

**AUTHORITIES**  
 Theodolite by S. Perry, Assistant, in 1875 and 1876  
 Triangulation by J. H. Morrison and J. H. Chase, Assistant, between 1875 and 1876  
 Hydrography by Charles F. Schuchert and J. C. Smith, Assistant, between 1875 and 1876  
 U.S. Coast and Geodetic Survey, between 1875 and 1876  
 Astronomical observations by J. H. Morrison, Assistant, in 1875

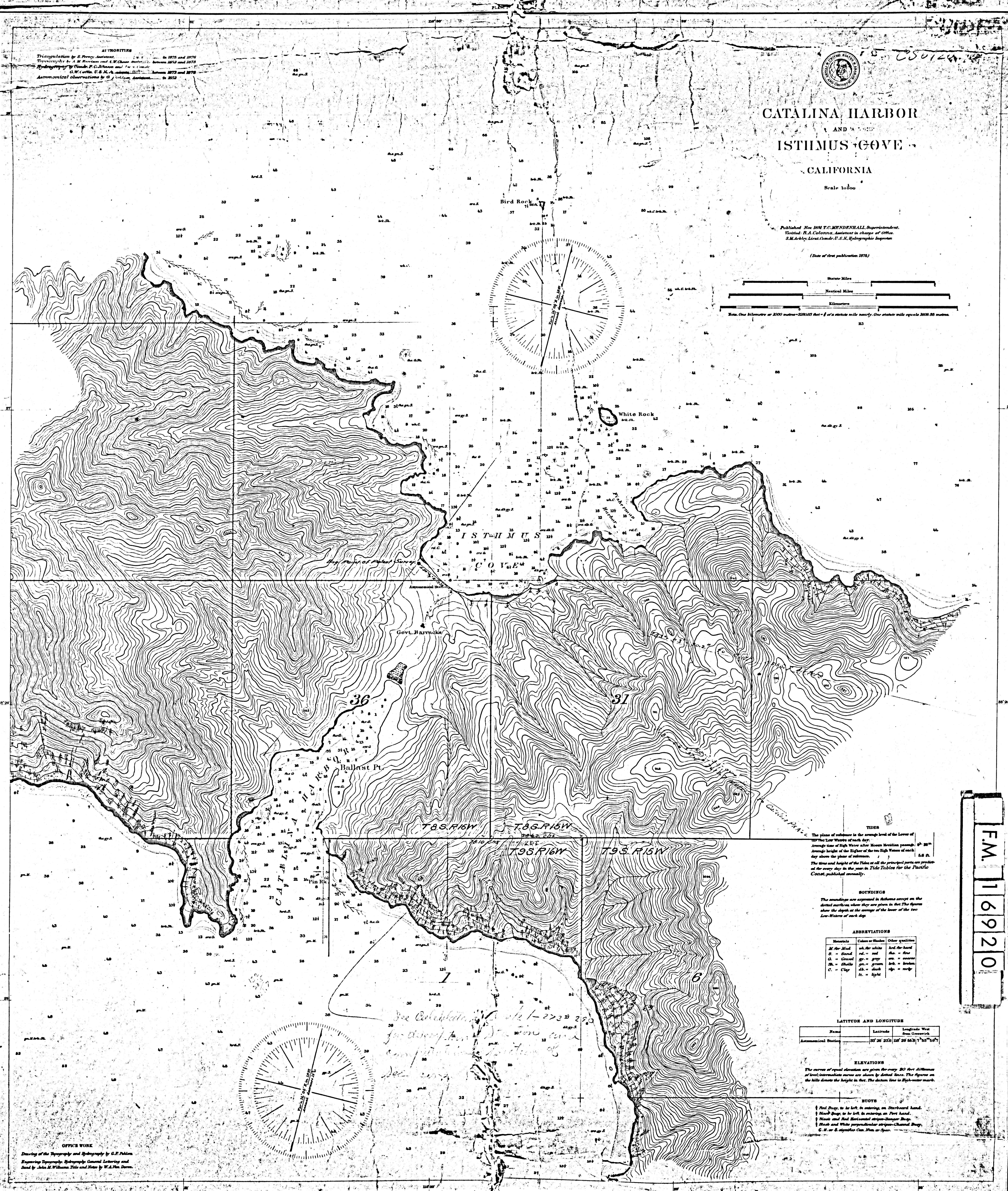
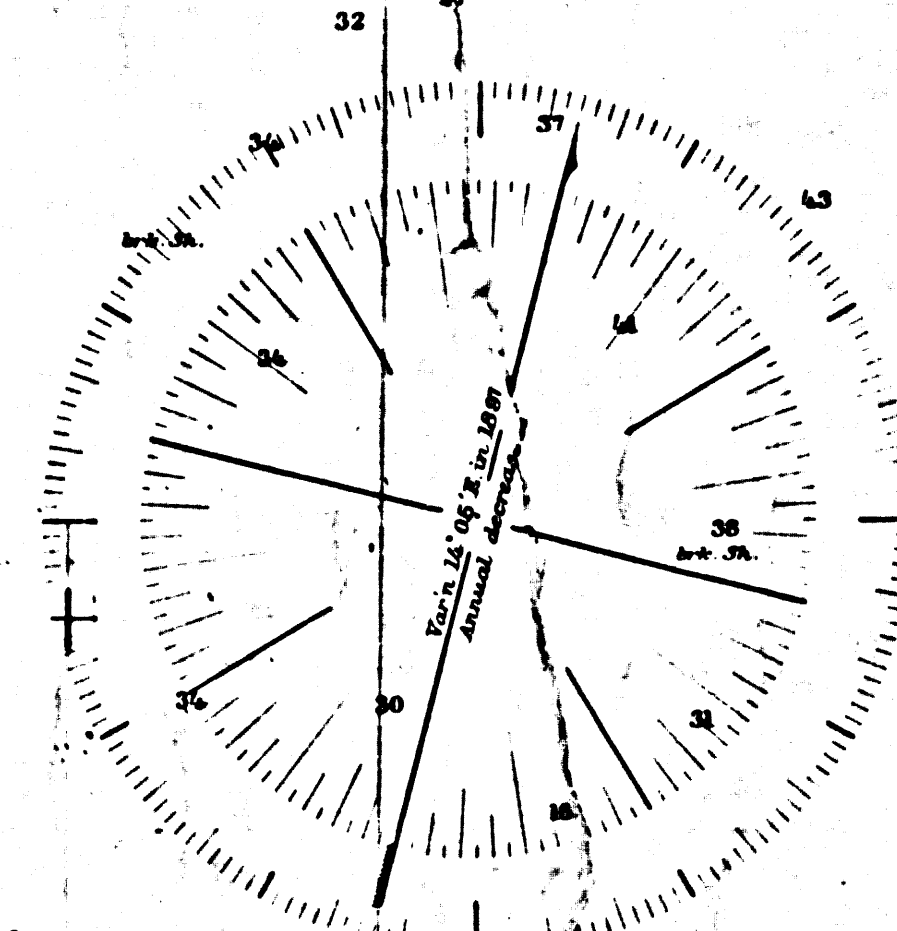
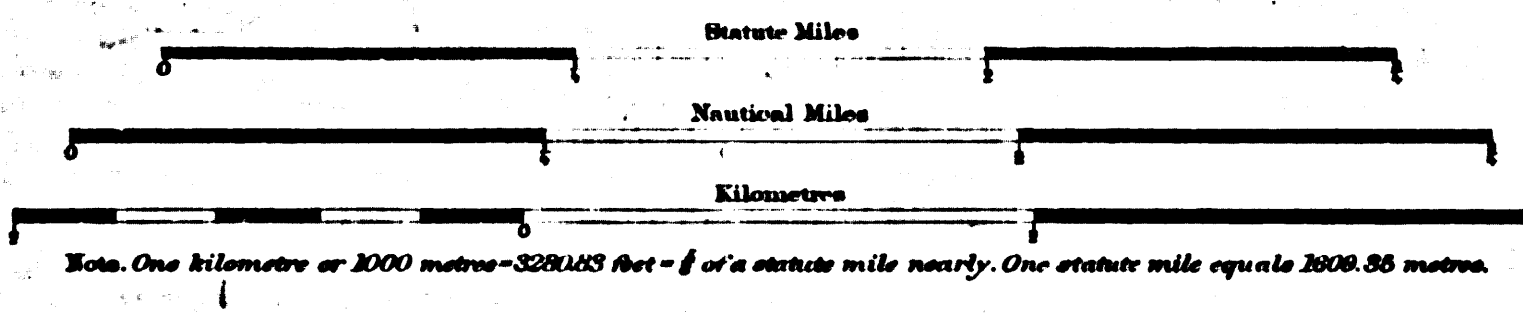


**CATALINA HARBOR**  
 AND  
**ISTHMUS COVE**  
 CALIFORNIA

Scale 1:1000

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 United States Coast and Geodetic Survey, Office of  
 Sounding, Levelling, and Hydrographic Engineer

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**TIDES**  
 The plane of reference is the average level of the lower of the two low waters of each day.  
 Average time of High Water after Moon's Meridian passage, 5<sup>h</sup> 20<sup>m</sup>.  
 Average height of the High Water of the two High Waters of each day above the plane of reference, 5.5 ft.  
 The time and height of the Tides at all the principal ports are printed on the cover day in the year in Tide Tables for the Pacific Coast, published annually.

**SOUNDINGS**  
 The soundings are expressed in fathoms except on the dotted soundings when they are given in feet. The figures show the depth at the average of the lower of the two low waters of each day.

**ABBREVIATIONS**

Meaning	Color or Shade	Other Qualities
At the Head	wh. or white	And the head
B. - Buoy	red - red	Am. - Am.
Ch. - Channel	gr. - green	em. - em.
Cl. - Cliffs	dk. - dark	sh. - sh.
	lt. - light	sig. - sig.

**LATITUDE AND LONGITUDE**

Name	Latitude	Longitude West from Greenwich
Ammunition Point	33° 28' 25"	117° 25' 42"

**ELEVATIONS**  
 The curves of equal elevation are given for every 20 feet difference of level; intermediate curves are shown by dotted lines. The figures on the hills denote the height in feet. The datum line is high-water mark.

**BOUYS**  
 1 Red buoy to be left in water on Starboard hand.  
 2 Black buoy to be left in water on Port hand.  
 3 Black and Red buoys perpendicular to the Channel.  
 4 Black and White perpendicular to the Channel.  
 C. H. or S. signal Can. Man or Gun.

FM 16920

*See Catalogue of Charts 2722-2723  
 for description of this chart  
 and for other information*

**OFFICE WORK**  
 Drawing of the Topography and Hydrography by G. P. Fisher  
 Sounding, Levelling, and Hydrographic Engineer and  
 Head of John A. Williams Tide and Water by W. A. Hill, Surveyor