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BRUNEI SHIPWRECK

Brunei Junk – discovered 22 nautical miles off the coast of Brunei on May 24, 1997 at a depth of 60 meters at latitude 05 degrees 14' 32.80" N and longitude 114 degrees 36' 45.93" E. The excavation of the wrecksite was conducted for a period in excess of two months from May to August 1998 and resulted in the recovery of 13,261 artifacts of which more than 12,250 were ceramics dated to the late 15th to early 16th century (1485 to 1524). The ceramics included material from China, Thailand, Burma and Vietnam.

A total of 4,524 Chinese porcelains, predominantly blue and white, but including 182 monochrome white items and 3 monochrome blue items, were recovered. Also found were 1,060 Chinese stoneware jars and 926 Chinese celadons of which 884 were saucers. Thai ceramics consisted of 1,200 stoneware jars from the Singburi kilns and a variety of celadon jarlets from Sisatchanalai, as well as a very limited number of kendi: one celadon kendi in *hamsa* form and two brown glazed elephant shaped kendi. A number of the large Thai storage jars were found to variously contain Burmese bowls, Sisatchanalai jarlets, or Chinese blue and white jarlets. There were 1,859 celadon bowls recovered of which 965, with pale grey-green glaze and identified as Thai, are most certainly of Burmese origin. Celadon plates totaling 1,150 items formed a major part of the cargo and are of uncertain provenance, with possible origin including Burma, Thailand, and China. Also found were 13 Vietnamese blue and white ceramics and 7 Vietnamese stoneware jars. Additionally, also included in the cargo were 2 Yuan ceramics - a gourd shaped ewer and a small blue and white jar).

The recovered ceramics have been retained by the Brunei government, with a representative sampling remaining on permanent display in the Brunei Museum in Bandar Seri Begawan.

There are no Brunei Junk shipwreck ceramics included in the Collection.

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AFRICA SHIPWRECKS

Fort San Sebastian Wreck (Espadarte, Mozambique) – located near the southeastern tip of Africa just off the coast of Mozambique at a distance of 500 meters north of Fort San Sebastian at latitude 15 degrees 01' 41" S and longitude 40 degrees 44' 63" E and at a depth of 15 meters. Discovered on 30 May 2001, but subject to some salvaging and looting earlier. The official excavation of the wrecksite was conducted from November 2001 to April 2002 by the professional archeological excavators Arqueonautas Worldwide (AWW) - Arqueologia Subaquática, S.A. under the Excavation

Director - Mensun Bound. Recovered artifacts included approximately 1,500 pieces of porcelain dated to the year 1554 of the Jiaping period (1522 – 1566) of the Ming Dynasty. Virtually all of the porcelains had underglaze blue commendation marks or reign marks on the base in either seal mark form or cursive script (a total of 14 distinct base marks). Also recovered were four intact Martaban jars, three of which have now been positively identified as Singburi ware, and one of which may be of Burmese origin (see reference below under *Southeast Asian Ceramics Museum Newsletter*). Recovered as well was a total of 12.4 kilograms of gold artifacts in the form of small ingots and fragments. There is neither specific mention nor any photographic evidence of any Kraak ware or Swatow ware being found on the Espadarte shipwreck.

Some of the porcelains salvaged from the wreck were inscribed with reign marks, for instance “*ming jiaping nian zao*” (made in the Jiaping period, 1522 to 1566, of the great Ming dynasty). However, the piece that dated the wreck with precision was an attractively decorated dish with a white hare at the centre, and the exterior with a bird perched on the branch of a fruiting peach tree. Its rare cyclical date mark on the underside read *gui chou nian zao*, or “made in the *gui chou* year,” which is equivalent to 1553. Almost seven years after the discovery of the wreck, the archival research carried out by Arqueonautas finally succeeded. In March of 2007, two documents were delivered to the office of Arqueonautas in Estoril, Portugal identifying the name of this Portuguese ship and the date of the shipwreck. One document from 1554 read as follows:

Espadarte ser perdido em Moçambique vindo por capitão dele D. Álvaro da Silveira e o piloto Diogo Afonso se perdeu na Ponta de Nossa Senhora do Baluarte (...) entramos entre as 10 e as 11 horas dentro do canal e o menos fundo que nele se achou foram 5 braças e achamos o Espadarte como acima digo alagado com o maestro quebrado o qual quebraram com tormenta que trazia vindo do Cabo para Moçambique [vinha da Índia para onde tinha ido em 1554]

(Translation - The *nao* Espadarte, which went to India in 1554, while on return to Portugal broke its mast at the Cape [of Good Hope] and was forced to go back to Mozambique, where it was stranded at the point of Nossa Senhora do Baluarte at a depth of 5 fathoms [9 meters].)

The Government of Mozambique retained all of the unique Espadarte porcelains, as well as all those of special archeological or historical importance, and a representative selection of the best of all others. An auction sale was conducted by Christie's, Amsterdam, *The Fort San Sebastian Wreck*, on 19 May 2004 consisting of 31 lots of porcelain (totaling 126 items) and 14 lots of gold, and realizing a total of Euros 117,289 (US\$139,574) including the 23.2 percent buyer's premium. The 126 porcelains realized a total of Euros 72,948 (US\$86,808) including the 23.2 percent buyer's premium. This represents an average price of \$690 per item. Some of the Fort San Sebastian wreck ceramics were also reportedly sold earlier in South Africa.

Espadarte shipwreck ceramics (3) included in the collection are as follows:

M-389 - blue and white cup with birds perched on branches, floral spray in center; underglaze blue seal mark, D: 6.6 cm. (\$250)

M-390 - monochrome white glazed cups (2 - pair), underglaze blue seal mark, D: 7.9 cm, and 7.8 cm. (\$200)

Total - \$450

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Southeast Asian Ceramics Museum Newsletter, Volume V Number 3, May - June 2008, "Espadarte (1558) jar, Wide flat handles a puzzle," page 3.



São Francisco wreck (Astrolabe wreck, San Francisco wreck) - sank in approximately 1650 on the west coast of Santiago Island off of the Cape Verde Islands, west of Africa. The wreck is a 17th century trading vessel of Spanish or Portuguese origin (possibly a Spanish ship with a Portuguese captain). Wrecksite was discovered in the mid 1990's and excavations conducted from that time until the late 1990's by the professional archeological excavators Arqueonautas Worldwide (AWW) - Arqueologia Subaquática, S.A. The most important recovery from the wrecksite was a mariner's astrolabe dated 1645 and marked with the manufacturer's name: "NICOLA [O] RUFFO". Other important finds included a pair of bronze guns of composite manufacture. Such guns are considered extremely rare. The exterior of both guns is made of copper covered with lead sheeting. The internal structure was found to consist of lead sheeting, iron bands and lead washers over an inner lining of copper. Many other interesting artifacts were also recovered. This included storage

jars, Spanish earthenware olive jar fragments, pewter plates, brass bowls, and a complete set of sounding leads along with a large number of Mexican and Potosí 8 *Reale* coins. The olive jar fragments included a number of olive jar necks ranging in color from beige to brown to russet and typically about 4 inches in diameter, with a 2 inch aperture, and 2 inches in height. Spanish olive jars were typically found in profusion on the old Spanish galleons where there were used as storage containers. Shards from the olive jars litter nearly every Spanish wrecksite, and the relatively scarce necks are particularly coveted because of their inherent display qualities.

The astrolabe is a very ancient astronomical computer for solving problems relating to time and the position of the sun and stars in the sky. Several types of astrolabes have been made. By far the most popular type is the planispheric astrolabe, on which the celestial sphere is projected onto the plane of the equator. A typical old astrolabe was made of brass and was about 6 inches (15 cm) in diameter, although much larger as well as smaller ones were made. Astrolabes are used to show how the sky looks at a specific place at a given time. This is done by drawing the sky on the face of the astrolabe and marking it so positions in the sky are easy to find. To use an astrolabe, you adjust the moveable components to a specific date and time. Once set, the entire sky, both visible and invisible, is represented on the face of the instrument. This allows a great many astronomical problems to be solved in a very visual way. Typical uses of the astrolabe include finding the time during the day or night, finding the time of a celestial event such as sunrise or sunset and as a handy reference of celestial positions. Astrolabes were also one of the basic astronomy education tools in the late Middle Ages. Old instruments were also used for astrological purposes.

There is often confusion between the astrolabe and the mariner's astrolabe. While the astrolabe could be useful for determining latitude on land, the typical astrolabe was not a navigational instrument. It was an awkward instrument for use on the heaving

deck of a ship or in wind. For purposes of navigation an instrument called the mariner's astrolabe was developed to address these issues and was widely used. The mariner's astrolabe is simply a ring marked in degrees for measuring celestial altitudes.

São Francisco wreck ceramics (9) included in the collection are as follows (O-001 to O-009):

O-001 - Spanish olive jar necks (3) earthenware with upward projecting flange at the mouth and thickened, rounded body surrounding the aperture. Neck slants in sharply to the more thinly potted body. The compact earthenware ranges in color from beige (No. 1) to brown with russet tinges (No. 2) to russet (No. 3). D: 10.0 cm. – No. 1, D: 9.9 cm. – No. 2, D: 9.7 cm. – No. 3. (\$107)

O-008 - Spanish olive jar necks (3) earthenware with upward projecting flange at the mouth and thickened, rounded body surrounding the aperture. Neck slants in sharply to the more thinly potted body. The compact earthenware ranges in color from russet (neck No. 1) to very dark brown with areas of lighter mottling (neck No. 2) to beige, blackened in areas (neck No. 3). D: 9.8 cm. – No. 1, D: 9.6 cm. – No. 2, D: 9.8 cm. – No. 3. (\$75)

O-009 - Spanish olive jar necks (3) heavily potted earthenware with thickened, rounded neck surrounding the aperture. On neck No. 1 the mouth is encircled by a ring rendered in red pigment, while necks No. 2 and no. 3 have the typical upward projecting flange at the mouth. The compact earthenware ranges in color from bright russet (neck No. 1) to beige with darker tinges (neck No. 2) to russet with darker tingeing (neck No. 3). D: 9.4 cm. – No. 1, D: 9.6 cm. – No. 2, D: 9.9 cm. – No. 3. (\$75)

Total - \$257

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Banda Shipwreck - 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.

Acquired from the previous owner in the United Kingdom who gathered them in the 1970's from rockpools at low tide at Albion beach on the west coast of the island of Mauritius in the Indian Ocean. July 2017 - \$485 (550 Shards).

Banda Shipwreck ceramics (550 shards) included in the collection are as follows (**M-510 to M-514**):

M-510 to M-513 - Kraak ware study collection shards (524) from the Banda shipwreck with forms represented consisting of dish, plate, klapmutsen, cup, and bowl. The shards include five with double circle base marks, a very unusual feature rarely encountered on Kraak wares. The elements of the décor and motifs of this large quantity of Kraak shards include a variety of Diaper Patterns (14), Auspicious Symbol motifs (37), and other motifs of floral, avian (in a variety of species, postures and sizes), animal, scenic and decorative nature including the following: peach spray, peony blossom, chrysanthemum blossom, lotus seed pod, lotus blossom, various floral or leaf sprays in variety of motifs, foliage in circular form, *lingzhi* fungus, a variety of birds, duck, possibly crane or heron, butterfly, horse, aquatic animal (perhaps a seal), flaming sunburst element, flaming spiral form, landscape scene, trefoil roundel, scrolling element, cloud forms, lattice work element, interior scene, large rocks with blue shading, water forms, indefinable form (possibly animal snout), hanging bow, beaded pendants shaded in blue and aligned in a column. Diaper décor is typically found in narrow panels surrounding the central medallion and in vertical panels on the side and cavetto. The mouthrim, M-510 (1 to 109), and side portion shards, M-513 (1 to 103), are typically decorated on the exterior with panels containing a variety of filler elements.

M-514 (Nos. 1 to 15) - Swatow ware study collection blue and white shards from a large heavily potted plate (Nos. 1 to 4) and the

remainder (Nos. 5 to 15) from smaller and medium sized vessels of uncertain form, but probably including dishes and bowls. On the shards the underglaze blue is rather subdued in tone with hints of grayish hues, and the medium textured body ranges in color from cream to russet toned. Décor of the shards includes diaper with quatrefoil forms in white on blue ground, foliage, scroll elements reserved on either a blue or white ground, aquatic scene with lotus and water weeds, ruyi head border with band of petals below, and a lotus blossom with scroll element reserved in white on a blue ground.

M-514 (Nos. 16 to 26) - Jingdezhen ware study collection shards with the main decoration consisting of a variety of floral motifs including lotus, water weeds, and foliage. Shard No. 17, which contains a crisply incised leaf spray with prominent veining on a monochrome white ground, is of particular interest. Also, shard No. 22, adorned with foliage and a rock, is distinctive with a base mark consisting of Chinese character(s) in a double circle. Additionally, shard No. 25 is also noteworthy with its prominently molded features accented in underglaze blue.

More detailed information on the Banda shipwreck shards is included in the **Ceramics Catalogue Descriptions** for M-510 to M-514 (Complete report is in the **Research Papers Prepared Section - Banda Shipwreck Report on Shards Acquired**).

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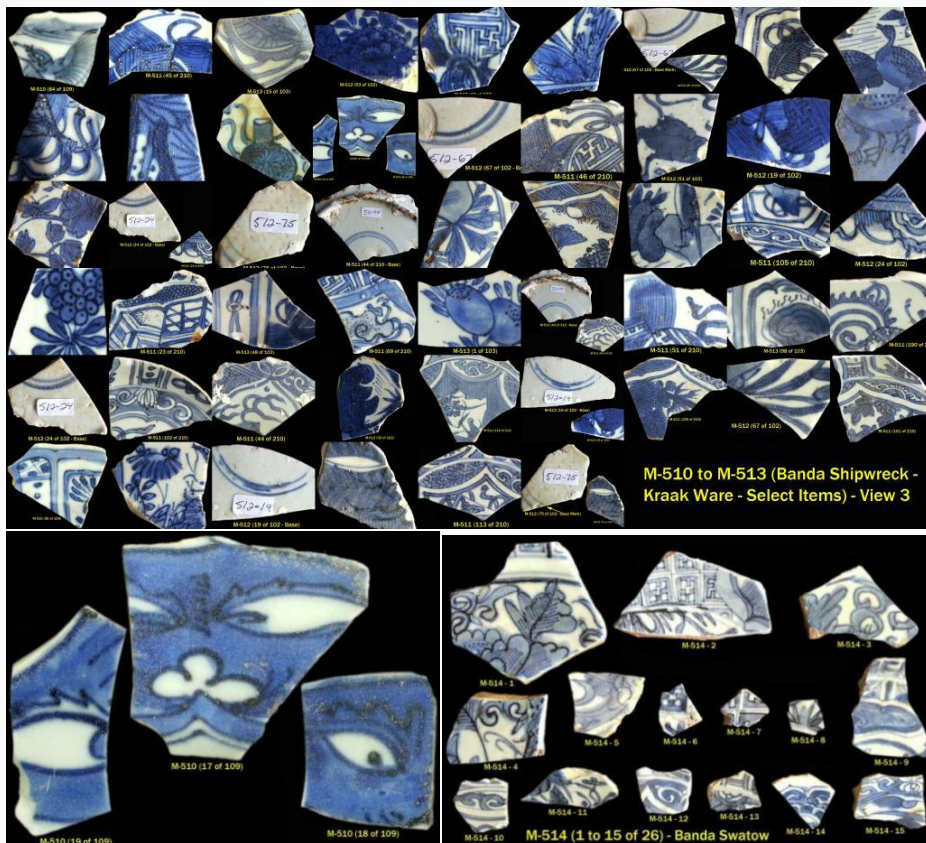
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Klapmutsen with *taotie* are represented in the Collection by the following: M-507 (No. 8 of 14) from the Banten excavations in West Java, M-510 (Nos. 17 to 19 of 109) from the Banda shipwreck, and M-515 from an old Japanese collection.



Sao Joaco Wreck and Sao Bento Wreck

Sao Joaco Wreck – sank on the rocks in 1552 just off the east coast of South Africa in the vicinity of Port Edward, where shards from the shipwreck were found on the nearby beaches. The majority of the shards are *mingyao* type and about 20 percent were probably produced in provincial kilns. Approximately 10 percent of the shards are “finely decorated.” Most prevalent motifs are lotus and other floral decoration, dragons with foliated tails, peacocks, phoenixes and lion dogs. Some dishes and bowls were found with four and six character Xuande marks and with Zhengde reign marks, but only two shards with a Jiajing reign mark were found. There was no Kraak ware found, nor were there any Swatow ware findings. This conclusion is supported by all the photographic evidence of the shards found on both the Sao Joaco and Sao Bento.

Sao Bento Wreck - sunk on the rocks in 1554 just off the east coast of South Africa in the vicinity of the Msikaba river mouth, Eastern Cape. The wreck was partly recovered and identified as the Sao Bento by the Natal Museum. The majority of the shards are *mingyao* type and about 20 percent were probably produced in provincial kilns. Approximately 10 percent of the shards are “finely decorated.” Most prevalent motifs are lotus and other floral decoration, dragons with foliated tails, peacocks, phoenixes and lion dogs. Distinctive among the findings of the Sao Bento are blue and white shards molded with a ribbed cavetto and flat mouthrim. Various dishes and bowls were found with four and six character Xuande marks and with Zhengde reign marks, but only two shards with a Jiajing reign mark were found. There was no Kraak ware found, nor were there any Swatow ware findings. This conclusion is supported by all the photographic evidence of the shards found on both the Sao Joaco and Sao Bento.

There are no Sao Joaco and Sao Bento wreck ceramics included in the collection.

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EUROPE SHIPWRECKS

Göteborg Swedish East Indiaman - during her third voyage the Swedish East Indiaman "Göteborg" was returning home from a trip to Canton, and while coming into the Gothenburg port entrance hit with full force a rock barely concealed by the waves, the so called "*Hunnebådan*," and sank fully-laden at a depth of approximately 6 meters on 12 September 1745. The Göteborg shipwreck was located very close to the Gothenburg harbor, and most everything on board which could be salvaged at once was done so during the period immediately after the foundering. A start was made at once to recover her cargo and after two years of difficult diving work about a third of her cargo was recovered. From the cargo list of the ship they knew the Göteborg had carried 289 chests and 12 tubs of assorted cargo, along with 2,388 bundles of Chinese porcelain. The total cargo weighed approximately 100 tons, and probably included between 500,000 - 600,000 pieces of

porcelain. No description of the actual content of the chests, tubs and bundles has been found so far.

Subsequently the wreck was left untouched for more than a century. Then, during the mid 19th century several attempts were made to bring up as much as possible of the old hull, since it had by then blackened and became attractive for the making of furniture. To this end the diving companies apparently seem to have used dynamite. In 1864 Mr. James Bourn, and in 1877 a Captain Lampa attempted some diving work and succeeded in recovering some porcelains, parts of the hull, and other items, but not in any large quantities.

Subsequently a salvage expedition carried out by James Keiller and Carl Lyon during dives in the summers of 1906 to 1909 resulted in the recovery of a large part of what at that time was still available of the cargo and hull of the Götheborg. Approximately 4,300 different pieces of Chinese porcelain were recovered, among which were items of full dinner services. These recoveries included around 3,000 complete undamaged porcelains. Also recovered at this time were a large amount of porcelain shards, a number of bars of so called "Tutanego" (a sort of composite metal made up of tin and vismuth), other cargo and all of the remaining wood of the hull, along with the entire aft part of the wooden keel, and parts of the anchorage. The porcelains included underglaze blue decorated wares as well as pieces decorated in overglaze polychrome enamels. Damage by the salt water in most instances reduced the decoration on the enamel wares to blacken images. A large proportion of the recovered pieces appear to have been medium sized fruit dishes in blue and white. Teacups and saucers of "eggshell thinness" are mentioned in early reports from the salvage operation, but the full total of undamaged eggshell tea sets might be less than a few dozen. The recoveries were all registered and some of them were auctioned to the public by the Lyon family, while it appears James Keiller might have kept a large part of the finds for decoration. After this work during the

period of 1906 to 1909, nothing of interest or value was believed to remain underwater, and the ship was forgotten again.

Final recovery efforts - however, in the year 1985 some members of the Gothenburg branch of the Swedish Marine Archaeological Society began archival research and made an initial investigation of the seabed at the Götheborg wreck site. Underwater excavation work began in July 1986 and continued to 1992. This final and only scientific excavation of the wreck site was done under the leadership of Anders and Berit Wästfelt, and resulted in world-wide exhibitions of the excavation results, a number of books and a still ongoing project of building an actual sailing replica of the Götheborg ship. During this period only 300 further undamaged Chinese porcelains were recovered from the wrecksite. A large portion of what was recovered consists of shards of broken porcelain that weigh more than seven tons. These included underglaze blue decorated wares, which represent slightly more than half of the porcelain recovered. The second largest part of the porcelain cargo, as represented by the excavated shards, was porcelain with underglaze blue decoration combined with a monochrome brown iron based glaze on the exterior. This type of ware is usually called *Café au lait* or *Batavia* ware. Additionally, one special variation of polychrome decoration called *Chinese Imari* was found on around 10 percent of the shards from the excavation. The Chinese Imari decoration is defined as porcelain with a combination of underglaze blue cobalt and on-glaze enamels primarily of iron red and gold. Besides these three most common types of decorations, several different variations of the enamel decorations on the interior or exterior or in reserves or panels were found including *famille rose* enamels. Also recovered were small amounts of a more rare decorations such as “powder blue”, sometimes with added decoration in gilt gold, porcelain covered with mother of pearl and gold decoration, monochrome white undecorated pieces of porcelain, and soft paste porcelain decorated in underglaze blue.

Shapes - the majority of types from the recovered material were mostly cups and saucers cups for tea, coffee and hot chocolate. Plates were also recovered as well as dessert or fruit dishes and bowls of medium size. Most of these items were well suited to be packed in bundles that would fit well with the cargo list of 2,388 bundles. One of the most characteristic shapes of the cargo was lidded jars of unknown purpose. They were transported in nests of up to five, with the smaller ones stored inside the larger. The fired enamels found on the inside walls of these jars indicates that the enameled decoration was fired with the pieces stacked inside each other, giving great economy in production. The most common lidded jars are decorated in Batavia brown with leaf shaped reserves. To a lesser extent parts of tea sets or dinner dining sets with specially ordered decoration was also found. Surprisingly, no dinner set components, except two large dishes, were found among the blue and white porcelain, which included more than 100 motifs. The excavators spent more than 4 years to find enough shards to completely reconstruct some of the motifs. Porcelain with commissioned western style decoration in the cargo included two armorial services of which one was Swedish and the other Dutch, 3 sets of porcelain with monograms or initials, 1 tea set with a portrait, a punch bowl with a copy of a medal, and 1 tea set with a motif copied from Meissen porcelain showing two men sawing timber. A special group was small figurines such as small dogs, incense burner stands and water droppers, and small seated Chinese boys. The most characteristic porcelain findings from the Götheborg Cargo are the "Rooster Plates".

The 300 complete items were much too few to represent more than a small part of the cargo. Therefore, the analysis of the cargo was done primarily based on the shard finds. It could be argued that even the shards actually represent only a skewed selection of the total cargo, if we assume that the cargo was in fact salvaged immediately after the shipwreck and the shards comes mostly from what was dumped and left as already broken by then.

In 2003 the *Hunnebådan* rock in Göteborg harbor was blasted away by the harbor authorities to improve navigation and the water depth increased from about 6 meters to 14 meters by dredging the remaining areas. All that was left of the East Indiaman Göteborg and its cargo is thus either salvaged now or most probably lost forever. All finds from the excavation of 1986 to 1992 are in the possession of Swedish public museums, this includes the Anders & Berit Wästfelt Reference Collection, and will never be available for sale. A number of porcelains from the Keiller and Lyon excavation of 1906 to 1909 do still remain in the Keiller family collection. The number of authentic and properly identified complete pieces of porcelain from the only excavated Swedish East Indiaman is extremely limited.

Dated to 1745 of the Qianlong period (1736 to 1795), Göteborg ceramics (12) included in the collection are as follows:

C-054 – cover decorated in Batavia brown with *famille rose* enamel leaf shaped reserves, D: 9.5 cm. (\$125)

C-076 - Göteborg shipwreck shards (11), base and rim fragments variously decorated in a vibrant tone of underglaze blue, brown glaze and overglaze enamel; D: 6.1 cm. to 11.7 cm. (\$250)

Total - \$375

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Princess Maria (Dutch East India VOC company ship) - the Princess Maria (Prinses Maria) was one of the largest ships that the Dutch East India Company, the VOC (Verenigde Oostindische Compagnie), ever operated between Holland and the Far East. She was the Flagship of the line, 1100 tons and 160 feet long. On 4 January 1686 she left her home port of Texel in the Frisian Islands of North

Holland under charter to the Chamber of Amsterdam under VOC voyage number 1513.2. The Princess Maria was carrying 400 soldiers, sailors and merchants and a rich cargo estimated to be several hundred thousand guilders, much of which was silver pieces of eight. After a hard journey down the channel she left Plymouth towards the end of January, where she had sheltered from the bad weather.

The Princess Maria then ran into a violent storm in late January 1686, and was swept onto Silver Corn off the Isles of Scilly about 45 kilometers off the southwestern tip of the Cornish peninsula of Great Britain, battered to pieces and destroyed. Immediately after the wreck the Islanders, and eventually James II, swarmed aboard what remained of the vessel to plunder its valuable cargo. There is some evidence to suggest that survivors were killed in order to prevent the legal ownership of the wreck remaining with the Dutch East India Company. The Dutch promptly applied to the High Court of the Admiralty for an injunction to stop the looting. From then on communications between James II, Lord Middleton, the Secretary of State and Samuel Pepys failed to produce any result. It is known that James II sent his royal yacht Isabella secretly to the Islands to collect 15 bags containing 13,376 pieces of eight which the King later shared with Godolphin, the Lord Proprietor of the Islands. It was only in October 1686, after most of the treasure had already been removed, that James II instructed Pepys to issue an order calling all his Admirals, captains and servants to assist the Dutch in recovering their wealth. By this time the ship had been dashed to pieces and was on the seabed.

The wreck was found in 1971 under deep sand in shallow water. When the sand was excavated large pools of mercury were found on the rock base 15 feet down under sand. Also discovered were two intact Bellarmine bottle necks. Bellarmine bottles were used to transport mercury for refining gold. The Isles of Scilly, with 530

registered wrecks around the archipelago, probably have more shipwrecks per square mile than any other place on earth.

Bellarmino Bottles

Bellarmino bottles are salt-glazed stoneware bottles produced in the 16th and 17th centuries primarily in Germany and also in Belgium and Holland. Salt glazed stoneware is produced by adding common salt, sodium chloride, into the chamber of a hot kiln. Sodium acts as a flux and reacts with the silica in the clay body. A typical salt glaze piece has a glassine finish, usually with a glossy and slightly orange-peel texture, enhancing the natural color of the body beneath it. Salt fumes have a dramatic effect on clay under heat. When kiln temperatures reach the melting point of common salt, approximately 900 °C (1660 degrees °F), granulated or rock salt can be introduced into a kiln through peepholes or other openings. This results in a surface blush of color formed on the ware body. At higher temperatures, over 1280 °C (2350 °F), the traditional temperature of high fired salt ware, salt becomes an active vapor throughout the kiln interior. A dilute form of hydrochloric acid is given off as a vaporous by-product.

Bellarmino bottles are named after Cardinal Robert Bellarmine (Roberto Bellarmino, 1542-1621) who was an Italian Jesuit and a Cardinal of the Roman Catholic Church. He was a bitter opponent of the Dutch Reformed Church and published much anti-Protestant literature. The Bellarmino bottles had a glaze of blue, grey or golden brown on the outside and a stamped impression of a bearded man on them, which represented Cardinal Robert Bellarmine. Bellarmino bottles and jugs were also known as Bartmann's (meaning bearded man), Greybeard's and sometimes Witch bottles.

In the 16th and 17th centuries bottles similar to and including Bellarmines were known as Witch bottles and were used in the practice of concealing potions against evil spirits. The Witch bottle was used to trap evil and protect against evil spirits and magical

spells. It would be prepared by a Witch for anyone who feared they were subject of spells or other magical attacks. Urine, hair and nail clippings of the person threatened together with thorns, sharp pieces of glass, wood or bone were sealed in the bottle and buried in the farthest corner of the property, beneath the fire place hearth or plastered into the walls. It is thought that the buried or hidden bottles captured the evil that threatened and impaled it on the sharp objects, finally drowning it in the urine. It was only effective as long as the bottle remained hidden. Witch-bottles are usually found concealed beneath the hearth or threshold but sometimes beneath the floor and in walls.

Of around 200 English witch-bottles on record, 130 are 'Bellarmine. The contents of these bottles are fascinating and appear to constitute a kind of spell. Of the contents which are identifiable, by far the most common was iron pins or nails (95%). The second most common was human hair (25%). Another ingredient which is very difficult to test for if the bottle has leaked at any point is urine. Roughly 25% of those with contents have been tested for the presence of urine and all proved positive. So, we have iron, urine and hair as the most common ingredients. Other ingredients such as small bones, thorns, pieces of wood and, in a few cases, pieces of fabric cut into the shape of a heart are sometimes found.

Princess Maria wreck ceramics (2) included in the collection are the following:

0-004 - large Bellarmine bottle neck with mottled brown glaze, thickened mouthrim, vertical loop handle, L: 13.9 cm. (\$43)

0-006 - diminutive sized clay pipe is unglazed with the body material compact textured and cream colored; upper portion of the bowl of the pipe is partially surrounded by a molded band of vertical hash marks, the lower portion is plain, L: 5.4 cm. (\$42)

Total - \$85

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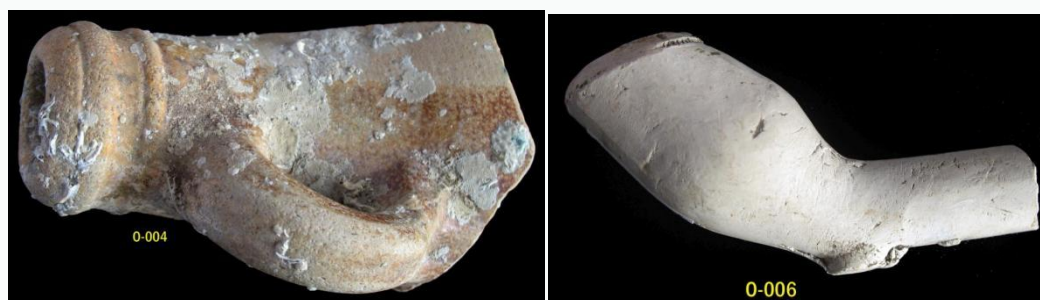
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Association shipwreck - the Association, flagship of Great Britain's Mediterranean Fleet, sank on the Isles of Scilly on October 22, 1707 smashed to pieces by the fierce seas that pound the exposed Gilstone Ledges where the ship remains now lay. In 1707, Great

Britain was engaged in the War of the Spanish Succession and Sir Cloudesley Shovell, Rear Admiral of Great Britain, was the Admiral and Commander-in-Chief of the Mediterranean Fleet. The Fleet had left Gibraltar on October 10, 1707 and headed out into the Atlantic and set course for the English Channel. Almost immediately the weather worsened and by 21 October the storms had pushed the ships well off course. By then the Fleet should have been somewhere off the entrance to the English Channel, but in fact was approaching the Isles of Scilly. At eight o'clock in the evening of 22 October 1707 the ninety-six gun Association smashed into the Outer Gilstone Ledges at the south western edge of the Isles of Scilly. The entire crew perished as the ship disappeared. The seventy-gun Eagle ran into the Tearing Ledge close to the Bishop's Rock and sank in 130 feet of water. The fifty-gun Romney (Rumney) disappeared without trace on the Rosevere Ledges, and the Firebrand sank between Annet and St. Agnes Islands at coordinates 49° 53' 20" N and 06° 20' 35" W at a depth of 8 to 25 meters. The Firebrand was a fireship, which was a ship filled with combustibles, and to be deliberately set on fire and steered (or, where possible, allowed to drift) into an enemy fleet, in order to destroy ships, or to create panic and make the enemy break formation. All in all, four warships, over two thousand men and a famous Rear Admiral, Sir Cloudesley Shovell, were lost on the treacherous rocks of the Isles of Scilly.

The wrecksite was located in 1967 by British Navy divers, the beginning of a frenzy of activity on the site for years to come. Cannons along with a few coins and artifacts were salvaged in the 1960s, but it was not till 1973 that a significant amount of coins were found (8,000 in that year alone). These coins, mostly British silver and gold but also many Spanish and Spanish-American silver cobs, were sold at auction beginning in 1969 and into the early 1970s. The cobs presented an eclectic mix, mostly 8 reales from the 1650s forward (even a "Royal" presentation issue from 1676), but from nearly all mints (especially Lima and Potosí), some even left in as-found conglomerate form combined with British coins. It is

interesting to note that parts of this wreck, like others in the area, were flattened hard to the muddy sea floor by huge boulders that still roll around with the currents, making any salvage efforts dangerous and difficult.

Association shipwreck ceramics (1) included in the collection are the following:

O-005 - small clay pipe is unglazed with the body material compact textured and cream colored with some blackish tingeing; upper portion of bowl of pipe is surrounded by a very lightly molded narrow band of vertical hash marks, lower portion is plain, L: 7.8 cm. (**\$33**)

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HMS Colossus - a 74 gun ship of the line, was launched on 4 April 1787 and was considered among the best and fastest warships in the British Navy. At the end of September In 1798, after earlier fighting in the battle of Cape St. Vincent, the Colossus rejoined the fleet at Naples. There the Colossus took on a collection of precious and extremely valuable Etruscan, Greek, and Roman antiquities for transport to England. The antiquities had been collected by Sir William Hamilton, the British ambassador to Italy and one of England's first archaeologists. Each individual vase in the collection was wrapped in putty and carefully packed into large wooden crates. Eight of these crates, containing a total of approximately 1,200 vases, were loaded aboard the Colossus for transportation to England; the other half of the collection travelled in a convoy in a smaller transport vessel.

Departing Naples, the Colossus began the voyage home, and after a stop in Algiers continued on to Lisbon, where she loaded further cargo and joined a larger convoy. Fighting against heavy easterly winds, the Colossus eventually reached the Isles of Scilly at the beginning of December 1798 and anchored in St Mary's Sound to await a change in wind direction. On 10 December gale force winds broke the main anchor cable and the decision was made to evacuate ship, which was soon wrecked on the Southard Wells reef off the foot of Samson Island. Salvage, both legal and illicit, continued for more than a year as the sea slowly destroyed the hull.

For almost two centuries the Colossus was left to the sea until 1974 when salvors located the bow section of the ship, along with 30,000 pottery fragments from Hamilton's collection of antiquities. The

fragments were successfully salvaged and painstakingly re-assembled for display at the British Museum by a small team of experts. Thousands of fragments still remain in storage at the museum, too small and unidentifiable to fit together. Salvaging of the wrecksite by local divers continued in the 1980's and 1990's with recoveries including fragments of English ceramics and Chinese blue and white porcelain. In 2001 five 32 pound cannons were found standing vertically, breech upwards from the seabed and poking through the intact remains of the gun ports. They were found about 350 meters to the east of the original site, and the sandy seabed there was littered with the ship's timbers. Also found was an extremely rare wooden relief sculpture of a mythological human figure 13 feet high and covered in fish-scale armor, which was part of the stern decoration of the Colossus. Although archeological work at the wrecksite is ongoing, the wreck is now a protected site and no more excavations are allowed.

HMS Colossus shipwreck ceramics (6) included in the collection are the following:

C-181 - blue and white floral motif shard decorated in a deep tone of lustrous underglaze blue with floral spray portions, L: 2.7 cm. (\$3)

O-030 - English ceramic shards (5) - three fragments with polychrome décor and two fragments with underglaze blue decoration. The polychrome fragments, variously with green and stippled mauve accents; the underglaze blue fragments have floral décor, L: 6.4 cm. to 2.8 cm. (\$15)

Total - \$18

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CHINA SHIPWRECKS

Bai Jiao Shipwreck (Bai Jiao No. 1, Baijiao I, Lianjiang) - located in coastal waters near the village of Dinghai, off the coast of Lianjiang county in Fujian Province, China. Reportedly discovered in the late 1980's by local fisherman, who recovered a large number of temmoku type tea bowls from the wrecksite. The wrecksite was excavated extensively starting in 1990 through September 1995 by the Western Australian Maritime Museum together with the National Museum of Chinese History in Beijing. The excavation yielded mainly black glazed temmoku-type tea bowls, followed by qingbai glazed vessels as well as white porcelains and green-glazed wares. These Chinese ceramics are dated to the 12th to 13th century of the Southern Song period (1127 to 1279). Hundreds of black-glazed wares were recovered among the more than 2,000 items salvaged in total. There has not been any other shipwreck with such a large quantity of temmoku type bowls included in the cargo.

Recently published reports enable positive identification of the black glazed temmoku-type tea bowls as products of the Dong Zhang kiln in Fuqing county of Fujian province. Temmoku tea bowls were first produced exclusively for tea drinking during the Song Dynasty. The most famous temmoku bowls were those produced in the Jian kiln in Fujian Province. Due to the large demand for temmoku bowls, they were also produced in large quantities in other kilns in Fujian as well.

The most obvious difference between Jian temmoku ware and those from the Dong Zhang kiln is the color of the biscuit. The biscuit of the Jian bowls is dark purplish in contrast to the varying tones of gray on the Dong Zhang kiln bowls. Additionally, the black glaze of Jian bowls is thicker and tends to congeal on cooling into a thick welt. This is in contrast to the glaze on most bowls from the Dong Zhang kiln, which does not terminate in a thick welt. In fact, usually there appears to be a second thinner layer of glaze on the Dong Zhang kiln bowls. Additionally, the brown streaks on Dong Zhang bowls are not as well defined and clear compared to those from the Jian Kiln.

Bai Jiao No.1 shipwreck ceramics (4) included in the collection are as follows:

S-054 - black glazed temmoku type bowls (2 - pair), D: 10.2 and 10 cm. (\$111)

S-056 - black glazed temmoku type bowls (2 - pair), D: 10.3 and 9.9 cm. (\$60)

Total - \$171

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Xisha Islands in the South China Sea Underwater Archaeology Project - the report documents the salvage operation and findings of the Xisha Islands Underwater Archaeology Project. The Beijiao Reef, Huanguang Reef, and Yinyu Reef of the Xisha Islands in the South China Sea, approximately 280 kilometers SE of Hainan Island, were the sites of the investigation and excavation work conducted from December 18, 1998 to January 25, 1999. Thirteen sites dating from the Five Dynasties Period (907 to 960) to the Qing Dynasty along with a modern site were found. The sites comprised both ancient shipwrecks (three sites) and sites without a shipwreck, but with broken pieces of porcelain scattered over the seabed. Approximately 1500 items were recovered, most of which were porcelain: Song and Yuan Dynasty celadon and Ching Pai ware, Ming Dynasty blue and white ware, and Qing Dynasty blue and white ware. The findings associated with two of the three individual wreck sites are not contemporaneous in date, this is especially true of the ceramics illustrated from the Beijiao 1 Shipwreck and to a lesser extent the Beijiao 3 Shipwreck.

The ceramic findings illustrated in the report include the following: Five Dynasties Period and Song greenware bowls with incised designs; Song and Yuan Dynasty Ching Pai dishes, bowls, cover boxes, ewers, and jarlets with incised, molded and applied decoration; Yuan monochrome brown ewers and jarlets in flattened globular form; celadon dishes, plates and bowls with molded and incised decoration ranging from the Song to the Ming Dynasties; and Blue and white

bowls, plates, dishes and spoons with a variety of decorative motifs datable to the 16th century and later. Well rendered drawings of the floral motif decorations on the covers of Song and Yuan Dynasty Ching Pai boxes appear on page 112 of the report. Also included in the report are photographs of an interesting series of stamped marks from the central medallion of 18/19th century plates, commonly referred to as Singapore ware or kitchen Ching (page 145 of the report) and 16th century blue and white ware (page 162 of the report).

There are no Xisha Islands shipwreck ceramics included in the collection.

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Nanhai 2 shipwreck (South China Sea II, Nan Hai No. II) - 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 ware. 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. 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.

There are no Nanhai 2 shipwreck ceramics included in the collection.

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Nanhai 1 shipwreck (South China Sea 1, Nan Hai No. 1)

(Not yet complete)

There are no Nanhai 1 shipwreck ceramics included in the collection.

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THE AMERICAS SHIPWRECKS

San Martín (Almiranta de Honduras, Green Cabin wreck) - 1618

Santa Margarita (1622 Spanish Treasure Fleet)

Nuestra Señora de Atocha (1622 Spanish Treasure Fleet)

Nuestra Señora de la Pura y Limpia Concepción - 1641
Monte Cristi shipwreck (Pipe Wreck), Dominican Republic - 1652
1715 Spanish Treasure Fleet
Nuestra Señora de la Regla (1715 Spanish Treasure Fleet)
Nuestra Señora de Las Nieves (1715 Spanish Treasure Fleet)
Santo Cristo de San Roman (1715 Spanish Treasure Fleet)
Capitana El Rubí Segundo (Flagship of 1733 Spanish Treasure Fleet)
San José y Las Animas (1733 Spanish Treasure Fleet)
Unidentified Florida Keys wreck - 1700's

San Martín (Almiranta de Honduras, Green Cabin wreck) - sank in 1618 in a storm off the east coast of Florida near present day Wabasso beach in front of Sea Grapes Park, south of Sebastian Inlet. The wrecksite is known locally as the "Green Cabin" wreck. The San Martín was the Vice-Flagship or Almiranta (the Admiral's ship - effectively the rear guard of any Spanish convoy) of the 1618 Honduran Fleet. The ship, a vessel of 300 tons, was on its way to Spain from Havana when it sank after being driven onto a sand bar by a hurricane. There were only 53 survivors. The San Martín had left the port of Trujillo (in present day Honduras) with a cargo of indigo, cochineal (dried insects used to produce red dye), hides, and a small amount of gold and silver. As the 1618 Honduran Fleet was nowhere near the size of the fleets from Mexico and South America, the San Martín was not carrying a large amount of gold, silver, coins or other treasure. After a brief stop in Havana, she joined the Tierra Firme Fleet for the voyage to Spain in early September 1618.

The Spanish did not salvage the wreck of the San Martín, but a bronze cannon later found at the wrecksite provided the conclusive means of identification as the San Martín. In the 1960's two large bronze cannon eleven feet in length and two smaller cannon eight feet in length, all of which were engraved, were recovered. Over the years since the 1960's, modern salvage efforts on the site, as well as finds on the beach opposite the wreck, have yielded a few Mexican and Potosi cobs and some interesting artifacts. The most valuable

artifact was recovered in 1993 by a diver, Mike Mayer, working for Mel Fisher's son, Kane Fisher. That artifact is a very valuable mariner's astrolabe bearing the date 1593.

San Martín shipwreck ceramics (3) included in the collection are the following:

0-007 - Spanish olive jar shards (3), earthenware fragments from the sides of a medium sized storage jar; the rather coarse textured body is russet colored on shard No. 1 and beige with slight russet tinges on shards No. 2 and No. 3. Each shard contains marine encrustations, especially prominent on shard No. 1; the shards were inscribed with artefact registration data in black ink by the excavators, L: 10.6 cm. - No. 1; 9.5 cm. - No. 2; 10.1 cm. - No. 3 (\$9)

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Santa Margarita (1622 Spanish Treasure Fleet) - on September 4, 1622 the Tierra Firme Flota of twenty-eight ships left Havana bound for Spain. With it was carried the wealth of the Spanish empire: silver from Peru and Mexico, gold and emeralds from Colombia, pearls from Venezuela. Each ship carried its own crew, soldiers, passengers, and all the necessary materials and provisions for a successful voyage. The following day the fleet was overtaken by a hurricane as it entered the Florida straits. By the morning of September 6th, eight of these vessels lay broken on the ocean floor, scattered from the Marquesas Keys to the Dry Tortugas. The Santa Margarita, along with her sister ship the Nuestra Señora de Atocha and four other ships in the fleet, sank off the Marquesas Keys, approximately 35 miles west of Key West, Florida in about 30 feet of water. A total of 142 passengers and crew from the Santa Margarita perished.

The Santa Margarita was a Spanish galleon of 600 tons, armed with twenty-five cannon, on a mission for the Spanish crown; she was voyaging to Spain with an enormous cargo of plundered New World treasures. The sister ship of the Santa Margarita, the heavily armed Nuestra Señora de Atocha sailed as Almiranta (the flagship of the

admiral), or rear guard of the Flota, following the other ships to prevent an attack from behind the fleet. In registered wealth, the Santa Margarita carried 166,574 silver pieces of eight treasure coins, more than 550 ingots of silver weighing some 10,000 pounds, and over 9,000 ounces of gold in the form of bars, discs and bits. Additionally, there was contraband – a fortune in *sin registrada* (unregistered) treasure having been smuggled on board to avoid paying a 20% tax to the Spanish king. The Santa Margarita also carried other riches in the form of copper, silverware, indigo, and personal possessions of officers, passengers, and crew, including medical tools, navigational instruments, gold coins, and precious jewelry of staggering opulence.

The first attempt to find and salvage the Santa Margarita and other fleet casualties was undertaken almost immediately by the Spanish mariner Captain Gaspar de Vargas, who, knowing of their skill, sent for pearl divers from the Island of Margarita off of Venezuela to aid in the search. Later in 1624, Francisco Melian of Havana obtained a royal salvage contract for the galleons of the fleet. This prompt recovery of the shipwreck cargo by the Spaniards under Melian continued, with some success, for several years. Though the efforts to salvage treasure from the galleon Santa Margarita were frequently interrupted by weather and Dutch sea forces. Eventually, however, search and recovery became unfeasible and ended, and a vast fortune was left buried in the deep shifting sands of the Florida Straits. In time, the Santa Margarita was forgotten, but not forever. Records of Melian's salvage efforts survived in fragile papers in Spain's archives.

In 1969 Mel Fisher and his Treasure Salvors crew began a relentless sixteen year quest for the shipwreck treasure of the 1622 Spanish Fleet, particularly the Atocha. By 1980, they had found a significant portion of the remains of the Santa Margarita and a fortune in gold bars, jewelry and silver coins. On May 12, 1980, Fisher's son Kane discovered a complete section of the Margarita's wooden hull

weighted down by ballast stones, iron cannon balls and artifacts of 17th century Spain. Their tireless efforts to find the main wreck site of the Atocha were finally rewarded on July 20, 1985, when the main pile of silver bars with shipper's marks matching the Atocha's cargo manifest was found. The wreck's "mother lode" had been found and the excavation of what was widely referred to as the "shipwreck of the century" began.

The Santa Margarita had broken apart and was scattered in a series of storms. Over time the wood disintegrated and the ship's remains and cargo became buried in deep sand and mud, presenting problems to locate. The more recent emergence in 2005 of the search and salvage company Blue Water Ventures, founded by entrepreneur W. Keith Webb along with a business associate, John Arnone, has seen impressive results in wrecksite finds. Working with Motivation, Inc., the company now run by Mel Fisher's descendants, who hold the federal permit to search the area, a joint-venture partnership has been successfully established. Along with Webb's own team, vessels, and technology, a world-class team of professionals, including a marine archaeologist and an historian has been recruited. This combination of knowledge and skills, along with resources and technology as well as with some luck has resulted in impressive discoveries. The value of the treasure recovered from the Santa Margarita by the Blue Water Ventures Key West team has exceeded \$13 million to date. The search is funded by investors who share in the discoveries, receiving their portions each year following a formal legal adjudication and division procedure.

Using the latest technology and mapping and recording all finds, the team is able to identify scatter patterns which eventually serve as pointers to substantial deposits. Now, working further north than ever before, the crew of the company's primary search vessel, *Blue Water Rose*, have made impressive discoveries including elaborate gold artifacts, chains and jewelry, gold bars, rare silver coins, a solid gold combination toothpick/earwax removal spoon, a magnificent solid

gold chalice, and one of Santa Margarita's most surprising hidden treasures, a lead box containing well over 16,000 rare and valuable natural pearls, not listed on the ship's manifest. The pearls are believed to have originated from the pearl island of Margarita off of the Venezuelan coast.

The most exciting find so far, in fact, is the lead box containing 16,184 pearls. The diameter of the pearls ranges from an eighth of an inch to three-quarters of an inch. The sealed box measures just 3.5 inches by 5.5 inches and was discovered buried under the sand at the bottom of 18 feet of water. Historically, pearls are known to have come from Indian pearl divers off the Isle of Margarita off the Venezuelan coast. The Gemological Institute of America analyzed the pearls and believes they are the most unique collection anywhere in the world. Much more study needs to be done before their value can be determined. According to an archaeologist working on the project this is an extremely rare find as pearls that end up in the ocean outside of their oyster deteriorate quickly. However, in this instance, silt had sifted into the lead box from the wrecksite of the Margarita, which preserved the pearls in a fairly pristine state. Besides the impressive box of pearls other valuable treasures were recovered from the ocean floor. Divers found eight gold chains, with two of these chains being an impressive four-feet long. Other gold objects included a gold bar, interesting and intricate special pieces and eleven other gold objects. Of lesser monetary value but of great historic value were hundreds of other artifacts from the ship

This new company, under Blue Water Ventures and Motivation, Inc., has been using the latest technology combined with a very experienced dive crew to find the lost "mother lode" that has eluded divers ever since the Margarita was first discovered by Mel Fisher in 1980. Now the salvage company is in third year of making an all out high-tech effort to locate the main treasure on the Margarita site, which has gone undetected since the wreck was first discovered over 27 years ago. It is likely that the main part of the shipwreck is

stabilized somewhere beneath a sand dune in about 25 feet to 30 feet of water in an unexplored area not far from the impact zone where the galleon first grounded. How much treasure is left? – is always a question everyone is interested in whenever a Spanish galleon is first located. It is anticipated that there are still major artifact discoveries to be made on the Santa Margarita site, including over 80,000 eight and four reales (pieces of eight), 169 silver ingots weighing about 70 pounds each, 22 copper ingots, at least four extremely rare bronze guns and an unrecorded amount of gold bullion in many forms, along with hundreds of unique personal gold and silver artifacts.

The 34 gold bars, bits and discs manifested on the Santa Margarita has already been far exceeded with more than 75 gold pieces weighing over 140 pounds recovered since 1980. The intriguing question is how much contraband gold was on the Santa Margarita when she went down. For example, no gold chains appear on Santa Margarita's manifest, although over 50 gold chains have been recovered. Some of these chains measured over 8 feet in length and weighed more than 7 pounds. It is very likely that many of the Santa Margarita's gold chains originated from China and the Far East having reached the west coast of the Americas - through the Pacific trade route of the Manila galleon to Acapulco, having then been transported on mules overland from Acapulco to Vera Cruz where they were loaded on to New Spain ships sailing to Havana, where they were finally loaded on the Santa Margarita bound for Spain. Gold coins have also been found in large quantities on the Santa Margarita site without being listed on the manifest. Sixty gold coins have been recovered from the site. All these gold coins were minted in Spain, as gold coins were not yet minted in the New World in 1622.

Several long gold chains and bars of gold, rare silver coins and a fortune in natural pearls were formally divided between the joint venture partners Motivation, Inc., and Blue Water Ventures Key West.

These findings, which total more than \$12 million in value, are the rewards of the 2007 Santa Margarita shipwreck search and recovery season, the most successful recovery season on the site of the Nuestra Señora de Atocha's sister ship in more than two decades. It is known from archival records that over 800 ounces of registered gold, 169 silver bars weighing between 80 and 100 pounds each, and approximately 80,000 silver coins from the Santa Margarita still await discovery – and that is just the registered treasure of the Santa Margarita. The search for the Santa Margarita's treasure has been going on for over 20 years since Mel Fisher's Treasure Salvors made the first find of treasure from this historic ship in 1980. And that search still continues. Over the years since the discovery of the wrecksite five porcelain shards have been recovered, all Kraak ware (2 dish fragments and 3 cup or bowl fragments). The panel décor of the shards includes deer, floral sprays and scrolls. This extremely limited quantity recovered indicates the porcelain was not actually part of the cargo but rather the personal possessions of those onboard.

Santa Margarita wreck ceramics (5) included in the collection are the following:

O-003 - plate shards (4) stoutly potted earthenware with a detailed floral/geometric motif on the obverse rendered in black pigment; outward slanting rim of plate remaining intact on shards No. 1, No. 3 and No. 4; L: 13.8 cm. – No. 1; 11.6 cm. – No. 2; 4.8 cm. – No. 3; 5.4 cm. – No. 4. (\$65)

O-010 - shard from an earthenware vessel, probably a bowl, with prominent wreathing marks on the obverse and a portion of the everted mouthrim intact, L: 14.4 cm. (\$17)

Total - \$82

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Nuestra Señora de Atocha (1622 Spanish Treasure Fleet) - is the most famous and one of the most valuable treasure wrecks ever found. The Atocha was the Almiranta (the flagship of the admiral) or rear guard of the Flota of the 1622 Spanish Treasure Fleet. The Treasure Fleet was returning to Spain on September 4 and encountered a hurricane resulting in the sinking early in the morning of September 6 of six of its ships. These ships included the Atocha and the Santa Margarita, which both sank off the Marquesas Keys, approximately 35 miles west of Key West, Florida in about 30 feet of water. With the Atocha's precise location originally unknown, recovery of the shipwreck cargo by the Spaniards was not successful.

The actual location of the Atocha was later established at latitude N 24° 32.673 and longitude W 082° 20.806. According to her official manifest, the cargo of Nuestra Señora de Atocha included 35 tons of silver (901 ingots and 255,000 coins) along with 161 pieces

of gold—a treasure valued at more than one million pesos. On board were also large quantities of contraband *sin registrada* (unregistered) treasure. Also included in the cargo of the Atocha were 582 copper ingots, 350 chests of indigo, 525 bales of tobacco, 1200 pounds of worked silverware, dozens of chests of emeralds and other gemstones, and Chinese blue and white porcelain dated to the Wanli period (1572 to 1620) or the Tianqi period (1621 to 1627) of the late Ming Dynasty.

In 1970 Mel Fisher formed a company called Treasure Salvors to search for Nuestra Señora de Atocha, and the first artifacts were found in 1971. Over the next four years Treasure Salvors recovered approximately \$6 million worth of gold and silver bullion and coins, as well as a large number of artifacts including rapiers, muskets and small arms, storage jars, and nine of the ship's bronze cannons. But the actual ship had not been found. Over the next five years very little new material was recovered from the Atocha, although in 1980 Treasure Salvors divers located the nearby remains of the Santa Margarita. This wreck was salvaged over the following two years.

The relentless search for the Atocha continued on until July 20, 1985, when Mel Fisher and his crew finally found the actual hull of the ship along with mounds of silver ingots and chests of silver. Recovered treasure included the largest supply of silver cobs and ingots to ever reach the treasure market - more than 100,000 shield-type cobs were found in all denominations above the half real, 1,000 silver ingots (most the size of bread loaves - and weighing between 60 to 70 pounds each), and a limited number of gold coins. Additionally, and of even more significance, were the many gold ingots, jewelry items, Colombian emeralds and other artifacts recovered.

The emeralds included an extremely large 77.76 carat uncut hexagonal crystal from the Muzo mine in Colombia. Another notable recovery was a lovely coral and gold rosary formed of five decades of coral beads with five fluted gold paternosters between, hanging

pendant from a further three coral beads the gaud is in the form of a cross with baluster arms, adorned in the center with a sunburst (originally enameled), the lower arm applied with a ring and at an overall length of 26 1/2 inches (57.5 cm.). Throughout Europe, but especially in Spain where coral rosaries were very popular, coral was held to have great amuletic powers, offering protection against magic spells. The roots of this tradition can be traced back through the Middle Ages to its source in Greek mythology, which asserted that coral originated as the spurts of blood that gushed forth when Medusa's head was cut off by Perseus. As the legendary founder of Mycenae and of the Perseid dynasty there, Perseus was the first of the mythic heroes of Greek mythology whose exploits in defeating various archaic monsters provided the founding myths of the Twelve Olympians. Perseus was the Greek hero who killed the Gorgon Medusa, and claimed Andromeda, having rescued her from a sea monster sent by Poseidon in retribution for Queen Cassiopeia declaring herself more beautiful than the sea nymphs.

Nuestra Señora de Atocha ceramics (3) included in the collection are the following:

0-018 - Spanish olive jar shards (3), large variously shaped fragments from sides of a large storage jar with compact body ranging in color from light beige to light russet, prominent wreathing marks on the underside; considerable marine encrustation including coral and sea shells, L: 16.8 cm – No. 1, 15.2 cm – No. 2 and 11.3 cm. – No. 3. (\$65) _

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Nuestra Señora de la Pura y Limpia Concepción - was the Almiranta (Flagship of the admiral) of the 1641 Spanish Treasure Fleet of approximately twenty-one to thirty ships (accounts of the number of vessels in the fleet vary). The fleet departed Havana bound for Spain on September 20, 1641. Nine days later the entire fleet was struck by a hurricane in the Florida Straits and nine galleons were dashed to

pieces on the coast of Florida. The Nuestra Señora de la Concepción was greatly damaged and attempted to sail to Puerto Rico. More than one month later and lost in the ocean the ship struck an uncharted reef north of Hispaniola and the violent sea broke her hull. The Concepción grounded and wrecked on October 31, 1641 in an area now named the Silver Shoals about 90 miles north of the coast of Hispaniola, just east of another shoal, which the pilots were trying to avoid, known as the Abrojos Reef northeast of what is now called the Dominican Republic. The crew built a number of rafts and managed to sail to Hispaniola, but only 190 men of the 600 persons aboard reached land. The survivors told tales about a mountain of gold and silver fashioned from the coins rescued from the hold before the Concepción slipped beneath the water. An inquiry absolved the admiral of the ship of any responsibility for the disaster and he convinced the officials that the pilots should be blamed. Although they were arrested, the pilots escaped and were never seen again. The Spaniards searched for this richly laden ship for several years, but without any success.

Nuestra Señora de la Pura y Limpia Concepción, the Almiranta of the 1641 Spanish Treasure Fleet, carried an exceptionally large treasure cargo of approximately 100 tons in precious metals, primarily silver and a limited amount of gold. A lumber trader from Massachusetts named William Phips managed to get financial support from the King of England, James II, and in 1687 found the wreck with the help of a Spanish survivor of the shipwreck. With two vessels, the James and Mary and the Henry, and a crew of native divers, Phips managed to salvage 68,511 pounds of silver and a small quantity of gold – of which 10% reverted to the King of England. Phips paid his backers and kept a large sum as his share. Shortly thereafter Phips sailed back to salvage more treasure, but upon arrival realized that the site had been extensively salvaged by other parties and he gave up after a few days. The site of the loss of the Concepción eventually became known as the Silver Bank, but the story of its treasure was soon

forgotten. After World War II, however, the development of diving equipment brought new treasure hunters to the reef. In 1952 a man named Alexandre Korganoff searched for but failed to find the hull of the Concepción. The same fate waited the efforts of Edwin Link in 1955 and Jacques Cousteau in 1968. Another attempt was made by a treasure hunter named Burt D. Weber, Jr. backed by a group of Chicago bankers. He spent 250,000 dollars and found 13 wrecks, but not the one of the Concepción.

A further attempt was made backed by 30 investors who eventually raised 2.5 million dollars, and with the help of an historian who had found the log of the Henry, one of Phipps' ships. This attempt was successful and Nuestra Señora de la Concepción's wrecksite was rediscovered by Burt D. Weber, Jr. of Seaquest International, Inc. in 1978 nearly 300 years after the salvaging by Phipps. Burt Weber successfully found the remains of the Concepción deeply embedded in the coral reef. Weber found silver in bulk, more than 60,000 silver cobs (mostly Mexican eight and four reales), and also some Potosí eight reales and rare Colombian cobs along with a few rare early Colombian eight reales, including more from the Cartagena mint than had been found on any other shipwreck. He also recovered silver worked into several kinds of artifacts. A number of priceless artifacts were found, some of which are permanently exhibited in the national museums in Santo Domingo, Dominican Republic. Weber also found a few gold chains, indigo, an astrolabe, a sword, a silver bowl and Ming Dynasty porcelain including a teacup. Also retrieved was a chest that contained more than one thousand pieces of eight hidden under a false bottom. Webber worked the wrecksite successfully for several seasons after 1978. Appraisers, at one time, valued this treasure recovered from the Concepción at about 13 million dollars. After Weber declared the site fully salvaged, another treasure hunter, Tracy Bowden, secured a permit and continuing salvaging. Captain Tracy Bowden, under the auspices and supervision of the Government of the Dominican Republic, did further salvage work recovering silver coins and other items starting

in 1994 and for several years beyond. The wrecksite is still worked from time to time with limited success. Recoveries from the Nuestra Señora de la Pura y Limpia Concepción have also included a limited number of various Kraak wares which consisted of dishes, cups, bowls and vases that were fairly intact; a variety of Kraak shards have also been salvaged.

Nuestra Señora de la Pura y Limpia Concepción ceramics (5) included in the collection are the following:

0-014 - Spanish olive jar shards (5), coarse textured body russet colored on shards No. 1, No. 4 and No. 5; beige colored with darkened areas on shards No. 2 and No. 3; and assumes darker tones at the worn edges of all the shards. Each shard contains marine encrustations, L: 5.9 cm to 4.1 cm. (**\$30**)

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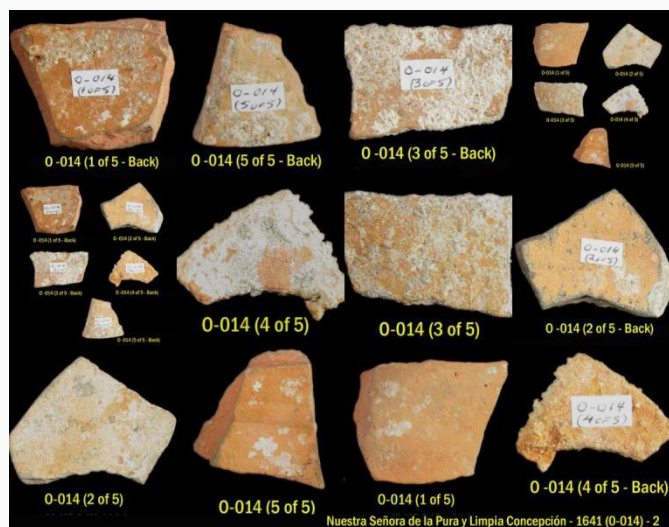
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Monte Cristi shipwreck (Pipe Wreck) - discovered in 1966 and originally surveyed in 1980, but subject to earlier looting. Archeological excavations by the Monte Cristi Shipwreck Project (MCSP) of the Pan-American Institute of Marine Archeology (PIMA) under the direction of the *Comision de Rescate Arqueologico Submarino* (Underwater Archaeology Commission) commenced in 1991 and continued through 1996. Further excavations were also conducted up to 2003 and beyond. The ship was a British built vessel with a Dutch cargo which sank in approximately 1652 to 1656 with the wrecksite located in shallow water at a depth of 5 meters, less than one kilometer offshore at the northern side of Monte Cristi Bay approximately 80 meters east of Isla Cabra in the province of Monte Cristi on the northwest coast of the Dominican Republic portion of Hispaniola.

Ceramic tobacco pipes formed the main cargo with over 25,000 bowl and stem fragments excavated from the wrecksite consisting of pipes with barrel-shaped bowls (93 percent) and pipes with bowls shaped like inverted cones (7 percent). Approximately 2,000 of the pipe fragments are stamped with a distinguishable maker's mark: the initials "EB," "WH," "D*C," "P*C," a Tudor rose, a fluer-de-lis

within a diamond outline, or a decorative star of flower. All the pipes are of Dutch manufacture dating to the mid 17th century. It is the largest quantity of ceramic tobacco smoking pipe fragments or smoking related artifacts ever recovered from a shipwreck. Refer to O-006 for a similar Dutch pipe dated to 1686 from the Princess Maria shipwreck, which sank off the Isles of Scilly off the southwestern tip of the Cornish peninsula of Great Britain. See also O-005 for another similar pipe from the Association shipwreck dated to 1707 (sank on the Outer Gilstone Ledges at the south western edge of the Isles of Scilly). The pipe bowls and stem fragments described below under O-027 are attributed by repute to the Monte Cristi shipwreck (Pipe Wreck), although formal documentation is lacking.

Also recovered were ceramics as well as trade goods including bone combs, shell and glass beads, thimbles, tacks, pins, and copper cauldrons. Most of the ceramics found were a large quantity of mottled brown salt-glazed fragments known as Rhenish stoneware from Germany. This stoneware was in the form of *Bartmann* (Bellarmine) bottles, which were a very popular export item at the time. Refer to O-004 for a Bellarmine bottle neck of salt-glazed stoneware with mottled brown glaze dated to 1686 from the Princess Maria shipwreck (Dutch East India VOC company ship), which sank off the Isles of Scilly off the southwestern tip of the Cornish peninsula of Great Britain. Also found in considerable quantity was Dutch tin-glazed earthenware, which was produced in the Netherlands in imitation of Chinese blue and white porcelain. Additionally, luxury imports were found as well including an ivory fan, Venetian glass, brass candlestick, as well as copper artifacts such as curtain rings, a chandelier column, lamp brackets and tweezers. Also recovered were 27 South American *ocho reales* (pieces of eight) silver coins including six from the Potosi mint in Peru (now a part of Bolivia) dated to 1649 -1650, and one coin from the Santa Fe de Bogota mint in Colombia (coin not introduced until 1651).

Monte Cristi (Pipe Wreck) shipwreck ceramics (14) included in the collection are the following:

0-027 – ceramic pipe bowls and stem fragments consisting of 8 bowls and 6 stem fragments, which are unglazed with the clay body material compact textured and cream colored with some russet tingeing, all with varying amounts of marine encrustation.

L (Bowls): 9.0 cm. to 4.3 cm. - No. 1 to 8.

L (Stems): 6.6 cm. to 3.8 cm. - No. 9 to 14. (**\$23**)

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1715 Spanish Treasure Fleet

Nuestra Señora de la Regla (Capitana - 1715 Spanish Treasure Fleet)

Nuestra Señora de Las Nieves (1715 Spanish Treasure Fleet)

Santo Cristo de San Roman (Almiranta - 1715 Spanish Treasure Fleet)

1715 Spanish Treasure Fleet - consisted of 11 ships and left Havana on July 27, 1715 bound for Spain. On the night of July 30 the fleet encountered an extremely powerful hurricane, driving the ships shoreward and around 4 a.m. on July 31st some of the ships sank in deep water, some broke up in shallower water, and others ran aground close to the beach. A lone vessel, the accompanying French

ship Grifón, sailed onward without incident. A total of 10 of the 11 Treasure Fleet ships were dashed upon the reefs off the Florida coast between Melbourne in the north to Fort Pierce to the south. More than 700 lives and over 14,000,000 pesos in registered treasure were lost. Since the armadas' departure from the New World had been delayed a full year, a huge quantity of contraband cargo was also aboard its ships. This *sin registrada* (contraband) cargo has been estimated to be as much as 50,000,000 pesos.

Of the 11 Treasure Fleet ships caught in the Straits of Florida only one made it safely to Europe, the other 10 vessels were lost. The eleven ships making up the fleet had assembled in Havana in the summer of 1715. The fleet was made up of the Armada de Tierra Firma (6 vessels), which served South American trade routes out of Cartagena, and of the Flota de Nueva España (5 vessels) which served the trade of Mexico and the Manila Galleons out of Vera Cruz, on the southeastern coast of present-day Mexico. The Griffon, a French merchant ship under the command of Captain Antoine Dare, was given permission to sail with the Spanish combined fleet.

The Tierra Firma Armada was under the command of Captain-General Don Antonio de Echeverra y Zubiza, and consisted of six vessels. The Capitan-General was in direct command of the (1) Capitana, the flagship (Nuestra Señora del Carmen y San Antonio, which was a captured English ship formerly named the Hampton Court), and was laden with a great number of chests of silver coins, gold coins, gold bars, gold dust, and jewelry, as well as tropical products. The flagship of the admiral, the (2) Almiranta (Nuestra Señora del Rosario y San Francisco Xavier) was equally richly laden. The (3) Nuestra Señora de la Concepcion (known as La Holandesa) carried gold coins and gold bars, as well as a number of chests of silver coins. The frigate (4) San Miguel, the (5) El Ciervo, and a (6) *patache* (La Francesca), a smaller merchant vessel, completed the squadron.

The five ships of the Nueva España Flota were under the general command of Captain-General Don Juan Esteban de Ubilla, who was himself on the (1) Capitana (Nuestra Señora de la Regla), which carried some thirteen hundred chests containing 3,000,000 silver coins. There were also gold coins, gold bars, silver bars, and jewelry, as well as emeralds, pearls, and precious Kangxi Chinese porcelain which had been brought to Mexico by the Manila Galleons. The (2) Almiranta (Santo Cristo de San Roman) carried nearly a thousand chests of silver coins, each individual chest containing some 3,000 coins. The (3) Refuerzo (Urca de Lima) carried eighty-one chests of silver coins, over fifty chests of worked silver, thirty-two chests of Chinese porcelain and various other commodities. Another ship, a (4) *patache* (Nuestra Señora de las Nieves), carried some 44,000 pieces of eight, 63 *serones* (leather bags) of cochineal (dried insects used to produce red dye), 169 *serones* (leather bags) and chests of indigo, seven chests of Chinese porcelain and various other commodities. One (5) *balandrita* (Maria Galante - whose cargo manifest is reported to have included chests of Chinese porcelain) or frigate or *patache* (Santo Cristo del Valle) - accounts vary, completed the Flota. The French ship Griffon, commanded by Captain Antoine Dar, had received permission to sail with the fleet.

All five ships of the Nueva España Flota under Ubilla sank off the Florida coast, south of Cape Kennedy: the Capitana, the Almiranta, two *pataches*, and the Urca de Lima. Three of the ships of the Tierra Firma Armada under Echevera were also lost off Cape Kennedy: the Almiranta, the Concepcion, and the Holandesa. Two others were lost at sea: the Francesa and the San Miguel. In typical fashion, the 1715 Fleet was a case of overloaded Spanish galleons foundering in a hurricane after a delayed departure, but on a larger scale than anything before. The principal elements of the fleet, known as the Nueva España (New Spain, i.e., Mexico) Fleet, had gone to Veracruz in Mexico to deliver mercury (an essential substance in the refining of silver), sell merchandise, and pick up quantities of Mexican-minted bars and cobs. There was also a shipment of porcelain, ivory, and

silk being delivered to the fleet in Vera Cruz, and the pack-mule trains carrying that shipment were very slow. King Phillip further complicated matters when he ordered that a special shipment of specific jewels being given to the Duchesse of Parma be included with the fleet's shipment. Details of the jewelry are vague, but appear to have included a heart composed of 130 matched pearls, an emerald ring weighing 74 carats, a pair of earrings each of 14-carat pearls, and a rosary of pure coral the size of small marbles. There were eight chests of the jewelry in all, and they were stowed in Ubilla's personal cabin. After still more delays in Havana, what was ultimately a 12 or 13 ship convoy (depending on which account you prefer) did not manage to depart for Spain until July 24, 1715, well into hurricane season. The best estimate is that there were 11 major Spanish ships plus a small Cuban "Frigatilla" within the fleet when it left Havana harbor. General Ubilla had purchased a small new Cuban boat to help transport some of the general cargo back to Spain, and several references to 12 ships in the fleet possibly include his vessel.

Nuestra Señora de la Regla (known as "The Cabin Wreck"), the Capitana (Flagship) of General Ubilla's Nueva España Flota, was discovered at Latitude 27° 49.48' N and Longitude 80° 25.48' W. The manifest for Nuestra Señora de la Regla recorded the following registered treasure:

- 2,559,917 pesos in coins and bars of 1,300 chests
- 23 chests of worked silver
- 62 chests of gifts
- 1 small chest of gold bars, doubloons, and pearls
- 730 leather bags of cochineal (dried insects used to produce red dye)
- 241 leather bags and chests of indigo
- 17 chests of vanilla beans
- 6 chests of chocolate
- 70 sheets of copper
- 730 tanned leathers
- 4 chests of Chinese porcelain

100 quintales of Brazilwood (1 quintal = 100 kilograms)

9 chests of earthen vessels

14 jugs of Balsam

Santo Cristo de San Roman, the Almiranta (Admiral's Flagship) of General Ubilla's Nueva España Flota, (known as "Corrigan's Wreck"), was discovered at Latitude 27° 43.7' N and Longitude 80° 22.65' W. The manifest for the San Roman recorded the following registered treasure:

2,687,416 pesos in 684 chests and sacks of silver and gold

728 leather bags of cochineal (dried insects used to produce red dye)

1,702 leather bags and chests of indigo

139 sheets of copper

682 tanned leather hides

26 chests of earthen vessels

48 chests of vanilla beans

85 chests of gifts

8 earthen jugs of balsam and liquid amber

2 chests with writing desks

40 chests of chocolate and dust of Oaxaca

2 chests of bath oil

30 leather sacks of cochineal (dried insects used to produce red dye)

12 chests of anatto red dye

53 chests of worked silver

14 chests of Chinese porcelain

80 bales of lurga of talapa

9 leather sacks of cacao

500 quintales of Brazilwood (1 quintal = 100 kg)

31 bales of sasparilla

Nuestra Señora de Las Nieves, a *patache* (patrol and support vessel) in General Ubilla's Nueva España Flota - sank July 31, 1715 on the reefs off the Florida coast 2.8 miles south of the Fort Pierce Inlet at a site known as the Douglas Beach Wreck site (also known as the Gold Wreck and the Colored Beach Wreck) at coordinates N27-25.299

and W80-16.500. Salvage efforts included those by the marine excavators Historical Research & Development, Inc. in 1989 and 1990 and 1991 on the recovery vessel Virgalona by diver Demostenes (Mo) Molinar, with Ernie King, President/Director, Historical Research & Development, Inc. The Endeavor recovery vessel was also reportedly employed. Artifacts recovered included *botijas* (olive jars and related vessels), olive jar shards, Kangxi ceramic shards, pewter coat buttons, gold stock pieces, gold rings, copper sheeting, musket balls, brass islets (rigging), lead sheathing (fitting), encrusted objects, brass tacks, brass sheeting (fitting), brass spikes, pewter plate rim, silver spoon piece, silver pieces, copper nails, washer, and a gilded silver sword handle.

Urca de Lima, the Refuerzo - Supply ship of General Ubilla's Nueva España Flota, the Urca de Lima (known as "Wedge Wreck" from the shape of some silver ingots) carried on board registered treasure of 252,171 silver pesos. There was also some *sin registrada* aboard, mostly buried in the ballast, which was recovered during modern day salvage efforts.

The Capitana (Flagship) of Captain-General Echevera's Tierra Firma Armada, Nuestra Señora del Carmen y San Antonio (known as "The Rio Mar Wreck ") was discovered at Latitude 27° 38.25' N and Longitude 80° 20.50' W. The manifest for Nuestra Señora del Carmen y San Antonio recorded the following registered treasure:

- 79,967 pesos in gold bars and doubloons
- 309 castellanos of gold dust (1 castellano = approx. 100 gold grains)
- 1,175 pesos of plata doble
- 3 gold chains
- 7,766 pounds of cocoa
- 33,600 pounds of Brazilwood
- dry goods and hides

The Spaniards promptly undertook salvage operations with the help of Indians and recovered nearly half of the vast treasure (at least the

registered part) from the holds of ships whose remains rested in water sufficiently shallow for breath-holding divers. Over the next three years, the Spanish government sent numerous salvage vessels to recover what they could of the lost treasure; looters and pirates also flocked to the site. Conveniently, some of the ships had run aground or sank in water so shallow that part of the hull was still visible above the waterline. Estimates as to what portion of the treasure was recovered range as high as 50%, but that's likely a very optimistic figure: to this day, five of the ships have never been found, and only a portion of the cargo from those that were found could be recovered. By 1718, Spain gave up on any further salvage attempts, and the exact locations of the ships - which still contained many millions of dollars worth of treasure - were lost. When the Spaniards abandoned the salvage camp in 1718, great quantities of treasure still remained on the ocean floor. Some of the wreck sites were clearly marked by portions of the ships structures which could be observed protruding above water at low tide. For years after the official completion of the salvage operation, merchant ships sailing these waters would look for treasure from the wreck sites.

The modern salvage of this fleet, begun in the late 1950's or early 1960's and ongoing up to the present day, has been the largest single source of gold cobs ever in the numismatic market. Eventually the salvors found gold jewels, Chinese porcelain, silverware, gold and silver ingots, and as many as 10,000 gold cobs of the Mexico, Peru and Colombia mints. Also found, mostly in encrusted clusters, were well over 100,000 silver cobs of all denominations. The salvaged coins were all cobs, both gold (from Mexico, Bogotá, Lima, and Cuzco) and silver (mostly from Mexico, but also some from Lima and Potosí), minted primarily between 1711 and 1715. Also represented were numerous earlier dates, some of the dates extending well back into the 1600's.

As the salvage operation on the 1715 Fleet reached diminishing returns, some associates (like Mel Fisher) headed for Key West and

other areas to search for new wrecks. However, the search for the 1715 Fleet is not yet over. Only six of the ships have been found, therefore as many as five or six of the eleven or twelve galleons remain undiscovered, search areas are still leased from the state, and even the old wreck sites continue to relinquish a few coins and artifacts to an insatiable market. In 1987, the *Urca de Lima* of the 1715 Spanish Treasure Fleet became the first shipwreck in the Florida Underwater Archaeological Preserves.

Despite the many publications pertaining to the 1715 Spanish Treasure Fleet with names of the ships and the known locations of some of the wrecks, there is no universal agreement as to the identity of the vessel at each wrecksite. In many cases, in fact, it is possible that separate wrecksites represent different parts of the same ship. As a result, salvagers over the decades have resorted to nicknames for the sites based on landmarks, or after the closest shore features, or the type of cargo found, or local individuals, and even features from the wrecks themselves. Based on the information currently available, the location of known wrecksites may be summarized as follows (from north to south):

- **Nuestra Señora de la Regla** (Capitana of the Nueva España Flota under Ubilla) - “Cabin Wreck” (found off of Wabasso Beach in front of a beach cabin between Sebastian Inlet and Fort Pierce),
- **Santo Cristo de San Roman** (Almiranta of the Nueva España Flota under Ubilla) - “Corrigan’s Wreck” (found off of Vero Beach),
- **Nuestra Señora del Carmen y San Antonio** (Capitana of the Tierra Firma Armada under Echevera) - “Rio Mar Wreck” (found off of Vero Beach),
- **Nuestra Señora del Rosario y San Francisco Xavier** (Almiranta of the Tierra Firma Armada under Echevera) - “Sandy Point Wreck” (found off of Vero Beach),

- **Urca de Lima** (Refuerzo - Supply ship of the Nueva España Flota under Ubilla) - “Wedge Wreck” (from the shape of some silver ingots, found off of Fort Pierce),
- **Nuestra Señora de las Nieves** (*Patache* – Patrol and Support Vessel of the Nueva España Flota under Ubilla) - “Douglas Beach Wreck” (found 2.8 miles south of the Fort Pierce Inlet).

Only six of the ships, as identified above, of the Spanish Treasure Fleet of 1715 have been found. Traditionally the range of wrecksites extends from south of Fort Pierce up to just south of Melbourne in the north, but rumors of 1715 Fleet finds as far north as Cape Canaveral, New Smyrna Beach and even Fernandina Beach (near Jacksonville) may have merit. Regardless of the exact site of origin, a great majority of the coins and artifacts recovered are sold simply as “1715 Fleet.”

The first of the 1715 fleet vessels was found by a small scale building contractor named Kip Wagner. In the 1960s, he formed a company called Real Eight Corporation, and secured the salvage rights of several shipwrecks. Wagner then undertook to successfully search for and recover treasure of the 1715 Fleet. Since that time the wreck site area has been worked almost constantly by commercial salvors under contract with the State of Florida's Division of Historical Resources. Mel Fisher's organization, Salvors, Inc., has held a contract with the State of Florida for many years. It is through the efforts of Salvors, Inc. that six of the wrecks have been found, and many thousands of artifacts have been recovered. These recovered artifacts are thoroughly researched in the effort to learn more about the lives of the people who lived during this time period. Sometimes they yield insight into the daily lives of the common people, sometimes they demonstrate the excesses of wealth, and sometimes they illustrate the enormous faith that these people had in their religion. Some of the ships were salvaged, but the majority of the cargo was lost to the ocean, and it is there that it has remained for more than 250 years. In spite of the enormous interest in these

finds over the years, the provenance of many artifacts was not recorded, treasure was stolen or sold, and very little now remains of the 1715 fleet shipwrecks.

1715 Spanish Treasure Fleet ceramics are included in the collection from Nuestra Señora de la Regla (Cabin Wreck), Nuestra Señora de Las Nieves, Santo Cristo de San Roman, and from the 1715 Treasure Fleet itself as follows:

Nuestra Señora de la Regla (Cabin Wreck) of the 1715 Spanish Treasure Fleet ceramics (8) included in the collection are the following:

0-015 - Spanish olive jar shard, beige and light russet in color with darkened areas; considerable marine encrustation, L: 10.3 cm. (\$23)

0-025 - Spanish olive jar shards (2), medium sized fragments with medium textured compact body from a large or mid-sized storage jar; color ranges from light russet to light beige, darkened in tone at the fractures, L: 10.1 cm. and 11.7 cm. (\$34)

0-026 - Spanish olive jar shards (3), large to medium sized fragments with medium to coarse textured body from sides of a large storage jar; color ranges from very light russet to light beige, darkened in tone at the fractures, L: 18.0 cm., 15.2 cm. and 9.3 cm. (\$40)

0-028 - Spanish olive jar shards (2), large fragments, triangular shape, from sides of a medium to large sized storage jar, prominent wreathing marks; body is medium to coarse textured with light beige to light russet tingeing overall, L: 15.1 cm. and 12.5 cm. (\$26)

Total - \$123



Nuestra Señora de Las Nieves of the 1715 Spanish Treasure Fleet ceramics (11) included in the collection are the following:

O-013 - very large Spanish olive jar shard, beige to russet in color, darkened areas; considerable marine encrustation, L: 21.2 cm. (\$57)

O-016 - Spanish olive jar shards (3), from the sides of a large or medium storage jar; light russet to beige in color with some marine encrustation L: 14.9 cm, 16.1 cm, and 12.7 cm. (\$39)

O-017 - Spanish olive jar shards (3), medium sized fragments with coarse textured body; variously colored russet and beige, darkened in areas, marine encrustation, L: 13.7 cm, 9.2 cm, and 10.2 cm. (\$46)

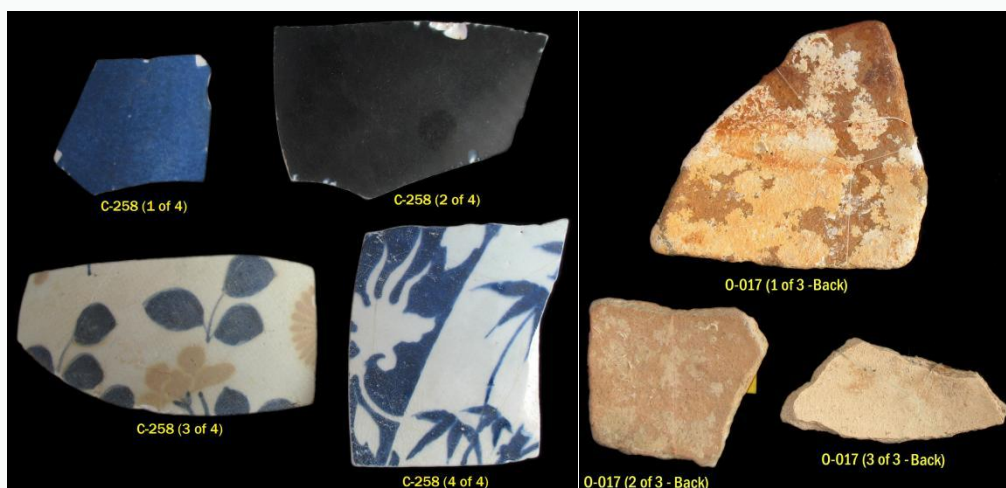
C-258 (1) - Qing Kangxi fragment from a bowl, mottled blue glazed exterior and white interior, pentagon shaped, L: 7.3 cm. (\$52)

C-258 (2) - Qing Kangxi fragment from a bowl, black glazed exterior and white interior, rectangular shaped, L: 12.2 cm. (\$48)

C-258 (3) - Qing Kangxi fragment from a vase, underglaze blue and enamel exterior, white interior, rectangular shaped; décor includes underglaze blue leaf sprays, iron-red enamel chrysanthemum and lotus blossoms, gilt accents now eroded; Chinese Imari ware, L: 13.2 cm. (\$69)

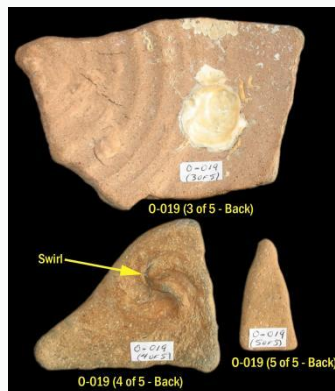
C-258 (4) - Qing Kangxi fragment from a large vase, underglaze blue bamboo stalk on one half, the other half with a hydra-headed like element with adjacent leaf forms reserved in white on the dark blue ground, L: 11.2 cm. (\$71)

Total - \$382



Santo Cristo de San Roman of the 1715 Spanish Treasure Fleet ceramics (5) included in the collection are the following:

0-019 - Spanish storage jar shards (5) in a variety of sizes and shapes; variously colored beige, russet and brown; coarse textured body on shards No. 1, No. 4 and No. 5; compact body on shard no. 3; extremely heavy marine encrustation on shard No. 2; L: 18.3 cm to 4.7 cm. (**\$87**)



1715 Spanish Treasure Fleet ceramics (4) included in the collection are the following:

C-091 - Chinese blue and white floral motif shard from a very large vase decorated in a vibrant tone of underglaze blue with a five petaled blossom, leaf tips and lattice form overlapping nodular stems, L: 20.6 cm.; W: 9.1 cm. (**\$150**)

0-011 - Spanish olive jar neck with upward projecting flange at the mouth, light russet in color with some darkened areas; considerable marine encrustation, D: 10.7 cm. (**\$27**)

0-012 - Spanish olive jar shards (2), impressively sized earthenware fragments from the sides of a large storage jar; beige and russet colored, sea shells adhering, L: 22.5 cm and 16.5 cm. (**\$27**)

Total - \$204

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The 1733 Spanish Treasure Fleet

Capitana El Rubí Segundo (Flagship of 1733 Treasure Fleet)

San José y Las Animas (1733 Spanish Treasure Fleet)

The 1733 Spanish Treasure Fleet was composed of 4 warships and 18 merchantmen, and left Havana for Spain with a year's collection of New World treasure aboard on the morning of Friday July 13, 1733. It was made up of King's ships, merchant ships, an advice ship and two other ships that were only en route to St. Augustine, but sailed with the fleet for its protection. The three principal ships in the Flota were the Capitana El Rubí (the Flagship), the Almiranta El Gallo Indiano (Vice-Flagship), and the Refuerzo El Infante. Each of these three warships carried 60 cannons and their combined registry of treasure was in the neighborhood of 12 million pesos in gold, silver, and copper. The rest of the ships all carried some amount of registry silver along with other valuable commodities, and each carried some armament to aid in fighting off intruders. The Royal Scoutship of His Majesty King Phillip the Fifth carried no registry and was named Nuestra Señora del Populo. On the second day of its voyage, July 14, 1733, a hurricane struck and many of the ships in the Flota sank around the upper and middle Florida Keys. The wrecks are spread across 80 miles, from north of Key Largo down to south of Duck Key, and include the following 15 galleons (note - there is no universal agreement as to which wrecksite pertains to each galleon, and each name is a contemporaneous abbreviation or nickname): El Pópulo, El Infante, San José, El Rubí (the Capitana), Chávez, Herrera, Tres Puentes, San Pedro, El Terri (also spelled Lerri or Herri), San Francisco, El Gallo Indiano (the

Almiranta), Las Angustias, El Sueco de Arizón, San Fernando, and San Ignacio.

All ten ships then in Havana harbor were immediately sent by the Spanish to the Florida Keys, and the salvage of the wrecked ships began within a few days after the storm. The moderate severity of the hurricane (which struck the fleet on July 14, 1733) and the shallowness of the wrecksites in the Keys made for many survivors and even left four ships in good enough condition to be re-floated and sent back to Havana. A highly successful salvage effort by the Spanish soon commenced, bringing up even more than the 12 million pesos of precious cargo listed on the Fleet's manifest. The salvage of ordinary cargo and the huge amount of treasure in the hulls of the ships continued for months. In the years that followed the ships were extensively salvaged and eventually burned by the Spanish to obtain their ironwork. In modern times the wreck sites were heavily pillaged from the 1930s to the 1970s. One of the 1733 Treasure Fleet ships found and salvaged by treasure hunters during this period was the English-built merchantman known as the Herrera, after its owner. It was also known as the Figurine Wreck by its salvors, since hundreds of small Mexican statuettes of fish, animals, and humans were found in it. In 1977 some of the ships were located and surveyed by archaeologists from the State of Florida.

Capitana El Rubí Segundo - was the flagship of the 1733 Treasure Fleet, carrying the King's treasure and commanded by General Rodrigo de Torres. Her master was Don Balthesar de la Torre. According to the manifest, she carried more than two thousand boxes of gold and silver coins and bullion, hundreds of ingots of copper, as well as cochineal (dried insects used to produce red dye), indigo, vanilla, chocolate, and tobacco. Treasure Fleet vessels also often carried emeralds and other gemstones, hides, exotic woods, sugar, and other valuables, as well as materials obtained from the Manila Galleons including ginger, cowrie shells, porcelains, silks,

velvets, damasks, drugs, pearls, and ivory. Also included among the cargo were Spanish earthenware olive jars. Spanish olive jars are typically found in profusion on the old Spanish galleons where there were used as storage containers. Shards from the olive jars litter nearly all Spanish wrecksites, and the relatively scarce necks are particularly coveted because of their inherent display qualities. During the hurricane, Capitana El Rubí went aground just inside the reef line northeast of Upper Matecumbe Key. She became totally submerged, rolling on her starboard side, facing seaward Capitana was leaking badly before she grounded between Davis and Crocker Reefs, off Plantation Key. She became totally submerged in approximately 27 feet of water on Cayo Largo off Tavernier Key in the middle Florida Keys about eight miles from shore at latitude N 24° 55.491' and longitude W 80° 30.891'.

The first and arguably most famous of the wrecks of the 1733 Fleet to be rediscovered in modern times was the Capitana El Rubí, which was found in 1938 and salvaged principally in the 1940s and 1950s by Art McKee. For more than a decade, McKee and several associates worked on the massive mound of ballast, timbers, and debris, recovering cannons, silver coins, statues and religious medals, small arms and edged weapons, jewelry, navigational instruments, ship's gear, and galley wares. From 1993 to 2001 archeological recovery operations were conducted at the Capitana El Rubí wrecksite under a joint effort including the Florida Keys National Marine Sanctuary, the State of Florida and the private sector. Capitana El Rubí and the other sites were also worked over the years by weekend wreck explorers. However, the finds by modern divers at the 1733 Fleet wrecksites have been quite modest. By the 1970s, the wrecksite had begun to sink into the sand, and by the late 1980s had become completely buried. Today what remains of Capitana El Rubí is buried under a white sand bottom with small patches of sea grass in 19 feet of clear water. Scattered ballast stones and a few displaced timber fragments can be seen in several depressions in the seafloor caused by earlier

excavations. It would be extremely difficult to say who of the modern day salvors was the first to find the 1733 wrecks. The local fishermen have been fishing on them for years and have always kept the locations to themselves, and diving the wrecksites has long been popular. But it should be noted that in 1949 Art McKee built one of the world's first museums devoted to a shipwreck (the Capitana El Rubí) and housed his finds for all to see: the Sunken Treasure Museum on Plantation Key.

As a result of the many disputes and confrontations over the years at wrecksites in the Florida Keys the government created the Florida Keys National Marine Sanctuary in 1990. The removal of artifacts from any of the wrecksites in State of Florida waters is prohibited today.

Capitana El Rubí Segundo shipwreck wreck ceramics (2) included in the collection are as follows:

0-002 - Spanish olive jar necks (2) earthenware with rounded mouthrim on neck No. 1 and upward projecting flange at the mouth of neck No. 2. The aperture is enclosed by the heavily potted and thickened, rounded neck. Neck slants in sharply to the much more thinly potted body. The compact earthenware ranges in color from light brown to brown to russet. Very heavy marine encrustations on neck No. 2, and light encrustation on neck No. 1. D: 9.9 cm. – No. 1 and 9.0 cm. – No. 2. (**\$130**)

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San José y Las Animas (1733 Spanish Treasure Fleet) - was a 326 ton Spanish Galleon armed with forty cannon. Under the command of Captain Cristobal Fernandez Franco, it sailed from Havana in the vanguard of the 1733 Treasure Fleet near Capitana El Rubí. When the fierce hurricane of 14 July 1733 drove the ships shoreward, San José cleared the reefs but ran aground in the middle Florida Keys off *Cayo Tavanos* (Tavernier Key) about one mile east of Little Conch Reef in the sand flats that stretch toward Hawk Channel. The ship sank in 30 feet of water at latitude N 24° 56.919' and longitude W 80° 29.334'. All the crew, soldiers, and passengers survived the storm and managed to reach shore on improvised rafts. San José y Las Animas carried a cargo of porcelain, a treasure of silver coins, general cargo and other goods. Because San José sank in 30 feet of water, little of her general cargo was salvaged in the efforts of divers over the following days and weeks to recover the silver coinage on

board. The wreckage of San José eventually became totally buried under the sand.

In 1968 treasure hunters with a magnetometer located some large magnetic anomalies in 35 feet of water off Tavernier Key. At first, no evidence of a ship was visible on the bottom, but excavation through grass and sand turned up ballast and timbers. For several years the salvors worked on the wreck, exposing a ballast pile 135 feet long, 40 feet wide, and six feet high in some places. At least 23 cannons were discovered scattered all around the pile of ballast stones. Two anchors were also found on the eastern edge of the wreckage. Some 200 yards to the south, where San José must have originally struck the bottom, the salvors discovered the ship's 25 foot long rudder. In 1973 a new part of the ship was discovered 150 feet away from the main wreck, and on the first day of salvaging \$30,000 in gold and silver coins was recovered.

Modern salvage of the wreck from 1980 up to the present day has produced a variety of interesting artifacts, along with inevitable legal disputes. Now the wrecksite of the San José has once again become buried, but coral encrusted silver coins are still being found. At a depth of about 30 feet of water, the site is covered by coarse, white sand littered with pieces of ship timbers from several excavation holes. Very few ballast stones are any longer visible, but it is rumored that considerable treasure still remains buried in the sand.

San José y Las Animas shipwreck ceramics (17) included in the collection are as follows:

C-137 - Chinese blue and white floral motif shard from a dish or bowl decorated in vivid underglaze blue with a leaf forms and linear accents, L: 5.3 cm.; W: 4.2 cm. (\$65)

C-147 - Chinese blue and white floral motif shards (2) decorated with a leaf spray and portion of a stem or leaf form; fine grained cream colored body, L: 4.8 cm. and 2.7 cm. (\$6)

0-020 - Spanish olive jar shards (4), medium size fragments from sides of a storage jar with compact body, prominent wreathing marks on underside; beige to russet in color, L: 10.7 cm. to 7.8 cm. (\$12)

0-021 - Spanish olive jar shards (4), small size fragments from sides of a storage jar with compact body, prominent wreathing marks on underside; light beige to russet in color, L: 7.9 cm. to 4.2 cm. (\$12)

0-022 - Spanish olive jar shards (4), large to medium size fragments from sides of a large storage jar with a distinctive application of dark green glaze, compact body; wreathing marks on the underside, brick red in color, L: 14.4 cm. to 7.4 cm. (\$12)

0-023 - *Ladrillo* (brick) fragment, coarse textured light beige colored body; heavy and dense, L: 9.9 cm., W: 7.6 cm. (\$3)

0-029 - Firebrick fragment from ship's galley, heavy and dense; blackened extensively, L: 9.1 cm., W: 7.9 cm. (\$3)

Total - \$113

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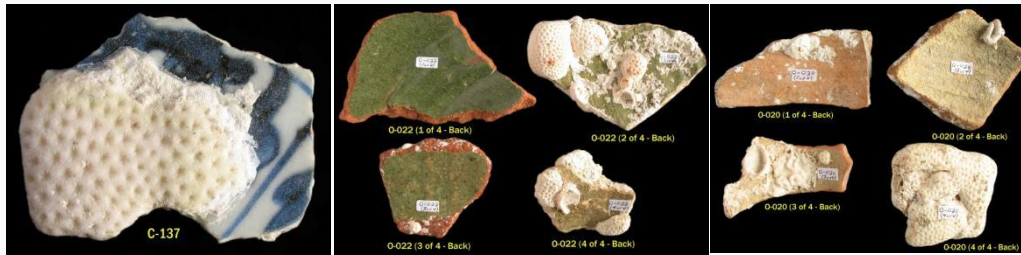
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Florida Keys Unidentified 1700's Wreck - references to shipwrecks during this period, which may have been the source of the olive jar necks at O-024, include the following:

1733 Spanish Treasure Fleet - 15 ships sank in the Keys (El Pópulo, El Infante, San José, El Rubí (the Capitana), Chávez, Herrera, Tres Puentes, San Pedro, El Terri, San Francisco, El Gallo Indiano (the Almiranta), Las Angustias, El Sueco de Arizón, San Fernando, and San Ignacio).

October 22, 1752 - Gulf of Florida hurricane claims 12 ships.

November 2, 1752 - Gulf of Florida hurricane claims two ships.

1755 - Notre Dame de la Deliverance, a French ship, disappeared without a trace somewhere between Havana and Cadiz, and reportedly the remains may have been found off Key West in 2002.

January 22, 1768 - the vessel San Antonio, bound from Havana, was lost on the rocks off of Key West, Florida (*Cayo del Hueso*). Her crew and passengers, after being 22 days on the rocks, were taken up by a turtling sloop and carried back to Havana.

July 1768 - a Spanish ship was lost on the Florida Keys (*Martieres*).

1769 or 1770 - news reached London that a large Spanish ship was wrecked in the Florida Keys during a "violent gale of wind."

1770 - a report from Jamaica indicated that a large Spanish ship, bound from the Caicos Islands for Cadiz, was struck by a violent gale

and was wrecked on one of the Keys in the Gulf of Florida. The ship and cargo were entirely lost.

July 26, 1771 - a British ship reported 5 large ships and one brig wrecked in the Florida Keys, one with main and mizzen masts lost.

1771 - El Nauva Victoriosa (Pillar Dollar wreck) a Spanish nao sank at the head of the Florida Keys southeast of Caesars Creek.

November 12, 1799 - unidentified Spanish sloop wrecked "one hour from Key Largo."

1781 - a Spanish Fleet en-route from Havana to Pensacola encountered a hurricane off the west coast of Florida and four capital ships, besides others, were totally lost, and there were no survivors of the more than 2,000 men on the ships.

(NOTE: 1715 Spanish Treasure Fleet - sank to the North between Fort Pierce and the Sebastian Inlet, not in the Keys)

Florida Keys Unidentified 1700's Wreck ceramics (2) included in the collection are as follows:

0-024 - Spanish olive jar necks (2) with upward projecting flange at mouth and thickened, rounded neck; compact earthenware light beige to russet in color; heavy marine encrustation on neck No. 2; D: 10.1 cm. - No. 1 and 9.8 cm. - No. 2. (\$76)



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***Spence's List: Shipwrecks of Florida Waters*, copyright 2005 by Dr. E. Lee Spence.**

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GENERAL INFORMATION - SHIPWRECKS

CERAMICS CATALOGUE provides detailed documentation for each individual shipwreck ceramic organized by ceramic category (Burma, Khmer, Thai, Viet, Other; and Qing, Ming, Yuan, Song, Tang) and also provides Photos of each individual item (including base) in folders also organized by ceramic category. The detailed documentation provided for each shipwreck ceramic includes Catalogue Number, description, size, dating, provenance (origin, place and date of acquisition, cost), and any references to comparable examples.

RESEARCH PAPERS PREPARED ON SHIPWRECK CERAMICS :

Banda Shipwreck Report on Shards Acquired

Batavia Wares

Ca Mau Shipwreck - Blue & White Dish with Underglaze Red, Celadon

Ca Mau Shipwreck – New Discoveries (Part I) Kraak Plates

Ca Mau Shipwreck – New Discoveries (Part II) Trays

Ca Mau Shipwreck - Unique Bowl

Con Dao Island Wreck - Preliminary Report

Cannon Wreck - Banana Islands, Sierra Leone (Diemermeer)

Chinese Imari Porcelain

Kangxi Indonesia Shipwreck - Preliminary Report

Manila Galleons

Quang Nai (Binh Chua–Yuan) Wreck - Preliminary Report

Spanish Treasure Fleet of 1715

Swatow Indonesia Shipwreck - Preliminary Report

Tet Shipwreck - Preliminary Report

Tibetan Sanskrit Lanca Characters

Vung Tau Base Marks

(Above are all included in the Research Papers section).

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