

4748

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
~~Hydrographic~~

Sheet No. A. 4748

LOCALITY

Santa Barbara Island

1932

CHIEF OF PARTY

Robert W. Knox

U. S. GOVERNMENT PRINTING OFFICE: 1930

Applied to Chart 5202-Mar 1936 - L.M.

" " " 5101 May 1936 L.M.

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DESCRIPTIVE REPORT
to accompany
Sheet No. A, Santa Barbara Island, California
Robert W. Knox, H. & G. E., Chief of Party
1932

INSTRUCTIONS:

The survey was made in accordance with the DIRECTOR's instructions dated April 14th, 1932.

GENERAL DESCRIPTION:

Santa Barbara Island lies about 40 miles 250° true from Point Fermin and 21 miles 270° true from the western end of Santa Catalina Island; it is $1\frac{1}{2}$ miles long in a north and south direction with a greatest width of 1 mile. The profile of the island from east or west is saddle shaped and has the appearance of two islands from a distance. The highest or southerly peak has an elevation of 635 feet; the northerly peak has an elevation of 562 feet. The northeastern point is marked by a white unattended lighthouse. The elevation of the light is 195 feet. The shores are bold and precipitous and offer no place for beaching a small boat. They are well marked by kelp which extends at irregular distances from the shore.

A rocky islet, 300 feet high and surrounded by kelp lies $\frac{1}{3}$ miles southwestward from the southwestern point of the island. The northern face of the islet is steep. (*gull Island on chart*)

A smaller rock, 145 feet high, lies 150 meters offshore, about $\frac{1}{4}$ mile westward from the northern point of the island.

To the westward thick kelp extends out for a distance of about a mile from the northwesterly point and has a rock awash in the outer and southern edge of the kelp.

The island is uninhabited, and is dry and barren except for a coarse growth of grass, ice plant and a scattering of cactus.

The island is believed by geologist to be of the miocene age.

CHARACTER OF CONTROL:

Five triangulation stations, (SANTA BARBARA ID., MER SLOPE, SOUTH-WEST RIDGE, S. B. ID. SOUTH BASE and S. B. ID. NORTH BASE) of the survey of 1871 were recovered and used to locate subsidiary points along the top of the edge of the island by graphic triangulation. A point was also located on the shore, by graphic triangulation, and was used as a starting point for the traverse around the island.

METHODS:

The standard survey methods outlined in the Topographic Manual, Special Publication No. 144, were used throughout.

TRAVERSE:

A stadia traverse, starting and closing at CHEN, circling the island, a distance of approximately 4.5 miles, was held rigid by frequent resections and check distances to the subsidiary points. The traverse closed without error.

COMPARISON WITH PREVIOUS SURVEY:

In general the size and shape of the island agrees with the survey of 1871. ^(T-1180) The largest discrepancy occurs in the shape and position of the northeastern section and north shore line where the old survey appears to have a lack of control points. The location of the high water line

along the southeast side of the island varies from about 70 meters inshore on the south shore to about 70 meters seaward on the east shore in what appears to be an unchangeable shore line. The extremities of the island and the highest points of the two off lying rock islets as shown in the two surveys agree well. Agreement in the deliniation of the shore line is poor. Approximate sketching from stations on top of the island was apparently used in deliniating the shore line in the old survey. Large discrepancies were found in the elevations of identical or nearly identical points. All of the new elevations were reciprocally determined and check from two or more points. The following is a table of the differences in elevation of the principle points:

POSITION	Elevation Survey of 1871	Elevation Survey of 1932	Difference in Elevation	
Santa Barbara	547'	635'	88'	13.2 70
S. W. Ridge	389'	459'	60'	13.1
Mer Slope	534'	584'	50'	8.6
South Base	275'	342'	67'	19.6
North Base	289'	358'	69'	19.3
20 m. SW of HI	517'	562'	45'	8.9
Middle ridge, approx. top	433'	483'	50'	10.2
	153	145	8'	15.2

SW = 13.9

The group of rocks, above high water and awash, off of the northwest point in lat. 33° 28.8' differ in number and position from the previous survey. Differences in the position and number of rocks off of the west shore of the island in lat. 33° 28.3' and lat. 33° 28.0' and off of the north shore in Long. 119° 02.5' and Long. 119° 02.6' were also found. All new positions of rocks above high water were determined by a stadia distance and at least one direction. Rocks underwater were located usually by a cut and estimated distance. No breakers were noticed which would indicate the presence of any other rocks in these groups.

The existence of a rock^{*} awash approximately in Lat. 33° 28.9' Long. 119° 03.7' was verified and is located 1372 meters 265° true from OLO. The position was determined by intersecting sextant cuts from the hydrographic launch and a direction from AMER SLOPE. H-5505 (1932). ** Plotted on rock sketch on Aug. 21, 1934. For details, see R24, this review.*

Two rocks, underwater, in Lat. 33° 29.2', Long. 119° 02.1' and not shown in the previous survey, were located by three intersecting cuts from plane table stations.

New positions of rocks, located by a stadia distance and direction, are located approximately 150 m. SxW of OGET; 30 m. SE of ORIT; and 240 m. NE of OBIT. None of these rocks are of any danger to navigation being all close to shore.

The small islet about 1/3 miles SW of the SW point of the island is in agreement with the previous survey on the location of the north and east shore line, but shows the southwest corner as extending about 130 m. farther SW than before besides a corresponding change in the south and west shore line of the islet. The elevation of the islet is 300' or 43' higher than before. The location of the south and west shore line was determined by intersecting sextant cuts obtained from the hydrographic launch and the elevation determined by four vertical angles from planetable stations.

The rock 1/4 mile W of the north point of the island is larger and has an elevation of 145', 22' more than shown in the old survey.

The corral and house formerly on the east side of the island are no longer in existence. These are replaced by two abandoned houses, OSHAK and one approximately 80m. up the draw from the landing on the east side.

Respectfully submitted,

William F. Mainave
William F. Mainave,
Jr. H. & G. E., C. & G. S.

Respectfully Forwarded,

Robert W. Knox
Robert W. Knox,
H. & G. E., Chief of Party

PLANE-TABLE POSITIONS

Hydro. Name	Latitude °	D. M. m.	Longitude °	D. P. m.	Description
SO	33 28	58	119 01	1530	See "Description of Topo Station" Card
MID	33 28	982	119 02	758	do
SHAK	33 28	1565	119 01	1151	Abandoned whitewashed shack on first bluff S of landing on East Shore.
HI	33 28	1695	119 02	250	See "Description of Topo Station" Card
LO	33 28	1807	119 02	1213	do
LIT	33 29	446 472	119 01	1177 1214	NA 1427 Lighthouse on N. E. point of island.
GUL	33 27	1672	119 02	1312	Highest point of islet 1/3 mile SW of SW point. Elev. 300'
STI	33 28	1	119 02	801	Center of the middle rock of three large rocks between GUL and the island.
Elev. 145'	33 29	418	119 02	159	Highest point of rock 1/4 mile W of NE point.

STATISTICS

Topographic Sheet A - 1932

Area surveyed in square statute miles - 1.2

Statute miles of shore line surveyed - 7.6

Number of hydrographic stations located- 47

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 4748

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 AREGISTER NO. 4748State CaliforniaGeneral locality Pacific Coast CaliforniaLocality Santa Barbara IslandScale 10,000 Date of survey June 14th to 28th, 1932Vessel Launch and Shore PartyChief of Party Robert W. KnoxSurveyed by William F. MalnateInked by doHeights in feet above H.W. to ground ~~to tops of trees~~~~Contour~~ Approximate contour ~~interval~~ interval 20 feetInstructions dated April 14th, 1932

Remarks:

REVIEW OF TOPOGRAPHIC SURVEY No. **4748(1932)**Title (Par. 56) **SANTA BARBARA ISLAND, Pacific Coast, Cal.**Chief of Party **R.W.Knox** Surveyed by **W.F. Malnate** Inked by **W.F.M.**Ship **Launch and Shore Party** Instructions dated **Apr. 4, 1932** Surveyed in **June 14 to 28, 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.) *none submitted.*
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.) *Yes. (For additional details see paragraph 24 below).*
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 shown on mountains. (Par. 16g.) The area covered by this survey is barren.~~

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.

IP 24 Remarks for T-4748 (1932)(a) Comparison with T-1180 (1871).

Agreement of shore line and offlying features between this survey and T-4748 (1932) is unsatisfactory. Much of the detail shown on the old survey appears to have been sketched instead of relying on rod readings and azimuths. Elevations of common points on the new survey vary on an average 13% greater with a maximum difference of (+) 88 feet at the triangulation station Santa Barbara Island. These differences cannot be accounted for by assuming that elevations on the new survey were taken to the tops of trees for the island is barren. In view of the fact that a portion of the detail on T-1180 (1871) is approximate and that the Chief of Party of the new survey using more ^{modern} ~~up to date~~ methods, was cognizant of these discrepancies and frequently rechecked his determinations, it is recommended that the new survey, T-4748 (1932) supersede T-1180 (1871) in its entirety.

(b) Charted rock awash in lat. 33°28.9, long. 119°03.7.

This rock was first shown as a rock awash in the records of H-1459a (1879) during a tide of 3.4 feet (pos. 16c, red). ^{but was plotted as a sunken rock} It was shown on the ~~contemporary~~ topographic sheet, T-1180 (1871) as a sunken rock accompanied by a note in ink "rock awash". The rock was identified ^{in the records of} H-5305 (1932) as a ^{sunken} ~~rock~~ ^{chuck} and was located by two sextant cuts (pos. 43 and 45 f, red, during a tide of 3 feet) and one direction from shore by the topographic party. The description report of T-4748 (1932) refers to this rock as a rock awash. A rock awash accompanied by a note "awash at MLLW" is believed to be a more correct representation and has been so shown on H-5305 (1932).

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. *none submitted.*
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 DP's, 68.) *none done as yet, been received in this office.*
16. ✓ A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) *none submitted*
17. ✓ The magnetic meridian was shown ^{but the} and declination was ^{not} checked. (Par. 17, 52.)
18. ✓ The geographic datum of the sheet is *North American* and the reference station is correctly noted. (Par. 34.)
19. ✓ ~~Junctions with contemporary surveys are adequate.~~
No junctions with contemporary surveys are required.
20. ✓ Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.) *No names were shown. The island is so small that none appear to be required.*
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.)
22. ✓ No additional surveying is recommended.
23. The Chief of Party inspected and approved the sheet and the descriptive report after review by *W.F. Molnate*
24. Remarks: *See page 12 of this review.*

Reviewed in office by *Harold W. Murray* Aug. 20, 1934

Examined and approved:

C. H. Green
Chief, Section of Field Records

L. O. Lobnitz
Chief, Division of Charts

J. S. Borden
Chief, Section of Field Work

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