

4839

U. S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON, Director

State: CALIFORNIA

DESCRIPTIVE REPORT

Topographic } Sheet No. H 4839
Hydrographic }

LOCALITY

Monterey Bay

Santa Cruz and Vicinity

1932

CHIEF OF PARTY

FRED. L. PEACOCK

U. S. GOVERNMENT PRINTING OFFICE: 1923

4839

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. PATTON, DIRECTOR.

DESCRIPTIVE REPORT

to accompany

TOPOGRAPHIC SHEET FIELD LETTER "H"

CALIFORNIA COAST

VICINITY OF DAVENPORT.

U. S. C. & G. S. S. GUIDE

PROJECT NO. 101

1932

FRED. L. PEACOCK, H. & G. ENGINEER, CHIEF OF PARTY

DESCRIPTIVE REPORT
to accompany
TOPOGRAPHIC SHEET FIELD NO. H
COAST OF CALIFORNIA
U.S.C. & G.S.S. GUIDE
1932

INSTRUCTIONS: Instructions for the topography on this sheet are dated April 4, 1932.

LIMITS: This sheet consists of a resurvey of the area adjacent to the shoreline between Soquel Point and Longitude 122° 07'.

ORGANIZATION OF PARTY: The topographic party consisted of one officer and three men. The party based at the City of Santa Cruz and used a truck for transportation.

GENERAL DESCRIPTION OF THE COAST: From Soquel Point west to the mouth of San Lorenzo River the coast line consists of low bluffs broken in several places by the mouths of small streams. These bluffs are composed of soft material and are rapidly breaking down in those places where the surf acts directly on the foot of the bluffs. The area back of the bluffs is very flat back to the foot of the hills about $1\frac{1}{2}$ miles back from the shoreline. This area is a residential district partially built up.

From the mouth of the San Lorenzo River to about 250 meters west of the Santa Cruz Dock there is a sand beach. The Santa Cruz amusement section is along this beach. There is a low hill directly back of the beach and back of this hill is the Santa Cruz business section. It cannot be seen from offshore.

From the west end of the beach to the west end of the sheet the coastline consists of low bluffs. Back of the bluffs is a bench sloping back to the hills about a mile from the shoreline. From the west end of the beach to Longitude 122° 03' this area is a residential district partially built up. The remainder is under cultivation.

There are two docks at the City of Santa Cruz. The smaller is used only by small pleasure boats. The larger is used mainly by commercial fishing boats but some small freighters also use it.

LANDMARKS: The Catholic High School, about three miles northeast of the City of Santa Cruz is a prominent object which may readily be distinguished. It is a large yellow concrete building with an arch at the center of the south face. It is on the top of a hill and there are no other buildings of any size near it. This landmark is listed of Form 367, Landmarks for Charts, the center of the arch being the point for which a position is given.

The only other landmark on this sheet is the Santa Cruz Light House already shown on the charts.

CHARACTER OF CONTROL: Control for this survey was furnished by triangulation executed in 1931 by Lieutenant C. D. Meaney. A few of the stations were established earlier but the positions used were those given with the triangulation executed in 1931. The stations were plotted on the North American 1927 datum and the adjusted positions were used.

SURVEY METHODS: Only standard survey methods were used. The roads and railroads were run on separate traverses. In locating the shoreline and the roads setup positions were all determined by traverse using three point fixes as checks wherever possible. All features which were not rodded in were located by three or more cuts. Part of the contouring was done from the shoreline and road traverses, and the remainder from setup positions determined in part by traverse and in part by three point fixes. About half of the points for which elevations are given were determined by rod readings, the remainder by cuts. Sunken rocks were located by cuts to the breakers or boiling caused by them. They are not enclosed in dotted circles but each sunken rock symbol indicates the approximate position of a rock. In estimating the heights of offlying rocks and rocks awash and also to secure a datum for contouring, a curve drawn from the predicted tides was used in determining the stage of the tide.

CLOSING ERRORS OF TRAVERSES AND METHOD OF ADJUSTMENT: All the traverses closed well within the allowable limit of four meters per mile of traverse. Each traverse was adjusted by distributing the error proportionately over the traverse.

Traverse	Error in Meters	Length of
	Distance Azimuth	Traverse
		Stat. Miles
Pars to Bal.	-2	0
Bal to More.	-4	2
More to Cliff.	0	0
Cliff to Santa Cruz		
Magnetic Station	-3	0
Santa Cruz Magnetic		
Station to Soq	-6	3
* Oil Derrick near Pars to		
Soq (Railroad)	-3	8
* Oil Derrick near Pars to		
Soq (Road).	-2	5
		10.4

Note: The traverses marked with an asterisk were checked at intermediate points by short traverses from the shoreline traverses.

COMPARISON WITH OLD WORK: The shoreline and rocks were carefully transferred from the bromides of the old sheets covering this area. No contours were shown on the old sheets and the entire area therefore contoured. The shoreline checked fairly

well but the bluff is breaking down rather rapidly and there is considerable change in some places. The rocks checked very well with the exceptions given below:

In Lat. $36^{\circ} 56.9'$, Long. $122^{\circ} 03.0'$, the old sheet shows three rocks awash. A search was made for these rocks at low tide but only one of them could be found and it should be shown as a sunken rock as it does not bare at any stage of the tide. A rock awash about 50 meters to the southwest was located that was not shown on the old sheet.

In Lat. $36^{\circ} 57.1'$, Long. $122^{\circ} 01.8'$, the old sheet shows a rock awash. The rock was identified and its position correct but it does not bare at any stage of the tide.

Pencilled notes on the sheet cover these changes.

These pencil notes have been erased.

CHANGES IN COASTLINE: The bluffs on this sheet are mostly composed of soft material and in those places where the surf acts directly on the bluffs they are rapidly breaking down. At Soquel Point the old sheet, surveyed in 1910, shows a road along the bluff. At one point part of this road has been washed away and if the road was shown in its correct position the recession has amounted to nearly thirty meters at this point. Over the remainder of the sheet the recession appears to have been less. West of Santa Cruz Lighthouse the bluffs are composed partly of rock and partly of a softer material, and in some places this softer material has been washed out from under the rock. In Lat. $36^{\circ} 57.2'$, Long. $122^{\circ} 02.3'$, there is a vertical hole about thirty five meters back from the edge of the bluff and it appears that the rock is undermined at least that far back. There does not appear to have been much recession here since 1910 but there probably will be considerable in the future.

COMPARISON WITH AERIAL PHOTOGRAPHS: Aerial photographs for this area were available and were closely examined at the time of the field work. A large number of features located on the topographic sheet are easily recognizable on the photographs and if the photographs are to be reduced there are a sufficient number of points recognizable on both. The photographs were also closely examined and compared with the topographic sheet in order to pick up any errors or omissions.

COMPARISON WITH HYDROGRAPHIC SHEET FIELD NO. 8 : This area is free of rocks excepting close inshore and all of the rocks located by the topographer were too close in shore for the hydrographer to attempt to verify.

MISCELLANEOUS: Maps were obtained from the City Engineer of Santa Cruz and from the County Surveyor of Santa Cruz County showing the street layout. These were verified in the field at the time of the survey. The city map was found to be correct but some corrections were found necessary on the county map. The streets shown on the topographic sheet were actually located and the maps are marked showing these streets. The map of the City of Santa Cruz will be forwarded with this sheet. The map obtained from the County Surveyor will be forwarded with Topographic Sheet Field Letter J.

*EP 27 477 18
consult BP
for names
7/13*

A list of recoverable topographic stations located accompanies this report. Form No. 524, Description of Hydrographic or Topographic Station, was filled out for the more prominent of the stations located. These cards are forwarded with the sheet.

Respectfully submitted,

H. C. Applequist
H. C. Applequist,
Aid,
U.S.C. & G. Survey.

Respectfully forwarded,
approved:

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

STATISTICS
to accompany
TOPOGRAPHIC SHEET FIELD LETTER H

DATE FIELD WORK BEGAN:	October 15, 1932
DATE FIELD WORK WAS COMPLETED:	November 16, 1932
NUMBER OF DAYS OF FIELD WORK:	23
STATUTE MILES OF SHORELINE:	11.9
STATUTE MILES OF ROADS AND RAILROADS:	28.7
AREA IN SQUARE STATUTE MILES:	14.4
NUMBER OF RECOVERABLE TOPOGRAPHIC STATIONS LOCATED:	25
NUMBER OF CARDS, FORM NO. 524, DESCRIPTION OF TOPOGRAPHIC STATION; SUBMITTED	57

LIST OF TOPOGRAPHIC SIGNALS
to accompany
TOPOGRAPHIC SHEET FIELD LETTER H.
1932

Hydrog. Name:	Object and Description:	Remarks:
Bil	Post near signboard, West corner Cliff Drive	-Center
Tar	Rose colored house, Cliff Drive, Swanton Blvd.	-S.W. Corner
Sow	Green House, High part, Cliff Dr., Swift Ave.	-S. Gable
Chim	White Stucco House, Cliff Dr. E of Fair Ave.	-Chimney
Red	Wh. Stuc. Ho., Red Roof, Sunset & Alamar Sts.	-S.W. Gable
Mar	Small Brown House, Cliff Dr. W of Columbia St.	-S Gable
Rat	Small White Ho. in trees Cliff Dr. W. of L. House	-Center
Arch	Arch over Cliff Dr. N. entrance to L.H. Reserv.	-Center
Yel	Large Yellow Ho. Cliff Dr. S. of Manor Ave.	-Peak of Roof
Pig	Wh. Stucco Ho. Cliff Dr. S. of Manor Ave.	- E. Gable
Cow	Wh. Stucco Ho. Cliff Dr. Gharkey St.	- Wh. Chimney
Lone Pile	A lone pile W. of Santa Cruz Dock	-Top
Hospital Arch	Arch in center of Hospital, Cliff Dr. Bay St.	-Center
Go	Spire on Merry-Go-Round Building	-Center
Set	Wh. Ho., Steep Roof, S. end 12 th Ave.	-S. Gable
Aim	Grey-brown Ho, Wh. Windows, S. end 18th Ave.	-S. Gable
How	Yellow Ho, Cliff Dr., 25th Ave.	S. Gable
Sand Bunker	A sand bunker on Beach W. of Soquel Point	-Center
Green	Wh. Ho. Green Trimmed, on Soquel Point	-S. Gable

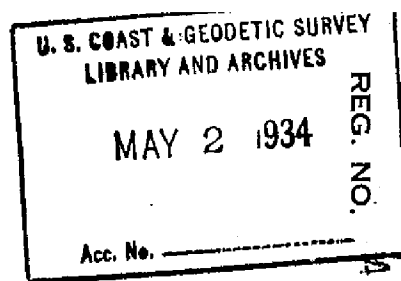
The above stations are all recoverable but are not described on Form 524, Description of Topographic Stations.

The following stations are recoverable and sufficiently prominent so that they are described on Form 524. These cards accompany the sheet.

Ran ✓	Yellow building, Cliff Dr. W. of Woodrow Ave.	-S. Gable
Dome ✓	The Dome on the Casino,	-Center
Gab. ✓	Yellow Ho. Brown Roof, W. Bluff E. of San Lorenzo River	-W. Gable
Stew ✓	Standard Hydrographic Station Disc	
For ✓	Orange building, small, Cliff Dr. 6th Ave	-Center Roof
Tank ✓	Water Tank with windmill, 26th Ave, N. of Cliff Dr.	-Center
Arch ✓	Arch on Catholic High School, on hill NW of Santa Cruz	-Center

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 No. H

REGISTER NO. 4839

State CALIFORNIA

General locality Monterey Bay ~~CALIFORNIA COAST, MONTEREY BAY~~

Locality Santa Cruz and Vicinity.

Scale 1 - 10,000 Date of survey OCTOBER-NOVEMBER, 1932

Vessel U. S. C. & G. S. S. GUIDE

Chief of party FRED. L. PEACOCK

Surveyed by H. C. APPLEQUIST

Inked by H. C. APPLEQUIST

Heights in feet above M H W to ground ~~XXXXXX~~

Contour, ~~Approximate XXXXX~~ interval 20 feet

Instructions dated APRIL 4, 1932, 19

Remarks: _____

REVIEW OF TOPOGRAPHIC SURVEY No. 4839

Title (Par. 56) *Santa Cruz and vicinity, Monterey Bay, California*Chief of Party *F. L. Peacock* Surveyed by *H. G. Applequist* Inked by *H. G. Applequist*Ship *Guide* Instructions dated *Apr. 4, 1932* Surveyed in *Oct.-Nov. 1932*

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.) ✓
4. The amount of vertical control that the Manual specifies for -contours-~~formlines~~ was accomplished. (Par. 18, 19, 20, 21, 22, 23.) ✓
5. The delineation of -contours-~~formlines~~ is satisfactory. (Par. 49, 50.) ✓
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.) *B.P. 27477 and 27478* ✓
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.) ✓
10. ~~The span, draw and clearance of bridges are shown.~~ (Par. 16c.)
11. Locations and elevations of summits are given. (Par. 19, 51.) ✓
12. The tree line was ^{not} shown on mountains. (Par. 16g.)

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.

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 IMs and DPs, 68.) *and scaling checked, see the Desc. Rep. lists a number of recoverable stations that are not entered on cards.*
16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) *See Desc. Rep. Form 567 not yet received; the one landmark (Arch O) is listed on Form 524 as well.*
17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) ✓
18. The geographic datum of the sheet is *North American 1927* and the reference station is correctly noted. (Par. 34.) ✓
19. Junctions with contemporary surveys are adequate. ✓
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 *fair*. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) *Minute values of longitude are inked astride instead of to right of meridians.*
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 *R. J. Christman, May 1934*

Examined and approved:

C. H. Green
Chief, Section of Field Records

F. S. Borden
Chief, Division of Charts

L. O. Pollock
Chief, Section of Field Work

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