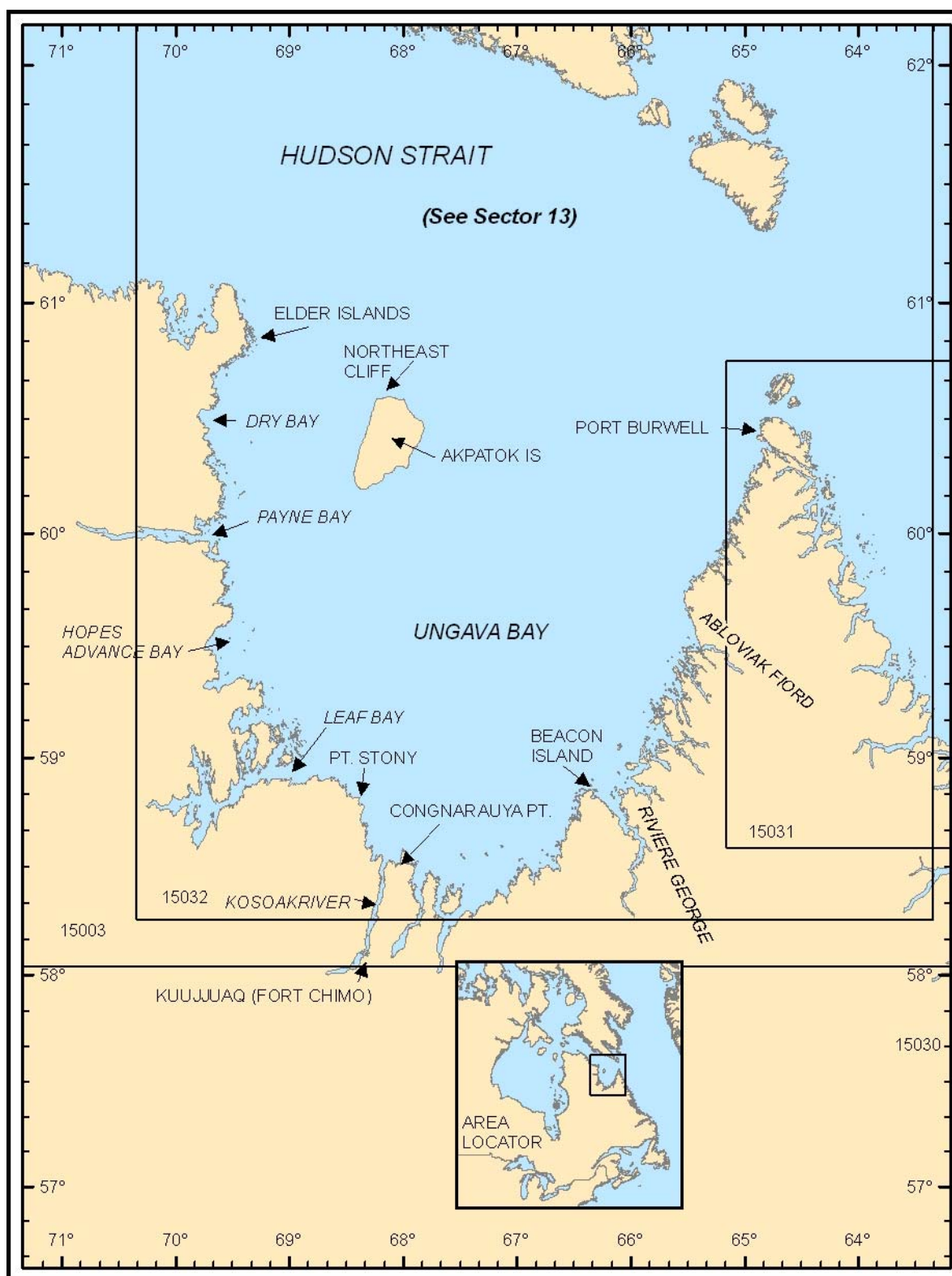
South Skerries (62°23'N., 78°12'W.), 2.5 miles S of North Skerries, is a smaller but similar group. A red and white slat-work beacon is erected on the NE islet.

From the northernmost Digges Sound, a deep channel is entered between Cap Digges, the E end of the Digges Islands, and Cap Wolstenholme. The passage leads along the mainland coast in a SW direction to Nuvuk Harbor, where it turns to the WSW between Fairway Island and the Nuvuk Islands, then between North Skerries and South Skerries into Hudson Bay.

Depths in the sounds are considerable, with over 365m from Cap Wolstenholme to Ivujivik Point, and over 183m from this point to the skerries. This passage is reported to be ice free longer than the usual route N of the Digges Islands by approx-

imately 10 days; however, once the Hudson Bay ice enters the sound, the tides cause heavy rafting off Ivugivik Harbor and Nuvuk Harbor.

13.77 Staffe Islet (62°29'N., 77°45'W.) lies 1 mile off the mainland, 9 miles SW of Cap Wolstenholme. The steep-to islet is 0.6 mile long, 0.3 mile wide, and 91m high. It is conspicuous from some distance NE. Shelter for small vessels is afforded from W and NW winds in a small cove on the SE side of the islet.



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

SECTOR 14 — CHART INFORMATION

SECTOR 14

UNGAVA BAY

Plan.—This sector describes Ungava Bay and Akpatok Island. Akpatok Island is described first. Ungava Bay is then described, starting at its E entrance point, continuing in a clockwise direction, to its W entrance point.

General Remarks

14.1 Immediately within the E entrance to Hudson Strait, the S shore is indented by Ungava Bay, an extensive bay that extends inland for 140 miles in a S direction. The bay is entered between Flat Island, on the E, and Cape Hopes Advance, about 140 miles to the WNW.

The coastline of Ungava Bay, in sharp contrast to the shores of Hudson Strait, is low rolling country rising gradually inland to about 152m. The tree line lies close to the head of Ungava Bay.

Akpatok Island, in the NW part of the bay, is the only large island in the area.

Tides—Currents.—Reports indicate that there are no strong tidal currents in the middle of Ungava Bay, but within 12 to 15 miles of the E and W sides the currents are strong and reverse their direction with the incoming and outgoing tide.

Tidal information for Ungava Bay is limited; however, there are very high tides in the bay. In Leaf Bay, the maximum recorded spring rise was 16.7m, the highest in the world.

Regulations.—See paragraph 13.6 for information regarding the **Arctic Canada Traffic System** (NORDREG CANADA). Mariners should be aware of the advantages of reporting to this system which is a required by certain vessels for Vessel Traffic Service covering the waters N of 60°N and all of Ungava Bay, Hudson Strait, and Hudson Bay.

Akpatok Island

14.2 Akpatok Island (60°24'N., 68°05'W.) lies 49 miles SE of Cape Hopes Advance. It is the largest island in Ungava Bay. The island is 25 miles long and 15 miles across at its widest part. Its high point, 285m high, rises near the center of the island. The coast line is generally free of indentations and from seaward appears as a steep vertical wall, 122m to 183m high, except for a small stretch on the NE side where the coast gives way to a low shingle shoreline. Small patches of snow, which are conspicuous from seaward, remain in the deeper gullies throughout the summer.

From offshore, the island appears as a line of unbroken vertical cliffs, backed by the gently rounded plateau of the interior. In summer, the cliffs are pale yellow in color. The island is uninhabited.

Tides—Currents.—Along the E and W coasts of the island, the flood current sets in a SW direction, at a maximum rate of 3 to 4 knots at springs. The ebb current sets NE at the same rate.

Anchorage.—Anchorage, in 9.1 to 27.4m, good holding ground, exposed to all but offshore winds, is available almost anywhere within 0.4 mile of the cliffs.

Caution.—Shoals extend up to 0.2 mile seaward off the N, E, and S points of the island. It is dangerous to approach closer than 0.2 mile to the shore because of projecting rocky ledges at the base of the cliffs.

Ungava Bay—East Side

14.3 Between Jackson Island, close off the SW extremity of Killinek Island, and the George River, 114 miles SW, the E coast of Ungava Bay is broken by many bays and inlets, with numerous islands and rocks along its entire length. This part of Ungava Bay has not been surveyed and there may be many undetected offshore dangers.

Jackson Island (60°25'N., 64°53'W.), lying close off the SW point of Killinek Island, is separated from it on the N by Fox Harbor and on the E by Port Burwell. The island is about 1.5 miles long and 1 mile wide.

Fox Harbor (60°25'N., 64°52'W.) lies between Killinek Island and Jackson Island. A drying flat at its head separates it from Port Burwell. Harbor depths range from 36.6m in the entrance to 12.8m at its head. The settlement situated here was abandoned in 1978.

14.4 Forbes Sound (60°23'N., 64°50'W.) is entered between the SW point of Jackson Island and Cape William Smith, about 3 miles to the SSE. It extends SE for 3.5 miles to its junction with McLellan Strait.

An unsurveyed shoal, with a depth of 7.9m, lies in the middle of the entrance.

Goddard Island (60°22'N., 64°45'W.) lies 2.5 miles E of Cape William Smith in the entrance to Young Inlet. It is 1 mile long, 0.5 mile wide, and 61m high. Several islets lie off the N end of the island.

14.5 Port Burwell (60°25'N., 64°51'W) is a small natural harbor lying between the E side of Jackson Island and the SW side of Killinek Island. The land in the vicinity of the harbor is rugged, with steep rocky cliffs from 30m to 152m high. Harbor depths range from 51.2m in the entrance to 27.4m near its head.

Killinek Coast Radio Station has been established in the vicinity of Port Burwell. A framework beacon tower stands on an observation spot at the head of an inlet in the NE part of Port Burwell.

Shoal water extends 0.1 mile off the W side of the harbor; foul ground on which lie two rocks, awash, extends 0.15 mile S of a peninsula in the NW part of the harbor. There is more foul ground to the SE of these rocks, on which there is a rock almost awash at HW. This foul ground extends 0.1 mile from the E side of the harbor.

Ice.—The harbor is generally clear of ice by the end of July or the first week of August; the floes may drift back and forth with the winds and the tidal currents before clearing the area. Freeze-up usually occurs during the last half of November.



Apotak Island

Anchorage.—Anchorage, protected from all but S winds, is available, in 29.3m, mud. Anchorage is also available 1 mile E of the Port Burwell entrance, 0.2 to 0.5 mile offshore, in 36.6m to 45.7m, fair holding ground; however the anchorage is open to the W and a heavy swell sets into the area with W winds.

Directions.—Three small stone cairns stand on the SW coast of Jackson Island but are difficult to distinguish against the rocky background. Without the aid of prominent marks, it is not easy to identify the entrance to Port Burwell.

A vessel approaching from the N is recommended to steer for a position 1 mile W of Jackson Island, close off which there is a small rock, 3m high. From this position, shape a course to pass midway between the S extremity of Jackson Island and a 7.9m shoal, 1 mile SSW. Care must be taken not to mistake Munro Harbor, on the SW side of Jackson Island, for Port Burwell, which lies 0.7 mile farther E.

Off the entrance to Munro Harbor, the framework beacon tower in Port Burwell can be seen. Enter the harbor in mid-channel and proceed to the anchorage by favoring the E shore to avoid the shoal extending from the W entrance point.

A vessel approaching from the W is advised to steer for the land well N of Port Burwell, as the coast S is very foul and the water is deep close to the rocks, so that soundings give little warning. Make a landfall off the Button Islands and then proceed as directed above.

14.6 Young Inlet (60°22'N., 64°45'W.) is entered close SE of Goddard Island. It extends SE for 5 miles. Depths range from 27.4 to 45.7m. Anchorage may be taken E of Goddard Island in the inlet entrance, in a depth of 31.1m.

Tidal ranges of 4 to 6.1m may be experienced in the inlet.

From Cape William Smith, the S entrance point of Forbes Sound, the coast trends SSW for 45 miles and then SSE for 16

miles to Alluviaq Fjord (Abloviak Fiord). This section of irregular coast, which is unsurveyed, is broken by bays and inlets and fronted with numerous rocks and islets. Vessels unfamiliar with the area should exercise extreme caution when navigating within 12 miles of this part of the coast.

Abloviak Fiord (Alluviaq Fjord) (59°30'N., 65°23'W.), the largest inlet along this stretch of coast, extends inland for 22 miles in a SE direction. It has not been sounded.

Weymouth Inlet (59°21'N., 65°28'W.), located 9 miles SW of Alluviaq Fjord, extends SE for about 9 miles. The approaches and entrance are heavily encumbered with islands and islets.

14.7 Gregson Inlet (59°10'N., 65°37'W.), 6 miles SSW of Weymouth Inlet, extends SSE for 8 miles. Davis Inlet, 7 miles long, lies 1.5 miles W of and parallel to Gregson Inlet.

Cape Kattaktok (59°16'N., 65°44'W.) is a low sharp point, fronted by islets and ledges, lying 3 miles WNW of the entrance to Davis Inlet.

Keglo Bay (59°06'N., 65°44'W.), 8 miles S of Cape Kattaktok, has an entrance 8 miles wide. Five miles inside the entrance it narrows and branches into two arms. One extends E for 8 miles; the other extends SE for 12 miles.

Kikkertoksoak Island (59°05'N., 59°52'W.) lies 3 miles W of the entrance to Keglo Bay. It is the largest in a small group of low-lying islands.

The **Korok River** (Rivière Koruc) (58°52'N., 66°00'W.) lies 12 miles SSW of Kikkertoksoak Island. Elson Point is its S entrance point. The river is 2 to 2.5 miles wide for 7 miles from its entrance.

14.8 The George River (58°51'N., 66°12'W.) flows into Ungava Bay between Elson Point and Cape Naujaat, 10.5 miles

to the W. Several dangerous rocks and shoals encumber the approach. The river follows a SSE direction for about 14 miles to a small cove on its E bank, where the settlement of Port-Nouveau-Québec is situated. The river is navigable by small craft for a distance of 200 miles.

Beacon Island (58°53'N., 66°20'W.) lies 2.5 miles NNE of Cape Naujaat. It is the largest and N rocky islet of a group lying on the extensive, boulder-strewn, drying flat which forms the W entrance point of the George River. Many sunken rocks exist in the approaches to the George River. Rocks, which dry 3.5m and 1.6m and which break in rough seas at LW, lie about 2.7 miles NE and 3 miles ESE, respectively, of Beacon Island. Shoal banks, with least depths of 3.4m, extend into the river from the E and W sides of the entrance. A racon is mounted on a square skeleton tower situated on Beacon Island. The tower has a fluorescent orange rectangular daymark.

14.9 Port-Nouveau-Québec (58°41'N., 65°56'W.) is an Inuit settlement. Supplies for the settlement are landed by small craft at a landing beach on the W side of the cove. There is a floating dock for small craft at the settlement.

A settlement known as George River, dating back to 1876, was on the shore of the river near Île Ford. In 1965, the village was relocated to Anse Akilasakallak and renamed Port-Nouveau-Québec. The village officially became known by its Inuit name in 1990.

Ice.—Freeze-up usually occurs about the end of December; breakup usually occurs around the first week in June.

Tides—Currents.—The tidal range at the George River is between 7.6m and 9.8m at springs and between 3.7m and 6.7m at neaps. Currents in the river are strong and dangerous, reaching 8 knots on the flood current and 10 knots on the ebb current. There are tide rips when the wind direction opposes the current.

Depths—Limitations.—The George River has not been sounded and dangerous depths may exist. Depths in the approaches are very irregular, ranging from 5.5 to 73m.

A drying rock, 0.3m high, lies about 0.2 mile SSE of the SE extremity of Cap Nuvukallak (58°42'N., 66°03'W.). A shoal depth of 7.3m lies 0.4 mile further SSE. A depth of 7.7m lies in The Narrows, about 2 miles SSE of the drying rock.

Anchorage.—Shallow draft vessels discharging petroleum products use an anchorage 0.5 mile NW of the SE entrance point to the cove. The current here runs strongly in a S direction at LW for about 3 hours. Little current was experienced after this period until 3 hours 30 minutes after HW at the entrance to the river, when the current runs strongly in a N direction.

An outer anchorage 0.3 mile SW of the inner anchorage was reported more satisfactory.

Anchorage is also available off the E side of Ford Island, about 8 miles upstream from the settlement. Depths of 1.8 to 2.1m have been reported close to this anchorage.

Ungava Bay—Head

14.10 The head of Ungava Bay lies S of a line connecting Cap Naujaat, at the entrance to the George River, and Stony Point, the S entrance point to Leaf Bay, about 69 miles to the W. This section of Ungava Bay has not been completely sur-

veyed.

Two large rivers, the Rivière a la Baleine and the Koksoak River, flow into the head of the bay about 25 miles apart.

Fort Chimo (Kuujuuaq), a Hudson's Bay Company post, is the only settlement in the area. It is situated on the Koksoak River.

Between Cape Naujaat and the mouth of the Rivière a la Baleine, about 50 miles to the SW, the coast is generally low, with occasional rocky points and a few rocky islands along the shore. Inland the hills rise gradually to heights of nearly 305m.

From the mouth of the Koksoak River to Stony Point, about 40 miles NW, the land rises gradually into long rounded hills with heights of up to 61m.

14.11 Cap Naujaat (58°51'N., 66°24'W.), lying 3 miles S of Beacon Island, forms the W entrance point to the George River.

Between Cape Naujaat and the Rivière a la Baleine, the coast line is broken by several bays formed at the mouths of rivers flowing into Ungava Bay. Drying mud flats strewn with boulders obstruct these bays.

Cap Kernertut (58°30'N., 66°57'W.), the W entrance point of the bay into which the Rivière Tunulic empties, is 55m high.

Alukpaluk Bay (58°25'N., 67°07'W.), 7 miles SW of Cape Kernertut, is fringed with drying flats and drying ledges extending seaward from both entrance points. The Rivière Tuctuc empties into the head of the bay.

14.12 The Rivière a la Baleine (58°15'N., 67°35'W.) flows into Ungava Bay, 11 miles SW of Alukpaluk Bay. The large bay at the mouth of the river is almost completely filled by Qikirtajuaq Island. Numerous islands and rocky ledges extend as far as 20 miles N and NE of the river mouth. The river has a width of 1 mile for a distance of 8 miles upstream, beyond this point there are rapids.

Qikirtajuaq Island (Big Island) (58°20'N., 67°35'W.) is 6 miles long, 5 miles wide, and 61m high. Rocky ledges and islands extend 20 miles N from Big Island.

14.13 Saeglorsoak Island (58°33'N., 67°29'W.) lies 10 miles NNE of Qikirtajuaq Island. It is surrounded by drying rocky ledges. A dangerous sunken rock lies 13 miles NNE of Saeglorsoak Island; a 5.5m depth lies 4 miles farther NNW of the sunken rock.

Pointe Tasker (Tasker Point) (58°28'N., 67°45'W.) lies 5 miles NW of Qikirtajuaq Island. Shoals and drying ledges extend 3 miles N from the point.

The **Rivière False** (False River) (58°29'N., 67°50'W.) flows into the bay 2 miles W of Pointe Tasker. It is about 4 miles wide at its mouth. The Rivière False is so shallow it cannot be navigated even by small craft. It has been mistaken for the Koksoak River, which lies to the W.

Pointe Qirniraujaq (Congnarauya Point) (58°35'N., 68°00'W.), 10 miles NW of Pointe Tasker, is a low, dark point with mud flats extending W and SE of the point. A rocky ledge, which dries 3m, lies 1 mile NE of the point. A racon is mounted on a square skeleton tower situated on the point.

Pointe Aisavartalik (58°32'N., 68°07'W.), 5 miles SW of Pointe Qirniraujaq, is the E entrance point of the Koksoak River. Extensive drying flats exist between these two points.

The Wart (58°31'N., 68°08'W.), a conspicuous sharp hill, 49m high, rises 0.7 mile S of Pointe Aisavartalik.

Cap Inuksutujaq (Beacon Point) (58°34'N., 68°12'W.), about 3 miles NW of Pointe Aisavartalik, forms the W entrance point of the Koksoak River. Drying mud flats and ledges extend off the point for more than 1 mile.

14.14 The Koksoak River (Rivière Koksoak) (58°34'N., 68°09'W.) is entered between Pointe Aisavartalik and Cap Inuksutujaq through a mouth about 1.2 miles wide. The river is navigable to within 2 miles of Fort Chimo, 30 miles upstream. Depths vary considerably and in the upper reaches the depths are so shoal that they must be navigated between half tide and HW.

In the approaches to the Koksoak River, there are several dangers that must be avoided before entering the river itself.

Above the narrows, the depths in the river are likely to change due to the action of ice and current and the movement of boulders on the river bed. Local knowledge is recommended.

Caution Shoals (58°36'N., 68°04'W.), with a depth of 5.2m, is an extensive shoal area lying N and W of Pointe Qirniraujaq. The 5m curve lies as far as 3.5 miles W of this point. There is a depth of 5.2m on the NW part of Caution Shoals, within 0.2 mile of the leading line.

Springs Reef (58°40'N., 68°03'W.) lies 5.2 miles NNW of Pointe Qirniraujaq and dries 2.4m. A large area of shoal water extends to the W of this reef and heavy tide rips occur in the vicinity.

14.15 Octopus Reef (58°40'N., 68°11'W.), 4 miles WSW of Springs Reef, is formed by several rocky ledges which dry. An extensive shoal area surrounds these ledges. Heavy tide rips occur in the vicinity.

Range lights, situated on Cap Inuksutujaq, in line bearing 220°, lead clear of the dangers in the approaches across the Koksoak River Range and to the intersection with the Koksoak River East Range. A 3.7m shoal lies 1.5 miles NW of the track, about 9 miles NNE of Pointe Qirniraujaq.

Koksoak River East Range is situated on the E bank of the river, 2.7 miles SSW of Anchor Island. These lights, in line bearing 189°30', lead to the intersection with Koksoak River Range.

A radar reflector beacon is situated 1.2 miles S of Cap Inuksutujaq.

The Koksoak River Range, on the W bank of the river 6 miles S of Cap Inuksutujaq, in line bearing 197°30', leads up the seaward reach of the river from its mouth. Both front and rear range structures have fluorescent orange daymarks.

Vessels approaching the Koksoak River are cautioned to stay in surveyed waters and on the range line. A depth of 3.7m lies 1.2 miles NW of the range line, 4.7 miles NE of Springs Reef. In the vicinity of Caution Shoals, vessels must not stray S of the range line.

Depths in the approaches to the Koksoak River at the head of Ungava Bay, ranging from 9 to 180m, are very irregular and shoals other than those charted may exist. The reefs and shoals fronting the mouth of the river extend up to 15 miles to the NE.

The only named islands in the river between the entrance and The Elbow are mostly on the W side of the river. Edge Island

lies 3 miles S of Schnak Cove. Mackays Island lies 1 mile SSW of Ile Hendry on the E side of the channel, about 10 miles above the narrows.

Whales Head (58°11'N., 68°19'W.) is a broad peninsula, 30m high, projecting 0.5 mile from the W bank of the river, 4.5 miles SSW of Mackays Island.

Chapel Hill, 1 mile ENE of Whales Head on the opposite bank of the river, is a conspicuous hill, 129m high. The abandoned town site of the original Fort Chimo is on the E side of the river, 2.5 miles SSW of Chapel Hill.

Two miles S of the abandoned town site, the river curves gradually to the SW. Several islands are located in this bend, which is known as The Elbow. Big Elbow Island, 1 mile long, 0.5 mile wide, and 54m high, is the largest. A large boulder is conspicuous on the NE side of the island.

14.16 Kuujjuaq (Fort Chimo) (58°06'N., 68°24'W.) is on the NW shore of Anse Nascopie. The region of Nunavik is administered from here. The site of the former community of Fort Chimo, abandoned in 1958, is 2.5 miles S of Colline Chapel. The present village is on the site of a former U.S. military airport, built in 1942, turned over to Canada at the end of the Second World War. The two long airstrips make Kuujjuaq the transportation hub of Nunavik.

There are no repair facilities and food supplies are only sufficient for the local inhabitants. Fresh water is available from the river during the 3 hours before and after LW. Telephone communication and air transport are available.

Tides—Currents.—The mean and large tidal ranges are 8.8m and 12.5m at the river entrance, and about 4.6m and 6.1m at Fort Chimo. Tidal currents in The Narrows attain a rate of 6.5 knots. Northeast winds with an ebb tide cause heavy tide rips and overfalls. At spring tides, currents with rates of up to 12 knots have been reported.



Kuujjuaq (Fort Chimo)

Ice.—The river usually freezes over early in November and breakup occurs early in June.

Pilotage.—A local pilot is available for the passage to Fort Chimo. The pilot may board vessels off Schnak Cove, 0.8 mile E of the E entrance point, but as this anchorage is usually untenable due to strong erratic currents, vessels generally await

the pilot offshore, about 1.6 miles S of Octopus Reef. Passage upstream is usually made about 3 hours before HW; the outbound passage is usually started at HHW.

Vessels with local knowledge may continue upstream and await the pilot at an anchorage about 5 miles beyond The Narrows.

Anchorage.—Anchorage is available between the NE end of Big Elbow Island and the E bank of the river, coarse stone bottom, good holding ground.

No anchorage in the river should be considered safe. Ships at anchor should be ready to get underway at any time.

Directions.—Vessels bound for Fort Chimo should approach the reef NE of the entrance to the Koksoak River at LW, when hazards to navigation are visible. Range lights mark the channel. This range leads into the mouth of the river in a least depth of 10m, but care must be taken to avoid shoals, with depths of 3.7m and less, lying 0.3 mile SE of the leading line. A 3.7m shoal lies 1.5 miles NW of the track, about 9 miles NNE of Pointe Qirniraujaq.

Ranges into the river have been established. Upon the approach to Cap Inuksutujaq, a range leading into the mouth of the river will be come aligned. This range leads about mid-channel and provides a course for avoiding the shoals on either side of the entrance. Once inside the entrance, a range leads further upriver.

Caution.—Because of strong currents and the close proximity of shoal water, mariners should exercise extreme caution at all stages of the tide when navigating on the day beacon range which leads past Ile Hendry.

14.17 From Cap Inuksutujaq to Stony Point, 25 miles to the NNW, the coast is broken by many bays, several of which dry at LW. Drying rocky ledges and mud flats front most of this part of the coast.

Baie Seche (58°34'N., 68°15'W.) dries completely. A small island and several drying ledges lie in the bay.

Sham Bay (58°36'N., 68°19'W.), an open bight 2 miles NNW of Baie Seche, also dries.

Pauktorvik Island (58°41'N., 68°19'W.), 5 miles N of Sham Bay, forms the S side of Sawtooth Bay. Numerous drying ledges and a few small islands lie on the mud flat between this island and Sham Bay.

Ungava Bay—West Side—Leaf Bay to Hopes Advance Bay

14.18 Northwest of Stony Point, the shore is generally rocky. Inland, the country rises gradually into long rounded hills with elevations to 61m.

From Leaf Bay to Payne Bay, 65 miles NNW, the coast is broken by Ikattok Bay, Hopes Advance Bay, and several small bays. Numerous small islands, rocks, and drying ledges front this part of the coast, and shoal water extends offshore for 10 miles. No landing is possible except on the outer islands.

Between Payne Bay and Cape Hopes Advance, 65 miles to the N, the coast is broken by numerous wide and shallow bays which become extensive drying flats at LW. A wide fringe of rocky islands extends seaward off this coast. At LW, nearly all of these rocky islands are connected to each other and to the coast. Beyond the islands the water remains shallow over an

uneven bottom for some distance offshore.

Passing vessels should stay at least 20 miles off this stretch of the coast.

Leaf Bay (58°58'N., 68°50'W.) is the outer part of a long indentation in the SW corner of Ungava Bay. It lies between the Gyrfalcon Islands on the N and the mainland on the S. At the W end, the bay narrows to form Smoky Narrows.

Leaf Bay is entered between Stony Point and Nipper Island, 10.5 miles to the NW. General depths in the bay range from 54.9 to 128m. Shoal water extends up to 2.5 miles offshore along the S shore of the bay, but on the N side deep water lies close off the islands.

Stony Point (58°54'N., 68°37'W.), the SE entrance point to Leaf Bay, lies 15 miles NW of Pauktorvik Island. The point, a rocky hill, is 61m high. At HW, the rocky knolls close SE become the Stony Islands. Shoal water extends 2 miles N of Stony Point and as far W as False Point. Rocky areas, on which the sea breaks, extend 5 miles NW, N, NE, and E of the point.

14.19 Bosuns Reef (58°56'N., 68°25'W.), 5.7 miles ENE of Stony Point, dries 6m.

A large area of moderately shoal water, with depths to 27.4m, extends 10 miles N of Stony Point. Isolated depths of 11m or less lie up to 3 miles N, E, and S of Blind Reef.

Blind Reef (59°03'N., 68°40'W.) is a drying rocky ledge 8 miles NNW of Stony Point. A depth of 4.3m lies 1.5 miles NNE of Blind Reef; a 6.1m depth lies 5.5 miles NW of Stony Point.

The **Gyrfalcon Islands** (59°03'N., 68°55'W.), a large group of islands about 10 miles in extent, lies in a general NE-SW direction on the N side of Leaf Bay. The rocky barren islands vary in elevation from 15 to 91m and have cliffs facing the SW. Reefs fringe the low-lying outer islands. The mainland has the same general character and is so broken by bays that it is difficult to distinguish the islands from the mainland.

Tiercel Island (59°00'N., 69°02'W.), 82m high and the largest of the Gyrfalcon Islands, lies the farthest SW.

Nipper Island, a narrow island, 3.2 miles long and 59m high, lies 1.5 miles ENE of Tiercel Island. Nipper Reef, which dries 10.4m, lies 1 mile SE of Nipper Island. A beacon with a racon stands the E extremity of the S end of Nipper Island.

Dome Island (59°04'N., 68°51'W.), a small island 3 miles NE of Nipper Island, lies the farthest E. It is 14m high.

Anchorage.—Falcon Anchorage, the passage between Tiercel Island and Nipper Island, affords sheltered anchorage, in 21.9m, good holding ground, for vessels awaiting favorable tidal conditions to proceed through Leaf Passage. Reported tidal currents in the anchorage are not excessive.

14.20 False Point (58°54'N., 68°59'W.) lies 6.5 miles WSW of Flat Point. False Islet, a conspicuous islet 20m high, 1 mile NNE of False Point, is connected to False Point by a rocky ridge at LW.

Wedgehead Point (58°54'N., 69°15'W.), a conspicuous wedge-shaped point, 113m high, lies 8 miles W of False Point. It forms the S entrance point to Smoky Narrows.

Henderson Point (58°57'N., 69°14'W.), 3 miles NNE of Wedgehead Point, the N entrance point to Smoky Narrows, is also the W entrance point to Peregrine Sound.

Peregrine Sound, which separates Tiercel Island from the

mainland to the W, has not been examined.

Talon Reefs, which lies close off the SW end of Tiercel Island, has two drying heads.

14.21 Smoky Narrows (58°55'N., 69°16'W.), the confined passage between Wedgehead Point and the Smoky Islands, 1.5 miles to the N, connects Leaf Bay with Leaf Basin. Tidal currents in the passage, which is only 0.7 mile wide between the 20m curves, attain velocities of 12 knots at spring tides and 4 knots at neaps. Passage through the narrows should only be attempted with a favorable tide.

Leaf Passage (58°50'N., 69°28'W.), the tidal passage between Smoky Narrows and Algerine Narrows, about 12 miles SW, has an average width of 3 miles, but extensive drying flats on both sides restrict the navigable channel to a width of 1.5 miles.

Depths in Leaf Passage range from 54.9 to 91.4m. **Iron Shoal**, with a least depth of 4.9m, is the only mid-channel danger. Vessels should pass S of the shoal.

Fox Head (58°52'N., 69°23'W.) lies about 4 miles WSW of Wedgehead Point. From here the coast curves SW about 7 miles to Reef Point. Drying flats extend off most of the S side of Leaf Passage.

Island Sound (58°57'N., 69°18'W.) lies immediately W of Smoky Island. It is about 1 mile wide, but has not been fully examined.

Boulder Bay (58°57'N., 69°26'W.), close W of Island Sound, is obstructed by numerous islands and islets. It has not been examined.

Iron Point (58°53'N., 69°28'W.), the SW entrance point to Boulder Bay, has an elevation of 15m and lies 2.5 miles W of Fox Head.

Great Furrow, 2 miles WSW of Iron Point, is a conspicuous vein of yellow rock extending from the water's edge to the summit. Lesser Furrow, a small island with a similar feature, lies 1 mile to the S.

Algerine Narrows, the passage connecting Leaf Passage and Leaf Basin, is 3.3 miles long and nearly 1 mile wide between the 20m curves. From the E, the passage is entered between Bluff Point on the N and Reef Point on the S.

14.22 Leaf Basin (58°47'N., 69°43'W.) is entered between Algerine Point, the NE entrance point, and Mary Point, 2 miles to the SSE. This large saltwater basin is indented on all sides by long inlets and bays; extensive drying flats fringe the shore line. It extends W for about 8 miles to the mouth of the Leaf River.

Whaleback Reef (58°47'N., 69°40'W.), a drying reef, lies in mid-channel nearly 1 mile S of Algerine Point. Vessels pass N of the reef entering the basin.

Ice.—Open water occurs in Leaf Basin and Leaf Passage before Ungava Bay is free of ice; however, the strong tidal currents cause ice jams in the approaches. Passage into Leaf Passage is seldom possible before the middle of July. Freeze-up in Leaf Bay and Leaf Passage occurs later than in Leaf Basin, again due to the strong currents in these areas. Ice begins to form in Leaf Basin in early December, but not until late December in Leaf Passage and Leaf Bay; stretches of water may remain open throughout the winter.

Tides—Currents.—There are very strong currents and dan-

gerous eddies in Leaf Passage. The tidal currents in Algerine Narrows reach a maximum of 10 knots at springs and 3 knots at neaps, at approximately the time of local HW. Vessels are advised to make the passage on a favorable tide.

The tidal range in the basin is considered to be as high as any in the world, with a mean tide of 9.3m and a large tide of 14.8m. The range of tide is 5.1m at minimum neaps and 16.6m at maximum springs.

14.23 North Arm (58°48'N., 69°44'W.), immediately W of the entrance, is 5 miles wide between Algerine Point and Kennedy Point. The inlet has not been examined.

Iles Radisson (58°44'N., 69°41'W.), a group of seven islands and islets, lies on a drying bank 2 miles SW of Mary Point.

Trading Post Cove (58°44'N., 69°39'W.) lies E of Iles Radisson. Anchorage is available, in 21.9m, mud, 0.5 mile E of the largest Radisson Island, in the N section of the cove. A drying flat of mud and scattered boulders completely fills the S part of the cove.

Centre Bay (58°44'N., 69°44'W.) is entered between Copper Point on the E and Muddy Point, 3.5 miles to the W. Extensive drying flats front the shores of the bay, which extends SSW for about 4.5 miles.

Deep Harbor is entered between Copter Island and River Point, 2.5 miles to the W. Drying flats rim the bay which extends S for 6 miles. The Finger River flows into the head of the bay. Depths in the bay range from 18.3m to 45.7m, over a fairly regular bottom. The entrance to the bay is nearly 1 mile wide between the 20m curves.

14.24 Bittern Islet (58°47'N., 69°49'W.) lies 0.4 mile N of Copter Island, on the drying flat extending N from that island. Cone Island lies 1 mile to the E.

Old Squaw Islet (58°48'N., 69°52'W.) lies 1.5 miles NE of River Point, on the drying spit stretching NE from the point. Mandarin Islet lies on the same spit about midway between Old Squaw Islet and River Point.

Anchorage.—Deep Harbor is the most sheltered anchorage in Leaf Basin. Anchorage can be taken over most of the harbor, but the best anchorage is between Gauge Point and Rowe Island, in 31.1m, mud, good holding ground.

Directions.—Due to the strong tidal currents, the passage into Leaf Basin must be made on a favorable tide. Vessels awaiting a favorable tide anchor in Falcon Anchorage.

A least depth of 54.9m can be carried from the E entrance to Smoky Narrows into Leaf Basin.

14.25 Between Leaf Bay and Payne Bay, 65 miles to the NNW, the coast is broken by Ikattok Bay, Hopes Advance Bay, and several smaller bays. Numerous small islands, rocks, and drying ledges lie along this section of the coast. In places, depths of less than 18.3m extend up to 15 miles offshore.

No landing is possible, except on the outer islands.

Ikattok Bay (59°10'N., 69°23'W.) lies 15 miles NNW of Leaf Bay; it has not been examined. **Cone Island**, a conspicuous island, 49m high, lies near the middle of the entrance to the bay. An extensive foul area, which has not been completely examined, lies 5 miles NE of Cone Island.

Nanertak Island (59°19'N., 69°09'W.), 14m high, lies 6

miles N of Cone Island, and marks the N limit of Nanertak Reefs.

Nanertak Reefs, drying rocky ledges, extend from Cone Island to Nanertak Island, for a distance of about 6 miles. The reefs lie parallel to the shore, about 3 miles off, in a NNW-SSE direction.

Sentinel Reef (59°16'N., 68°49'W.), which dries 1.2m, lies 11 miles ENE of Cone Island; it is the easternmost danger off this part of the coast.

Takiyok Point (59°20'N., 69°15'W.), a broad peninsula, 44m high, 6 miles N of Ikattok Bay, forms the E side of Anse de Villiers. Pointe De Villiers is the NW extremity of Takiyok Point.

Anse de Villiers (59°20'N., 69°19'W.) is a small very shallow bay lying immediately W of Takiyok Point.

Caution.—Takiyok Reef lies 5 miles NE of Takiyok Point. It dries 5m.

Sawtooth Reef dries 4m about 2 miles NW of Takiyok Reef.

Black Rock is conspicuous 3 miles NNW of Pointe de Villiers. It dries 12m.

Ungava Bay—West Side—Hopes Advance Bay to the Elder Islands

14.26 Hopes Advance Bay (59°22'N., 69°26'W.) is entered between Gable Point and Alle Island, 3.5 miles to the WNW. The Rivière au Chien Rouge (Ford River) flows into the head of the bay, which extends inland for 9 miles in a WSW direction. Drying flats fringe the shoreline, reducing the navigable width of the entrance to 0.7 miles. Depths within the bay are irregular.

Gable Point, the SE entrance point to the bay, lies 4.5 miles WNW of Pointe de Villiers. It is 45m high.

Alle Island, 8m high, lies on the drying boulder-strewn flat extending from the shore.

Alle Reefs, an extensive area of drying reefs, lies on the N side of the outer part of Hopes Advance Bay between Alle Island and Breakwater Point, 3 miles to the SW.

Funnel Cove lies between Range Point on the E and Apex Hill, 3 miles to the WSW. There are depths of 21.9m in the outer part of the cove, but most of it dries at LW. A shallow spit projects 1 mile NNW from near the E entrance to the cove.

Merganser Cove lies on the N side of Hopes Advance Bay between Breakwater Point and Merganser Point, 1.5 miles to the W. The cove dries almost completely at LW. There are important iron ore deposits in this area. At one time, mining operations were carried on in the vicinity.

Ice.—The navigation season is similar to other ports on this coast, however as there is less movement of ice in the inner harbor than in Payne Bay and Leaf Bay, ice will begin to form earlier in the season.

Tides—Currents.—The tidal range at Hopes Advance Bay is 8.4m to a maximum of 13.4m at spring tides. Five miles offshore, the tidal current is fairly strong, but in the channel from Gable Point to Merganser Cove, the maximum velocity observed was less than 2 knots. Vessels can enter and leave at any phase of the tide.

Depths—Limitations.—The channel from Gable Point to Merganser Cove, which has been wire-dragged to a least depth of 10.9m, is 485m wide at its narrowest point.

A reef, with a depth of 1.8m, lies near mid-channel, 1 mile SW of Breakwater Point.

Anchorage.—Sheltered anchorage, protected from heavy swell, is available 0.7 mile SW of Breakwater Point, in 27.4m, mud bottom, good holding ground with ample swinging room.

Directions.—Vessels are cautioned that the appearance of the approaches to Hopes Advance Bay can be deceptive, due to the magnitude of the tidal range, which at HW and LW present completely different aspects of the coastal area.

Several good landmarks are available for visual fixing including Cove Island, Nanertak Island, Gable Point, Young Island, and Lookout Island. Apex Hill, at the head of the bay, is cone-shaped and conspicuous. Black Rock, NE of Gable Point, is visible almost all the time and is also conspicuous. A landfall can usually be made while still in sight of Akpatok Island.

14.27 Between Hopes Advance Bay and the mouth of the Payne River, the moderately irregular coast is fronted by numerous offshore dangers.

False Bight (59°30'N., 69°35'W.) curves inland between Breakwater Point and a point 15 miles to the NNE. The bight is heavily encumbered with shoals and drying reefs, and most of it dries at LW. The Rivière Saint-Fond discharges over the flats at the head of the bay.

The **Low Islands** (59°31'N., 69°22'W.), a group of small islands, islets, and drying reefs, stretch across the entrance to False Bight in a NE-SW direction.

Young Island, 11m high, lies at the SW end of the chain.

Lookout Island, the largest of a group of four small islands, lies on a drying reef at the NE end of the group.

Buttress Island, 23m high, lies 3 miles NW of Lookout Island; Sandpiper Islet, 3.5 miles NE of the same island, has a height of 8m.

14.28 Baie de Bonnard (59°41'N., 69°35'W.) lies 5 miles N of False Bight. The Rivière Lefroy empties over the drying flats which almost fill the small bay.

Baie Brochant (59°54'N., 69°40'W.), located 9 miles N of Baie de Bonnard, extends inland for 4.5 miles. The bay has not been examined.

Ivik Island (59°55'N., 69°40'W.), on the N side of Baie Brochant, is separated from the mainland by Illusion Sound. The passage is 0.5 mile wide. Drying flats completely fill the N entrance, which is the only part of the passage that has been examined.

Kidlikpait Islet (Kitdliat Islet) lies 1.5 miles NE of Ivik Island, on the N edge of the drying flat extending NE from the islet.

A racon is mounted on a square skeleton tower, with a radar reflector, situated on Kidlikpait Islet.

Kidlikpait Reefs (Kitdliat Reefs), which dry, extend 2 miles NE beyond the islet.

Tuwak Reefs (59°55'N., 69°27'W.), two drying reefs, lie 6 miles E of Ivik Island.

14.29 Payne Bay (60°00'N., 69°40'W.) is entered between Kidlikpait Islet (Kitdliat Islet) and Ranger Island, 4 miles to the N. Both entrance points lie at the outer ends of extensive drying flats. **The Rivière Arnaud** (Payne River), described in paragraph 14.31, flows into the SW corner of the bay, 4 miles

W of Kidlikpait Island. **Kangirsuk** (Bellin) (Payne Bay), a settlement, is located 8 miles upstream from the mouth of the river.

Kyak Bay and Tuvalik Bay break the shoreline along the NW side of Payne Bay.

Tides—Currents.—High water in Payne Basin occurs 1 hour after HW outside the river entrance. Tides in the basin range from 6.9 to 10.7m.

Between Payne Bay and Payne Basin, the tidal current sets W from 4 hours before to 1 hour 30 minutes after HW at Diana Bay. At the mouth of the Rivière Arnaud, both the flood and ebb currents attain velocities up to 7.5 knots at springs. In Nakertok Narrows, the maximum velocity of the flood current is 8.5 knots, while the maximum velocity of the ebb current is 7.5 knots.

The entire passage from the river entrance to the basin must be made on a favorable tide due to the eddies and overfalls which occur when the tidal currents are running at their strongest.

Ice.—The river is usually ice-free by June, but the tides may carry the ice back and forth from Payne Bay until early July. Freeze-up generally occurs about mid-December in Payne Bay.

Depths—Limitations.—Depths along the recommended track in the approaches and the entrance to the river have been wire-dragged to a depth of 4.9m. From the entrance to Pikiyulik Island, the general depths range from 14.6 to 31.1m. The recommended track through Nakertok Narrows, which leads S of Pikiyulik Island into Payne Basin, has been wire-dragged to a depth of 6.1m. Mikitok Narrows, the passage N of Pikiyulik Island, has not been wire-dragged.

Aspect.—Alakakvik Summit (Altavik Summit), 130m high, lies 3 miles NW of Savik Point.

Beacons have been established on the shores of Tuvalik Bay marking the track leading to the anchorage.

Two beacons, in line bearing 302°, are situated 0.7 mile N of Savik Point. These beacons lead into the entrance to Tuvalik Bay, in a least depth of 13.7m. Another pair of beacons, 1 mile NNW of Tuvalik Point, in line bearing 013°, lead to the anchorage.

Beacons marking the recommended track into the Rivière Arnaud (Payne River) and then to the anchorage off of Kanik Cove are situated on Entrance Point, the Sitamat Islands, Lodestone Island, and on the N shore of Payne Basin, 0.5 mile E of Kanik Cove.

Weather and ice conditions can have a damaging effect on these beacons and, unless they are maintained, their presence or condition cannot be relied upon.

Pilotage.—A pilot may be obtained by advising the Hudson's Bay Company of the ship's ETA 48 hours in advance through one of the coast radio stations in Hudson Strait. The pilot usually awaits a ship's arrival off Napatak Island in Kyak Bay.

14.30 Kyak Bay (60°02'N., 69°45'W.), on the NW side of Payne Bay, dries completely, up to 5m at LW.

Tuvalik Bay (60°03'N., 69°41'W.), entered between Savik Point and Tuvalik Point, lies immediately E of Kyak Bay. The W half of Tuvalik Bay is completely dry at LW.

Anchorage.—Anchorage is available at the head of Tuvalik Bay, in 14.6m, rock with patches of mud, 0.6 mile W of Tuva-

lik Point. The anchorage is exposed to the S and sheltered only by drying flats on the E.

Off Savik Point, the bottom affords poor holding ground and tidal currents of more than 4 knots have been reported.

14.31 Nanuk Islet (60°02'N., 69°42'W.), 17m high, lies on a drying ledge 0.8 mile SE of Savik Point.

Agvik Island (Arvik Island) (60°01'N., 69°43'W.), 32m high, lies 0.7 mile SW of Nanuk Islet with another small islet close SE.

Entrance Point (59°58'N., 69°43'W.), 15m high, forms the SE entrance point of the Rivière Arnaud.

Sakvak Point (Sarfak Point) (59°59'N., 69°47'W.), 44m high, forms the NW entrance point to the Rivière Arnaud, 2 miles NW of Entrance Point.

The **Rivière Arnaud** (Payne River) (59°59'N., 69°46'W.) leads W from Payne Bay for 6.5 miles to the entrance of Payne Basin. The river is navigable by vessels of limited draft for 35 miles, but it has not been surveyed beyond Payne Basin.

14.32 Pikiyulik Island (60°00'N., 69°55'W.), located in mid-channel 4 miles W of Sakvak Point, divides the river into two channels. The fairway leads through Nakertok Narrows, the S passage, which has been wire-dragged to a depth of 6.1m. Mikitok Narrows, the N channel, has not been surveyed.

Makok Reefs (Malkok Reefs), located 0.5 mile S of Pikiyulik Island on the S side of Nakertok Narrows, dry up to 9m. Numerous eddies and tide rips occur in the vicinity of the shoal.

Lodestone Island (59°58'N., 69°56'W.) lies 1.2 miles SW of Pikiyulik Island on the drying flat extending N from the S shore.

Lodestone Reef, which dries to 9m, lies 0.4 mile NW of Lodestone Island. Several other islands lie on the drying flat in this general area.

Payne Basin (60°00'N., 70°02'W.) is entered between Lodestone Reef and a point 1 mile to the N. The basin is about 4 miles long and 3 miles wide. Depths range from 25.6 to 73m.

Basking Island (59°59'N., 70°05'W.), 37m high, lies in the middle of the basin, 3.2 miles W of Lodestone Reef.



Kangirsuk

Kanik Cove (60°01'N., 70°01'W.) is located on the N shore

of Payne Basin, 2.5 miles NW of Lodestone Island. The cove dries completely at LW. An isolated shoal, with a depth of 3m, lies 0.9 mile SSW of Kanik Cove.

Kangirsuk Settlement, on the W shore of Kanik Cove, is the site of a Hudson's Bay Company store which operates a private radiotelephone station and also maintains a first aid post. There are scheduled and chartered flights from Fort Chimo.

Anchorage.—Sheltered anchorage is available, in 21.9m, mud, 0.5 mile SE of the Hudson's Bay Company store. Anchorage can also be taken off the S shore of the basin opposite the settlement, in 23.7 to 27.1m, sand and gravel.

Tidal currents are no problem in these anchorages which are out of the full strength of the tidal currents.

14.33 Guillemot Shoal (60°04'N., 69°28'W.), 5 miles E of Tuvalik Point, has a least depth of 5.5m. Another 5.5m depth lies 2 miles W of Guillemot Shoal.

The **Five Islands** (60°10'N., 69°27'W.), a chain of small islands lying in a general NE-SW direction, are located 6 miles N of Guillemot Shoal. The NE island is 35m high. The SW is-

land in the group is 17m high.

Kuglukvik Point (60°08'N., 69°36'W.), 5 miles NNE of Tuvalik Point, is actually a group of islands joined to the mainland by a drying flat. The largest island is 52m high.

Sugar Loaf, a conspicuous hill, rises to a height of 94m, 2 miles N of Kuglukvik Point.

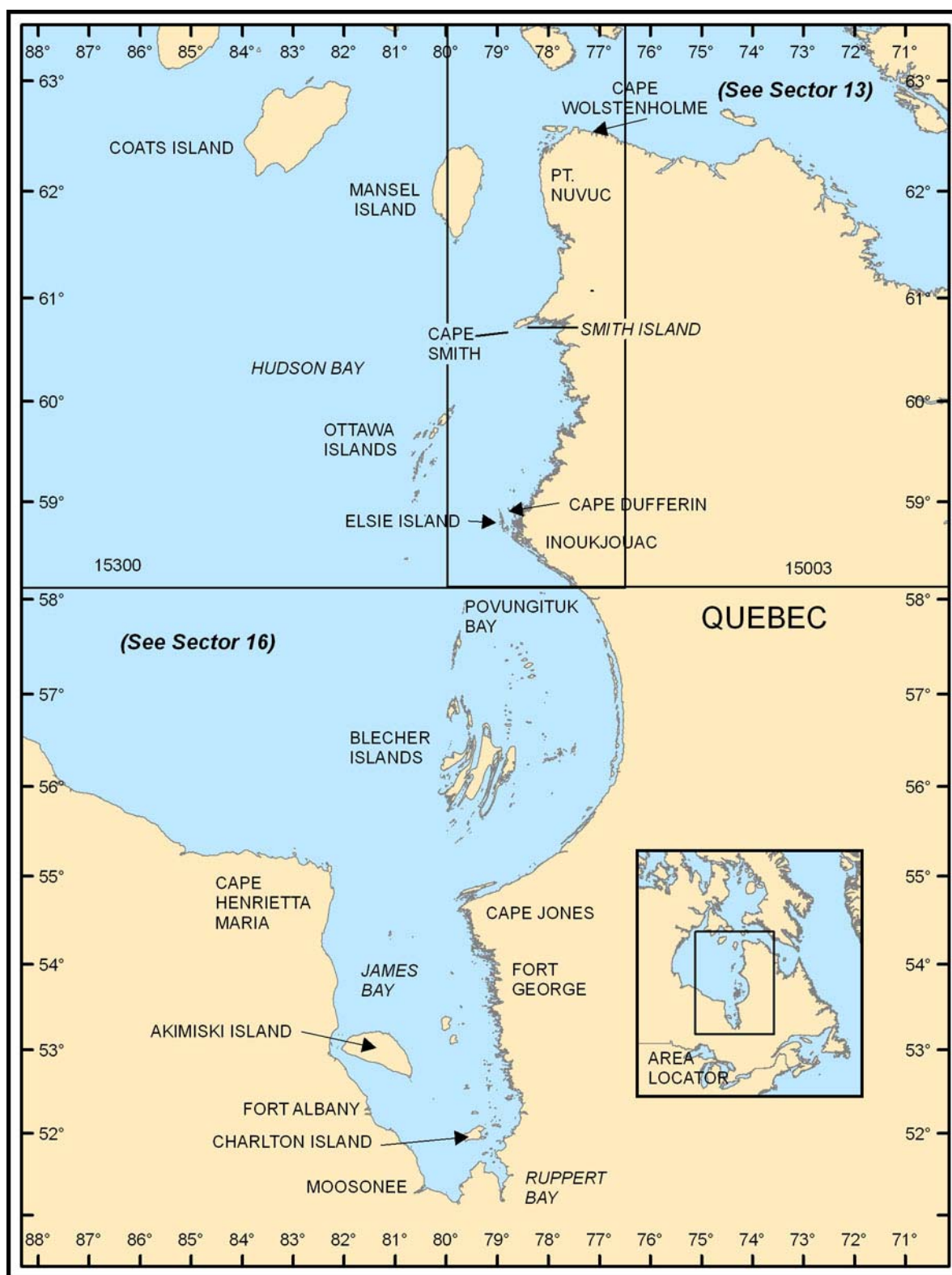
The **Plover Islands** (60°18'N., 69°37'W.), a group of rocks and islands, lie 2 miles offshore about 4 miles N of Sugar Loaf. They extend NW about 8 miles parallel to the shore.

Caution.—A considerable magnetic disturbance is reported to exist about 4 miles off the Plover Islands.

Dry Bay (60°25'N., 69°45'W.), located 7 miles NNW of Sugar Loaf, dries completely at LW. An unnamed island, 32m high, lies 11 miles E of Dry Bay.

Baie de Roziere (60°31'N., 69°45'W.), an open bight, breaks the coast 1.5 miles N of Dry Bay.

The **Elder Islands** (60°52'N., 69°20'W.), a large group of islands, islets, and rocks about 5 miles long, lie in a general NNW-SSE direction, 15 miles SSE of Cape Hopes Advance.



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

SECTOR 15 — CHART INFORMATION

SECTOR 15

HUDSON BAY—EAST SIDE AND JAMES BAY

Plan.—This sector describes the E shore of Hudson Bay, from Pointe Nuvuk to Pointe Louis XIV (Cape Jones). The sequence is from N to S.

For James Bay, the E shore is described first from the E entrance point S to the head of the bay, then N to the W entrance point.

Off-lying islands are described with their adjacent shoreline.

General Remarks

15.1 Hudson Bay is a very large inland sea which penetrates deeply into the NE part of the Canadian mainland. Hudson Strait is the main access route into the bay from the Atlantic. From the N entry can be made, with favorable ice conditions, through Fury and Hecla Straits.

See the general description at the beginning of paragraph 13.6 for information regarding the Arctic Canada Traffic System as it applies to Hudson Bay and James Bay.

For the purpose of this volume, the N boundary of Hudson Bay may be considered to extend from Pointe Nuvuk, the NW extremity of the Ungava Peninsula, to Seahorse Point, the E extremity of Southampton Island. From this point to the W mainland the boundary follows the S coast of Southampton Island to Cape Kendall at its SW extremity, where it crosses to Cape Fullerton, the NW entrance point to Hudson Bay and the SW entrance point to Roes Welcome Sound.

Hudson Bay is bounded by the province of Quebec on its E side and by the provinces of Ontario and Manitoba on the W. The district of Keewatin bounds the N and NW sides of the bay.

Coats Island and Mansel Island lie immediately inside the entrance at the NE corner of Hudson Bay; otherwise, the main body of the bay is open and unobstructed. Several island groups and chains lie along the E shore; from N to S they are the Ottawa Islands, the Sleeper Islands, the Nastapoka Islands, and the Belcher Islands. Akimiski Island, the Twins, and the Charlton Islands lie in James Bay. The W side of Hudson Bay is generally clear of islands.

Hudson Bay is 835 miles long from the S extremity of James Bay to the S side of Southampton Island. There is an average width of 100 miles over the greater part of the bay.

Except for the E shore, Hudson Bay is remarkably free of rocks and shoals, and has an average depth of 128m. James Bay has general depths of 36.6 to 54.9m in its central part, but much of the bay is quite shallow with drying mud flats extending from its shores.

The shores of Hudson Bay are lower than those in Hudson Strait, with general elevations of 61 to 91m.

Large rivers emptying into the E side of Hudson Bay are the Nastapoka River and the Grande Rivière de la Baleine. The Grande Rivière, the Eastmain River, the Broadback River, the Notaway River, the Moose River, the Abitibi River, the Albany River, and the Atawapiskat River all flow into James Bay. The Winisk River and the Severn River discharge into the SW part

of Hudson Bay, and the Nelson River and the Churchill River empty into the W side. Three rivers, the Thelon, the Kazan, and the Dubawnt flow into Baker Lake and then by way of Chesterfield Inlet into Hudson Bay.

Caution.—No description of coastal tracks on the E side of Hudson Bay is given because of inadequate chart coverage, scarcity of soundings on existing charts, and the possibility of uncharted dangers.

Certain designated danger areas in Hudson Bay have been established for rocket-firing purposes. For further information, see paragraph 16.1.

It is recommended that ships contact Churchill Marine Radio before passage through Hudson Bay.

Winds—Weather

15.2 Hudson Bay—James Bay.—Few marine weather observations have been collected over Hudson Bay and James Bay. Of those on record, most have been from the main shipping route from Churchill through Hudson Strait. Settlements are sparse along the coasts and likewise are the number of weather reporting stations. The flat terrain along most of the coasts, and the sparse tree cover, make the shoreline reports reasonably indicative of weather over the bays.

The ice cover acts almost like a land surface through the depth of winter and early spring. Except for Arctic sea smoke from the shore leads, the waters have practically no effect on the predominately Arctic air masses. When temperatures rise above freezing, the melting ice surface cools the lower layers of the atmosphere encouraging the formation of fog, especially as the areas of water increase in size around the shore. On disappearance of the last ice in the S part of Hudson Bay (in late July or early August), the temperatures of the bay waters rise slowly towards their maximum while mean air temperatures trend downward. By early September the two reach equilibrium. Thereafter, the bay is a heat and moisture source for the overlying cold air masses, an influence that encourages the formation of clouds of vertical development, and showers of rain or snow. As the ice cover advances in October and November from the NW, the heating is gradually removed and is completed when ice cover reaches the SW corner of Hudson Bay.

Mean storm tracks cross Hudson Bay year round. The primary storm track of the short summer does not usually carry deep low centers. In September through November, intense storms often curve N through Hudson Bay. Thereafter, the deeper storms are likely to take a track through the Great Lakes and the St. Lawrence Valley. In winter, the storms on the secondary track through Hudson Bay are usually the centers of occluded depressions and apt to create strong winds, but little snowfall over the bay.

Hudson Bay—East Side.—Strong winds are not frequent in the period from May through August. The higher frequencies are reached in November, when major storms cross the bay. In the S, the peak of strong winds frequency includes November

and December. In September and October, while the W side of the bay shows strong winds out of the NW, Inukjuak's stronger winds are from the W, SW, and S while Poste-de-la-Baleine's are from the W and sometimes from the E. These directions are reflections of the cyclonic activity over the bay in the fall. The longest period of consecutive days with gales in this area is approximately four.

The winter temperatures decrease about four degrees from Pointe Louis XIV to Inukjuak, then become fairly uniform N to Hudson Strait, rarely climbing above freezing and able to drop into the minus fifties December through March. Daily mean temperatures rise to freezing at Poste-de-la-Baleine about May 15, Inukjuak about May 26, and Cape Wolstenholme in early June. Summer temperatures can show wide fluctuations due to air mass and wind direction changes. In July, winds frequently blow off the cool waters, a flow that keeps temperatures in the forties. This circulation is mostly responsible for the July mean daily maximum at Inukjuak (13.2°C) being nearly 7°C lower than at Churchill (16.9°C). With a flow off the land, temperatures can rise into the nineties during the period June to September in the S, into the eighties in June and July around Inukjuak, and into the seventies in July and August at Cape Wolstenholme. The S advance of freezing temperatures reaches Cape Wolstenholme about October 1, Inukjuak by mid-October, and Poste-de-la-Baleine and Pointe Louis XIV by October 25. Daily minimum temperatures near -32°C can be expected at Cape Wolstenholme about November 30 and 2 weeks later along the entire coast line, as freeze-over of the bay enables Arctic air to settle in over the E half of Canada.

Annual snowfall over the N half of the coast is quite variable. Inukjuak's annual total of 140cm is the average of values that range from 60 to 220cm. The settlement normally obtains the major part of its snowfall in November while cold Arctic air sweeps across the open waters of the bay. Spreading ice cover cuts off the moisture supply to reduce the December snowfall to about half of November's. Farther S, in the Poste-de-la-Baleine to Pointe Louis XIV sector, the presence of open water and proximity to the major storm tracks give higher annual snowfalls, averaging nearly 250cm. Like Inukjuak, about one-fifth of the snowfall at Poste-de-la-Baleine occurs in November.

The bay is a notable moisture source for fog development along the E coast. During the majority of fog occurrences, winds are onshore. July and August each average 10 days with fog. Seventy-five per cent of the days with fog do not last for more than 2 consecutive days. Several 8-day stretches have been observed, with one as long as 10 days at Inukjuak. Periods as long as 26 days at Inukjuak and 11 days at Poste-de-la-Baleine have been observed with no fog in the July and August period, when fog is most probable.

Ice

15.3 Because of its inland location and its latitude, Hudson Bay is covered with ice for a longer period than it is open water. Freeze-up is a lengthy process because of the great size of the bay, but ice is plentiful from early November until mid-July, and open water only occurs from mid-August until mid-October. As a result, it is preferable to consider the yearly regime from freeze-up to break-up rather than by calendar year.

The first ice formation in the bay is usually in late October in the coastal inlets in the NW sector, but in some seasons there may also be a simultaneous development in the cold waters of Foxe Channel in the NE portion. As the weather grows progressively colder the ice spreads S along the shore more rapidly than it extends seaward. At Churchill, ice forms in the river in mid-October, but it is not until early November that the coastal waters of the bay begin to freeze. Through the rest of the month the same progression occurs, and by mid-November ice is forming in the rivers of St. James Bay, although it is not until late in the month that freeze-up of the bay at Poste-de-la-Baleine develops.

If one compares the average temperatures at Churchill and Inukjuak, it is apparent that some heating takes place over the bay because of open water through most of December.

During the winter, a 5-mile belt of fast ice develops in most sectors and it is not unusual for the whole area S and E of the Belcher Islands to be covered with fast ice. Thickness in level shorefast ice averages 0.8 to 1m on January 1, and 1.6 to 2.2m by May 1.

Outside the fast ice the bay is nearly filled with drifting pack ice which moves about in response to the wind. After a period of NW winds a flaw lead will extend from N of Churchill to Cape Kendall, and there will likely be smaller openings in the lee of Coats Island and Mansel Island. In the subzero temperatures of January, February, and March this soon refreezes only to be disrupted by the other ice motions. In this manner a variable pack is built up composed of ridges and hummock areas of new, young, and first year ice that is somewhat thicker and rougher in the S areas because of the mean wind flow from NW to SW.

As temperatures rise in May and June, refreezing after the ice has been displaced by the wind no longer occurs, and a flaw lead from Coral Harbor to Chesterfield Inlet and Eskimo Point becomes persistent. Similar openings in the lee of Coats Island and Mansel Island also occur as do leads along the E shore of the bay. In some years, E winds can predominate and the normal lead is suppressed while a broad lead develops from Cape Wolstenholme to Cape Jones. In these years the whole area E of the Belcher Islands, the Sleeper Islands, the Ottawa Islands, and Coats Island will clear long before the W coast begins to open.

The normal progression of clearing is for the pack to retreat S from the Chesterfield Inlet to Southampton Island area, and W from the Quebec side of the bay during the first half of July and to be concentrated between Cape Churchill, the Belcher Islands, and the Ottawa Islands when the normal navigation season opens on July 23. At this stage, there is usually a shore lead from Churchill to James Bay, and the offshore pack is extensive; it is puddled and approaching the rotten stage.

In August, the ice-covered area continues to contract and the pack will often separate into a few large patches before melting completely in the latter half of the month.

Intrusions of ice from Foxe Basin may develop in the NE sector at any time from late August until freeze-up. This occurrence depends upon the melt season in Foxe Basin and the wind flow during August. In most cases, the ice remains in the Leyson Point to Nottingham Island area, with a few strips penetrating W into Evans Strait. In these cases the shipping route may be adjusted to pass S of Mansel Island instead of S of

Coats Island, for the warm outflowing waters from the S part of the bay keep this channel clear and hasten the melting of any ice. In extremely bad years, the ice can reach the Quebec shore and cause congestion once freeze-up approaches.

Tides—Currents

15.4 In a body of water the size of Hudson Bay, the tide rising forces due to the gravitational attraction of the sun and moon would certainly result in a small tide of the order of a few millimeters even in the absence of any connection with the ocean. In addition, the connection with the Arctic Ocean by way of Foxe Channel, Fury Strait, and Hecla Strait would also have some effect, however small, on the tide and tidal current regime of Hudson Bay. In fact, these minor effects are completely overshadowed by the powerful tides which surge twice daily into the bay through Hudson Strait. Data on the currents in Fury and Hecla Strait, and especially in Labrador Narrows, is limited. Mid-channel currents attaining velocities of up to 8 knots in the Labrador Narrows have been reported (2008).

Owing to the shape, size, and depth of water in Hudson Bay and the gyroscopic and gravitational forces acting upon the water masses, there is what may be referred to as a ridge on the surface of the water in the middle of the bay, where any changes which occur in the water level during the semidiurnal tide cycle are small. This ridge extends from 60°30'N, 87°00'W SE toward Inoucdjouac (Port Harrison).

Within the boundaries of this ridge, the rise and fall of the tide is close to zero while around the coast of the bay the range in height between HW and LW may be as great as 5.2m at Churchill Harbor, and as little as 0.5m at Inukjuak.

The tide progresses in a roughly circular movement, following the contour of the shoreline starting from the NW part of the bay, moving S along the W shore and almost diminishing entirely along the E shore. At the entrance to the bay, the average height of the tide above chart datum (a level below which the tide seldom falls) is 3.1m, increasing to 4.1m along the W shore. It decreases gradually along the S shore and then along the E shore to about 0.5m at Inukjuak.

High water at the entrance to the bay will occur at the same time as LW at Rankin Inlet, while HW at York Factory will take place at the same time as LW in the vicinity of the Belcher Islands.

The rotary progression of the tides around Hudson Bay has corresponding tidal currents associated with it, and the flow in Hudson Bay has been observed by the early explorers of the bay.

Unfortunately, the tidal currents are as yet insufficiently known. It is possible however to say that they are strongest in the W part of the bay, while in the vicinity of Povungnituk and Inukjuak they are weak and irregular. Both tides and tidal currents are closely related and the shape of the N part of the bay and its orientation relative to the mouth of the strait suggests that the flow would be predominately counterclockwise. This is actually observed to be the case.

The actual flow encountered in the bay is not exclusively tidal, but is influenced by the numerous rivers which discharge large quantities of fresh water into Hudson Bay. Since the volume of the rivers is subject to large seasonal variations, this will have an influence on the flow which is not precisely pre-

dictable. The flow, like the tides, is also influenced by meteorological disturbances, in particular by the strong winds which are often encountered in the bay.

The tidal currents at Chesterfield Narrows are strongly influenced by the fresh water outflow from Baker Lake. Slack water occurs before and after a prolonged HW period. The flood is characterized by a maximum W flow of about 4.5 knots for about 4 hours. The ebb flow, which reaches a maximum velocity of about 7 knots at LW, lasts some 8 hours. The current is reversing with maximum velocities at HW and LW, respectively.

Regulations

15.5 See paragraph 13.6 for information regarding the Arctic Canada Traffic System (NORDREG CANADA). Mariners should be aware of the advantages of reporting to this system which is a required by certain vessels for Vessel Traffic Service covering the waters N of 60°N and all of Ungava Bay, Hudson Strait, and Hudson Bay.

Pointe Nuvuk to Cape Dufferin

15.6 The N section of the E shore of Hudson Bay lies between Pointe Nuvuk and Cape Dufferin, about 230 miles to the S. The coast is low, with rounded hills about 61m high. Inland, the gradually rising plain is broken by long rocky ridges. From Cape Smith, about 102 miles S of Pointe Nuvuk, the coast is fronted by numerous small islands. The shores are rocky at the points and the bays are fringed with sand and boulder-strewn beaches.

Depths—Limitations.—East of a line connecting Pointe Nuvuk, Cape Smith, and Cape Dufferin, the soundings are extremely sparse. Shallow water extends a considerable distance offshore, and the uneven bottom makes navigation very hazardous, even for small craft.

From Pointe Nuvuk to Kovik Bay, 43 miles to the S, the coast is low and fairly regular, with no outstanding features.

Ice Harbor (62°18'N., 78°08'W.) lies 3 miles S of Pointe Nuvuk. Foul ground obstructs its entrance and a drying flat extends offshore from its head. Depths in the harbor are not known.

Peck Inlet is separated from Ice Harbor by a narrow neck of land. The long narrow inlet is entered from the S and extends NNE parallel to the coast. Drying rocks obstruct the entrance which lies 3.5 miles S of Ice Harbor. Anchorage is available at the head of the inlet, in 9m, for small vessels familiar with the area.

15.7 Kovik Bay (61°34'N., 77°44'W.), about 45 miles SSE of Peck Inlet, is encumbered with islands and shoals. The Riviere Kovik flows into the head of the bay. Pointe Bernier is a low flat point at the S entrance of Kovik Bay.

Kettlestone Knob (Pointe du Profond) (61°12'N., 77°45'W.), 18 miles S of Kovik Bay, is a conspicuous hill, 15m high, lying 0.5 mile offshore at the seaward end of a neck of boulders. Another conspicuous hill, the highest in the immediate vicinity, rises to a height of 64m, 4.5 miles NE of Kettlestone Knob.

Kettlestone Bay, an open bight, is entered close S of Kettle-

stone Knob. Small craft, familiar with the area, shelter in the mouth of a small river which flows into the head of the bay.

Pecten Harbor, a small circular inlet, partially protected by a ridge of boulders, lies 12 miles S of Kettlestone Knob.

Cape Smith (60°43'N., 78°43'W.), the W extremity of Smith Island, lies 32 miles SW of Pecten Harbor. From seaward, the island appears as a rugged mass of dark green to black rock. It is a prominent landmark. The island is 16 miles long and 4 miles wide, with elevations of 244 to 305m. It is separated from the Cape Smith Range by a channel 1 mile wide, which is so encumbered with rocks and shoals that only small craft can navigate it.

15.8 Smith Island (60°44'N., 78°30'W.) is the site of a former Hudson's Bay Company post situated in a small cove on the S side of Smith Island, about 9 miles E of Cape Smith. The island is a good radar target.

Ice.—In some late seasons, the waters around Smith Island are not entirely free of ice until the third week in July, and in some years the ice never completely leaves the area. Freeze-up has arrived late in September, but generally it is 1 month later.

Anchorage.—Some fairly good anchorages are available on the S side of Smith Island, but they afford little or no protection to large vessels from S winds.

Small vessels can anchor within the cove at the site of the abandoned Hudson's Bay Company post. Larger vessels must anchor about 1 mile off the entrance.

Babs Bay (60°45'N., 78°20'W.), about 6 miles ENE of the abandoned post, is entered from the E. A small brook flows into the head of the sheltered bay. The sand and gravel beach at the mouth of the stream affords good landing for boats.

15.9 Between Cape Smith and Cape Dufferin, about 125 miles to the S, the low marshy coast is full of bays and fringed with islands and shoals. The shoreline recedes nearly 40 miles forming a bight with Povungnituk Bay at its head. The Ottawa Islands lie about 70 miles offshore between Povungnituk Bay and Cape Dufferin.

The **Cape Smith Range** (60°50'N., 78°00'W.), a chain of snow-topped hills lying in a NE-SW direction, extends inland from the W end of Smith Island. The range appears as sharp narrow parallel ridges of dark green rock with heights of 91m to 305m. Rising as they do from the nearly flat country which surrounds them, the hills are a prominent landmark.

Knight Harbor (60°48'N., 78°04'W.), located 4 miles E of Babs Bay, extends inland for 5 miles. It is reported to afford good anchorage, but has not been thoroughly examined. Uncharted shoals may exist in the area.

Ile Gobin, 1.5 miles long, 1 mile wide, and 31m high, lies close off the entrance to Knight Harbor.

Mosquito Bay (60°40'N., 78°00'W.) lies between the SW point of Smith Island and Pointe Demers (Agnes Smith Point), 15 miles to the SE. The E side of the bay is broken by several narrow inlets.

Korak Bay, located in the SE part of Mosquito Bay, is encumbered with islands and reefs. Low rounded hills form the S shore and the Korak River flows into the head of the bay.

15.10 Neakongut Bay (60°30'N., 77°40'W.) is entered between Pointe Demers and Pointe Cusson (Magnet Point), about

16 miles to the S. Numerous islands and rocks encumber the bay. At the head of the bay an arm, about 1 mile wide, extends inland for 5 miles to the mouth of the Sorehead River.

From Pointe Cusson, a low flat point, to Pointe Dufrost (Cape Anderson), 20 miles to the SSE, the shoreline recedes to form a bight which is obstructed by many rocks and islands.

Magnet Island (60°16'N., 77°38'W.) lies 8 miles SSE of Pointe Cusson and forms part of the N entrance of Thompson Harbor. Two other unnamed islands lie across the entrance.

Pointe Coullée (Cape Margaret), 8 miles S of Magnet Island, and Pointe Dufrost, 3 miles farther SW are the W extremities of a peninsula forming the N side of Povungnituk Bay.

A group of three islets, reported to be radar conspicuous, lie within 7 miles NW and 9 miles WNW of Pointe Coullée. A rock, awash, lies about 5.5 miles W of Magnet Island.

Caution.—A local magnetic anomaly exists in the vicinity of Magnet Island.

15.11 Povungnituk Bay (60°00'N., 77°20'W.) is entered between Pointe Dufrost and Pointe aux Ecueils (Reef Point), about 21 miles to the S. The bay extends inland for 10 miles to the mouth of the Povungnituk River. Numerous low-lying islands fringe the shores of the bay, which is heavily encumbered with rocks, shoals, and drying reefs.

North Kopak Island and **South Kopak Island** (60°00'N., 77°45'W.) lie 4.7 miles SW of Pointe Dufrost. A beacon with a radar reflector is situated on the SW side of South Kopak Island.

Long Reach Island (59°58'N., 77°39'W.) lies on the E edge of a foul area that extends SE for 3 miles from the Kopak Islands. A depth of 1.5m lies 1.5 miles SSW of Long Reach Island, while a depth of 5.4m lies 2.5 miles SW of the island.

South Island (59°58'N., 77°33'W.) lies 3 miles ESE of Long Reach Island. Heavy breakers have been reported 1.2 miles S of this island.

Rock Island, located 1 mile ENE of South Island, has depths of 1m located 0.3 mile to the S.

Inooksulik Island (59°59'N., 77°27'W.) is located 2.2 miles NE of Rock Island; **Innelatevik Island** (60°01'N., 77°23'W.) lies 2 miles farther NE.

The **Povungnituk River** (60°00'N., 77°20'W.) is entered between Big Finger Point. The river, one of the largest flowing into the E side of Hudson Bay, rises in the foothills of the Povungnituk Range. Conspicuous boulders mark each side of the mouth of the river. The approaches to the entrance are congested with depths of less than 1.8m and a depth of 0.3m lies 0.15 mile N of Fish Point, the S entrance point to the river.

Île Fat, Île Big, and Île Inussuliapik lie between 2 and 3 miles inside the river mouth. The river is shoal above these islands with many islands and rocks.

15.12 Povungnituk (60°02'N., 77°16'W.) is a settlement situated on the N shore of Rivière de Puvirnituk at the head of Povungnituk Bay. The community has a post office, hospital, and police station. Air Inuit provides flights 7 days a week.

Ice.—Freeze-up takes place about late October or early November; break-up occurs in late June. Once break-up has started, the strong current in the river quickly clears the ice.

Tides—Currents.—The tidal range varies with wind force and direction. Winds from the SE decrease the tidal range,

while SW winds will increase it.

Depths—Limitations.—There is a least depth of 7m in the channel leading to the settlement. Jetties for small craft, with depths of 0.9 to 1.5m alongside, are near the settlement.

Pilotage.—Arrangements for a pilot can be made through a Canadian Coast Guard radio station. Twenty four hour notice is required. Vessels are advised to enter only during daylight hours with the assistance of a local pilot. The low-lying land in the approaches does not give a good radar return and the approaches are heavily encumbered with shoals.

Anchorage.—Anchorage has been obtained with South Island bearing 015°, 3 miles distant, in a depth of 30m, good holding ground, poor shelter. Restricted anchorage can be obtained 0.15 mile E of Fat Island, which lies 0.3 mile S of the settlement, in a depth of 7m, rock and hard sand, poor holding ground.

15.13 Shallow Bay (59°49'N., 77°24'W.) and Reef Bay, on the S side of Povungnituk Bay, are reported to be shoal and congested by numerous islands.

For about 15 miles S from Pointe aux Ecueils, the shore is low. The water is shoal and filled with reefs which extend well out from the shore. Landing along this stretch of coast is almost impossible.

Pointe Boucher (Cape Alice) (59°38'N., 77°50'W.), 5 miles S of Pointe aux Ecueils, forms the N entrance point of Shoal Harbor, a small inlet almost completely filled with rocks and islets.

Pointe Bourjoli (Cape Gertrude) (59°24'N., 77°58'W.), a broad low peninsula 14 miles SW of Pointe Boucher, is connected to the mainland by a narrow isthmus which forms the N side of Kogaluk Bay. The bay is filled by numerous small islands.

The Checkered Islands, a chain of four islands, extends W for 2 miles from Pointe Bourjoli.

Pointe Despins (Cape Donald) (59°10'N., 78°10'W.), 16 miles SW of Pointe Bourjoli, is the N entrance point of Mistake Bay, a small inlet almost completely filled by islets.

The Rivière Koktac flows into Hudson Bay close S of Mistake Bay.

Between Mistake Bay and Alle Harbor, 17 miles to the SW, the irregular shore line is fronted with numerous islands which, in places, extend several miles offshore.

Alle Harbor (58°50'N., 78°34'W.) is a narrow inlet obstructed by islands and rocks.

Staffe Island and Inman Island form the W side of Alle Harbor. Commodore Island lies close W of Staffe Island; numerous small islands and islets extend S and SE of it.

Elsie Island (58°50'N., 78°56'W.) lies 7 miles NW of Commodore Island. It is the largest island in the chain of islands about 16 miles long in an NNW-SSE direction and over 61m high. There is a good harbor for small boats in the middle of the W side of the island, with 4.6m of water in the entrance and 11m inside the harbor. A small wedge-shaped island, 20m high, lies 6 miles W of Elsie Island.

Peckham Island and Komaluk Island lie about 3.5 miles SW of Commodore Island, at the SE end of the chain.

Portland Promontory (58°41'N., 78°34'W.), about 10 miles S of Alle Harbor, terminates in a peninsula connected to the mainland by a narrow neck. It is surrounded by a group of large

rocky islands. Small rock-filled bays form the irregular shore line.

Pointe Nuvuk to Cape Dufferin—Off-lying Islands

15.14 Mansel Island lies 35 miles offshore between Pointe Nuvuk and Kovik Bay. It is described in paragraph 16.2.

The Ottawa Islands, the N group of islands lying off the E coast of Hudson Bay, consists of nine principal islands and numerous rocks and islets. The islands lie in a NE-SW direction, about 65 miles off and parallel to the coast. The N end of the group lies 65 miles off Pointe aux Ecueils. In appearance, the islands are bare and mountainous, formed of masses of black volcanic rock, rising as high as 335m.

Bronson Island (59°58'N., 79°50'W.), at the N end of the group, is a narrow island 3.5 miles long, 0.5 mile wide, and 122m high. A small island lies close off its S end and a larger island 61m high, lies 1 mile SE of the same point.

Booth Island, 1 mile SW of Bronson Island, is 2 miles long, 1 mile wide, and 152m high.

15.15 Gilmour Island (59°50'N., 80°00'W.), the largest of the Ottawa Islands, lies 2 miles SW of Booth Island. Mount Allan, its highest peak located in the NE part of the island, is 344m high.

Murray Harbor, on the SW side of Gilmour Island, extends inland about 4 miles, with an average width of 1 mile.

Perley Island (59°40'N., 80°15'W.), located 2.5 miles SW of Gilmour Island, is 7.5 miles in length with an average width of 2 miles. The summit, near the SE end of the island, is 226m high.

Pattee Island (59°40'N., 80°26'W.) lies 2.5 miles W of Perley Island. It is 5 miles long, 0.5 mile wide, and 131m high at its N end. Several coves indent the E side.

J. Gordon Island (59°40'N., 80°34'W.), 2 miles W of Pattee Island, is irregular in shape and 122m high. A small island and two islets lie 1 mile to the SW.

A chain of small islands, 25 miles in length, extends SSW from a point 3.7 miles SE of Perley Island.

15.16 Eddy Island (59°27'N., 80°28'W.), the largest in the chain, is a narrow island 6 miles long and 152m high. It lies 9 miles SSW of Perley Island.

House Island (59°19'N., 80°40'W.), a narrow island 3 miles SSW of Eddy Island, is 71m high. A small group of islands and islets lies 5 miles E of the S end of Eddy Island. A similar group lies 4 miles W of the same point.

An island, 61m high and fringed with rocks on its W side, lies 5 miles SE of House Island.

Waters Island (59°03'N., 80°41'W.) is the central island of a group, lying 12 miles S of House Island. This island is 66m high. A larger island at the N end of the group is 119m high.

A small island, 37m high, and two smaller islets lie in position 58°52'N, 80°31'W.

Farmer Island (58°24'N., 80°48'W.), a small barren and rocky island, has a small bay sheltered by several islets on its NE side, but little is known of the depths in the vicinity. A tower fitted with a radar reflector is situated on Farmer Island.

Two islets are charted 10 miles S of Farmer Island; two other

islets (position approximate) lie 32 miles SE of the same island.

Tides—Currents.—Currents along the E side of Mansel Island and are reported to have a dominant set to the S.

A strong NE set has been reported between Cape Smith and Povungnituk. From Pointe aux Ecueils to Elsie Island, 60 miles to the SW, there is a constant N current; in the passage between Cape Smith and the Ottawa Islands, the current sets NW.

Caution.—The area in the vicinity of the Ottawa Islands has not been surveyed. Caution should be exercised if attempting to approach them.

Cape Dufferin to Pointe Louis XIV

15.17 Between Cape Dufferin and Pointe Louis XIV, 250 miles to SSW, the coast recedes to form a large semicircular bight. A chain of islands, commencing about 54 miles SW of Cape Dufferin, extends S for about 42 miles. The Marcopeet Islands (described beginning in paragraph 15.33) lie at the N end of the chain, while the Sleeper Islands (described beginning in paragraph 15.33) lie at the S end. The King George Islands (described beginning in paragraph 15.33) lie to the E of the South Sleeper Islands, about midway between them and the mainland. The Belcher Islands, a group of large islands (described beginning in paragraph 15.34), lie S of the Sleeper Islands.

The mainland shore is backed by high bold land with heights of 305 to 610m. A line of islands, the Hopewell Islands and the Nastapoka Islands, lie close off and parallel to the mainland shore. These islands extend from Cape Dufferin to Richmond Gulf, about 170 miles to the S and, except for a 40-mile gap in the vicinity of the Kikkerteluc River, form a sheltered inside passage for small coastal vessels.

Depths—Limitations.—Soundings are sparse or completely lacking between the islands and the coast.

An area of discolored water, 4 to 5 miles in extent, with a depth of 12.8m, lies about 19 miles offshore, 28 miles S of Cape Dufferin.

15.18 The Hopewell Islands extend about 50 miles in a SE direction from Cape Dufferin to Pointe Normand. The long narrow islands lie close off and parallel to the mainland coast, which is high and rocky, with sharp granite hills rising to 152m. On their E sides the larger islands have steep, but often broken cliffs. The W sides slope gradually to the shore line. The islands vary in size and height, with maximum elevations of about 61m.

Hopewell Sound, the passage between the islands and the mainland, varies in width. At Hopewell Narrows it is only 18m wide and obstructed by large boulders.

Depths—Limitations.—That part of the sound that has been surveyed, between Murray Island and Harrison Island, indicates depths in mid-channel of 21.9 to 40.2m. Deep water lies off the steep E sides of the islands; off the mainland shore the water is shoal up to a distance of 0.5 mile.

Moore Island (58°33'N., 78°34'W.), the N island in the Hopewell Islands, lies close SE of McCormack Island. It has an elevation of over 31m in its central part. An islet, 1.2m high, existence doubtful, was reported in 1978 to lie 2 miles WSW of the S end of Moore Island.

Yound Island (58°30'N., 78°23'W.), 4 miles SE of Moore Island, is 44m high.

North of Young Island, the mainland coast is broken by Witch Bay. The Bates Peninsula forms the W shore of the bay.

Five Mile Inlet (58°32'N., 78°18'W.), 4 miles SE of Witch Bay, affords good anchorage for small craft in a small bay on the SE side of its entrance.

Murray Island (58°29'N., 78°21'W.), close SE of Young Island, is 37m high. The narrow passage between the islands is foul.

Depths of 0.6m lie in mid-channel in Hopewell Sound between Murray Island and Five Mile Inlet.

Kit Island, a small islet close SE of Murray island, is only 15m high.

15.19 Patterson Island (58°26'N., 78°15'W.) is 3.3 miles long and 42m high. A breaking shoal extends NW for 0.3 mile from the NW end of the island. Between the island and the nearest point on the mainland, the navigable channel is narrowed to 0.2 mile by a shoal extending from the mainland. A beacon is situated on the SE end of the island.

Bluff Island (58°25'N., 78°09'W.), a flat-topped islet with conspicuous dark cliffs, 34m high, lies 0.3 mile E of the SE end of Patterson Island. A conspicuous rock is located on the W end of the islet.

Harrison Island (58°23'N., 78°10'W.), the largest island in the Hopewell Islands, is 5 miles long and 1.5 miles wide. Pali-sade Cliffs, 93m high and prominent, are located near the middle of the N shore. From the cliffs, the island slopes gradually to its SW side, off which the water is shoal.

Algerine Channel, the passage between Patterson Island and Harrison Island, is 1 mile wide. Depths in the W entrance range from 20.1 to 27.4m and deepen to 54.9m through the remainder of the channel.

Breaker Shoal, on the N side of the channel about 0.4 mile SW of the SE end of Patterson Island, is an extensive shoal with a least depth of 3m. The shoal breaks heavily in a moderate sea.

Fairway Island (58°25'N., 78°16'W.) is 4m high. It is the W of the three islands lying close off the NW end of Harrison Island. Shoal water extends W and N of the island. A depth of 0.6m lies 0.1 mile N of the W end of the island. A 6.4m patch lies 0.6 mile SW of the island.

Hopewell Narrows (58°23'N., 78°07'W.), between Harrison Island and the mainland, is partially blocked by boulders. The passage is only 18m wide.

Sheep Island (58°26'N., 78°08'W.), lying 0.8 mile NE of Bluff Island, is a bare rocky island, 17m high.

15.20 Inukjuak (58°28'N., 78°06'W.) formerly called Port Harrison, is situated on the W bank of the Innuksuac River, a clear, fast flowing stream with a velocity of about 4 knots, which flows into Hopewell Sound about 2 miles NE of Bluff Island. There is a series of rapids about 1 mile upstream from the settlement, where the river is confined between rocky hills. Two substantial rubble breakwaters off the E bay entrance provide shelter for a small craft harbor with a floating wharf, a landing ramp and a concrete wharf with a small crane. Private lights mark the breakwaters and entrance.

Inukjuak consists of a Hudson's Bay Company store, an An-

glican Mission, a nursing station, a government radio station and meteorological station, a post office, and an RCMP detachment.

Ice.—Break-up usually occurs about mid-June. The river is generally clear of ice by the last of June. Freeze-up begins about the end of October; it is usually completely frozen by mid-November or the first week of December.

Aspect.—The dome of the meteorological station on the E bank of the river opposite the radio station has an elevation of 23m and is conspicuous. A cairn, 1.3 miles E of the settlement, is also conspicuous.

Palisade Cliffs, prominent cliffs on the N coast of Harrison Island, have a cairn on the summit. Several islands and shoals lie off the SW side of Harrison Island; vessels should remain outside the 37m line. Fraley Island is separated from the SE end of Harrison Island by a narrow deep channel. The Rivière Innuksuac, flowing at 4 knots, empties into Hopewell Sound 0.7 mile NE of Sheep Island. The river mouth is shallow, with depths of 0.6 to 0.9m, and is obstructed by a central drying bank. The river flows over a series of rapids 2 miles upstream from the mouth.



Conspicuous cairn E of Inukjuak

Anchorage.—Anchorage can be taken 0.3 mile E or 0.5 mile SW of the E end of Sheep Island, in 25.6m, heavy clay. This anchorage is open to winds out of the S. Anchorage can also be obtained, in 20.1m, clay, N of Sheep Island.

Directions.—A course of 110°, with the cairn on Palisade Cliffs on Harrison Island dead ahead, leads through the Algerine Channel. When the beacon on the SE point of Patterson Island is abeam to port, course should be altered to 070°. After passing Bluff Island, proceed to the anchorage. Caution must be exercised to avoid Breaker Shoal in the W part of Algerine Channel.

Caution.—Some of the areas in the approaches to Inukjuak are not surveyed and should not be entered without local knowledge.

Seaplanes land at the mouth of Rivière Innuksuac.

15.21 The Kongut River (58°23'N., 78°05'W.) flows through silted flats into Hopewell Sound, 1.5 miles NE of Hopewell Narrows.

Fraley Island (58°20'N., 78°05'W.) lies close SE of Harrison Island. A narrow passage, 0.1 mile wide and over 11m deep, separates the islands. Fraley Island is over 30m high on its NE side.

The rest of the islands in the Hopewell Islands include Frazier Island, Drayton Island, Leonard Island, and Bartlett Island. All are similar in character, with high E sides and maximum elevations ranging from 31 to 61m.

Hotchkiss Island lies E of Leonard Island close to the mainland shore.

Caution.—A group of four islands lie about 19 miles WSW of Bartlett Island. A rocky depth of less than 1.8m is located 4 miles WNW of the islets; an area of discolored water with a reported depth of 12.8m lies 10 miles farther to the NW.

Pointe Normand (58°10'N., 77°32'W.) is located on the mainland E of Bartlett Island, the S of the Hopewell Islands. Between Pointe Normand and Pointe Pamialluk, 49 miles to the SE, the coast is rugged and rocky, rising to heights of 122 to 244m of 3 miles inland.

Landlocked Harbor (58°00'N., 77°12'W.), 14 miles SE of Pointe Normand, is formed by the widened mouth of the Kikerteluc River. It is reported to afford good sheltered anchorage.

15.22 Bell Harbor (57°56'N., 77°08'W.) lies 5 miles SE of Landlocked Harbor. Little is known concerning its anchorage possibilities.

Nastapoka Sound, the protected passage between the Nastapoka Islands and the mainland, is about 106 miles in length, with an average width of 2 miles. The sound extends from Cotter Island in the N to Flint Island at its S end. There are depths of 12.8 to 20m charted in its middle section. Between Curran Island and Luttit Island, mid-channel depths in Nastapoka Sound generally vary between 46m and 92m.

From the N, the sound may be entered between Cotter Island and the mainland or through the 1-mile wide channel between Davieau Island and Christie Island. Other channels exist between several of the other islands.

The preferred passage through the Nastapoka Islands to Umiujaq lies between Clarke Island and Luttit Island. The channel is 1.8 miles wide and has a least depth of 19.5m. Approach to the passage may be made on a course of 088°, passing a little less than 1 mile N of Luttit Island and SE of a 12.8m patch lying almost 1 mile S of Clarke Island. From a position sufficiently clear of Clarke Island, a N course may be shaped to pass midway between Clarke Island and the mainland, and this course maintained to Umiujaq.

The land backing the sound is high and rugged, with elevations of 305 to 457m.

The Nastapoka Islands, 65 in number, extend S along the mainland shoreline in a chain. In general, the islands are similar in formation in that they all have steep and broken cliffs on their E sides, with deep water close inshore. The W sides slope gradually to the sea, with shoal water and reefs extending some distance offshore. Large vessels should stay off the W sides of the Nastapoka Islands.

15.23 Cotter Island (57°46'N., 77°01'W.), the N island in the Nastapoka Islands, lies 2 miles off the mainland and is 61m

high. From a distance it appears as two islands, bold at each end and low in the middle. There are no harbors on the island.

McTavish Island (57°32'N., 76°54'W.), 11 miles SSE of Cotter Island, is 61m high on its E side. A small island lies close NW of McTavish Island.

Broughton Island (57°20'N., 76°46'W.), 4 miles SSE of McTavish Island, is the largest in the chain and rises to a height of 122m. Shelter is available in two small bays on the E side near the N end, and also in two small bays on the E side at the S end of the island. Two small islets lie off the entrance to the S bays.

15.24 The Longland River (57°28'N., 76°44'W.) flows into Nastapoka Sound 4 miles NE of the N end of Broughton Island. The bar at the river entrance has depths of 1.2m and the small basin inside is filled with shoals.

Nicholson Island (57°15'N., 76°45'W.) lies close S of Broughton Island. There is a good boat harbor, protected by a small island, on its E side about 1.5 mile from the S end.

Davieau Island (57°08'N., 76°40'W.) lies close S of Nicholson Island, the narrow passage between the islands is encumbered by small islets. Several bays indent the E side of Davieau Island, which rises to a height of more than 61m. There is no anchorage for large vessels, but a small bay near the S end of the island is reported to afford shelter for small craft.

Christie Island (57°01'N., 76°41'W.), 1 mile S of Davieau Island, is 91m high along its E side. A good harbor for small craft is located at the S end of the island in the lee of a long sandy spit.

The Throat (57°04'N., 76°41'W.) is the 1-mile wide channel separating Christie Island and Davieau Island. Large vessels can enter Nastapoka Sound through this passage.

15.25 Mowat Island (56°58'N., 76°40'W.) is separated from Christie Island by a deep but narrow 90m channel. A chain of small islands extends S from Mowat Island for about 3 miles. A small harbor has been reported on the N side of the island.

In 1973, two rocky depths of less than 1.8m were reported about 3.5 miles SW of Mowat Island. A 0.9m shoal lies about 1.8 miles E of the island.

The Nastapoka River flows into the sound about midway between Mowat Island and Gordon Island. Nastapoka Falls, located close to the river mouth, has a vertical drop of 31m. Drying rocks are reported to lie about 1.5 miles offshore close N of the river mouth and 0.6 mile offshore about 1.5 miles NE of the river mouth. Other undetected dangers may exist in this vicinity.

Gordon Island (56°52'N., 76°40'W.), one of the smaller islands in the chain, lies 4.5 miles S of Mowat Island. It is less than 61m high.

Taylor Island (56°44'N., 76°40'W.) lies 5.5 miles S of Gordon Island. A bay, 0.5 mile wide and 1 mile long, on the E side of the island, affords a safe harbor. Two small islands which lie S of the NE entrance point of the bay form a small bay and a good harbor.

Gillies Island (56°38'N., 76°36'W.), close S of Taylor Island, is a narrow island, 13 miles long, with numerous bays on its E and W sides. A small bay on the E side, about 1 mile from the S end of the island, is the best harbor. The SE part of the is-

land is over 61m high. Recent survey has indicated that depths over the shoals in the vicinity of Gillies Island are less than charted.

Clarke Island (56°27'N., 76°39'W.) lies 4 miles S of Gillies Island. Curran Island and Armstrong Island, two small islands, lie between them. Three islets lying close off the cliffs on the E side of the island form a good harbor. This side of the island has heights in excess of 61m. Two low gravel islands, scattered with large boulders and joined by a bar, lie off the SW point of Clarke Island.

Umiujaq (56°33'N., 76°33'W.), an Inuit village, lies on the mainland E of the S end of Gillies Island. A low-lying rock point juts out into Nastapoka Sound. North and S of the village there are low sloping sandy beaches.

Anchorage may be obtained 0.3 mile offshore opposite the rocky point, in 29m, sandy bottom, good holding ground. A weak tidal current, with a velocity of about 0.4 knot and variable in direction, has been recorded at the anchorage.

15.26 Luttit Island (56°22'N., 76°42'W.) is a small island 3.5 miles S of Clarke Island. Several reefs lie in the intervening passage. A group of islands and shoals are located 14 miles W of Luttit Island.

Anderson Island (56°18'N., 76°42'W.) is separated from Luttit Island by a narrow passage which is only 0.1 mile wide at its narrowest part. The E and SE sides of the island are steep and rugged with heights to 122m. Near the middle of the E side the cliffs terminate abruptly and the shoreline trends sharply W forming a bay which is nearly landlocked by two small islands. The bay affords good anchorage. The W shore of Anderson Island is low and sandy, with a few rocky points and extending reefs.

Ross Island (56°13'N., 76°46'W.), 2 miles S of Anderson Island, is a crescent-shaped island about 122m high.

Belanger Island (56°08'N., 76°46'W.) lies 1 mile S of Ross Island and 2 miles off the mainland opposite the entrance to Richmond Gulf. Strong tidal currents occur in the passage between Ross Island and Belanger Island. The E side of the island is over 122m high, with deep water close inshore. The W side is low, with reefs and shoal water extending seaward for a considerable distance.

Flint Island (56°04'N., 76°48'W.), a small rocky island, lies 1.2 miles SW of Belanger Island. It is the southernmost island in the Nastapoka Islands.

A long, low reef, which breaks, lies about 6 miles SSW of Flint Island.

15.27 Lac Guillaume-Delisle (Richmond Gulf) is a large triangular-shaped body of water separated from Nastapoka Sound by a long rocky ridge over 305m high. Its length N-S is 26 miles and its maximum width is about 25 miles. Numerous bays break the steep and jagged shore, which is backed by hills rising 152 to 305m.

Cairn Island, 183m high, is the largest of the many rocky islands in the gulf. The tree line begins a few miles N of Lac Guillaume-Delisle and the islands in the gulf are wooded.

Le Goulet (Gulf Hazard) (56°10'N., 76°40'W.), the narrow entrance channel leading from Nastapoka Sound into Lac Guillaume-Delisle, is 6 miles long, but only 0.15 mile wide between the steep shores which rise to heights of 31 to 305m.

Strong tidal currents create whirlpools in the passage which is dangerous for small craft except at SW.

The **Castle Peninsula**, which is the N side of Le Goulet, is 305m high. A prominent peak, 3 miles N of the Castle Peninsula, is 379m high. Another peak, 4.5 miles S of the peninsula, is 446m high.

The **Petite Rivière de la Baleine** (Little Whale River) (56°00'N., 76°46'W.) flows into Hudson Bay about 11 miles SSW of Le Goulet. The high bold hills inland rise to 305m close S of the river. Depths of 1.8m are reported over the bar at the mouth of the river; there is a depth of 6.1m inside the bar. A drying rock lies 5 miles WSW of the N side of the river mouth.

Between the Petite Rivière de la Baleine and the Grande Rivière de la Baleine, 55 miles to the SW, the generally regular coastline is fronted by the Manitounuk Islands. Manitounuk Sound separates the islands from the mainland.

Duck Island (55°46'N., 77°12'W.) lies 3 miles off the mainland, 20 miles SW of the Petite Rivière de la Baleine. It is a low marshy irregular-shaped island. The harbor on its SW side is open and offers little protection.

The Manitounuk Islands, a chain of long narrow islands, extend generally parallel to and from 1 to 2 miles off the mainland coast for a distance of 27 miles. These islands are similar in appearance to those in the Nastapoka group, with high cliffs on their E sides. Castle Island, Merry Island, Neilsen Island, and Bill of Portland Island are included in the group.

Gillies Island (55°20'N., 77°52'W.), a small island 3.8 miles SW of Bill of Portland Island, is only 4.9m high and has a spit with a depth of 8.2m extending 0.4 mile SW. Depths of 11m or less are reported to exist 1 mile SW, 2.5 miles N, and 3.8 miles NNW of Gillies Island.

15.28 Manitounuk Sound lies between the Manitounuk Chain and the mainland. The mainland shore is backed by hills which rise close inland to heights of 244m. Offshore, shoal water extends 0.3 mile seaward from the coast.

Mid-channel depths in the sound range from 54.9 to 73.2m.

From the N, Manitounuk Sound can be entered through Boat Opening, which is shallow, or through Schooner Opening, with a reported depth of 7.3m.

The **Paint Islands** (55°30'N., 76°35'W.) are a chain of small islands lying close off the mainland shore opposite the central part of Merry Island.

15.29 **Laverock Bay** (55°24'N., 77°41'W.) is located on the E side of Neilsen Island.

Anchorage.—Anchorage can be taken, in 21.9m, sand and mud, 0.1 mile NE of the white boulders on the S side of the bay. The anchorage is open to E winds. A conspicuous boulder on the NE end of the ridge on the N side of Laverock Bay is a good landmark.

The **Maver Islands** (55°20'N., 77°44'W.), two small islands, lie 2 miles S of the SW end of Bill of Portland Island.

The **Grande Rivière de la Baleine** (55°16'N., 77°47'W.) flows into Hudson Bay, 6 miles S of Bill of Portland Island. The entrance is 0.2 mile wide between Sandy Point, the N entrance point of the river, and the S shore. At LW there are depths of 0.6m on the bar, at springs a draft of 2.7m can be carried over the bar and for 5 miles upstream. With any swell the bar becomes an area of breaking, confused water.

15.30 **Poste-de-la-Baleine** (55°16'N., 77°46'W.) is situated on the N shore of the river about 1 mile E of Sandy Point. The settlement consists of a Hudson's Bay Company store, a post office, a nursing station, Anglican and Roman Catholic missions, and an administrative building.

Ice.—Freeze-up usually begins between November 10 and November 20. Breakup starts around the last part of May, and the area is generally clear of ice by the first week in June. The average ice thickness is 1.4m.

Tides—Currents.—Heights of tides are influenced by wind direction and velocity. Spring tides are reported to rise 2.4m. Neap tides rise 1.8m.

The river current varies from 1.5 to 2 knots. Offshore currents usually set N. Currents are reported to be strong off the SW end of Bill of Portland Island.

Aspect.—An airstrip, with a conspicuous hanger and several conspicuous radio masts, lies close N of the settlement and the oil storage tanks on Sandy Point are conspicuous.

Anchorage.—Anchorage can be taken with Sandy Point bearing 110°, distant 1.2 miles, in 31.1 to 34.7m, mud. With W gales, shelter is afforded in Laverock Bay, 8.5 miles NNE of Sandy Point. During bad weather it may not be possible to anchor in Manitounuk Sound and it is recommended that vessels remain offshore. It is not advisable to anchor off the Grande Rivière de la Baleine if winds exceed force 5.

Directions.—Vessels bound for Poste-de-la-Baleine along the E side of Hudson Bay will find deep water 5 to 10 miles to seaward of the Nastapoka Islands and the Manitounuk Islands. An inside track may also be taken through Nastapoka Sound and Manitounuk Sound in mid-channel depths of 20.1m; however, the limiting depths in Boat Opening and Schooner Opening at the N end of Manitounuk Sound should be kept in mind.

Vessels leaving Omarolluk Sound in the Belcher Islands should steer a course of 115° in a least depth of about 18.3m.

If a course through Hudson Bay W of the Belcher Islands is followed, vessels should commence from position 55°15'N, 80°15'W, then steer a course of 089° to the entrance of the Grande Rivière de la Baleine, in least depths of 11 to 14.6m.

15.31 Between the Grande Rivière de la Baleine and Pointe Louis XIV, 82 miles to the SW, the generally regular coast has only a few minor indentations with no sheltered anchorages. Shallow water and shoals may exist in the vicinity of the islands along this low-lying section of the coast.

Black Whale Harbor (55°09'N., 78°07'W.) is a small indentation in the coast, 14 miles SW of the Grande Rivière de la Baleine.

Otaska Harbor (55°04'N., 78°16'W.), a similar indentation, lies 6 miles farther to the SW.

The **Bear Islands** (55°08'N., 78°18'W.), a group of seven islands and islets, lies 4 miles NNW of Otaska Harbor.

Pointe Vauquelin (54°54'N., 78°52'W.), 24 miles SW of Otaska Harbor, is a low point forming the E entrance point of Long Island Sound.

Caution.—Islets lie up to 11 miles ENE off Pointe Vauquelin. Depths of 5.5 to 16.5m are reported to exist 1 to 2 miles off this coast. Islets and shoal water lie up to 2 miles off Pointe Vauquelin, and soundings of 5.5 to 11m are located about 4 miles NNW of this point.

15.32 Long Island (54°52'N., 79°22'W.) lies parallel to the mainland, about 5 miles offshore. Its E end is located 6 miles WNW of Pointe Vauquelin. The island is about 25 miles long with an average width of about 2 miles and heights of less than 61m. Low limestone cliffs broken by wide valleys comprise the S shore. Good shelter for small craft is to be found in a small bight in the S shore, about 8 miles from the NE end of the island. A shoal spit protects the outer part of the bight, which is entered to the W of the spit. A depth of 5.5m is reported in the entrance, with a depth of 9.1m inside. A depth of 4.6m exists 2 miles NW of the SW extremity of Long Island.

A tower equipped with radar reflector and a fluorescent orange rectangular daymark on the N seaward face is situated on the small islet lying close SW of the SW end of Long Island. Dangers extending as far as 9.3 miles SW of the islet's daybeacon obstruct the SW approach to Long Island Sound.

Long Island Sound, the passage separating Long Island from the mainland, has mid-channel depths ranging from 12.8 to 54.9m in the E half of the sound, but the W portion is heavily encumbered by islands and shoals. A channel, suitable for small vessels, leads through the center of the islands. The reef which lies in the E approach to the channel dries 0.9m.

There is good anchorage about 0.3 mile offshore, in 27.4 to 32.9m, about 1 mile NE of the bluff on the SW extremity of Long Island.

A reef, which dries 0.3m, lies 0.8 mile SSE of the anchorage.

Directions.—Vessels proceeding through Long Island Sound from the W should steer for position 54°40'N, 79°50'W, with the NW extremity of Pointe Louis XIV bearing 126°, 3.4 miles distant. From this position steer 040° for 4.9 miles until the SW end of Long Island bears 310°, 1.9 miles distant. A mid-channel course of 060° should then be steered, keeping clear of the shoal water which extends about 0.8 mile W from the small island on the S side of the W entrance. Vessels should keep about 0.2 mile off the chain of islands on the N side of the island, and pass N of the small islet which lies in mid-channel about 6 miles from the W entrance. When the NE point of this islet bears 180°, 0.2 mile distant, course should be altered to 070° to pass through the narrow opening formed by the two islands about 2 miles farther E. The N island has a conspicuous boulder at the highest elevation of its central part. The channel between the islands is about 0.2 mile wide and 12.8m deep. A shoal, with a least depth of 0.3m, extends NE for 0.4 mile from the N point of the S island.

Vessels should maintain a course of 070° and favor the N side of the channel until the conspicuous boulder bears 275°. Course should then be altered to 090° to pass midway between a reef, which dries 0.9m in position 54°48'N, 79°25'W, and an island 0.5 mile to the N. From there a course of 072° leads through the main part of the sound, passing N of the rocky islet (54°46'N., 79°16'W.) which lies about 5.5 miles E of the drying reef described above.

Cape Dufferin to Pointe Louis XIV—Off-lying Islands

15.33 The Marcopeet Islands (57°54'N., 79°39'W.), a chain of four small islands 8 miles long, lie in a N-S direction. The largest island is barren and only 15m high.

The **Sleeper Islands** (57°30'N., 79°50'W.), located 14 miles

S of the Marcopeet Islands, extend 25 miles farther to the S.

A rocky shoal lies midway between the Marcopeet Islands and the Sleeper Islands.

Kidney Island, an irregular-shaped island, 31m high, is the largest island in the group. A chain of small islands lying close off the E side of the N end of the island form a sheltered harbor for small vessels. Reefs and drying shoals are charted up to 4 miles E of Kidney Island.

A tower fitted with a radar reflector lies about 9.5 miles SSW of the N extremity of Kidney Island.

The island close S of Kidney Island has an elevation of 40m.

Beach Island (57°28'N., 79°04'W.), located 22 miles E of Kidney Island, is a small island of shingle beaches. It is only 9m high.

The **King George Islands** (57°18'N., 78°24'W.), a group of islands 24 miles in extent, lie 32 miles E of Kidney Island.

Husky Island (57°30'N., 78°38'W.), 36 miles E of Kidney Island, lies near the N end of the King George Islands. The rocky island, 18m high, is almost divided in two by a long narrow inlet that extends SE from the N side of the island. The inlet forms a good harbor with fairly deep water in the anchorages, but with depths of only 1.8 to 2.4m in the entrance.

An unnamed island lies 3 miles WNW and another 3 miles NE of Husky Island.

Driftwood Island (57°18'N., 78°24'W.), the largest of the group, with an elevation of 31m, lies 12 miles SSE of Husky Island. Two shingle beaches on the E end of the S side of the island form a harbor for small craft. Shoal water extends up to 5 miles W of the island.

15.34 The Belcher Islands (56°20'N., 79°50'W.), a group of four large islands, and several groups of smaller islands lie 65 miles W of the Nastapoka Islands. The islands extend about 80 miles in a general N-S direction over a width of about 45 miles between 55°40'N and 57°00'N. Numerous lakes and ponds dot the interiors of the islands, which are generally low with elevations of 61 to 91m. The long narrow peninsulas and inlets forming the group lie in a general N-S direction. From W to E, three of the four large islands are Kugong Island, Flaherty Island, and Tukarak Island. The fourth, Innetalling Island, lies close SSW of Tukarak Island. The island group N of the four main islands is the North Belcher Islands; the group of small islands N of Tukarak Island are the Bakers Dozen Islands.

The W and SW coasts of the main islands are indented. They are rougher than the E shores and more dangerous to approach.

Winds—Weather.—The climate of the islands differs considerably from that of the mainland to the E. For the same period, the islands had a greater proportion of overcast skies and fog, stronger and more constant winds, but higher and more uniform temperatures than the meteorological conditions at the Grande Rivière de la Baleine.

Ice.—Limited information is available concerning ice conditions in the vicinity of the Belchers. It has been reported that the season of open water around these islands varies considerably. Some years the islands have been surrounded by pack ice as late as the middle of August, but generally ice-strengthened ships can approach the islands about the first week in July.

Tides—Current.—Caution should be observed when making the passage S of the North Belcher Shoals, as tidal currents

of approximately 3 knots tend to set across the passage.

Caution.—Most of the waters surrounding the Belcher Islands have not been sounded and much of the hydrographic information is of a reconnaissance nature. Unsounded waters should not be entered without local knowledge. Caution is advised in sounded water.

15.35 The North Belcher Islands (56°53'N., 79°41'W.) lie close NW of the main Belcher group. They are Split Island, Radar Island, Laddie Island, Johnson Island, and the Lukisee Islands. North Belcher Shoals lie about midway between the North Belcher Islands and the Sleeper Islands.

North Belcher Shoals (57°06'N., 80°03'W.) lie 10 miles NW of the North Belcher Islands; they are about 6 miles long in a N-S direction. There is a general depth of 9.1m over the shoal, with a depth of 1.2m near mid-shoal and a depth of 1.8m near the S end.

From the W, the passage between the Sleeper Islands and the North Belcher Islands should be made S of North Belcher Shoals, where depths of 16.5 to 36.6m can be carried. The area N of North Belcher Shoals has not been fully examined, but it would appear from reconnaissance soundings that shoal water does exist.

The land is low in the vicinity of the North Belcher Islands and position fixing is difficult; however, Radar Island usually provides a radar fix at a distance of 5 miles.

15.36 Split Island (56°50'N., 79°51'W.), the largest island in the North Belcher Islands, is almost split in two by an inlet extending N from the S side. Numerous small lakes and ponds dot the island.

Depths of 0.9m extend for 2.5 miles off the N end of Split Island. There are depth of 11 to 27m in the entrance to the bay on the S side of the island. Inside the depths shoal to 1.8m at its head. The passage between Split Island and Laddie Island has 23.8 to 54.9m in mid-channel.

A tower, equipped with a radar reflector and an orange daymark, is situated on the NW point of Split Island.

Anchorage.—Anchorage is available in the bay on the S side of Split Island, about midway between the entrance points, in 25.6m, mud.

15.37 A chain of widely scattered above-water rocks obstructs the passage between the S end of Split Island and the SW part of Kugong Island. Passage between them is not possible without more complete surveys.

Laddie Island (56°53'N., 79°41'W.), a narrow island about 6.5 miles long, lies 2.2 miles E of Split Island. Several small islands extend SSE from the S end of Laddie Island and the water off the E side is foul.

Radar Island, about 0.8 mile N of Laddie Island, is reported to be the best radar target when navigating between North Belcher Shoals and Split Island. The channel between Radar Island and Split Island is encumbered by a small islet and shoal water.

Johnson Island (56°42'N., 79°32'W.) lies 4 miles SSE of Laddie Island; it is 10 miles long, 2.5 miles wide, and 56m high.

The **Lukisee Islands** (56°48'N., 79°33'W.) is a compact group of small islands between Laddie Island and Johnson Is-

land. Depths in the passage are uncertain.

Kugong Island (56°20'N., 79°50'W.) is 29 miles long and 61m high at the SW end. Numerous lakes and ponds dot the island. Lillico Point, the N end of the island, lies 4.5 miles S of Johnson Island. Three small islands lie in the passage between Lillico Point and Johnson Island. The largest is 17m high.

Churchill Sound (56°00'N., 80°00'W.) separates Kugong Island from Flaherty Island to the E. The sound has not been surveyed and is encumbered by islands and shoals, particularly in its N part.

Moore Island (56°20'N., 79°34'W.), the largest island in Churchill Sound, is over 31m high.

15.38 Flaherty Island (56°10'N., 79°20'W.), the largest island in the Belcher Islands, comprises several long peninsulas separated by long inlets and bays lying parallel to the peninsulas. The island has an overall length of 59 miles and a maximum elevation of 117m in its NE part.

Howard Point (56°33'N., 79°27'W.) is the N point of the Howard Peninsula, which forms the W side of Flaherty Island and separates Churchill Sound from Coats Bay. The peninsula is about 25 miles long and 31m high. A depth of 2.4m lies 2 miles NNW of Howard Point.

Coats Bay is entered between Howard Point and The Bluff, a prominent hill 76m high, located 6 miles ENE. Coats Bay has not been surveyed.

Robertson Bay (55°46'N., 79°47'W.), on the S side of Flaherty Island, is entered between Freakly Point and an unnamed point 4 miles to the NW. The bay extends NNE for 23 miles with an average width of 3.5 miles. A chain of small islands and rocks extends SSW for 7.5 miles from the unnamed W entrance point. Another group of small islands lies 2.5 miles SE, and still another group lies 8 miles SSW of Freakly Point. The N part of the bay is encumbered by islands. Little is known concerning the depths in Robertson Bay.

Kasegalik Lake, the largest lake in the Belcher Islands, is about 43 miles long and 12m above sea level. It lies in the form of a U in the central part of Flaherty Island, with the two arms extending NNE.

15.39 Wetalltok Bay (56°00'N., 79°20'W.) is entered between position 55°51'N, 79°30'W and the S end of the Gibson Peninsula, 7 miles to the E. The unsurveyed inlet extends NNE for 25 miles. An islet lies near mid-entrance, 3 miles W of the E entrance point and a group of small islands and shoals lies about 7 miles NE of the islet.

A chain of small islands and ledges extends for approximately 30 miles SW of the S end of the Gibson Peninsula.

Anchorage is available in the open bight between Freakly Point and the W entrance point to Wetalltok Bay. Vessels anchor 0.5 mile SSE of the islet at the head of the bight, in 36.6m, mud.

Kipalu Inlet (56°00'N., 79°10'W.) is a narrow inlet lying between the Gibson Peninsula and the Mukpollo Peninsula, about 1.2 miles to the E. It extends NNE for about 32 miles. Little is known of the depths in the inlet.

Wiegand Island (56°40'N., 79°13'W.), a crescent-shaped island lying close N of Flaherty Island, has an elevation of 76m in its central part.

15.40 Renouf Island (56°35'N., 79°08'W.) lies 0.5 mile S of Claw Point, the SE end of Wiegand Island. Wiegand Island and Renouf Island form the N and E sides of Eskimo Harbor. The W side is formed by the peninsula extending N for 5 miles from the NW end of Flaherty Island.

The settlement of **Eskimo Harbor** (Sanikiluaq) (56°36'N., 79°12'W.) lies in the SW part of the bay on the E side of a small inlet. The hamlet of Sanikiluaq is the farthest S of the Nunavut communities. The hamlet is on the E side of a cove on the S shore of Eskimo Harbor.

Eskimo Harbor has two entrances, one at each end of Renouf Island. Blocked Passage, the S entrance, is encumbered by a small islet and a depth of 0.3m. The passage is only 300m wide. The N entrance, between Claw Point and Mosisee Point, the N end of Renouf Island, has depths of 11 to 12.8m.

Depths—Limitations.—The least charted mid-channel depth through the entrance is 11.3m. The N and W parts of the harbor have depths of 9.1m to 25.6m, with no apparent dangers, but the area has not been completely sounded. In the vicinity of the settlement at the S end of the harbor, there are depths of 7.3 to 11m. About 2 miles W of Mosisee Point, near the central part of the harbor, is a group of islets and rocks surrounded by shoal water. Depths less than those charted have been reported and caution is advised when using this harbor due to the possibility of shifting sand shoals.

Aspect.—An oil tank and a radio tower, both situated E of the settlement, are conspicuous.

Anchorage.—Anchorage, with good holding ground, is available 1.5 miles E of Claw Point, in depths of 26 to 31m. Anchorage is also available off the settlement, in depths of 11 to 15m.

15.41 The Bakers Dozen Islands (56°41'N., 78°49'W.) is a chain of ten islands, about 22 miles long, lying in a general N-S direction.

Twin Cairns Island (56°31'N., 78°49'W.), the S island in the group, is 29m high. Shoal water extends 2 miles W of the island.

Cake Island and Bun Island, two small islands, lie 3 and 5.5 miles N of Twin Cairns Island. A depth of 7.3m, position doubtful, lies 3 miles WNW of Cake Island.

Loaf Island (56°40'N., 78°47'W.), 2 miles N of Bun Island, is the largest in the group. It is over 30m high. Shallow water, marked by tide rips, extends 0.7 mile W from the island.

The other islands in the Bakers Dozen group are unnamed and extend N of Loaf Island.

15.42 Tukarak Island (56°10'N., 78°45'W.) lies 3.5 miles E of Flaherty Island. Omarolluk Sound separates the islands. The island is 22 miles long, 7 miles wide, and over 152m high. It is the highest island in the Belcher Group.

Four Steps Hill, 2.5 miles S of the N end of the island, has a step-like formation on its S side, 93m high. The hill itself, which rises 123m, is a good landmark.

Laddie Harbor, on the E side of Tukarak Island, affords no shelter. It is too shallow even for small craft.

Mavor Island, located close S of Tukarak Island, rises to 61m in its central part.

Fairweather Sound (56°08'N., 78°48'W.), which separates Mavor Island and Tukarak Island, can only be entered from the

E. The W approach is shallow. Shallow depths in the narrow channel and lack of swinging room limit the use of the anchorage to small vessels only.

Fairweather Harbor, entered about 8 miles SW of the E entrance to Fairweather Sound, has depths of over 18.3m, with the exception of a 2.1m shoal extending about 0.5 mile N of the S entrance point. Due to limited swinging room, anchorage is limited to small vessels.

Innetalling Island (55°55'N., 79°03'W.), a narrow island close SSE of Tukarak Island, extends SSE for 19 miles, forming part of the E side of Omarolluk Sound. In places, the island rises to more than 61m.

O'Leary Island and Broomfield Island extend 7 miles to the SW from close S of Innetalling Island. The narrow islands, which closely parallel each other, have heights of 31 to 61m.

A light and a racon are situated on Sainsbury Point, the S extremity of Broomfield Island.

Ridge Passage (55°47'N., 79°08'W.) separates Innetalling Island from O'Leary Island and Broomfield Island. Shallow depths of 0.6m in the narrow channel make the passage impassable.

15.43 Omarolluk Sound (56°00'N., 79°05'W.), the main channel through the principal Belcher Islands, lies between Flaherty Island on the W and Tukarak Island, Innetalling Island, and O'Leary Island on the E. The sound is about 48 miles in length, with an average width of 3.5 miles. Along the shores the hills rise sharply to heights of 61m.

Tides—Currents.—Strong tidal currents, with velocities to 3 knots, occur in the entrances to the sound. There are heavy tide rips at the change of tide. Within the sound, the ebb tide flows S and the flood tide N.

Depths—Limitations.—Shoal water predominates the first 8 miles inside the N entrance; however, a least depth of about 9.1m can be carried from a point midway between Range Island, which lies in mid-entrance, and the NW point of Tukarak Island to the Gilmour Peninsula. South of the peninsula, depths range from 18.3 to 73.2m.

A chain of small narrow islands extends for 13 miles in a SSE direction from a point 9 miles inside the N entrance. The islands parallel the E side of the sound about 0.5 mile offshore.

Walton Island (Wolton Island) (56°00'N., 79°03'W.) lies close off the NW side of Innetalling Island; the island is 4 miles long and about 31m high.

The Camp Islands, two small narrow islands, lie 3 miles SSW of Walton Island. A drying flat connects the islands at LW.

Anchorage.—Anchorage can be taken in the channel E of Walton Island, in 27m, mud. Anchorage is also available 1.2 miles S of the southernmost Camp Island, in 18m, mud, good holding ground. Good anchorage may be taken, in a depth of about 11m, mud and sand, 0.6 mile S of Desgoffe Point, on the E side of Omarolluk Sound, 5 miles within the N entrance.

The recommended entrances to Omarolluk Sound are, from the N, between Range Island and the NW point of Tukarak Island and, from the S, through Narrow Passage at the S end of the O'Leary Island. The other charted entrances to the sound are either foul or too shallow for even small vessels.

15.44 Narrow Passage (55°40'N., 79°16'W.) leads between

the SW end of O'Leary Island and the chain of small islands extending 2 miles to the SW. The passage is about 137m wide with a least depth of 13.4m.

Vessels entering Narrow Passage from the SE should round the islet, 15m high, lying 0.7 mile SW of Sainsbury Point, the S point of Broomfield Island, at a distance of about 0.5 mile. Steer NE for 0.6 mile until the S end of O'Leary Island and the low islet about 0.1 mile SW of it are open. From there a course of about 312°, favoring the O'Leary Island side of the channel, will lead through the passage between the two in safe water.

Caution.—Numerous small islands, islets, above and below-water rocks, and shoals lie between the Belcher Islands and the Nastapoka Islands, off the mainland to the E. Extreme caution should be exercised when navigating in this area, as only approximate positions are charted for some of the dangers.

The Salikuit Islands, a group of several large islands and many islets and rocks, is located about midway between the Belcher Islands and the mainland. This group covers an area of 10 miles NNW-SSE and 25 miles WSW-ENE and is reported to be fringed by shoal water for 6 miles N and S. A chain of islands is reported to stretch NNW from the Salikuit Islands for 47 miles to the King George Islands.

James Bay

15.45 James Bay is entered between Pointe Louis XIV and Cape Henrietta Maria, about 90 miles to the WNW. It is about 210 miles in length, with an average width of 100 miles. The low flat shores of the bay are fringed by wide mud flats, beyond which is a shoal bank with a depth of only a few meters. Numerous islands, rocks, and shoals fill the bay. There are no harbors for large vessels. Most of the many rivers flowing into James Bay are obstructed by bars at their entrances.

Winds—Weather.—Forested lowlands comprise the coastal regions of most of James Bay. Resistance to winds in the area N of Bear Island is small because of the sparse tree cover. Towards the S, especially S of Akimiski Island, increasing tree cover gives a dampening to the winds that decreases the frequency of strong winds, especially in the estuaries of the navigable rivers.

Midwinter temperatures are fairly uniform from S to N. From the end of October to early May, sub-freezing temperatures are possible. The spring rise brings daily temperatures up to freezing at Moosonee about April 25, and Pointe Louis XIV in the middle of May. Thereafter, the rise of shoreline temperatures is retarded by the melting ice cover.

The effect is noticeable in the extreme maxima. For instance, Moosonee has been as high as 27°C in April, Fort George only 19°C. Snow cover is usually less than 3cm at Moosonee by mid-May. Thereafter, offshore flow may enable temperatures to reach the thirties, May through September. In the fall the shoreline temperatures show a less rapid decline under the influence of the open waters. The mean daily temperature drops to freezing at Pointe Louis XIV about October 25, at Moosonee about a week later. In November, while freeze-over is progressing, shoreline temperatures are less likely to drop as low as inland temperatures.

Annual snowfall is about 250cm. Little can be expected in October. The average of 50cm in November is partly attributable to flow off the open waters and partly to the fall storms. In

the period of January to March, proximity to winter storms results in an average monthly accumulation of 40cm.

Average annual rainfall is in the range of 400 to 500mm. Thunderstorms occur at Moosonee on average of 3 days monthly, from June through August.

Moosonee reports are representative of inland regions, where fog is rare in the cold months and usually found only near sunrise in the summer months. Over James Bay when the ice cover is decreasing, fog is more usual, especially in the N. In the S, rapidly rising water temperatures decrease the frequency of fog towards mid-summer, but lingering ice cover in the N maintains a cold surface that is effective in producing fog into August, as illustrated by the frequency of fog at Poste-de-la-Baleine.

Ice.—James Bay is affected by its inland location. Freeze-up there develops in mid-November, about two weeks ahead of Lake Melville at the same latitude on the Labrador Coast, and over a month earlier than the open coast of Southern Labrador. Because of the shallow nature of James Bay, the ice spreads quickly and ice cover is nearly complete by early December.

During the winter, the fast ice grows to 0.5m at Moosonee by 1 January and to 0.8m by 1 April. The fast ice is of moderate extent, but the scale of motion of the offshore pack is because of the reduced area. A sizable open water area can develop S of Akimiski Island, but flaw leads elsewhere are quite narrow.

Ice cover is solid across James Bay in winter, except for shore leads. As spring melt begins and open water increases, the cold underlying surface increases the likelihood of fog. Rapidly warming water temperatures in the S lower the possibility of fog by early July, but lingering ice cover in the N in late July keeps fog frequencies, with onshore flow, high into August.

Melting begins in late April. In this situation the latitude, the inland location, and north-flowing rivers tend to advance the season, but it is not until the latter half of May that the bay begins to clear. The clearing progresses from S to N at first, then extends along the Quebec shore, so that by the end of June, dispersed ice or open water covers the whole area S of Akimiski Island, and along the Quebec shore to Cape Jones and Poste-de-la-Baleine.

The NW portion of the bay is subject to occasional intrusions of ice from Hudson Bay, and although clearing can develop in July, it is not unusual for some ice to persist until early August.

James Bay ice is noted for its soil content, a feature which is thought to be related to the freezing of muddy water in the fall, a condition which the shallowness of the bay and wind conditions in November will induce. Spring melting then concentrates the sediment on the surface of the ice; river runoff over it prior to break-up can be a contributing factor.

Caution.—Many of the islands in the bay have not been accurately located. Their charted positions cannot be relied upon.

15.46 The E coast of James Bay is very irregular, with numerous points and bays; many small islands lie close off-shore. Low land backs the shore and elevations seldom exceed 31m. Much of the coastal water has not been completely surveyed, shoal depths extend up to 20 miles offshore. There are several large off-lying islands and many rivers flow into the bay along the E shore.

Between Pointe Louis XIV and Walrus Point, 60 miles to the SSE, the shoreline is broken by numerous bays and fronted by a myriad of islands.

Pointe Louis XIV (Cape Jones) (54°38'N., 79°46'W.), the E entrance point to James Bay, is the W extremity of a low irregular-shaped point extending about 1 mile W from the mainland. Two large domes, 35m high, are conspicuous on the point. A disused airstrip and some abandoned buildings are also located here. A shoal, with a depth of 6.1m, lies 8 miles WNW of the point.

George Bay (54°37'N., 79°40'W.) is entered between Pointe Louis XIV and Shave Point, 3.2 miles to the SE. The bay is foul and the entrance is encumbered with islets. It is not suitable for anchorage. In bad weather, anchorage is available leeward of Long Island, 6 miles to the N.

15.47 Cape Jones Island (54°36'N., 79°46'W.) lies 3.5 miles W of Shave Point. It has an elevation of 17m and is the largest of a group of islands in this vicinity.

The **Roggan River** (54°24'N., 78°30'W.) flows into James Bay, 16 miles SSE of Pointe Louis XIV. A seasonal fish camp at the mouth of the river is available for emergency shelter.

The Rivière au Phoque enters James Bay about 8 miles to the N, while 5 miles farther S, the Rivière Kapsaouis empties into the bay.

Bare Island (54°26'N., 79°56'W.), 15 miles W of the mouth of the Roggan River, is a small island of pink and white granite, 18m high, with a light covering of moss and grass.

A tower, equipped with a radar reflector and fluorescent orange rectangular daymarks on the N and S seaward faces, is located on the island.

Pointe Attiquane (54°18'N., 79°28'W.), a low point 2 miles S of the mouth of the Rivière Kapsaouis, extends 1.5 miles W from the mainland.

Pointe Kakassitug (54°10'N., 79°22'W.), 7.5 miles SSE of Pointe Attiquane, has a group of islands 1 mile to the W.

15.48 Off-lying dangers.—Several dangers lie in the vicinity of Bare Island. A shoal, the position of which has not been accurately determined, lies about 3 miles E of the island. A depth of 8.5m lies 12.5 miles S of Bare Island. Five miles farther S there is a depth of 9.8m. A rocky depth of less than 1.8m (position approximate) lies 13 miles SSE of Bare Island.

Grey Goose Island (53°55'N., 79°53'W.), 32 miles SSE of Bare Island, is 29m high. The gradually sloping sides of the island are strewn with boulders.

A radar reflector tower equipped with a fluorescent orange daymark on its E seaward face is situated on Grey Goose Island.

A rocky depth of less than 1.8m lies 2.5 miles NE of Grey Goose Island. Another rock (existence doubtful) lies 3 miles SW of the island.

A chain of either shoals or low-lying islands appears to extend between Grey Goose Island and Sunday Island. Mariners should avoid this area.

North Star Shoal (53°58'N., 79°57'W.), with a least depth of 3.4m, lies 3 miles NW of Grey Goose Island. A sunken rock is charted 7.3 miles NW of the shoal.

East Cub Island (54°02'N., 80°11'W.), a small rocky islet, 4m high, is located 9 miles NW of North Star Shoal.

15.49 Pointe Kakachischuan (54°02'N., 79°05'W.), 14 miles SE of Pointe Kakassitug, forms the N side of Paul Bay. Numerous islets and rocks obstruct the entrance to the bay, which is too shallow even for small craft.

Goose Bay (53°56'N., 79°06'W.) lies 4 miles S of Paul Bay. The Rivière Guillaume flows into the head of the shallow bay.

Wastikun Island, a cone-shaped island, 42m high, having the appearance of a black crater, lies close off the N entrance point to Paul Bay. It is the most conspicuous landmark in the vicinity.

Stromness Island (53°52'N., 79°08'W.) is 1.8 miles long and 15m high. It lies off the entrance to Stromness Harbor, close S of Goose Bay. Numerous islands and drying flats fill the bay.

Boat Island lies close S of the W end of Stromness Island.

A lighted range, in line bearing 356°30' astern, marks the channel leading to Narwhal Anchorage. The front beacon stands at the W end of Boat Island. The rear beacon is on Stromness Island. Both structures are equipped with fluor-escence orange daymarks and radar reflectors.

The **Loon Islands** (53°50'N., 79°12'W.), a group of small islands, lie about 5 miles W of the entrance to the Grande Rivière. The largest island is 18m high, it lies in the SE part of the group. Numerous drying ledges exist between and extend from most of the islands.

Anchorage.—Narwhal Anchorage, 0.5 mile NE of the largest of the Loon Islands, affords sheltered anchorage, in 11m, clay, good holding ground. Islands N and W of the area protect the anchorage.

15.50 The Anik Islands (53°50'N., 79°18'W.), a group of four small islands, lie 2 miles W of the Loon Islands. Shoal water extends 0.5 mile offshore around the islands.

A radar reflector is situated on the S of the Anik Islands. The islands are radar conspicuous and make useful landmarks when approaching Narwhal Anchorage.

Several islands and underwater dangers obstruct the approach to the mouth of the Grande Rivière.

Peril Island (53°48'N., 79°18'W.), a small island only 0.9m high, lies 1 mile S of the Anik Islands.

Hiding Rock, with a depth of 2m, lies 3 miles SSE of Peril Island.

Wicked Reef, a rocky depth of 2.8m, lies about 4 miles SW of Peril Island.

Marker Island (53°48'N., 79°14'W.), a small island 12m high, lies 3 miles ESE of Peril Island. A private beacon on the summit marks the N side of a narrow channel leading into Fort George Anchorage. Mariners unfamiliar with the area should not attempt this channel which has numerous dangers along the S side of the passage.

Qairulik Reef (Seal Reef) (53°51'N., 79°18'W.) lies 1.5 miles NNW of the northernmost Anik Island. Several rocks awash, which generally break, mark the reef and are usually visible except in calm conditions at HW.

Narwhal Passage, the recommended track into Narwhal Anchorage, leads between Qairulik Reef and the Anik Islands. Depths in the channel range from 17.7 to 39.6m.

Turning Island (53°51'N., 79°13'W.), the N island in the Loon Islands, lies 2.5 miles NE of the Anik Islands. This small island, 2.4m high, marks a turn in the recommended track to

Narwhal Anchorage.

A tower equipped with a radar reflector is situated on Turning Island.

15.51 Double Island (53°50'N., 79°10'W.), 6.7m high, lies 0.8 mile NNE of the largest Loon Island. It forms part of the N side of Narwhal Anchorage. Shoal water, with a least depth of 2.6m, extends 0.7 mile ENE of the island.

The **Seal Islands** (53°50'N., 79°08'W.) lie 1 mile E of Double Island. Drying ledges extend a short distance E and W of these two small islands. The E island is 4m high.

Fort George Anchorage lies E of the largest Loon Island and S of the Seal Islands. Vessels supplying the community of Fort George use this anchorage, which is exposed to NW winds. During gales from that quarter, vessels seek the greater protection of Narwhal Anchorage.

East of Fort George Anchorage, shoal depths of less than 1.8m predominate. A draft of 3m can be carried across this extensive shoal delta into the Grande Rivière, with the assistance of a local pilot at HW.

Caution.—Strong currents prevail in this area, particularly with an outgoing tide. With NW winds, navigation in this vicinity can be hazardous.

Channels through the delta shift in direction and vary in depth during severe storms and with the alluvial deposits carried down by the river. Only small boats familiar with the area should attempt any passage through the delta.

15.52 Directions for Hudson Strait to Narwhal Anchorage.—After leaving Hudson Strait, a vessel should pass between Mansel Island and the mainland to the E, and when abeam of the light on Cape Acadia, the S end of Mansel Island, distant 15 miles, course should then be altered to the SW. This course should pass 16 miles NW of J. Gordon Island, the NW island of the Ottawa Islands. This course should be continued until House Island, the highest island near the S end of the Ottawa Islands is abeam, distance approximately 25 miles. From this position a S course of approximately 170° should be followed to reach a position 12 miles W of Pointe Louis XIV. This last course should pass about 10 miles W of the Belcher Islands.

From a position 12 miles abeam of the conspicuous radar domes on Pointe Louis XIV, a course of 180° should be steered to pass Bare Island at a distance of 5 miles. When Bare Island bears 045°, distant 7 miles, course should be altered to 150° to pass Grey Goose Island at a distance of 8 miles. Continue on this course for approximately 8 miles, then alter to 090° towards the Loon Islands. At a position 2 miles W of the N Anik Island, course should be altered to 064° to enter Narwhal Passage, passing 0.8 mile NW of the N of the Anik Islands. When Turning Island bears 155° at a distance of 0.8 mile, a heading of 090° should be followed for an approximate distance of 0.9 mile at which position this same island should bear 209° at a distance of 0.8 mile. Course should then be altered to 115° for 2.5 miles until the lighted range on Boat Island and Stromness Island bears 356°30' astern. From this position a course of 356°30' astern should be steered. After passing Double Island, course should be altered gradually to enter Narwhal Anchorage. The northernmost Anik Island, Turning Island, and Double Island are good radar targets.

Depths—Limitations.—Depths along the recommended track from Pointe Louis XIV to Bare Island, though of a reconnaissance nature, would pose no problems for even deep draft ships. Depths are irregular, but vary between 42.7m to over 91.4m. The recommended track S and SE of Bare Island to the Loon Islands vicinity indicates depths of over 30.5m. However, at a distance of 8.5 miles SSW of Bare Island, a depth of 9.1m was reported, and at a distance of 12 miles S of this same island, a shoal depth of 8.5m.

In the approaches to Narwhal Passage, depths of 30 to 41m exist. In Narwhal Passage, along the recommended track, soundings of 25 to 41m are to be found. The least depth on the entire track is 7.6m, located between Double Island and Seal Island.

Caution.—The following cautionary notes should be firmly adhered to when navigating in James Bay:

1. Care should be exercised in firmly fixing one's position.
2. Navigate by the use of established visual and radar landmarks. The radar domes on Pointe Louis XIV, as well as Bare Island and Grey Goose Island, can be used to good advantage.
3. The use of established and recommended tracks is very important.
4. Passage from Pointe Louis XIV to Narwhal or Fort George Anchorage should only be made in daylight, with visibility of at least 3 miles.
5. Assistance of other vessels in the area should be sought, if any doubt arises.
6. When anchored in the Fort George Anchorage, care should be exercised in the event of strong NW winds, at which time vessels should proceed to the sheltered Narwhal Anchorage. Winds in this region generally start from a S-SW direction, gradually veering around to the NW. September and October involve unpredictable weather conditions. Winds of 60 knots from the NW have been experienced in this area.
7. Vessels should be prepared to contend with strong currents in the Loon Islands area, setting to the N or S.

15.53 The Grande Rivière (53°50'N., 79°04'W.), one of the largest rivers flowing into James Bay, forms a large delta between its mouth and Fort George Anchorage. A depth of 3m can be carried up the river at HW for about 5 miles. The best channel lies close off the N side of the river. Silting and erosion is constantly changing the channels and depths in the river and delta. The river bottom is generally gravel or sand, but boulders may be encountered.

15.54 Fort George (Chisasibi) (53°48'N., 78°53'W.) is situated on the S shore of the river, about 3 miles upstream of Governor Island. The settlement of Fort George (Fort-George), on Île de Fort George 4 miles E of Governor Island, was virtually abandoned in 1981 because of concerns that changes in the currents in the La Grande Rivière due to the James Bay Hydroelectric Project would scour away Île de Fort George. Only a handful of families still live on the island. The Cree settlement of Chisasibi was established on the S shore of the river 8 miles upstream of Governor Island to house the displaced population of Fort George. A hotel provides accommodations and Air

Creebec offers flights daily, except Saturdays. Chisasibi is accessible by paved road from the James Bay Highway.

Wastikun Island is the most conspicuous landmark in the vicinity. When approaching Fort George, the island appears as a black crater formation from seaward.

Anchorage is available in the river, but the outgoing tidal current runs at rates of more than 3 knots.

Between Fort George and the Paint Hills Islands, the coast consists of numerous islands, reefs, shoals, small bays, and wooded points, with few conspicuous landmarks for navigation. The Walrus Islands is the only prominent offshore feature. Vessels navigating along the coast should use Spencer Island and Walter Island, the outer islands, for positioning.

Spencer Island (53°30'N., 79°42'W.), 23 miles SSE of Grey Goose Island, rises in terraces to a height of 33m. Numerous boulders lie scattered about the island. Shoal water extends NW of Spencer Island toward Grey Goose Island. Confirmed shoal sightings occur midway between Spencer Island and North Twin Island.

Caution.—A mariner without local knowledge is cautioned to make the passage between Pointe Louis-XIV and Fort George Anchorage only in daylight with good visibility of at least 3 miles.

15.55 North Twin Island (53°20'N., 80°00'W.), a sand and gravel island covered with moss and grass, is 56m high and lies 11 miles SW of Spencer Island. The N and W sides slope gradually upward, the S and E sides are bluff with a few trees standing out conspicuously. Shoal water extends NE toward Spencer Island for a distance of 5 miles.

Anchorage has been obtained 1.5 miles off the N end of North Twin Island, in a depth of 13m, mud, good holding ground.

Good anchorage has also been found close off the SE side of the island.

Walter Island (53°18'N., 79°40'W.), a prominent moss-covered island, 31m high, lies 9 miles E of North Twin Island. The bluffs forming all sides of this island stand out sharply. It is a good radar target. There are no trees on the island. Three drying rocks lie about midway between Walter Island and North Twin Island.

15.56 South Twin Island (53°06'N., 79°54'W.), 5.5 miles SSE of North Twin Island, rises gradually to a height of 42m. It is not a good radar target.

Caution.—A shoal, awash, was sighted by helicopter 11 miles ENE of South Twin Island. The position and extent of this shoal has not been determined and the area should be avoided.

Tees Bay (53°44'N., 79°03'W.), a shallow bay 5 miles S of the Grande Rivière, is fronted by Big Island and several smaller islands.

Walrus Point (53°42'N., 79°10'W.), the W point of an unnamed island lying close SW of Tees Bay, is 23m high.

Akwatuk Bay (53°40'N., 79°00'W.) is an irregularly-shaped bight lying between Walrus Point and Earthquake Island, 6.5 miles to the S.

Sea Horse Point (53°36'N., 79°04'W.), the N entrance point of Dead Duck Bay, lies 1 mile E of Earthquake Island. A chain

of small islands extends W from the S entrance point of the bay for a distance of 5 miles.

The **Rivière au Castor** (Beaver River) (53°24'N., 78°56'W.) flows into James Bay, 8.5 miles S of Dead Duck Bay. Several islands extend W from the N entrance point of the river.

Black Whale Island (53°21'N., 79°01'W.) lies 3 miles SSW of the mouth of the Rivière au Castor.

The **Comb Islands** (53°16'N., 79°00'W.) lie 3 miles S of Black Whale Island. This group of six islands extends W from the N entrance point of an unnamed bay.

Grimmington Bay (53°17'N., 78°54'W.) is located 3.5 miles SE of the Comb Islands. Black Island and Goose Island lie in a chain of islands extending W from the S entrance point of the small, shallow bay for a distance of 5.5 miles.

Pointe au Héron (Pointe au Huard) (53°01'N., 78°59'W.), about 31m high, lies 12 miles SSW of Grimmington Bay. A chain of islands extends NW from the point for a distance of 5 miles.

Paint Hills Bay (52°57'N., 78°55'W.) is entered between Pointe au Héron and Narrow Neck Point, 7 miles to the SSE. The settlement of **Paint Hills** (Nouveau-Comtoir) is located near the head of the bay. A privately-owned radiotelephone is operated at the Hudson's Bay Company store in the settlement.

The Paint Hills Islands and the Walrus Islands, two chains of large rocky islands, lie in the bay and the approaches. The islands are rusty in color, with heights of 31 to 61m.

Moar Bay (52°49'N., 78°47'W.) lies 3.5 miles SSE of Narrow Neck Point. The large bay branches into two arms which extend inland nearly 5 miles. Several rivers flow into the heads of the two arms.

The **Monkey Islands** (52°50'N., 78°50'W.), a group of small islands, lie in the middle of the entrance to Moar Bay. The largest island is about 31m high.

Sheppard Island (52°46'N., 78°52'W.), 31m high, is the largest in a chain of islands extending W from the S entrance point of Moar Bay.

15.57 Off-lying islands.—Several groups of islands lie offshore along this section of the coast.

Solomons Temple Island (52°49'N., 79°09'W.), 31m high, lies near the center of a group of islands located about 12 miles W of Moar Bay. Another smaller group of islands lie 2.5 miles to the N. The water in the vicinity of these islands appears to be shoal.

Pebble Island (52°45'N., 79°10'W.) lies 4 miles S of Solomons Temple Island. The high N side of the island rises to a height of 31m. A chain of islets and islands, 9 miles long, lies centered about 10 miles S of Pebble Island.

Weston Island (52°33'N., 79°36'W.), 18 miles SW of Pebble Island, is a low sand and gravel island covered with moss and grass. A sand bluff, about 31m high at the S end of the island, is conspicuous.

Sheltered anchorage, protected from N winds, is available S of Weston Island. Vessels anchor, in 34.7m, mud, 2 miles off the beach.

The **Cape Hope Islands** (52°26'N., 78°45'W.) lie 6 miles off the coast, 5 miles W of High Rock Island. One large island and several smaller ones comprise the group. The large island, 91m high, is very conspicuous in comparison to the mainland, which is only 31m high.

15.58 Several rivers flow into James Bay between Paint Hills Bay and the Eastmain River.

Black Stone Bay (52°40'N., 78°46'W.), 5 miles SSE of Sheppard Island, is encumbered with numerous rocks and islands.

Baie du Vieux Comptoir (Old Factory Bay) (52°37'N., 78°44'W.), 1.5 miles S of Black Stone Bay, is also heavily encumbered with islets and shoals. The Rivière du Vieux Comptoir flows into the head of the bay.

High Rock Island (52°26'N., 78°34'W.) and Split Island, 1.5 miles to the S, lie E of the Cape Hope Islands. Both of these small islands, 31m high, are connected to the mainland at LW.

The **Eastmain River** (52°15'N., 78°34'W.) flows into James Bay about 11 miles S of High Rock Island. Numerous shoals and rocky islands obstruct the entrance to this shallow river, and the approach is difficult even for small craft.

Gull Island (52°18'N., 79°02'W.) lies 16 miles WNW of the mouth of the Eastmain River. Five islets extend NW for 5 miles from the small irregularly shaped island.

The **Flock Geese Islands** (52°14'N., 78°48'W.), a group of islets, lie 8 miles W of the mouth of the Eastmain River. A rocky depth of less than 1.8m is located close N of the islets.

The **Inner Flock Geese Islands** (52°09'N., 78°48'W.), islets and sunken rocks, lie 5 miles S of the Flock Geese Islands.

15.59 The settlement of **Eastmain** (52°15'N., 78°30'W.) is situated on the S shore of the river, 2 miles inside the entrance.

Ice.—Freeze-up occurs about November 20; breakup occurs about May 15.

Tides—Currents.—Tidal currents at the settlement are reported to attain velocities of up to 5 knots.

Depths—Limitations.—The approach and mouth of the shallow river are obstructed by numerous shoals and rocky islets. There are depths of 1.8m or less in the estuary. However, a draft of 2.4m can be carried to the settlement and for 6 miles from the entrance at extreme HW. Rapids, 12 miles upstream from the settlement, prevent farther navigation.

Anchorage.—The recommended anchorage is midway between the Inner Flock Geese Islands and an unnamed island, 4.2 miles to the W. Vessels anchor, in 12m, clay and sand, good holding ground, with good protection from most winds. The anchorage is 15 miles from the settlement, but a vessel can approach closer by proceeding on a course of 072° to the river entrance. Shoaling occurs gradually to depths of 1.8m in the estuary.

Directions—Fort George to Paint Hills Bay.—The same track should be used as described previously for entering this area by proceeding W to a position 4 miles W of the Anik Islands, at which position course should be altered to 180°. This course should be followed for approximately 56 miles. Landmarks along this part of the E coast of James Bay tend to blend into the background and are very difficult to distinguish. However, a group of small islands lie 2 miles WNW of Earth-quake Island, which provide a conspicuous radar target and are prominent to the naked eye as well.

This track passes 10 miles E of Spencer Island and 9 miles E of Walter Island, and both of these islands provide very good radar targets. An area of shoal water lies close W of this track, about 9.5 miles SE of Walter Island. This reef breaks in all but calm sea conditions and can easily be detected. South Twin Is-

land, lying 10 miles SW of Walter Island, does not provide a good radar target for an accurate plot on this track. However, Walrus Island in the approaches to Paint Hills Bay is a conspicuous landmark over 61m high.

When Walrus Island is abeam, distant 14 miles, alter course to 090°. This course should pass 1.5 miles N of the NW island in the Solomons Temple Islands. On nearing the Walrus Islands, a small bald rock islet with two white slashes will be observed close W of the Walrus Islands. This islet should be passed on its S side at a distance of 1.2 miles. From this position to the anchorage, local knowledge is essential.

A local pilot is available to take vessels with an 2.4m draft from the anchorage to the settlement of Nouveau-Comptoir.

As the recommended tracks are of a reconnaissance nature, vessels are advised to use extreme caution. Strong or prolonged S winds can reduce the water level in the S part of James Bay below chart datum.

Directions—Paint Hills Bay to the Eastmain River.—Vessels proceeding from Paint Hills Bay to Eastmain should follow a course of 270° for 14 miles from Walrus Island to rejoin the main N-S track. At this position course should be altered to 180° for 29 miles. This course will pass 5 miles W of the farthest W island of the Solomons Temple Islands, and 8 miles W of Pebble Island. Both of these islands are identifiable. Weston Island, 18 miles SW of Pebble Island, provides a good radar target at its S end and this course passes 5 miles E of this island.

Course should then be altered to 090° for 13 miles, heading on the S side of the Cape Hope Islands, which are conspicuous. A shoal lies about 1 mile N of this track, having a depth of 5.8m, and a small conspicuous rock-strewn island is located about 3 miles S of the above-described shoal. Alter course to 136° to a position 4 miles E of Gull Island, with the island bearing 270°. At this position, a course of 180° should be followed for 8 miles to the anchorage close NW of the Inner Flock Geese Islands. The anchorage has a depth of 12m, clay and sand, with good holding ground and protection from most winds. This anchorage lies 15 miles from the settlement of Eastmain and vessels can proceed cautiously on a course of 072° until shoaling prevents further advance. At the estuary of the river there are depths of 1.8m or less. For shallow draft vessels, a local pilot is available to reach the settlement inside the river mouth.

Caution.—It should be emphasized that these recommended tracks are of a reconnaissance nature and every precaution should be observed when following them.

15.60 The **Strutton Islands** (52°06'N., 79°00'W.) lie 11 miles S of Gull Island. The E island, the highest of these two wooded islands, is 61m high.

Charlton Island (52°00'N., 79°25'W.), a wooded island, 31m high, lies 6 miles WSW of the Strutton Islands. It is the largest island in the area, but is reported to be a poor radar target.

Wolf Islet (Wolf Shoal), 2 miles NE of Charlton Island, dries 4m.

Trodely Island (52°15'N., 79°25'W.), a wooded island 9 miles N of Charlton Island, has a central elevation of 61m. A drying reef extends off the NE side of the island. The area in the vicinity of the island has not been surveyed and unknown

dangers may exist.

The Tidors Islands, a group of three small islands, lie about 3 miles NW of Trodely Island.

Carey Island and Danby Island, two small islands off the E side of Charlton Island, form a protected anchorage between the islands and Charlton Island.

Lisbon Rocks (51°51'N., 79°49'W.) is a large area of foul shoal water 7 miles SW of Charlton Island. A single above-water rock, 11m high, lies at the NW end of this area of sunken rocks. Breaking water exists for some distance SE of the above-water rock, which is a good visual and radar target. The passage between Lisbon Rocks and Charlton Island appears to be shoal and should be avoided.

Between the entrance to the Eastmain River and Snape Point, 32 miles to the SW, the low, marshy coast is generally less than 31m high with no distinguishing landmarks. Several small islands and islets lie off this section of the coast, which has not been surveyed.

15.61 The Sheep River (52°06'N., 78°35'W.) flows into James Bay 8 miles SW of the Eastmain River.

The **Jack River** (52°03'N., 78°42'W.) flows into James Bay, 14 miles SW of the Eastmain River. Several small islets lie off the entrance; an unnamed island is located 5 miles W of Loon Point, the N entrance point to the river.

Boatswain Bay (51°50'N., 78°50'W.), a large bight fringed with drying flats, lies 9 miles SW of the Jack River. Caroline Island, 24m high, is the outermost of a group of islands extending 5 miles W from the N entrance point to the bay.

Snape Point (51°46'N., 79°02'W.), a low point 20 miles SW of Loon Point, forms the E entrance point to Boatswain Bay. Sherrick Hill, 166m high and conspicuous, rises close E of the point.

15.62 Rupert Bay (51°35'N., 79°00'W.), entered between Snape Point and Pointe Sawayan, 12 miles to the SW, is a large bay extending inland for 25 miles in a SSE direction. Several islands lie in the entrance and four rivers flow into the bay. The settlement of Fort Rupert is situated on the SE shore of the bay.

Tent Island (51°49'N., 79°05'W.), 27m high, lies 3 miles NW of Snape Point. Shoal water, with a least depth of 0.6m, extends 2 miles N of the island and a drying, rocky spit extends W for 2 miles from the SW end of the island.

Jacob Island (51°46'N., 79°14'W.), 3.5 miles SW of Tent Island, is the largest island in the entrance. It has an elevation of 37m to treetop level. Shoal water extends about 1.5 miles S from the S side of the island. The island is reported to give a poor radar response.

The three channels leading into Rupert Bay are Chrissie Thomey Passage, Emelia Passage, and Inenew Passage.

15.63 Chrissie Thomey Passage (51°48'N., 79°04'W.) leads between Tent Island and the mainland. Perkins Rock, Maloney Island, and Fredericks Island lie on the E side of the passage, about 2 miles NW of Snape Point. The least depth in the passage, 4.3m, lies at the N end of the channel.

Emelia Passage (51°47'N., 79°09'W.), the recommended passage, leads between Tent Island and Jacob Island. The least depth of 4m lies at the S end of the passage.

Inenew Passage (51°42'N., 79°16'W.) leads between Pointe

Sawayan on the mainland and Jacob Island. The channel becomes very narrow 10 miles inside the entrance and is not recommended.

Boat Passage (51°42'N., 79°00'W.) continues S from Chrissie Thomey Passage for a distance of 8 miles. A number of small islets and rocks lie on the E side of the passage, close off the E shore of Rupert Bay.

Several islands lie on the long narrow shoal that separates Boat Passage and Emelia Passage.

Dixon Island (51°46'N., 79°06'W.), 26m high, with a bare summit, lies at the N end of the shoal area.

Stag Island (51°40'N., 79°04'W.), reported to be a good radar target, is located 7 miles S of Dixon island at the S end of the shoal. A prominent rock is conspicuous on the NE side of the island. Dufourmentel Rocks, about 1 mile NE of Stag Island, are only 2m high.

15.64 Moss Island (51°45'N., 79°06'W.), 1 mile S of Dixon Island, is 35m high. McNab Rocks extend 1 mile NE and Gushue Island lies close SW of Moss Island.

Stag Rock (51°35'N., 78°57'W.), 6 miles SE of Stag Island and reported to be a good radar target, has an elevation of 34m to the tops of the trees.

The Rivière Opamwastic flows into Rupert Bay 10 miles SE of Snape Point; 3 miles farther SE, the Pontax River flows into the bay through the Jolly Islands, which lie in the mouth of the river.

The mouth of **Riviere Rupert** (51°29'N., 78°45'W.), 5 miles S of the Pontax River, enters the bay 2 miles SE of Poplar Point.

The settlement of **Waskaganish** (Fort Rupert) (51°29'N., 78°48'W.) is near the head of Rupert Bay on the S bank of the mouth of the Riviere Rupert.

Freeze-up usually occurs early in November breakup occurs during the latter part of May.

Depths in the approaches to the Rupert River vary from 0.9m to 1.8m, but in the river they range from 2.4m to 6.1m.

From Pointe Sawayan, the SW entrance point to Rupert Bay, to East Point, 22 miles to the SW, the coast continues as a low, marshy shoreline with drying flats extending seaward for over 1 mile.

Chiyask Bay (Gull Bay) (51°29'N., 79°31'W.) is entered between Pointe Mesaconane and Gull Point, 6 miles to the SSW. The boundary between the provinces of Ontario and Quebec is located midway along the S shore of this shallow bay.

15.65 James Bay—West side.—The W side of James Bay is generally low and swampy, but unlike the E shore, the coastline has a smooth appearance, with very few off-lying islands.

Iskoyaskweyau Point (East Point) (51°24'N., 79°41'W.) is the E entrance point to Hannah Bay. From Iskoyaskweyau Point the coast continues S for about 15 miles to the head of Hannah Bay, which is also the head of James Bay, then the shore swings NW for 32 miles to North Point.

Hannah Bay (51°15'N., 79°50'W.) is entered between Iskoyaskweyau Point and Natatishee (Natabisha) Point, 18 miles to the WSW. Drying flats fringe the shoreline, but little is known concerning the depths in the bay. Several rivers flow into Hannah Bay.

Arnold Point (51°20'N., 80°23'W.), the S entrance point of

the Moose River, lies 10.5 miles WNW of Netitishi Point. It is a low point somewhat higher than the surrounding country. This point is the first definable target to be noted on radar when approaching the Moose River.

15.66 The Moose River (51°20'N., 80°25'W.) shares a common estuary with the Abitibi River and the North French River. The entrance is about 1.5 miles wide between Arnold Point and the Ship Sands Islands. Extensive drying flats lie off both entrance points.

North Point, located about 7 miles N of the mouth of the Moose River, is the first identifiable radar target when approaching from the N. A racon is situated on the point.

Ship Sands (51°24'N., 80°23'W.) are the drying mud flats extending NE of Ship Sands Island.

East Bar (51°22'N., 80°20'W.) is a similar drying flat with large boulders projecting NE of Arnold Point.

Sand Head and Nielson Bar, two smaller drying flats, lie close off Ship Sands and East Bar.

Le Moyne Passage (51°24'N., 80°20'W.), the recommended buoyed passage for vessels proceeding to Moosonee, leads between Sand Head and Nielson Bar. Depths of 1.8 to 3m are located in mid-channel. Water in the passage is relatively calm in N winds, but heavy breakers occur in the shoal water close S.

The entrance to Le Moyne Passage is marked by a lighted buoy. The channel SE and S of Ship Sands Island is marked by buoys.

Duncan Passage (51°25'N., 80°21'W.), the shallow passage between Sand Head and Ship Sands, has a least depth of only 0.3m.

Close S of the SW end of Ship Sands Island, a chain of islands and drying flats divides the Moose River into North Channel and South Channel.

South Channel, entered E of the Horseshoe Islands, leads to Moose Factory. It can only be navigated by canoes, as Horseshoe Shoals have only 0.3m of water over them.

North Channel, the main channel leading to Moosonee, has mid-channel depths of 1.2 to 4.6m and is buoyed. These buoys are moved, when necessary, to mark the best channel.

15.67 Moosonee (51°17'N., 80°37'W.) settlement is situated 7 miles upstream from Ship Sands Island, on the N side of the North Channel. A vessel drawing 2.4m can reach Moosonee at HW. At the settlement there are hotels, restaurants, a post office, and a telegraph office. A detachment of the Ontario Provincial Police is stationed here.

Moosonee is the N terminus of the Ontario Northland Railway, which is connected with the two main major railways at Cochrane and North Bay, Ontario.

Ice.—Freeze-up generally occurs in early November and breakup in the river is usually complete by mid-May. Pack ice may linger in the vicinity off Sand Head. The normal navigation season is from about 20 June to mid-October.

Depths—Limitations.—A floating wharf is set up at Moosonee during the navigation season. The wharf consists of a ramp extending to a moored barge. Barges, 52m long, drawing 1.8m, can berth at this wharf near the end of the railway spur line.

Aspect.—An illuminated cross is shown on the spire of a church; a prominent water tower is situated 0.2 mile NW of the

church.

Microwave and radio towers, fitted with red air obstruction lights and situated near Moosonee, are conspicuous.

A light is shown on the narrowest part of Charles Island, about 0.8 mile S of Moosonee.

Anchorage.—Anchorage is available 0.9 mile ENE of the birdwatching tower on Ship Sand Island, in 4.3m, mud and sand, good holding ground. Vessels may also anchor about 8 miles E of North Point, in 7.3m, good holding ground.

A seaplane anchorage, marked by buoys, lies off Butler Island.

Moose Factory (51°15'N., 80°36'W.) is a First Nations Reserve on the island of the same name. Travelers must take the local ferry in summer or the local taxi in winter to get to the mainland airport or train station.

15.68 Bear Island (54°21'N., 81°06'W.) is located in the N central part of James Bay, 50 miles WSW of Pointe Louis XIV. Several smaller islands lie in the same area. Bear Island is 3 miles long, 1 mile wide, and 19m high. The island is bare of vegetation and appears black.

A disused airstrip is situated near the W central part of the island. There are no buildings on the island. The former military installation no longer exists.

Several dangers lie off the SE, SW, and S sides of Bear Island.

Sheldrake Shoal (54°20'N., 81°04'W.), with a depth of 1.2m, lies 1.25 miles E of the SE end of Bear Island.

Two Cubs Islands (54°20'N., 81°08'W.) lie 0.6 mile W of the SW end of Bear Island. The highest island has an elevation of 11m.

South Bear Island (54°17'N., 81°06'W.), a small rocky island 9m high, lies 2 miles S of Bear Island. Shoal water extends 0.8 mile NE from it.

North Bear Island (54°28'N., 81°02'W.), 5.75 miles NNE of Bear Island, is 20m high.

Sunday Island (54°18'N., 80°40'W.), a rocky limestone island, lies 15 miles E of Bear Island. The gradually sloping island is 17m high with numerous boulders scattered about. It is not a good radar target.

An unexamined shoal area lies 8 miles E of Sunday Island.

Gasket Rock, with a depth of less than 1.8m, is located 20 miles SW of the S end of Bear Island.

Directions.—Vessels bound for Moosonee, when entering James Bay, should make for a position approximately 3 miles E of Bear Island. A course of 158° should then be steered to pass about 5 miles W of North Twin Island and South Twin Island to a position 4.5 miles SW of Weston Island, which can be seen on radar at a distance of 11 miles on this course. From this point course should be altered to 200°. On this course, Trodely Island and the farthest W of the Lisbon Rocks provide good visual and radar targets, but Charlton Island should be used with caution.

When approaching the estuary of the Moose River, the land adjacent to the river is flat and inconspicuous from seaward. North Point is the first landmark to be picked up on radar at about 9 miles off. Good visual bearings cannot be observed until 4 miles off the fairway buoy. Anchorage outside the fairway buoy is afforded, in 7.3 to 9.1m, mud; the holding ground is reported to be good.

Caution.—Mariners are cautioned that many of the islands lying close to the recommended track have low-lying extremities, and that care should be exercised when observing and plotting visual bearings of the islands.

15.69 From the Moose River to the Albany River, 65 miles to the NW, the low, flat coast is fringed with drying flats and shoal water. There are no prominent features, but several rivers flow into James Bay along this stretch of the shoreline.

The **Albany River** (52°16'N., 81°28'W.) is about 7 miles wide at the entrance and is divided into several channels by the numerous islands and flats which encumber the mouth of the river. Albany Island is the largest. It divides the river into North Channel and South Channel.

Fort Albany (52°14'N., 81°36'W.) is situated on the SW shore of Albany Island. The settlement consists of a Hudson's Bay Company Store, a nursing station, and Roman Catholic and Anglican missions.

At HW, there are depths of 2.4m on the bars at the mouth of the river. This depth can be carried upriver for a distance of 7 miles.

Drying flats extend up to 4 miles offshore from the E side of Albany Island and along the shoreline SE of the entrance to South Channel. Depths of less than 5.5m extend seaward up to 8 miles off the mouth of the river.

South Channel, the recommended passage on the S side of Albany Island, is buoyed. The buoys are not maintained throughout the navigation season. They are subject to change in position and characteristic and are not to be relied upon. Local knowledge is required in navigating this channel.

A lighted buoy, privately maintained, is moored 6 miles E of the entrance to South Channel. There are beacon towers marking a shoal on the N side. These should be left to starboard.

The Albany River should be approached only from the E or SE. Shoals obstruct the N approach.

15.70 Akimiski Island (53°00'N., 81°18'W.), the largest island in James Bay, lies 32 miles N of the mouth of the Albany River. It is 54 miles long and about 20 miles wide, with its highest part, 31m, along its S side. The island is swampy and partly wooded; it is not a good radar target.

Cape Duncan, a low flat point, forms the SE extremity of Akimiski Island. Shoal water extends S and SW of Cape Duncan for about 8 miles. This area has not been fully examined; other undetected dangers may exist. Apparently shoals and shoal water extend from all sides of the island.

Gasket Island (52°25'N., 80°15'W.), a small sandy island, 6m high, lies 22 miles SE of Cape Duncan. Shoals appear to extend at least 3 miles in all directions around the island. The sea breaks on the NE part of the shoal.

Albert Shoal (52°56'N., 80°25'W.), 10 miles long, with an islet at its E end, lies 18 miles NE of Cap Duncan.

Another shoal, extent unknown, is located 13 miles N of Houston Point, the NE point of Akimiski Island.

15.71 Between the Albany River and the Attawapiskat River, 47 miles to the NW, the regular shoreline is fronted by a tidal flat for its entire length. Several rivers and streams flow into James Bay along this stretch of the coast.

The **Attawapiskat River** (52°56'N., 82°16'W.) flows through a large delta of grassy islands. The N channel is the deepest; a draft of 2.1m can be carried to the settlement of Attawapiskat, about 7 miles upstream.

Attawapiskat (52°55'N., 82°26'W.) is a settlement comprised of a Hudson's Bay Company store and Anglican and Roman Catholic missions. The Roman Catholic Church is conspicuous.

During the navigation season, the buoys and beacons marking the channel are maintained by the Moosonee Transportation, Limited. The channel is suitable only for vessels of 150 tons or less and should be attempted only by mariners familiar with the area.

15.72 Akimiski Strait (53°08'N., 82°09'W.), between Akimiski Island and the mainland, is heavily encumbered by shoals and flats. The reported maximum depth in the strait is 3.7m, but the strait has not been examined and is reported to be unnavigable.

From the Attawapiskat River to Cape Henrietta Maria, 136 miles to the N, the coast is generally similar to that to the S, except for several wide shallow bights. The rivers flowing into James Bay along this stretch of coast are generally too shallow for navigation.

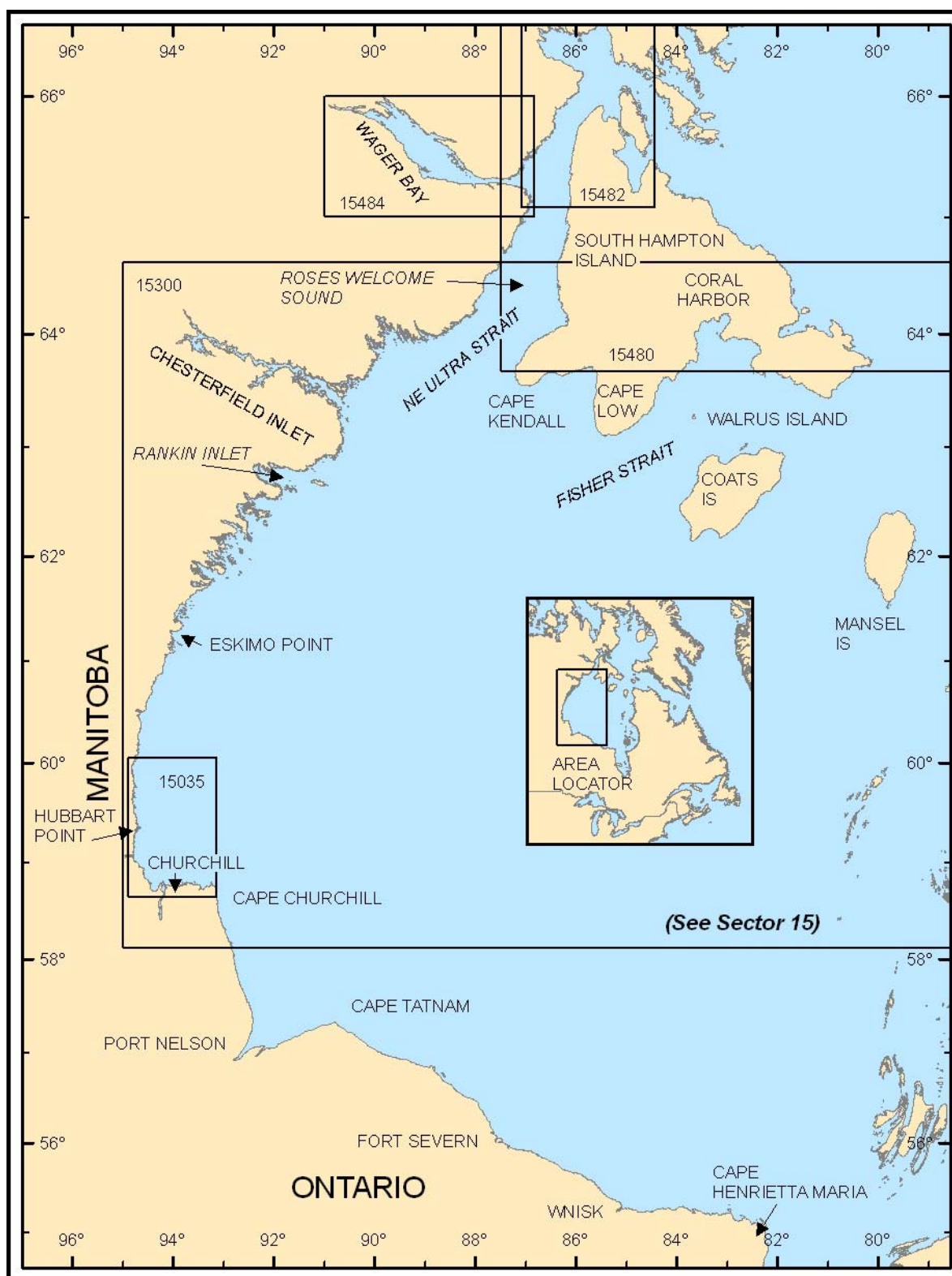
Ekwan Point (53°17'N., 82°06'W.), 19 miles NNE of the mouth of the Attawapiskat River, is a low point fronted by tidal flats. It marks an abrupt change in the direction of the coast from NE to NNW.

Hook Point (54°53'N., 82°12'W.), 100 miles N of Ekwan Point and 17 miles SSE of Cape Henrietta Maria, is a low swampy point. It forms the E entrance point of a small bight. Shoal water extends about 7 miles E and 15 miles S from Hook Point.

Some of the larger of the several rivers flowing into the bay along this part of the coast are the Likitusaki River, the Opinagau River, the Patchepawapoka River, and Nowashe Creek.

A dome, about 7 miles SW of Hook Point, is conspicuous.

Cape Henrietta Maria (55°10'N., 82°21'W.), 17 miles NNW of Hook Point, is a narrow peninsula about 5m high. The low point of disintegrated limestone projects N from the mainland for about 6 miles.



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

SECTOR 16 — CHART INFORMATION

SECTOR 16

HUDSON BAY—NORTH AND WEST SIDES

Plan.—This sector describes the N and W sides of Hudson Bay. The descriptive sequence extends W from Mansel Island, N through Roes Welcome Sound, S to Port Nelson, and then SE to Cape Henrietta Maria.

General Remarks

16.1 Hudson Bay is a very large inland sea which penetrates deeply into the NE part of the North American continent. It is almost completely landlocked, but is joined to the Atlantic Ocean on its E side by Hudson Strait and to the Arctic Ocean on its N side by Fox Channel, Fury Strait, and Hecla Strait.

For descriptive purposes of this sector, the N boundary of Hudson Bay may be considered to extend from Pointe Nuvuk, the NW extremity of the Ungava Peninsula, to Leyson Point, the SE extremity of Southampton Island. The boundary then follows along the S shore of this island to Cape Kendall and across the S entrance to Ne Ultra Strait, to Cape Fullerton, and then S to Port Nelson and SE to Cape Henrietta Maria.

The main body of Hudson Bay is quite open, but Southampton Island borders on its N side. In the NE part of the bay lie Mansel Island and Coats Island; numerous islands lie along the E side of the bay, but the W side is almost devoid of islands except for a few in its NW part.

With the exception of its E side, Hudson Bay is remarkably free from rocks and shoals, and has an average depth of 128m.

Churchill Harbor, in the SW part of Hudson Bay, is Canada's northernmost port of major commercial importance.

Winds—Weather.—In Hudson Bay, winds from between N and W are the most common, and in addition during the summer months, S and E winds are frequently encountered. The average frequency of gales at coastal stations around Hudson Bay is 1 or 2 days per month, but over the open sea the frequency increases.

The amount of precipitation decreases from nearly 800mm at the S end of the Hudson Bay to less than 200mm in the N part. The greatest falls occur from June to September.

Fog is most frequent in late spring and in summer, especially from July to September. The frequency tends to increase to the N. The average monthly frequency of fog in summer is 3 to 4 days at Moosonee in the extreme S, increasing to 9 days at Nottingham Island, and 14 days in August at Cape Hopes Advance; in the NW part of Hudson Bay, however, it is less. Chesterfield Inlet reports an average of 4 days per month in summer.

Visibility is usually very good with winds from between W and N, provided there is no precipitation or blowing snow, but is less often very good with winds from the SW. Southeast winds are likely to bring mist or fog.

The general range of temperature over Hudson Bay ranges from -9 to 0°C in the N part during the winter. The summer temperature ranges from 22°C in the S to about 10°C in the N.

Ice.—Foxe Channel ice seldom, if ever, enters Hudson Bay, and the ice found in the bay is for the most part winter ice, formed locally. The bay never freezes over, but ice begins to

form within the smaller bays and along the shores early in October and attains a thickness of 1 to 1.5m extending off the E shore in mid-winter for a distance of 60 or 70 miles to include the islands, and off the other shores of the bay for a distance of 4 to 5 miles. Winter gales sometimes break up the shore ice and raft it to a thickness of 7 or 8m. The shore ice is generally disintegrated by the end of June, but the rafted ice remains until the end of July in the S part of the bay. However, this ice is usually S of the navigational route to Churchill, and in any event, can be avoided by holding a N course.

Within Hudson Bay, pack ice opens from the W, moving in a general SE direction at an average estimated rate of about 8 miles per day. The central part of the bay does become ice-covered.

Unfavorable ice conditions between Mansel Island and Coats Island have on occasion resulted in the passage from Nottingham Island to Churchill Harbor by this route being made with great difficulty, while vessels passing E of Mansel Island experienced no difficulty.

Early arrivals at Hudson Bay should refer to the description of ice conditions off Carys Swan Nest Point on Coats Island.

In Canadian waters, the Canadian Coast Guard publication *Ice Navigation in Canadian Waters* should be consulted. The publication can be viewed at the following web site:

Ice Navigation in Canadian Waters

http://www.ccg-gcc.gc.ca/ice-gla/pdf/IceNav_e.PDF

Tides—Currents.—At Churchill, where long periods of tidal records have been obtained and which form the basis of the Canadian tide tables for the harbor, the tidal character is that of the open water type of tide in which the effect of the moon's distance is relatively strong, as in the Hudson Strait. This feature and the range of tide, 4.7m at springs, are about the same as at Nottingham Island. In the W entrance of Hudson Strait, but in between and to the N, there are likely variations. At the S end of Coats Island, there is a tide of 1.8m reported. At Tavani, about 200 miles N of Churchill, spring tides were determined as 3.6m, and neap tides approximately 1.8m. At Port Nelson, in the Nelson River estuary, spring and neap rise are 4.4m and 3.3m, respectively. On the E side of the bay, tides of about 0.9m are found at Port Harrison, but at the Digges Islands at the W entrance of Hudson Strait, the rise is 3.5m at springs.

The tidal undulation progresses S along the W side of Hudson Bay, and aside from tidal currents, the general circulation of water in Hudson Bay is S on the W side of the bay and N on the E side. The influx of water into the bay from Foxe Channel has a dominant SW set. A strong N set has been experienced in the SW approach to Fisher Strait. A dominant N set is apparently confined close to shore on nearing Hudson Strait, and a predominantly S set is reported along the E side of Mansel Island. In Digges Sound the N tidal current is stronger and of much longer duration than the S flood current.

Currents along the E side of Mansel Island are reported to have a dominant S set.

Depths—Limitations.—The depths in the channels between the island on the N side of Hudson Bay are deep and clear, with all known dangers lying in close proximity to the shores. The depths in Roes Welcome Sound are included in the principal description of that feature, beginning in paragraph 16.11.

Regulations.—See paragraph 13.6 for information regarding the Arctic Canada Traffic System (NORDREG CANADA). Mariners should be aware of the advantages of reporting to this system which is a required by certain vessels for Vessel Traffic Service covering the waters N of 60°N and all of Ungava Bay, Hudson Strait, and Hudson Bay.

Caution.—The National Research Council Rocket Area is located within Hudson Bay. Depending on individual rocket characteristics, the rocket trajectory may cross at an altitude up to a maximum of about 115 miles during a period not exceeding 30 minutes from the time of launch. It is planned that most of the rockets will impact within Area A. Radar and other surveillance procedures will be in use over the area during range operations. No rocket will be launched if it is known that a ship or aircraft is likely to be endangered. Further information can be obtained through Thunder Bay Marine Communications and Traffic Services Center.

The four sub-areas are, as follows:

1. **Area A**—An area bound by lines joining the following positions:

- a. 58°56.0'N, 94°00.0'W.
- b. 57°18.0'N, 94°00.0'W.
- c. 57°20.0'N, 91°08.0'W.
- d. 57°04.0'N, 90°00.0'W.
- e. 57°46.5'N, 90°00.0'W.

2. **Area B**—An area bound by lines joining the following positions:

- a. 59°46.5'N, 90°00.0'W.
- b. 59°04.0'N, 90°00.0'W.
- c. 55°46.5'N, 82°30.0'W.
- d. 55°46.5'N, 82°00.0'W.
- e. 61°46.5'N, 82°00.0'W.

3. **Area C**—An area bound by lines joining the following positions:

- a. 55°28.0'N, 82°00.0'W.
- b. 58°55.0'N, 78°28.0'W.
- c. 63°15.0'N, 78°28.0'W.
- d. 63°15.0'N, 82°00.0'W.
- e. 60°21.0'N, 94°00.0'W.
- f. 58°56.0'N, 94°00.0'W.
- g. 59°46.5'N, 90°00.0'W.
- h. 61°27.0'N, 82°00.0'W.

4. **Area D**—An area bound by lines joining the following positions:

- a. 63°15.0'N, 83°00.0'W.
- b. 63°15.0'N, 90°00.0'W.
- c. 60°21.0'N, 94°00.0'W.

Islands on the North Side of Hudson Bay

16.2 Mansel Island, Coats Island, and Southampton Island lie across the N end of Hudson Bay. Of these, Southampton Is-

land is the northernmost and by far the largest; its W coast forms the E side of Roes Welcome Sound.

The above three islands divide the sea area between the NW end of the Ungava Peninsula and the mainland coast to the NW into four channels. The E of these channels, between Mansel Island and Pointe Nuvuk on the Ungava Peninsula, has a least width of about 30 miles.

The channel between Mansel Island and Coats Island, which is preferred by vessels proceeding to and from Churchill Harbor, has a least width of 58 miles.

The channel between Coats Island and Southampton Island is made up of Evans Strait and Fisher Strait. The former, with a least width of about 37 miles, lies between the N end of Coats Island and the Bell Peninsula, the SE part of Southampton Island. Fisher Strait, with a least width of about 40 miles, lies between the NW side of Coats Island and the SW part of Southampton Island.

The channel between the W side of Southampton Island and the mainland, made up of Ne Ultra Strait and Roes Welcome Sound, is about 35 miles wide at its S end and about 10 miles wide at its N end.

Mansel Island (62°00'N., 79°48'W.) lies 35 miles offshore between Nuvuk Point and Kovik Bay and is 54 miles long and 26 miles wide. It is composed of limestone and gravel ridges, and rises to a height of 107m.

Caution.—A magnetic disturbance exists N of Mansel Island.

16.3 Swaffield Harbor (62°23'N., 79°42'W.), a small cove, lies on the N side of the island.

Cape Acadia, the S extremity of Mansel Island, is low and swampy, with shoals and above and below-water rocks extending a little over 0.5 mile S from it. The same shoal extends about 20 miles NW along the SW side of the island. A light, fitted with a radar reflector, is situated on Cape Acadia.

A light tower, fitted with a racon, stands on the N extremity of Mansel Island, about 4 miles NE of Swaffield Harbor.

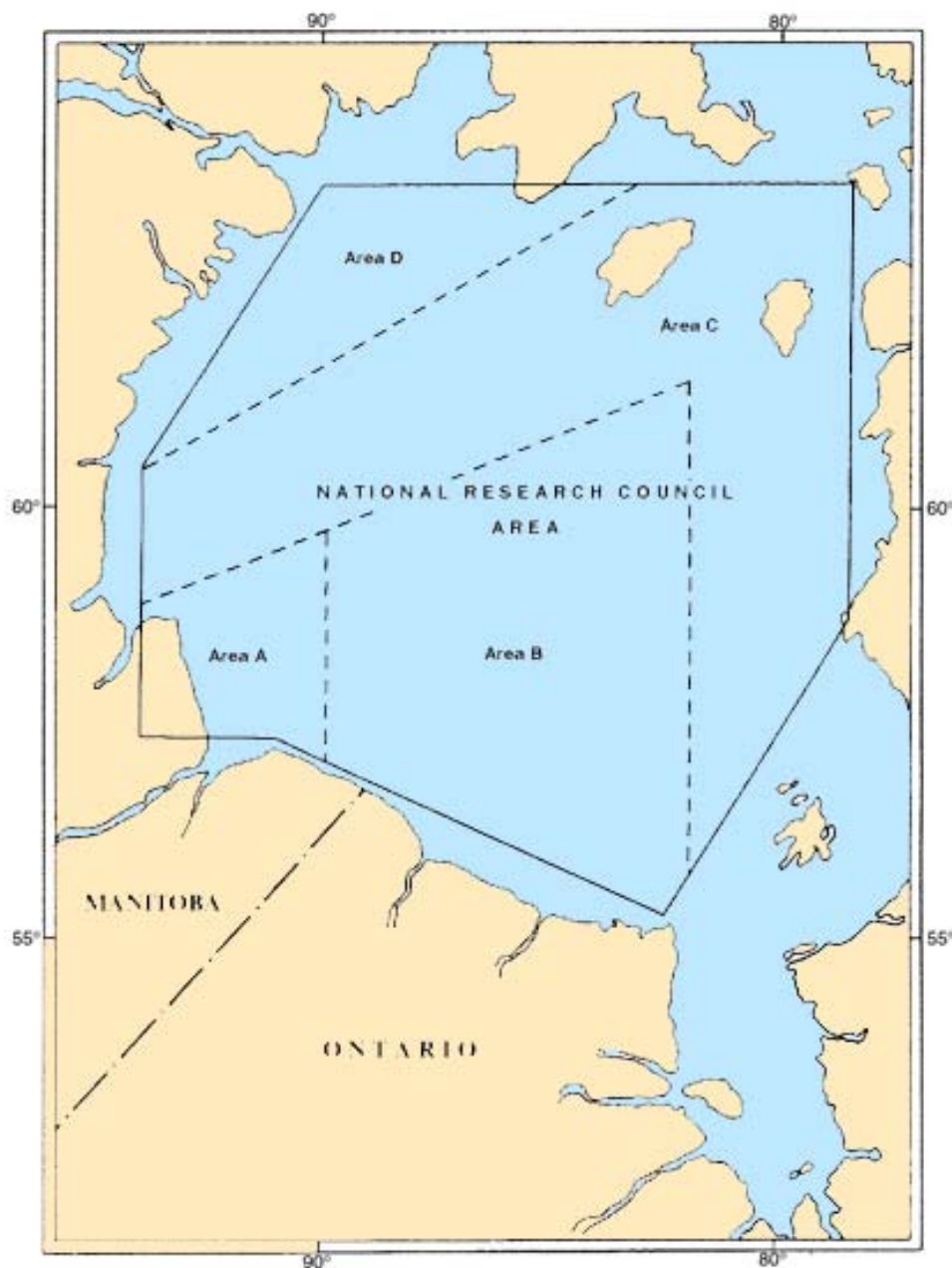
Anchorage.—Anchorage can be taken, in a depth of 38.4m, off the N end of the island, with the light at the N extremity bearing 252° and E point of the island bearing 144°. Southwest gales have been ridden out at this anchorage where the holding ground is good with very little undertow.

During NE gales, sheltered anchorage can be taken NW of Cape Acadia, in a depth of 54.9m. During NW gales, sheltered anchorage can be taken, in a depth of 27.4m, about 1.5 miles E of the cape.

The masts and funnel of a wreck, about midway along the W coast of Mansel Island, were reported to be radar conspicuous from 10 miles to the SW.

Coats Island, which lies about 57 miles NW of Mansel Island, is described in paragraph 16.5, with the principal description of the S coast of Southampton Island.

16.4 Southampton Island (64°20'N., 84°20'W.) has its SE end separated from the N end of Coats Island by Evans Strait. It is roughly triangular in shape, about 170 miles long in its W part, and about 190 miles wide. To the NE, the island is bounded by Foxe Channel and Frozen Strait, to the W by Roes Welcome Sound, and to the S by Evans Strait and Fisher Strait. Although the island lies close S of the Arctic Circle, by all oth-



Hudson Bay National Research Council Rocket Area

er standards it is wholly arctic in character and is surrounded by sea ice for about 8 months of the year. During the summer, the cold seas on its coasts cause low clouds and fog, and keep the mean summer temperatures around 7°C.

In general, the NE coast of the island is steep and rugged, with deep water close offshore. The S and W parts of the island are low-lying terrain which shelves gradually to the sea and forms one of the flattest and most monotonous landscapes in the Canadian Arctic. Dangerous banks extend far out to sea from these limestone shores and broad tidal flats are exposed at

LW.

The E extremity of Southampton Island lies in the W approaches to Hudson Strait, a shipping route that has been used continuously since the middle of the 17th century.

The S coast of Southampton Island extends from **Seahorse Point** (63°47'N., 80°10'W.) to the E, to Cape Kendall, its SW point, about 190 miles to the W. This coast is mostly low and extends inland through marshy tracts in some places, especially in its W part. Some plateaus rise to elevations of 183 to 244m in some areas and are clearly defined. The N side of the

Bell Peninsula, which forms the SE part of Southampton Island, rises to slightly higher elevations than elsewhere.

Two large bays indent the S coast of the island. South Bay, with Coral Harbor at its head, lies about 85 miles WNW of Seahorse Point; the Bay of Gods Mercy lies about 40 miles E of Cape Kendall.

Coral Harbor is the only indentation along the S coast where anchorage can be taken. All of the other inlets are bordered by shallow mud flats at their heads and are available only to small boats of light draft.

16.5 Coats Island (62°35'N., 83°00'W.) lies about 37 miles SSW of the Bell Peninsula and is separated from it by Evans Strait. This island is mostly low and flat except for a moderately-high ridge which crosses it diagonally near its N end.

Cape Pembroke (62°57'N., 81°54'W.), the NE extremity of the island, is a bold headland bordered by perpendicular cliffs, about 152m high.

Cape Prefontaine, 10 miles W of Cape Pembroke and the N extremity of the island, is reported to be 122m high. The land behind this point is reported to be 274 to 305m high and an excellent landmark from sea.

Bencas Island (63°00'N., 82°40'W.), about 10 miles W of Cape Prefontaine, rises to a height of 9.1m. A least depth of 9.1m is reported to lie in the passage between this island and Coats Island. The coral bottom provides little or no holding ground.

16.6 Cape Netchek (62°55'N., 83°17'W.), the NW extremity of the island, is also the W side of Calanus Bay, which is bordered by drying flats on its S and W sides. Depths within this bay range from 11 to 18.3m, but a shoal patch with a depth of 2.7m lies in its central part. The head of the bay is bordered by shallow depths which extend up to 1 mile offshore.

Anchorage can be taken, in a depth of 23.8m, within the bay, about 7 miles SW of Bencas Island.

Fisher Strait, about 40 miles wide, lies between Cape Netchek and the S extremity of Southampton Island.

Carys Swan Nest (62°10'N., 83°08'W.), the low SE extremity of Coats Island, is bordered by a boulder-strewn bank which extends about 2 miles offshore. This point should be given a berth of not less than 5 miles when passing.

Shoran Bay, a small semi-circular indentation, lies between Carys Swan Nest and Cape Southampton, a low point about 16 miles to the W. Depths of 18.3 to 27.4m exist in the W part of this bay; the E part of this bay appears to be shoal.

A light tower fitted with a radar reflector stands on Carys Swan Nest. A racon also operates from the light tower.

Anchorage may be taken about 3 miles off the W side of the bay, in a depth of 23.8m, mud.

Walrus Island (63°16'N., 83°38'W.), about 50m high, lies about 23 miles NNW of Cape Netchek and has been reported to be a good radar target. A light is shown from the center of the island.

16.7 Seahorse Point (63°47'N., 80°10'W.), the SE extremity of Southampton Island and the Bell Peninsula, named in 1616 by Baffin and Bylot for the many walrus they saw there, is bordered by steep cliffs 91 to 122m high. A hill, about

1 mile inland, has been sighted about 20 miles offshore.

The Back Peninsula, a low rounded hill, rises to a height of 46m about 4 miles SSW of Seahorse Point, and is connected to the mainland by a narrow sandbar. Expectation Point, about 4 miles farther W, is a low rounded headland bordered on its W side by Junction Bay, a shoal inlet.

Leyson Point (63°27'N., 81°00'W.), bordered by shoals and drying flats which extend as far as 5 miles offshore, lies about 24 miles SW of Expectation Point.

Between Leyson Point and Native Point, about 47 miles NW, the low marshy coast is bordered by drying flats and shoals which extend some distance seaward.

South Bay (63°50'N., 83°18'W.), entered between Native Point and Ruin Point, about 32 miles to the W, is indented by Native Bay on its E side. An extensive drying bank borders the shores of this latter bay.

South Bay extends about 20 miles N from its entrance points and then turns to the NE to form Coral Harbor and Munn Bay at its head.

Bear Island, a small, low island, lies NW of Prairie Point at the outer edge of a shoal, and is the SE entrance point to Coral Harbor. It is advisable to give this island a berth of about 3 miles to clear an 11m patch 2 miles NNW of it. A light tower fitted with a radar reflector stands on the N side of Bear Island.

From Ruin Point, the W entrance point to South Bay, the coast extends N for 10 miles to Renny Point and then 10 miles farther N and NNE toward Munn Bay. This part of the coast is bordered by drying flats and shoals which extend as far as 1 mile offshore in places.

Caution.—The coast between Renny Point and Sixteen Mile Brook, about 3.5 miles to the N, is charted about 0.5 mile E of its true position. Care should be exercised in this area.

16.8 The Kirchoffer River (64°07'N., 83°27'W.), about 9.5 miles NNE of Sixteen Mile Brook, is the largest river on Southampton Island.



Kirchoffer Falls

From the mouth of the Kirchoffer River, the coast extends about 1.8 miles E to the W entrance point of Munn Bay. This

unnamed point is marked by a beacon. A white cairn stands on the coast about 2 miles NE of the beacon.

Mount Scotch Tom, a large rounded ridge, rises to an elevation of 350m about 20 miles NW of Munn Bay.

Munn Bay (64°07'N., 83°17'W.) lies at the head of South Bay and W of Coral Harbor, with Seal Point dividing the two. The bay is wide and bordered by shoals off its N and W sides. Tern Island lies 3 miles WNW of Seal Point and is the above-water part of an extensive drying flat. The island is only 2m high and is difficult to distinguish from a distance. A beacon stands on Tern Island.

Munn Bay Light is shown on the shore about 1.5 miles NE of Tern Island. This light tower is fitted with a radar reflector. A group of five conspicuous radio masts, which are marked by red obstruction lights, stands at the head of Munn Bay, 4 miles NW of Seal Point. A similar mast lies 6 miles NW of Seal Point; about 0.5 mile farther NW, near the airport buildings, which are prominent from seaward, an aeronautical light is shown from the mast.

Anchorage.—The recommended anchorage is about 1.1 mile S of the light and 1.5 miles W of Seal Point, in a depth of 18m, clay, sand, and rock, good holding ground. A tidal current of 2 knots has been reported in the anchorage.

Anchorage, which is suitable for large vessels, can be found farther to seaward, in depths of 18 to 29m.

A landing beach, used for landing cargo, lies on the NE side of Munn Bay. A conspicuous beached hulk lies on a gravel ramp extending from the shore near this landing site.

16.9 Coral Harbor (64°06'N., 83°11'W.), entered between Bear Island and Seal Point to the N, extends about 8 miles NE to its head. Depths within the harbor are very irregular, with numerous shoals and drying ledges. The E and N shores are low and marshy, and bordered by an extensive drying flat. The low, rocky W side of the harbor is bordered by submerged reefs and some low rocky islets.

Coral Harbor was named for the red coral frequently brought up by the lead line when taking soundings. The hamlet of Coral Harbor is on the W shore of the harbor.



Coral Harbor (Salliq)

Winds—Weather.—The prevailing winds blow from the N and NW, but shift to the S during the summer months. Poor

visibility usually occurs during the summer, but this area is not especially foggy.

Ice.—Ice usually closes the harbor to navigation from October 15 until July 15. Pack ice has drifted into the harbor in the late summer months, but this rarely occurs.

Tides—Currents.—The tidal ranges of mean and large tides at Coral Harbor are 2.5 and 3.9m. The maximum current at the anchorage in Munn Bay is reported to be 2 knots.

Depths—Limitations.—The recommended track leading into the harbor has a least depth of 7m. This channel leads E of Guard Rock, a danger which dries 1.2m, lying 1.5 miles ESE of Seal Point.

A 4.9m patch lies 1 mile N of Guard Rock.

Aspect.—Coral Harbor Settlement lies on a bluff point on the NW side of the harbor, and consists of a Hudson's Bay Company, some municipal buildings, and two church missions. A beacon stands on a rocky islet 0.5 mile ESE of the settlement. The spires of Anglican and Roman Catholic Churches in Coral Harbor settlement are prominent from the harbor. A sunken wooden barge serves as a jetty for small boats. All cargo is handled at the anchorage.

Pilotage.—An Inuit pilot can be obtained by calling Coral Harbor coast radio station. The pilot boards off Bear Island.

Anchorage.—Anchorage is available about 1 mile ESE of Coral Harbor settlement, in a depth of 13m. The holding ground is good, but the anchorage is exposed, except from the W.

Caution.—There is a considerable magnetic anomaly in the vicinity of Coral Harbor.

It has been reported that the beacon situated on Tern Island does not exist (1978); the condition of other navigational aids is not known.

The coast between Ruin Point and Cape Low, about 59 miles SW, is very low and marshy, rising more than 20 miles inland to heights of 122 to 152m. This whole section of coast is bordered by a drying flat and shoal water which extends several miles offshore.

16.10 Bear Cove Point (63°36'N., 84°05'W.), about 17 miles SW of Ruin Point, forms the E side of Bear Cove, a shallow indentation, most of which dries.

Hut Point, a low insignificant projection, lies about 20 miles SW of Bear Cove. A range of hills known as The Points extends in a NW-SE direction across the base of the peninsula that terminates in Cape Low, about 24 miles SW of Hut Point. From the E, these hills appear as five peculiar shed-like hills.

The **Bay of Gods Mercy** (63°30'N., 86°10'W.), entered between Cape Low and Cape Kendall, about 56 miles NW, recedes about 25 miles NE to its head. The shores of the bay are very low and it is reported to be fouled by numerous shoals. The N shore is bordered by an extensive drying flat. A plateau running roughly parallel to the E shore, about 2 to 3 miles inland, rises to heights of 61 to 91m. The Boas River, which is accessible only to small boats, discharges into the NE part of the Bay of Gods Mercy through a broad, marshy flat with numerous channels.

Cape Kendall (63°36'N., 87°12'W.) is the SW extremity of Southampton Island and the SE entrance point to Roes Welcome Sound, which separates the island from the mainland to the W. This low cape is bordered by drying flats which extend

1 to 2 miles offshore. A group of reefs, some of which dry, lies about 6 miles SSW of the cape. A unexamined bank, with a depth of 12.8m, lies about 20 miles S of Cape Kendall.

Roes Welcome Sound—East Side

16.11 Roes Welcome Sound (64°00'N., 87°30'W.) is about 150 miles long, extending from Hudson Bay at its S end to Repulse Bay at its N end. The S end of the sound is known as Ne Ultra Strait. For the purposes of this sector, the N entrance of Roes Welcome Sound lies between Cape Munn, the N extremity of Southampton, and Beach Point, about 19 miles NNW. The sound varies in width from 10 miles near its N end to over 30 miles near its S end. Wager Bay leads off the W side of Roes Welcome Sound, about 100 miles N of Cape Kendall.

There are general depths of 91.4 to 146.3m in Ne Ultra Strait, shoaling gradually to depths of 18.3 to 54.9m as far N as a line of bearing between Cape Munn and the mouth of the Snowbank River, 40 miles to the W.

Ice.—The strong tidal currents in Roes Welcome Sound tend to keep the ice in motion throughout most of the year; even in the winter, there is usually some open water near the middle. On a still day, with neap tides, the sound may freeze right across, only to break up again when a strong wind blows.

Roes Welcome Sound is open before Repulse Bay and should normally be navigable from early August to the end of September, but throughout the summer, drift ice may be expected in it. The supply vessel for Repulse Bay proceeds N via Roes Welcome Sound, the passage usually being made about the last week in August or the first week in September.

Tides—Currents.—The currents are strong in the N half of Roes Welcome Sound. The tidal undulations from the N and S meet opposite Wager Bay. Thus, with a rising tide in this area, a N current will be found in the S part of the sound, and a S current in the N part. With a falling tide, the directions will be reversed.

16.12 The W coast of Southampton Island, between Cape Kendall at its S end and Cape Munn at its N end, forms the E side of Roes Welcome Sound. This coast is relatively low, with no distinguishing landmarks; shoal water extends 2 to 3 miles offshore, while limestone reefs lie much farther out. The land behind the shore rises in a succession of ridges, each a few meters higher than the preceding one. Very little vegetation grows on these ridges, but in the wide depressions between them, there is a profusion of grasses and other arctic plants on the ground surrounding the many lakes and ponds. There is no shelter on this coast, except to a very limited extent for small boats in one or two bays and river entrances.

From Cape Kendall, the coast extends about 40 miles NE to Ell Bay. Near Cape Kendall, the tidal flat is reported to be about 3 miles wide, and off Ell Bay shallow water extends many miles offshore. A limestone reef, reported awash at LW, lies about 17 miles W of Ell Bay. Another reef is charted about 12 miles NNW of this reef, but its position is doubtful.

From Ell Bay, the coast extends about 10 miles N to Anchor Cove and then an additional 65 miles N to Battery Bay. The Murray River enters the sound about midway along this section of coast. For some miles N of Anchor Cove, the coast consists of low bluffs, which increase to moderate heights farther N.

Battery Bay (65°21'N., 86°07'W.), protected by shoals off its N entrance, provides sheltered anchorage to small craft in depths of about 3m at LW. Otherwise the bay is very exposed. A small well-marked limestone bluff marks the S entrance point to the bay; the main ridge is higher here than farther N.

From Battery Bay, the coast extends about 40 miles N and NNE to Cape Munn, the N extremity of Southampton Island. This part of the coast consists of raised beaches with occasional outcrops of limestone. Several streams flow at right angles to the coast. Inland, the land rises to over 30m high with very gentle even slopes. The beaches consist of shingle with scattered boulders. The tidal flat does not appear to extend far offshore, but there are many small spits and shoals, marked by tide rips. At Cape Munn, the coast is low and numerous beach lines are evident.

Cape Frigid (66°05'N., 85°05'W.), about 15 miles NE of Cape Munn, is the NE entrance point of Roes Welcome Sound.

Roes Welcome Sound—West Side

16.13 The W side of Roes Welcome Sound forms part of the E coast of the District of Keewatin. From Cape Fullerton, the SW entrance point to Roes Welcome Sound, the coast extends about 90 miles NE and NNE of Cape Dobbs, the SE entrance point to Wager Bay. This low coast is bordered by islets, rocks, and shoal water. It is composed mostly of solid rock, often in the form of knobby hills which seldom rise to heights of more than 6 to 12m near the shore. Farther inland, slightly higher similar hills are visible from seaward.

Between Cape Fullerton and Whale Point, about 20 miles NE, the coast is mostly barren, consisting of rugged red and gray granite rocks, with the strata running in a NW-SE direction, and with many lakes inland. A number of small rocky islets lie scattered along the shore fronted by an extensive tidal flat.

Whale Point (64°09'N., 88°06'W.) is not high, but rises somewhat above this otherwise low coast. A bank, with a depth of 16.5m, is reported to lie about 6 miles ESE of the point. Whale Point is reportedly charted 4 miles SSW of its correct position.

Anchorage may be taken about 14 miles NE of Cape Fullerton. The cove here is about 0.1 mile wide and almost 4 miles long, with depths of 7.3 to 11m, sand and mud. The Borden River, with a succession of rapids and deep pools, empties into the inlet. The tidal range here has been reported to be about 4.1m. In the vicinity, the shores have a very rugged appearance, with many ridges of primitive rock running far out into sea in an E-W direction.

Mistake Creek (64°10'N., 88°04'W.) enters the sea about 6 miles NNE of Whale Point. The area around this creek consists of low ridges of rock, 4.6 to 30.5m high, covered with shatterred boulders. The highest point in the immediate vicinity is a hill, 40m high, almost vertical on its E side facing the sea. The ridges about 3 to 4 miles inland attain elevations of 27 to 31m. Above 10 miles inland, hills about 152m high can be seen. The water offshore is shallow.

Yellow Bluff (64°34'N., 87°38'W.) is the name of a small promontory about 21 miles NNE of Mistake Creek. This section of coast is higher, rising 30 to 61m. The name originates from the color of the rock at this point, which is not higher than

the surrounding land, but falls with a rather steep slope.

Between Yellow Bluff and Kamarvik Harbor, about 21 miles NNE, the low coast is bordered by reefs, with depths of less than 1.8m, which extend up to 3 miles offshore.

16.14 Kamarvik Harbor (64°41'N., 87°27'W.) appears to have an entrance about 1 mile wide, but it is fouled by many islets. Kamarvik Creek discharges into the head of the harbor.

By keeping to the E side of the entrance into Kamarvik Harbor, it is possible for small craft with a draft of up to 2m to pass in at any stage of the tide. The depth in the channel has not been measured, but it is thought to be not less than 3.7m in any part. The inner harbor has depths of over 15.2m and is commodious for small craft.

The coast between Kamarvik Harbor and Nuvuk Point, about 30 miles NNE, is bordered by many off-lying islets and shoal water. The land in this vicinity does not exceed 9 to 12m near the coast. From Nuvuk Point, the coast extends about 6 miles NNW to Cape Dobbs, the SE entrance point to Wager Bay. This part of the coast and hinterland is low, with small, very bare rocky hills seldom more than 15m high. Most of this shore is solid rock, with tidal boulder flats in the bays and numerous off-lying islets, rocks, and reefs.

Wager Bay

16.15 Wager Bay (65°18'N., 87°13'W.), entered between Cape Dobbs and Cape Montague, about 9 miles NW, extends about 90 miles W and NW to its head. The bay varies in width from about 2 miles in the narrows near the entrance to a width of about 20 miles in its central part. There are reversing falls at the head of the bay, with Ford Lake lying beyond them. Most of the land surrounding the bay is fairly high, particularly on the SW side where cliffs rise to heights of 229 to 290m; hills rise to heights of 518m within 2 to 3 miles of the shore. The land on the NE side of the bay is somewhat lower, but attains an elevation of about 305m in places within 1 to 2 miles of the shore.

16.16 Wager Bay Narrows.—From Cape Dobbs, the coast extends W for about 25 miles to Handkerchief Point and forms the S shore of the narrows at the entrance to the bay. The coast is low at Cape Dobbs, but rises gradually to a height of about 152m close E of Handkerchief Point. Along the N side of the entrance the slopes are steep, but elevations do not exceed 31m. A short distance inland the hills rise to an elevation of about 122m.

Ice.—Several reports indicate that because of the strength of the currents the narrows are seldom frozen over; however, great quantities of ice in motion are a serious danger to vessels.

Tides—Currents.—The tidal currents run with great strength in Wager Bay Narrows and, according to some reports, at a rate of 6 to 7 knots. The water continues to flow out of the bay for some time after LW on the coast. There are many whirlpools and eddies, which the Inuit claim are mainly present toward the S side of the channel when the currents are at their strongest. A weak current, reported to be 4 knots or less, is found toward the N side.

Depths—Limitations.—There are general depths of about 45.7 to 73.2m in Wager Bay Narrows. Except for two sunken

rocks close to the N shore, about 1.7 miles W of Cape Montague, and two islets near the same shore, about 11 miles farther W, the narrows appear to be free of dangers.

16.17 Wager Bay—Southwest side.—Handkerchief Inlet (65°16'N., 88°02'W.) extends about 3 miles SSE from a position close W of Handkerchief Point. The mouth of this inlet lies W of that part of the main channel where the currents run most strongly and it might be used as a temporary anchorage for small craft waiting for the current to turn. Good shelter is provided. Deep water lies within 46m of the inlet head where a small river enters.

From Handkerchief Inlet, the SW shore extends about 25 miles W to a wide bay fronted by the Paliak Islands. These islands rise to a maximum height of 61m at their W extremity. In the vicinity of these islands, the coast rises to a height of about 366m, and to a height of 610m about 6 to 7 miles inland. Near these islands, the coast turns abruptly to the NW to the head of Wager Bay and consists of steep cliffs rising inland to mountainous terrain. Deep water is reported to lie close offshore along this section of coast.

16.18 Wager Bay—Northeast side.—From the W entrance of the narrows, the NE side of Wager Bay extends 30 miles NW to Tikilak Point, the S entrance point to Douglas Harbor, and then 30 miles farther NW to Bennet Bay at its head.

Nuvudlik Island (65°47'N., 88°14'W.), about 8 miles NW of the W entrance to the narrows, is one of a large group of off-shore islands and islets known as the Savage Islands. These low islands are almost barren. Soundings on the SSW and W sides of the group are very irregular and contain several dangerous shoals. Vessels should give these islands a wide berth when passing. The mainland N of these islands consists of a series of low rounded hills rising to heights of about 91m.

Douglas Harbor (65°40'N., 88°50'W.), which has an average width of 2 miles, extends about 11 miles E to the Piksi-manik River at its head. The peninsula forming the S side of the harbor is low, whereas the N side is bordered by round hills, 152m high, increasing to heights of 274 to 305m about 1 mile inland. Mackay Bluff rises to a height of 213 to 244m on the N side of the harbor just within the entrance.

A sunken rock is charted about 3.5 miles W, and a 3.7m shoal, about 4 miles SSE, of Tikilak Point. Drying reefs are reported to exist in the entrance to Douglas Harbor.

A very rocky beach fringes Douglas Harbor. The tidal range is about 5m. Sheltered anchorage can be taken just inside the harbor entrance on the S side, good holding ground, rock and gravel. Small craft can reach the head of the harbor at LW by steering a mid-channel course or favoring the S shore.

Northwest of Douglas Harbor the coast appears to be somewhat lower, although hilly in some parts.

16.19 The Abruyuk Islands (65°45'N., 89°15'W.), lying up to 2.5 miles offshore and 12 miles NW of Tikilak Point, are low bare rocks no more than 31m high.

The NW shore of Wager Bay terminates in Bennett Bay, which is divided into two branches at its upper end by a peninsula. There are several low islands in this bay and its approaches; both branches are shallow with tidal flats at their

heads.

North of Bennett Bay, the coast consists of parallel ridges; to the NW, the terrain becomes extremely rugged, rising to heights of up to 427m.

Between Bennett Bay and the reversing falls at the head of the SW side of Wager Bay is a large peninsula made up of conical steep-sided hills ranging in height from 30 to 122m in the vicinity of the falls to about 213m farther E.

Reversing Falls (65°53'N., 90°27'W.), at the head of Wager Bay, are the most striking physiographic features in this area. They are the normal type of reversing falls, with the water flowing N into Ford Lake for about 4 hours, followed by slightly less than 1 hour of SW, and then 6 hours of rather faster outflow. The channel is about 45m wide, broadening at the time of HW. It is necessary to pass through at one of the periods of SW.

Ford Lake (65°54'N., 90°32'W.) is about 0.5 to 1 mile wide and about 17 miles long, extending 6 miles E from the reversing falls and 11 miles W. The Brown River, which is not navigable by craft of any size, flows into the W end of Brown Lake where it is reported to be shallow. A former Hudson's Bay Company post was situated on the shore of a small inlet on the N side of Ford Lake, about 3 miles from its W end. Anchorage, with good holding ground, was available near the post. The land in the vicinity is much lower than it is farther E. The tidal range in the lake is reported to vary from 0.4 to 0.9m.

Roes Welcome Sound—West Side (continued)

16.20 The W side of Roes Welcome Sound extends about 65 miles NNE from Cape Montague to Beach Point. This sector of coast is low and hilly and marked by numerous lakes and islets. Rocks and shoals border this coast and extend 1 to 4 miles offshore especially along the SW part, and should be given a good berth when passing.

Berthie Harbor (65°20'N., 87°20'W.), a small inlet close N of Cape Montague, has a hill shaped like a flat-topped cone to the W of it.

Bury Cove (65°27'N., 87°04'W.), a wide-mouthed bay 10 miles NE of Cape Montague, provides anchorage for small craft though it is rather exposed at HW. Care should be taken when entering because of the many sunken rocks and dangerous reefs offshore. Low ridges, not more than 4.6m high, rise in the vicinity of the cove, especially on the N side. A ridge, about 53m high, parallels the coast, the side facing the sea being steep cliffs.

From Bury Cove to the mouth of the Snowbank River, about 32 miles NNE, elevations near the coast nowhere exceed 46m.

The **Snowbank River** (65°54'N., 86°22'W.) runs at the SW foot of a scarp about 30m high, while the land to the NE rises to 46m. With care, small craft can enter the mouth of this river.

Panalik Point (66°03'N., 85°56'W.), a prominent low headland, lies about 15 miles NE of the Snowbank River; Beach Point lies about 8 miles farther N. Small craft can shelter in the lee of the latter point at times. The water is deep to within 90m of the shore, but little protection is provided.

Beach Point (66°12'N., 85°52'W.) is the NW entrance point of Roes Welcome Sound and the W entrance point of Repulse Bay.

Cape Fullerton to Chesterfield Inlet

16.21 Cape Fullerton (63°59'N., 88°44'W.) is the W entrance point of the S entrance of Roes Welcome Sound and is also the N entrance point of Bernheimer Bay. A reef extends about 10 miles SE from the cape; several dangerous sunken rocks lie 1 to 2 miles beyond the SE extremity of the reef.

The coast between Cape Fullerton and Eskimo Point, about 250 miles SW, which forms the N portion of the W side of Hudson Bay, is rocky, indented by numerous inlets and bays, and bordered by many islands, islets, and rocks.

Depths—Limitations.—Soundings along this section of coast are sparse and can best be seen on the Canadian chart. Navigation is endangered by several off-lying reefs, the outermost of which extend about 12 miles SE from Cape Fullerton; about 7 miles E from Quartzite Island, which lies about midway between Cape Fullerton and Eskimo Point; and about 7 miles E from Sentry Island, which lies 4.7 miles NNE of Eskimo Point.

Caution.—Numerous instances of magnetic disturbances have been reported off the coast between Cape Fullerton and Eskimo Point. It has been reported that these disturbances are considered to be caused not so much by isolated local conditions as by the fact that this part of Hudson Bay lies within an area in which the horizontal component of the earth's magnetic field is sufficiently reduced so as to render the magnetic compass unreliable.

16.22 Bernheimer Bay (63°58'N., 88°56'W.), 12 miles long and narrow, is entered between Cape Fullerton and Poillon Point, about 7 miles WSW. Many small islands lie within the limits of this bay.

Fullerton Harbor (64°00'N., 88°58'W.) is formed by a number of islands lying off the N shore of Bernheimer Bay. The small harbor, which is entered from the W through a narrow entrance with a depth of 4.3m, can only accommodate three small vessels. Little is known concerning the depths in the approaches to Bernheimer Bay or within the bay itself.

Between Poillon Point and the E entrance point of Daly Bay, about 13 miles to the W, the coast is indented by several inlets and bays containing many islands, while the approaches are fouled by rocks and shoals.

16.23 Daly Bay (63°56'N., 89°39'W.) is 9 miles wide at its entrance and extends inland for about 17 miles. Numerous islands lie within this bay, which has not been surveyed.

Walrus Island (63°57'N., 89°35'W.), the only named island in the bay, lies about 3.5 miles WNW of the E entrance point.

The **Bailey Islands** (63°53'N., 89°50'W.), a cluster of small islands, lies 2 miles S of the W entrance point of Daly Bay.

Winchester Inlet (63°52'N., 89°54'W.), entered between the W entrance point of Daly Bay and an unnamed point about 8.5 miles SSW, extends about 11 miles NW. A good harbor is reported to exist on the NE side of the inlet, about 3 miles inside the entrance. The entrance to this inlet is fouled by many submerged rocks and shoals, and only vessels with local knowledge should attempt to enter.

From the SW entrance point of Winchester Inlet, the coast extends about 12 miles SSW to Cape Silumiut, the NE entrance point of Chesterfield Inlet. The intervening coast is bor-

dered by low hills which extend well into the interior. A wide belt of low rocky islands extend offshore, seaward of which there is a labyrinth of sunken reefs. Beyond these reefs the bottom is very uneven so that there is danger of a vessel grounding before sighting the low coastline.

Whitney Inlet (63°47'N., 90°04'W.) lies about 2 miles SW of Winchester Inlet and is fouled by numerous submerged rocks and islands off its entrance. Local knowledge is required to enter.

Chesterfield Inlet

16.24 Chesterfield Inlet (63°24'N., 90°38'W.) is a long narrow indentation extending about 112 miles in a WNW direction to Chesterfield Narrows, where it joins Baker Lake. The bare rocky slopes of the inlet rise to heights of 30 to 61m. The inlet contains several harbors for small vessels, but none for large vessels. Large vessels use the anchorage off Chesterfield Inlet settlement near the SW entrance point. The waters of the inlet are largely unsurveyed and should be navigated with great caution.

Chesterfield Inlet entrance lies between Cape Silumiut and Jaeger Point, about 22 miles to the SW, but the navigable channel is only about 2.5 miles wide because of the islands and reefs that encumber the approaches.

Tides—Currents.—There is a heavy tidal current up Chesterfield Inlet which just reaches the E end of Baker Lake.

In the channels on either side of the Bowell Islands, rapids form at ebb tide; these channels must be followed with the flood.

The range of tide in Chesterfield Inlet varies from 6.1m between the mouth and 30 miles within it, to 3m at a position 3 miles below Baker Lake. At the E end of Baker Lake the range is less than 0.1m. The tidal time lag between Hudson Bay and Baker Lake is 5 hours 15 minutes. High water at Chesterfield Narrows extends over a 3 or 4 hour period commencing at about the time of HW at Churchill. The narrows should be navigated at SW, which occurs about 30 minutes before the beginning of HW and again about 3 hours after the beginning of HW. The current sets W between the slacks.

The Canadian chart indicates a 4.5 knot flood current setting W through Chesterfield Narrows and a 6.7 knot ebb current setting E.

Depths—Limitations.—In the entrance to Chesterfield Inlet, S of Promise Island, there are charted depths of 36.6 to 91m. A depth of 29m can be maintained along the recommended route as far W as Cross Bay (63°54'N., 93°30'W.), and 20m from there to Chesterfield Narrows, where a rock shelf with depths of 2.1 to 3m obstructs the channel. Vessels with drafts of up to 4.6m have sailed up Chesterfield Inlet and crossed Baker Lake. The track usually followed through Chesterfield Narrows leads over a least charted depth of 4.9m.

Caution.—A magnetic disturbance has been reported to exist between Coats Island and the mainland in the vicinity of Chesterfield Inlet. It is dangerous to approach this coast during foggy weather if using a magnetic compass.

A dangerous area, the position of which is doubtful, lies centered about 12 miles SE of Cap Silumiut.

A small detached 7.3m shoal lies about 19 miles SSW of Cape Silumiut.

16.25 Chesterfield Inlet—Northeast approach.—Numerous islands, islets, rocks, and shoals lie in the NE approach to Chesterfield Inlet between Cape Silumiut and Jaeger Point, about 22 miles to the SW. Dangerous reefs exist about 10 miles offshore in this approach.

16.26 Chesterfield Inlet—South approach.—Fairway Island (63°15'N., 90°34'W.), about 11m high, lies about 6.5 miles SSE of Jaeger Point. When viewed from seaward, the island may appear as three distinct humps. A wooden beacon, consisting of a mast surmounted by a barrel with a triangular framework base, stands on the middle hump. The condition of the beacon on Fairway Island is unknown, as it is no longer maintained.

Aulatsivik Point (63°15'N., 90°42'W.), marked by a conspicuous ridge of dark rock, lies about 3 miles W of Fairway Island.

Sakpik Island (63°17'N., 90°40'W.), which consists of two hills joined by a narrow neck of land, lies about 2 miles NW of Fairway Island. The narrow passage between Sakpik Island and Fairway Island should not be attempted without local knowledge.

Fox Trap Island (63°18'N., 90°42'W.), connected to the mainland to the W by a drying flat, lies about 0.5 mile NNW of Sakpik Island. Numerous rock cairns lie on the N end of the island.

Fish Bay, fouled by numerous shoal patches, lies NW of Fox Trap Island. The N entrance point to this bay forms the SW entrance point to Chesterfield Anchorage.

Finger Point (63°20'N., 90°40'W.), the E entrance point to the anchorage, lies about 1.7 miles farther ENE. Shoals extend as far as 1 mile E and SE from this point which should be given a wide berth when passing. Tide rips occur off the point during large tides.

16.27 Chesterfield Inlet Settlement (63°20'N., 90°42'W.) lies on the N side of Chesterfield Anchorage and consists of a Hudson's Bay Company store, a port office, a weather station, a hospital, and a church mission.

No berthing facilities are available. Vessels handle cargo at the anchorage.

Ice.—Ice usually begins to break-up the latter part of June and early in July, while freeze-up usually takes place during the last two weeks of November.

Tides—Currents.—Spring tides rise 4.3m and neaps tides rise 3.2m off the settlement.

Aspect.—Two radio masts on the N shore of the harbor, about 1 mile W of Finger Point, are conspicuous.

The belfry of a Roman Catholic Mission Church, about 0.3 mile ENE of the radio masts, is easy to identify from S.

A Roman Catholic Mission hospital, a grey building with a cross on the roof, also stands on the N shore and is conspicuous. Some buildings, with aluminum coverings, situated on high ground, are also prominent.

Anchorage.—Anchorage can be taken about 0.5 mile S of the Hudson's Bay Company store, in a depth of 15m, sand and gravel, fair holding ground. When winds are from S through SE to E, vessels are advised to heave up and proceed to sea or seek shelter in Chesterfield Inlet.

Directions.—When approaching Chesterfield Inlet from the

S, a course of 000° should be steered to pass 3 miles E of Fairway Island. Promise Island and the buildings at the settlement should be sighted from this position. When the N end of Fairway Island is abeam to port, course should be altered to 301° with the masts on the W side of Chesterfield Anchorage ahead. When Finger Point is abaft the starboard beam, course should be altered to starboard to bring the conspicuous hospital building with a cross on the roof ahead and anchor about 0.5 mile S of the Hudson's Bay Company store. Under no circumstances should a vessel close either of the entrance points to Chesterfield Anchorage.

Chesterfield Inlet Entrance

16.28 Chesterfield Inlet's entrance may be considered to lie between Cape Silumiut and Jaeger Point, about 22 miles SW. Only that part of the entrance which lies between Rockhouse Island and Jaeger Point, about 5.2 miles to the S, is of interest to shipping and will be the only part described. The navigable entrance leading into the inlet is only 2.5 miles wide and lies between the Wag Islands and Jaeger Point. Depths in this latter passage, seaward of the fringing shoals, range from 18.3 to 109.7m.

Caution.—Some of the waters adjacent to the shipping channels have not been surveyed. They should not be entered without local knowledge.

16.29 Jaeger Point (63°21'N., 90°41'W.), fringed by a drying reef and a shoal which extends 0.5 mile ENE, lies about 1.2 miles NNW of Finger Point. A detached 0.5m shoal lies 1 mile NW of the point.

Promise Island (63°21'N., 90°32'W.), wedge-shaped with a high W side, lies about 4 miles E of Jaeger Point. The E and NE sides are bordered by extensive drying rocky flats strewn with boulders. A beacon constructed of a black and white tripod surmounted by a mast is erected on the SW side of the island.

The **Wag Islands** (63°23'N., 90°38'W.), two in number, lie on a drying reef about 2.5 miles NE of Jaeger Point. The S end of the S island is marked by an inconspicuous cairn. One large and several small drying ledges lie off the E and NE sides of these islands.

Rockhouse Island (63°28'N., 90°41'W.), a very large island rising to a height of 43m in its central part, lies 2.5 miles NNW of the Wag Islands. Pintail Island, small and low, lies at the outer extremity of a drying ledge which extends about 1.2 miles from the SE extremity of Rockhouse Island.

Akreavenek Island (Sandpiper Island) is the above-water part of a drying ledge which lies about 0.3 mile S of Rockhouse Island.

Hanbury Island (63°32'N., 90°52'W.), about 8 miles long and 4 miles wide, lies close NW of Rockhouse Island and rises to an elevation of about 31m. A reef, awash, which breaks conspicuously in heavy seas, and rocks and shoal depths of less than 10m, lie up to 1.3 miles off its SW shore.

Severn Harbor (63°34'N., 90°56'W.) lies N of the NW end of Hanbury Island and is formed by the mainland and the islands which stand N of Hanbury Island.

16.30 Chesterfield Inlet—East end.—A shoal bank, with a

least depth of 0.5m, extends almost 1 mile offshore on the SW side of Chesterfield Inlet between Goose Point, about 2.5 miles NW of Jaeger Point and Ptarmigan Island, about 2.7 miles farther NW. A small drying area lies 0.5 mile N of Goose Point.

Observation Point (63°28'N., 91°00'W.) lies on the SW side of the inlet, about 11 miles NW of Jaeger Point. Ellis Island lies close NW of Observation Point; Moore Island lies 1.5 miles farther WNW.

Sheltered anchorage may be taken, in a depth of 12.8m, on the S side of Ellis Island.

16.31 Chesterfield Inlet—West end.—The Boswell Islands (64°00'N., 94°00'W.) are a group of islands which almost block the W end of the inlet. Chesterfield Inlet leads into Baker Lake at Chesterfield Narrows, S of the Boswell Islands, about 112 miles above the seaward entrance of the inlet. There is also an outlet N of the Boswell Islands.

Chesterfield Narrows (64°00'N., 94°18'W.) lies between Ice Breaker Point, the SW extremity of the westernmost Boswell Island, and Ice Cutter Point, on the mainland to the S. The navigable channel through the narrows has a least width of 0.3 mile.

Ice Breaker Islet (64°00'N., 94°19'W.), 4.6m high, lies on the N side of the narrows, about 0.2 mile W of Ice Breaker Point.

Baker Lake (64°07'N., 94°45'W.) is a fresh water lake about 50 miles long, with an average width of 15 miles. The shores are bordered by barren rocky hills, 91 to 122m high. The lake, with the exception of a portion of the SE end, has not been surveyed, but vessels bound for the settlement at its NW end have crossed without incident. A number of islands divide the SE end of the lake into two navigable passages known as South Channel and North Channel.

Christopher Island (64°04'N., 94°30'W.), about 10 miles long and deeply indented along its shores, lies with Grebe Point, its SE extremity, about 0.8 mile W of Ice Breaker Point.

A beacon range on Burial Point, having orange structures and diamond-shaped topmarks, in line astern bearing 101°, leads clear of the dangers S of Grebe Point.

South Channel, which passes between Christopher Island and the mainland to the S, is fouled by numerous rocks and shoals near its SE end. Only vessels with a draft of 3m and less can use this channel. Local knowledge is necessary.

North Channel, the alternate and recommended passage leading into Baker Lake, passes along the E and N sides of Christopher Island. This route is free of hazardous shoals and has a least depth of 7m. The S entrance to this channel lies between Grebe Point and Kennedy Point, about 0.7 mile ENE.

Bertrand Point, about 1.8 miles NNW of Kennedy Point, marks the SE extremity of 1 mile long peninsula extending SE from the E side of Christopher Island. Range beacons, in line bearing 358°30', are situated on this point.

Bannerman Island (64°02'N., 94°19'W.), about 35m high, lies 0.5 mile NE of Bertrand Point. Two beacons, in line bearing 027°, stand on the SE end of the island.

Low Point (64°03'N., 94°23'W.), about 2 miles NW of Bertrand Point, is the N end of a small peninsula extending from Christopher Island. A beacon stands on Low Point.

Pilon Island (64°04'N., 94°22'W.) lies 1 mile NW of Bannerman Island. Caution Point is its SW extremity and Barbour

Point is its NW extremity. Two beacons on the N end of this island, in line bearing 156° astern, lead through Polaris Narrows.

16.32 Regina Narrows (64°03'N., 94°22'W.) lies between Dean Islet, about 0.4 mile E of Low Point, and Caution Point on Pilon Island. The navigable channel through these narrows is only 0.1 mile wide and maintenance of a mid-channel course is essential to clear the shoal extending SW from Caution Point. A least depth of 6.5m exists in Regina Narrows.

McGill Islet and Ptarmigan Islet, both small and low, lie on the W side of the channel about 1 mile W of Pilon Island.

Polaris Narrows (64°06'N., 94°24'W.) is the navigable passage through a wide shoal area lying between Peck Point, the N extremity of Rio Island and Red Point, the SE extremity of an unnamed island 2 miles W of Peck Point. Rio Island lies close E of Pilon Island.

There is a least depth of 7.8m on the recommended track and it is essential to adhere to the range beacons on Barbour Point to clear the shoals off Red Point.

North Channel is entered from Polaris Narrows between Bowser Point, 1 mile NNW of Red Point, and Jessiman Islet, 0.7 mile to the NNE.

Directions—North Channel.—Vessels proceeding to North Channel from Chesterfield Narrows should maintain a mid-channel course past Ice Breaker Islet on a course of 285° until the beacons on Bertrand Point are in line bearing 000° ahead, and proceed on this course.

Stay on this alignment until the range beacons on Bannerman Island are in line ahead bearing 029°30'. When the channel between Bertrand Point and Bannerman Island is open, a mid-channel course of 317° should be steered for Regina Narrows.

When Barbour Point and Peck Point are in line, alter course to 354°. Continue on this course for 1.3 miles, at which distance a course of 336° should be steered to pass through Polaris Narrows with the beacons on Barbour Point in line bearing 156°, astern. Extreme care should be taken to adhere to this range in order to clear the rocks and shoal water E of Red Point. The conspicuous white boulder on the point N of **Chain Islet** (64°08'N., 94°27'W.) provides a good steering mark while passing through Polaris Narrows.

Once clear of the narrows, Bowser Point can be rounded at a distance of about 0.4 mile and a mid-channel course can then be steered to the W which leads into Baker Lake.

16.33 Baker Lake Settlement (64°19'N., 96°02'W.) and its small harbor lie at the NW end of Baker Lake. The settlement consists of a Hudson's Bay Company store, three church missions, a post office, and some government buildings.

No berthing facilities are available; vessels anchor about 0.5 mile offshore abreast of the settlement to handle cargo.

Chesterfield Inlet to Rankin Inlet

16.34 Baker Foreland (62°55'N., 90°49'W.), which lies about 27 miles S of the S entrance point of Chesterfield Inlet, is the SE extremity of the land separating that inlet from Rankin Inlet. This headland consists of two hills, and is easily identified from seaward, being the only high land in the vicinity.

Drying ledges extend up to 2 miles offshore.

Baird Bay, a wide shallow bight, lies between Baker Foreland and Scarab Point, the NE entrance point of Rankin Inlet, about 17 miles SW. Several drying shoal patches, the positions of which are approximate, lie in the approaches to Baird Bay.

Rabbit Island, 20m high, lies about 2 miles E of Scarab Point.

Hazy Islet lies 7.5 miles E of Rabbit Island and is the above-water portion of an extensive rocky shoal.



Marble Island at Rankin Inlet

Marble Island (62°40'N., 91°07'W.), 88m high, lies in the middle of the approach to Rankin Inlet, with its W extremity about 7 miles S of Rabbit Island. This whitish-gray colored island is the highest land in the approaches to Rankin Inlet. Quartzite Island lies close off the E end of Marble Island and is joined to it at LW. A 10m patch lies about 0.8 mile SE of the E end of Quartzite Island. A sunken reef extends about 7 miles E from the E end of the same island.

Deadman Island lies close off the entrance to Knight Harbor on the SW side of Marble Island. Small craft can anchor between Deadman Island and Marble Island, as well as in Knight Harbor itself.

Nauja Cove (62°42'N., 91°14'W.), which indents the NW end of Marble Island, provides shelter for small craft from all but W and NW winds.

Anchorage.—Large vessels can find shelter, from all except SE winds, E of Deadman Island. Anchorage, with good holding ground and protection from most winds, can be taken N of Quartzite Island and off the entrance of Nauja Cove.

Caution.—A magnetic disturbance has been reported to exist S of Marble Island in the vicinity of the seaward end of the recommended track leading into Rankin Inlet.

Rankin Inlet

16.35 Rankin Inlet (62°43'N., 91°40'W.) is entered between Scarab Point and Papik Point, the NE extremity of Cape Jones, about 17 miles SW. This cape forms the E end of the Pangtort Peninsula. The inlet is fouled by numerous rocks and shoals and there are no aids to navigation. Unsounded areas should not be entered. Local knowledge is essential for entering.

The inlet extends in a general WNW direction for about 27 miles to its head, and is divided into two parts in its inner

reaches by the Kudlulik Peninsula and the Tudlik Peninsula. A mining community is situated on the N side of the former peninsula.

Vessels proceeding into Rankin Inlet from Marble Island are cautioned that strong tidal cross currents exist in this vicinity at flood. On the flood the usual set is to the SW at about 1 knot, but cross currents in the opposite direction have been observed. Tide rips are also evident.

It has been reported (1995) that ships approach Rankin Inlet from 2 to 3 hours before HW and depart in the same manner.

Local knowledge is strongly recommended for vessels proceeding to the head of Rankin Inlet.

16.36 Rankin Inlet—North side.—Falstaff Island (62°49'N., 91°51'W.), 54m high, lies off the mainland about 13 miles W of Scarab Point. This conspicuous and easily-identified island resembles a sugarloaf when seen from the vicinity of Marble Island.

Thomson Island (62°49'N., 91°58'W.), the largest island on the N side of the inlet, lies about 0.7 mile W of Falstaff Island and rises to an elevation of 54m near the middle of its N shore. Numerous islets and shoals lie off the S and SW sides of the island.

16.37 Rankin Inlet—Head.—Prairie Bay (62°50'N., 92°04'W.) lies in the NW part of Rankin Inlet between the Kudlulik Peninsula and the mainland. The bay is generally shallow and fouled by numerous rocks, shoals, and islands. Mittik Island lies near the middle of the bay and has a 7m cairn on its N end. Sanderling Island, 19m high, lies in the W part of the bay and is fringed by a drying flat. A cairn stands on an islet close W of Sanderling Islet.

The **Kudlulik Peninsula** (62°48'N., 92°05'W.) separates Prairie Bay from Melvin Bay to the S. Fist Point is the NE extremity of the peninsula; Survey Point is its SE extremity.

Johnston Cove (62°49'N., 92°04'W.), the site of the settlement of Rankin Inlet, lies about 0.5 mile NW of Fist Point. Esker Island forms the NE side of the cove.

The cove is shallow and the approach to it is intricate. It has been reported that a depth of 3m exists in the entrance channel. Charted depths within the cove range from 2.1 to 5.5m.

A galvanized metal warehouse standing near oil tanks is conspicuous on the S side of Johnson Cove. A conspicuous tower with red lights, and with white satellite dishes near its base, is located W of the oil tanks.

Melvin Bay (62°48'N., 92°07'W.) is entered between Survey Point and the E extremity of the Tudlik Peninsula. Numerous islands and rocks, with deep passages between them, lie across the entrance to the bay. Buff Island, the E island of the group, is separated from Theron Island and Panorama Island by Access Passage. The recommended track into the bay leads through this passage which has a least depth of 11.6m.

The outer part of the bay, N of Panorama Island, is deep and clear. The inner part is generally shallow. A depth of 1.5m lies in the middle of the bay, about 0.3 mile N of the W end of Panorama Island.

Anchorage.—Anchorage with good shelter, in 20 to 31m, mud, can be taken W of Suvey Point.

16.38 Aukpik Island (62°46'N., 92°04'W.), small and low,

lies almost 0.5 mile S of Buff Island. A chain of islands and shoals extends about 2 miles ESE from this island, terminating in a reef with a least depth of 2.7m. The recommended track leading into Melvin Bay passes close N of this chain. Stickle Islet lies almost 1 mile ESE of Aukpik Island, with Net Island about 0.3 mile S. Hillock Islet, Hump Island, Slab Island, and Kango Island comprise a group of four islands lying W of Aukpik Island. A deep channel lies between Aukpik Island and Hillock Islet.

The SW part of Rankin Inlet has not been surveyed.

16.39 Rankin Inlet—Southwest side.—Longspur Island lies close off the mainland, about 5.7 miles S of the E end of the Tudlik Peninsula. The coast between this island and Papik Point, about 10 miles ESE, is bordered by numerous islands and rocks lying close offshore. Only a few of the islands are over 9m high.

The Sandy Islets, the Broken Islands, and Kind Islet, together with numerous unnamed islands, lie E of Longspur Island.

The **Mirage Islands** (62°38'N., 91°41'W.), a large group of islands lying NE of Papik Point, are surrounded by rocks and shoals. Isle of Cairns is the N island of this group; Crane Island is the E island of this group.

Caution.—It is reported that fixes based on the Mirage Islands give inaccurate positions.

16.40 Off-lying islands and dangers.—A chain of islands, rocks, and shoals extends about 11 miles ESE from the Kudlulik Peninsula.

Fairway Shoals (62°42'N., 91°42'W.), the E danger, with a least depth of 3m, lie about 2.5 miles NNE of Isle of Cairns. Position Rock, which dries 1.8m and usually breaks, lies on the SE part of Fairway Shoals. Pin Rock, which dries 2.7m, lies about 2 miles WSW of Position Rock.

Separation Shoals (62°45'N., 91°55'W.) lie about 2.5 miles NW of Fairway Shoals and extend about 4 miles NW to Guillemot Island. Pod Rock, Little Pod Rock, Big Pod Rock, Harp Rock, and Kelp Rock all lie on Separation Shoals and dry 0.6 to 1.8m. A shoal depth of 1.2m lies at the SE end of Separation Shoals and 0.5 mile SW of the recommended track.

Guillemot Island (62°46'N., 91°59'W.), low and narrow, lies about 2.2 miles SE of Survey Point. Mannik Islet, also low, lies close SE of Guillemot Island. **Craig Rock**, which dries 3m, lies about 0.3 mile SW of Mannik Islet. Guillemot Rocks, a group of drying rocks, lies about 0.4 mile W of Guillemot Island.

Bag Island (62°47'N., 92°02'W.), 6.4m high and surmounted by a cairn, lies 1 mile NW of Guillemot Island. Cur Island, marked by a cairn, and Kresik Island are the two largest islands of a group which lie N of Bag Island.

Middle Shoals (62°45'N., 91°49'W.), about 2.5 miles long, lie N of the SE end of Separation Shoal, with a deep channel between them. Hidden Rock dries 0.3m on the SW side of Middle Shoals.

Guillemot Bank, separated from Middle Shoals to the SE by a deep channel, lies NE of and parallel to Separation Shoals. A depth of 2.8m lies near its NE end and a depth of 5.2m lies near its middle part. The recommended track passes between this bank and Separation Shoals.

16.41 Horseshoe Deep (62°47'N., 91°57'W.), a large area of deep water, lies between the NW end of Guillemot Bank and Thomson Island.

Anchorage.—Anchorage can be taken, in 22m, mud, in the E part of Thomson Passage, between Thomson Island and the mainland. Anchorage can be taken in the NE part of Melvin Bay, in depths of 20.1 to 31.1m, mud, sheltered from all winds and weather. Anchorage can be taken in Prairie Bay, off the entrance to Johnston Cove, in 11.9m, about 0.4 mile E of the SE extremity of Esker Island. This exposed anchorage is not recommended for a lengthy stay.

Pilotage.—It is strongly recommended that commercial vessels, regardless of size or draft, obtain the services of a pilot. Pilots board in the vicinity of Marble Island or at the anchorage ESE of Kresik Island (61°48'N., 92°01'W.).

Directions.—Vessels bound for the head of Rankin Inlet should steer for a position 3 miles S of the E end of Quartzite Island. From this position a course of 286° for 26 miles will lead over a least depth of 13.7m to a position 5 miles S of the E end of Falstaff Island. Care should be taken to closely adhere to this track as it passes within 0.2 mile of a 10.4m shoal and within 0.5 mile of some 7.3m patches.

From this position a course of 310° will lead between Separation Shoals and Guillemot Bank, over a least depth of 36.6m. Depths of 4.6m exist within 0.2 mile of this track in the vicinity of Harp Rock. When the NW tangent of Guillemot Island bears 252°, distant almost 1 mile, course should be altered to 285° for 1.2 miles. When the cairn on Cur Island bears 320°, distant 1 mile, course should be altered to 324° for about 0.4 mile over a least depth of 6.7m, until the cairn on Kresik Island bears 002°, distant 0.5 mile. Course should then be altered to bring the cairn ahead for about 0.1 mile to clear the 3m shoal 0.2 mile NE of Bag Island. The least depth on this course is 7m. After running this course until the cairn on Kresik Island is distant 0.4 mile and the cairn on Cur Island bears 308°, course should be altered to 321° for 0.5 mile. This course leads over a least depth of 11m and passes within 0.1 mile of a 1.5m depth W of the S end of Kresik Island.

When the cairn on Cur Island is abeam, bearing 232°, alter course to 332° and proceed about 1 mile to the inner anchorage off Johnston Cove over a least depth of 8.5m.

It is strongly advised that a local pilot be employed before attempting this passage.

Directions for Melvin Bay Anchorage.—Vessels proceeding to the anchorage in Melvin Bay should follow the track from Marble Island until Dark Point, the NE extremity of Thomson Island, the largest island on the N side of Rankin Inlet, bears 005°, distant 3.7 miles. Course should then be altered to 274°, with the highest point of Net Island ahead. Follow this course for 2.3 miles, crossing Separation Shoals over a least depth of 12.8m. A depth of 7m lies close to starboard on this course. When the W tangent of Guillemot Island bears 347°, distant 1 mile, alter course to 302° bringing the highest point of Theron Island almost in line with the cliff edge on the SW side of Panorama Island. When the highest point on Aukpik Island has passed abeam to port, alter course to 315° and proceed through Access Passage in mid-channel.

A rock, with a depth of 0.1m, lies about 135m off the NW side of Buff Island, and the W side of Access Passage should be favored when passing this rock. Once past the rock, alter

course to 336° and proceed to the charted anchorage and anchor, in depths of 20.1 to 31.1m, mud.

16.42 Johnston Cove Settlement (62°49'N., 92°04'W.), the principal settlement in Rankin Inlet, consists of a Hudson's Bay Company store, two church missions, a fish cannery, a school, and a nickel mine.

The high mineshaft frame, the high radio tower about 0.5 mile W of the settlement, and the oil tanks S of the settlement are conspicuous from the offing.

In Rankin Inlet, the highest spring rise of the tide is 4.6m.

Little information is available regarding the opening and closing of the navigation season in Rankin Inlet. However, the inlet usually opens in July and closes in October.

Rankin Inlet to Eskimo Point

16.43 The coast between Rankin Inlet and Dawson Inlet, about 60 miles SW, is indented by numerous bays and fronted by many islands, rocks, and shoals, which lie up to 10 miles offshore in places.

Corbett Inlet (62°28'N., 92°10'W.) is entered between the SW extremity of Cape Jones, about 6 miles SSW of Papik Point, and Igloo Point, about 10 miles farther SSW. This inlet has not been examined, but appears to contain many drying shoals.

Caution.—A local magnetic anomaly is reported in the entrance to Corbett Inlet.

16.44 Igloo Point (62°22'N., 92°05'W.) is the E extremity of the Pork Peninsula, which extends about 14 miles E from the mainland.

Dunne Foxe Island is the largest of a group of islands lying in the entrance to an unnamed bay about 5 miles SW of Igloo Point. A light, with a radar reflector, is shown from the E of the islets extending E from Dunne Foxe Island. Shoals, some of which appear to dry, extend 10 miles ESE of Dunne Foxe Island, in which position there is a depth of 2m.

Pistol Bay (62°27'N., 92°41'W.) lies at the head of a large unnamed bay which is entered between Igloo Point and Term Point, about 18 miles SW. Both of these bays have not been examined.

Term Point (62°08'N., 92°28'W.), about 6.1m high and said to be the most conspicuous headland between Baker Foreland and Eskimo Point, is the SE extremity of an unnamed island. A 6.1m shoal lies about 10 miles ESE of Term Point. Hell Gate, the passage between the above island and the peninsula extending from the mainland, provides excellent anchorage, in a depth of 20.1m, about 0.5 mile S of the S entrance.

Whale Cove (62°10'N., 92°34'W.), entered close W of Hell Gate, has a depth of 67.7m in its entrance shoaling gradually to a depth of 23.8m at its head.

Anchorage.—Anchorage is provided in the cove entrance, but the bottom is rock and is unprotected from the N.

The settlement in the NW part of the cove consists of two church missions, a school, a post office, and a nursing station.

16.45 Wilson Bay (62°14'N., 92°45'W.), entered close W of Whale Bay, provides good anchorage over a mud bottom near its head. Good shelter is provided from all winds, but numer-

ous shoals, some of which dry, foul the bay. A conspicuous bluff lies on the W side of a long island, about 4.5 miles NNW of the E entrance point of Wilson Bay.

Mistake Bay (62°08'N., 92°49'W.), the next bay to the S, is reported to be fouled by numerous islands and shoals.

The **Morso Islands** (62°03'N., 92°39'W.), which consist of two large and several small islands, lie about 7 miles SW of Term Point. A white wooden beacon, 6.1m high, stands on the S island and is visible for 7 miles. Several shoals lie up to 3 miles S and SE of these islands. It is recommended that a wide berth be given this part of the coast when passing.

Walrus Island (61°58'N., 92°28'W.), small in extent, with an elevation of 17m, lies about 5 miles SE of the Morso Islands. Vessels proceeding along this coast are advised not to pass closer than 4 miles off this island. A light tower, fitted with a racon, is shown from the island. Several rocks, with depth of less than 1.8m, lie about 2 miles NE and 4 miles W of the island.

Flattop Island (62°02'N., 92°57'W.), 21.3m high and conspicuous, lies about 7 miles W of the Morso Islands. Numerous islands, interspersed with shoals, some of which break in slight seas, extend S and SE for 7 miles from Flattop Island.

Tavani (62°04'N., 93°06'W.), the site of an unoccupied settlement and a former Hudson's Bay Company trading post, stands on the mainland about 4 miles W of Flattop Island. A conspicuous flattop hill lies 0.5 mile S of the unoccupied settlement.

Caution.—A considerable magnetic anomaly has been reported in the vicinity of Tavani.

Vessels drawing more than 3.7m should not proceed W of Walrus Island toward Tavani without local knowledge.

16.46 Nevill Bay (61°57'N., 93°04'W.), a long narrow indentation with the Ferguson River discharging into its head, lies about 5 miles S of Tavani. Bibby Island, which forms the SE side of the bay, is fronted by numerous islands which lie up to 10 miles E and SE of it.

Dawson Inlet (61°49'N., 93°12'W.), entered close S of Bibby Island, extends about 18 miles WNW and is about 5 miles wide. Numerous islands lie off its S side and the Copper-needle River flows into its SW part. The inlet has not been surveyed. Breakers have been reported 6 miles E of Angusko Point, the SW entrance point of the inlet.

The coast between the S entrance point to Dawson Inlet and Eskimo Point, about 46 miles SSW, is marked by a number of long narrow points and ridges and bordered by numerous islands. These ridges extend up to 50 miles inland in places.

Sioralit Point (61°44'N., 93°19'W.), lying about 4 miles SW of Dawson Inlet, is the N entrance point of a sheltered bay which is reported to have a least depth of 6.4m. Sioralit Point can be identified by some cabins which stand on it.

16.47 Maguse Point (61°20'N., 93°49'W.), the E extremity of Austin Island, lies about 28 miles SSW of Sioralit Point. Although only 15m high, the point is conspicuous. Austin Island, 36m high, lying in the mouth of the Maguse River, divides it into two unnavigable channels.

Sentry Island (61°09'N., 93°52'W.), long and narrow, lies 11 miles S of Maguse Point and 4.7 miles NNE of Eskimo Point. A conspicuous latticework beacon stands in the middle

of the S side of the island. The island has been reported to be a good radar target up to 15 miles. A light, fitted with a racon, is shown from the highest point of the island.

Foul ground, which dries in places, extends up to 7 miles E from the island. Vessels approaching Eskimo Point should pass S of this area. A shoal area, with depths of less than 5.5m, extends up to 3.5 miles S from the W end of the island. The area W of this line is foul. Vessels should pass at least 8 miles E of the island.

Eskimo Point to Cape Henrietta Maria

16.48 The coast between Eskimo Point and Cape Henrietta Maria, about 480 miles SE, is devoid of off-lying islands. The depths near the coast are very shallow and with the exception of Churchill Harbor and Port Nelson, the inlets are inaccessible to vessels other than small craft.

South of Churchill Harbor the coast is low and flat, the land rising gradually from the swampy land within the coastline. The large rivers found along this section of coast discharge quantities of sand and clay which form bars and shoals in their estuaries.

Depths—Limitations.—Soundings along this section of coast, especially in the approach to Churchill Harbor, can best be seen on the Canadian charts. It was reported that depths in the approach to this harbor were less than those charted.

Although depths appear to be ample, the scarcity of soundings along the greater part of this coast precludes definition of a safe meter curve. A number of dangers lie inshore of a line of bearing between Eskimo Point, Cape Churchill, and Cape Tatnam. Shoal depths are charted as far as 13 miles offshore between Cape Tatnam and Cape Henrietta Maria, about 320 miles ESE.

Eskimo Point (61°06'N., 94°00'W.), a long narrow sandy point lying 5 miles SW of Sentry Island, can be identified by the buildings of the settlement and a conspicuous church spire on the N side of the point.

Caution.—A local magnetic anomaly exists about 50 miles E of Eskimo Point.

16.49 Arviat (61°06'N., 94°04'W.) lies on the N side of the point about 2.5 miles W of the extremity and consists of a church mission, a Hudson's Bay Company store, a school, a nursing station, and a police detachment.

Tides—Currents.—The tidal current is 2 knots on the ebb and 5 knots on the flood, being strongest in shallower water.

Aspect.—Six large oil tanks S of the settlement are conspicuous, as is a 5m high wooden cross erected on the S point of a narrow peninsula about 1 mile N of the settlement.

Anchorage.—Anchorage can be taken about 1.7 miles E of the settlement, in 5m, good holding ground, gray mud and sand.

Caution.—Care should be taken to avoid the foul ground which extends up to 7 miles E from the island.

It has been reported that a least depth of 2.7m exists between the anchorage and the settlement.

16.50 Between Eskimo Point and the mouth of the Egg River, about 75 miles SSW, the low, marshy coast is fringed by a drying reef which extends up to 5 miles offshore. This section

of coast should be given a wide berth when passing.

Egg Island (59°55'N., 94°50'W.), small and low, lies in the mouth of the Egg River and divides the entrance into two channels. A conspicuous abandoned trading post is situated on this island.

The low, marshy coast between Egg Island and Hubbart Point, about 35 miles S, is bordered by drying ridges. The 35m curve lies 9 miles off Egg Island and 4 miles off Hubbart Point.

Approach to Churchill Harbor

16.51 Between Hubbart Point and Cape Churchill, about 55 miles SE, the coast extends S and then E forming an extensive bight. Churchill Harbor lies just within the entrance of the Churchill River, about midway along this bight.

Hubbart Point (59°21'N., 94°40'W.), 9m high and conspicuous, is the NE extremity of a group of islands lying on a drying spit which extends 3 miles NNE from the mainland. A conspicuous beacon stands on the smallest island.

Anchorage.—Anchorage can be taken, in a depth of 14.6m, 1.5 miles SE of Hubbart Point, sheltered from W winds.

From Hubbart Point, the coast extends S for about 25 miles to the delta of the North River and then about 15 miles SSE to the head of Button Bay. This shoal indentation lies close W of Churchill Harbor. A rocky peninsula, about 42m high, separates the bay from the Churchill River.

This section of coast is bordered by a wide shoal area and, except in the actual approach to Churchill Harbor, should not be approached closer than the 20m curve, which lies up to 14 miles offshore in places.

16.52 Churchill Harbor, in the mouth of the Churchill River, is bordered on the E side by a rocky peninsula tapering to a blunt point at Cape Merry. On the W side of the harbor, on another rocky peninsula, Fort Prince of Wales, begun in 1732 and finished 40 years later, is black, flat-topped, and prominent. It is now known as Prince of Wales For National Historic Site of Canada. Eskimo Island, with Eskimo Point at its N end, lies N of the W peninsula.

The port is now closed.

The community of Churchill is a local government district for administrative purposes. The town has a post office, bank, health center with medical and dental care, and a detachment of the RCMP. Because Churchill is a center for eco-tourism, hotels, restaurants, and gift shops abound. There is a Northern Store in the community. Accommodations may be difficult to find at certain times of the year, particularly in late fall. Calm Air provides daily flights and Kivallik Air provides flights daily except Saturdays.

The site of the former military base of Fort Churchill is 3 miles E of the town. Further E, the Churchill Rocket Research Range, now designated by Parks Canada as a National Historic Site, was formerly operated by the National Research Council of Canada to conduct atmospheric research.

Winds—Weather.—The only gales that affect the harbor are those from the NE, which send in a choppy sea for a short distance inside the entrance and along the NW side. The E side is calm at all times. The prevailing winds are from the NW. Remarkably little fog is experienced in Churchill Harbor.

Ice.—For unstrengthened vessels, navigation through Hudson Strait and Hudson Bay to Churchill Harbor is generally possible by the last week of July.

The Canadian Coast Guard provides ice information and routing and icebreaker assistance in Hudson Strait and Hudson Bay. To obtain these services vessels should, before entering Hudson Strait, communicate with NORDREG CANADA through any Coast Guard radio station. There is an ice information office at Churchill where vessels can obtain ice information prior to sailing.

The latest departure dates are governed by the start of ice formation in Churchill Harbor. Navigation usually ends about October 20.

An icebreaker is stationed in Hudson Strait until the end of navigation and may be contacted if a vessel becomes icebound during passage to or from Churchill. All vessels planning to transit Hudson Strait and Hudson Bay are advised to have a copy of the Canadian Ministry of Transport publication "Ice Navigation in Canadian Waters" on board.

For non ice-strengthened (Type E) vessels, navigation through Hudson Strait and Hudson Bay to Churchill is generally feasible by the last week in July; the latest departure date, governed by the ice in Churchill Harbor, is about October 20. The navigation season is several weeks longer for Type C and Type D vessels.

Tides—Currents.—The tidal range varies from 4.8m at springs to 3.4m at neaps.

Ebbing surface flows at the mouth of the river, near Merry Rock, can reach speeds of 5 knots and can cause a slight set towards the NW shore. Ebbing surface flows near the Ports Canada Wharf reach speeds of 4 knots and tend to set in a NE direction onto the wharf.

During the flood, surface flows reach about 3 knots at the river mouth near Merry Rock and about 2 knots near the Ports Canada Wharf; this current tends to run parallel to the wharf.

Shear lines develop and are visible near the W side of the dredged channel; currents outside the deeper dredged areas are significantly weaker than those in the channel. These shear lines are most prominent during spring tides.

Churchill—Berth Information

Berth	Length	Depth	Vessel Maximum		Remarks
			LOA	Draft	
Grain Terminal					
Grain Berth No. 01	232m	—	—	11.5m	Grain.
Grain Berth No. 02	262m	—	—	9.0m	Grain. Berth closed.
Wolfe Berth	255m	—	—	10.0m	Berth closed.

Churchill—Berth Information					
Berth	Length	Depth	Vessel Maximum		Remarks
			LOA	Draft	
Churchill					
Oil No. 1	167m	—	175.3m	9.9m	Grain and bunkers.



Churchill—Former Grain Terminal

During the ebb, the river flows into Hudson Bay in a strong jet, running in a NE direction past Merry Rock Lighted Buoy. There may be rips and eddies near and N of this buoy during spring tides. During strong NE and E winds, steep waves develop at the river mouth on the ebb tide.

At the wharf, very strong currents are experienced during the ebb and special mooring precautions may be required.

Depths—Limitations.—Depths in the approach to the harbor entrance range from 19.8m at Fairway Lighted Bell Buoy, shoaling gradually to a depth of 7.1m about 0.5 mile NE of the entrance, then increasing to depths of 11.3 to 21.3m in the entrance between Cape Merry and the mainland to the NW.

A vessel less than 162m long can enter on the flood tide and turn N on the port anchor. Larger vessels enter on the ebb tide and lie S, turning on the next flood.

Vessels berthed heading S should be secured by a minimum of four head lines and two breast lines as a precaution against the strong ebb flow. A vessel berthed heading N should use six stern lines as well as after springs.

For berthing information, see the table titled **Churchill—Berthing Information**.

Aspect.—The approach to Churchill is well marked and comparatively easy to identify. Approaching from the N or NE, the land in the vicinity appears as a series of islands, which gradually merge upon closer approach.

The white grain elevator on the E side of the harbor, from which a light is shown, is visible up to 20 miles offshore and has been identified by radar at a range of 27 miles. A radio mast, 34m high, is situated 0.4 mile E of the elevator and is oc-

asionally marked by red obstruction lights.

Some oil tanks, 0.2 mile NE of the elevator, are prominent. There is a conspicuous water tower, marked by red obstruction lights, 2.8 miles SE of the grain elevator. There is an aeronautical light, 0.4 mile ENE of the water tower, on the control tower of Fort Churchill Airport.

Other conspicuous objects are the black flat-topped **Fort Prince of Wales** (58°47.8'N., 94°12.8'W.) on the W side of the harbor, the radio mast 3.5 miles E of the elevators, and the water towers SE of the elevators.

Merry Rock Lighted Buoy C1 is in the harbor entrance 0.1 mile NNW of Merry Rock. The entrance and fairway through the harbor are marked by lighted buoys. Churchill Range Lights, SW of Ship Point, in line bearing 236½°, lead through the harbor entrance to the intersection of Fort Prince of Wales range in a least depth of 7.1m. The lights are visible only when in alignment. There is a racon at the front tower. Fort Prince of Wales Range Lights, in line bearing 344°, lead from the intersection of Churchill Range to that of Ship Point Range. The lights are visible only when in alignment. Ship Point Range Lights, NNW of Ship Point, in line bearing 317½°, lead from the intersection of Fort Prince of Wales Range to the wharf. The lights are visible only when in alignment. Churchill Harbor light is shown from the top of the grain elevator.

Pilotage.—Pilotage is compulsory for merchant vessels entering or shifting berth in Churchill Harbor. Pilotage is controlled by the Great Lakes Pilotage Authority Ltd. Masters can arrange for a pilot through MTCS Thunder Bay or may call the Port Warden's office (telephone: 204-675-2263) or the pilot

boat H. M. Wilson direct on VHF. The pilot boat will meet vessels 4 miles NE of the harbor entrance.

It is essential that a ship's ETA is known at least 3 hours in advance so the pilot boat can be on station. During adverse weather, vessels are requested to provide a good lee for the pilot boat boarding and disembarking operations.

Regulations.—Churchill Harbor is a Ports Canada harbor, thus vessels in the harbor are subject to "Ports Canada By-law A-1: Operating Regulations." A copy of these regulations can be obtained from the Port Administration.

Anchorage.—The recommended anchorage for larger vessels is 1 to 3 miles NW to NE of the pilot boarding station, in 20 to 26m, sand and mud. This anchorage is exposed; vessels in light condition may drag, particularly in strong NE winds. Vessels should not anchor off the harbor entrance because the ebb tide is strong and there is a danger of dragging ashore should a NE gale develop.

Small vessels may consult harbor authorities regarding possible short-term anchorages inside the harbor.

It is reported that there is also anchorage 5 miles NNW of Eskimo Point, in a depth of 20.1m, sand, gravel and rock.

The density of the water in Churchill Harbor must be taken by hydrometer during loading operations to ensure vessels are loaded to the correct freeboard. The density varies at different stages of the tide. It can range from completely fresh at LW to completely salty at HW.

Directions.—From a position about 18 miles N of Mansel Island Light, a course of 243° should be steered to cross Hudson Bay to a position bearing 037°, distant 14 miles, from the grain elevator at Churchill.

Care should be taken to correctly identify the grain elevator at Churchill. The radio towers about 3 miles E of the grain elevator may be the first landmarks to be sighted.

From the above position, Fairway Lighted Bell Buoy should be steered for with the grain elevator bearing not more than 217° until the lighted entrance beacons or their topmarks are in line bearing 236°25'. Alter course to this heading, which will lead up to and through the entrance to the harbor. Once inside the harbor, the harbor range beacons and buoys will indicate the channel to the wharf.

Caution.—Across Hudson Bay, the magnetic variation changes about 1° every 10 miles.

Merry Rock, which dries 3m, lies on a shoal extending 0.2 mile NNW of Cape Merry. Foul ground extends 0.15 mile off the NW entrance point of the harbor. Both shores of the harbor are bordered by drying flats; those on the W side are more extensive.

Shallow-draft vessels will experience near-surface currents stronger than those shown. Ebbing surface flowing at the mouth of the river, near Merry Rock, can reach speeds of 5 knots and can cause a slight set towards the NW shore. Ebbing surface flows near the grain wharf reach speeds of 4 knots and tend to set in a NE direction onto the wharf.

There is a noticeable back current along the E and W shores of Cape Merry during the ebb tide. The flow is stronger along the W shore and can reach speeds of about 1 knot near the surface. During the flood, surface currents reach about 3 knots at the river mouth near Merry Rock and about 2 knots near the grain wharf; this flow tends to run parallel to the wharf.

A vessel under 162m long can enter on the flood tide and

turn bows N on its port anchor, letting it go off the berth. A larger vessel enters on the ebb and lays bows S, turning on the next flood. Vessels berthed bows S should be well-secured by a minimum of four head lines and two breast lines as a precaution against the strong ebb flow. A vessel berthed bows N should use six stern lines as well as her back springs.

Cape Churchill to Cape Tatnam

16.53 Cape Churchill (58°47'N., 93°15'W.), a low and marshy point lying 30 miles E of Cape Merry, the E entrance to the Churchill River, is the NW extremity of a peninsula which extends about 2.2 miles NW from the general line of the coast. A square-shaped beacon with a pyramidal top stands about 0.5 mile S of the cape.

The W one-third of the coast between Cape Merry and Cape Churchill is fronted by low rocky cliffs which are characteristic of the shores at the mouth of the Churchill River. A gravel patch, with a depth of 1.5m, lies 2.7 miles N of Cape Churchill. The remaining two-thirds of the coast is low and marshy. The W side of Hudson Bay N of Churchill, being very low, is scarcely visible, except at Hubbard Point.

Halfway Point, a small rocky headland, projects from the coast about 11 miles E of Cape Merry. **Bird Cove** is entered 1 mile W of Halfway Point; a stranded wreck lies 6 miles N of the entrance to the cove.

Caution.—The rocket-launching tower SSE of Halfway Point is reported to be somewhat similar in appearance to the grain elevator.

16.54 The Fox Islands (58°48'N., 93°35'W.), two small low islands, lie about 1.5 miles NW of Watson Point.

Knights Hill and Stony Knoll, two small mounds which are the only natural conspicuous features in the vicinity, lie 1 mile S and SW of Watson Point.

Churchill Shoals (58°54'N., 93°45'W.), lying between Halfway Point and the Fox Islands, extend up to 7.5 miles offshore. This area of foul ground, which has general depths of less than 5.5m, has several drying patches which uncover up to 1.8m. Vessels when passing should approach within depths of less than 18.3m.

La Perouse (58°44'N., 93°25'W.), a drying bay, lies about 4.5 miles SE of Watson Point.

16.55 At Cape Churchill (58°47'N., 93°15'W.), the W side of Hudson Bay turns sharply to the S and extends about 100 miles in this direction to the mouth of the Nelson River. The low coast between Cape Churchill and Rupert Creek, about 75 miles to the S, is intersected by a number of creeks and backed inland by wooded valleys. A shoal bank, which dries along its inner part, lies as far as 10.5 miles offshore between Cape Churchill and Rupert Creek, and then about 6 miles offshore as far S as the Nelson River.

Between Rupert Creek and Cape Tatnam, about 54 miles ESE, the coast recedes to form a large bay into which the Nelson River and the Hayes River discharge. The low swampy shores of this bay are intersected by many creeks and flooded in places at HW. Port Nelson lies on the Nelson River; York Factory lies on the Hayes River.

Caution.—Because of the natural changes in the Nelson

River and its approaches, the charted depths cannot be relied on.

16.56 Approaches to the Nelson River and the Hayes River.—Nelson Shoal lies about 9 miles E of Rupert Creek and is composed of gravel with a few large boulders. The shoal is covered with about 0.6m of water at HW, but dries 4.9m at LW. This shoal is the major danger in the approach to the Nelson River and it is advisable to take soundings continuously when navigating in this area.

The W shore of the bay extends about 22 miles S from Rupert Creek to Sam Creek, which discharges at the NW entrance point of the Nelson River. The 5m curve lies about 4.5 miles E of this latter creek.

Cape Tatnam (57°16'N., 91°00'W.), on the E side of the approach to Port Nelson and York Factory, is low and swampy and can be identified by trees 0.5 mile inland and a conspicuous boulder at the mouth of a stream on its W side. The bottom is uneven for a considerable distance off the cape; vessels should remain in depths of greater than 9.1m when passing Cape Tatnam.

Tatnam Shoal, lying 4 miles NNW of Cape Tatnam, consists of a pile of boulders, drying 1.5m, with shoal water and sunken rocks extending 2 miles farther seaward.

Between Cape Tatnam and **Marsh Point**, about 43 miles SW, the coast is bordered by drying flats which extend up to 2 miles and more offshore. The mud flats extend up to 5 miles off Marsh Point, the W entrance point of the Hayes River. A beacon, consisting of a framework structure, 24m high, with white wooden slats on the N face of its upper part, stands close to the NE extremity of Marsh Point.

The Hayes River is not navigable in the narrow channel between the mud banks. An abandoned Hudson's Bay Company post known as York Factory lies on the W side of the river, about 3 miles above the entrance.

The Nelson River is separated at its entrance from the Hayes River to the E by a broad peninsula terminating in Marsh Point. The estuary of the river is known as Port Nelson and the abandoned settlement of the same name lies on the W side of the river close inside the entrance.

Depths—Limitations.—Depths in the river channel as far as the abandoned settlement are generally more than 5.5m, but reliance on these depths and the position of the channel as charted may well change because of continuous silting. York Roads is the area immediately seaward of the entrances of the Hayes River and the Nelson River.

Anchorage.—Anchorage can be taken, in a depth of 12.8m, with Marsh Point bearing 207° distant 12 miles.

The roadstead at Port Nelson is exposed to NE gales, which occur frequently during the navigation season. Entry to Port Nelson should only be attempted at HW.

Cape Tatnam to Cape Henrietta Maria

16.57 Between Cape Tatnam and Cape Henrietta Maria, the W entrance point of James Bay, about 320 miles ESE, the low coast, is fronted by shoal ground which extends several miles offshore in places. The coast is exposed to N winds and there are no anchorages.

The **Kaskattama River** (57°03'N., 90°07'W.) flows into the

bay about 30 miles ESE of Cape Tatnam. The mouth of the Black Duck River lies about 38 miles farther ESE. A former summer trading post of the Hudson's Bay Company lies on the W bank of the Kaskattama River, about 4 miles within the entrance. A concrete monument, which marks the approximate boundary between the provinces of Manitoba and Ontario, stands near the mouth of the Black Duck River.

West Pen Island (56°52'N., 88°52'W.) lies close E of the mouth of the Black Duck River, and East Pen Island lies about 10 miles farther ESE. A conspicuous 15m high knoll rises on the mainland opposite East Pen Island.

The **Severn River** (56°02'N., 87°32'W.) flows into the bay about 55 miles SE of East Pen Island. The low shores on either side of its entrance are fronted by sand and gravel flats which extend about 3 miles offshore. Partridge Island lies in the mouth of the river, dividing its entrance into two channels. The N channel is navigable by small craft with a draft of less than 1.5m. The island is only 4.6m high and flat.

The settlement of Fort Severn, which contains a Hudson's Bay Company store and two missions, lies on the N bank of the river, about 6 miles above the entrance.



Fort Severn

Shallow draft barges operated by the Hudson's Bay Transport Service supply the settlement. Local knowledge is essential. A local pilot is available.

Entrance to the river must be made at HW to clear the mud bars at the mouth of the river. Having cleared the bars, a draft of 2.4 can be carried upriver as far as the settlement.

The **Winisk River** (55°18'N., 85°04'W.), entered between Wabuk Point and Flagstaff Point, about 90 miles ESE of Partridge Island, is fronted by foul ground and is navigable only by very small craft. Numerous islands lie within this shallow river.

16.58 Cape Lookout (55°17'N., 83°56'W.) lies about 37 miles E of Flagstaff Point. Shoal ground is reported to extend for a considerable distance seaward along this stretch of coast. A sunken reef is reported to extend NW from the cape, and a small island, composed of boulders and pebbles, lies about 0.3

mile off this cape.

Little Cape (55°15'N., 83°44'W.), about 8 miles E of Cape Lookout, forms the E side of a small bay into which the Kinushseo River and the Sutton River empty. The bay is fouled by shoals and boulders.

An unnamed island, 7.6m high, lies close offshore about midway between Little Cape and Cape Henrietta Maria, about 48 miles to the E. Another island, marked by a small rock bea-

con, is reported to lie about 3 miles W of this island; drying reefs extend up to 8 miles offshore. Small craft can shelter in the lee of this latter island.

A shallow bay, obstructed by mud flats at its head, lies close W of Cape Henrietta Maria. A small island lies near the W entrance point of this bay.

Cape Henrietta Maria (55°10'N., 82°21'W.) is described in paragraph 15.72.

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		Position				Sec. Para
	°	'	°	'			°	'	°	'	
A						B					
ABBATE POINT	59	21 N	63	38 W	12.16	ASSIZES ISLAND	52	16 N	55	42 W	10.10
ABERDEEN BAY	63	40 N	72	11 W	13.35	ATTAWAPISKAT	52	55 N	82	26 W	15.71
ABLOVIK FIORD	59	30 N	65	23 W	14.6	ATTAWAPISKAT RIVER	52	56 N	82	16 W	15.71
ABRU YUK ISLANDS	65	45 N	89	15 W	16.19	AUKPIK ISLAND	62	46 N	92	04 W	16.38
ACADIA COVE	61	20 N	64	54 W	13.17	AULATSIVIK POINT	63	15 N	90	42 W	16.26
ACADIA ISLANDS	53	51 N	59	00 W	10.135	AUSTIN ISLAND	60	17 N	64	22 W	12.24
ACADIA PASSAGE	61	19 N	64	55 W	13.17	AVAYALIK ISLANDS	60	07 N	64	14 W	12.24
ACHVITOAKSOAK ISLAND	55	29 N	60	13 W	11.27						
ADAMSON POINT	50	53 N	56	08 W	8.29						
ADLAVIK BAY	54	55 N	58	58 W	11.10	BABS BAY	60	45 N	78	20 W	15.8
ADMIRAL POINT	51	28 N	56	58 W	9.16	BACALHAO ISLAND	49	42 N	54	33 W	7.23
AGVAKVIK BAY	62	53 N	70	06 W	13.49	BACCALIEU ISLAND	48	08 N	52	48 W	6.17
AGVIK ISLAND	60	01 N	09	43 W	14.31	BACK ARM	50	43 N	57	21 W	1.28
AILLIK BAY	55	14 N	59	12 W	12.2	BACK HARBOR	49	40 N	54	48 W	7.26
AKIMISKI ISLAND	53	00 N	81	18 W	15.70	BACKSIGHT HILL	56	51 N	61	24 W	11.74
AKIMISKI STRAIT	53	08 N	82	09 W	15.72	BADGER BAY	49	28 N	55	38 W	7.61
AKWATUK BAY	53	40 N	79	00 W	15.56	BAG ISLAND	62	47 N	92	02 W	16.40
ALBANY RIVER	52	16 N	81	28 W	15.69	BAGG HEAD	49	33 N	55	17 W	7.51
ALBERT SHOAL	52	56 N	80	25 W	15.70	BAGGS HEAD	47	41 N	58	08 W	2.14
ALCOCK ISLAND	49	31 N	55	25 W	7.58	BAIE BROCHANT	59	54 N	69	40 W	14.28
ALDRIDGE HEAD	47	37 N	57	35 W	2.23	BAIE DE BONNARD	59	41 N	69	35 W	14.28
ALEXANDER BAY	48	43 N	53	55 W	6.63	BAIE DE ROZIERE	60	31 N	69	45 W	14.33
ALEXIS BAY	52	32 N	55	52 W	10.21	BAIE DU VIEUX COMPTOIR	52	37 N	78	44 W	15.58
ALLE HARBOR	58	50 N	78	34 W	15.13	BAIE HERICART	61	02 N	70	26 W	13.51
ALLUVIAQ FJORD	59	30 N	65	23 W	14.6	BAIE SECHE	58	34 N	68	15 W	14.17
ALMA HILL	51	11 N	55	5 W	8.40	BAIE VERTE	49	56 N	56	12 W	8.9
ALUKPALUK BAY	58	25 N	67	07 W	14.11	BAIE VERTE	50	02 N	56	04 W	8.7
AMADJUAK BAY	64	01 N	72	37 W	13.36	BAILEY ISLANDS	63	53 N	89	50 W	16.23
AMAGVIK ISLAND	56	49 N	61	21 W	11.74	BAKER FORELAND	62	55 N	90	49 W	16.34
AMERICAN COVE	53	11 N	55	46 W	10.59	BAKER LAKE	64	07 N	94	45 W	16.31
AMERICAN POINT	53	24 N	55	47 W	10.74	BAKER LAKE SETTLEMENT	64	19 N	96	02 W	16.33
AMERICAN ROCK	53	18 N	55	44 W	10.71	BAKERS DOZEN ISLANDS	56	41 N	78	49 W	15.41
AMERICAN TICKLE	53	13 N	55	42 W	10.63	BAKERS LOAF	48	11 N	53	32 W	6.39
AMIKTOK ISLAND	59	25 N	63	43 W	12.16	BALCOM INLET	62	19 N	68	41 W	13.25
AMITY ISLAND	60	15 N	64	22 W	12.21	BALD HEAD	46	58 N	52	54 W	5.7
ANCHOR POINT	51	14 N	56	49 W	1.6	BALD HEAD	47	27 N	53	56 W	4.45
ANCHOR POINT	56	53 N	61	37 W	11.69	BALD HEAD	48	00 N	53	38 W	6.31
ANCHORSTOCK BIGHT	57	45 N	61	51 W	11.81	BALD ISLAND	56	34 N	61	15 W	11.55
ANDERSON ISLAND	56	18 N	76	42 W	15.26	BALDRIC HEAD	48	41 N	53	43 W	6.62
ANDREW GORDON BAY	64	20 N	75	20 W	13.38	BALLARD BANK	46	41 N	52	51 W	5.4
ANIK ISLANDS	53	50 N	79	18 W	15.50	BALLYHACK POINT	47	27 N	53	12 W	6.8
ANNIOWAKTOOK ISLAND	55	27 N	60	09 W	11.25	BANGER ISLAND	52	55 N	55	49 W	10.44
ANSE DE MIQUELON	47	06 N	56	22 W	3.9	BANNERMAN ISLAND	64	02 N	94	19 W	16.31
ANSE DE VILLIERS	59	20 N	69	19 W	14.25	BAR COVE HEAD	52	47 N	55	51 W	10.39
ANTHONY BIGHT	51	23 N	55	34 W	8.45	BARBACE POINT	50	44 N	57	21 W	1.27
ANTHONY ISLAND	48	13 N	53	29 W	6.40	BARE ISLAND	54	26 N	79	56 W	15.47
ARCH CLIFF POINT	48	35 N	53	29 W	6.54	BARING ISLAND	47	38 N	57	52 W	2.17
ARCHES, THE	50	07 N	57	40 W	1.38	BARR'D ISLAND	49	44 N	54	11 W	7.9
ARCTIC ISLAND	62	14 N	74	46 W	13.66	BARRACK ISLANDS	49	48 N	53	58 W	7.8
ARGENTIA	47	18 N	53	39 W	9.2	BARREN BAY	52	25 N	55	38 W	10.17
ARGENTIA	47	18 N	53	59 W	4.34	BARREN ISLAND	47	31 N	54	07 W	4.43
ARGO ISLAND	60	20 N	64	19 W	12.24	BARRIER INLET	62	21 N	68	50 W	13.25
ARIEGE BAY	51	11 N	55	59 W	8.41	BARTH ISLAND	56	36 N	61	47 W	11.63
ARNOLD POINT	51	20 N	80	23 W	15.65	BASKING ISLAND	59	59 N	70	05 W	14.32
ARVIK ISLAND	60	01 N	09	43 W	14.31	BASSE TERRE POINT	47	28 N	56	07 W	2.50
ASHE INLET	62	32 N	70	34 W	13.32	BATEAU HARBOR	53	24 N	55	46 W	10.77
ASHE ROCKS	59	53 N	64	03 W	12.18	BATTERY BAY	65	21 N	86	07 W	16.12

BATTLE HARBOUR	52	16 N	55	35 W	10.9	BIRCHY ISLAND TICKLE	49	22 N	54	59 W	7.36
BATTLE ISLAND	52	17 N	55	35 W	10.8	BIRD ROCKS	53	57 N	56	53 W	10.101
BAY DE GRAVE	47	35 N	53	12 W	6.10	BISHOP ROCK	49	56 N	55	27 W	7.91
BAY DE VERDE HEAD	48	05 N	52	54 W	6.17	BISHOPS ISLAND	49	50 N	54	05 W	7.11
BAY OF GODS MERCY	63	30 N	86	10 W	16.10	BISHOPS MITRE	57	54 N	62	00 W	12.3
BAY OF ISLANDS	49	13 N	58	10 W	1.3	BITTERN ISLET	58	47 N	69	49 W	14.24
BAY OF ISLANDS	55	11 N	59	43 W	11.21	BLACK BEAR BAY	53	18 N	55	50 W	10.73
BAY ROBERTS	47	36 N	53	12 W	6.11	BLACK BEAR ISLAND	55	05 N	58	39 W	11.12
BAY ROBERTS HARBOR	47	35 N	53	16 W	6.12	BLACK FLY ISLAND	52	24 N	56	02 W	10.15
BEACH ISLAND	57	28 N	79	04 W	15.33	BLACK HEAD	46	55 N	55	53 W	4.5
BEACH POINT	66	12 N	85	52 W	16.20	BLACK HEAD	47	32 N	52	39 W	5.13
BEACHES HEAD	48	48 N	53	49 W	6.62	BLACK HEAD	48	38 N	53	10 W	6.53
BEACHY ISLAND	57	08 N	61	20 W	11.77	BLACK ISLAND	49	08 N	53	33 W	6.69
BEACON ISLAND	58	53 N	66	20 W	14.8	BLACK ISLAND	49	33 N	54	58 W	7.31
BEACON ISLAND	59	21 N	63	36 W	12.15	BLACK ISLAND	49	35 N	54	42 W	7.24
BEACON ISLAND	62	41 N	69	44 W	13.29	BLACK ISLAND	51	37 N	55	49 W	9.25
BEACON ISLAND	64	12 N	76	26 W	13.41	BLACK ISLAND	54	22 N	57	47 W	10.126
BEACON POINT	58	34 N	68	12 W	14.13	BLACK JOKE COVE	52	01 N	55	17 W	9.3
BEAR COVE	51	16 N	56	46 W	1.4	BLACK POINT	47	41 N	53	30 W	6.24
BEAR COVE POINT	46	56 N	52	53 W	5.6	BLACK POINT	50	43 N	57	24 W	1.29
BEAR COVE POINT	63	36 N	84	05 W	16.10	BLACK POINT	62	14 N	75	37 W	13.69
BEAR COVE POINT	51	16 N	56	46 W	1.5	BLACK REEF	49	08 N	53	29 W	6.69
BEAR HEAD	47	35 N	57	20 W	2.24	BLACK REEF	49	36 N	54	10 W	7.14
BEAR HEAD	49	01 N	58	29 W	1.66	BLACK ROCK	47	34 N	59	04 W	2.5
BEAR HEAD	49	01 N	58	30 W	1.3	BLACK ROCK	53	09 N	55	44 W	10.56
BEAR ISLAND	54	00 N	58	53 W	10.138	BLACK ROCK	54	01 N	57	02 W	10.114
BEAR ISLAND	54	21 N	81	06 W	15.68	BLACK ROCK POINT	60	02 N	64	11 W	12.19
BEAR ISLAND	56	03 N	60	55 W	11.40	BLACK ROCKS	53	37 N	56	02 W	10.90
BEAR ISLANDS	55	08 N	78	18 W	15.31	BLACK STONE BAY	52	40 N	78	46 W	15.58
BEARS GUT	58	43 N	63	00 W	12.11	BLACK TICKLE	53	27 N	55	45 W	10.79
BEAUMONT HARBOR	62	56 N	70	52 W	13.33	BLACK WHALE HARBOR	55	09 N	78	07 W	15.31
BEAVER ARM	50	54 N	56	09 W	8.29	BLACK WHALE ISLAND	53	21 N	79	01 W	15.56
BEAVER COVE	49	31 N	54	34 W	7.21	BLACKBERRY HEAD	49	42 N	55	54 W	7.83
BEAVER COVE	50	53 N	56	11 W	8.29	BLACKGUARD BAY	53	45 N	56	40 W	10.100
BEAVER HEAD	49	32 N	54	33 W	7.21	BLACKHEAD BAY	48	35 N	53	15 W	6.53
BEAVER RIVER	53	24 N	78	56 W	15.56	BLAKE GROUND	52	18 N	55	37 W	10.11
BECK POINT	60	13 N	64	23 W	12.22	BLAKE SHOAL	53	35 N	59	57 W	10.144
BED HEAD	53	20 N	55	48 W	10.73	BLAKEY'S GROUND	49	55 N	53	43 W	7.8
BELANGER ISLAND	56	08 N	76	46 W	15.26	BLANDFORD HARBOR	60	26 N	64	34 W	13.11
BELCHER ISLANDS	56	20 N	79	50 W	15.34	BLIND REEF	59	03 N	68	40 W	14.19
BELL HARBOR	57	56 N	77	08 W	15.22	BLOODY POINT	47	51 N	54	11 W	4.53
BELL INLET	58	52 N	63	00 W	12.11	BLOODY POINT	48	45 N	53	50 W	6.62
BELL ISLAND	47	38 N	52	57 W	6.4	BLOODY REACH	48	48 N	53	48 W	6.62
BELL ISLAND	47	40 N	54	18 W	4.37	BLOOMER HARBOR	48	43 N	53	50 W	6.62
BELL ISLAND	50	45 N	55	33 W	8.29	BLOOMFIELD ISLAND	54	13 N	58	14 W	10.128
BELLE RIVIERE	46	54 N	56	18 W	3.7	BLOW ME DOWN MOUNTAIN	58	46 N	63	06 W	12.11
BELLENS POINT	49	32 N	55	14 W	7.50	BLOW-ME-DOWN	47	08 N	55	05 W	4.16
BENBURY ROCK	49	07 N	53	36 W	6.68	BLOW-ME-DOWN POINT	47	43 N	57	25 W	2.24
BENCAS ISLAND	63	00 N	82	40 W	16.5	BLUE HILLS	47	26 N	53	15 W	6.8
BENNETS HIGH ISLAND	49	08 N	53	34 W	6.69	BLUE HILLS OF COUTEAU	47	50 N	58	02 W	2.1
BERNHEIMER BAY	63	58 N	88	56 W	16.22	BLUEBELL ISLAND	58	30 N	62	35 W	12.8
BERRY POINT	47	38 N	58	35 W	2.10	BLUFF HEAD	48	47 N	58	37 W	1.66
BERTHE ISLET	61	45 N	72	01 W	13.55	BLUFF HEAD	49	37 N	54	46 W	7.26
BERTHIE HARBOR	65	20 N	87	20 W	16.20	BLUFF HEAD COVE	54	24 N	57	35 W	10.126
BESOM ISLAND	49	29 N	55	20 W	7.54	BLUFF ISLAND	58	25 N	78	09 W	15.19
BETTS COVE	49	49 N	55	47 W	7.89	BLUFF POINT	48	08 N	53	55 W	6.36
BIDE ARM	50	46 N	56	07 W	8.27	BLUNDON'S ISLAND	49	33 N	54	13 W	7.13
BIDE HEAD	50	45 N	56	08 W	8.27	BOAR ISLAND	47	36 N	57	36 W	2.21
BIDE SHOAL	50	48 N	56	06 W	8.27	BOAT HARBOR HEAD	47	23 N	54	50 W	4.21
BIG BAY	55	48 N	60	33 W	11.32	BOAT HEAD	51	36 N	56	00 W	9.27
BIG HEAD	49	03 N	58	07 W	1.61	BOAT PASSAGE	51	42 N	79	00 W	15.63
BIG HEAD	49	38 N	54	41 W	7.24	BOATSWAIN BAY	51	50 N	78	50 W	15.61
BIG HEAD	59	23 N	63	46 W	12.15	BOIS ISLAND	47	02 N	52	52 W	5.8
BIG ISLAND	47	53 N	53	44 W	6.30	BOLD ISLAND	52	30 N	55	48 W	10.22
BIG ISLAND	49	20 N	55	04 W	7.41	BOLD POINT	62	02 N	72	28 W	13.60
BIG ISLAND	49	31 N	55	41 W	7.66	BOMBPROOF ISLAND	53	24 N	55	45 W	10.78
BIG ISLAND	54	17 N	58	04 W	10.127	BONAVENTURE HEAD	48	17 N	53	24 W	6.40
BIG ISLAND	55	06 N	59	13 W	11.15	BONAVISTA BAY	48	50 N	53	25 W	6.50
BIG ISLAND	58	20 N	67	35 W	14.12	BONAVISTA HARBOR	48	39 N	53	07 W	6.52
BIG ISLAND	58	33 N	62	42 W	12.8	BOND INLET	62	11 N	67	49 W	13.25
BIG ISLAND	62	42 N	70	40 W	13.31	BONNE BAY HEAD	47	38 N	56	13 W	2.35
BIG PIG ISLAND	53	12 N	55	43 W	10.61	BOOT HARBOR	49	30 N	55	56 W	7.77
BIG PIG ISLAND	53	15 N	55	43 W	10.68	BOSUNS REEF	58	56 N	68	25 W	14.19
BIG POOL'S ISLAND	49	06 N	53	35 W	6.70	BOSWELL ISLANDS	64	00 N	94	00 W	16.31
BIG POOL'S ISLAND	49	06 N	59	35 W	6.68	BOTWOOD HARBOR	49	09 N	55	20 W	7.47
BIG REEF	59	08 N	63	20 W	12.12	BOULDER BAY	58	57 N	69	26 W	14.21
BIG SEAL ISLAND	47	37 N	58	35 W	2.9	BOULTON ROCK	54	01 N	56	41 W	10.96
BIG WHITE BEARSKIN ISLAND	58	22 N	63	32 W	12.15	BOURGIN POINT	60	14 N	64	27 W	12.21
BIGELOW BAY	59	05 N	63	17 W	12.12	BOUTCHER'S COVE	48	50 N	54	00 W	6.63
BILLS POINT	49	27 N	55	17 W	7.55	BOWDOIN HARBOR	60	20 N	64	29 W	12.26
BIRCHY COVE HEAD	49	41 N	56	02 W	7.86	BOXEY HARBOR HEAD	47	24 N	55	36 W	2.54
BIRCHY HEAD	48	53 N	53	58 W	6.63	BOXEY POINT	47	24 N	55	36 W	2.53

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CAPE MOSES OATES	62	36 N	73	56 W	13.65	CHAMPNEY'S COVE	48	23 N	53	18 W	6.44
CAPE MUGFORD	57	50 N	61	43 W	12.2	CHANCE COVE	46	46 N	53	01 W	5.5
CAPE NEDDICK	47	09 N	52	51 W	5.10	CHANCE HEAD	48	32 N	53	38 W	6.54
CAPE NETCHEK	62	55 N	83	17 W	16.6	CHANCE ROCKS	59	54 N	64	06 W	12.18
CAPE NORMAN	51	38 N	55	54 W	9.27	CHANCEPORT HARBOR	49	33 N	54	49 W	7.28
CAPE NORMAN	51	38 N	55	55 W	9.1	CHANDLER REACH	48	30 N	53	45 W	6.55
CAPE NUVOTANNAK	58	12 N	62	36 W	12.5	CHANGE ISLAND TICKLE	49	40 N	54	25 W	7.20
CAPE PEMBROKE	62	57 N	81	54 W	16.5	CHANGE ISLANDS	49	40 N	54	25 W	7.19
CAPE PINE	46	37 N	53	32 W	4.64	CHANNEL HEAD	47	34 N	59	07 W	2.4
CAPE PINE	47	37 N	53	32 W	4.2	CHAPEL ARM	47	34 N	53	39 W	6.27
CAPE PORCUPINE	53	57 N	57	10 W	10.113	CHAPEL HEAD	49	22 N	54	54 W	7.37
CAPE PRINCE OF WALES	61	36 N	71	31 W	13.53	CHARGE ROCK	49	15 N	53	22 W	6.71
CAPE RACE	46	39 N	53	04 W	5.4	CHARLES ISLAND	62	40 N	74	20 W	13.65
CAPE RAY	47	37 N	59	18 W	2.1	CHARLES POINT	53	20 N	60	10 W	10.148
CAPE ROUGE	54	40 N	57	33 W	11.4	CHARLEY POINT	53	57 N	59	03 W	10.141
CAPE ROUGE HARBOR	50	55 N	55	52 W	8.32	CHARLOTTETOWN	48	26 N	54	00 W	6.56
CAPE SAINT FRANCIS	52	34 N	55	42 W	10.28	CHARLOTTETOWN	52	46 N	56	07 W	10.38
CAPE SAINT GREGORY	49	24 N	58	15 W	1.2	CHARLTON ISLAND	52	00 N	79	25 W	15.60
CAPE SAINT JOHN	50	00 N	55	30 W	8.2	CHATEAU POINT	51	58 N	55	51 W	9.6
CAPE SAINT LEWIS	52	22 N	55	38 W	10.17	CHESTERFIELD INLET	63	24 N	90	38 W	16.24
CAPE SAINT MARY'S	46	50 N	54	12 W	4.56	CHESTERFIELD INLET SETTLEMENT	63	20 N	90	42 W	16.27
CAPE SAINT MICHAEL	52	41 N	55	46 W	10.32	CHESTERFIELD NARROWS	64	00 N	94	18 W	16.31
CAPE SAINT MICHAELS	52	41 N	55	46 W	10.16	CHIMNEY BAY	50	47 N	56	10 W	8.28
CAPE SMITH	60	43 N	78	43 W	15.7	CHISASIBI	53	50 N	79	00 W	15.54
CAPE SMITH RANGE	60	50 N	78	00 W	15.9	CHIVASK BAY	51	29 N	79	31 W	15.64
CAPE SPEAR	47	32 N	52	37 W	5.12	CHORKBAK INLET	64	24 N	74	26 W	13.37
CAPE ST. ANTHONY	51	21 N	55	31 W	8.45	CHRISIE THOMEY PASSAGE	51	48 N	79	04 W	15.63
CAPE ST. CHARLES	52	13 N	55	38 W	10.3	CHRISTIE ISLAND	57	01 N	76	41 W	15.24
CAPE ST. FRANCIS	47	49 N	52	47 W	5.17	CHRISTOPHER ISLAND	64	04 N	94	30 W	16.31
CAPE ST. GEORGE	48	28 N	59	16 W	1.73	CHURCHILL HARBOR	58	47 N	94	11 W	16.52
CAPE ST. JOHN	49	58 N	55	28 W	7.21	CHURCHILL SHOALS	58	54 N	93	45 W	16.54
CAPE ST. NICOLAS	53	46 N	56	26 W	10.92	CHURCHILL SOUND	56	00 N	80	00 W	15.37
CAPE STRAWBERRY	55	07 N	59	02 W	11.11	CLARENVILLE	48	09 N	53	57 W	6.37
CAPE STRAWBERRY	55	08 N	59	02 W	11.12	CLARK HARBOR	60	14 N	64	23 W	12.23
CAPE TATNAM	57	16 N	91	00 W	16.56	CLARK ISLAND	60	36 N	64	54 W	13.14
CAPE TERRITOK	59	45 N	63	54 W	12.17	CLARK POINT	49	17 N	54	30 W	7.17
CAPE UIVUK	58	29 N	62	34 W	12.7	CLARKE ISLAND	56	27 N	76	39 W	15.25
CAPE WARWICK	61	36 N	64	37 W	13.18	CLATISE HARBOR HEAD	47	30 N	54	25 W	4.37
CAPE WEYMOUTH	62	33 N	69	25 W	13.26	CLAY BANK ARM	51	11 N	55	58 W	8.42
CAPE WHITE HANDKERCHIEF	59	59 N	63	23 W	12.14	CLAY COVE	49	52 N	56	46 W	8.17
CAPE WIGHT	62	44 N	69	45 W	13.29	CLEFT ISLAND	61	57 N	72	31 W	13.61
CAPE WILLINGDON	64	19 N	75	31 W	13.38	CLIFF POINT	47	32 N	52	39 W	5.14
CAPLIN BAY	53	05 N	55	50 W	10.53	CLIFF POINT	49	34 N	56	49 W	8.20
CAPLIN COVE HEAD	49	39 N	54	36 W	7.23	CLODE SOUND	48	28 N	53	54 W	6.56
CAPSTAN POINT	51	18 N	56	45 W	1.4	CLUETT HEAD	47	52 N	55	49 W	2.43
CARAVALLA POINT	54	03 N	58	35 W	10.133	COACHMAN'S HARBOR	50	04 N	56	06 W	8.8
CARBONEAR BAY	47	44 N	53	13 W	6.16	COAL ALL ISLAND	49	24 N	54	48 W	7.35
CARBONEAR ISLAND	47	44 N	53	10 W	6.16	COATS ISLAND	62	35 N	83	00 W	16.5
CARD'S HARBOR	49	31 N	55	37 W	7.64	COBBLER HEAD	49	59 N	56	44 W	8.15
CARENAGE ARM	62	09 N	74	44 W	13.67	COBBLER TICKLE	49	33 N	55	38 W	7.70
CAREW BAY	62	33 N	69	23 W	13.26	COBBS ARM	49	37 N	54	34 W	7.22
CAREY ISLAND	56	43 N	61	12 W	11.72	COCK BANK	46	50 N	55	59 W	4.2
CARIBOU POINT	52	17 N	55	39 W	10.12	COCKLE ROCK	46	59 N	55	10 W	4.12
CARMANVILLE ARM	49	25 N	54	16 W	7.16	COD BAG HARBOR	57	53 N	62	05 W	12.3
CARNABHUS ISLAND	52	56 N	55	49 W	10.45	COD BAG ISLANDS	57	56 N	62	02 W	12.3
CARRINGTON ISLAND	54	00 N	58	35 W	10.135	COD ISLAND	57	46 N	61	46 W	11.81
CARROLL COVE	52	10 N	55	42 W	9.5	COD ROCK	58	00 N	62	04 W	12.3
CARTER BASIN	53	29 N	59	51 W	10.146	COFFEE ISLAND	54	36 N	57	11 W	11.3
CARTRIDGE BIGHT	52	15 N	55	37 W	10.7	COLDEAST POINT	47	02 N	52	53 W	5.8
CARTWRIGHT HARBOR	53	42 N	57	02 W	10.107	COLEY'S POINT	47	35 N	53	15 W	6.11
CARTWRIGHT ISLAND	52	32 N	55	57 W	10.23	COLLETT COVE	47	34 N	54	05 W	4.44
CARTWRIGHT ISLAND	53	45 N	56	39 W	10.99	COLLIERS BAY	47	29 N	53	12 W	6.8
CARY ROCK	48	38 N	53	23 W	6.53	COLLIERS BAY	47	36 N	53	42 W	6.28
CARYS SWAN NEST	62	10 N	83	08 W	16.6	COLLIERS POINT	47	31 N	53	10 W	6.8
CASTLE DERMOT ISLAND	53	30 N	55	44 W	10.85	COLLINGHAM ISLAND	53	41 N	56	18 W	10.90
CASTLE MOUNTAIN	59	54 N	64	13 W	12.18	COLLINS POINT	59	41 N	63	57 W	12.17
CAT COVE	49	02 N	53	02 W	6.65	COMB ISLANDS	53	16 N	79	00 W	15.56
CAT HARBOR	49	18 N	53	35 W	7.3	COME BY CHANCE HARBOR	47	48 N	54	01 W	4.52
CAT ISLAND	49	02 N	53	43 W	6.65	COME BY CHANCE POINT	47	48 N	54	03 W	4.10
CAT ISLAND	49	16 N	55	01 W	7.38	COMFORT BIGHT	53	09 N	55	45 W	10.56
CATALINA HARBOR	48	30 N	53	05 W	6.47	COMFORT COVE	49	24 N	54	51 W	7.35
CATOS ISLAND	54	21 N	57	55 W	10.127	COMFORT HEAD	49	25 N	54	51 W	7.31
CAUTION SHOALS	58	36 N	68	04 W	14.14	COMFORT ISLAND	49	25 N	54	51 W	7.34
CENTER HILL	47	54 N	53	52 W	6.29	CONCEPTION BAY	47	40 N	53	00 W	6.2
CENTRE BAY	58	44 N	69	44 W	14.23	CONCEPTION HARBOR	47	26 N	53	13 W	6.8
CHAIN ISLET	64	08 N	94	27 W	16.32	CONCHE HARBOR	50	53 N	55	54 W	8.31
CHAIEN POINT	50	51 N	55	07 W	8.28	CONFUSION BAY	49	57 N	55	45 W	8.4
CHALEUR HARBOR	47	35 N	56	41 W	2.33	CONGNARAUYA POINT	58	35 N	68	00 W	14.13
CHALKY COVE	48	55 N	53	52 W	6.63	CONICAL ISLAND	54	56 N	58	51 W	11.11
CHAMBERLAIN ISLAND	64	06 N	73	46 W	13.37	CONNECTING POINT	48	28 N	53	53 W	6.56
CHAMBERS ISLAND	47	37 N	54	19 W	4.37	CONNOIRE HEAD	47	35 N	57	55 W	2.2
CHAMBERS POINT	46	53 N	55	26 W	4.6	CONNOIRE HEAD	47	39 N	57	55 W	2.15

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	E						FAREWELL HEAD					49	32 N	54	27 W	7.18
EAGLE COVE	53	01 N	55	51 W	10.51		FAREWELL REEF					49	35 N	54	27 W	7.19
EAGLE ISLAND	49	10 N	58	09 W	1.57		FARMER HEAD					49	29 N	54	53 W	7.32
EARL ISLAND	53	42 N	57	07 W	10.106		FARMER ISLAND					49	28 N	54	50 W	7.21
EAST BAR	51	22 N	80	20 W	15.66		FARMER ISLAND					58	24 N	80	48 W	15.16
EAST BLUFF	61	53 N	65	56 W	13.22		FAVORITE TICKLE					53	43 N	57	02 W	10.106
EAST BRADBURY ISLAND	53	16 N	55	42 W	10.68		FEATHER SHOAL					48	29 N	52	57 W	6.47
EAST COVE	62	18 N	75	26 W	13.68		FERGUS ISLAND					47	36 N	53	13 W	6.11
EAST CUB ISLAND	54	02 N	80	11 W	15.48		FEROLLE POINT					51	01 N	57	06 W	1.16
EAST HEAD	48	08 N	53	32 W	6.38		FERRET ISLANDS					53	36 N	55	55 W	10.90
EAST ISLAND	52	44 N	55	49 W	10.34		FERRYLAND HEAD					46	52 N	55	23 W	4.6
EAST POINT	51	24 N	79	41 W	15.65		FERRYLAND HEAD					47	01 N	52	52 W	5.8
EAST POMPEY ISLAND	54	27 N	57	23 W	10.124		FINGER POINT					57	58 N	62	20 W	12.3
EAST RANDOM HEAD	48	06 N	53	33 W	6.33		FINGER POINT					63	20 N	90	40 W	16.26
EAST SOUTHEAST GROUND	49	35 N	53	43 W	7.6		FIR ISLAND					49	29 N	54	49 W	7.34
EASTERN HEAD	46	37 N	53	36 W	4.63		FIRST BROOK					47	46 N	56	08 W	2.38
EASTERN HEAD	49	52 N	56	44 W	8.17		FIRST POINT					52	42 N	55	49 W	10.35
EASTERN INDIAN ISLAND	49	32 N	54	13 W	7.13		FIRST RATTLE					56	40 N	61	42 W	11.66
EASTERN KINGITOK ISLAND	55	26 N	59	53 W	11.24		FISCHOT HARBOR					51	11 N	55	41 W	8.37
EASTERN ROCK	53	19 N	55	43 W	10.72		FISCHOT ISLAND					51	11 N	55	41 W	8.36
EASTERN SHOALS	46	27 N	50	28 W	5.2		FISH HEAD					47	36 N	56	24 W	2.35
EASTMAIN	52	15 N	78	30 W	15.59		FISH ISLAND					52	28 N	55	40 W	10.18
EASTMAIN RIVER	52	15 N	78	34 W	15.58		FISH ISLAND					58	21 N	62	27 W	12.7
EASTPORT BAY	48	40 N	53	43 W	6.62		FISH ISLAND SHOAL					47	35 N	57	19 W	2.28
ECLIPSE CHANNEL	59	42 N	64	03 W	12.17		FISH ISLANDS					55	23 N	59	44 W	11.23
ECLIPSE HARBOR	59	51 N	64	09 W	12.18		FISH ISLET					51	06 N	56	53 W	1.11
EDALOH INLET	63	37 N	77	24 W	13.44		FISHER BAY					61	47 N	72	10 W	13.57
EDDY ISLAND	59	27 N	80	28 W	15.16		FISHING ISLANDS					52	36 N	55	45 W	10.29
EDDYSTONE ISLAND	52	59 N	55	45 W	10.48		FISHING POINT					51	21 N	55	33 W	8.45
EDGELL ISLAND	61	50 N	65	00 W	13.19		FISHING SHIPS HARBOR					52	37 N	55	46 W	10.30
EDWARDS REEF	49	27 N	53	52 W	7.4		FIVE ISLANDS					54	29 N	57	02 W	10.119
EGG ISLAND	59	55 N	94	50 W	16.50		FIVE ISLANDS					60	10 N	69	27 W	14.33
EKORTIARSUK FJORD	60	02 N	64	21 W	12.19		FIVE MILE INLET					58	32 N	78	18 W	15.18
EKWAN POINT	53	17 N	82	06 W	15.72		FLAGSTAFF POINT					46	53 N	55	53 W	4.3
ELDER ISLANDS	60	52 N	69	20 W	14.33		FLAHERTY ISLAND					56	10 N	79	20 W	15.38
ELLISTON POINT	48	38 N	53	02 W	6.48		FLAMBRO HEAD					48	01 N	52	58 W	6.17
ELSIE ISLAND	58	50 N	78	56 W	15.13		FLAT ISLAND					47	39 N	58	07 W	2.14
EMELIA PASSAGE	51	47 N	79	09 W	15.63		FLAT ISLAND					53	11 N	55	44 W	10.60
EMILY HARBOR	54	33 N	57	11 W	11.2		FLAT ISLAND					53	47 N	56	47 W	10.104
ENGLEE ISLAND	50	43 N	56	07 W	8.26		FLAT ISLAND					55	52 N	60	44 W	11.35
ENGLISH BAY	48	22 N	53	17 W	6.44		FLAT ISLANDS					47	16 N	54	55 W	4.28
ENGLISH HEAD	48	22 N	53	16 W	6.44		FLAT ISLANDS					53	45 N	56	20 W	10.93
ENGLISH RIVER	53	53 N	58	52 W	10.135		FLAT POINT					50	49 N	57	12 W	1.24
ENGLISH RIVER ISLAND	54	57 N	59	45 W	11.19		FLAT ROCK POINT					48	08 N	53	34 W	6.38
ENRAGEE POINT	47	35 N	59	13 W	2.2		FLAT ROCK TICKLE					49	29 N	55	45 W	7.65
ENTRANCE ISLAND	61	58 N	72	34 W	13.61		FLAT ROCKS					56	22 N	60	30 W	11.50
ENTRANCE POINT	59	58 N	69	43 W	14.31		FLATTOP ISLAND					62	02 N	92	57 W	16.45
ENTRY ISLAND	53	30 N	55	52 W	10.83		FLEUR DE LYS HARBOR					50	07 N	56	05 W	8.10
ENTRY ISLAND	53	41 N	56	23 W	10.91		FLEURY BIGHT					49	32 N	55	18 W	7.51
EPINETTE POINT	53	31 N	59	55 W	10.146		FLING ISLANDS					53	11 N	55	43 W	10.61
ERHARDT ISLAND	60	40 N	64	46 W	13.14		FLINT ISLAND					56	04 N	76	48 W	15.26
ERIK COVE	62	34 N	77	24 W	13.70		FLINT ISLANDS					49	37 N	55	43 W	7.72
ESKIMO HARBOR	56	35 N	79	12 W	15.40		FLOCK GEESE ISLANDS					52	14 N	78	48 W	15.58
ESKIMO ISLAND	54	03 N	58	34 W	10.133		FLOWER'S LEDGES					51	18 N	56	45 W	1.4
ESKIMO POINT	61	06 N	94	00 W	16.48		FLOWERS ISLAND					49	08 N	53	28 W	6.69
ESKIMO POINT SETTLEMENT	61	06 N	94	04 W	16.49		FLOWERS ISLAND					51	19 N	56	46 W	9.27
ETAGAULET POINT	53	47 N	59	04 W	10.135		FLOWERS POINT					48	36 N	53	00 W	6.48
EXPLOITS HARBOR	49	31 N	55	04 W	7.40		FLY POINT					50	46 N	56	11 W	8.28
EXPLOITS ISLANDS	49	31 N	55	04 W	7.40		FOGO HARBOR					49	43 N	54	17 W	7.10
							FOGO HEAD					49	44 N	54	19 W	7.10
							FOGO ISLAND					49	40 N	54	10 W	7.7
							FOIROU ISLAND					51	39 N	55	29 W	9.20
							FOLLY ROCKS					47	46 N	53	09 W	6.17
							FOOLS HARBOR					49	35 N	54	44 W	7.26
							FORBES SOUND					60	23 N	64	49 W	12.25
							FORBES SOUND					60	23 N	64	50 W	14.4
							FORD HARBOR					56	28 N	61	11 W	11.47
							FORD ISLAND					61	01 N	70	05 W	13.50
							FORD LAKE					65	54 N	90	32 W	16.19
							FOREMAN ISLAND					62	35 N	74	00 W	13.65
							FORSTER POINT					48	07 N	53	53 W	6.36
							FORT ALBANY					52	14 N	81	36 W	15.69
							FORT CHIMO					58	06 N	68	24 W	14.16
							FORT GEORGE					53	50 N	79	00 W	15.54
							FORT POINT					48	22 N	53	21 W	6.42
							FORT RUPERT					51	29 N	78	48 W	15.64
							FORTEAU BAY					51	28 N	56	58 W	9.16
							FORTUNE HARBOR					47	05 N	55	50 W	2.58
							FORTUNE HARBOR					49	32 N	55	14 W	7.50
							FOSTERS POINT					48	07 N	53	53 W	6.36
							FOUL BAY					62	09 N	72	50 W	13.63
							FOURCHE HARBOR					50	31 N	56	19 W	8.23
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ICE BREAKER ISLET	64	00 N	94	19 W	16.31
ICE HARBOR	62	18 N	78	08 W	15.6
ICE TICKLE ISLAND	54	29 N	57	17 W	10.122
IGLOO ISLAND	56	47 N	61	41 W	11.69
IGLOO ISLAND	60	50 N	69	54 W	13.49
IGLOO POINT	62	22 N	92	05 W	16.44
IGLOSIATIK ISLAND	56	14 N	61	05 W	11.38
IGLUKUJAK POINT	64	18 N	76	12 W	13.39
IKATTOK BAY	59	10 N	69	23 W	14.25
ILES RADISSON	58	44 N	69	41 W	14.23
ILLUVERTALIK ISLAND	58	08 N	62	25 W	12.4
ILUIKOYAK ISLAND	55	54 N	61	07 W	11.40
INDEPENDENT ISLAND	53	51 N	56	53 W	10.103
INDIAN ARM	49	20 N	54	56 W	7.36
INDIAN BAY	49	01 N	53	43 W	6.65
INDIAN COVE	49	36 N	54	41 W	7.24
INDIAN COVE ISLAND	49	18 N	55	14 W	7.45
INDIAN COVE POINT	49	12 N	55	13 W	7.49
INDIAN HARBOR	54	27 N	57	13 W	10.121
INDIAN HARBOUR	47	29 N	54	12 W	4.42
INDIAN HEAD	48	30 N	58	32 W	1.75
INDIAN HEAD	49	19 N	54	53 W	7.37
INDIAN HEAD	53	44 N	56	39 W	10.99
INDIAN LOOKOUT	49	34 N	54	19 W	7.14
INDIAN POINT	47	52 N	56	10 W	2.38
INDIAN TICKLE	53	34 N	56	00 W	10.87
INENEW PASSAGE	51	42 N	79	16 W	15.63
INNELATEVIK ISLAND	60	01 N	77	23 W	15.11
INNER FLOCK GEESE ISLANDS	52	09 N	78	48 W	15.58
INNER SEAL HEAD	49	29 N	55	32 W	7.60
INNETALLING ISLAND	55	55 N	79	03 W	15.42
INOOKSULIK ISLAND	59	59 N	77	27 W	15.11
INUKJUA	58	28 N	78	06 W	15.20
IONA ISLANDS	47	25 N	53	57 W	4.10
IONA ISLANDS	47	25 N	53	58 W	4.45
IRELAND ISLAND	47	38 N	58	22 W	2.11
IRELAND ROCKS	49	51 N	54	02 W	7.11
IRELAND'S EYE	48	13 N	53	30 W	6.40
IRELAND'S EYE POINT	48	14 N	53	29 W	6.40
IRELANDS BIGHT	51	21 N	55	45 W	8.39
IRISH BAY	51	02 N	55	48 W	8.33
IRON ISLAND	47	02 N	55	07 W	4.12
IRON ISLAND	47	28 N	54	05 W	4.43
IRON POINT	49	38 N	55	47 W	7.76
IRON POINT	58	53 N	69	28 W	14.21
IRON STRAND	59	33 N	63	49 W	12.16
ISAAC HEADS	47	19 N	53	57 W	4.34
ISELIN HARBOR	60	03 N	64	18 W	12.19
ISKOYASKWEYAU POINT	51	24 N	79	41 W	15.65
ISLAND COVE HEAD	47	40 N	53	57 W	4.48
ISLAND HARBOR HEAD	49	37 N	54	19 W	7.12
ISLAND OF PONDS	53	27 N	55	55 W	10.74
ISLAND POINT	49	36 N	55	47 W	7.75
ISLAND POINT	52	17 N	55	42 W	10.12
ISLAND SOUND	58	57 N	69	18 W	14.21
ISLANDS OF GOD'S MERCIE	63	30 N	72	04 W	13.35
ISTHMUS BAY	53	44 N	56	38 W	10.98
ISTHMUS COVE	51	33 N	55	45 W	9.24
ISTHMUS OF AVALON	47	51 N	53	57 W	6.29
ITIGAIYAVIK	58	40 N	62	51 W	12.11
ITIVIRK BAY	62	41 N	69	30 W	13.28
IVIK ISLAND	59	55 N	69	40 W	14.28
IVITAK COVE	59	01 N	63	44 W	12.12
IVUJIVIK HARBOR	62	24 N	77	53 W	13.73

J

J. GORDON ISLAND	59	40 N	80	34 W	15.15
JACK FLING ISLAND	52	28 N	55	39 W	10.18
JACK RIVER	52	03 N	78	42 W	15.61
JACK'S ISLAND	49	38 N	54	31 W	7.22
JACKMAN SOUND	62	13 N	68	12 W	13.25
JACKSON ISLAND	60	25 N	64	53 W	14.3
JACKSON'S ARM	49	52 N	56	45 W	8.17
JACKSON'S COVE	49	41 N	56	00 W	7.85
JACOB ISLAND	51	46 N	79	14 W	15.62
JACQUES CARTIER ISLAND	51	36 N	55	27 W	9.21
JACQUES ISLAND	47	39 N	58	20 W	2.12
JAEGER POINT	63	21 N	90	41 W	16.29

JAGGED HEAD	60	55 N	69	45 W	13.48
JAYNES BAY	60	20 N	64	26 W	12.26
JEAN COVE	47	47 N	54	12 W	4.55
JEAN DE BAIE HEAD	47	11 N	55	02 W	4.18
JEAN DE BAIE ISLANDS	47	11 N	55	01 W	4.19
JEANNE POINT	51	06 N	55	44 W	8.34
JEHENNE POINT	51	09 N	55	44 W	8.34
JENS HAVEN ISLAND	58	32 N	63	04 W	12.9
JENSEN INLET	58	03 N	62	23 W	12.4
JERSEYMAN ISLAND	47	20 N	54	54 W	4.20
JERTS COVE	47	35 N	57	07 W	2.29
JIGGER ISLAND	54	53 N	58	09 W	11.8
JOB ROCK	47	57 N	53	00 W	6.17
JOB'S HEAD	48	22 N	53	21 W	6.42
JOBS ISLAND	49	18 N	55	01 W	7.38
JOCKEYS COVE	49	48 N	56	47 W	8.18
JOE BATT'S ARM	49	44 N	54	10 W	7.9
JOE'S ROCK	48	31 N	52	59 W	6.47
JOHNNY PAUL ROCK	53	48 N	56	17 W	10.93
JOHNSON ISLAND	56	42 N	79	32 W	15.37
JOHNSTON COVE	62	49 N	92	04 W	16.37
JOHNSTON COVE SETTLEMENT	62	49 N	92	04 W	16.42
JOKSUT INLET	60	14 N	64	25 W	12.21
JOLLIET INLET	60	12 N	64	24 W	12.21
JOYS POINT	47	24 N	53	08 W	6.6
JUET ISLAND	62	36 N	69	30 W	13.27
JULIA POINT	53	50 N	59	28 W	10.142
JUNIPER ISLAND	52	33 N	56	08 W	10.23

K

KAIPOKOK HILL	55	10 N	59	26 W	11.19
KAMARVIK HARBOR	64	41 N	87	27 W	16.14
KANE ROCK	47	45 N	53	10 W	6.16
KANGALAKSIORVIK FJORD	59	24 N	63	53 W	12.15
KANIK COVE	60	01 N	70	01 W	14.32
KASKATTAMA RIVER	57	03 N	90	07 W	16.57
KASUNGATAK ISLAND	55	59 N	60	54 W	11.37
KAUK HARBOR	56	30 N	61	41 W	11.50
KEGLO BAY	59	06 N	65	44 W	14.7
KENAMU RIVER	53	29 N	59	54 W	10.146
KENNEDY ISLAND	53	04 N	55	45 W	10.53
KEPPEL HARBOR	50	38 N	57	17 W	1.32
KERLEYS HARBOR	48	17 N	53	29 W	6.40
KETTLESTONE KNOB	61	12 N	77	45 W	15.7
KIAR ROCKS	49	41 N	54	31 W	7.22
KIDLIT ISLANDS	56	15 N	60	28 W	11.38
KIGLAPAIT MOUNTAINS	57	07 N	61	33 W	11.77
KIKKERTAKSOAK ISLANDS	55	43 N	60	10 W	11.29
KIKKERTAVAK ISLAND	56	23 N	61	35 W	11.43
KIKKERTOKSOAK ISLAND	59	05 N	59	52 W	14.7
KIKKITASUAK ISLAND	56	20 N	60	59 W	11.42
KILLINEK ISLAND	60	26 N	64	40 W	12.27
KING CHARLES CAPE	64	14 N	77	23 W	13.42
KING GEORGE ISLANDS	57	18 N	78	24 W	15.33
KING GEORGE SOUND	62	00 N	72	30 W	13.61
KINGMIRTOK ISLAND	58	11 N	62	30 W	12.5
KINGS COVE	48	34 N	53	19 W	6.53
KINGS COVE HEAD	48	35 N	53	19 W	6.53
KINGS HEAD	47	38 N	57	34 W	2.23
KINGS HEAD	47	59 N	53	19 W	6.21
KINRIAKAK POINT	53	32 N	59	43 W	10.141
KIPALU INLET	56	00 N	79	10 W	15.39
KIPPEN COVE	49	38 N	54	07 W	7.14
KIRCHOFFER RIVER	64	07 N	83	27 W	16.8
KITE COVE	49	12 N	55	16 W	7.46
KIYUKTOK COVE	58	25 N	63	00 W	12.10
KNIGHT HARBOR	60	48 N	78	04 W	15.9
KNIGHT ISLANDS	60	34 N	64	35 W	13.12
KNIGHTS ISLAND ROCK	49	25 N	54	55 W	7.35
KOKSOAK RIVER	58	34 N	68	09 W	14.14
KOMAKTORVIK FJORD	59	21 N	63	42 W	12.15
KONGUT RIVER	58	23 N	78	05 W	15.21
KORIARAVIK ISLAND	56	04 N	60	40 W	11.38
KOROK RIVER	58	52 N	66	00 W	14.7
KOVIK BAY	61	34 N	77	44 W	15.7
KRESIK ISLAND	61	48 N	92	01 W	16.41
KRUTH ISLAND	58	10 N	62	24 W	12.5
KUDLULIK PENINSULA	62	48 N	92	05 W	16.37
KUGLUK COVE	62	21 N	76	01 W	13.70
KUGLUKVIK POINT	60	08 N	69	36 W	14.33

KUGONG ISLAND	56	20 N	79	50 W	15.37	LITTLE SACRED ISLAND	51	38 N	55	32 W	9.20
KUUIJUAQ	58	06 N	68	24 W	14.16	LITTLE SELDOM COVE	49	36 N	54	13 W	7.13
KYAK BAY	60	02 N	69	45 W	14.30	LITTLE WHALE RIVER	56	00 N	76	46 W	15.27
KYER COVE	52	17 N	55	46 W	10.12	LITTLE WOLF ISLAND	53	41 N	55	57 W	10.89
L						LIVER LEDGE	49	05 N	53	30 W	6.68
L'ANSE AU CLAIR	51	25 N	57	04 W	9.17	LIZZY POINT	46	57 N	53	32 W	4.59
LA BOULE	61	42 N	71	56 W	13.55	LLOYD POINT	64	26 N	78	02 W	13.42
LA FONTAINE POINT	50	29 N	57	28 W	1.36	LOAF ISLAND	56	40 N	78	47 W	15.41
LA PEROUSE	58	44 N	93	25 W	16.54	LOBSTER COVE HEAD	49	36 N	57	57 W	1.42
LA PLANTE HARBOR	47	39 N	58	25 W	2.11	LOBSTER POINT	51	18 N	55	36 W	8.44
LA PLANTE SUNKER	47	45 N	54	14 W	4.54	LOCK'S COVE	51	20 N	55	57 W	8.39
LA SCIE HARBOR	49	58 N	55	37 W	8.3	LOCKER BAY	48	54 N	53	55 W	6.63
LABRADOR REEF	60	38 N	64	24 W	13.8	LOCKER FLAT ISLAND	48	52 N	53	51 W	6.63
LACY ISLAND	60	41 N	64	36 W	13.13	LOCKER REACH	48	55 N	53	49 W	6.63
LADDIE ISLAND	56	53 N	79	41 W	15.37	LOCKERS ROCK	48	54 N	53	53 W	6.63
LADLE POINT	49	29 N	54	03 W	7.15	LOCKPORT HARBOR	49	27 N	55	30 W	7.60
LADY COVE	48	06 N	53	51 W	6.36	LOCKS HARBOR	49	28 N	55	36 W	7.61
LADY JOB HARBOR	60	28 N	64	36 W	13.11	LODESTONE ISLAND	59	58 N	69	56 W	14.32
LAKE HARBOR	62	52 N	69	52 W	13.30	LONG BEACH	48	00 N	53	49 W	6.35
LAKEMAN ISLAND	48	50 N	53	47 W	6.61	LONG COVE	48	09 N	53	33 W	6.38
LAMALINE SHAG ROCK	46	50 N	55	50 W	4.3	LONG HARBOR	52	21 N	55	48 W	10.14
LANCE COVE POINT	47	35 N	56	41 W	2.33	LONG HARBOR HEAD	47	23 N	53	55 W	4.45
LANDLOCKED HARBOR	58	00 N	77	12 W	15.21	LONG HARRY ROCK	47	42 N	53	11 W	6.14
LANGUE DE CERF POINT	47	31 N	54	58 W	2.65	LONG ISLAND	49	26 N	55	01 W	7.41
LARCH REEF	62	41 N	69	41 W	13.29	LONG ISLAND	49	28 N	55	22 W	7.54
LARKIN POINT	47	46 N	59	20 W	1.79	LONG ISLAND	49	35 N	55	40 W	7.71
LAVEROCK BAY	55	24 N	77	41 W	15.29	LONG ISLAND	51	14 N	55	58 W	8.41
LAWN ISLANDS	46	52 N	55	37 W	4.5	LONG ISLAND	52	35 N	55	44 W	10.29
LAWRENCE HARBOR	49	26 N	55	10 W	7.43	LONG ISLAND	52	42 N	55	52 W	10.36
LAWSON ISLAND	60	37 N	64	38 W	13.13	LONG ISLAND	53	13 N	55	42 W	10.63
LAZYMAN ISLAND	52	32 N	56	00 W	10.23	LONG ISLAND	53	47 N	56	36 W	10.97
LE GOULET	56	10 N	76	40 W	15.27	LONG ISLAND	53	54 N	56	57 W	10.101
LE MOYNE PASSAGE	51	24 N	80	20 W	15.66	LONG ISLAND	54	52 N	79	22 W	15.32
LEADING HILL	56	40 N	61	45 W	11.66	LONG ISLAND POINT LIGHT	47	42 N	54	05 W	4.52
LEADING ISLAND	60	36 N	64	45 W	13.14	LONG ISLAND TICKLE	49	34 N	55	43 W	7.71
LEADING TICKLES	49	30 N	55	26 W	7.59	LONG ISLANDS	48	35 N	53	37 W	6.55
LEADING TICKLES LIGHT	49	30 N	55	24 W	7.57	LONG POINT	47	26 N	54	26 W	4.36
LEAF BASIN	58	47 N	69	43 W	14.22	LONG POINT	47	32 N	56	51 W	2.31
LEAF BAY	58	58 N	68	50 W	14.18	LONG POINT	48	47 N	58	46 W	1.72
LEAF PASSAGE	58	50 N	69	28 W	14.21	LONG POINT	49	19 N	54	51 W	7.35
LEDGE ISLET	53	03 N	55	45 W	10.52	LONG POINT	49	33 N	55	02 W	7.40
LEDGER ROCKS	49	07 N	53	33 W	6.69	LONG POINT	49	42 N	54	18 W	7.12
LEWIS HEAD	48	58 N	53	44 W	6.64	LONG POINT	52	52 N	55	48 W	10.43
LEWIS ISLAND	48	57 N	53	47 W	6.64	LONG POINT	53	41 N	59	20 W	10.140
LEWIS POINT	48	06 N	59	05 W	1.76	LONG POND	47	31 N	52	59 W	6.3
LEWISPORTE	49	15 N	55	03 W	7.39	LONG REACH ISLAND	59	58 N	77	39 W	15.11
LEYSON POINT	63	27 N	81	00 W	16.7	LONG TICKLE POINT	49	34 N	55	44 W	7.74
LIGHT TICKLE	52	32 N	56	10 W	10.24	LONGUE POINT	51	25 N	57	12 W	9.19
LISBON ROCKS	51	51 N	79	49 W	15.60	LONGUE POINTE	51	25 N	57	12 W	9.19
LITTLE BAY	47	10 N	55	07 W	4.17	LOON BAY	49	22 N	54	49 W	7.35
LITTLE BAY	49	37 N	56	00 W	7.81	LOON HARBOR	49	17 N	54	51 W	7.35
LITTLE BAY ARM	49	36 N	55	55 W	7.80	LOON ISLANDS	53	50 N	79	12 W	15.49
LITTLE BAY HEAD	49	42 N	55	51 W	7.82	LORD AND LADY ISLAND	47	35 N	55	23 W	2.56
LITTLE BAY ISLAND	49	39 N	55	47 W	7.76	LORD ARM	52	55 N	55	51 W	10.44
LITTLE BLACK ISLAND	54	18 N	57	50 W	10.125	LORD'S COVE	46	52 N	55	40 W	4.5
LITTLE BRULE HARBOR	47	40 N	54	08 W	4.42	LOST ISLANDS	56	27 N	60	41 W	11.52
LITTLE BURIN HARBOR	47	03 N	55	10 W	4.14	LOUP MARIN POINT	51	18 N	55	39 W	8.39
LITTLE BURNT BAY	49	21 N	55	03 W	7.41	LOVE COVE	48	24 N	54	03 W	6.56
LITTLE CAPE	55	15 N	83	44 W	16.58	LOW ISLANDS	59	31 N	69	22 W	14.27
LITTLE CAT ARM	50	09 N	56	35 W	8.14	LOW POINT	48	04 N	52	57 W	6.17
LITTLE CATALINA HARBOR	48	32 N	53	03 W	6.48	LOW POINT	48	25 N	53	07 W	6.45
LITTLE CONEY ARM	49	58 N	56	45 W	8.15	LOW POINT	64	03 N	94	23 W	16.31
LITTLE CRAB HEAD	53	45 N	56	56 W	10.106	LOWER HARBORS	49	32 N	55	05 W	7.40
LITTLE DENIER ISLAND	48	41 N	53	35 W	6.58	LOWER HEAD	49	41 N	54	49 W	7.26
LITTLE DENIER ISLAND	49	33 N	55	32 W	7.64	LOWER ROCK	47	35 N	56	40 W	2.33
LITTLE FOGO ISLANDS	49	49 N	54	05 W	7.11	LOWER SANDY POINT	49	13 N	55	17 W	7.46
LITTLE HARBOR	48	10 N	53	33 W	6.39	LOWER SAVAGE ISLANDS	61	48 N	65	48 W	13.20
LITTLE HARBOR DEEP	50	15 N	56	31 W	8.21	LUKE'S ARM	49	31 N	54	50 W	7.32
LITTLE HARBOR DEEP HEAD	50	13 N	56	30 W	8.14	LUKISEE ISLANDS	56	48 N	79	33 W	15.37
LITTLE HARBOR DEEP HEAD	50	14 N	56	30 W	8.21	LUMSDEN HARBOR	49	18 N	53	35 W	7.3
LITTLE HARBOR HEAD	48	40 N	53	36 W	6.57	LUSH'S BIGHT	49	35 N	55	43 W	7.72
LITTLE HARBOR HEAD	49	35 N	54	51 W	7.29	LUTTIT ISLAND	56	22 N	76	42 W	15.26
LITTLE MORTIER BAY	47	04 N	55	06 W	4.15	M					
LITTLE NORTH HARBOR	49	30 N	55	08 W	7.42	MACCOLL ISLAND	60	39 N	64	42 W	13.13
LITTLE NORTHWEST ARM	49	28 N	55	20 W	7.54	MACDONALD ISLAND	63	40 N	72	40 W	13.35
LITTLE NORTHWEST ARM HEAD	49	28 N	55	20 W	7.56	MACGREGOR STRAIT	60	25 N	64	29 W	13.10
LITTLE PETER POINT	49	08 N	55	20 W	7.48	MACKS ISLAND	49	38 N	55	46 W	7.77
LITTLE PORT	49	07 N	58	25 W	1.65	MACY TICKLE	52	55 N	55	51 W	10.45
LITTLE QUIRPON HARBOR	51	35 N	55	26 W	8.51	MAD MOLL ROCK	52	28 N	55	40 W	10.18

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PACQUET HARBOR	49	59 N	55	51 W	8.5	POINT LANCE	46	47 N	54	04 W	4.57
PADDON POINT	53	43 N	60	01 W	10.144	POINT LEAMINGTON	49	21 N	55	23 W	7.56
PAINE ISLAND	53	24 N	55	45 W	10.78	POINT OF BEACH	47	41 N	53	13 W	6.15
PAINT HILLS BAY	52	57 N	78	55 W	15.56	POINT RICHE	50	42 N	57	25 W	1.16
PAINT ISLANDS	55	30 N	76	35 W	15.28	POINT ROUSSE	50	02 N	56	02 W	8.7
PAMIALIC BAY	54	46 N	58	32 W	11.10	POINTE AISAVARTALIK	58	32 N	68	07 W	14.13
PANALIK POINT	66	03 N	85	56 W	16.20	POINTE AMOUR	51	27 N	56	52 W	9.15
PANGERTOK	58	25 N	63	07 W	12.10	POINTE ATTQUANE	54	18 N	79	28 W	15.47
PARADISE COVE	49	22 N	55	19 W	7.55	POINTE AU HERON	53	01 N	78	59 W	15.56
PARDY POINT	47	03 N	55	09 W	4.12	POINTE AU HUARD	53	01 N	78	59 W	15.56
PARK HARBOR HILL	48	31 N	53	51 W	6.55	POINTE BOUCHER	59	38 N	77	50 W	15.13
PARKAVIK ISLAND	57	40 N	61	54 W	11.81	POINTE BOURJOLI	59	24 N	77	58 W	15.13
PARKERS GROUND	49	09 N	53	21 W	6.71	POINTE DE TRACY	61	05 N	70	44 W	13.51
PARMENTER ISLAND	60	17 N	64	24 W	12.24	POINTE DESPINS	59	10 N	78	10 W	15.13
PARSONS POINT	49	02 N	53	52 W	6.65	POINTE DU OUEST	46	47 N	56	21 W	3.6
PARSONS POND HILL	49	59 N	57	44 W	1.39	POINTE DU PROFOND	61	12 N	77	45 W	15.7
PARTRIDGE HARBOR ISLANDS	53	52 N	57	05 W	10.102	POINTE FENDUE	51	20 N	55	56 W	8.39
PARTRIDGE HEAD	53	10 N	55	45 W	10.59	POINTE JEAN-TALON	60	05 N	70	08 W	13.51
PARTRIDGE ISLAND	49	05 N	53	35 W	6.67	POINTE KAKACHISCHUAN	54	02 N	79	05 W	15.49
PARTRIDGE POINT	50	09 N	56	08 W	8.11	POINTE KAKASSITUG	54	10 N	79	22 W	15.47
PARTRIDGE POINT	51	22 N	55	34 W	8.46	POINTE LOUIS XIV	54	38 N	79	46 W	15.46
PARTRIDGE POINT	51	35 N	55	25 W	8.51	POINTE NORMAND	58	10 N	77	32 W	15.21
PARTRIDGE POINT.	50	57 N	55	52 W	8.32	POINTE NUVUK	62	22 N	78	05 W	13.73
PASS ISLAND	47	29 N	56	12 W	2.44	POINTE QIRNIRAUJAQ	58	35 N	68	00 W	14.13
PASSAGE REEF	59	06 N	63	20 W	12.12	POINTE RICHE	50	42 N	57	25 W	1.29
PATTEE ISLAND	59	40 N	80	26 W	15.15	POINTE RICHE PENINSULA	50	42 N	57	26 W	1.29
PATTERSON ISLAND	58	26 N	78	15 W	15.19	POINTE ROUGE	62	15 N	74	42 W	13.66
PAUKTORVIK ISLAND	58	41 N	68	19 W	14.17	POINTE ST. CHARLES	51	25 N	57	06 W	9.18
PAUL ISLAND	56	30 N	61	25 W	11.46	POINTE TASKER	58	28 N	67	45 W	14.13
PAYNE BASIN	60	00 N	70	02 W	14.32	POINTE VAUQUELIN	54	54 N	78	52 W	15.31
PAYNE BAY	60	00 N	69	40 W	14.29	POLARIS NARROWS	64	06 N	94	24 W	16.32
PAYNE RIVER	59	59 N	69	46 W	14.31	POMIADLUK POINT	55	07 N	58	58 W	11.12
PEABODY POINT	59	22 N	63	43 W	12.15	POMPEY ISLAND	53	47 N	56	45 W	10.103
PEAK ISLAND	61	59 N	72	11 W	13.59	POMPEY ISLAND	54	19 N	58	00 W	10.127
PEBBLE ISLAND	52	45 N	79	10 W	15.57	POND TICKLE	49	05 N	53	36 W	6.66
PECKFORD ISLAND	49	32 N	53	51 W	7.5	PONTE A LA LOUTRE	47	08 N	56	21 W	3.9
PENGUIN HEAD	49	09 N	57	59 W	1.59	POOR SHOAL	48	31 N	53	01 W	6.47
PENGUIN ISLANDS	49	27 N	53	49 W	7.4	POPES HARBOR	48	14 N	53	34 W	6.41
PERIL ISLAND	53	48 N	79	18 W	15.50	POPPESTONE ISLAND	48	55 N	53	59 W	6.61
PERLEY ISLAND	59	40 N	80	15 W	15.15	PORCUPINE BAY	53	25 N	55	58 W	10.74
PERLICAN ISLAND	48	05 N	53	01 W	6.19	PORCUPINE HARBOR	53	23 N	55	59 W	10.75
PETERS ARM	49	08 N	55	20 W	7.48	PORCUPINE ISLAND	53	23 N	55	52 W	10.74
PETITE RIVIERE DE LA BALEINE	56	00 N	76	46 W	15.27	PORT ALBERT	49	33 N	54	32 W	7.21
PEYTON POINT	47	47 N	55	49 W	2.43	PORT ANSON	49	32 N	55	50 W	7.75
PHILLIPS HEAD	49	14 N	55	18 W	7.46	PORT AU PORT	48	34 N	58	46 W	1.68
PICK LEDGE	47	08 N	55	04 W	4.16	PORT BURWELL	60	25 N	64	51 W	14.5
PIG ISLAND	47	34 N	59	09 W	2.2	PORT CHARLOTTE	52	27 N	55	45 W	10.19
PIGEON HEAD	48	31 N	59	01 W	1.74	PORT DE BOUCHERVILLE	63	11 N	77	30 W	13.45
PIGEON ISLAND	49	43 N	54	03 W	7.8	PORT DE GRAVE	47	35 N	53	14 W	6.10
PIGEON ISLAND	53	19 N	55	47 W	10.72	PORT DE LAPERRIERE	62	34 N	78	03 W	13.75
PIGEON ISLAND	53	32 N	55	55 W	10.84	PORT HOPE SIMPSON	52	33 N	56	18 W	10.25
PIGEON ISLAND	53	54 N	57	06 W	10.102	PORT ISLAND	51	13 N	55	46 W	8.38
PIGEONNIERE ARM	50	22 N	56	30 W	8.22	PORT MARNHAM	52	22 N	55	47 W	10.14
PIKALUYAK ISLET	56	35 N	61	46 W	11.59	PORT REXTON	48	23 N	53	20 W	6.43
PIKIYULIK ISLAND	60	00 N	69	55 W	14.32	PORT SAINT. PIERRE	46	47 N	56	10 W	3.5
PILIER BAY	50	58 N	55	51 W	8.32	PORT SAUNDERS	50	39 N	57	17 W	1.31
PILLEY'S ISLAND HARBOR	49	30 N	55	43 W	7.67	PORT UNION	48	30 N	53	05 W	6.47
PILLEY'S TICKLE	49	32 N	55	40 W	7.66	PORTLAND CREEK	50	11 N	57	37 W	1.37
PILON ISLAND	64	04 N	94	22 W	16.31	PORTLAND HILL	50	09 N	57	37 W	1.37
PINCHARD'S BIGHT	49	13 N	53	31 W	6.71	PORTLAND PROMONTORY	58	41 N	78	34 W	15.13
PINCHGUT BANK	53	46 N	56	41 W	10.100	PORT-NOUVEAU-QUEBEC	58	41 N	65	56 W	14.9
PINCHGUT POINT	47	09 N	53	56 W	4.63	PORTUGAL COVE	47	38 N	52	52 W	6.2
PINCHGUT POINT	47	35 N	56	40 W	2.33	POSTE-DE-LA-BALEINE	55	16 N	77	46 W	15.30
PINNACLE BLUFF	61	50 N	72	10 W	13.58	POSTVILLE	54	55 N	59	48 W	11.20
PINNACLE ISLAND	62	04 N	72	23 W	13.60	POTONGAK ISLAND	55	27 N	60	05 W	11.25
PINSENT ARM	52	41 N	55	54 W	10.35	POTTLES BAY	54	29 N	57	30 W	10.124
PISTOL BAY	62	27 N	92	41 W	16.44	POTTLES COVE HEAD	54	10 N	57	21 W	10.114
PISTOLET BAY	57	56 N	62	25 W	12.3	POUCH ISLAND	49	10 N	53	28 W	6.70
PITT ISLANDS	48	45 N	53	46 W	6.59	POUND COVE	49	11 N	53	33 W	6.70
PITT SOUND GATES	48	44 N	53	52 W	6.61	POUND COVE LIGHT	49	10 N	53	32 W	6.70
PITT SOUND ISLAND	48	52 N	53	43 W	6.61	POUND HEAD	49	57 N	56	23 W	8.12
PITTS POINT	52	00 N	55	53 W	9.7	POUND POINT	51	11 N	56	49 W	1.7
PLACENTIA	47	15 N	53	58 W	4.32	POVUNGNETUK	60	02 N	77	16 W	15.12
PLATE COVE	48	30 N	53	29 W	6.54	POVUNGNETUK BAY	60	00 N	77	20 W	15.11
PLATE COVE HEAD	48	31 N	53	30 W	6.54	POVUNGNETUK RIVER	60	00 N	77	20 W	15.11
PLATE ISLANDS	47	12 N	56	03 W	2.49	POWLES HEAD	46	42 N	53	24 W	4.65
PLEASANT INLET	62	48 N	69	58 W	13.31	PREBBLE ROCKS	59	13 N	63	24 W	12.13
PLEASANT POINT	49	21 N	55	20 W	7.55	PRESQUE HARBOR	47	24 N	54	28 W	4.26
PLOVER ISLANDS	60	18 N	69	37 W	14.33	PRETTY ISLAND	49	29 N	55	42 W	7.65
POINT BUTEO	59	51 N	70	00 W	13.49	PRETTY TICKLE	49	29 N	55	41 W	7.64
POINT CREW	46	55 N	55	58 W	2.58	PRICKET POINT	63	27 N	76	32 W	13.44
POINT CREWE	46	55 N	55	59 W	4.2	PRINCE EDWARD BAY	51	10 N	55	58 W	8.42

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SAKVAK POINT	59	59 N	69	47 W	14.31	SHEARWATER SHOALS	55	22 N	59	27 W	11.22
SALISBURY ISLAND	63	33 N	76	59 W	13.44	SHEEP ISLAND	58	26 N	78	08 W	15.19
SALMON BAY	51	11 N	56	00 W	8.41	SHEEP RIVER	52	06 N	78	35 W	15.61
SALMON COVE	48	05 N	53	38 W	6.34	SHEER ISLANDS	62	42 N	69	34 W	13.28
SALMONIER POINT	47	06 N	53	34 W	4.62	SHELDRAKE SHOAL	54	20 N	81	04 W	15.68
SALT POND	53	08 N	55	46 W	10.55	SHELLBIRD ISLAND	49	35 N	55	57 W	7.80
SALT POND HEAD	52	28 N	55	42 W	10.19	SHEPHERD POINT	48	31 N	53	04 W	6.47
SALTWATER COVE	49	42 N	56	47 W	8.20	SHEPPARD ISLAND	52	46 N	78	52 W	15.56
SALTWATER POND BAY	49	33 N	55	54 W	7.77	SHIP COVE HILL	47	40 N	58	32 W	2.10
SALUT ISLAND	51	30 N	55	29 W	8.48	SHIP HARBOR	52	30 N	55	50 W	10.22
SALVAGE BAY	48	40 N	53	43 W	6.62	SHIP HARBOR	52	39 N	55	45 W	10.31
SALVAGE HEAD	48	21 N	53	21 W	6.42	SHIP HARBOR	54	45 N	57	51 W	11.5
SALVAGE POINT	48	04 N	53	10 W	6.20	SHIP HARBOUR	47	21 N	53	54 W	4.34
SAMSON ISLANDS	49	30 N	54	57 W	7.33	SHIP HEAD	47	41 N	53	14 W	6.15
SAMSON TICKLE	49	30 N	54	56 W	7.33	SHIP ISLAND	48	45 N	53	38 W	6.59
SANDWICH BAY	53	35 N	57	15 W	10.110	SHIP ROCK	48	46 N	53	37 W	6.59
SANDY BAY	50	02 N	57	43 W	1.38	SHIP RUN	49	32 N	55	08 W	7.42
SANDY BAY	53	24 N	55	48 W	10.76	SHIP SANDS	51	24 N	80	23 W	15.66
SANDY HEAD	49	31 N	57	53 W	1.44	SHOAL BAY	47	52 N	53	45 W	6.29
SANDY ISLAND	53	21 N	55	46 W	10.73	SHOAL BAY	48	52 N	53	57 W	6.63
SANDY ISLAND	56	25 N	61	03 W	11.45	SHOAL BAY	49	43 N	54	12 W	7.9
SANDY POINT	53	26 N	60	02 W	10.146	SHOAL BAY ISLAND	53	18 N	55	48 W	10.72
SANIKILUAG	56	35 N	79	12 W	15.40	SHOAL BAY POINT	47	04 N	53	39 W	4.61
SAPOGATSIK BAY	59	18 N	63	30 W	12.14	SHOAL COVE	52	18 N	55	48 W	10.12
SARFAK POINT	59	59 N	69	47 W	14.31	SHOAL COVE	59	23 N	63	44 W	12.15
SATOK ISLAND	55	27 N	60	02 W	11.25	SHOAL POINT	48	09 N	58	57 W	1.76
SAUKER HEAD	46	54 N	55	17 W	4.9	SHOAL POINT	48	38 N	58	50 W	1.68
SAUNDERS ISLAND	53	09 N	55	46 W	10.58	SHOAL POINT	52	14 N	55	37 W	10.10
SAVAGE HARBOR	61	50 N	65	46 W	13.21	SHOE COVE	49	55 N	55	34 W	7.90
SAVAGE ISLANDS	56	45 N	60	53 W	11.52	SHOE COVE POINT	49	02 N	53	36 W	6.66
SAVAGE POINT	51	20 N	55	35 W	8.44	SHORT POINT	61	05 N	69	37 W	13.48
SCHMITT SHOAL	53	58 N	57	04 W	10.114	SHOT ISLET	56	32 N	61	26 W	11.58
SCHOONER BAY	64	24 N	77	54 W	13.43	SHUKE ISLANDS	64	13 N	77	10 W	13.42
SCRAMMY BAY	52	42 N	55	50 W	10.35	SHULDHAM ISLAND	58	32 N	62	47 W	12.9
SCRAPE COVE	53	05 N	55	46 W	10.53	SHUNGMIYUK INLET	60	12 N	64	27 W	12.22
SCRAPE POINT	49	52 N	55	38 W	7.90	SIDE HARBOR	49	26 N	55	35 W	7.60
SCULPIN ISLAND	49	33 N	55	24 W	7.58	SILVER BUCKLE ISLAND	49	31 N	55	20 W	7.53
SEA HORSE POINT	53	36 N	79	04 W	15.56	SILVER COVE	50	53 N	55	54 W	8.31
SEAHORSE POINT	63	47 N	80	10 W	16.7	SILVER FOX ISLAND	49	01 N	53	41 W	6.65
SEAL BAY	49	27 N	55	32 W	7.60	SILVER POINT	50	53 N	55	54 W	8.31
SEAL COVE	49	43 N	54	17 W	7.10	SIMMONS ISLAND	47	02 N	55	10 W	4.12
SEAL COVE	49	56 N	56	23 W	8.12	SIORAKULUK ISLAND	56	33 N	61	14 W	11.55
SEAL ISLAND	47	57 N	53	41 W	6.31	SIORALIT POINT	61	44 N	93	19 W	16.46
SEAL ISLAND	53	14 N	55	43 W	10.64	SISTER ISLETS	62	00 N	66	53 W	13.23
SEAL ISLAND	53	51 N	56	50 W	10.103	SISTERS POINT	49	57 N	56	10 W	8.9
SEAL ISLAND HEAD	47	37 N	58	36 W	2.9	SKERWINK HEAD	48	22 N	53	20 W	6.42
SEAL ISLANDS	53	50 N	79	08 W	15.51	SKERWINK POINT	48	06 N	53	01 W	6.19
SEAL POINT	51	07 N	56	53 W	1.8	SKULL ISLAND	56	30 N	61	05 W	11.56
SEAL POINT	54	51 N	58	50 W	11.10	SLAMBANG BAY	56	53 N	61	24 W	11.74
SEAL REEF	53	51 N	79	18 W	15.50	SLEEPER ISLANDS	57	30 N	79	50 W	15.33
SEAL ROCK	49	33 N	54	17 W	7.14	SLEEPY POINT	49	58 N	55	37 W	8.3
SEAL ROCKS	52	32 N	56	13 W	10.24	SLIM ISLAND	60	58 N	70	05 W	13.50
SEALER NARROWS	62	48 N	69	49 W	13.29	SLOOP HARBOR	53	14 N	55	45 W	10.67
SEALING COVE	49	33 N	54	59 W	7.40	SLOOP HARBOR	54	33 N	57	10 W	11.2
SEALS NEST ISLANDS	49	48 N	54	12 W	7.11	SLOOP RUN	49	33 N	55	01 W	7.40
SEAPLANE COVE	59	22 N	63	48 W	12.15	SMALL POINT	47	36 N	52	39 W	5.15
SEARCH ISLAND	55	25 N	59	58 W	11.25	SMITH ISLAND	60	44 N	78	30 W	15.8
SELDOM HARBOR	49	36 N	54	10 W	7.14	SMITH POINT	48	11 N	53	50 W	6.41
SENTINEL HILL	56	25 N	61	33 W	11.48	SMITH SOUND	48	10 N	53	40 W	6.39
SENTINEL REEF	59	16 N	68	49 W	14.25	SMITH'S HARBOR	49	44 N	55	58 W	7.85
SENTINEL ROCK	56	48 N	60	49 W	11.52	SMOKER ISLAND	49	37 N	54	27 W	7.19
SENTRY ISLAND	61	09 N	93	52 W	16.47	SMOKY NARROWS	58	55 N	69	16 W	14.21
SEPARATION SHOALS	62	45 N	91	55 W	16.40	SMOOTH ISLAND	62	00 N	72	15 W	13.59
SERVICE POINT	49	30 N	55	35 W	7.64	SNAP ROCK	49	53 N	53	42 W	7.7, 7.8
SEVEN ISLANDS BAY	59	26 N	63	36 W	12.16	SNAPE POINT	51	46 N	79	02 W	15.61
SEVERN HARBOR	63	34 N	90	56 W	16.29	SNELGROVE ROCK	62	34 N	78	24 W	13.76
SEVERN RIVER	56	02 N	87	32 W	16.57	SNOOKS ARM	49	51 N	55	41 W	7.89
SHAFTESBURY INLET	62	31 N	69	19 W	13.26	SNOOKS HARBOR	48	10 N	53	52 W	6.41
SHAG CLIFF ISLANDS	49	27 N	54	59 W	7.41	SNOWBANK RIVER	65	54 N	86	22 W	16.20
SHAG ISLAND	47	35 N	54	15 W	4.40	SNUFFY POINT	49	32 N	55	14 W	7.49
SHAG ISLAND	48	52 N	58	35 W	1.67	SNUG HARBOR	52	54 N	55	51 W	10.44
SHAG ISLAND	54	01 N	58	49 W	10.137	SOAPSTONE ISLAND	58	02 N	62	14 W	12.3
SHAG ISLANDS	48	42 N	53	37 W	6.58	SOLDIER'S ROCK	48	31 N	52	58 W	6.47
SHAG ROCK	46	50 N	55	45 W	4.3	SOLOMONS TEMPLE ISLAND	52	49 N	79	09 W	15.57
SHAG ROCK	47	27 N	55	36 W	2.52	SOPS ARM	49	27 N	55	46 W	7.63
SHAG ROCK	47	46 N	54	13 W	4.54	SOPS ARM	49	45 N	56	51 W	8.18
SHALLOW BAY	49	57 N	57	45 W	1.38	SOPS COVE	49	47 N	56	48 W	8.18
SHALLOW BAY	59	49 N	77	24 W	15.13	SOPS HEAD	49	28 N	55	45 W	7.63
SHALLOWAY HEAD	47	00 N	55	11 W	4.12	SORRY HARBOR	61	36 N	64	42 W	13.19
SHAM BAY	58	36 N	68	19 W	14.17	SOUFFLET'S ARM	50	24 N	56	28 W	8.22
SHARK ISLET	56	29 N	61	10 W	11.56	SOUND ISLAND	47	23 N	54	37 W	4.24
SHARK ROCK	48	57 N	53	28 W	6.60	SOUND ISLAND	47	49 N	54	10 W	4.54

SOUND ISLAND LIGHT	47	47 N	54	10 W	4.52	ST. BARBE HARBOR	51	12 N	56	46 W	1.6
SOUTH ARM	49	24 N	55	17 W	7.55	ST. BARBE ISLANDS	50	12 N	55	49 W	8.2
SOUTH BAY	63	50 N	83	18 W	16.7	ST. CHARLES CHANNEL	52	14 N	55	36 W	10.5
SOUTH BEAR ISLAND	54	17 N	81	06 W	15.68	ST. CHARLES HARBOR	52	13 N	55	38 W	10.4
SOUTH BILL	49	15 N	53	28 W	6.72	ST. GEORGE'S BAY	48	21 N	58	40 W	1.3
SOUTH BILL	49	40 N	55	51 W	7.82	ST. GEORGE'S BAY	48	27 N	58	47 W	1.73
SOUTH BIRD ISLAND	48	37 N	53	00 W	6.48	ST. JOHN	50	44 N	57	01 W	1.25
SOUTH BLACK HEAD	53	29 N	55	47 W	10.82	ST. JOHN BAY	50	52 N	57	08 W	1.2
SOUTH BLACK ROCK	53	17 N	55	43 W	10.71	ST. JOHN HARBOR	50	48 N	57	15 W	1.19
SOUTH BROAD COVE	48	34 N	53	51 W	6.57	ST. JOHN ISLAND	53	56 N	58	55 W	10.138
SOUTH DUCK ISLANDS	54	13 N	57	24 W	10.117	ST. JOHN'S	47	33 N	52	37 W	2.59
SOUTH EAST BIGHT	47	24 N	54	35 W	4.24	ST. JOHN'S BAY	49	20 N	55	06 W	7.44
SOUTH END	49	34 N	54	25 W	7.19	ST. JOHN'S HARBOR	49	19 N	55	08 W	7.44
SOUTH GREEN ISLAND	54	13 N	57	29 W	10.125	ST. JOHN'S HARBOR	58	28 N	62	47 W	12.9
SOUTH HEAD	47	00 N	52	54 W	5.7	ST. JONES HARBOR	47	56 N	53	42 W	6.31
SOUTH HEAD	47	17 N	52	45 W	5.10	ST. JONES HARBOR	47	56 N	53	46 W	6.29
SOUTH HEAD	48	28 N	53	03 W	6.45	ST. JONES HEAD	47	57 N	53	40 W	6.31
SOUTH HEAD	49	09 N	58	22 W	1.53	ST. JONES WITHIN HARBOR	48	03 N	53	45 W	6.35
SOUTH ISLAND	59	58 N	77	33 W	15.11	ST. JULIEN HARBORS	51	06 N	55	44 W	8.34
SOUTH KOPAK ISLAND	60	00 N	77	45 W	15.11	ST. JULIEN ISLAND	51	06 N	55	43 W	8.34
SOUTH POUND ISLAND	49	06 N	53	33 W	6.68	ST. JULIEN PEAK	51	05 N	55	45 W	8.34
SOUTH REEFS	61	51 N	66	15 W	13.22	ST. LUNAIRE BAY	51	30 N	55	28 W	8.48
SOUTH RIB	52	17 N	55	34 W	10.5	ST. LUNAIRE PEAK	51	28 N	55	30 W	8.48
SOUTH ROCK	47	46 N	53	30 W	6.23	ST. MICHAEL'S ISLAND	49	17 N	55	00 W	7.38
SOUTH ROCK	49	29 N	53	54 W	7.4	ST. PATRICK'S	49	34 N	56	00 W	7.80
SOUTH SHOAL BAY	53	32 N	56	00 W	10.87	ST. PAULS POINT	49	52 N	57	50 W	1.40
SOUTH SKERRIES	62	23 N	78	12 W	13.76	STAFFE ISLET	62	29 N	77	45 W	13.77
SOUTH STAG ISLAND	54	01 N	57	08 W	10.113	STAG BAY	54	50 N	58	46 W	11.10
SOUTH THREE ISLANDS	53	10 N	55	46 W	10.57	STAG HARBOR	49	34 N	54	16 W	7.14
SOUTH TWIN ISLAND	53	06 N	79	54 W	15.56	STAG HARBOR TICKLE	49	33 N	54	18 W	7.13
SOUTH WOLF ISLAND	53	41 N	55	55 W	10.89	STAG ISLAND	49	39 N	55	39 W	7.73
SOUTH WOLF ROCK	53	39 N	55	54 W	10.89	STAG ISLAND	51	40 N	79	04 W	15.63
SOUTHAMPTON ISLAND	64	20 N	84	20 W	16.4	STAG ISLAND	53	06 N	55	46 W	10.54
SOUTHEAST ARM	47	36 N	57	05 W	2.29	STAG ROCK	51	35 N	78	57 W	15.64
SOUTHEAST ARM	49	28 N	55	17 W	7.53	STANLEY REEF	62	43 N	69	44 W	13.29
SOUTHEAST ENTRANCE POINT	59	06 N	63	24 W	12.12	STAR ISLAND	53	42 N	56	32 W	10.91
SOUTHEAST ROCKS	54	15 N	56	49 W	10.116	STEERING ISLAND	49	55 N	57	50 W	1.38
SOUTHER POINT	47	53 N	53	24 W	6.22	STEERING ISLAND	49	56 N	57	50 W	1.39
SOUTHERN ARM	49	41 N	55	52 W	7.83	STEERING ISLAND	49	31 N	54	27 W	7.18
SOUTHERN ARM	49	55 N	56	23 W	8.13	STEPHENVILLE	48	32 N	58	32 W	1.75
SOUTHERN ARM	51	13 N	55	58 W	8.41	STEVENSON ISLETS	49	10 N	53	25 W	6.71
SOUTHERN BAY	48	29 N	53	33 W	6.54	STICKLAND POINT	47	36 N	58	53 W	2.6
SOUTHERN HARBOR	49	39 N	55	47 W	7.77	STINKING BANKS	49	11 N	53	19 W	6.71
SOUTHERN HEAD	47	48 N	54	04 W	4.53	STOCKING HARBOR	49	44 N	55	56 W	7.85
SOUTHERN HEAD	48	37 N	53	21 W	6.53	STONE ISLAND	48	24 N	53	08 W	6.51
SOUTHERN HEAD	49	22 N	55	05 W	7.41	STONY ISLAND	52	59 N	55	49 W	10.46
SOUTHERN HEAD	49	36 N	55	34 W	7.71	STONY POINT	56	28 N	61	38 W	11.49
SOUTHERN HEAD	52	23 N	55	38 W	10.17	STONY POINT	58	54 N	68	37 W	14.18
SOUTHERN HEAD	52	53 N	55	49 W	10.45	STOREHOUSE ISLAND	49	24 N	54	25 W	7.17
SOUTHERN HEAD COVE	49	21 N	55	04 W	7.41	STOREHOUSE ISLANDS	49	49 N	54	11 W	7.11
SOUTHERN ISLAND	52	16 N	55	35 W	10.7	STOWBRIDGE HEAD	49	13 N	58	05 W	1.58
SOUTHERN PASSAGE	49	16 N	55	12 W	7.44	STRANGULATION HEAD	60	05 N	70	08 W	13.51
SOUTHWEST ARM	49	23 N	55	23 W	7.56	STRATHCONA ISLANDS	63	00 N	71	22 W	13.34
SOUTHWEST ARM	49	40 N	56	05 W	7.87	STROMNESS ISLAND	53	52 N	79	08 W	15.49
SOUTHWEST COVE HEAD	47	23 N	54	13 W	4.43	STRONG ISLAND	49	26 N	55	18 W	7.55
SOUTHWEST ISLAND	48	58 N	53	43 W	6.64	STRONG ISLAND SOUND	49	24 N	55	20 W	7.55
SOUTHWEST POINT	51	08 N	56	50 W	1.9	STRUTTON ISLANDS	52	06 N	79	00 W	15.60
SPANIARD'S BAY	47	37 N	53	15 W	6.13	STUCKEY COVE	49	32 N	55	40 W	7.66
SPEAR HARBOR	52	26 N	55	38 W	10.17	STUMP POINT	50	09 N	56	34 W	8.14
SPEAR POINT	49	44 N	56	45 W	8.18	STUPART BAY	61	34 N	71	34 W	13.52
SPEAR POINT	52	27 N	55	38 W	10.18	STYLES HARBOR	53	02 N	55	46 W	10.50
SPENCER ISLAND	53	30 N	79	42 W	15.54	STYLES ROCK	53	01 N	55	45 W	10.50
SPILLARS POINT	48	40 N	53	03 W	6.49	SUGAR LOAF	49	28 N	54	56 W	7.34
SPLIT ISLAND	56	50 N	79	51 W	15.36	SUGAR LOAVES	49	12 N	57	49 W	1.59
SPLIT POINT	48	06 N	52	51 W	6.2	SUGARLOAF	47	57 N	53	21 W	6.21
SPLIT POINT	48	06 N	53	51 W	6.17	SUGARLOAF	52	46 N	55	48 W	10.39
SPLIT POINT	51	38 N	55	24 W	8.51	SUGARLOAF HEAD	47	37 N	52	39 W	5.16
SPOTTED ISLAND HARBOR	53	29 N	55	46 W	10.81	SUGARLOAF ISLAND	47	03 N	55	07 W	4.13
SPRACKING ISLAND	53	09 N	55	45 W	10.57	SUGARLOAF POINT	47	21 N	53	53 W	4.34
SPRACKLINS ISLAND	55	08 N	60	46 W	11.37	SUGARLOAF POINT	49	34 N	54	42 W	7.27
SPREAD EAGLE BAY	47	33 N	53	36 W	6.27	SUGLUK INLET	62	12 N	75	38 W	13.69
SPREADEAGLE BAY	47	33 N	53	36 W	6.27	SUGLUK INLET	62	17 N	75	30 W	13.68
SPRIGGS POINT	47	33 N	52	40 W	5.13	SUGLUK ISLAND	62	17 N	75	33 W	13.68
SPRINGS REEF	58	40 N	68	03 W	14.14	SULEY ANN ROCK	49	36 N	55	46 W	7.72
SPRUCE ISLAND	56	41 N	61	14 W	11.70	SUMMERFORD ARM	49	29 N	54	50 W	7.34
SPRUCE ISLANDS	49	24 N	55	01 W	7.41	SUNDAY COVE	49	31 N	55	48 W	7.75
SQUARE ISLAND	52	45 N	55	50 W	10.32	SUNDAY COVE ISLAND	49	33 N	55	47 W	7.75
SQUARE ISLAND HARBOR	52	44 N	55	50 W	10.34	SUNDAY ISLAND	54	18 N	80	40 W	15.68
SQUARE ROCK POINT	54	12 N	58	22 W	10.133	SUNDAY RUN	57	58 N	62	10 W	12.3
SQUID COVE	49	34 N	54	43 W	7.27	SUNGILIK ISLAND	56	15 N	61	19 W	11.41
SQUID POINT	46	51 N	55	44 W	4.4	SWAFFIELD HARBOR	62	23 N	79	42 W	16.3
ST. ANTHONY HARBOR	51	22 N	55	35 W	8.46	SWAIN ISLANDS	49	33 N	53	34 W	6.69

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UPPER BLACK ISLAND	49	24 N	55	07 W	7.43	WESTBOURNE BAY	62	44 N	69	45 W	13.29
UPPER DUCK ISLAND COVE	49	59 N	56	09 W	8.8	WESTERN ARM	49	42 N	55	54 W	7.84
UPPER SANDY POINT	47	48 N	54	12 W	4.54	WESTERN ARM	49	50 N	56	32 W	8.16
UPPER SAVAGE ISLANDS	62	35 N	70	03 W	13.31	WESTERN BAY	47	53 N	53	04 W	6.17
						WESTERN COVE	47	42 N	54	13 W	4.38
						WESTERN COVE	49	47 N	56	37 W	8.17
						WESTERN GROUND	46	49 N	55	51 W	4.3
						WESTERN HEAD	47	27 N	55	49 W	2.50
						WESTERN HEAD	47	37 N	56	20 W	2.35
						WESTERN HEAD	47	37 N	56	32 W	2.34
						WESTERN HEAD	47	41 N	58	09 W	2.14
						WESTERN HEAD	47	42 N	53	50 W	6.28
						WESTERN HEAD	47	42 N	56	03 W	2.41
						WESTERN HEAD	48	37 N	53	26 W	6.51
						WESTERN HEAD	49	32 N	55	14 W	7.51
						WESTERN HEAD	49	33 N	58	01 W	1.49
						WESTERN HEAD	49	36 N	54	54 W	7.30
						WESTERN HEAD	49	37 N	53	26 W	6.54
						WESTERN HEAD	49	38 N	54	04 W	7.14
						WESTERN INDIAN ISLAND	49	33 N	54	18 W	7.13
						WESTERN POINT	47	37 N	57	31 W	2.23
						WESTON ISLAND	52	33 N	79	36 W	15.57
						WESTPORT COVE	49	47 N	56	37 W	8.17
						WETALLTOK BAY	56	00 N	79	20 W	15.39
						WEYMOUTH INLET	59	21 N	65	28 W	14.6
						WEYMOUTH POINT	50	51 N	56	09 W	8.28
						WHALE COVE	62	10 N	92	34 W	16.44
						WHALE ISLAND	56	31 N	61	08 W	11.54
						WHALE ISLAND	59	27 N	63	42 W	12.16
						WHALE POINT	51	37 N	55	53 W	9.26
						WHALE POINT	64	09 N	88	06 W	16.13
						WHALEBACK REEF	58	47 N	69	40 W	14.22
						WHALES HEAD	58	11 N	68	19 W	14.15
						WHALESBACK	48	35 N	52	59 W	6.48
						WHITE BAY	50	00 N	56	30 W	8.11
						WHITE BEAR BAY	63	46 N	72	18 W	13.36
						WHITE BEAR ISLAND	55	26 N	59	31 W	11.22
						WHITE BEAR ISLAND	57	54 N	61	42 W	12.2
						WHITE BEAR ISLANDS	54	28 N	56	56 W	10.118
						WHITE BEAR POINT	52	15 N	55	42 W	10.4
						WHITE CAPE	51	31 N	55	26 W	8.48
						WHITE HEAD	47	34 N	59	02 W	2.5
						WHITE HEAD	49	45 N	56	48 W	8.19
						WHITE ISLAND	49	26 N	54	13 W	7.15
						WHITE ISLAND	53	32 N	55	53 W	10.83
						WHITE ISLANDS	47	36 N	54	16 W	4.40
						WHITE ISLANDS	51	35 N	55	20 W	8.51
						WHITE ISLANDS	52	57 N	55	47 W	10.47
						WHITE POINT	47	11 N	55	28 W	2.60
						WHITE POINT	47	18 N	53	55 W	4.34
						WHITE POINT	49	27 N	54	00 W	7.5
						WHITE POINT	49	29 N	55	34 W	7.61
						WHITE POINT	49	45 N	56	48 W	8.19
						WHITE POINT	52	14 N	55	36 W	10.5
						WHITE POINT	58	26 N	62	36 W	12.7
						WHITE ROCK	53	17 N	55	41 W	10.70
						WHITEHORSE ROCK	47	02 N	55	06 W	4.12
						WHITEHORSE SHOAL	47	02 N	55	07 W	4.12
						WHITEWAY BAY	47	42 N	53	30 W	6.24
						WHITEWAY ROCK	47	42 N	53	31 W	6.24
						WHITNEY INLET	63	47 N	90	04 W	16.23
						WIEGAND ISLAND	56	40 N	79	13 W	15.39
						WIGHT INLET	62	13 N	68	12 W	13.25
						WIGWAM POINT	49	06 N	55	18 W	7.48
						WILD BIGHT	49	20 N	55	11 W	7.45
						WILD BIGHT	49	24 N	55	40 W	7.61
						WILD BIGHT	49	30 N	55	23 W	7.57
						WILD BIGHT	49	35 N	54	50 W	7.28
						WILD BIGHT	49	39 N	55	52 W	7.82
						WILD BIGHT	53	00 N	55	47 W	10.48
						WILD BIGHT	53	29 N	55	50 W	10.83
						WILD BIGHT POINT	49	30 N	55	23 W	7.57
						WILD COVE	49	37 N	54	08 W	7.14
						WILD COVE	50	42 N	56	11 W	8.26
						WILD COVE HEAD	48	41 N	53	41 W	6.62
						WILDER ROCKS	59	14 N	63	22 W	12.13
						WILLIAMS HARBOR	52	33 N	55	46 W	10.27
						WILLIAMS HARBOR	60	00 N	64	15 W	12.20
						WILLIS ISLAND	48	48 N	53	41 W	6.59
						WILLIS REACH	48	49 N	53	41 W	6.59
						WILLIS ROCKS	56	56 N	61	20 W	11.75
						WILSON BAY	62	14 N	92	45 W	16.45

WINCHESTER INLET	63	52 N	89	54 W	16.23	WOODY ISLAND	47	46 N	54	11 W	4.55
WINDMILL HEAD	49	17 N	53	34 W	7.1	WOODY ISLAND	47	46 N	54	12 W	4.52
WINDY POINT	51	03 N	55	47 W	8.33	WOODY ISLAND	53	41 N	57	05 W	10.108
WINISK RIVER	55	18 N	85	04 W	16.57	WRECK COVE	51	58 N	55	22 W	9.3
WINNIE BAY	58	07 N	62	50 W	12.5	WRECK ISLAND	47	39 N	57	53 W	2.18
WINTER TICKLE	49	23 N	55	14 W	7.45	WRECK POINT	51	51 N	56	06 W	9.10
WINTERTON COVE	47	57 N	53	02 W	6.21						
WITLESS POINT	47	15 N	52	48 W	5.10						
WIVANHOE ISLAND	61	55 N	72	08 W	13.59						
WOLF POINT	51	21 N	55	34 W	8.44						
WOLSTENHOLME	62	30 N	77	24 W	13.71						
WOLTON ISLAND	56	00 N	79	03 W	15.43	YELLOW BLUFF	64	34 N	87	38 W	16.13
WOMAN ISLANDS	61	51 N	72	09 W	13.58	YELLOW FOX ISLAND	49	27 N	54	55 W	7.34
WOOD ISLAND	49	37 N	54	26 W	7.19	YORK POINT	51	58 N	55	52 W	9.4
WOOD ISLAND	52	25 N	56	06 W	10.15	YORK POINT	51	58 N	55	54 W	9.6
WOOD ISLAND	56	32 N	60	57 W	11.53	YOUND ISLAND	58	30 N	78	23 W	15.18
WOODS ISLAND	49	06 N	58	12 W	1.56	YOUNG HARRY	48	48 N	53	04 W	6.51
WOODS ISLAND HARBOR	49	06 N	58	13 W	1.56	YOUNG INLET	60	22 N	64	45 W	14.6
WOODY ISLAND	47	01 N	55	11 W	4.12						
WOODY ISLAND	47	13 N	55	02 W	4.19						
WOODY ISLAND	47	22 N	54	42 W	4.22						
WOODY ISLAND	47	27 N	53	57 W	4.46						
						ZOAR	56	12 N	61	21 W	11.36

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