

"Early Spanish Colonial Beads"

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EARLY SPANISH COLONIAL BEADS *

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Abstract

Nueva Cadiz Plain and Nueva Cadiz Twisted date from the 16th century and the beginning of the 17th century. Both are square in cross-section and seem to form a distinctive class of beads. Florida Cut Crystal, dating from the 16th and early 17th centuries, are elaborately faceted and sculptured quartz crystal beads. All three types have distinctive early occurrences in Florida. They probably served as presents during the period of exploration rather than as regular trade materials.

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This paper is based in large part on the extensive work on colonial Spanish beads of the late John M. Goggin. His manuscript on beads, unfinished at his death, is being prepared for publication by the present author. Since the death in 1963 of Dr. Goggin certain additional information on the distribution and dating of the beads has come to light. Some new speculations concerning method of manufacture has been developed. In view of the value of these beads as dating devices it was decided to publish descriptions here as the publication of his major paper may be delayed for some time.

Nueva Cadiz Plain

These are large, long, finely-made beads of a distinctive square cross-section. In Beck's shape classification they fall within his designation IX.D.2b. Typically they are much larger than most modern beads, especially in length, and larger than most Indian trade beads of the colonial period. Diameter ranges from 3.5 mm. to 14 mm. with the average at 6.2 mm. (Table I). In the Nueva Cadiz sample of badly patinated specimens, there were two modes at 4.5 mm. and 7 mm. respectfully. As all these specimens were badly deteriorated, it is possible that at least one millimeter should be added to the dimensions in order to approach the original size. In the sample from Isla de los Muertos about 75% of the beads fall between 4 and 5 mm. in diameter. The largest specimen with a diameter of 14 mm. was the only specimen found at Valentim, Brazil (Meggers and Evans 1957: Fig. 11a).

In respect to length considerable variation was found as is seen in Table II. Much of this variation may be due to the heavily patinated state and the presence of many broken specimens in the Nueva Cadiz sample. In that collection, only beads with cleanly cut ends were presumed to be complete. The two series from Nueva Cadiz and Isla de los Muertos showed considerable variation in length, with the combined samples having a range of from 37 mm. to 75 mm. The Nueva Cadiz sample had a range of from 37 mm. to 46 mm., with one specimen outside the group at 51 mm. length. In the Isla de los Muertos sample only two specimens fell within the Nueva Cadiz range, being 41 mm. and 41.5 mm. long. The total sample showed a range of 41 mm. to 71 mm., with the mode at 53 mm. The Peruvian specimens seem

quite comparable to the Isla de los Muertos range. The longest known specimens are 75 mm. in length, one from Valentim, Brazil, the other from Treasure Island, Canal Zone, where very few beads of this type have been found.

Perforations ranged from 1 mm. to 2.5 mm. in size. It appears that the size of the hole was proportionate to the diameter of the bead, as is the case with most cane beads.

While many of these early beads are considerably changed from their original colors, it is usually possible to come to a fair idea of the original colors. The commonest metal is certainly a clear glass. Next in popularity are, in order, navy blue, either solid or overlaid on clear glass or over an opaque white base; a multi-layered robin's-egg blue. This latter form shows some variation being a light, clear blue overlying either clear glass, over white and brown layers, over white and clear layers, or over white and blue. In some cases patination has somewhat lightened the blue color. Rich emerald-green and cobalt blue beads are occasionally found, but neither color is very common. In the Huron area of Lower Canada an opaque red form is found that does not seem to occur elsewhere.

The custom of using multi-layered gathers of glass was quite typical of the best late Medieval glass work. In this case the purpose does not seem clear. Where clear or translucent blue lies over opaque white it results in a very rich, brilliant color. Something of the same effect is achieved where a clear metal overlies the blue color. It may be, of course, that the blue glass was so expensive that it was desirable to use cheaper glasses for the interior concealed parts of the bead.

These are clearly skillfully-made beads, although the precise steps in manufacture are far from clear. They seem definitely to be cane or drawn beads as the glass shows minute, longitudinally elongated vesicles which are so characteristic of this method of manufacture. Goggin felt that they were drawn through a die with a square aperture as the diameters are usually very close to precise squares. He also considered that the drawn canes could have been marvered to a square shape while still plastic. Considerable research in Medieval glass-making techniques has failed to reveal any evidence of drawing glass through dies in this fashion. The relatively long beads are quite regular in shape and do not suggest marvering after drawing. Discussions with Paul Perrot and Robert W. Brill of the Corning Museum of Glass suggest that the gather was first marvered into a square shape and then drawn into canes. The fact that the holes show no distortion strongly supports the view that this was probably the method of manufacture. In some cases the corners at the end were slightly faceted at an angle. In this respect they resemble a related type, Peru Corner Faceted.

Nueva Cadiz Plain is commonly found associated with Nueva Cadiz Twisted, Peru Corner Faceted, seed beads, and Chevron Beads. The type is found from Alabama to the Argentine with the heaviest concentration being found in Peru. This latter occurrence may be due in large part to the intensive collection which has taken place in that rich archaeological area. A single specimen is known from Ogiltree Island, Alabama (Morrell 1964).

Florida examples were found at Ortona Mound, Murphy Island, and Lake Butler. Caribbean sites are Alta Telamanca, Mercedes, and an unspecified site in Costa Rica; Isla de los Muertos, Nicaragua; and Juandolio, Dominican Republic. A single example is reported from Mexico. A number of specimens have been found at Treasure Island and Lower Chinaman's Island, Canal Zone. South American sites include Valentim, Brazil; Neuva Cadiz, Venezuela; Hacienda Monterey, Colombia; an unspecified Bolivian site (No. 1); Rio Chico, Santa Cruz, and an unspecified site in Argentina. Peruvian occurrences are numerous and include the following: Hacienda San Nicolas, Supe; Chan Chan; Hacienda Casa Grande, Chicama Valley; Mocce, Lambayeque; one unspecified "middle coast" site; three unspecified "central coast" sites; and seven general unspecified sites. In addition there are evidently a large number of Nueva Cadiz Plain beads incorporated in Colonial Spanish gold jewelry from the Peruvian area.

Aside from the sites which fall within the Spanish Colonial zone there is another area where similar beads are known in some quantity. This is Lower Canada where they must derive from the French. Judging from illustrations, descriptions, and museum specimens they seem to have been found at Ste. Marie I (Kidd 1949: 142, Fig. 25N), St. Louis (Jury and Jury 1958: 38), and Beverly (Schoolcraft 1851-7, I: Pl. 25, 9-10). The specimens from Huronia differ from the Spanish ones in that an opaque turkey red is the predominant color, now rather dull on the surface. Examples in the Royal Ontario Museum at Toronto are from Ossassane in Simcoe County (Quimby 1966: 83-5, 183-4, Fig. 16). In the Huron sites they are associated with a variety of glass beads and a number of square, tubular beads of catlinite. The catlinite beads and the red variety of Nueva Cadiz Plain are

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remarkably similar in appearance. As the catlinite beads have very small perforations, they were probably drilled with metal tools. On this basis we may speculate that the catlinite beads copy the glass beads, rather than the reverse.

In spite of careful search no comparative material of this type could be found in Spain; nor, on the other hand, were any glass beads of the 16th and 17th centuries seen. Nueva Cadiz Plain and Nueva Cadiz Twisted were seen, however, in two Portuguese collections. A string of seven beads, four Nueva Cadiz Plain and three Nueva Cadiz Twisted were in an unlabeled case at the Museu Arqueologico in Lisbon. The accompanying material appeared to be late Medieval in date. In the Museu Etnologico in Lisbon (Cat. No. 11,170) is a string of beads from Bensafrim, Ponte Velja which includes many chevron bugle beads, other bugle forms, and a single Nueva Cadiz Plain bead.

The archaeological position seems to be clearly the 16th century and perhaps the early part of the 17th century. The bibliography is extensive. Cruxent and Rouse 1958-9, II, Pl. 3, 16; Quimby, 1966: 83-5, 183-5, Fig. 16; Hartman 1901: 21, Pl. 5, Fig. 7; Jury and Jury 1958: 38; Kidd 19~~4~~⁹: 142, Fig. 25N; Meggers and Evans 1957: Fig. 11a; Morrell 1964; Mugica Gallo 1959; Pls. 116,117,118; Schoolcraft 1851-7, I: Pl. 25, 9-10. This distinctive bead, along with the related Nueva Cadiz Twisted and Peru Corner Faceted, stands out from all other glass beads found in the New World. The square cross-section and great length are good sorting markers. The robin's-egg blue is highly distinctive and might be designated Nueva Cadiz Plain, Variety A. The opaque red form from Hurona might be designated Nueva Cadiz Plain, Red Variety.

Nueva Cadiz Twisted

As is the case with Nueva Cadiz Plain, this is a large bead when compared to both modern examples and to Indian trade beads. Again it is a long, square bead which differs from Nueva Cadiz Plain in being twisted along its axial length while still plastic. In the Beck classification it is a Twisted IX.D.2b shape. There is some variation in dimensions, with this sample (48 measured specimens) having somewhat more restricted ranges than the Nueva Cadiz Plain sample. Some clustering is apparent in the different collections, with the sample from Nueva Cadiz being on the larger end of the range. Diameter varies from 3 mm. to 9 mm. (Table III). In length the range runs from 37.5 mm. to 61.5 mm. with the small Nueva Cadiz sample on the short end of the range and the other collections spread across the range (Table IV.). Perforations range from 1 mm. to 2.5 mm. as in the Nueva Cadiz Plain sample.

In general color is much as the previous type. In the sample from Nueva Cadiz, eight of the ten specimens are navy blue, one is cobalt blue, and is dark navy blue, over white, over brown. It is possible that some of the solid blue specimens may actually be multi-layered, all are heavily patinated and colors are somewhat obscure. The Murphy Island specimens are all multi-layered robin's-egg blue over opaque white or black or dark blue. The Hacienda Monterey and Grantham Mound specimens are very similar. The bulk of the Isla de los Muertos and Peruvian examples are like this latter multi-layered form with occasionally a clear glass center instead of the dark blue core. The opaque white layer beneath the robin's-egg blue surface gives a great brilliance to these beads. The Peruvian beads, often in almost mint condition, are extremely attractive beads. A few specimens

have what, at first glance, appear to be inlaid stripes at the corners. This is simply the thinning of the surface layer which allows the inner layer to show through.

The beads are made from either simple or multiple gathers of glass, made into canes by a blowing and drawing process. Most show longitudinally elongated vesicles which indicate this drawing process. Again, the precise technique of manufacture is far from clear, although marvering of the gather into a square shape before drawing seems the most likely.

Nueva Cadiz Twisted is commonly found associated with Nueva Cadiz Plain, Peru Corner Faceted, seed beads, and chevron beads. It occasionally occurs with other forms, as at Hacienda Monterey.

The type is found from Florida to the Argentine. Florida examples are from Murphy Island and Grantham Mound. Other locations are: Isla de los Muertos, Nicaragua; Changuina and one unspecified site in Costa Rica; Juandolio, Dominican Republic; Hacienda Monterey, Colombia; Valemtim, Brazil; Treasure Island, Canal Zone; La Compania, Ecuador; an unspecified site (No.1) in Bolivia; and Rio Chico and Gainan, Argentina. The identification of the specimens from Changuina, Costa Rica, is not certain but appears highly probably although the illustrations are unsatisfactory (Stone 1958: Fig. 1,D, opposite p. 50). In her description Stone refers to "millefiore beads of twisted bluish glass" (1958:45), a description apparently derived from Hartman's (1901:21) earlier description of a Nueva Cadiz Plain bead. The largest concentration at Cajamaraquilla; Mocce, Lambeyeque; Ancon: a "middle coast" site; a "central coast" site, and four unspecified sites.

As with the previous type, there is a second concentration of these beads in Huronia. Judging from illustrations, descriptions, and museum

specimens, they appear at Ste. Marie I (Kidd 1949: 142, Fig. 25, O,P), Beverly, Ontario (Schoolcraft 1851-7, I; Pl. 25, 12); Dutch Hollow, New York (Kidd 1954); Erie, Pennsylvania (Carpenter, Pfirman, and Schoff 1948: 8); and the Ossassane Site in Simcoe County, Ontario (Royal Ontario Museum, Cat. No. 5643). It appears that the Nueva Cadiz Plain and Nueva Cadiz Twisted specimens from Huronia are very frequently, if not predominantly, red, while those from Spanish sites are usually blue, often in some combination of white or clear. There seem to be no twisted long, square, catlinite beads which are as directly comparable as those which seem to be copies of Nueva Cadiz Plain. I do not feel that the contrast in colors between the two areas represents any color preference of the Indians of the two regions. It probably does reflect differences in color preferences in the areas of manufacture. Thus the Spanish and Canadian styles represent two samples of a common horizon style, but were probably made in different centers. The robin's-egg blue specimens from Dutch Hollow and Simcoe county differ from Spanish Colonial specimens in having a opaque red core, a form not yet seen in the South.

These beads seem to have clustered in the 16th century with perhaps some extension into the early years of the 17th century. Nueva Cadiz Plain and Nueva Cadiz Twisted have a clear cut temporal position. The examples from Huronia have a slightly later position. Examples of Nueva Cadiz Plain from Juandolio, Dominican Republic and numerous specimens of both the plain and twisted types from Nueva Cadiz, abandoned in 1545, clearly place the type early in the 16th century. The Peruvian specimens are believed to date from the period immediately after the conquest. The Florida examples, for various reasons, suggest a range continuing into the late 16th century.

The specimens from the northeast are associated with Huron or Iroquois sites. Beads from Dutch Hollow probably date from the very end of the 16th or the beginning of the 17th century. Those from Ste. Marie I presumably date after the founding of that site in 1639 and before its destruction by the Iroquois in 1649. The few examples found in this last site could, of course, have been heirlooms acquired by the Huron some years earlier. Certainly the date 1649 for the destruction of Ste. Marie I is a firm terminus ante quem for the type.

The bibliography is extensive: Carpenter, Ffirman, and Schoff 1949: 8, Pl. 2, 6; Cruxent and Rouse 1958-9, II: 2,15; Goggin 1952: 126; Kidd 1949: 142, Fig. 25, O,P; Meggars and Evans 1957: 58, Fig. 11a; Mujica Gallo 1959; Pla. 116-8; Stone 1958: 45, Fig. 1, D, opposite page 50.

This, like the Nueva Cadiz Plain, stands out in size, shape and color from any other glass trade beads in the New World. Among the gifts given by Cortez during the conquest of Mexico were "twisted glass beads" (Diaz del Castillo 1958:71). It seems highly likely that these were our type Nueva Cadiz Twisted. Colonial gold and silver jewelry from the Andean area incorporates beads of this type (Brooklyn Public Museum; Mujica Gallo 1959: Pls. 116-8) and it seems likely that these were types of beads worn by the Spanish themselves. No specimens have been found set on chains as is usual with rosaries. The robin's-egg blue form, because it is so distinctive should, unless it has an opaque red core, be designated Nueva Cadiz Twisted, Variety A. The opaque red form should probably be counted as Nueva Cadiz Twisted, Red Variety.

Florida Cut Crystal

This is a distinctive but highly variable bead made of clear crystalline quartz, often called rock crystal. Most examples can be described as a short bead characterized by surface faceting, spiraling or sculpturing. In the Beck shape classification the most common form would be XIX, A.9. The most common treatment was the cutting of from four to six rows of flat facets on the surface. The rarest form is the sculpturing of raised bosses or other designs on the surface. Single examples of beads with a plain smooth surface are known from the Seven Oaks and Fuller Mound A sites in Florida. The surface was normally finished free of blemishes and has a high polish. Many beads, however, show scratches and scars from prolonged use. Occasional beads are found which show so much wear as to suggest deliberate attempts by the Indians to grind off the sharp angles between adjacent facets or spirals. The beads are made by lapidary techniques which show a great deal of sophistication.

The largest sample available for detailed study consists of five beads from the Seven Oaks Site, Florida. A larger collection from Ft. Center, Florida is known to exist. They measure as follows:

Plain surface	11 x 12 mm.
Spiral cut	11 x 16.5 mm.
Faceted	8.5 x 12 mm.
	10 x 12 mm.
	12 x 17 mm.

A specimen from the True Site is somewhat larger, measuring 13.5 x 21 mm. From Horrs Island there is one specimen measuring 7 x 10 mm. It is my impression that the twenty specimens, that I have only briefly seen, from Ft. Center would all fall within this range. A somewhat differently

proportioned one from Fuller Mound A measures 27 x 11 mm. (Rouse 1951: Pl. 8, I). Perforations range from 1 mm. to 1.5 mm. The color in all specimens is a water-clear, transparent crystal. Some specimens show flaws, inclusions, and other structural lines.

Using lapidary techniques, the bead was cut from crystalline quartz, shaped, and faceted. The cutting medium for quartz, with a hardness of 7.0 in the Moh Scale, is not known. It may well have been quartz powder used much as diamond dust is used to cut diamonds. The perforation was drilled from one end, leaving a parallel-sided hole. At each end of the perforation is a shallow pit with conchoidal fracture ripples. One of these pits must have been delicately struck to start the drill, the other when the drill broke through as the perforation was finished.

Florida Cut Crystal beads are most commonly associated with chevron, gooseberry seed, and similar beads. They are not found on sites with Nueva Cadiz Plain or Nueva Cadiz Twisted beads. At a number of sites in southwestern Florida the type occurs with Florida Coin Beads, as at Ft. Center. The Florida Coin Bead was locally made, by either Indians or shipwrecked mariners, from Spanish silver coins. This suggests that these crystal beads may have been primarily salvage or loot.

The type is most typically found in Florida, occurring at Goodnow Mound, True Site, Seven Oaks Site, Lake Marion, Punta Rassa, Cayo Palu, Curiosity Hammock, Bee Branch, Johns Pass Mound, Lake Butler, ^Horr's Island 5, Orange County, Fuller Mound A, East Lake Tohopekaliga, and Ft. Center. Outside of Florida the type appears to be rare. A single specimen has been seen from Jamestown, Virginia (Bushnell: 1937 27-35, Pl. 1). They appear to be

examples of our type, yet they are associated with a variety of striped beads, as well as "Bristol Beads", called by De Jarnette Georgia Milk Oval (De Jarnette and Hansen 1960: 57). This type is highly typical of English sites of the 18th century. The significance of the Virginian occurrence is far from clear but suggests that they may have been heirlooms. On the basis of the Florida associations, this type appears to date from the middle 16th century and part of the first half of the 17th century. The Virginia specimens seem to date from the late 17th century and the middle of the 18th century.

A closely related type is known from Florida mission sites such as Pine Tuft. These are somewhat smaller, are faceted, and always are small ovate pendants with a transverse hole near the apex. These may actually belong to the basic type but they do differ in a number of attributes and are considerably later, dating from about 1700.

References are not especially abundant: Bushnell 1937: 27-35, Pl. 1, two bottom rows; Griffin and Smith 1948: 14, 29; Rouse 1951, Pl. 8, G-I; Smith 1956: 67.

This is a rather surprising bead to find in any quantity in Indian sites. It must have been quite expensive as its manufacture involved highly skilled techniques of faceting, drilling, and polishing. It, therefore, hardly seems designed for the Indian trade as were many of the rather crudely-made glass beads associated with it. I am inclined to believe it was imported as personal possessions by the Spanish. They may have come into Indian hands through salvage of shipwrecks as loot from stranded mariners, or have been bartered in exchange for captive mariners, or for

gold looted from the wrecks by Indians. The noticable concentration in the Lake Okechobee Basin and the west coast strongly suggests that they formed part of the tribute which the east coast Indians sent periodically to the Calusa.

Johnson says that in 16th century Spain rock crystal "was popular with connoisseurs of the Renaissance. Holding a prominent place among the applied arts of the Middle Ages, crystal carving reached in this period a development of even greater perfection" (1938: 198). Quartz crystal cutting was related to work in the much softer jet as both were heavily faceted. One center was traditionally near Ronceveaux, where Roland so heroically died.

This type should not be confused with marvered or molded faceted beads of glass so typical of the late 18th century or early 19th century, such as Tallasseechatchee Transparent Decahedral (De Jarnette and Hansen 1960: 57). These authors cite Woodward's dating of 1600 for their glass bead type and state that ground facets are later. This is not supported by the Florida evidence.

Figure 1

Left: Nueva Cadiz Plain

Right: Nueva Cadiz Twisted

Figure 2

Florida Cut Crystal

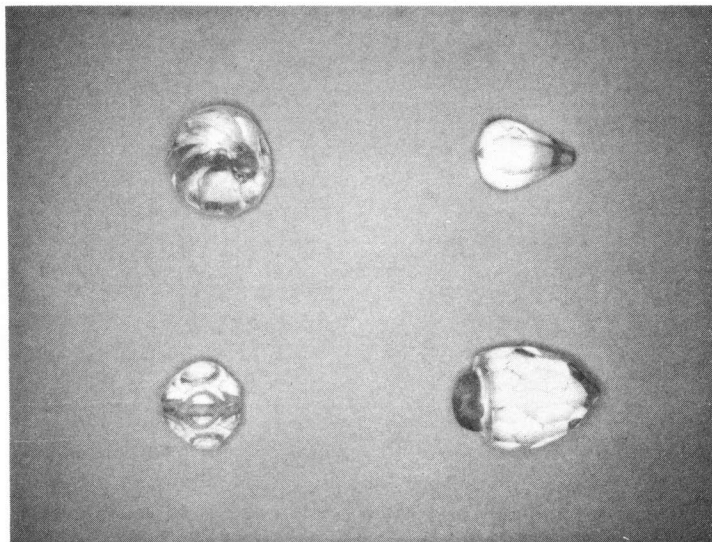
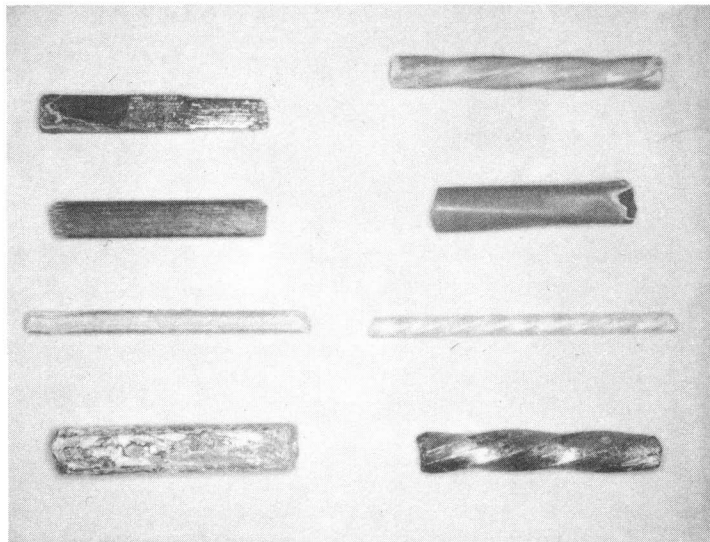


TABLE 1. DIAMETER OF NUEVA CADIZ PLAIN BEADS

Site	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	8.0	8.5	9.0	10.0
Nueva Cadiz		4	1	7	1	4	4	12	5	1	1	1
Isla de los Muertos	2	11	6	7	3	1		1	1			

TABLE 2. LENGTH OF NUEVA CADIZ PLAIN BEADS

	Nueva Cadiz	Isla de los Muertos
37.0	1	
38.0	1	
40.0	8	
41.0	3	1
41.5	4	1
42.0	1	
43.0	1	
44.0	1	
45.0	1	
46.0	1	
47.0		1
48.0		1
49.0		1
50.0		1
50.5		1
51.0	1	1
52.0		1
52.5		1
53.0		2
53.5		1
54.0		1
54.5		1
55.0		2
57.5		1
62.5		1
68.0		1
69.0		1
71.0		1

TABLE 3. DIAMETER OF NUEVA CADIZ TWISTED BEADS

Site	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0
Nueva Cadiz					1	1	1		2	1	2		2
Isla de los Muertos	1	1	6	1	7	4	6						
Peru					2	2	1	1	3	1		1	
Florida											1		
TOTALS	1	1	6	1	10	7	8	1	5	2	3	1	2

TABLE 4. LENGTH OF NUEVA CADIZ TWISTED BEADS

	37.5	41.0	43.0	44.0	45.5	46.5	47.0	47.5	48.5	49.0	49.5	50.0	51.0	51.5	52.0	52.5	53.0	53.5	54.0	56.0	56.5	58.0	60.0	60.5	61.5
Nueva Cadiz	1	1	1																						
Isla de los Muertos							3	1	1	2	1			4	3	1	1	1	2	2	1			1	1
Peru			1	1	1							1	1	1								2	1		
Florida						1				1															
TOTAL	1	1	2	1	1	1	3	1	1	3	1	1	1	5	3	1	1	1	2	2	1	2	1	1	1

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