

ANNEX V

United Nations Convention on the Law of the Sea



**Commission on the Limits
of the Continental Shelf**

**SUMMARY OF RECOMMENDATIONS OF THE COMMISSION ON THE
LIMITS OF THE CONTINENTAL SHELF IN REGARD TO THE
SUBMISSION MADE BY THE UNITED KINGDOM OF GREAT BRITAIN
AND NORTHERN IRELAND IN RESPECT OF ASCENSION ISLAND
ON 9 MAY 2008**

Recommendations prepared by the Subcommittee established for the consideration of the Submission made by the United Kingdom of Great Britain and Northern Ireland in respect of Ascension Island

Adopted by the Subcommittee on 31 March 2010, and submitted to the Commission on the Limits of the Continental Shelf for consideration and approval by the Commission.

Adopted by the Commission, with amendments, on 15 April 2010

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LIST OF TERMS AND ABBREVIATIONS

Acronyms

DOALOS – Division for Ocean Affairs and Law of the Sea, Office of Legal Affairs

FOS – Foot of the continental slope

M – Nautical mile

Abbreviated terms

Critical FOS points – Foot of the continental slope points that generate formula fixed points on the line of the outer limit of the continental shelf

FOS points – Foot of the continental slope points

Depth constraint – The constraint line constructed at 100 M from the 2500 metre isobaths in accordance with article 76, paragraphs 5 and 6

Distance constraint – The constraint line constructed at 350 M from the territorial sea baseline in accordance with article 76, paragraphs 5 and 6

Relevant FOS point – Foot of the continental slope points that generate formula fixed points on the outer edge of the continental margin that are necessary for the construction of the outer limits of the continental shelf

Sediment thickness formula points – Points determined from the application of Article 76, paragraph 4(a)(i) (also referred to as Gardiner points)

Territorial sea baselines - The baselines from which the breadth of the territorial sea is measured

The Guidelines – The Scientific and Technical Guidelines of the Commission (CLCS/11)

The Commission – The Commission on the Limits of the Continental Shelf

The Convention – The United Nations Convention on the Law of the Sea

The Rules of Procedure – The Rules of Procedure of the Commission (CLCS/40)

60 M formula points – Points determined from the application of Article 76, paragraph 4(a)(ii) (also informally referred to as Hedberg points)

200 M limit – The line at 200 M from the baselines the territorial sea baselines

Use of terms

Determine the foot of the continental slope

Delineate the outer edge of the continental margin (in terms of construction of the outer edge of the continental margin by establishing and connecting fixed points)

Delineate the outer limits of the continental shelf (in terms of construction of the outer limits of the continental shelf by establishing and connecting fixed points)

Establish the outer edge of the continental margin (in terms of following procedure in the convention for submitting the outer edge of the continental margin as basis for the outer limits of the continental shelf)

Establish the outer limits of the continental shelf (in terms of following procedure in the convention including the submission of the outer limits of the continental shelf)

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I. INTRODUCTION

- 1 On 9 May 2008, the United Kingdom of Great Britain and Northern Ireland (“the United Kingdom”) submitted through the Secretary-General of the United Nations (“the Secretary-General”) to the Commission on the Limits of the Continental Shelf (“the Commission”), in accordance with article 76, paragraph 8, of the United Nations Convention on the Law of the Sea of 10 December 1982 (“the Convention”), information on the limits of the continental shelf beyond 200 nautical miles (M) from the baselines from which the breadth of the territorial sea is measured relating to the continental shelf of Ascension Island. The Convention entered into force for the United Kingdom on 24 August 1997.
- 2 According to the submitting State this is a partial Submission.¹
- 3 On 12 May 2008 the Secretary-General issued Continental Shelf Notification CLCS.11.2008.LOS to give due publicity to the Executive Summary of the Submission in accordance with rule 50 of the Rules of Procedure of the Commission on the Limits of the Continental Shelf (CLCS/40/Rev.1) (“the Rules of Procedure”). In conformity with rule 51 of the Rules of Procedure, the consideration of the Submission was included in the agenda of the twenty-second session of the Commission.
- 4 The Commission received and took note of the contents of the following notes verbales transmitted to the Commission in relation to note verbale No. 168/08, dated 9 May 2008, that accompanied the Submission: note verbale No. NYV/2009/2184, dated 28 August 2009, from the Permanent Mission of the Kingdom of the Netherlands to the United Nations, and note verbale No. SC/09/391, dated 19 November 2009 from the Permanent Mission of Japan to the United Nations².
- 5 The Subcommittee carried out its examination of the Submission during the twenty-third, twenty-fourth, resumed twenty fourth and twenty-fifth sessions during 27 days of internal meetings. In addition, 9 meetings were held between the Subcommittee and the Delegation of the United Kingdom (the “Delegation”). The Subcommittee presented its views and general conclusions on 19 August 2009 (in document SC_GBR-ASC_DOC_001_19-08-2009³). Subsequently, the Subcommittee provided clarifications to the Delegation in a presentation made on 8 December 2009, in its answers to questions posed by the Delegation on 9 December 2009 (SC_GBR-ASC_DOC_002_10-12-2009⁴), and in its response (SC_GBR-ASC_DOC_003_17-03-2010⁵) to the letter by the Delegation of the United Kingdom dated 18 February 2010. During the course of the examination of the Submission by the Subcommittee, the Delegation provided technical data and other material through letters dated 24 November 2009, 9 December 2009 and 18

¹ See note verbale 168/08, dated 9 May 2008, at http://www.un.org/depts/los/clcs_new/submissions_files/gbr08/clcs11_2008e.pdf. The list of the material included in the original Submission is contained in Annex I to the Recommendations.

² The notes verbales are available on the DOALOS web site for the Commission at http://www.un.org/Depts/los/clcs_new/submissions_files/submission_gbr.htm.

³ Annex III.

⁴ *Idem*.

⁵ *Idem*.

February 2010⁶, and PowerPoint presentations dated 18 August 2009 and 7 December 2009.

- 6 The Delegation made a presentation to the Commission on 12 April 2010 in accordance with rule 52 of the Rules of Procedure, and paragraph 15 of Annex III to the Rules of Procedure.
- 7 The Commission prepared these Recommendations, which were adopted on 15 April 2010, taking into consideration the internal procedures and the methodology outlined in the following official documents of the Commission: the Rules of Procedure; the Scientific and Technical Guidelines (CLCS/11 and CLCS/11/Add.1 – “the Guidelines”) and article 6 of Annex II to the Convention.
- 8 The Commission makes these Recommendations to the United Kingdom in fulfilment of its mandate as contained in article 76, paragraph 8, and articles 3 and 5 of Annex II to the Convention.
- 9 This Summary is Annex V of the Recommendations and is provided in conformity with paragraph 11.3 of Annex III to the Rules of Procedure.
- 10 According to article 76, paragraph 8, of the Convention, the Commission makes these Recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf.

II. CONTENTS OF THE SUBMISSION

A. Original Submission

- 11 The original Submission received on 9 May 2008 contained: an Executive Summary; a Main Body which is the analytical and descriptive part; and Scientific and Technical Data.⁷ On 19 June 2008 the United Kingdom transmitted a revised version of the Main Body of the Submission and of the CD-Rom “Supporting documentation – Volume 2, Restricted Material”.⁸

B. Communications and additional material

- 12 In the course of the examination of the Submission by the Subcommittee the Delegation submitted additional material, including in response to views and general conclusions presented by the Subcommittee on 19 August 2009 in conformity with paragraph 10.3 of Annex III to the Rules of Procedure.⁹

III. GENERAL PRINCIPLES ON WHICH THESE RECOMMENDATIONS ARE BASED

- 13 The Recommendations of the Commission are based on the scientific and technical data and other material provided by the United Kingdom in relation to the implementation of article 76. The Recommendations of the Commission only deal with issues related to article 76 and Annex II to the Convention and are without prejudice to matters relating to delimitation between States, or application of other parts of the Convention or any other treaties.

⁶ A list of all letters sent by the Delegation is included in Annex II.

⁷ For a list of the material submitted in the original Submission, see Annex I to these Recommendations.

⁸ For a list of additional material submitted after the original Submission, see Annex II to these Recommendations.

⁹ For a list of communications of the Subcommittee see Annex III to these Recommendations.

IV. RECOMMENDATIONS

- 14 The Submission of the United Kingdom of 9 May 2008 relates to the area around the United Kingdom's Overseas Sovereign Territory of Ascension Island. Ascension Island is a dependency of the British Overseas Territory of Saint Helena, some 750 M to the southeast (Figure 1A).

1. Geographical region description

- 15 The region relevant to the Submission lies in the northern part of the southern Atlantic Ocean as depicted in the bathymetric images in Figure 1.
- 16 Ascension Island is the sub-aerial expression of a volcanic seamount that is located in the central Atlantic Ocean about 90 km west of the median rift valley of the Mid-Atlantic Ridge (MAR) (Figure 1B). Ascension Island lies within the segment of the Atlantic Ocean floor between the Ascension and Bode Verde Fracture Zones (Figure 1B). The Ascension Island edifice formed as a result of magmatic events related to a hot spot, a localised mantle anomaly or some other mechanism, and sits on 7 Ma oceanic lithosphere that was created at the axis of the MAR by seafloor spreading. There is evidence that the volcanism underpinning Ascension Island initiated in proximity to the spreading centre.

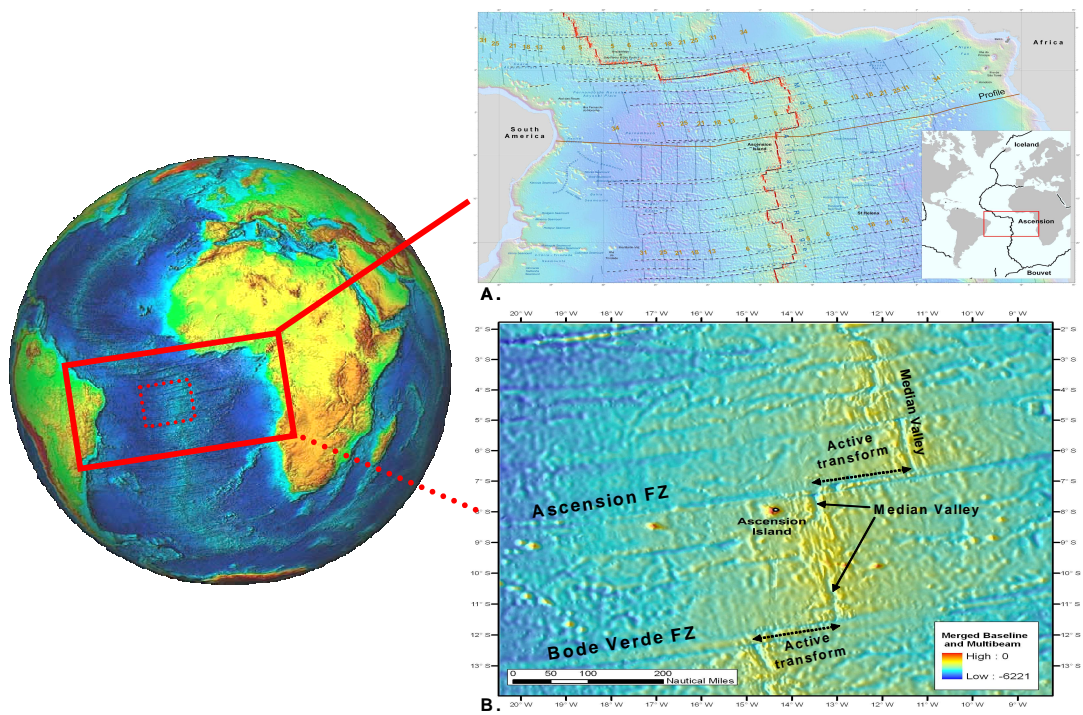


Figure 1. Locality map of the Submission of the United Kingdom in respect of Ascension Island. A. Bathymetric map of the South Atlantic Ocean showing principal physiographic features, major tectonic and geophysical elements. Location of illustration in Figure 2A marked as 'Profile' (after Fig. 2.1 of Main Body). B. Merged satellite derived bathymetry and multibeam data at 1 arc minute interval showing major features of the ocean floor around Ascension Island (modified from Fig. 3.1 of Main Body).

- 17 In the Ascension Island region, the Atlantic ocean floor slopes away from the axial zone of the MAR (its median or rift valley) at about 0.1-0.2° towards the Brazilian Abyssal Plain in the west and towards the Guinea Seamount Chain in the east (Figure 2A). These seafloor gradients away from the axis of the MAR are related to the normal cooling and subsidence of oceanic lithosphere formed by seafloor spreading. In this part of the Atlantic, the seafloor depth/age relationship is broadly consistent with that predicted by the theoretical cooling models.
- 18 A series of geological, geophysical, and geochemical studies on Ascension Island and the surrounding seafloor over the last ten years have provided a consistent model for the constructional history of the Island. In this model, volcanism initiated in proximity to the spreading centre due to a weak and intermittent mantle plume or by a melting of small mantle heterogeneities and subsequently resulted in the accumulation of volcanic piles to form the present-day Ascension Island.

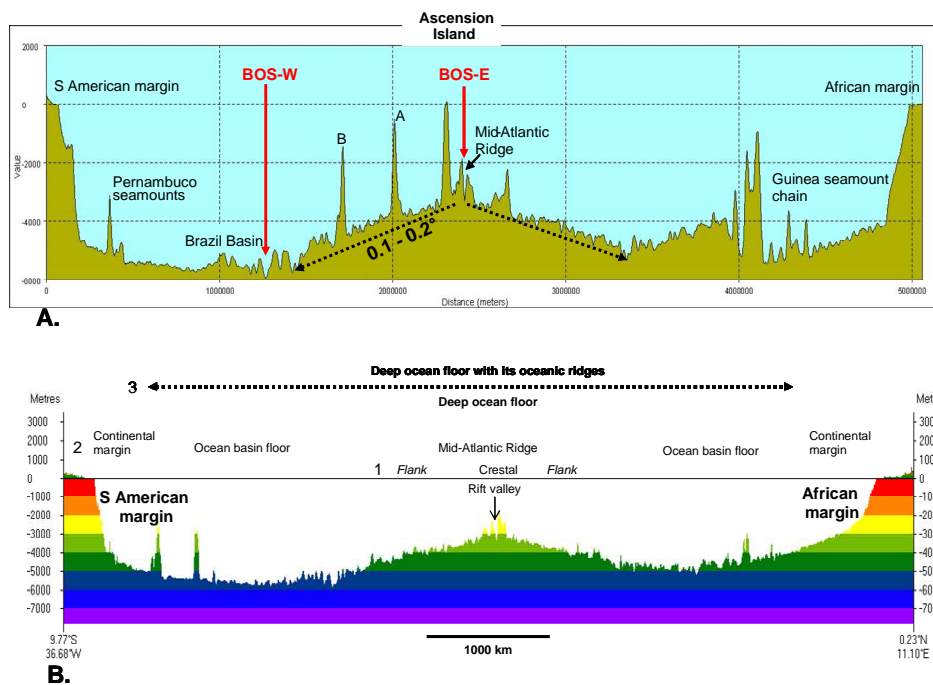


Figure 2. Bathymetric profiles across the central Atlantic Ocean. **A.** Bathymetric profile (located in Figure 1A) across the central Atlantic showing the location of Ascension Island in relation to the ocean basin margins and the Mid-Atlantic Ridge (profile data from satellite predicted bathymetry). Shows approximate locations of western (BOS-W) and eastern (BOS-E) base of slope zones identified by the United Kingdom. Vertical exaggeration 1:150 (modified from Fig. 2.2 of Main Body). **B.** Bathymetric profile across the central Atlantic Ocean in the Mid-Atlantic Ridge (MAR) segment to the north of the Ascension Fracture Zone (prepared by the Subcommittee). Shows the normal characteristics of the MAR in this part of the Atlantic Ocean. Also shows the traditional subdivision of the MAR (1) into crestal and flank provinces; the traditional subdivision of the ocean floor (2) into continental margin, ocean basin floor and mid-ocean ridge zones; and the morphological components of the deep ocean floor/deep ocean floor with its oceanic ridges (3). The profile was constructed from the GEBCO_08 30 arc-second grid (GEBCO_08 Grid, version 20090202, <http://www.gebco.net>) using version 2.12 of the GEBCO grid viewing software.

2. General considerations

2.1 Natural prolongation of the land territory and submerged prolongation of the land mass applicable to Ascension Island

- 19 During the Subcommittee's consideration of the data and other material submitted by the United Kingdom, differences of views arose between the Delegation and the Subcommittee related to natural prolongation and submerged prolongation under article 76.
- 20 The Commission notes that "[t]he United Kingdom has consistently maintained that Article 76 provides that the first consideration to be addressed is the extent of the natural prolongation of the coastal State's land territory, which, in accordance with Article 76(1) extends to the outer edge of the continental margin. It is only then that it is possible to identify in what region the formulae in Article 76(4) must be applied. The United Kingdom does not consider that natural prolongation, an inherent property of any landmass, can be defined by applying Article 76(4). Whether there is any natural prolongation of the submerged component of a land territory can only be established by an assessment of all of the available geoscientific data as a whole." (See letter of 18 February 2010, page 3 in Annex II).
- 21 More specifically, the United Kingdom outlines its views as follows:
- (i) The United Kingdom "...do not regard establishment of the "natural prolongation" of the land territory as referred to in Article 76 to require a particular "morphology", or set of morphological features, considered in isolation from other data. The technical arguments for natural prolongation, foot of slope position, base of slope region can all be developed and established through analyses of a range of data, including geology and geophysics, in addition to morphology." (See letter of 18 February 2010, page 4, in Annex II).
 - (ii) The United Kingdom also points out that "[t]he Commission make specific reference to such landmasses (which include Ascension Island and several other island examples in the world's oceans) in paragraph 7.2.8. of the Scientific and Technical Guidelines – "Some ridges (including active spreading ridges) may have islands on them. In such cases it would be difficult to consider that those parts of the ridge belong to the deep ocean floor". Hence, such a ridge, as it extends from the island landmass and even though it passes laterally into deep ocean floor, can be included in the continental margin of the island state in question and may be regarded as a "submarine ridge" or "submarine elevation" in the sense of Article 76, and not part of the deep ocean floor." (See letter of 18 February 2010, page 5, in Annex II).
 - (iii) The United Kingdom further states that "[n]atural prolongation of the land territory is a fundamental first consideration, regardless of the composition or morphology of the landmass or the character of the surrounding seafloor, and 76(4) applied to that natural prolongation to delineate the outer edge of the continental margin – constraints permitting, of course." (See letter of 18 February 2010, page 6, in Annex II).
- 22 The Subcommittee outlined its views on natural prolongation, submerged prolongation and the delineation of the outer edge of the continental margin in its document SC_GBR-ASC_DOC_002_10-12-2009 (see Annex III) through the

following principles and considerations based on the Convention and the Guidelines:

- (i) The “*natural prolongation of [the] land territory*” is based on the physical extent of the continental margin to its “*outer edge*” (article 76, paragraph 1) i.e. “*the submerged prolongation of the land mass...*” (article 76, paragraph 3);
 - (ii) The outer edge of the continental margin in the sense of article 76, paragraph 3, is established by applying the provisions of article 76, paragraph 4, through measurements from the FOS;
 - (iii) The FOS determined for this purpose is always associated with an identifiable base of continental slope, pursuant to article 76, paragraph 4(b) (see also paragraphs. 5.4.5 and 6.2.3 of the Guidelines);
 - (iv) The principle of crustal neutrality applies: i.e. article 76 is neutral regarding the crustal nature of the land mass of a coastal State; and
 - (v) The regime of islands (article 121) which states that the maritime zones of an island envisaged by the Convention “*...are determined in accordance with the provisions of this Convention applicable to other land territory.*” This implies that for the purposes of delineating the outer limits of the continental shelf all island States have a continental margin in the sense of article 76, paragraph 3.
- 23 The Subcommission elaborated further on the above principles and considerations in its document SC_GBR-ASC_DOC_002_10-12-2009 (see Annex III) as follows:
- (i) Physically, and in accordance with article 76, paragraph 3, the continental margin “*consists of the seabed and subsoil of the shelf, the slope and the rise*”, and beyond that lies the “*deep ocean floor with its oceanic ridges*”; that is, a four-component subdivision of submarine morphology. These morphological components are involved in defining the continental margin of any kind of coastal State land mass, in accordance with article 76, paragraph 3, of the Convention. Therefore, it follows that the “*foot of the continental slope*” referred to in article 76, paragraph 4, is with reference to the continental slope province of the continental margin in the sense of the Convention.
 - (ii) The consequence of the above is that, for the purposes of the Convention, any kind of land mass (irrespective of crustal type, size etc.) of a coastal State has a continental margin that can be delineated in accordance with article 76, paragraph 4 of the Convention. The deep ocean floor occurs seaward of the continental margin and includes the oceanic features of the seafloor such as ocean basins, abyssal plains, abyssal hills, mid-ocean ridges, fracture zones, seamounts etc.
 - (iii) The determination of a FOS requires the existence of both a continental slope and an identifiable base to that slope (see sections 5.2 and 6.2 of the Guidelines). In turn, the existence of a continental slope requires the existence of a distinct morphological feature rising from the level of the continental rise or deep ocean floor up to the continental shelf of the land mass of the coastal State.
 - (iv) The deep ocean floor in the sense of article 76 is the area seaward of the outer edge of the continental margin. However, the opposite also applies, i.e.

that the continental margin is the area landward of the deep ocean floor. This concept is reflected in paragraph 5.4.5 of the Guidelines

2.2 Characteristics of the Mid-Atlantic Ridge and the deep ocean floor

- 24 The oceanic crust of the Atlantic Ocean is produced by sea-floor spreading magmatism along the central (median) rift valley of the MAR. The MAR is part of the global mid-ocean ridge (MOR) system that has been recognised as the most striking feature of the ocean floor since the 1950s. The MAR system extends north-south from the Arctic Ocean to the Southern Ocean and is considered to be the most significant example of a slow-spreading ridge in the global MOR system. Slow-spreading processes are responsible for the rugged topography of the MAR. New crustal material (generally comprising mid-ocean ridge basalt near the surface) is accreted to the separating plates within the rift valley by extrusive and intrusive volcanism. This seafloor spreading process is the normal mechanism for the creation of new ocean floor throughout all of the world's oceans.
- 25 The seafloor spreading processes that occur at slow-spreading MORs produce a characteristic and ubiquitous seafloor morphology throughout the deep ocean (Figure 2B) that consists of:
- A crestal province with a central rift valley bounded by rugged and often discontinuous rift shoulders or flanking ridges;
 - Flank provinces on each side of the crestal zone that commonly have gentle gradients of 0.1-0.2° away from the rift towards the adjacent ocean basins and continental margins. The seafloor of the flank provinces commonly has a rough topography that results from variations in spreading rate and the interplay between magmatism and tectonism. The gentle gradient of the flanks reflects the normal cooling, contraction and subsidence of the oceanic lithosphere as it moves away from the spreading axis, and is responsible for the characteristic age-depth relationship of the ocean floor that has been modelled for many years;
 - Transverse ridges and valleys associated with ocean-wide fracture zones that compartmentalise the MOR system and offset the central rift along active transform fault zones (Figure 1B).
- 26 The MOR, and the MAR in particular, are not typical ridge-like features in the sense of conventional morphological definitions when viewed as a whole (crestal and flank provinces) at the vertical exaggerations normally used for the depiction of submarine features (e.g. less than 25 to 1) (Figure 3). That is, they are not "*elongated narrow elevations of varying complexity having steep sides*" as defined in the International Hydrographic Organisation publication Standardization of Undersea Feature Names (Bathymetric Publication No. 6, 4th Edition, November 2008), but rather are broad swells or undulations of the ocean floor. The main reason that the term "ridge" arose in naming the MAR is largely historic and was used to describe both the prominent central valley with its rift shoulders, as well as the broader province with its gently dipping flanks. At that time, the tectonic significance of MORs was not well understood. It is now realized that the flanks of MORs are actually normal deep ocean floor that has aged, cooled and thermally subsided as the oceanic lithosphere moved away from the active spreading centre.

- 27 It is generally recognised that the true oceanic features of the seafloor occur seaward of the continental margin and include both the ocean basin floor and MOR zones. This categorisation is reflected in article 76, paragraph 3, of the Convention, which states that the continental margin “...does not include the deep ocean floor with its oceanic ridges...”.

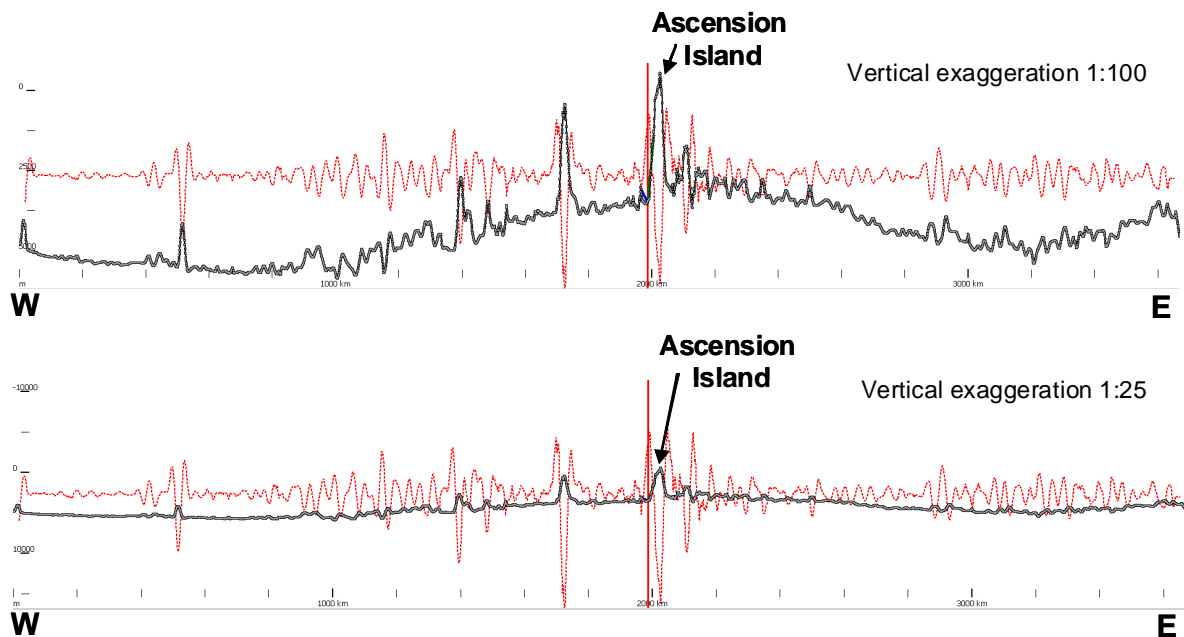


Figure 3. Identical bathymetric profiles across the central Atlantic Ocean through Ascension Island at vertical exaggerations of 1:100 and 1:25. The profile with the lower vertical exaggeration gives a more realistic representation of the morphology of the Mid-Atlantic Ridge (MAR). The profile shows the location of the island in relation to the adjacent ocean basin floor and the flanks and crest of the MAR (profile data from satellite predicted bathymetry grid SRTM30plus_V4). Also shows the regional change of average gradient (red line) along the profile computed using Geocap with a 20 km calculation interval (prepared by the Subcommittee).

3. Considerations in respect of Ascension Island

3.1 Submerged prolongation of the landmass of Ascension Island and entitlement to delineate the outer limits of the continental shelf beyond 200 M

- 28 The Commission recognises the entitlement of a coastal State to delineate the outer limits of the continental shelf beyond 200 M if the outer edge of the continental margin established from FOS points determined at its base by applying the provisions of article 76, paragraph 4, extend beyond the coastal State's 200 M limits (see section 2.2 of the Guidelines). The Commission recognises “... that oceanic and submarine ridges as well as submarine elevations are given special attention in article 76 with respect to issues of entitlement to an extended continental shelf and the delineation of its outer limits.” (Paragraph 7.1.1 of the

Guidelines). In view of this and of the fact that Ascension Island surmounts the western flank of the MAR, the Commission gave close consideration to the location of the base of the continental slope of Ascension Island during its examination of the entitlement of the United Kingdom to delineate the outer limits of the continental shelf beyond 200 M.

- 29 According to paragraph 1.4.1 of the Main Body of the Submission, “...*the United Kingdom is of the view that it can demonstrate to the Commission that the natural prolongation of the submerged landmass of Ascension Island to the outer edge of the juridical continental shelf extends beyond the 200 nautical mile criterion, along the submarine ridge identified as The Mid-Atlantic Ridge. It has therefore delineated the outer limit of the continental shelf by means of the application of the rules set out in paragraphs 4 to 10 of Article 76.*”
- 30 The United Kingdom states that “[w]hile it is clear that Ascension as an island can not be part of the deep ocean floor, likewise the associated parts of the MAR are also not deep ocean floor.” (Paragraph 2.5.3.1 of the Main Body). The United Kingdom refers to paragraph 7.2.8 of the Guidelines in support of its view.
- 31 Based on the information from the studies referred to in paragraph 18 above and other technical material, the United Kingdom “... *concludes that Ascension Island is an integral component of the Mid-Atlantic Ridge and that its natural prolongation fundamentally extends to, and along the Mid-Atlantic Ridge.*” (See part 5 of the letter from the United Kingdom of 9 December 2009 – Annex II).
- 32 The United Kingdom considers the MAR to be a submarine ridge in the sense of article 76, paragraph 6, of the Convention. (See paragraph 1.4.1 of the Main Body)
- 33 The Commission notes that the United Kingdom “...*recognises that the juridical continental shelf of Ascension Island does not contain a classic shelf, slope, rise configuration but has applied paragraph 5.4.5 of the Commission’s Guidelines in the eastern sector...*” (paragraph 1.5.3 of the Main Body). Further, the United Kingdom stated “...*that the morphological characteristics of the seafloor elevation of which Ascension is a part, and which extends beyond 200 nautical miles to the north, south and west of the Island, does not conform to a typical form of continental margin, and does not exhibit features typical thereof, such as shelf, slope and rise. It is therefore the view of the United Kingdom that a foot of slope, in the western sector and partially in the eastern sector, should be identified by means of evidence to the contrary at appropriate positions along the elevation.*” (Paragraph 1.6.3 of the Main Body)
- 34 The Commission understands that the United Kingdom draws on paragraphs 5.4.4, 5.4.5, 5.4.6, 5.4.12 and 6.1.10 of the Guidelines to identify base of continental slope zones and FOS points to the west and east of Ascension Island (Figures 4 and 5) (See sections 1.5 and 1.6 of the Main Body).
- 35 In the west, the United Kingdom describes its approach to defining a base of slope zone as follows:
- “In the West Area there is no conventional shelf, slope and rise. Here foot of slope points were identified at locations where the westward-dipping seafloor, corresponding to the western flank of the MAR, meets the deep abyssal plain of the western South Atlantic Ocean or the eastern edge of the South American rise. We interpret this junction as being analogous to that between conventional lower slope, or rise, and deep ocean floor.”* (Paragraph 4.3.2.1, page 4-30, of the Main Body; see also Figure 2A and Figure 5 below).

Further, the United Kingdom states that:

"[t]his area represents the region where the sedimentary sequences of the abyssal plain overlie the flank of the MAR masking the characteristic rugose topography. We consider this junction between ridge margin and abyssal plain to be equivalent to the slope-rise transition in a classic continental margin and thus can be used to represent the position of the foot of slope, based on both geomorphological and geological evidence and analysis." (Paragraph 4.3.2.2, page 4-30, of the Main Body);

and that:

"[f]oot of slope points were selected on all the single-beam profiles in the West Area at the base of the MAR flank at the point where the dip changes from the west-dipping slope of the MAR to the east-dipping region of abyssal aprons, abyssal plains and the South American continental rise." (Paragraph 4.1.7, page 4-31, of the Main Body).

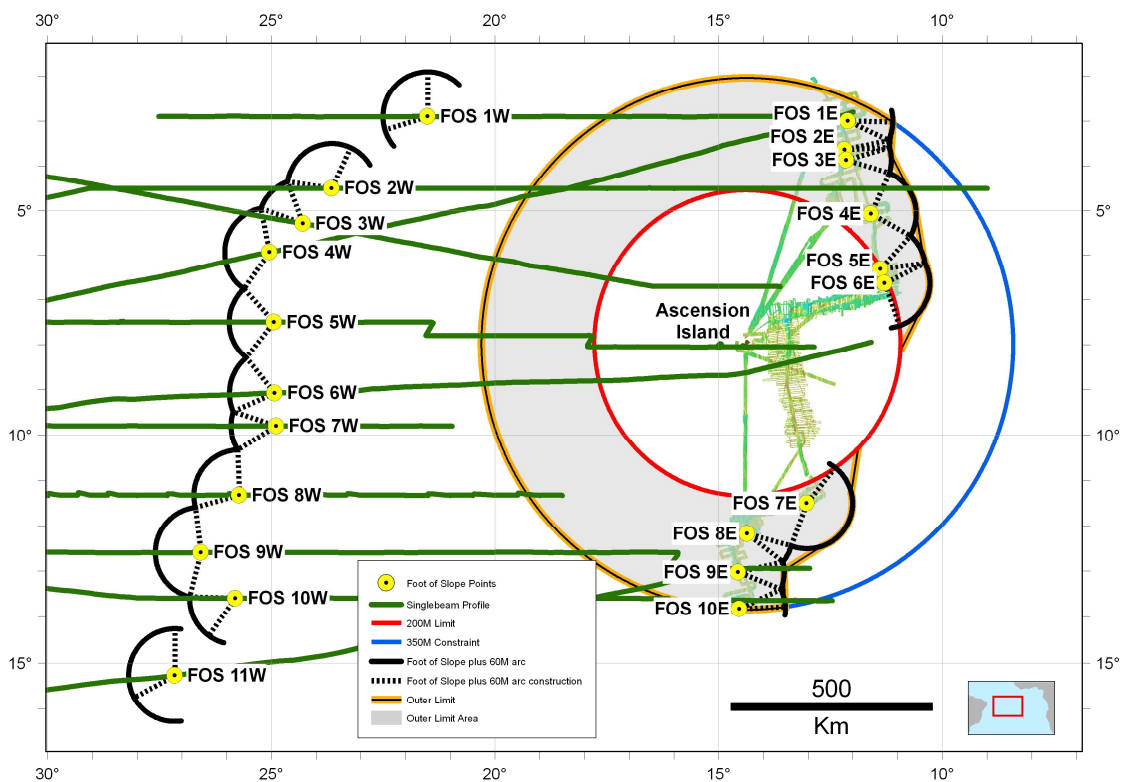


Figure 4. Map showing the outer limits of the continental shelf beyond 200 M from the territorial sea baseline submitted by the United Kingdom in the Ascension Island region. The map was included as slide 40 of the United Kingdom's presentation made to the Commission on 27 August 2008 and depicts various points, limits, lines and other information representing the views of the United Kingdom in the area. In particular, it shows the western and eastern zones containing the FOS points proposed by the United Kingdom.

- 36 In the east, the United Kingdom describes its approach to defining a base of slope zone as follows:

“Here we have used the western edge of the axial rift, as representing the furthest edge of the natural prolongation of Ascension on the South American plate. Firstly, on each profile a proxy base of slope region was determined between landward and seaward limits, and secondly, a foot of slope position was identified based on the point of maximum change in gradient (CLCS/11, paragraph 5.1.3). Where the foot of the slope does not correspond to the maximum change of gradient in the base of slope region, we have used geological and geophysical data as evidence to the contrary to supplement the bathymetric and geomorphological evidence. The base of slope region was delimited morphologically, and supported by geology.” (Paragraph 4.1.3 of the Main Body; see also Figure 2A and Figure 5 below).

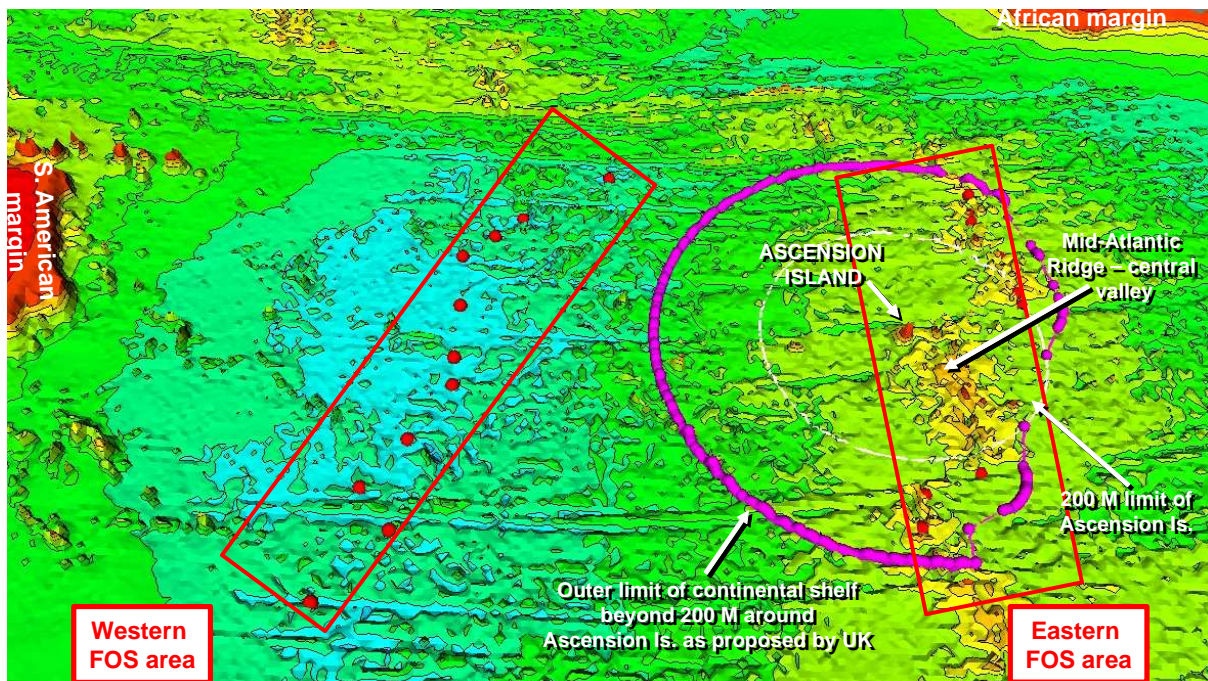


Figure 5. Colour-banded bathymetric map of the central Atlantic Ocean showing the FOS areas (highlighted by red boxes) containing the FOS points proposed by the United Kingdom (red spheres) on the ocean basin floor to the west of the Mid-Atlantic Ridge (MAR) and within the central valley of the MAR to the east of Ascension Island. Also shows the 200 M limit around Ascension Island (white line) and the outer limit of the continental shelf beyond 200 M as proposed by the United Kingdom (magenta spheres and lines). [Figure prepared by the Subcommittee using data provided by the Delegation of the United Kingdom.]

- 37 The United Kingdom states that Ascension Island “[...] is a surface expression of the regional low-intensity thermal anomaly that has caused a regional elevation of the associated Mid-Atlantic Ridge and surrounding seafloor [...]” (Paragraph 3, of the letter of 9 December 2009, in Annex II).

- 38 However, the United Kingdom also states that “[t]hese different mechanisms produce only subtle differences in geochemical composition and little or no effect on the geomorphology and bathymetry. These are however immaterial to this submission: they do not affect the basic premise that Ascension Island formed on, and shows geological and geochemical similarity and continuity with, the Mid Atlantic Ridge.” (Paragraph 2.4.4.3 of the Main Body).
- 39 The United Kingdom states that on “...such a ridge, as it extends from the island landmass and even though it passes laterally into deep ocean floor, can be included in the continental margin of the island state in question and may be regarded as a “submarine ridge” or “submarine elevation” in the sense of Article 76, and not part of the deep ocean floor.” (Page 5 of the letter of 18 February 2010 – see Annex II).
- 40 Furthermore, the United Kingdom indicates that in the Ascension Island region the morphological expression of the whole MAR (i.e. the axial zone and the gently dipping western flank) is the seafloor high associated with Ascension Island (paragraph 2.5.3.2 and Figure 2.10 of the Main Body).
- 41 The Commission notes that “[t]he United Kingdom maintains that the data included in the original submission and supplementary material supplied to the Subcommission show that Ascension Island passes the test of appurtenance in accordance with the requirements of Article 76 and is therefore entitled to delineate its continental margin beyond 200M.” (Page 6 of the letter of 18 February 2010 – See Annex II).
- 42 Based on the discussion in paragraphs 24 to 27 above, it is the view of the Commission that away from island landmasses and their associated, discrete seafloor highs, both the MAR (with its central valley, rift shoulders and flanks that dip at 0.1 – 0.2 degrees away from the central spreading axis) and the adjacent deep parts of the adjacent ocean basin belong to the deep ocean floor of the Atlantic Ocean.
- 43 The crust of these vast areas of seafloor is generated at the MAR spreading axis producing a seafloor which, on a regional scale, is very consistent in gradient and form, but is superimposed by a “morphological noise” (ruggedness) with an amplitude of a few hundred meters. The Commission recognises that islands surmounting discrete morphological features (including ridges) rising from this deep ocean floor are entitled to a “continental margin” and “continental shelf” (article 76, paragraphs 1 and 3). In the case of ridges surmounted by islands the question arises as to which parts of such ridges are of the deep ocean floor, and which parts represent the continental margin of the island (see paragraph 7.2.8 of the Guidelines).
- 44 Whether such islands are entitled to establish outer limits to their continental shelves beyond 200 M depends on the location of the base and the FOS within the submerged prolongation of those islands. Therefore, the FOS must be situated more than 140 M from the territorial sea baselines in order to establish an outer edge of continental margin beyond 200 M using the 60 M distance formula. For this to be the case for a small oceanic island like Ascension, it would have to surmount a discrete seafloor high, that itself rises above the average “ruggedness” of the deep ocean floor. In turn, such a discrete seafloor high would have to be of sufficient areal extent for the continental slope and its base to be within the necessary distance of the 200 M line or beyond. In the view of the Commission, the data submitted by the United Kingdom does not demonstrate such a situation.

- 45 The United Kingdom regards the rift valley of the spreading axis and the deeps of associated fracture zones as parts of the continental slope of Ascension Island. However, in the view of the Commission, ocean spreading structures, which are normally part of the deep ocean floor, can only form the continental slopes of island landmasses in cases where such structures form part of the discrete seafloor highs from which the island edifices rise. This is not the case for Ascension Island, as its edifice is not morphologically connected to any such discrete seafloor high (Figure 6).

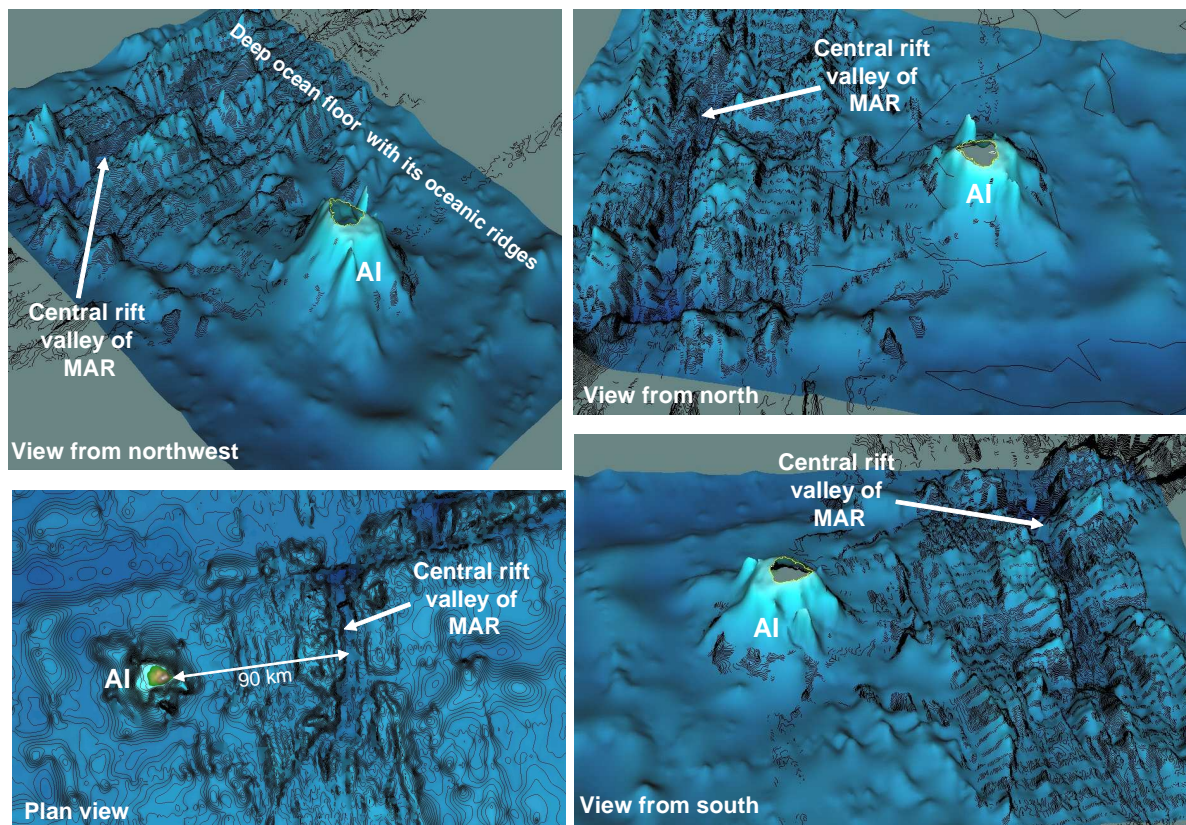


Figure 6. 3D bathymetric views and a plan view prepared using Geocap from the SRTM30plus_V4 global bathymetry grid overlain by bathymetric contours derived from the composite multibeam grid (mbes_250m) provided by the United Kingdom. Shows the restricted nature of the Ascension Island volcanic pedestal (AI) that rises directly from the normal deep ocean floor around it. The 3D views indicate that the pedestal is not connected to any other discrete morphological feature that rises above the general “ruggedness” of the surrounding seafloor.

- 46 Ascension Island has a very restricted volcanic pedestal that rises directly from the normal deep ocean floor around it. It is not connected to any other discrete morphological feature that rises above the general “ruggedness” of the surrounding seafloor (Figure 6).

- 47 Based on the data and material submitted by the United Kingdom, the Commission considers that the crustal structure of Ascension Island differs from the surrounding ocean floor that is composed of normal oceanic crust. Although there is evidence that the volcanism underpinning Ascension Island initiated in proximity to the spreading centre, the main phases of construction of Ascension Island occurred at a substantial distance off-ridge. The Commission is of the view that Ascension Island is distinct from the surrounding ocean floor, morphologically, geologically, geophysically and geochemically. (See part 2c of document SC_GBR-ASC_DOC_002_10-12-2009 - Annex III).
- 48 It is therefore the Commission's view that Ascension Island's edifice sits directly on deep ocean floor and, thus, the application of paragraph 5.4.5 of the Guidelines places the base of the slope of Ascension Island at the bottom of the volcanic edifice, and not within the central valley or the fracture zones of the MAR, or where the gently westward-dipping seafloor merges with other provinces of the deep ocean floor or the adjacent continental margins.
- 49 Further, the Commission considers that, regardless of the approach adopted (purely morphological with or without geological support) to define the base of slope zone, this zone can only lie at the bottom of the Ascension Island edifice. That is, in the view of the Commission, the only credible location for the FOS associated with the submerged land mass of Ascension Island is located around the base of the edifice where the lower part of the insular slope of the island merges with the deep ocean floor of the Atlantic Ocean.
- 50 Based on the Submission, and the additional data and material provided by the United Kingdom, the Commission does not agree with the approach adopted by the United Kingdom to define the base of the continental slope associated with Ascension Island and, in particular, the proposed locations of any of the FOS points (Figures 4 and 5). Hence, the Commission is of the view that the Submission in respect of Ascension Island does not satisfy the test of appurtenance, and therefore the United Kingdom is not entitled to delineate the outer limits of its continental shelf beyond 200 M in accordance with provisions of article 76, paragraphs 4 to 7.

3.2 Conclusions

- 51 The Commission is of the view that the rugged seafloor between the Ascension Island volcanic edifice and the axis of the MAR is part of the normal deep ocean floor (that includes the axial valley of the MAR). This volcanic edifice is a pinnacle surrounded by the deep ocean floor. Given this, any maximum change in gradient away from the base of that pinnacle (i.e. the base of the insular slope of the island surmounting the volcanic edifice) does not represent a valid FOS associated with the continental margin of the island, but is related to variations in the gradient of features of the deep ocean floor. This does not mean that islands, in general, cannot generate a continental margin that extends beyond 200 M (see paragraph 54).
- 52 After extensive examination of all data and material submitted by the United Kingdom through its original Submission, as well as through the documents and letters transmitted subsequently and the presentations made to the Commission on 12 April 2010, the Commission concludes that there is no morphological, geological, geophysical or geochemical basis, or any support within article 76 of

the Convention, that justifies the determination of the base of slope zones and associated FOS points at the locations given in the Submission for the Ascension Island region.

4. Recommendations

- 53 Based on its consideration of the technical and scientific documentation contained in the Submission of 9 May 2008, in the documents and letters transmitted subsequently and in the presentations made by the United Kingdom to the Commission on 12 April 2010, the Commission concludes that, in the Ascension Island region, the FOS points contained in the Submission do not fulfil the requirements of article 76 and Chapters 5 and 7 of the Guidelines. The Commission recommends that these FOS points do not form the basis for the establishment of the outer edge of the continental margin in the Ascension Island region.
- 54 Consequently, the Commission recommends that, in the area around Ascension Island, the United Kingdom does not establish the outer limits of its continental shelf beyond 200 M on the basis of the technical and scientific documentation contained in the United Kingdom's Submission of 9 May 2008 and other data and material provided by the United Kingdom.