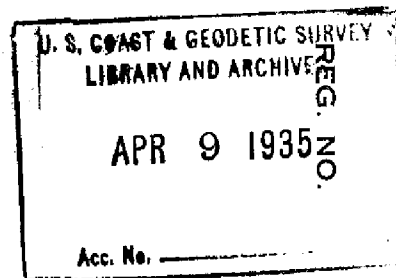


4916

4916

Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U.S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Topographic } Hydrographic	Sheet No. <u>V</u>
State <u>CALIFORNIA</u>	
LOCALITY	
<u>California Coast</u>	
<u>Morro Bay to Cayucos</u>	
<u>1934</u>	
CHIEF OF PARTY	
<u>F. H. Hardy</u>	

Applied to drawing of Chart 5302-Mar. 4, 1936-J.W.
" " new compilation of chart 5387, Dec, 1936, J.G.L.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

The Topographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field Letter LREGISTER NO. **4916**State CaliforniaGeneral locality California CoastLocality ~~Cayucos to El Morro~~ Bay to CayucosScale 1 : 10,000 Date of survey November 15 - 30, 1934Vessel U.S.C. & G.S.S. GUIDEChief of Party F. H. HardySurveyed by Chester J. BeymaInked by Chester J. BeymaHeights in feet above M.H.W. to ground ~~to tops of trees~~~~Contour~~ Approximate contour ~~Form line~~ interval 20 feetInstructions dated April 4, 1932; May 31, 19 34

Remarks: _____

Date. April 11, 1935

Diagram No. 5302-2

Under investigation. Q

(M-136)

DESCRIPTIVE REPORT
to accompany
TOPOGRAPHIC SHEET FIELD LETTER L

Steamer GUIDE

F. H. Hardy, Commanding.

INSTRUCTIONS DATED APRIL 4, 1932; MAY 31, 1934.

GENERAL DESCRIPTION:

The country surveyed on this sheet is low with small bluffs and sandy beaches. Inland, the hills rise to high elevations. The coast highway, a hard surfaced road parallels the coast. On the southern end of this sheet the beach is fringed with sand dunes ranging in height from 10 to 30 feet. The beach in this locality consists of hard sand enabling automobiles to drive along it at low tides.

The northern limits of this sheet embraces the town of Cayucos, having a population of 280 people. There is a wharf in Cayucos, which has been rebuilt in 1934.

At the mouth of Torro Creek, Latitude $35^{\circ} 24' 7''$, the Standard Oil Company of California has two separate submarine oil loading stations. The approximate position of the loading lines are marked by a bell buoy. Southward and northward of the bell buoy, there are two sets of a group of five mooring buoys with a spar buoy to mark the end of the submarine oil lines. Abreast and inland of the mooring buoys there are 16 large steel oil tanks. In loading an oil tanker the vessel moors to one of the sets of mooring buoys. To the spar buoy is attached a flexible hose. This hose is attached to the vessel and the oil is permitted to flow from the large tanks ashore. The oil flows by gravity from the tanks through a 20 inch pipe down a steep grade to the beach. The pipe is supported above ground from the tanks to about 210 meters from the beach. From here the pipe extends underground to the spar buoys.

The inshore area from Cayucos southward to Torro Creek is covered with numerous detached rocks. The sea is generally breaking over the entire inshore area even in the calmest of weather.

SURVEY METHODS:

The topography on this sheet was executed from shore. The party consisted of one officer and three men using U.S.C. & G.S. Truck No. 213. Cambria, California was used as a base by the field party.

Control for the topography consisted of triangulation stations on the 1932 scheme, which was executed by Lieutenant Charles Pierce and plotted on the North American 1927 Adjusted Datum.

4/21/34

The triangulation scheme covering the area of this sheet is as follows:

Fence, Concrete Tank Northwest of Cayucos, Black Rock, Rock Awash West of Cayucos, Cayucos West Gable of Warehouse, Cayucos School Cupola, Cayucos Catholic Church Cross, Whale Rock, Cass, Wooden Water Tank 1 mile South of Cayucos, Hall, Standard Oil Co. Farm Highest Tank, Standard Oil Co. Farm Transformer, Standard, House South of Triangulation Station Standard Chimney, Morro Beach Inn Cupola, Yellow Water Tank East of Triangulation Station Lu 2, Pillar Rock, Lu 2, Morro 2, On 2, House South of Triangulation Station On 2 Chimney, Hill Black Hill, Water Tank on Slope of Black Hill.

Distortion in this sheet was measured daily while in the field. Adjustments for distortion were applied during the course of the traverses. The maximum and minimum distortion measured was 4 and 2 meters per mile respectively in Latitude and 1 to 0 meters respectively per mile in Longitude.

Before field work was started the shoreline, rocks and contours were transferred to this sheet from photostats T - 1662, T - 1663 and T - 3755. All discrepancies in shoreline, offlying rocks and contours between this survey and the old survey have been checked and this sheet represents existing conditions of the area.

In order to establish a plane table position on the northern end of this sheet a three point fix was taken near Topographic Signal CAD, Latitude $35^{\circ} 25'.5$, using triangulation stations Whale Rock, Hall and Standard for control. After the three point fix was established a traverse was carried northward to the town of Cayucos joining topography on field sheet letter K at Triangulation Station CAYUCOS WEST GABLE OF WAREHOUSE, Latitude $35^{\circ} 26'.9$. The traverse checked in azimuth and distance.

Reoccupying the position established by the three point fix at Topographic Signal CAD, the traverse was carried southward to Triangulation Station STANDARD OIL CO. FARM FLAGSTAFF, Latitude $35^{\circ} 24'.7$. The traverse checked in distance and azimuth.

Triangulation Station ON 2, Latitude $35^{\circ} 22'.3$ was occupied and a traverse carried northward to Triangulation Station LU 2, Latitude $35^{\circ} 23'.3$. The traverse checked in distance and azimuth. While occupying Triangulation Station ON 2 a junction was made with the northern topographic sheet of the U.S.C. & G.S.S. PIONEER, Season 1934. The junction checked very satisfactorily.

Occupying Triangulation Station LU 2, Latitude $35^{\circ} 23'.3$ the traverse was carried northward to Triangulation Station STANDARD OIL CO. FARM FLAGSTAFF. The traverse checked in azimuth and distance.

The oil tanks in the vicinity of Latitude $35^{\circ} 25'.0$ were located as follows: A three point fix was established about 200 meters west of Triangulation Station STANDARD OIL CO. FARM TRANSFORMER, using Triangulation Stations HALL, STANDARD OIL CO. FARM FLAGSTAFF, and LU 2 for control. After the three point fix was established a rod reading was taken to Triangulation Station STANDARD OIL CO. FARM TRANSFORMER and to Triangulation Station STANDARD OIL CO. FARM HIGHEST TANK. The distance and azimuth checked. All tanks were located by a traverse from the established three point fix position. These tanks from seaward make a very prominent landmark and should be shown on the chart as such.

The winding road leading from the main highway to the oil tanks and the submarine oil loading pipes have been transferred to this sheet from a local survey. The ratio between the scales of this survey and the local survey was determined and found to be 1 to 4. The local survey was pantographed and superimposed upon this sheet. The local survey was in error in azimuth. The road was adjusted and is shown on this sheet as an inked broken line. Similarly, the submarine loading oil line was transferred to this sheet. From seaward the road leading to the tanks makes a very prominent landmark and should be shown on the chart as such.

Every set-up during the course of the traverse was checked by resection cuts on one or more triangulation stations.

Check elevations on this sheet are shown in red.

All offlying rocks and rocks awash were located by three or more cuts. Mean high water line, bluff line and road were located by stadia. Elevations to tops of hills and along the road and bluff line were taken at various intervals as shown on the sheet. All elevations checked very closely with the previous survey.

COMPARISONS WITH PREVIOUS SURVEYS:

The following comparisons are based on the survey shown on sheets T - 1662 and T - 1663.

Changes in Shoreline.

In general the shoreline and bluff line of this survey checked the previous survey satisfactorily except in the following named place:

The shoreline south from Latitude $35^{\circ} 24'.0$ to El Morro extends inland for 100 meters.

Changes in Water Features.

All water features located by the previous survey checked this survey very satisfactorily.

COMPARISONS WITH SURVEY SHOWN ON T - 3755:

The shoreline of this survey extends offshore about 50 meters.

REMARKS:

Tracings used in transferring photostats T - 1662, T - 1663 and T - 3755 are attached in order that the discrepancies may be noted. Also attached is a blue print of a local survey of the Standard Oil Company of California Loading and Tankage Station of Estero Bay.

STATISTICS:

Statute miles of shoreline. 6.6
Statute miles of road 13.2
Area in square statute miles. 4.0

Respectfully submitted,

Chester J. Beyma.
Chester J. Beyma,
Aid,
C. & G. Survey.

Approved and forwarded:

F. H. Hardy
F. H. Hardy, H & G E.,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE.

APPROVAL NOTE OF CHIEF OF PARTY

The completed Topographic Sheet, Field Letter L has been inspected and is approved.

F. H. Hardy
F. H. Hardy, H. & G. E.,
Chief of Party, C. & G. Survey,
Commanding Ship GUIDE.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Oakland, Calif.

April 2. 1935

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted:

F. H. Hardy, H & G Engrs., Chief of Party.

[illegible]

A list of objects carefully selected because of their value as landmarks as determined from seaward, together with individual descriptions, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report.

The selection, determination, and description of these points are an important factor in the value of the chart. Landmarks selected at appropriate intervals can be clearly charted. However, when none is outstanding, a group of two or three objects may by their interrelationship provide positive identification. A group so selected should be indicated.

The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful on all charts. Generally, flagstaves and like objects are not sufficiently permanent to chart.

REVIEW OF TOPOGRAPHIC SURVEY No. 4916

Title (Par. 56) *Morro Bay to Cayucas, California*Chief of Party *F.H. Hardy* Surveyed by *C.J. Beyma* Inked by *C.J. Beyma*Ship *Guide* Instructions dated *April 4, 1932*
May 31, 1934 Surveyed in *November 1934*

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) ✓
2. The character and scope of the survey satisfy the instructions. ✓
3. The control and closures of traverses were adequate. (Par. 12, 29.)
Traverses evidently very good
4. The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.)
Check was made with previous surveys and since they were accurate and adequate, no new contours were drawn
5. The delineation of -contours-formlines- is satisfactory. ✓ (Par. 49, 50.)
See preceding paragraph
6. There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.) *Map of Estero Tankage and Loading Station submitted with points common to this map and T4916 marked*
7. High water line ~~on marshy and mangrove coast~~ is clear and adequate for chart compilation. (Par. 16a, 43, 44.) ✓
8. The representation of low water lines, reefs, ~~coral reefs~~ and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.) ✓
9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.)
See reverse side
10. ~~The span, draw and clearance of bridges are shown. (Par. 16c.)~~
11. Locations and elevations of summits are given. (Par. 19, 51.) ✓
Check elevations only were taken and shown
12. The tree line was shown on mountains. (Par. 16g.)
No new contours drawn - tree line not shown

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

Paragraph 9

Tl663 (1884); Tl662 (1883-4)

Differences of the present survey with Tl663 and Tl662 are well discussed in the Descriptive Report of T4916. The present survey is much more in detail and should supersede in part Tl663 and Tl662.

T3755 (1919)

There is a slight difference in the changeable point East of Morro Rock on the mainland, between the present survey and T3755 and Tl662. The present survey (T4916) should supersede these surveys.

Chart 5203

All rocks shown on this chart are inshore and are much more in detail on the present survey.

Paragraph 9

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Chart 5203

All rocks shown on this chart are inshore and are much more in detail on the present survey.

13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) ✓
14. ~~The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.~~
15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) *7 cards Submitted*
16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) ✓
17. The magnetic meridian was shown and declination was checked. ✓ (Par. 17, 52.) *No evidence of having checked the declinator*
18. The geographic datum of the sheet is *N.A. 1927 (Adjusted)* and the reference station is correctly noted. (Par. 34.)
19. Junctions with contemporary surveys are adequate. ✓
Joins T 4912 (1934) on the North and T 4925 (1934-35) on the South
20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.) ✓
21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) ✓
Notes to rocks were much too large
22. No additional surveying is recommended. ✓
23. The Chief of Party inspected and approved the sheet and the descriptive report ~~after review by~~ ✓
24. Remarks:

Reviewed in office by *Chas. R. Bush Jr.* May 25, 1936

Examined and approved:

E. H. Green
Chief, Section of Field Records

L. O. Tolbert
Chief, Division of Charts

Fred. L. Peacock
Chief, Section of Field Work

G. H. Hilde
Chief, Division of Hyd. and Top.