

## APPENDIX C TECHNICAL INFORMATION

### BASE POINT COORDINATES OF RELEVANT COASTS

The relevant coasts used in the Newfoundland and Labrador submission are based on those utilized in the *Canada v. France* case, as illustrated in Figure 5 of the Canadian Memorial (see Authorities # 18). The locations identified in Figure 5 of the Canadian Memorial were cross-referenced to the Territorial Sea Geographic Coordinates Order C.R.C., c. 1550, to obtain the precise geographic coordinates. In the four cases highlighted below (Connaigre Head, Great Paradise, St. Bride's and Cape Canso) the locations were not part of the Territorial Sea Geographic Coordinates Order, and therefore coordinates were scaled off CHS Charts 4015, 4016 and 4013.

BASE POINT COORDINATES ON THE NEWFOUNDLAND COAST						
Name	North Latitude			West Longitude		
	D	M	S	D	M	S
Cape Ray	47	37	04	59	18	05
Connaigre Head	47	26	10	55	55	50
Lamaline Shag Rock	46	50	20.9	55	49	26.2
Ferryland Head	46	52	16	55	23	1
Great Paradise	47	20	56	54	35	42
St. Bride's	46	57	11	54	10	41
Cape St. Mary's	46	49	13	54	11	50
Cape Race	46	39	30	53	04	15
BASE POINT COORDINATES ON THE NOVA SCOTIA COAST						
Name	North Latitude			West Longitude		
	D	M	S	D	M	S
Money Point (Cape North)	47	01	48	60	23	22
Cape Smokey	46	37	39	60	20	58
Low Point	46	16	03	60	07	34
Scatarie I. (Cormorandière Rocks)	46	02	13	59	39	40
Cape Canso	45	18	0	60	56	30

All base point coordinates are based on the 1983 North American Datum (NAD83). The values for the base points available in the Territorial Sea Geographical Coordinates Order were taken from the list provided to both parties on July 16, 2001 by the Canadian Hydrographic Service.<sup>1</sup>

<sup>1</sup> Letter and attachment from M.J. Casey to L.Y. Fortier, re: Request for Bathymetric Grid & Territorial Sea Coordinates, July 16, 2001.

## MEASUREMENT OF RELEVANT COASTS

The lengths for each segment of the relevant coasts were determined using geodetic measurements. They include:

SEGMENT MEASUREMENTS ON THE NEWFOUNDLAND COASTS	
	Nautical Miles
Cape Ray to Connaigre Head	137.48
Connaigre Head to Lamaline Shag Rock	36.10
<b>Sub-Total – Inner Area</b>	<b>173.6</b>
Lamaline Shag Rock to Ferryland Head	18.23
Ferryland Head to Great Paradise	43.21
Great Paradise to St. Bride's	29.26
St. Bride's to Cape St. Mary's	8.00
Cape St. Mary's to Cape Race	47.49
<b>Total Newfoundland Coasts</b>	<b>319.8</b>
SEGMENT MEASUREMENTS ON THE NOVA SCOTIA COASTS	
	Nautical Miles
Money Point (Cape North) to Cape Smokey	24.22
Cape Smokey to Low Point	23.51
Low Point to Scatarie Island (Cormorandière Rocks)	23.83
<b>Sub-Total – Inner Area</b>	<b>71.6</b>
Scatarie Island (Cormorandière Rocks) to Cape Canso	69.71
<b>Total – Nova Scotia Coasts</b>	<b>141.3</b>

## CONSTRUCTION OF THE NEWFOUNDLAND AND LABRADOR LINE

To determine the *starting position of the first segment*, the mid-point on a rhumb line from Money Point to Cape Ray was computed using geodetic measurements and located at:

( A ) North 47° 19' 25" West 59° 50' 46"

To determine the *azimuth of the first segment*, the bisecting angle of the azimuth between Cape Ray and Connaigre Head (94.6°) and the azimuth between Money Point and Scatarie Island (153.2°) was computed as follows:

$$\text{Rhumb Line Azimuth of 1<sup>st</sup> Segment: } (94.6^\circ + 153.2^\circ) / 2 = 123.9^\circ$$

To determine the *azimuth of the second segment*, the bisecting angle of the azimuth between Connaigre Head and Lamaline Shag Rock ( $173.1^\circ$ ) and the azimuth between Money Point and Scatarie Island ( $153.2^\circ$ ) was computed as follows:

$$\text{Rhumb Line Azimuth of 2}^{\text{nd}} \text{ Segment: } (173.1^\circ + 153.2^\circ) / 2 = 163.15^\circ$$

To determine the *position of the 2<sup>nd</sup> segment on the outer closing line*, the mid-point on the rhumb line between Scatarie Island and Lamaline Shag Rock was located. The ratio of the lengths of the relevant coasts (2.42:1.00) was applied to the closing rhumb line to find a point on that line which is 2.42 times farther from Lamaline Shag Rock than from Scatarie Island.

Based on the total length of the closing rhumb line of 166.3 nautical miles, this translates into an adjustment towards Scatarie Island of 34.6 nautical miles. Thus, the adjusted mid-point along the closing line is located at:

$$(C) \text{ North } 46^\circ 16' 13'' \text{ West } 58^\circ 32' 42''$$

A rhumb line from Point C on an azimuth of  $163.15^\circ$  (back azimuth of  $343.15^\circ$ ) intersects the 1<sup>st</sup> segment on an azimuth of  $123.9^\circ$  at position:

$$(B) \text{ North } 46^\circ 50' 30'' \text{ West } 58^\circ 47' 45''$$

To determine *the azimuth of the 3<sup>rd</sup> segment*, the rhumb line azimuth of the closing line between Scatarie Island and Lamaline Shag Rock was measured at  $73.2^\circ$ . The required perpendicular is computed as follows:

$$\text{Rhumb Line Azimuth of Outer Segment: } (73.2^\circ + 90.0^\circ) = 163.2^\circ$$

The 3<sup>rd</sup> segment is represented by a rhumb line, starting at Point C on the closing line between Scatarie Island and Lamaline Shag Rock, and extending to the limit of the continental shelf on an azimuth of  $163.2^\circ$ .

To determine the azimuth of the rhumb line in the Gulf of St. Lawrence, the rhumb line azimuth of the closing line between Cape Ray and Money Point was measured at  $231.5^\circ$ . The perpendicular to this closing line is computed as follows:

$$\text{Rhumb Line Azimuth in the Gulf: } (231.5^\circ + 90.0^\circ) = 321.5^\circ$$

This segment is represented by a rhumb line, starting at the mid-point of the closing line between Money Point and Cape Ray, and extending into the Gulf of St. Lawrence on an azimuth of  $321.5^\circ$ .