

## **Appendix 5 – Shipwrecks (28) with Swatow (Zhangzhou) Wares**

Several shipwrecks dating from the mid-16th century to the late 17th century contained Swatow ceramics as part of their cargo. This includes the following 28 wrecks, which are arranged in chronological order with the date of sinking indicated:

San Isidro junk (mid-16th century)  
Nanhai 2 shipwreck (mid-16th century)  
Ko Kradat shipwreck (mid-16th century)  
Marinduque shipwreck (mid to late 16th century)  
Philippines Unidentified shipwreck No. 2 (mid to late 16th century)  
San Felipe wreck (1576)  
Belanakan No. 2 shipwreck (late 16th century)  
San Augustin shipwreck (1595)  
Nan'ao No. 1 Shipwreck (late 16th/early 17th century)  
Ko Si Chang One Wreck (late 16th/early 17th century)  
Binh Thuan shipwreck (late 16th/early 17th century)  
Swatow Indonesia Wreck (late 16th/early 17th century)  
Royal Captain Shoal (Wreck 2) (late 16th/early 17th century)  
San Diego shipwreck (1600)  
Santa Margarita shipwreck (1601)  
Mauritius shipwreck (1609)  
Witte Leeuw wreck (1613)  
Banda (1615)  
Nossa Senhora da Luz wreck (1615)  
Ternate - Tidore shipwreck (1610 to 1620)  
Vietnam Unidentified shipwreck No. 2 (early 17th century)  
Wanli Shipwreck (1620 to 1625)  
São Gonçalo wreck (1630)  
Nuestra Señora de la Concepción shipwreck (1638)  
Hatcher Ming wreck (1643)  
Indonesia Unidentified shipwreck No. 3 (mid-17th century)  
Avondster shipwreck (1659)  
Vung Tau shipwreck (1690)

Examples of Ceramics recovered from 12 of these shipwrecks are included in **Appendix 6 – Swatow Shipwreck Ceramics in Collection of Writer**. Further details on the 28 wrecks, including location of sinking, date of discovery, and Swatow wares recovered are provided below.

**San Isidro junk (mid-16th century)** - sank in the Philippines off the west coast of Luzon, north of Manila and approximately nine kilometers from Barangay San Isidro, Cabangan Municipality, Zambales Province. It was discovered in 1994 under a twenty inch thick layer of coral sand at a depth of about 44 meters by the Underwater Archeology Section of the National Museum of the Philippines and the Far Eastern Foundation for Nautical Archaeology during a search for another shipwreck. Excavation of the shipwreck was conducted by the two foregoing entities some time in 1994 to 1995. The vessel was a Chinese junk laden with a ceramic cargo of primarily blue and white Swatow wares including large dishes, bowls, cups, saucers, jars, lids and a box that were all made around 1550. Also recovered were Chinese and Thai stoneware jars of various sizes and shapes, a Vietnamese box, and two Thai jarlets. In total approximately 1,180 items were recovered, including intact ceramics, shards and cooking woks.

Most of the Swatow ceramics recovered are utilitarian wares with flower and bird designs painted in underglaze cobalt blue. But decorative motifs did also include Chinese characters, human figures, fish, qilin and a dragon. The recovered ceramics were deposited in the National Museum of the Philippines and remain stored there. There is little further information available, published or anecdotal, on the total number of Swatow ceramics recovered from this shipwreck. However, in the Oriental Ceramic Society of the Philippines 2008 exhibition “Zhangzhou Ware Found in the Philippines – ‘Swatow’ Export Ceramics from Fujian 16th – 17th Century,” a total of 24 ceramics (all plate and dish forms) were

specifically identified as recovered from the San Isidro shipwreck - Collection of the National Museum of the Philippines. Additionally, the Denver Art Museum exhibition “Sunken Treasures: Ming Dynasty Ceramics from A Chinese Shipwreck” (November 18, 2000 to November 18, 2001) included 53 ceramics from the cargo of the San Isidro, reportedly more than thirty of which came from a single private collection and included dishes, cups, saucers and bowls.

**Nanhai 2 shipwreck (South China Sea II, Nan Hai No. II) (mid-16th century)** - located in the South China Sea off of Shantou City in Nanao county of Guangdong province. Found in May 2007 by fishermen at a depth of approximately 26 meters. An estimated 300 Chinese Swatow and Jingdezhen ceramics, dateable to around the mid-16th century, were recovered including bowls, dishes, ewers, jarlets and jars, of which the majority are Swatow (Zhangzhou) blue and white wares. It is estimated that the wreck may contain up to 10,000 ceramics. Decoration on the Swatow ware included plates with floral sprays, with qilin, and with human figures; and jarlets with floral motifs. Jingdezhen ware motifs included dishes with phoenix, bowls with winged dragon and underglaze blue seal mark, and saucers with deer and monkey. Brown glazed wares recovered included large jars with an applied dragon motif. At this writing plans were being considered by the Guangdong Archaeology Institute for possible recovery of the remainder of the shipwreck’s ceramic cargo at a future date.

**Ko Kradat shipwreck (mid-16th century)** - wrecksite is located in the Gulf of Thailand south of Trat Province about one kilometer north of the northern end of the island of Ko Kradat, some 200 meters in from the fringing reef at a depth of approximately 2 to 3 meters. A survey was conducted in 1977 and the wrecksite excavated in April 1980. Finds included 74 complete Sisatchanalai fine stoneware ceramics: underglaze black decorated cover boxes, jars, bowls, and jarlets; brown glazed “eared” jars and gourd shaped jarlets; and brown spotted glaze jarlets. Also recovered were coarse Sisatchanalai stoneware jars with looped handles and squat necks;

and jars and bowls, glazed and unglazed, of uncertain origins. A variety of earthenware items were also found including a small figurine of an elephant. Chinese blue and white porcelain found included fragments of bowls and plates, one with the base inscribed in underglaze blue with a six character Jiajing reign mark (1522 – 1566). A total of 5,500 shards were recovered: 60 percent – from large coarse stonewares, 30 percent – from earthenwares, 20 percent – from rice pots with stamped decoration, 8 percent – from fine stoneware, and 1 percent from Chinese blue and white porcelain. The latter included Swatow ware fragments from blue and white bowls: plants, bird, and lotus panels on one bowl; on the other a bird among plants and grass, along with two geese (ducks?) among lotus plants; footrim on both with adherent kiln grit (Howitz, 1977).

**Marinduque shipwreck (Gaspar site) (mid to late 16th century) –** found off of Marinduque Island between Gasan Island and Gaspar Island in the central Philippines. The wrecksite is located approximately 1,000 yards north of Gaspar Island, and was found in 1980 when a fisherman reportedly recovered some 1,000 pieces of intact Swatow porcelain from the wrecksite, alerting the National Museum of the Philippines of its existence. The official excavation of the wrecksite was conducted by Marine Archeology Unlimited, Inc. (M.A.U.I.) and the National Museum of the Philippines. After performing initial exploratory dives early in 1981 actual archeological salvage excavations began on February 9, 1982 through mid-August and again from November until the end of December, 1982. Excavation was started again in April and concluded in August 1983. Intact material recovered included some 188 blue and white jarlets, jars, plates large and small, dishes, saucers, bowls in various sizes, cover boxes, and spice containers as well as stoneware jars with loop handles and molded dragon design along with pale green celadon plates. A total of 1,072 shards were also recovered including shards from jars, bowls, plates and stoneware storage jars, along with a few earthenware shards. The recovered material consisted primarily of Chinese ceramics from the

Swatow kilns and datable to the mid to late 16th century. There was no evidence of Kraak ware or of Thai or Vietnamese ware included as part of the cargo. A portion of the recovered material was given to Marine Archeology Unlimited, Inc. consistent with the original salvage agreement. The remainder of the recovered ceramics was transported to the National Museum in Manila for conservation and storage.

**Philippines Unidentified shipwreck No. 2 (mid to late 16th century)** – a very limited quantity of ceramics, including Swatow wares, were recovered in 2007 to 2008 (best estimate) from an unidentified wrecksite reportedly in the Sulu Sea off of Mindanao, Philippines; one Swatow bowl from the wreck was acquired in Manila in March 2008 (no further information available).

**San Felipe wreck (1576)** - in 1997 Chinese blue and white porcelain shards were found on the beach in Baja, California, somewhere south of Tijuana and north of Cabo San Lucas. This resulted in ten Mexico - United States archeological expeditions from 1999 to 2011 and lead to the discovery of the wrecksite offshore. The San Felipe is the earliest known shipwreck of the eastbound Manila galleons. Most of the shards recovered were Jingdezhen blue and white wares, wares with overglaze enamels (comprising about ten percent of the findings), and limited quantities of Kraak ware. Additionally, fragments of ten large Swatow blue and white dishes were also recovered.

**Belanakan No. 2 shipwreck (Untung Jawa, Wanli Cargo Project) (late 16th century)** - discovered in approximately April 2009 at a location initially reported to be about 10 kilometers north of Untung Jawa Island at the northern most part of Pulau Seribu (Thousand Islands) at a depth of 50 to 55 meters. Pulau Seribu is a string of 105 islands stretching 45 kilometers north into the Java Sea, with the closest lying in Jakarta Bay only a few kilometers off mainland Jakarta. However, subsequent reports have now confirmed the actual location

of the shipwreck to be north of the Belanakan No. 1 wreck off of Subang, West Java, Indonesia at a depth of approximately 50 to 60 meters. The dissembling of facts concerning the actual location of wrecksites is not uncommon. Surrounded with mystery and intrigue, these secrets are very closely guarded by the fishermen and other informed parties. The approximately 4,000 ceramics initially recovered were Ming blue and white wares of both Jingdezhen and Swatow (Zhangzhou) origin. The Swatow blue and white material included very attractive *kuan* shaped jars with dragon motif and four vertical loop handles terminating in molded rosettes, approximately 36 centimeters in height. Large plates with floral or fish motif, carefully executed fluting on the underside, approximately 38 centimeters in diameter were also recovered. Salvaged also were blue and white bowls decorated on the exterior sides with a four blossom peony scroll; on the interior the central medallion with a sparsely detailed leaf spray, the well plain; and covered with waxy textured bluish tinged glaze, approximately 18 centimeters in diameter.

During 2010 RM Discovery Inc. (a leading Indonesian shipwreck location and salvage company) was able to recover over 37,500 additional artifacts with reportedly up to 40 percent remaining in “good” condition, and which consisted mainly of Chinese blue and white porcelain. Subsequently in 2011 RMD partnered with Arqueonautas Worldwide – Arqueologia Subaquática, SA (AWW) to complete the salvage of the valuable shipwreck, and reconnaissance operations recovered a total of 1,607 ceramic artifacts (predominantly blue and white porcelain) at the wrecksite. AWW determined an extremely large quantity of ceramics remained at the wrecksite and large scale recovery operations should be launched as promptly as possible. Efforts were made to secure investors for these operations but, unfortunately, the current status of the project has not been made available and is not known.

**San Augustin shipwreck (1595)** – sank in Drake's Bay, California and with study of porcelain findings going back to the early 1940's. However, it was not until 1980 – 1981 that the entire corpus of porcelain fragments recovered was systematically analyzed by both an Oriental art historian and an historian-archeologist. The wrecksite yielded a variety of Chinese blue and white porcelains including Kraak fragments and a number of Swatow shards, all of which evidence water and sand abrasion. According to one report (Shangraw, C. and E. Von der Porten, 1981) 29 Swatow shards were recovered in a variety of motifs. These included 15 shards from a large plate (“bowl”) with a deer in center and floral spray medallions enclosed within a diaper ground at the foliated rim. The attribution of some of the other shards as Swatow appears to be less certain.

**Nan'ao No. 1 Shipwreck (Nan Ao, Nanao) (late 16th/early 17th century)** - discovered in May 2007 off the northeast coast of Guangdong Province just south of Nan’ao island at a depth of about 27 meters; and with archaeological excavation conducted April through July 2010. Most of the porcelain recovered is blue and white Swatow ware consisting primarily of utilitarian items such as plates, dishes, bowls, cups, and jars. Décor included floral patterns, animals including qilin, and humans. Also recovered was a small portion of Jingdezhen blue and white porcelains and polychrome wares. Swatow (Zhangzhou) wares comprise the highest proportion of the total of 10,624 porcelains recovered, making this one of the most significant findings of these wares.

**Ko Si Chang One Wreck (late 16th/early 17th century)** - located off of Chonburi Province in the Gulf of Thailand and discovered in 1982. Recoveries included Chinese blue and white porcelains including numerous Kraak ware fragments, a bowl with Wanli mark, and some Swatow ware. Details are lacking with respect to the latter. Also recovered were Thai wares including large jars similar to Bang Rachan, Singburi Province material.



**Binh Thuan shipwreck (late 16th/early 17th century)** – was discovered between 1999 and 2000 about 40 nautical miles east of Phan Thiet town near Phu Qui Island, southern Vietnam. A total of approximately 34,000 ceramics were recovered consisting almost exclusively of Swatow (Zhangzhou) ceramics: blue and white, polychrome enamel, blue and white along with polychrome enamel, as well as monochrome white, green and brown. Specific shapes and objects included bowls (small, medium and large), plates (small, medium and large), stem cups, sweetmeat dishes (9 piece sets) both blue and white and polychrome enamel, spoons, small jarlets (blue and white with deer, lion, horse or floral, and monochrome white), blue and white square shaped dishes (with fish, sage, or floral motif), and very large basin shaped dishes with recessed base (blue and white and polychrome). This cargo was the first dedicated shipment of Swatow ware ever to be found. The officially recovered ceramics were retained by the government of Vietnam, with a large quantity subsequently sold at auction and a large number of representative specimens and the unique examples kept for museum display and heritage conservation. Additionally, vast quantities of Binh Thuan wreck wares were also available in the antique shops of Saigon.

**Swatow Indonesia Wreck (Batam wreck, Pulau Numbing wreck) (late 16th/early 17th century)** - is the subject of this report, was discovered by local fishermen in mid to late 2014, and reportedly is located in Indonesia's Riau Islands southeast of Batam near Pulau Numbing in the vicinity of the Kangxi Indonesia shipwreck. The shipwreck appears to have contained exclusively Swatow (Zhangzhou) wares datable to the late 16th to early 17th century. The recovered ceramics are primarily comprised of blue and white wares, along with limited quantities of wares decorated with overglaze enamels along with underglaze blue, monochrome wares, and enamels only (confined to one cover box). The limited range of forms represented in the recovered ceramics, with the number of variations of each indicated in parenthesis, is as follows: bowls (12), cover boxes (17),



dish (1), small jarlets (5), jarlets (16), *klapmutsen* form (1), plates (5), and zhadou (spittoons) (6).

**Royal Captain Shoal (Wreck 2) (late 16th/early 17th century)** - wrecksite is located on the flat ledge of the Royal Captain Shoal 48 miles west of the island of Palawan in the southern Philippines, and it was discovered and excavated in 1985. The ceramics recovered were comprised of Jingdezhen ware as well as Swatow wares, Fujian, and De Hua material. The majority of the ceramics found were blue and white, but monochrome white and terracotta pieces were recovered as well. Decorative motifs included animal, floral and human themes. For example, 39 plates out of a total of 59 were decorated with the standing phoenix motif. The Chinese ceramics recovered are dateable to the late 16th to early 17th century during the Wanli reign (1572 – 1620) of the Ming Dynasty. The recovered material consisted of plates (59), saucers (60), bowls (34), cups (35), boxes (32), covers (21), bottles (4), jarlets (45), jars (16), and various fragments. Swatow ceramic recoveries included blue and white plates, dishes, bowls, cover boxes, jars, and jarlets.

**San Diego shipwreck (1600)** - sank near Fortune Island to the west of Batangas Province, Luzon, Philippines, and archeological exploration was done in 1991 and 1992, with excavation activities conducted in 1992 and 1993 at a depth of 50 meters. The majority of the recovered ceramics was Kraak ware made in the kilns in Jingdezhen, but a quantity of Swatow ware was also included in the cargo and recovered. The San Diego contained a variety of Swatow blue and white ceramics: large jars with floral décor; plates with phoenix, duck or deer; and bowls, vases and jarlets all primarily with floral and bird décor. Also found were two pieces with overglaze red and green enamels: one oblong cover box and one bowl. The range and quantity of Swatow ware in the cargo of the San Diego was apparently quite limited. Overall a total of more than 1,200 blue and white porcelains dated to approximately 1599 of the Wanli reign (1572 – 1620) of the Ming Dynasty was recovered. These included

plates, dishes, bottles, jars, double gourd vases, kendis, and boxes. The pear shaped bottles (*yuhu chun ping* vases) recovered represent the most complete collection of this type ever discovered.

**Santa Margarita shipwreck (1601)** - sank near the island of Rota in the Northern Mariana Islands between Saipan and Guam; cargo reportedly included numerous Kraak porcelains and some Swatow wares many identical to those of the sister ship the San Diego, which sank earlier in late 1600 near Fortune Island to the west of Batangas Province in the Philippines. The Seattle, Washington based company IOTA Partners found the wrecksite in 1995 and obtained a permit to salvage the Santa Margarita on 15 September 1997. Some excavation work has been conducted over the years and several pieces of ivory, porcelain, and gemstones have been recovered. However, legal and other problems have been encountered including destruction in 2001 of part of the reef where the Santa Margarita is located. There is no currently available information with regards to present status of recovery efforts and findings.

**Mauritius shipwreck (1609)** - sank in the Gulf of Guinea (central east Africa) and was excavated by Michel L. Hour in 1985. The ship contained various commodities from the Far East and only a small supply of porcelain, probably a private purchase or a private order. Of the approximately 215 pieces of porcelain about 165 pieces are of Kraak ware type including plates, dishes, and cups. Additionally, some Swatow (Zhangzhou) ware items may also have been recovered, but reports are inconsistent in this respect. The number of Swatow wares reportedly recovered varies from none to 7 to 16, and further research is needed for clarification. The Mauritius is the earliest VOC (Verenigde Oostindische Compagnie) shipwreck to have been discovered. (Other reports speculate that the porcelain may have been captured by the Dutch in 1605 from the Portuguese ship the Sao Antonio. However, this would appear to be rather unlikely given the four year difference in timing, i. e. 1605 vs. 1609 [Campen and Eliëns, 2014]).

**Witte Leeuw wreck (1613)** – a VOC ship, which sank in the Bay of Jamestown near St. Helena Island off the southwest coast of Africa, and was discovered in 1976 at a depth of 38 meters. The wrecksite yielded a considerable quantity and wide variety of Kraak wares including kendi, teapots, covered bowls and vases along with the more customarily encountered plates, dishes, *klapmutsen* and bowls. Swatow blue and white wares were also recovered, including large and small dishes, decorated in a wide variety of motifs such as phoenix, peony, ducks, floral scrolls and medallions, dragon, and lion. Other Swatow wares recovered included bowls with floral motifs, ducks and lotus, lion and ball; jarlets with lion; and *zhadou* (spittoon) type vessels with bird and floral spray medallions.

**Banda Shipwreck (1615)** - sank in a hurricane in March of 1615 off the west coast of the island of Mauritius, near present day Albion, in the Indian Ocean about 2,000 kilometers off the southeast coast of the African continent. The shipwreck was officially excavated in 1979 and Kraak plates, dishes, *klapmutsen*, a vase, and a large jar cover were among the approximately 90 intact porcelains recovered. Also recovered from the Banda was Jingdezhen mainstream ware including small white cups with semi-pierced swastika or *wan* lattice decoration with underglaze blue base mark in seal mark form, as well as diminutive finely potted wine cups with flame motifs above a band of scrolls encircling the foot. Findings have also included Swatow (Zhangzhou) blue and white shards from large plates along with possibly dishes and bowls. The porcelain is believed to have included the property of Pieter Both, the first Governor-General of the Dutch East Indies (1610 to 1614), who perished in the shipwreck of this VOC (Verenigde Oostindische Compagnie) vessel.

Over the years, primarily around hurricane season, quantities of shards have also been recovered from Albion beach including approximately 10,000 shards collected from around the 1970's to 1990's and studied in 2002. Although specific details are not

available, these Banda shards were reportedly almost all from Kraak ware. Also possibly included among shards attributed to the Banda may be some specimens from the Geunieëerde Provinciën, the sister ship of the Banda, which sank in the vicinity of the Banda during the same storm. However, concrete proof of this is lacking - although this observation may be more relevant with respect to Swatow shards than Kraak shards.

**Nossa Senhora da Luz wreck (1615)** - sank near Faial Island, Horgta, Azores, located 1,097 miles west of the mainland of Portugal, and was discovered in 1999. Kraak ware fragments were salvaged from the wrecksite in very limited numbers and included those from plates, bowls, and vases decorated variously with deer, auspicious symbols, and floral motifs. Recoveries included a plate fragment with a base mark in the form of an underglaze blue double circle, an unusual feature for Kraak ware. Also recovered was a single fragment in blue and white décor believed to be that of Swatow ware.

**Ternate - Tidore shipwreck (1610 to 1620)** - the wrecksite is located south of Tidore Island off the coast of Tongowai village, approximately 100 meters to 150 meters from the nearest land. The depth of the wreck is about 50 meters to 70 meters. Ternate and Tidore are located just off the west coast of the larger island of Halmahera in the North Moluccas (Maluku) province, east-central Indonesia. Ternate Island lies about 2 kilometers northwest of Tidore Island. Tidore at 116 square kilometers is somewhat larger than Ternate's 76 square kilometers. These small isolated islands, once the world's single major producer of cloves, have been described by some as "the end of the world."

The shipwreck was originally salvaged in 1999 by a Japanese team along with an Indonesian company. Recovered material reportedly included Chinese porcelains along with one Portuguese bronze cannon. The cannon remained in Indonesia in storage in a

government regional location. However, almost all the ceramics went directly to Japan with a very small quantity remaining in Jakarta. On the basis of the design and emblems on the large bronze cannon of Portuguese manufacture an approximate dating of early 17th century (first quarter) is supported for this shipwreck. This dating is further corroborated by the following: (1) the Portuguese were in Ternate from 1522 until 1575, and also (along with the Spanish) in Ternate and parts of Tidore from 1606 until 1663; and (2) several of the large and medium sized Swatow dishes recovered from the Ternate - Tidore shipwreck are identical to those from Binh Thuan Wreck, which was found in Vietnam and is dated to the late 16th century to early 17th century.

From 29 January until 13 February 2002 a government sanctioned survey was conducted of the Ternate - Tidore shipwreck with Dali Colls the team leader and Michael Hatcher the team supervisor. During this second salvaging effort the recoveries included Swatow blue and white dishes (large and medium sized), bowls, and a bottle vase as well as monochrome white fragments of a jar. Also recovered were a limited number of Kraak ware type porcelains, as well as monochrome white bowls and brown glazed storage jars of Guangdong or Fujian origin. The décor of the Swatow material salvaged included dishes with phoenix (or deer) in the central medallion, oval cartouches in the cavetto, and key fret or diaper at the rim. Diameter of these dishes is approximately 25 centimeters. Also recovered were Swatow blue and white plates decorated in the center with two deer in a landscape scene, on the wide foliated rim two opposing pairs of jagged edge leaves separated by birds and flowers; and covered with waxy textured light bluish tinged glaze. The diameter of these plates is approximately 20 centimeters. Recovered as well were medium sized blue and white Swatow shallow bowls adorned with a landscape scene. Also included among the Swatow wares was a most interesting large blue and white plate. This plate featured a central decoration of a harbor scene, along with 4 medallions containing Arabic script alternating

with 4 floral spray medallions in the cavetto, and 8 more smaller floral spray panels on the flattened mouthrim.

**Vietnam Unidentified shipwreck No. 2 (early 17th century)** - a very limited number of Swatow ceramics datable to the late Ming period - early 17th century were recovered reportedly sometime in 2009 to 2010 from an unidentified wrecksite in Vietnam. Because of the limited quantity found, the ceramics may have been recovered by a fisherman using deep water drag nets and therefore not able to identify with any precision the location of the wrecksite (no further information available).

**Wanli Shipwreck (1620 to 1625)** - wrecksite is located in Malaysia's territorial waters near the coastal district of Dungun about six nautical miles outside Tanjong Jara off the Terengganu coast of north-east peninsular Malaysia at a depth of 40 meters. The actual location of the wrecksite was determined in 2003 with excavation conducted in 2004 and 2005. There was only one Swatow specimen recovered from the Wanli shipwreck, a blue and white dish fragment. The cargo is said to contain a wide range of the export Chinese ceramics that were available during that period. Much of the ceramic cargo consisted of approximately 21,000 pieces of Kraak ware and primarily included plates, dishes, *klapmutsen*, wash basins, covered boxes, covered jars, kendis and gourd-shaped bottles. Jingdezhen Ming traditional blue and white porcelain was also recovered in considerable quantity and included numerous bowls in large, medium and small sizes. Less refined ware which was normally destined for the Southeast Asia market was also included in the cargo and recovered. Recovered ceramics totaled 37,300 items including 7,434 porcelains which were less than twenty-five percent damaged and were formally registered as Wanli artifacts. About 90 percent of the porcelain is broken, fragmented, or totally pulverized - the apparent result of an explosion onboard the ship. Only about 800 pieces of the registered artifacts were totally intact.

Additionally ten tons of broken, fragmented, and pulverized porcelain pieces were also recovered.

**São Gonçalo wreck (1630)** – sank near Port Elizabeth in Plettenburg Bay near the tip of South Africa. Although the shipwreck itself has not been discovered and positively identified, shards from the cargo have been collected on the beach over many years by various individuals. Most importantly, the main deposit of porcelain shards was discovered in 1979 when the owners of land near the beach cleared the site to build a house. The São Gonçalo represents the only South Africa shipwreck which has yielded Swatow ware shards including a plate with phoenix, and a dish with chi dragon. Additionally, a considerable quantity of Kraak ware shards were also recovered from the cargo of the São Gonçalo.

**Nuestra Señora de la Concepción shipwreck (1638)** - was shipwrecked in Agingan Bay at the southern tip of the island of Saipan in the Northern Mariana Islands north of Guam. The shipwreck was discovered in 1987 with excavation work continuing to 1988. A considerable portion of the ceramic cargo consisted of Kraak wares, which comprised over half the porcelain salvaged. Kraak recoveries were limited to shards, primarily from dishes and small bowls, but also including fragments of bottles, jars, covered bowls and wine pots. Additionally, further ceramic recoveries consisted of 156 intact storage jars almost exclusively of South China origin, but including nine specimens of Singburi storage jars from the Mae Nam Noi kilns in Thailand. Also recovered were four shards from the base of a Swatow dish (Rinaldi, 1990).

**Hatcher Ming wreck (Hatcher Junk) (1643)** – found in 1983 reportedly in international waters on a reef in the South China Sea, but actual site is undocumented and the location is still undisclosed. However, the location of the wreck is thought to be just off of the Stelingworth Reef, which is southeast of Bintan Island, Indonesia. The bulk of the cargo was recovered in June 1983 and the great



majority of the recovered ceramics were Jingdezhen blue and white wares in a very wide range of shapes and decorative motifs. This included over 2,600 *Kraak* items. Also included, as well, were some celadon, *blanc-de-chine*, colored wares and provincial blue and white. Approximately 25,000 unbroken porcelains were salvaged initially and a further 2,000 at a later date. A number of Swatow wares were also recovered: blue and white bowls with floral motifs, dishes with a phoenix, plates decorated in red and green overglaze enamels with a *qilin* in the center and 30 centimeters in diameter, plates with light greenish tinged glaze and fluted cavetto, plates glazed brown and decorated with a dragon rendered in white slip and 35 centimeters in diameter, and large dishes painted in thin white slip on a blue ground with a large chrysanthemum blossom in the center and the cavetto with two chrysanthemum sprays and clumps of wispy grasses. A total of 22,178 of the recovered ceramics were sold by Christie's Amsterdam in 4 sales from December 1983 to February 1985. Additionally, most of the 2,000 items salvaged by Hatcher after the main recovery effort were sold through the London dealer Heirloom and Howard, including approximately 300 Swatow pieces.

**Indonesia Unidentified shipwreck No. 3 (mid-17th century)** - this unidentified wrecksite reportedly is located somewhere in the Java Sea off the port of Cirebon on the north coast of Java, Indonesia. Material recovered late in the year 2012 consisted of Chinese blue and white Swatow type wares including large bowls, small bowls, small shallow bowls, and small dishes dated to the mid-17th century of the Ming dynasty (1368 to 1644). No further information is available.

**Avondster shipwreck (1659)** – a former British ship captured by the Dutch and in the service of the VOC, sank in Galle Harbor on the south-western coast of Sri Lanka, and was discovered in 1997. Excavations were conducted from 2001 to 2004 with recoveries including Swatow ware fragments from bowls of various sizes, porcelain shards from various provincial kiln in South China, and

Jingdezhen ware fragments including Kraak ware. The limited number of ceramics recovered represent personal belongings.

**Vung Tau shipwreck (1690)** – was discovered in southern Vietnam in mid-1990. The cargo included Swatow bowls with overglaze polychrome enamel decoration, along with blue and white saucers (small and medium) which may also be classified as Swatow on the basis of reports of the excavation of similar specimens from the Zhaoan kiln sites in the Zhangzhou District of Fujian Province. The Swatow bowls are decorated in polychrome enamels and have steeply rounded sides and a straight mouthrim. The central medallion of the bowls is adorned with a floral spray surrounded by a single line border. Cavetto and exterior of these bowls are decorated en suite. Only remnants and fugitive outlines of the original polychrome enamel floral decoration typically now remain. Although substantially eroded, red, green and yellow enamels are visible on various areas of the bowls, predominantly the interior. The bowls are covered with the distinctively Swatow waxy textured glaze ranging in tone from milky white to light grayish blue. Adherent kiln grit is found on the foot and continues onto the base. The diameter of the bowls ranges from approximately 11.9 cm. to 14.8 cm. The inclusion of these bowls and blue and white saucers, as well as large blue and white Swatow type bowls with dragon and phoenix, in the recoveries from the Vung Tau shipwreck clearly demonstrates that the production of mainstream Swatow ware continued up to approximately the year 1690 of the late 17th century and possibly even beyond. Jingdezhen blue and white porcelains comprised the bulk of the cargo, which included Dehua wares as well.

#### **References (Partial Listing)**

Bettencourt, J., 2006. *Os vestígios da nau Nossa Senhora da Luz, resultados dos trabalhos arqueológicos*. Arquipélago – História. 2ª Serie, IX-X, Ponta Delgada: Universidade dos Açores, pp. 231-273.

**Bettencourt, José António, 2008. *A Nau Nossa Senhora Da Luz (1615) No Contexto Da Carreira Da Índia E Da Escala Dos Açores: Uma Abordagem Histórico - Arqueológica*. Dissertation - Mestrado em Arqueologia, Universidade Nova de Lisboa.**

**Brown, Roxanna. Shipwreck Data Base (References and Photos) at the Southeast Asian Ceramics Museum (SEACM) - Bangkok University.**

**Campen, Jan van and Titus M. Eliëns (eds.), 2014. *Chinese and Japanese Porcelain for the Dutch Golden Age*. Amsterdam: Rijksmuseum.)**

**Canepa, Teresa, 2009. *Transactions of The Oriental Ceramic Society*, Volume 73, 2008 – 2009, “The Portuguese and Spanish Trade in Kraak Porcelain in the Late 16th and Early 17th Centuries,” pages 61 to 78.**

**Canepa, Teresa, 2006. *Zhangzhou Export Ceramics: The So-Called Swatow Wares*. London and Lisbon: Jorge Welsh Books.**

***Chinese Archaeology* 12 (2012): pages 36-42. “The sunken ship “Nan’ao I” of the Ming Dynasty in Shantou City, Guangdong,” National Research Center for Underwater Cultural Heritage Preservation, Guangdong Provincial Institute of Cultural Relics and Archaeology and Guangdong Museum.**

**Christie's, 7 December 1983. *Hatcher Ming Wreck*. Amsterdam: Christie's.**

**Christie's, 14 March 1984. *Fine and Important Late Ming and Transitional Porcelain, Recently Recovered from an Asian Vessel in the South China Sea, The Property of Captain Michael Hatcher*. Amsterdam: Christie's.**

**Christie's, 12-13 June 1984. *Fine and Important Late Ming and Transitional Porcelain, Recently Recovered from an Asian Vessel in the South China Sea, The Property of Captain Michael Hatcher.* Amsterdam: Christie's.**

**Christie's, 14 February 1985. *Sale of Fine and Important Late Ming and Transitional Porcelain, The Private Collection of Captain Michael Hatcher, Selected from the Contents of an Asiatic Vessel that Went Down in the South China Sea circa 1640.* Amsterdam: Christie's.**

**Christie's Amsterdam, 1992. *The Vung Tau Cargo, Auction Catalogue, April 7 & 8, 1992.* Amsterdam: Christie's.**

**Christie's Melbourne, 2004. *The Binh Thuan Shipwreck, Auction Catalogue, March 1 & 2, 2004.* Melbourne: Christie's.**

**Crick, Monique, 2010. *Chinese Trade Ceramics for South-East Asia from the 1st to the 17th Century: Collection of Ambassador and Mrs. Charles Muller.* Milan, Italy: 5 Continents Editions.**

**Esterhuizen, L. V., 2001. *Decorative motifs on Chinese porcelain from Portuguese shipwrecks off the South African coast, 1552-1647: a cultural historical study.* Doctor of Philosophy dissertation. University of Pretoria: Cultural History, Faculty of Human Science.**

**Esterhuizen, Laura Valerie, 2005. Slide Presentation: "Chinese porcelain and Portuguese ship wrecks: The South African Connection."**

**Field Notes: Jakarta - September 2009, December 2010, and April 2015.**

**Field Notes: Jakarta and Palembang - April 2013.**

**Field Notes: Manila - March 2008.**

**Field Notes: Point Reyes and Drakes Bay, California (San Augustin 1595 wrecksite) - June 2010.**

**Field Notes: Saigon and Hanoi - April 2002 and November 2010.**

**Flecker, Michael, 2004. *The Binh Thuan Shipwreck - Archeological Report*. Singapore: Maritime Explorations.**

**Goddio, Franck, 1988. *Discovery and Archaeological Excavation of a 16th Century trading Vessel in the Philippines*. Manila: World Wide First.**

**Goddio, Franck, and Patrice Sandrim, 1996. *San Isidro Wreck '96, Excavation's preliminary report and Ceramic Cargo's Study*. Manila: National Museum unpublished report.**

**Green, Jeremy, Rosemary Harper and Sayann Prischanchittara, 1981. *The Excavation of the Ko Kradat Wrecksite Thailand 1979-1980*. Perth: Department of Maritime Archaeology, Western Australian Maritime Museum Special Publication.**

**Howitz, Pensak Chagsuchinda. 1977. "Two ancient shipwrecks in the Gulf of Thailand: a report on archaeological investigations". *The Journal of the Siam Society* 65(2): 1-22.**

**Jakarta Globe, 17 June 2011, "Biggest Shipwreck Cargo of Ming Porcelain Ever Discovered off Indonesia."**

**Jörg, C., and Flecker, M, 2001. *Porcelain from the Vung Tau Wreck: the Hallstrom Excavation*. UK: Sun Tree Publishing Ltd. (Christiaan Jörg is head of the department of Oriental ceramics at the Groninger Museum, the Netherlands).**

Kassela, Walter, 2017. *Swatow Indonesia Shipwreck - Preliminary Report*. Unpublished Manuscript.

Ketel, Christine, 2011. "Identification of export porcelains from early 17th Century VOC shipwrecks and the linkage to their cultural identification." (This paper is part of the research for a PhD. Thesis at Leiden University).

"The Ko Si Chang One shipwreck excavation 1983–1985 - A Progress Report" in the *International Journal of Nautical Archaeology* 15(2):105 122 · February 2007.

Le Thi Thanh Ha, 2004. *Gom Su Thoi Minh (The Ming Dynasty's Ceramics)*. Hanoi: National Museum of Vietnamese History.

*Orientations Magazine*, June 2015. Tianlong Jiao, "Export Ceramics in Chinese Shipwrecks," pages 45 to 51.

Orillaneda, Bobby C. - March 2008. Personal discussions in Manila.

Parthesius, Robert, Karen Millar, Bill Jeffery. 2005. "Preliminary Report on the Excavation of the 17th-Century Anglo-Dutch East-Indiaman *Avondster* in Bay of Galle, Sri Lanka," in *The International Journal of Nautical Archaeology* (2005) 34.2: pages 211–232.

Rinaldi, Maura, 1990. "Ceramic Cargo of the *Concepcion*," in the *Archaeological Report: The Recovery of the Manila Galleon Nuestra Senora De La Concepcion*. Pacific Sea Resources.

Saipan Tribune. "The true story of the *Santa Margarita*," 26 February 2007.

Shangraw, C. and Edward P. Von der Porten, 1981. *The Drake and Cermeño Expeditions' Chinese Porcelains at Drakes Bay, California*,

**1579 and 1595. Santa Rosa and Palo Alto, California: Santa Rosa Junior College and Drake Navigators Guild.**

**Sheaf, Colin and Kilburn Richard, 1988. *The Hatcher Porcelain Cargoes, The Complete Record*. Oxford: Phaidon and Christie's Limited.**

**Shimizu, Christine, 2003. *L'Odyssée de la Porcelaine Chinoise*. Paris: Réunion des Musées Nationaux.**

**Sjostrand, Sten - September 2007 and August 2012. Personal discussions in Endau, Malaysia concerning the Swatow shard recovered from the Wanli shipwreck in Malaysia.**

**Sjostrand, Sten and Sharipah Lok Lok bt. Syed Idrus, 2007. *The Wanli Shipwreck and its Ceramic Cargo*. Kuala Lumpur: Department of Museums Malaysia.**

**Stroeber, Eva, Date? *The Collection of Zhangzhou Ware at the Princessehof Museum, Leeuwarden, Netherlands*.**

**Sukkham, Atthasit - Assistant Curator, Southeast Asian Ceramics Museum (SEACM) Bangkok University – February 2017. Personal discussions in Bangkok concerning Thai Maritime Archaeology.**

**Valdes, Cynthia O., 1993. *Saga of the San Diego*. Manila: National Museum of the Philippines.**

**Van der Pijl-Ketel, C.L. (ed), 1982. *The Ceramic Load of the 'Witte Leeuw' (1613)*. Amsterdam: Rijksmuseum.**

**Von der Porten, Edward, 2008. "The Ming Porcelains from the 1576 Manila Galleon San Felipe: Trade Patterns and Chronology," in *Encuentro Binacional Balances y Perspectivas*.**



[www.sfgate.com/bayarea/article/Ship-s-story-revealed-in-435-year-old-wreckage](http://www.sfgate.com/bayarea/article/Ship-s-story-revealed-in-435-year-old-wreckage). Nolte, Carl, 23 August 2011. "History - Artifacts on beach help reveal story of 1576 shipwreck."

Xinhua News Agency, "Chinese find shipwreck laden with Ming porcelain," 13 June 2007, Beijing (refers to Nanhai 2 shipwreck).

Zhu, Jian and Li, Naisheng and Henderson, Julian and Glascock, Michael, 2016. "The provenance of export porcelain recovered from the Nan'ao One: a shipwreck in the South China Sea." *Antiquity*, Volume 90, Issue 351, pages 798 to 808.