ARBITRATION UNDER ANNEX VII OF THE UNITED NATIONS CONVENTION ON THE LAW OF THE SEA

REPUBLIC OF THE PHILIPPINES

v.

PEOPLE'S REPUBLIC OF CHINA

RESPONSES OF THE PHILIPPINES TO THE TRIBUNAL'S 1 APRIL 2016 REQUEST FOR COMMENTS ON MATERIALS FROM THE ARCHIVES OF THE UNITED KINGDOM HYDROGRAPHIC OFFICE

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1. In its letter no. PH-CN 165714 dated 1 April 2016, the Tribunal invited the Parties to comment on documents and survey materials the Tribunal obtained from the archives of the United Kingdom Hydrographic Office (the "UKHO"). The documents and survey materials in question contain records produced by the Royal Navy of the United Kingdom and the Imperial Japanese Navy. In particular, the Tribunal made available to the Parties for comment 60 documents dating between 1864 and 2000.

2. The Philippines has organized its comments alphabetically by feature, addressing each of the 49 features described in the Philippines' 16 March 2015 *Atlas of Relevant Features*,[1] as well as Sandy Cay, which was a subject of a question posed to Prof. Schofield in the Tribunal's 27 November 2015 questions.[2]

3. As demonstrated below, the documents and survey materials confirm the Philippines' characterization of each of the relevant features presented in the *Atlas* as a submerged feature, a low-tide elevation, or an Article 121(3) "rock".

Alicia Annie Reef

4. Alicia Annie Reef is described in UKHO documents H783/1928, H3221/1933, E6020, H019893/1944, and H2098/1962-HD384, and in various nautical charts. These materials support the Philippines' characterization of Alicia Annie Reef as a rock under Article 121(3) since they confirm that only uninhabitable rocks protrude at high tide.

5. In particular, H783/1928 contains an 1864 report that notes the existence of a reef with "a slight rise of sand hill at its north-west end, and a reef of rocks at its south-east

[1] *See Atlas of Relevant Features*, SWSP, Vol. II.

[2] *See* Annex B: Questions for Professor Schofield to Address in Second Round (27 Nov. 2015), Question 10.

extreme, with several detached rocks around".[3] H3221/1933 and the 1944 sailing directions included in H019893/1944 and H2098/1962-HD384 both state that Alicia Annie Reef "dries, entirely encloses a shallow lagoon, and has a considerable number of large rocks on it which are just visible at high water".[4] The sailing directions contained in H2098/1962-HD384 and H019893/1944 further state that "[i]n 1935, there was a small cay, about 5 ft. high and consisting of white coral, on the northern end".[5] E6020 notes the existence of "several large rocks on the southeast corner with numerous small rocks",[6] as well as of a "white coral bank", "approximately 200 yards long and 30 yards wide and 5 feet high", which at high tide "was about four feet above water".[7] Finally, although two early charts suggest that Alicia Annie Reef is a low-tide elevation,[8] the two subsequent charts included in the UKHO materials both depict the feature as above water at high tide,[9] a characterization that is reflected in the sailing directions of the Philippines, China, the United Kingdom and the United States.[10]

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[3] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 15.

[4] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 14; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 14; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 26.

[5] Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 14; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 26.

[6] US Report on Survey of the Pigeon Passage including plans of features on Union Bank, UKHO Ref. E6020, p. 6.

[7] *Id.*

[8] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[9] *See* Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[10] *See* Philippine National Mapping and Resource Information Agency, *Philippine Coast Pilot* (6th ed., 1995), pp. 16-70. MP, Vol. VII, Annex 230; Navigation Guarantee Department of the Chinese Navy Headquarters, *China Sailing Directions: South China Sea (A103)* (2011), p. 172. SWSP, Vol. III, Annex 232(bis); United States National Geospatial-Intelligence Agency, *Pub. 161 Sailing Directions (Enroute), South China Sea and the Gulf of Thailand* (13th ed., 2011), p. 11. MP, Vol. VII, Annex 233; United Kingdom Hydrographic Office, *Admiralty Sailing Directions: China Sea Pilot (NP31),* Vol. 2 (10th ed., 2012) (UKHO, *China Sea Pilot*), p. 61. MP, Vol. VII, Annex 235..

Alison Reef

6. Alison Reef is described in UKHO document H3221/1933, as well as in the 1944 sailing directions contained in UKHO documents H2098/1962-HD384 and H019893/1944 and in various nautical charts. These materials, which pre-date the erection of structures on the feature, confirm that it is a low-tide elevation as defined in Article 13, as the Philippines has suggested. In that regard, the documents state that Alison Reef "dries" and that its southern side "consists of a number of isolated, drying, patches".[11] The charts included in the UKHO materials all depict this feature as a low-tide elevation as well.[12]

Amboyna Cay

7. Amboyna Cay is described in a letter from Commander Ward of HMS *Rifleman* to the Hydrographer dated 29 July 1864, as well as in UKHO documents H3853/1936 and H019893/1944 and in various nautical charts. These confirm the Philippines' submission that the feature is a rock as defined in Article 121(3).

8. In that regard, Amboyna Cay is described as being above water at high tide: Commander Ward reported that a "small beacon" was erected to "render the islet more conspicuous"[13] and that "30 healthy cocoa-nut sprouts were planted".[14] That it is a high-tide

[11] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 23.

[12] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[13] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 2.

[14] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 2.

feature is corroborated by the charts included in the UKHO materials, which show Amboyna Cay as being above water at high tide.[15]

9. The documents further show that the feature is incapable of sustaining human habitation or economic life of its own. Amboyna Cay is described as being very small. H3853/1936 states that it is just "three-quarters of a cable in extent and 8 feet…high", and "surrounded by coral ledges, which partly dry, to the distance of nearly 2 cables in places".[16] Similarly, the Japanese sailing directions contained in H019893/1944 describe the feature as "a sand cay 150 metres long and about 2 metres high".[17]

10. H019893/1944 further demonstrates that Amboyna Cay has never been continuously inhabited, and has received only sporadic visits. It reports that there are "remains of rush huts built with stones, pieces of coral, and waste material from ancient boats" and that "[e]ach [hut] was found to be covered white with the dung of sea birds".[18] The document concludes that "[i]t may be presumed that formerly human beings visited and stayed at the island and that since then there has been a long lapse of time".[19]

Ardasier Reef

11. Ardasier Reef is described in UKHO documents H783/1928 and H3221/1933, as well as in the 1944 sailing directions contained in documents H2098/1962-HD384 and

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[15] *See* Survey fair chart of Spratly Island and Amboyna Cay (1864), UKHO Ref. D7446; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[16] HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 8.

[17] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 37.

[18] *Id.*

[19] *Id.*

H019893/1944 and various nautical charts. Although H783/1928 indicates that the feature is submerged, at the time the document was drafted in 1928 it had "only received a partial examination" and, as the document indicates, only "for the most part very old and imperfect"[20] information was available. H783/1928 thus observed that "many reefs and even Islands may exist which ha[d] not been discovered before".[21] Subsequent UKHO documents confirm the Philippines' characterization of Ardasier Reef as a low-tide elevation. By no later than 1934, the UKHO began describing the feature in its sailing directions as one that "dries".[22] All of the charts included in the UKHO materials depict Ardasier Reef as a low-tide elevation.[23]

Barque Canada Reef

12. Barque Canada Reef is described in UKHO documents H783/1928 and H3221/1933, as well as in the 1944 sailing directions contained in documents H019893/1944 and H2098/1962-HD384 and various nautical charts. These materials variously describe the feature as "awash"[24] or as a "drying reef".[25] The feature appears as a low-tide elevation on the charts included in the UKHO archives.[26] Consistent with the Philippines' characterization

[20] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, pp. 3, 12.

[21] *Id.*, p. 3.

[22] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9. *See also* Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 10; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 14, 22.

[23] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[24] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 10.

[25] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 23.

[26] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

of the feature as a rock as defined in Article 121(3), all but the oldest document indicate that at "the northern end there is a group of rocks from 5 to 6 feet in height".[27] This is corroborated by an internal British memorandum, dated 12 November 1937, which reports that Barque Canada Reef has "portions which do not cover at [high water]".[28] The references in these documents to small rocks that are above water at high tide is significant because they predate the erection of structures on Barque Canada Reef

Collins Reef

13. All of the charts included in the UKHO materials depict Collins Reef as a low-tide elevation, consistent with how the Philippines has characterized the feature.[29] This is significant because the charts predate the erection of a structure on Collins Reef.

Commodore Reef

14. Commodore Reef is described in UKHO documents H783/1928, H3221/1933 and E6020, as well as in the 1944 sailing directions contained in H019893/1944 and H2098/1962-HD384 and in various nautical charts. These materials confirm the Philippines' characterization of the feature as a rock as defined in Article 121(3). H783/1928 includes an 1862 report which describes the feature as consisting of "[p]artly dry sand, and several rocks from 20 to 30 feet above water, [with] heavy breakers all around it".[30] E6020 reports that

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[27] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; H01983/1944, p. 23.

[28] *Memorandum* to Admiralty, United Kingdom (12 Nov. 1937), p. 4. SWSP, Vol. III, Annex 372.

[29] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Field Chart of Plans of Reefs in Shinan Guntao, UKHO Ref. E7824-525; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618.

[30] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 14.

"[s]everal rocks were awash on the southern portion of the shoal".[31] All of the other aforementioned documents indicate that small parts of the feature remain above water at high.[32] The charts included in the UKHO archives that depict the feature, all of which predate the erection of a structure on it, indicate that Commodore Reef is above water at high tide.[33]

Cornwallis South Reef

15. Cornwallis South Reef is described in UKHO documents H783/1928 and H3221/1933, as well as in the 1944 sailing directions contained in H2098/1962-HD384 and H019893/1944 and in various nautical charts. H783/1928 describes Cornwallis South Reef as a submerged feature whose existence was "[d]oubtful".[34] However, more recent UKHO documents verify the feature's existence and report that it "dries",[35] thus confirming the Philippines' characterization of it as a low-tide elevation. The charts included in the UKHO materials, which were prepared before structures were built on it, confirm that Cornwallis South Reef is a low-tide elevation.[36]

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[31] US Report on Survey of the Pigeon Passage including plans of features on Union Bank, UKHO Ref. E6020, p. 8.

[32] *See* Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 22-23. *See also* HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 14 (paraphrasing an 1862 report as indicating that Commodore Reef contained "several rocks from 20 to 30 feet above water".)

[33] *See* Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[34] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 11.

[35] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 12, 23.

[36] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

Dallas Reef

16. Dallas Reef is described in UKHO document H3221/1933, as well as in the 1944 sailing directions contained in documents H019893/1944 and H2098/1962-HD384 and in various nautical charts. These sources confirm that the Philippines has correctly characterized the feature as a low-tide elevation because they describe Dallas Reef as a drying reef enclosing a small lagoon.[37] The charts included in the UKHO materials likewise depict it as a low-tide elevation.[38]

Eldad Reef

17. Eldad Reef is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents HD106 and H019893/1944 and in various nautical charts. Consistent with the Philippines' characterization of the feature as a low-tide elevation, the *China Sea Directory* describes Eldad Reef as a "breaking reef"[39]. HD106 likewise includes a chart that depicts Eldad Reef as a low-tide elevation.[40] Although the Japanese sailing directions included in H019893/1944 state that "on the shoal are some small rocks which dry at L.W. besides a few large ones which are always exposed",[41] as do a contemporaneous

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[37] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 10; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 8, 22.

[38] *See* Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features)UKHO Ref. E3615.

[39] *China Sea Directory* Vol. II (1st ed. 1868), p. 11 ("Circumstances prevent[ing] the survey reaching the eastern limit of the bank, but Hainan fishermen report that a breaking reef exists in that direction, and which is probably the Eldad reef seen by Mr. Eldad, commanding the *Cacique"*.)

[40] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 13.

[41] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 34. Annex 370, which is contained in Document H2499/1937, suggests that in 1937 the Japanese were engaged in a "detailed survey of the whole Tizard Group", which would presumably have included Eldad Reef. *See* HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 7.

Japanese chart and an early British chart,[42] modern Philippine and British sailing directions and charts do not describe those rocks as being above water at high tide.[43] Nor do any of the eight charts of different States contained in the *Atlas* indicate rocks that are above water at high tide.[44] China's 2011 sailing directions describe the feature as "an underwater atoll".[45]

Erica Reef

18. Erica Reef is described in H3221/1933, as well as in the 1944 sailing directions found in H2098/1962-HD384 and H019893/1944 and in various nautical charts. Both H3221/1933 and the 1944 sailing directions refer to Erica Reef as a drying reef with a few rocks that "may possibly show at high water".[46] However, the charts included in the UKHO materials depict this feature as a low-tide elevation;[47] the only exception is a Japanese field chart that depicts a black dot on the eastern edge of the reef.[48] Further, as the Philippines has previously observed, none of the 10 nautical charts depicted in the *Atlas* shows any high-tide features.[49] The evidence accordingly supports the Philippines' view that Erica Reef is a low-tide elevation.

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[42] *See* Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867), UKHO Ref. A1329; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[43] *See* Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs), UKHO Ref. E7824-523.

[44] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 41-42.

[45] Navigation Guarantee Department of the Chinese Navy Headquarters, *China Sailing Directions: South China Sea* (A103) (2011), p. 17. SWSP, Annex 232(*bis).*

[46] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 10; and Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 22.

[47] *See* Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[48] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[49] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 45-46.

Fiery Cross Reef

19. Fiery Cross Reef is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents H019893/1944 and H3853/1936 and in various nautical charts. Both the *China Sea Directory* and H3853/1936 confirm the Philippines' characterization of Fiery Cross Reef as a rock as defined in Article 121(3). They each refer to patches that are "dry".[50] H3835/1936 likewise refers to "a conspicuous rock, about 2 feet high".[51] The charts included in the UKHO materials that depict the feature in detail all show it as being above water at high tide,[52] as do the modern sailing directions discussed in the *Atlas*.[53] Accordingly, although the Japanese sailing directions contained in H019893/1944 describe the existence of "drying patches" that break in slight winds or swells,[54] the evidence demonstrates that Fiery Cross Reef is a rock.

Flat Island

20. Flat Island is described in UKHO documents H3221/1933, H3911/1938, H2098/1962-HD384, and H019893/1944, as well as in various nautical charts. These materials confirm that this feature is a rock as defined in Article 121(3).

21. In particular, the charts included in the UKHO materials depict Flat Island as being above water at high tide.[55] Document H3911/1938 and the British sailing directions

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[50] *China Sea Directory* Vol. II (1st ed. 1868), p. 9; HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 9.

[51] HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 9.

[52] Survey fair chart of Fiery Cross Reef (1866), UKHO Ref. D9379; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[53] *See Atlas of Relevant Features*, SWSP, Vol. II, p. 49.

[54] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[55] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

contained in H2098/1962-HD384 and H019893/1944 describe the feature as a "low flat sandy cay" that "has no vegetation and [is] liable to erosion".[56] This accords with H3221/1933, which describes the feature as "a low flat sandy cay",[57] and with the Japanese sailing directions included with H019893/1944, which describe it as a "low sandy island".[58] There is likewise agreement on Flat Island's extremely small size: H3911/1938 indicates it is "only 120 yards long";[59] and the British sailing directions in H2098/1962-HD384 and H019893/1944 describe it as "about 100 yards in length and 40 in width".[60]

Gaven Reef

22. Gaven Reef is described or depicted in UKHO documents HD106 and H019893/1944, and in various nautical charts. These documents, which predate construction on the feature, confirm the Philippines' view that it is a low-tide elevation. HD106 includes a chart depicting Gaven Reef as a low-tide elevation.[61] The other charts included in the UKHO materials show Gaven Reef as being below water at high tide as well.[62] Although the Japanese chart shows black dots within the feature's perimeter,[63] this is unlikely to indicate a

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[56] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 6 (emphasis omitted); Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 16; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 28.

[57] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 16.

[58] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 38.

[59] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 6 (emphasis omitted).

[60] Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 16; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, 28.

[61] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 12.

[62] Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867), UKHO Ref. A1329; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs), UKHO Ref. E7824-523; Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[63] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

high-tide feature because the Japanese sailing directions contained in H019893/1944 state that both parts of the reef are submerged at high tide.[64]

Great Discovery Reef

23. Great Discovery Reef is described in the 1868 edition of the *China Sea Directory*, as well as in H019893/1944 and E6020 and in various nautical charts. The *China Sea Directory* and the Japanese sailing directions included in H019893/1944 (which appear to be based on the *China Sea Directory*'s description), suggest that, while most of the feature dries at low tide, small parts remain above water even at high tide.[65] However, consistent with the Philippines' characterization of Great Discovery Reef, the subsequent chart contained in E6020, which was based on a hydrographic survey carried out in the 1930s, depicts the feature as a low-tide elevation.[66] The charts included in the UKHO materials likewise depict Great Discovery Reef as a low-tide elevation.[67] These charts predate the erection of structures on the feature. The Philippines further notes that the Japanese, British, U.S., Russian, Philippine, and Chinese charts contained in the *Atlas* all depict Great Discovery Reef as a drying reef.[68]

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[64] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 35. Annex 370, which is contained in Document H2499/1937, suggests that in 1937 the Japanese were engaged in a "detailed survey of the whole Tizard Group", which would presumably have included Gaven Reef. *See* HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 7.

[65] *China Sea Directory* Vol. II. (1st ed. 1868), p. 9; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 35.

[66] US Report on Survey of the Pigeon Passage including plans of features on Union Bank, UKHO Ref. E6020, p. 9.

[67] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[68] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 61-62.

Grierson Reef (Sin Cowe East Island)

24. The charts included in the UKHO materials depict Grierson Reef (Sin Cowe East Island) as being above water at high tide, consistent with the Philippines' characterization of the feature.[69]

Investigator Shoal

25. Investigator Shoal is described in UKHO documents H783/1928, H3221/1933, H2098/1962-HD384, and H019893/1944, as well as in various nautical charts. The charts included in the UKHO materials all depict Investigator Shoal as a low-tide elevation, as the Philippines has characterized it.[70] Although H783/1928 indicates that the feature is above water, the document does not specify whether this occurs at high or low tide.[71] H3221/1933 and the 1944 sailing directions contained in H019893/1944 and H2098/1962-HD384 both indicate that a few rocks "may" be visible at high water.[72] The Philippines observes that none of the ten nautical charts analysed in the *Atlas* show that any part of the feature is above water at high tide.[73]

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[69] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618.

[70] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[71] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 11.

[72] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962 HD384, p. 10; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 12, 22.

[73] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 69-70.

Itu Aba Island

26. Itu Aba is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents HD106, H2499/1937, H2098/1962-HD384, E6426, H013931/1941, H019893/1944, H02716/1951, H2717/1951, H2718/1951, and H013931/1941, and in various nautical charts. All support the Philippines' conclusion that the feature is a rock as defined in Article 121(3).

27. In addition to showing that Itu Aba is above water at high tide,[74] these materials confirm that it is incapable of sustaining human habitation or economic life of its own. The *China Sea Directory* describes Itu Aba as being almost completely devoid of natural resources—just "two or three cocoa-nut and a few plantain trees near a small well."[75] The feature's "most conspicuous object" was reported to be a "single black clump tree."[76] Although fishermen were observed to have made use of Itu Aba (as well as other features in the Spratlys), the individuals it noted as doing so were described as "Hainan fishermen," indicating their permanent residence was Hainan, not Itu Aba. Further, the publication reports that they were dependent upon the delivery of "supplies of rice and other necessaries" from Hainan.[77]

28. The Japanese sailing directions found in H019893/1944 mention the short-lived Japanese attempt to exploit guano on Itu Aba in the 1920s. However, despite having

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[74] *See* A1329 Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867); BA1201 B8 (2000) Reefs in the China Sea; Tracing of survey of Itu Aba by French naval aviso "Marne", UKHO Ref. E6426 (translation from French); E7824-522 Field Chart of Approaches to Itu Aba; E7824-523 Field Chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs); E7824-524 Field Chart of Shinan Guntao (the Southern Archipelago); F6064 (1966) Reefs in South China Sea Northern Portion; Z15 (1941) Reefs in South China Sea Northern Portion; E3615 China Sea Dangerous Area North West of Palawan Passage 1931.

[75] *China Sea Directory* Vol. II (1st ed. 1868), p. 10.

[76] *China Sea Directory* Vol. II (1st ed. 1868), p. 10.

[77] *China Sea Directory* Vol. II (1st ed. 1868), p. 11.

benefited from substantial investment and support from the Government of Japan, this venture quickly failed, and by 1929 had been abandoned, a fact the document confirms.[78] The remains of the failed venture were visible when the French Navy visited Itu Aba in 1933,[79] which found the feature to be deserted.[80] The resources on the feature that the French identified were limited to various papaya and coconut trees.[81]

29. The UKHO documents confirm that the subsequent Japanese presence was military in nature. H2499/1937 describes the HMS *Herald*'s visit to Itu Aba in 1937, where it encountered a Japanese naval vessel using Itu Aba "as a base for operations further afield."[82] Although the HMS *Herald* also found what was purported to be a "fishing company,"[83] when the British returned the following year, it was determined that this was a front for the Japanese military.[84]

30. The UKHO documents confirm as well that, after the Second World War, excepting the Republic of China's brief military occupation from 1946-1950, the feature was uninhabited. H02716/1951 contains a report on the HMS *Dampier*'s visit to Itu Aba in 1951. It describes the wreckage from Japan's military occupation, including a "gun emplacement", "air raid shelter", and "reinforced concrete" structures that had been "designed to withstand

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[78] English translation of Japanese Sailing Directions for Shinan Guntao (also includes a copy of the 1944 edition of the Secret Sailing Directions for the Dangerous Ground), UKHO Ref. H019893/1944, p. 32. *See also* Responses of the Philippines to the Tribunal's 1 April 2016 Request for Comments on Additional Materials Regarding the Status of Itu Aba (23 April 2016) ("Responses to the Tribunal's for Comments on Additional Materials Regarding Itu Aba"), paras. 19-20.

[79] *See generally* Tracing of survey of Itu Aba by French naval aviso "Marne", UKHO Ref. E6426.

[80] *See* Responses to the Tribunal's for Comments on Additional Materials Regarding Itu Aba, paras. 23-24.

[81] Tracing of survey of Itu Aba by French naval aviso "Marne", UKHO Ref. E6426, p. 2.

[82] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 14.

[83] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 14.

[84] *See* Responses to the Tribunal's for Comments on Additional Materials Regarding Itu Aba, paras. 26-28.

attack".[85] Significantly, there were no permanent inhabitants. The only individuals encountered were fishermen from the Philippines and Hainan, some of whom reported that they "had lost their way and had only been at Itu Aba one night, where they were repairing one of their engines".[86] The British reported that "[n]o provisions could be seen ashore".[87] Consistent with this report, the amendments to the British sailing directions found in H2718/1951 state that in 1951 "there were a number of fishermen from Palawan and Hainan on the island, but no permanent inhabitants".[88]

31. Other UKHO documents demonstrate Itu Aba's lack of water. Although H2718/1951 and H02716/1951 note the existence of "two shallow wells",[89] H02716/1951 observes that "water tanks" were also present, indicating that the feature's former garrison had needed to resort to sources of water shipped in from outside.[90] Further, while the Japanese and British sailing directions indicate that the water on Itu Aba was "*comparatively* good compared with that on the other islands", neither states that the water on Itu Aba was potable or, if so, in what quantity.[91]

32. Finally, the UKHO documents confirm the poor quality of Itu Aba's soil. HD106 describes an 1888 examination of Tizard Bank (including Itu Aba), reporting that all

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[85] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, pp. 10-11.

[86] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, p. 9.

[87] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, p. 11.

[88] HMS Dampier – Corrections to Sailing Directions for Itu Aba, UKHO Ref. H2718/1951, p. 5.

[89] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, p. 11; HMS Dampier – Corrections to Sailing Directions for Itu Aba, UKHO Ref. H2718/1951, p. 5.

[90] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, p. 10, para. 13.

[91] English translation of Japanese Sailing Directions for Shinan Guntao (also includes a copy of the 1944 edition of the Secret Sailing Directions for the Dangerous Ground), UKHO Ref. H019893/1944, p. 34 (emphasis added). *See also China Sea Directory* Vol. II (1st ed. 1868), p. 11 ("the water found in the well on [Itu Aba] was better than elsewhere".).

of the Bank's "islands are formed of sand throughout,"[92] and that the "principle portion" of the reef surrounding Itu Aba "is dead".[93] In 1937, the Commander of the HMS *Herald* reported, based on his inspection of the feature, that Itu Aba's beaches were not "suitable as landing grounds for aircraft" in part because of the "[s]oftness of the sand".[94] After the *Herald* revisited Itu Aba the following year, in April 1938, the British Navy elaborated on the feature's poor composition, which it characterized as being "only [a] sandy cay[] consolidated by growth of trees and scrub".[95] It observed that the feature had "[s]urface loose fine sand[,] broken Coral and [a] thin crust of conglomerate coral sand," and warned that should Itu Aba be cleared of vegetation there was a "[d]anger of subsidence of foundation" because of "seepage owing to [the] porous constitution of [the] island and of sea encroachment".[96]

Johnson South Reef

33. Some of the charts included in the UKHO materials depict Johnson South Reef as a low-tide feature[97] while others suggest it is above water at high tide.[98] This inconsistency was addressed in the *Atlas*, which noted that although the Chinese sailing

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[92] *Report of the Results of an Examination by the Officers of HMS* Rambler *of the Slopes and Zoological Conditions of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 19.

[93] *Report of the Results of an Examination by the Officers of HMS* Rambler *of the Slopes and Zoological Conditions of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 5.

[94] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15, para. 12.

[95] *Message* from H.M.S. "Herald", United Kingdom, to British Admiralty (27 Apr. 1938), p. 3. SWSP, Vol. III, Annex 377 (emphasis added).

[96] *Message* from H.M.S. "Herald", United Kingdom, to British Admiralty (27 Apr. 1938). SWSP, Vol. III, Annex 377.

[97] *See* Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618.

[98] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966).

directions and modern nautical charts depict the reef as submerged at high-tide,[99] the U.S. sailing directions report that some rocks protrude above water at high tide.[100] Taking into account the available evidence and out of an abundance of caution, the Philippines treated Johnson Reef South as a high-tide feature, namely, a rock under Article 121(3).[101]

Ladd Reef

34. Ladd Reef is described in a letter from Commander Ward of HMS *Rifleman* to the Hydrographer dated 29 July 1864, the 1868 edition of the *China Sea Directory*, and UKHO documents H7530/1933, H8453/1934, and H019893/1944, as well as in various nautical charts.

35. These materials confirm the Philippines' characterization of Ladd Reef as a low-tide elevation. Commander Ward's report states that the "coral edge" of Ladd Reef "uncovers at low water in many places".[102] The *China Sea Directory* similarly indicates that "[t]he surrounding reef uncovers at half tide in many places".[103] H8453/1934 describes a "drying portion" of the reef, which it notes "can be safely utilised for making a landfall

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[99] *See Atlas of Relevant Features*, SWSP, Vol. II, p. 80.

[100] *See* United States National Geospatial-Intelligence Agency, *Pub. 161 Sailing Directions (Enroute), South China Sea and the Gulf of Thailand* (13th ed., 2011), p. 11. MP, Vol. VII, Annex 233.

[101] Johnson South Reef is described in H2098/1962-HD384 as having "a narrow inlet, which is used as an anchorage by junks". Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 12. Although E6020 indicates that it depicts and describes Sin Cowe Island, the chart on which it appears and the accompanying description both suggest that the feature in question is actually Johnson South Reef. The image of the feature on the chart on page 11, the description of the feature on pages 6 &7, and the location of the feature on page 11 all suggest that Johnson South Reef, and not Sin Cowe Island, is the feature described. The chart appears to depict the feature as a low-tide elevation. US Report on Survey of the Pigeon Passage including plans of features on Union Bank, UKHO Ref. E6020, p. 13. The narrative description—again purportedly describing Sin Cowe—states that the feature "was under water except for about six rocks at [the] S.E. corner", and that "the largest rock… is about 5 feet in diameter and four feet high". *Id.*, p. 6.

[102] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 3.

[103] *China Sea Directory* Vol. II (1st ed. 1868), pp. 5-6. The *China Sea Directory* also notes Commander Ward's view that an earlier description of "a low island, quite sandy, about 8 or 10 feet above water" was probably a description of Ladd Reef, since the feature "would at some distance look like an island, in consequence of the bright sandy bottom of the lagoon inside it". However, the *China Sea Directory* also observes that the earlier description "appears to agree exactly with Commander Ward's description of Spratly Island", thus apparently calling into question whether it described Ladd Reef at all. *Id.*, p. 6.

during daylight hours".[104] All of the charts included in the UKHO materials depict Ladd Reef as a low-tide elevation.[105]

36. The other UKHO documents that mention Ladd Reef are not inconsistent with this characterization. H7530/1933 contains a report from the RFA *Pearleaf* that indicates the feature is "[v]isible [for] 9 miles" and has "[h]eavy breakers on [the] weather side, numerous detached rocks on [the] lee side, [and a] smooth water lagoon inside showing vivid light green and blue in colour".[106] The Japanese sailing directions included in H019893/1944 describe Ladd Reef as a "coral shoal" whose "centre is a lagoon with white sandy bottom", and note that "at [low tide] it is scarcely possible to pass over the reef into the lagoon by a small boat".[107]

Landsdowne Reef

37. Landsdowne Reef is shown on two charts included in the UKHO materials; these depict it as a cay, indicating that it is a high-tide feature.[108] However, as discussed in the *Atlas*, modern nautical charts and sailing directions, with the exception of the one published by the United States, depict Landsdowne Reef as a drying reef with no cay above water at

[104] HMS Herald – Secret instructions and 1935 reports on alternative routes in the South China Sea, UKHO Ref. H8453/1934, pp. 20, 22.

[105] *See* Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

[106] HMS Herald – Secret instructions and 1934 reports on alternative routes in the South China Sea, UKHO Ref. H7530/1933, p. 29. *See also id.*, p. 28 ("On passing Rifleman Bank (and making Ladd Reef in daylight) it is quite safe to pass close to the Reef as the breakers can be seen 6 – 9 miles off".)

[107] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 37.

[108] *See* Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618.

high tide.[109] Accordingly, in the Philippines' view, the feature should be treated as a low-tide elevation.

Lankiam Cay

38. The charts included in the UKHO materials depict Lankiam Cay as being above water at high tide.[110] The only possible exception is a chart that appears to show it as a low-tide elevation; however, the chart's scale is too large to permit a definitive determination.[111] The Japanese sailing directions included in H019893/1944 indicate that Lankiam Cay is characterized by "a sand cay".[112] As noted in the *Atlas*, all modern sailing directions refer to the existence of a high-tide feature, as do the modern British and United States charts.[113] The Philippines thus regards it as a rock under Article 121(3).

Loaita Island

39. Loaita Island is described in the 1868 edition of the *China Sea Directory*, as well as in the Japanese sailing directions included in UKHO document H019893/1944 and in various nautical charts. These materials confirm the Philippines' characterization of the feature as a rock as defined in Article 121(3). The charts included in the UKHO materials depict Loaita Island as being above water at high tide.[114] Further, the *China Sea Directory* describes Loaita Island as "a low sand island, covered with bushes, and very small, being but

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[109] *Atlas of Relevant Features*, SWSP, Vol. II, pp. 87-88.

[110] *See* Survey fair chart of Loita Bank (Loita Island and Lankiam Cay) (1868), UKHO Ref. A1326; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966).

[111] *See* Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[112] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 3.

[113] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 91-92.

[114] *See* Survey fair chart of Loita Bank (Loita Island and Lankiam Cay) (1868), UKHO Ref. A1326; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

$1^{1/2}$ cables in diameter".[115] The Japanese sailing directions likewise describe the feature's small size and lack of habitation, reporting that it is "sand cay about 1.5 cables across" which is "thickly covered with scrub".[116]

London Reefs: Central Reef

40. Central London Reef is described in the 1868 edition of the *China Sea Directory*, as well as in the Japanese sailing directions contained in UKHO document H019893/1944 and in various nautical charts.

41. The Philippines' characterization of Central London Reef as a low-tide elevation is confirmed by the charts included in the UKHO materials, which depict the feature as a low-tide elevation.[117]

42. Other descriptions of the feature also indicate that Central London Reef is a low-tide elevation. The *China Sea Directory* refers to the feature as "a coral patch, awash, half a mile in extent, with a shallow lagoon inside the belt of coral", and states that "[o]n the south-west extreme of the reef is a sandy cay, 60 or 70 yards in circumference, which is probably covered at high-water springs". It also describes the feature as "in every respect a most dangerous reef" which, "[b]eing small, [] is not marked by great masses of breakers".[118] The Japanese sailing directions contained in UKHO document H019893/1944 describe the feature is similar terms, as "a coral patch about 5 cables in extent" that "has a sand bank at its

[115] The *China Sea Directory* Vol. II (1st ed. 1868), p. 11.

[116] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 34.

[117] *See* Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

[118] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8.

S.W. extremity". They also indicate that the feature "[p]robably" covers at high tide and cannot always be recognized by breakers.[119]

London Reefs: Cuarteron Reef

43. Cuarteron Reef is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents H3221/1933, H2098/1962-HD384, and H019893/1944 and in various nautical charts.

44. The *China Sea Directory* refers to the feature as "awash".[120] The Japanese sailing directions contained in H019893/1944 similarly refer to the feature as "awash".[121] H3221/1933 and the British sailing directions contained in H2098/1962-HD384 and H019893/1944 both indicate that the reef "dries" and is "encumbered by rocks especially on the northern side where some are from 4 to 5 feet in height", and that the rise in tides at Cuarteron Reef is "from 6 to 7 feet".[122] The feature is shown as a low-tide feature in the charts included in the UKHO materials.[123]

45. While modern charts also show Cuarteron Reef as a low-tide feature, the Philippine, U.S., and British sailing directions note the presence of several rocks protruding from the water at high tide.[124] Accordingly, taking into account the available evidence and

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[119] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[120] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8.

[121] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[122] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 23.

[123] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[124] *See Atlas of Relevant Features*, SWSP, Vol. II, pp. 103-104.

out of an abundance of caution, the Philippines has decided to characterize Cuarteron Reef as a high-tide feature, that is, a rock under Article 121(3).

London Reefs: East Reef

46. East London Reef is described in a letter from Commander Ward of HMS *Rifleman* to the Hydrographer dated 29 July 1864, the 1868 edition of the *China Sea Directory*, and the Japanese sailing directions contained in H019893/1944, as well as in various nautical charts.

47. Commander Ward's report refers to a feature believed to be East London Reef that he describes as an "extensive reef" from which "heavy breakers" could be seen.[125] The *China Sea Directory* states that "on its western extreme are one or two rocks which seldom cover". It also reports "great masses of breakers"[126] and that the "sea breaks heavily on the reef".[127] Similar descriptions are found in the Japanese sailing directions contained in H019893/1944.[128]

48. Although four charts included in the UKHO materials depict this feature as a low-tide reef,[129] one shows it as being above water at high tide.[130] That depiction is consistent with modern charts, which indicate the presence of one or two rocks on the western side of

[125] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 3.

[126] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8 (Being small, [Central London Reef] is not marked by great masses of breakers, like those which so readily point out the positions of East and West London reefs…").

[127] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8.

[128] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[129] Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

[130] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

the reef that are visible at high tide.[131] For that reason, the Philippines has characterized East London Reef as a rock as defined in Article 121(3).

London Reefs: West Reef

49. West London Reef is described in a letter from Commander Ward of HMS *Rifleman* to the Hydrographer dated 29 July 1864, the 1868 edition of the *China Sea Directory*, and the Japanese sailing directions contained in H019893/1944, as well as in various nautical charts.

50. Commander Ward's report refers to West London Reef as "a shoal of considerable size with a patch of white sand on its east side".[132] The *China Sea Directory* suggests that the feature is characterized by "great masses of breakers",[133] and notes the presence of a "sandy cay, a quarter of a mile in extent N.E. and S.W., but only 26 yards wide, and 2 feet above high water".[134] The Japanese sailing directions contained in H019893/1944 also note the existence of this sand cay.[135] The charts included in the UKHO materials likewise depict the feature as a being above water at high tide.[136] These descriptions are all

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[131] *See Atlas of Relevant Features*, SWSP, Vol. II, p. 107-108 ("There are one or two rocks on the western side of the reef that, according to the British sailing directions, seldom cover, even though the sea breaks heavily on the reef. The U.S. sailing directions mention a "sharp rock, 0.9 m high" that is visible. On the Chinese nautical chart, the reef is shown as broken into 7 reefs with two undefined black squares shown on the northwest reef and one on the easternmost reef. The Vietnamese nautical chart also depicts the reef as multiple reefs and shows 3 black squares. These symbols likely represent several man-made structures that are on the reef. The satellite imagery and photographs show three installations on the eastern, northern, and western fringe of the reef. They have been built in the reef's shallow waters".).

[132] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 3.

[133] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8 ("Being small, [Central London Reef] is not marked by great masses of breakers, like those which so readily point out the positions of East and West London reefs…".).

[134] The *China Sea Directory* Vol. II (1st ed. 1868), p. 8.

[135] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[136] Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

consistent with the Philippines' characterization of West London Reef as a rock as defined in Article 121(3).

Macclesfield Bank

51. Macclesfield Bank is described in UKHO document HD106. This contains a chart that confirms the Philippines' characterization of Macclesfield Bank as being entirely submerged.[137]

Mariveles Reef

52. Mariveles Reef is described in UKHO documents H783/1928, H3221/1933, H019893/1944 and H2098/1962-HD384, as well as in various nautical charts. Although H783/1928 indicates that the feature is "said to be … nearly awash",[138] the document notes that information concerning the area in which Mariveles Reef is located was "for the most part very old and imperfect" and that "many reefs and even Islands may exist which ha[d] not [yet] been discovered".[139]

53. Subsequent hydrographic analysis supports the Philippines' view that Mariveles Reef is a rock as defined in Article 121(3). By 1934, the UK's secret sailing directions, contained in H3221/1933, indicated that "a sand cay 5 feet in height situated on the neck between the two lagoons and a few isolated rocks may be just visible at high water".[140] The 1944 British sailing directions included in H019893/1944 and H2098/1962-

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[137] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 20. The document also describes the coral found near the feature during soundings carried out by *HMS Rambler*. *See id*.

[138] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 12.

[139] *Id.*, p. 3.

[140] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 9.

HD384 repeat these observations.[141] Although two of the charts included in the UKHO materials depict Mariveles Reef as a low-tide elevation,[142] two others—including the most recent—show it as including a small cay that is above water at high tide.[143]

McKennan/Hughes Reef

54. The nautical charts included in the UKHO materials confirm the Philippines' characterization of McKennan/Hughes Reef as a low-tide elevation.[144]

Mischief Reef

55. Mischief Reef is described in UKHO documents H783/1928, H3221/1933, H3331/1933, H7530/1933, H3717/1938, 1938-H3728, 1938-H3911, H2098/1962-HD384, and H019893/1944, as well as in various nautical charts.

56. Although Mischief Reef was initially described in H783/1928 as a submerged "shoal with [heavy] breakers over it",[145] all subsequent documents confirm that the Philippines has correctly characterized the feature as a low-tide elevation. That is how it is depicted in the chart contained in H3717/1938.[146] The other charts included in the UKHO

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[141] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 22; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 10.

[142] Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[143] Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941).

[144] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[145] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 17.

[146] HMS Herald – Report of grounding inside Mischief Reef, UKHO Ref. H3717/1938, p. 8.

materials likewise depict Mischief Reef as a low-tide elevation.[147] Further, H3221/1933 describes the feature as "awash" and "encumbered by drying rocks".[148] The same or similar descriptions appear in documents H3331/1933,[149] H3911/1938,[150] and the sailing directions contained in H019893/1944 and H2098/1962-HD384.[151]

Namyit Island

57. Namyit Island is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents HD106 and H019893/1944 and in various nautical charts. These materials confirm that the feature is a rock as defined in Article 121(3).

58. The charts included in the UKHO materials depict Namyit as being above water at high tide.[152] Further, the documents describe the feature as being very small. The *China Sea Directory* states that it "is only 3 cables long" and "one cable broad".[153] The Japanese sailing directions contained in H019893/1944 report the same dimensions, and add that Namyit is a "small island" that "is about 6.1 metres high and is thickly covered with

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[147] Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Mischief Reef (1933), UKHO Ref. E4049; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Field Chart of Plans of Reefs in Shinan Guntao, UKHO Ref. E7824-525; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966).

[148] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 14.

[149] *Id.*, p. 17 (indicating that the "reef is awash at Low Water Springs, and is studded with rocks which dry about 2 feet", and noting the existence of a particular rock "which dries 5 feet".).

[150] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 5

[151] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, pp. 26-27; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, pp. 14-15.

[152] Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867), UKHO Ref. A1329; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs), UKHO Ref. E7824-523; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[153] *China Sea Directory* Vol. II (1st ed. 1868), p. 11.

short trees and scrub".[154] HD106 describes Namyit in 1888 as "about a half a mile long, well covered by small trees and shrubs",[155] and contains a chart depicting the feature as completely surrounded by a drying reef.[156]

59. The documents also make clear that, although fishermen may have occasionally made use of Namyit, it is not capable of sustaining human habitation. They refer to a group of features that appear to include Namyit which are reported to have been used by fishermen from Hainan; however, they specify that those fishermen were dependent upon the delivery of "supplies of rice and other necessaries" transported to them on "[j]unks from Hainan".[157] Namyit's soil is also described as being poor: HD106 reports it was "very brown and earthy at the surface, but below a loose oolitic rock".[158] Although HD106 notes the existence of a well on the feature in 1888, it does not indicate whether the well contained water, or whether it was potable. In 1933, the United Kingdom described Namyit as having "no inhabitants".[159]

Nanshan Island

60. Nanshan Island is described in UKHO documents H3221/1933, H3911/1938, H019893/1944 and H2098/1962-HD384, as well as in various nautical charts. All are consistent with the Philippines' characterization of Nanshan Island as a rock as defined in Article 121(3).

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[154] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 35.

[155] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 18.

[156] *Id.*, p. 12.

[157] *China Sea Directory* Vol. II (1st ed. 1868), p. 11. *See also* Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 34.

[158] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 18.

[159] *Letter* from Secretary of the Admiralty, United Kingdom, to Undersecretary of State, Foreign Office, United Kingdom (8 Feb. 1933), p. 297. SWSP, Vol. III, Annex 363.

61. The charts included in the UKHO materials depict Nanshan as being above water at high tide.[160] The feature is also described as being very small. The British sailing directions contained in H019893/1944 and H2098/1962-HD384 state that "its extent is one cable by three-quarters of a cable".[161] Other documents describe Nanshan as being even smaller. H3911/1938 states that the feature "has a maximum extent of 1.5 cables".[162]

62. The documents make clear that Nanshan is incapable of sustaining human habitation. H3911/1938, H2098/1962-HD384, and the British sailing directions contained in H019893/1944 indicate that it had only "a few [coconut] palms" and was "sandy with coarse grass".[163] These documents also state that although the feature was "resorted to by turtle fishers", it had no continuous population. The two wells on the feature had only "brackish" water.[164]

Northeast Cay

63. Northeast Cay is described in the 1868 edition of the *China Sea Directory*, the HMS *Iroquois* Survey Data Book, and in UKHO documents H8132/1925, H6/1926, H3221/1933, H2098/1962-HD384, and H019893/1944, as well as in various nautical charts. These materials confirm that the feature is a rock as defined in Article 121(3).

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[160] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Field Chart of Plans of Reefs in Shinan Guntao, UKHO Ref. E7824-525; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[161] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 28; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 16.

[162] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 6 (emphasis omitted).

[163] *Id.* (emphasis omitted); Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 16; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 28.

[164] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 6 (emphasis omitted); Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 16; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 28.

64. The charts included in the UKHO materials depict Northeast Cay as being above water at high tide.[165] The *China Sea Directory* refers to the feature as a "sandy cay" which is "half a mile long, one quarter of a mile broad, and 10 feet above the level of the sea at high water".[166] It also indicates that the feature was "covered with coarse grass" and marked by a single "stunted tree".[167] The HMS *Iroquois* Survey Data Book describes Northeast Cay as a "small islet about [4.5] cables long", one cable wide, " and "about 8 feet (2.4 m.) high".[168] It also indicates that the feature was "covered with coarse grass with a fringe of low bushes round the edges", and that "a clump of larger bushes with a conspicuous cocoanut palm 35 ft. (10.7 m.) high exists near the centre and south-eastern side of the islet".[169] The Japanese sailing directions contained in H019893/1944 appear to indicate that Northeast Cay "is about 4 cables long" and "has a clump of low trees 3 metres high".[170]

65. According to the *China Sea Directory*, Northeast Cay was occasionally "frequented by Chinese fishermen from Hainan".[171] Traces of their visits were recorded in the HMS *Iroquois* Survey Data Book, which noted the existence of "[a] small native hut" and "a disused well"[172] and stated that "[d]uring the visit of H.M.S. 'IROQUOIS' in May and June 1926, four native fishermen, apparently from Hainan, were residing on the islets, living a hut on [Northeast] Cay and visiting [Southwest] Cay periodically for water".[173] Although the

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[165] Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Survey fair chart of North Danger Reef (Northeast Cay and Southwest Cay) (1865), UKHO Ref. D9213; E7824-521 Field Chart of North Danger Reef (Northeast Cay and Southwest Cay); Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Survey fair chart of North Danger Reef (Northeast Cay and Southwest Cay) (1925), UKHO Ref. E1207.

[166] *China Sea Directory* Vol. II (1st ed. 1868), p. 14.

[167] *China Sea Directory* Vol. II (1st ed. 1868), p. 14.

[168] The HMS Iroquois Survey Data Book, p. 3.

[169] The HMS Iroquois Survey Data Book, p. 3.

[170] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 33.

[171] *China Sea Directory* Vol. II (1st ed. 1868), p. 14.

[172] HMS Iroquois Survey Data Book, p. 3.

[173] HMS Iroquois Survey Data Book, p. 3.

Japanese sailing directions indicate that guano excavation at one time was contemplated on the "Twin Islands", *i.e.*, Northeast Cay and Southeast Cay, there is no evidence that this ever occurred on Northeast Cay.

Pearson Reef

66. Pearson Reef is described in UKHO documents H783/1928, H3221/1933, H019893/1944 and H2098/1962-HD384, as well as in various nautical charts. These materials confirm that the feature is a rock as defined in Article 121(3).

67. The charts included in the UKHO materials depict Pearson Reef as being above water at high tide.[174] H783/1928 includes an 1843 report describing the feature as an "extensive shoal … with some rocks above water on the southern edge".[175] H3221/1933 and the 1944 sailing directions contained in H019893/1944 and H2098/1962-HD384 both state that the reef "dries" and indicate the existence of a "sand cay, 3 feet in height", situated on the north-eastern extremity of the feature.[176] That the cay is above water at high tide is corroborated by an internal British memorandum, dated 12 November 1937.[177]

Petley Reef

68. Petley Reef is described or depicted in UKHO documents HD106, H2499/1937 and H019893/1944, as well as in various nautical charts.

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[174] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[175] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 11.

[176] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 23; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11.

[177] *Memorandum* to Admiralty, United Kingdom (12 Nov. 1937), p. 4 [PDF]. SWSP, Vol. III, Annex 372.

69. The Philippines' characterization of Petley Reef as a low-tide elevation is confirmed by HD106, which includes a chart that depicts the feature in that manner,[178] and by the other charts included in the UKHO materials, which likewise show Petley Reef as a low-tide elevation.[179] The other UKHO documents are consistent with that conclusion. H2499/1937 simply observes that Petley Reef was likely surveyed by the Japanese in or around 1937.[180] The Japanese sailing directions contained in H019893/1944 describe the feature as an "egg-shaped patch about 1 mile in extent" and "about 1 mile broad", without indicating whether it is above water at high tide.[181]

Reed Bank

70. The charts included in the UKHO materials confirm that the Philippines has correctly characterized Reed Bank as being entirely submerged.[182] This is corroborated by H783/192, which includes Reed Bank among the features that it lists as being "SUBMERGED".[183]

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[178] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 12.

[179] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867), UKHO Ref. A1329; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs), UKHO Ref. E7824-523. The Philippines notes that Petley Reef is also depicted on Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524, however, the scale is such that the status of the feature cannot be determined.

[180] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 7.

[181] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 35.

[182] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

[183] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 23.

Sand Cay

71. Sand Cay is described in UKHO documents HD106, H2499/1937, and H019893/1944, as well as in various nautical charts. These materials confirm the Philippines' view that the feature is a rock as defined in Article 121(3). The charts included in the UKHO materials depict Sand Cay as being above water at high tide.[184] Further, HD106 refers to Sand Cay as an "islet" that "is now about [one quarter] mile across, entirely of sand, a little depressed in the centre". [185] The only living things reported to have been present were "four different shrubs" and "coarse grass, a few moths, flies, ants and one lizard".[186] The same document observes that Sand Cay was "bare 21 years ago", *i.e.*, in 1867.[187] H2499/1937 suggests that Sand Cay was likely surveyed by the Japanese in or around 1937.[188] Neither this document, nor H019893/1944, mention any human presence on the feature.

Sandy Cay

72. Among four early charts included in the UKHO materials, three (dating to 1867, 1941 and 1966, respectively) suggest that Sandy Cay is a high-tide feature located on a low-tide reef.[189] However, another chart indicates no high-tide feature in the same area.[190]

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[184] Survey fair chart of Tizard Bank (Itu Aba, Namyit, Sand Cay, and Gaven Reefs) (1867), UKHO Ref. A1329; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of Approaches to Itu Aba, UKHO Ref. E7824-522; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615.

[185] *Report of the Results of an Examination by the Officers of HMS Rambler of the Slopes and Zoological Condition of Tizard and Macclesfield Banks* (1888), UKHO Ref. HD106, p. 17.

[186] *Id.*, p. 17.

[187] *Id.*, p. 19.

[188] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 7.

[189] Survey fair chart of Thitu Reefs and Subi Reef (1867), UKHO Ref. D9725, Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941) and Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966).

[190] *See* Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

73. Moreover, on more modern nautical charts the toponym "Sandy Cay" is absent; there is no evidence of a high-tide feature in the location where Sandy Cay was formerly depicted or any other high-tide feature among the string of reefs located to the north and northwest of Thitu Island.[191]

74. Considered as a whole, the evidence is consistent with the Philippines' characterization of this feature during the oral hearings.[192] That is, while at some point in history there may have been a small sand cay above water at high tide, any such feature no longer exists.

Scarborough Shoal

75. Scarborough Shoal is described or depicted in UKHO documents H4739/1932, H7530/1933, and H8453/1934, as well as in various nautical charts. These materials confirm that the feature is a rock as defined in Article 121(3).

76. H7530/1933 and H8453/1934 both contain charts that depict a rock reported to be "10 ft. high".[193] The other charts included in the UKHO materials show Scarborough

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[191] *See Atlas of Relevant Features*, SWSP, Vol. II pp.193-194 (referencing Chinese Chart 18100 (2013), Annex NC25; Vietnamese Chart I-1000-04 (2008); Annex NC64; Japanese Chart W1801 (2008), Annex NC11; Russian Chart 61138 (2006), Annex NC40; U.S. Chart 93044 (1984), Annex NC6). Only one British Chart 3483 (2002), Annex NC1, indicates the presence of a small high tide feature in the location where Sandy Cay was once depicted, but the chart does not use any name to describe that feature. U.S. Chart 930601B (1976), Annex NC50, also shows Sandy Cay as a high tide feature, but this inconsistency with the later U.S. Chart 93044 (1984), Annex NC6, which makes no reference to Sandy Cay and depicts the area where Sandy Cay may once have been located as a low-tide elevation, is explained by the fact that the 1976 US chart was based on "British and Japanese surveys [conducted] between 1867-1938," as the chart itself states.

[192] *See* Tr. (30 Nov. 2015), p. 62:1-17 (Testimony by Prof. Schofield).

[193] *See, e.g.*, HMS Herald – Secret instructions and 1934 reports on alternative routes in the South China Sea, UKHO Ref. H7530/1933, p. 22; HMS Herald – Secret instructions and 1935 reports on alternative routes in the South China Sea, UKHO Ref. H8453/1934, p. 24. The Philippines notes that, although the charts contained in these two documents depict a number of other features, in most cases the depictions are of such small scale that it is difficult to make a reasonable assessment as to the status of the features depicted. Accordingly, the Philippines has only commented on the features about which a meaningful conclusion can be drawn.

Shoal as being above water at high tide as well.[194] Further, H4739/1932 refers to "Scarborough Reef" as being "awash at Low Water Spring Tides, [with the] spring range being about five feet" and notes that "[m]any rocks exist on the reef itself, the majority being on the North West Corner and along the South side".[195] The document also reports that the "largest" of these rocks is "South Rock, 3 feet high, which can readily be seen near the South East Corner".[196] The document describes survey work undertaken at Scarborough Shoal in 1932 to determine if it could be used as a refuelling base, and indicates that it is likely "unsuitable as an advanced base for aircraft".[197]

Second Thomas Shoal

77. Descriptions of Second Thomas Shoal are found in UKHO documents H783/1928, H3221/1933, H019893/1944, and H2098/1962-HD384, and in various nautical charts.

78. While H783/1928 indicates that Second Thomas Shoal is submerged,[198] the information on which that assessment was based was considered to be "for the most part very old and imperfect".[199] Subsequent hydrographic analysis confirms the Philippines' view that the feature is a low-tide elevation. The secret sailing directions contained in H3221/1933 indicated that Second Thomas Shoal had "a number of isolated drying patches", and that there were "two or three large rocks near the southern end which are almost certain to be

[194] Survey fair chart of Scarborough Shoal (1932), UKHO Ref. E3764; Survey fair chart of Scarborough Reef (1866), UKHO Ref. D9306.

[195] HMS Herald – Report of visit to Scarborough Shoal, UKHO Ref. H4739/1932, p. 9.

[196] *Id*.

[197] *Id*.

[198] HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 17.

[199] *Id.*, p. 3.

visible at low water".[200] The British sailing directions contained in H019893/1944 and H2098/1962-HD384 describe the feature in the same terms.[201] This is reflected in the charts included in the UKHO materials, all of which depict Second Thomas Shoal as a low-tide elevation.[202]

Sin Cowe Island

79. Sin Cowe is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO documents H783/1928, E6020, the British sailing directions included with H019893/1944 and H2098/1962-HD384, and in various nautical charts. Nothing in those materials undermines the Philippines' view that the feature, which measures a mere 0.033 km^2, is a rock as defined in Article 121(3).

80. The charts included in the UKHO materials confirm that the feature is above water at high tide.[203] The *China Sea Directory* and H783/1928 simply state that Sin Cowe "is said, by the fishermen, to lie about 30 miles to the southward of Nam-yit".[204] A footnote refers to "Hainan fishermen" being "found upon most of these islands". However, no evidence is presented that such fishermen made use of Sin Cowe specifically, and in any event, they were reported to depend upon the delivery of "supplies of rice and other

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[200] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 15.

[201] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 27; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 15.

[202] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[203] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[204] *China Sea Directory* Vol. II (1st ed. 1868), p. 11; HMS Iroquois – Secret Instructions for 1928, with detailed appendix, UKHO Ref. H783/1928, p. 11.

necessaries" from Hainan.[205] The sailing directions included in H2098/1962-HD384 and H019893/1944 mention the existence of Sin Cowe but note that it is part of a "formation" of features which "has not been closely examined".[206] Finally, although E6020 contains a description of a feature that it refers to as Sin Cowe, it appears from that description and the document's chart that the feature is, in fact, Johnson South Reef.[207]

Southwest Cay

81. Southwest Cay is described in the 1868 edition of the *China Sea Directory*, the HMS *Iroquois* Survey Data Book, and in UKHO documents H8132/1925, H6/1926, H3221/1933, H7530/1933, H019893/1944, and H2098/1962-HD384, as well as in various nautical charts. These materials confirm that the feature is a rock as defined in Article 121(3).

82. The charts included in the UKHO materials depict the feature as being above water at high tide.[208] Further, the *China Sea Directory* notes Southwest Cay's very small size, which it describes as being "only 4 cables long and $1^{1/2}$ cables broad".[209] The Japanese sailing directions contained in H019893/1944 describe the feature as being even smaller: "about 3.5 cables long"[210] and "densely covered with weeds".[211] Documents H3221/1933 and

[205] *China Sea Directory* Vol. II (1st ed. 1868), p. 11.

[206] Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 12; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 24.

[207] The image of the feature on the chart on page 11, the description of the feature on pages 6 & 7, and the location of the feature on page 11 all suggest that Johnson South Reef, and not Sin Cowe Island, is the feature described. *See also Atlas of Relevant Features*, SWSP, Vol. II, pp. 78-81.

[208] Survey fair chart of North Danger Reef (Northeast Cay and Southwest Cay) (1865), UKHO Ref. D9213; Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Field Chart of North Danger Reef (Northeast Cay and Southwest Cay), UKHO Ref. E7824-521; Survey fair chart of North Danger Reef (Northeast Cay and Southwest Cay) (1925), UKHO Ref. E1207.

[209] *China Sea Directory* Vol. II (1st ed. 1868), p. 14.

[210] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 33.

[211] *Id*.

H2098/1962-HD384 both describe Southwest Cay as "a somewhat smaller islet" than Northeast Cay, and as "a breeding place for sea birds".[212]

83. The documents make clear that the feature is unable to sustain human habitation or economic life. Although the Japanese sailing directions suggest there was an effort to extract guano from Southwest Cay during the 1920s, the venture quickly failed.[213] According to the HMS *Iroquois* Survey Data Book, when the feature was visited in May 1926, it was found to be deserted and the "low wooden sheds and buildings" on the south side of the feature appeared to have been "disused for some time".[214] Likewise, the feature's pier "was in a poor state".[215] Thus, the claim made by the Japanese who were encountered by the British Navy in July 1927, just over a year later, that they had been exporting 3,000-5,000 tons of guano annually is impossible to credit.[216] Regardless, the Japanese sailing directions state that Japanese efforts to extract guano from features in the Spratlys had ceased by 1929.[217]

84. H7530/1933 indicates that when the feature was inspected in 1934, it was uninhabited with "[s]everal shelters made of spars and matting, apparently deserted".[218] Although the HMS *Iroquois* Survey Data Book noted that fishermen from Hainan would

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[212] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 12; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 12. *See also* Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 24.

[213] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 32.

[214] HMS Iroquois Survey Data Book, p. 3.

[215] *Id*.

[216] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 25; Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 12; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO H2098/1962-HD384, p. 13.

[217] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 32.

[218] HMS Herald – Secret instructions and 1934 reports on alternative routes in the South China Sea, UKHO Ref. H7530/1933, p. 29.

"visit[] S.W. Cay periodically for water", the water on the feature "was found to be slightly tainted" and "should be used with caution".[219]

Spratly Island

85. Spratly Island is described in a letter from Commander Ward of HMS *Rifleman* to the Hydrographer dated 29 July 1864, the 1868 edition of the *China Sea Directory*, as well as in UKHO documents H7530/1933, H3853/1936, H2499/1937, H019893/1944, H02716/1951, H4122/1951, H4129/1951, and H3221/1963, and various nautical charts.

86. Nothing in these documents undermines the conclusion reached in the *Atlas* that Spratly Island is a rock as defined in Article 121(3). Commander Ward's report indicates that the feature is above water at high tide, noting that a beacon had been erected and "cocoa nuts" planted.[220] The charts included in the UKHO materials confirm that Spratly Island is above water at high tide.[221]

87. The documents further show that Spratly Island is not capable of sustaining human habitation. The *China Sea Directory* describes it as "very small, being in extent but $2^{1/2}$ by $1^{1/2}$ cables' lengths, with a margin of bright white sand and broken coral…".[222] It

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[219] HMS Iroquois Survey Data Book, pp. 3-4. *See also* Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 12 ("There are two wells of indifferent water on the islet".); Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 25; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 25.

[220] *Letter* from Commander Ward of HMS Rifleman to the Hydrographer dated 29 July 1864, p. 2.

[221] Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Survey fair chart of Spratly Island and Amboyna Cay (1864), UKHO Ref. D7446. The feature does not appear on Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[222] *China Sea Directory* Vol. II (1st ed. 1868), p. 6. *See also* Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36 (describing Spratly Island as "2.5 cables long, 1.5 cables broad and 2.4 metres high; one part is of shining white sand and one part of broken coral"); HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 8; HMS Herald

further reports the feature as being "a low sandy island, the top appearing to be covered with bushes.'"[223] Similarly, H3853/1936 and H2499/1937 both indicate, in nearly identical terms, that Spratly Island is "covered with short grass and has a clump of coconut trees at its southwest end with isolated trees also towards the northeast".[224] H2499/1937 adds that the surface of Spratly Island is comprised of "sand and coarse grass".[225] The Japanese sailing directions contained in H019893/1944 refer to Spratly Island as "a rather flat barren island".[226]

88. Although the presence of a well was noted in H3853/1936, the water was observed to be "slightly brackish".[227] H02716/1951 indicates that "[t]here is coarse grass all over the top, and the remains of a small grove of coconut palms, all of which have lost their tops is situated near the southern end"; and that "[a] well and a fire place indicate that the place has been used by fishermen in the past, but there is no sign of any other occupation".[228]

89. Finally, H4129/1951 refers to Spratly Island as a "flat featureless island" that is "about [half a] mile long".[229] Its barren nature is depicted in the photographs taken by HMS *Dampier* that are included in H3221/1963.[230]

– Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15; HMS Dampier – Corrections to Sailing Directions for Spratly Island, UKHO Ref. H4122/1951, p. 3; HMS Dampier – Report of visit to Spratly Island (with photos), UKHO Ref. H3321/1963, p. 6.

[223] *China Sea Directory* Vol. II (1st ed. 1868), p. 6 (citing Nautical Magazine, 1843, p. 697).

[224] HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 8; HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15.

[225] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15.

[226] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 36.

[227] HMS Herald – Corrections to Sailing Directions for Spratly Island, Amboyna Cay, and Fiery Cross Reef, UKHO Ref. H3853/1936, p. 8; HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15.

[228] HMS Dampier – Report on visit to Itu Aba and Spratly Islands (with photos), UKHO Ref. H02716/1951, p. 14.

[229] HMS Dampier – Report of Survey of Spratly Island, UKHO Ref. H4129/1951, p. 7.

Subi Reef

90. Subi Reef is described in the 1868 edition of the *China Sea Directory* and UKHO document H019893/1944, as well as in various nautical charts. These materials confirm the Philippines' characterization of Subi Reef as a low-tide elevation. In particular, the *China Sea Directory* describes the feature as "an irregular-shaped coral reef" that "is dry at low water".[231] The Japanese sailing directions contained in H019893/1944 similarly indicate that the reef "dries at L.W." and "always breaks".[232] The charts included in the UKHO materials, which predate the erection of structures on the feature, confirm that Subi Reef is a low-tide elevation.[233]

Swallow Reef

91. Swallow Reef is described or depicted in UKHO documents H019893/1944, H7530/1933, and H8453/1934, as well as in various nautical charts. These materials, which predate construction on the feature, confirm that the Philippines has correctly characterized Swallow Reef as a rock as defined in Article 121(3).

92. The Japanese sailing directions contained in H019893/1944 describe Swallow Reef as consisting of "shallow ground encircled by a girdle of coral, 3.9 miles long from E. to W. and 1.5 miles broad",[234] and state that on the eastern "part of the reef are a number of rocks 1.3 to 3 metres high and on the S.E. side also are a number of rocks which are always

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[230] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1963, pp. 7-8; 11.

[231] *China Sea Directory* Vol. II (1st ed. 1868), p. 12.

[232] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 34.

[233] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000).

[234] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 37.

exposed".[235] H7530/1933 and H8453/1934 both contain charts which appear to depict a feature at Swallow Reef reported as being "10 ft. high".[236] The other charts included in the UKHO materials likewise depict the feature as protruding at high tide.[237]

Tennent Reef

93. Tennent Reef is described in UKHO documents H3221/1933, H2098/1962-HD384, E6020, and H019893/1944, as well as in various nautical charts. These materials confirm the Philippines' characterization of the feature as a low-tide elevation.

94. In particular, E6020 notes that Tennent Reef, which was "heretofore unreported", had "[a] number of small rocks… awash on the reef".[238] It also contains a chart depicting Tennent Reef as below water at high tide but above water at low tide.[239] Likewise, the other charts included in the UKHO materials depict the feature as a low-tide elevation.[240] H3221/1933 and the 1944 sailing directions included in H2098/1962-HD384 and H019893/1944 both state that the feature "dries" and "is liberally studded with rocks, the

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[235] *Id*.

[236] *See, e.g.*, HMS Herald – Secret instructions and 1934 reports on alternative routes in the South China Sea, UKHO Ref. H7530/1933, p. 22; HMS Herald – Secret instructions and 1935 reports on alternative routes in the South China Sea, UKHO Ref. H8453/1934, p. 24.

[237] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Southern Portion, UKHO Ref. Z16 (1941); Survey fair chart of Swallow Reef (1868), UKHO Ref. A1328. The Philippines observes that Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615, does not provide a description of Swallow Reef.

[238] US Report on Survey of the Pigeon Passage including plans of features on Union Bank, UKHO Ref. E6020, p. 8.

[239] *Id.*, p. 14.

[240] Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Reefs in South China Sea Southern Portion, UKHO Ref. F6063 (1969); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941). The feature is not described in Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

largest being on the south-eastern side".[241] A handwritten description contained in H019893/1944 indicates that these rocks are "above water", although it does not specify whether they are above water at high or low tide.[242]

Thitu Island

95. Thitu is described in the 1868 edition of the *China Sea Directory*, as well as in UKHO document H2499/1937, the 1944 sailing directions contained in H019893/1944 and H2098/1962-HD384, and in various nautical charts. These materials confirm that the Philippines has correctly characterized the feature as a rock as defined in Article 121(3).

96. The charts included in the UKHO material depict Thitu as being above water at high tide.[243] The *China Sea Directory* refers to Thitu as "a low sand island, somewhat round in shape, and not quite half a mile in diameter with "a dark clump tree" and "low bushes".[244] No inhabitants are mentioned, and the feature was reported to have only "two stunted cocoa-nut trees, near to which is a small well and a few plantain trees".[245]

97. H2499/1937 contains a note which indicates that Thitu was "among those annexed by France in 1933", and that "[b]eyond a rumour in 1935 of Japanese interest, nothing further is known to have occurred there".[246] Another note describes Thitu as "a low

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[241] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 10; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 11; Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944.

[242] Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 12.

[243] Reefs in the China Sea, UKHO Ref. BA1201 B8 (2000); Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of Thitu Reefs and Subi Reef (1867), UKHO Ref. D9725; Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E782 4-524.

[244] *China Sea Directory* Vol. II (1st ed. 1868), p. 12.

[245] *China Sea Directory* Vol. II (1st ed. 1868), p. 12. *See also* Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 33 (referring to Thitu as "a low sandy island about 4 cables long on which is a small well", and stating that "[n]ear the well are a few cocoanut and plantain trees".)

[246] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 19.

sand island about 4 cables long with a few cocoanut & plantain trees on it", and observes that it "would appear most unlikely" that it would be "suitable for aircraft landings.[247] According to the same report, "[t]he only sign of human habitation was in the palm [] where fisherman had landed to burn 'joss' as is their custom before fishing". It also reported a "well with brackish but drinkable water", the remains of what appeared to be the foundation of a "small hut", and a block that "might have been a gravestone or an observation stone".[248] The report concludes that Thitu's beaches were not "suitable as landing grounds for aircraft".[249]

West York

98. West York is described in UKHO documents H3221/1933, H3331/1933, H3911/1938, H2098/1962-HD384, and H019893/1944, as well as in various nautical charts. These materials are consistent with the Philippines' characterization of West York as a rock as defined in Article 121(3).

99. The charts included in the UKHO materials depict the feature as being above water at high tide.[250] H3911/1938 notes the feature's very small size, reporting that it is only

[247] *Id*.

[248] *Id*. *See also* Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 25; Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384.

[249] HMS Herald – Report of 1937 visit to Thitu and Itu Aba, UKHO Ref. H2499/1937, p. 15.

[250] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524; Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941).

"2 cables long and 1.75 cables broad with a sandy foreshore".[251] H3221/1933 describes it as "covered with grass and trees, some of which are coconut palms".[252]

Whitsun Reef

100. The charts included in the UKHO materials depict Whitsun Reef as a low-tide elevation, consistent with the Philippines' characterization of the feature.[253] The only exception is a Japanese chart, which indicates an exposed feature at Whitsun Reef's southern tip.[254] All modern charts, save the Russian one, depict the feature as a low-tide elevation.[255]

[251] HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 5. *See also* Secret Sailing Direction for the Dangerous Ground (1944 ed.), UKHO Ref. H2098/1962-HD384, p. 12 ("it is about 2 cables by 1 3/4 cables in extent and is covered with grass and trees and bushes, with some tall cocoanut palms near the southern end. The island has a sandy foreshore".); Japanese Sailing Directions for Shinan Guntao, UKHO Ref. H019893/1944, p. 24.

[252] Secret Sailing Direction for the Dangerous Ground (1934 ed.), UKHO Ref. H3221/1933, p. 11. *See also* HMS Herald – Amendments to Sailing Directions for West York, Nanshan, Flat Island, and Mischief Reef, UKHO Ref. H3911/1938, p. 5 ("it is covered with grass, trees and bushes, with some tall cocoanut palms near the southern end".) (emphasis omitted).

[253] Reefs in South China Sea Northern Portion, UKHO Ref. F6064 (1966); Reefs in South China Sea Northern Portion, UKHO Ref. Z15 (1941); Survey fair chart of 1931 combined survey operation (covering West York, Flat Island, Nanshan and other features), UKHO Ref. E3615; Survey fair chart of Union Bank (Sin Cowe Island, Sin Cowe East, Johnson Reef, McKennan Reef, Hughes Reef) (1931), UKHO Ref. E3618.

[254] Field Chart of Shinan Guntao (the Southern Archipelago), UKHO Ref. E7824-524.

[255] *See Atlas of Relevant Features*, SWSP, Vol. II, p. 203-204.