

5415

U. S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Photo
Topographic Sheet No. T - 5415
~~Hydrographic~~

State CALIFORNIA

LOCALITY
GULF OF SANTA CATALINA
~~SOUTHERN CALIFORNIA~~

SAN ONOFRE

1934

CHIEF OF PARTY
Robert W. Knox, H. & G. Engr.

U. S. GOVERNMENT PRINTING OFFICE: 1934

5415

Applied to Chart 5101 - May 11, 1936 - L.M.J.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

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

Field Letter

REGISTER NO. T - 5415

STATE OF CALIFORNIA

DATA SHEET

No. T - 5415

PORTION OF WORK	DONE BY	DATE COMPLETED
PROJECTION PLOTTED	<i>W. J. M.</i> W. J. Mignola	Sep-tember 13, 1934
PROJECTION CHECKED	<i>J. C. M.</i> J. C. Mathisson	September 13, 1934
CONTROL PLOTTED	<i>J. C. M.</i> J. C. Mathisson	October 18, 1934
CONTROL CHECKED	<i>D. L. T.</i> D. L. Thompson	October 18, 1934
RADIAL LINE PLOT	<i>J. C. M.</i> J. C. Mathisson	October 23, 1934
RADIAL PLOT CHECKED	<i>W. J. M.</i> W. J. Mignola	November 11, 1934
COMPILED AND INKED	<i>W. J. M.</i> W. J. Mignola	December 15, 1934
TOPO. TRANSFERRED	<i>D. L. T.</i> D. L. Thompson	December 21, 1934
TOPO. CHECKED	<i>W. J. M.</i> W. J. Mignola	December 22, 1934

AREA OF SHEET, 13.2 square statute miles

Length of shoreline, 6.8 statute miles

Length of rivers and sloughs, none.

DESCRIPTIVE REPORT

To Accompany

PHOTO-TOPOGRAPHIC SHEET, REGISTER NO. T-5415

SAN ONOFRE

CALIFORNIA

1934

ROBERT W. KNOX, CHIEF OF PARTY

Scale 1:10,500

PROJECT INFORMATION

For information which applies to the entire area see descriptive report accompanying sheet, Register No. T-5410.

DESCRIPTION OF THE AREA

This sheet covers that section of the coast north from San Onofre Mountain, near El Horno Canyon, to the boundary line between San Diego and Orange counties, about one mile north of the mouth of San Mateo Creek.

Bluffs from 60 to 100 feet in height follow the shore line very closely for the entire length of this sheet, except at the mouths of San Onofre and San Mateo creeks.

From the south edge of the sheet north to Lat. 33 - 22 a gently sloping bench lies between the bluffs along the shore and the steep mountains to

the east. This bench is about half a mile wide at the south edge of the sheet and narrows to about a quarter of a mile in width at Latitude 33° - 22'.

The state highway (U.S.101) follows the east edge of the bench in this section.

The line between San Diego and Orange Counties is also the westerly limits of the Rancho Santa Margarita y las Flores, which extends southeast from that line to the southern limits of this sheet, and beyond. This county line is also the southwesterly limits of the city of San Clemente.

The only two stream beds of any importance are the San Mateo Creek and the Arroyo San Onofre. These are separated by San Mateo Point.

San Mateo Creek is subject to flood at times of rainfall in its rather extensive drainage area in the mountains to the east. During dry periods a sand bar forms across its mouth, closing it completely for most of the time. A pool of water is frequently left standing behind this sand bar.

Less than one mile inshore there is located a spring, as shown on the compilation. This spring flows the year around, giving enough water to keep the valley bottom in a marshy state at all seasons, but not flowing with enough strength to cut a definite

channel nor to keep an open mouth to the sea. Local inhabitants have informed the compiler that San Mateo creek mouth was open at all seasons up until about twenty years ago. Since then the mouth has been closed for the majority of each year. A growth of tules in the mouth of San Mateo creek indicates that the water back of the sand beach is not salt.

Arroyo San Onofre is a dry stream bed very similar to San Mateo creek. It, too, is normally cut off from the ocean by the formation of a sand bar during the dry periods, and a pool of water is usually left between this sand bar and the railway bridge.

The south end of San Clemente (city) appears at the north end of this sheet. The only other settlement is a very small group of houses and a railway station at San Onofre.

The postoffice and school at San Onofre, are shown on this sheet.

The rugged hills lying in the east half of the sheet are cut by heavily eroded gullies and washes. The positions and sometimes even the directions of the drainage, especially at the extreme east edge of the sheet were very difficult to determine with the desired accuracy. Sudden changes in elevation, with subsequent changes in scale, threw points as much as four and five hundred meters out of position.

See Review

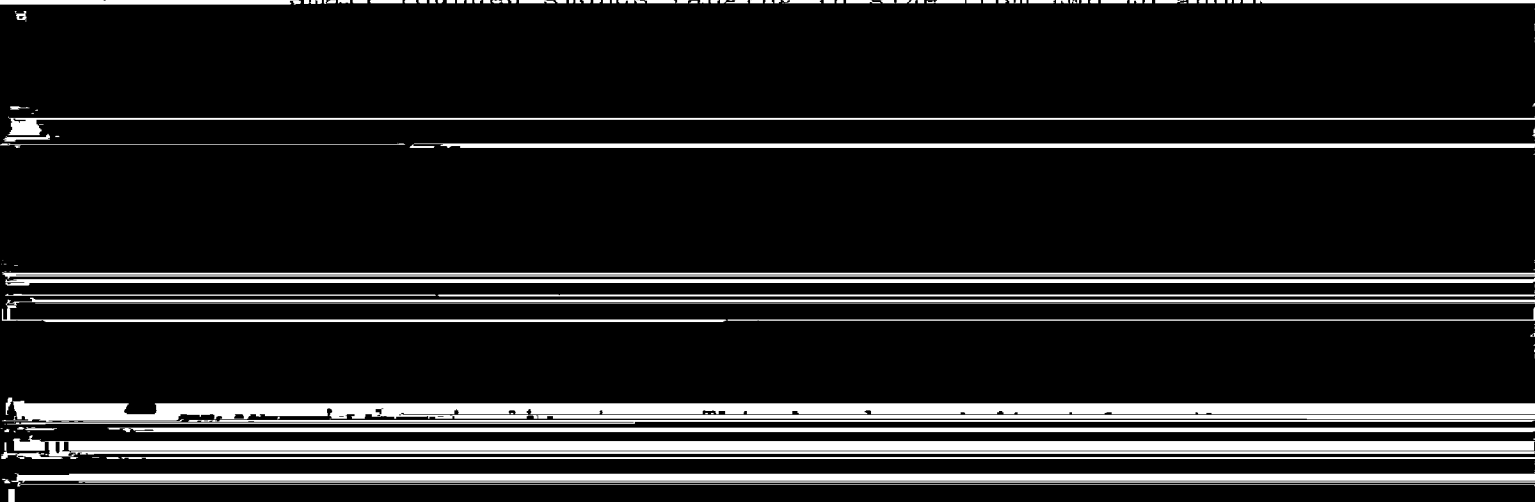
Only the main canyons and the most important branches of this drainage were shown on this sheet. The probable error of this delineation is believed to be about 10 meters, even with intersections taken less than three-quarters of an inch apart. *(See Review)*

The Cotton Estate extends from the boundary line between San Diego and Orange counties west to the ocean and north to the north limits of this sheet. It is a private estate composed of well-kept grounds surrounding several buildings, a race-track for horses, a swimming pool, and a sunken garden.

The most definite channel of the San Mateo creek has been shown with the wash symbol. The bed is flat and much of the adjacent brush area is believed to be part of the creek bed during flood periods.

The bed of Arroyo San Onofre differs from that of San Mateo Creek in that the wash is in most cases several feet below the level of the adjacent brush.

The beach near San Onofre is composed of small rounded stones ranging in size from two to about



San Onofre and San Mateo Creeks. Vegetation in other parts of this area is limited to a sparse growth of chaparral.

The bench east of the bluffs along the shore is cultivated from the south end of the sheet to Onofre bluff. Some land is under cultivation in the bed of San Mateo creek and the bed of Arroyo San Onofre, but other parts of the sheet cover areas too steep or too dry.

The railway crosses Arroyo San Onofre on a wood pile trestle. A small pile trestle provides an opening at the tule swamp in the south part of the mouth of San Mateo creek, and a long wood pile trestle carries the tracks over the main channel.

BRIDGES

The bridges appearing on this sheet are highway and railway structures built merely to provide a channel under the rights of way for the flow during intermittent rainy seasons and make no provision for navigation.

LANDMARKS

Landmarks for this sheet are included in the list submitted on Form 567, accompanying Register No. J-5410.

GENERAL INFORMATION

This sheet is covered by photographs Nos. 270 to 287 inclusive. These pictures were secured January 17, 1934 between the hours of 10:46 and 10:54 A.M.

For further information regarding photographs see descriptive report accompanying Register No. 5410.

GEOGRAPHIC NAMES

San Mateo Creek is designated Arroyo San Mateo on the U.S. Geological Survey quadrangle. It is shown as San Mateo creek on charts Nos. 5101 and 5102. San Mateo creek appears to be the name usually applied to that stream bed, therefore this name has been retained in this compilation.

Arroyo San Onofre is the name used to designate this stream bed on the U.S. Geological Survey quadrangle and on charts Nos. 5101 and 5102. It is shown on some maps as San Onofre creek; but as Arroyo San Onofre is very descriptive of the feature, and serves to differentiate it from San Mateo creek; and since this name is supported by the authority of published charts and by the U.S. Geological Survey, it is the designation used in this compilation. This stream bed is designated as San Onofre Valley on Register No. 2016, dated 1889.

There appears to be no question regarding other names occurring on this sheet.

CONTROL

The control on this sheet was plotted from the adjusted field computations of the triangulation survey of Charles Pierce in 1933.

See Review

This survey was executed in two parts, one run south from the vicinity of Newport Bay, and the other run north from the vicinity of San Diego. There was a discrepancy of several meters where these parts came together. To compensate for this error an adjustment in the positions given was made, proportionately, by the compilation party. For further information regarding this adjustment see descriptive report accompanying Register No. 5410.

List of positions used in plotting control, including DMs and DPs at a scale of 1:10,500, is appended to this report.

BENCHMARKS

Benchmarks occurring on this sheet, as reported by the releveled party of 1933, have been identified on the photographs and their positions intersected.

A list of these benchmarks is appended to this report, giving a revised description where necessary.

See Review

INFORMATION FROM OTHER SOURCES

The altitude of the earth bluffs along the shore caused them to obscure the high water line in some of the photographs. For this reason the high and low water lines were developed by plane table survey by the topographic party, and the information thus secured was transferred to the celluloid sheet. Topographic Sheets, Field Letters ^{T-4893} 'V' and ^{T-4894} 'W', 1934 were used for this sheet.

For a descriptive treatment of these sheets and comparison of the high and low water lines refer to the descriptive report accompanying Sheets ^{T-4893} Field Letters 'V' and ^{T-4894} 'W', 1934.

All matters relating to the railway were checked with a right of way map of the Atchison, Topeka and Santa Fe Railway furnished by the Chief Engineer of that road.

The direction and position of the line between Orange and San Diego Counties was checked with the information given on the railway maps.

Several discrepancies were noted in a comparison of this sheet with Topographic Sheet, Field Letter ^{T-4893} 'V' as regards the position of tangents of the highway and railway.

A difference was also noted in checking the alignment and position of the second class road from Depot

San Onofre along the beach. The information taken from the photographs was accepted, since strong radial plot was developed, and since both the railway and the highway were on fairly level ground occurring on the 'B' prints and were not, therefore, much affected by throw.

RADIAL PLOT

The radial plot was carried southward from San Onofre where the wing 'C' print was firmly held by identified control. The plot covers approximately six miles and joins sheet T-5414 to the south satisfactorily. No adjustment was necessary. The radial plot on the adjoining sheet to the south was carried northward from triangulation station RED WATER TANK which is about three miles from the junction of the two sheets.

COMPILATION

Difficulties in compilation were encountered only in the areas of high relief at the east edge of the sheet. Drainage systems in this area were difficult to locate with any assurance of accuracy. Points were thrown far from their actual position by rapid changes occurring in relief; the strength of the branches of the main beds is thus reduced, having a probable error of ten meters or less. *See Review*

Note:

The estimated accuracy of location given on the opposite page is high for work on this scale. though the compilation is carefully made and well

COMPARISON WITH OTHER SURVEYS

This sheet was compared with photostat of Register No. T-2016, dated 1889. Positions of natural features was found to check satisfactorily.

RECOMMENDATION FOR FURTHER SURVEYS

This compilation is believed to have a probable *See Review and opposite page.* error of less than two meters in positions of well defined detail of importance for charting purposes; and of less than 4 meters for all other data. A slightly greater error may be found in the positions of drainage at the extreme east edge of the sheet.

LETTERING

All lettering required for the completion of this sheet has been shown in ink on the cover sheet.

The position and spelling of geographic names has been checked and are believed to be accurate.

Respectfully submitted

W. J. Mignola
W. J. Mignola
Compiler

Approved:

John C. Mathisson
John C. Mathisson
Jr. H. & G. Engineer

TRIANGULATION STATION POSITION SECONDS IN METERS PLOTTING DISTANCE
Scale 1:10,500

CUATE, 1933	33° 21' + 498.3	-(1350.2)	+ 474.6	-(1285.9)
	117° 31' + 1437.6	-(113.7)	+1369.1	*(108.3)
CUATE HILL, 1886	33° 21' + 1549.1	-(299.4)	+1475.3	-(285.1)
	117° 31' + 11.9	-(1539.2)	+ 11.3	-(1465.9)
ONOFRE BLUFF, 1886	33° 22' + 145.4	-(1703.1)	+ 138.5	-(1622.0)
	117° 33' + 414.0	-(1137.1)	+ 394.3	-(1083.0)
ONOFRE HILL, 1886	33° 22' + 1051.5	-(797.0)	+1001.4	-(759.0)
	117° 32' + 466.1	-(1084.8)	+ 443.9	-(1033.1)
MEDIO, 1886	33° 22' + 1825.1	-(23.4)	+1738.2	-(22.3)
	117° 35' + 26.9	-(1523.9)	+ 25.6	-(1451.3)
CUCHILLO, 1886 *	33° 23' + 1395.7	-(452.8)	+1329.2	*(431.2)
	117° 33' + 1137.5	-(413.1)	+1083.3	-(393.4)
AIRWAY NO. 5, 1932	33° 23' + 541.6	-(1306.9)	+ 515.8	-(1244.7)
	117° 35' + 1057.4	-(493.4)	+1007.0	-(470.0)
COTTON, 1933	33° 23' + 1512.9	-(335.6)	+1440.9	-(319.6)
	117° 35' + 1461.4	-(89.2)	+1391.8	-(85.0)
BEACON NO. 5, 1933 (Near MEDIO)	33° 22' + 1845.5	-(3.0)	+1757.4	-(2.9)
	117° 34' + 1546.1	-(4.7)	+1472.5	-(4.5)
SAN ONOFRE R.R. DEPOT SIGNAL, 1933	33° 22' + 1605.1	-(243.4)	+1528.7	-(231.8)
	117° 34' + 624.4	-(926.4)	+ 594.7	-(882.3)
WATER TANK, 3/4 MILE NORTH OF SAN ONOFRE DEPOT, 1933	33° 23' + 490.3	-(1358.2)	+ 467.0	-(1293.5)
	117° 34' + 810.4	-(740.3)	+ 771.8	-(705.0)
CHIMNEY (SPIRE), COUNTY LINE SERVICE STATION, 1933 **	33° 23' + 1564.7	-(283.8)	+1490.2	-(270.3)
	117° 35' + 871.2	-(679.3)	+ 829.7	-(647.0)
HORNO HILL, 1886	33° 21' + 492.4	-(1356.0)	+ 469.0	-(1291.4)
	117° 29' + 776.3	-(775.0)	+ 739.3	-(738.1)

*CUCHILLO, 1886 is listed on the Geographic Positions List, Form 28B, as Cuchillo, 1884, this is in error as this station is listed in Appendix 9, Report 1904, Triangulation in California as CUCHILLO, 1886.

**This station is listed on the Geographic Positions List, Form 28B, as CHIMNEY; COUNTY LINE SERVICE STATION, 1933. The station should be SPIRE COUNTY LINE SERVICE STATION.
This has been noted on Recovery Note, Form 526, already submitted.

BENCHMARKS

No. T - 5415

*These descriptions
have been filed on Form 524*

- A 131 1933 About 1.9 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, at mileage 210.5 at bridge 211 A and in the top of the northeast corner of the concrete headwall. A standard disk, stamped A 131 1933. (37.112 meters or 121.758 feet.)
- B 131 1933 About 3.3 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, about 330 feet northwest of milepost 212, about 50 feet north of the center line of the track, and 1 foot south of the north property fence. A standard disk, stamped B 131 1933 and set in the top of a concrete post. (50.421 meters or 165.423 feet.)
- Z 130 1933 About 3.5 miles southeast along the Atchison, Topeka and Santa Fe R.R. from the station at San Clemente, about 15 feet south of the fifth pole southeast of milepost 207, at bridge 208 A, at the end of a street, and in the top of the northeast corner of the concrete headwall. A standard disk stamped Z 130 1933. (5.204 meters or 17. 073 feet.)
- 28 S.B. At San Onofre, on the Atchison, Topeka and Santa Fe R.R. in a yard, and about 20 feet southwest of a section bunk-house building. A U.S. Geological Survey standard cap, stamped 28 S.B. and riveted on the top of a 3½" iron pipe. (8.729 meters or 28.638 feet.)

BENCH MARKS

NO. T - 5415

BENCHMARK	LOCATION	" in METERS	
z 130 1933	LATITUDE 33° 23' LONGITUDE 117° 35'	896.4 1266.5	(952.1) (284.3) ✓
U.S.G.S. 28 S.B.	LATITUDE 33° 22' LONGITUDE 117° 34'	1626.1 855.3	(222.4) (695.8) ✓
A 131 1933	LATITUDE 33° 22' LONGITUDE 117° 32'	151.5 1400.9	(1697.0) (150.2) ✓
B 131 1933	LATITUDE 33° 21' LONGITUDE 117° 31'	583.3 1168.4	(1265.2) (383.0) ✓

Scaled from celluloid by: D.L.Thompson 1-14-35

Checked by: J.C.Mathisson 1-16-35

REVIEW OF PHOTO COMPILATION T-5415 (1934)

Comparison with T-4893 (1934) Graphic Control Survey, Scale 1:10,000.

Except temporary planetable stations and magnetic declination all information on T-4893 is shown on the compilation.

Comparison with T-4894 (1934) Graphic Control Survey, Scale 1:10,000.

The same statement applies as above for the common area.

Comparison with T-2016, T-1738 (1889) Topographic Surveys, Scale 1:10,000.

Considering the lapse of time between these surveys and the compilation during which natural changes and works of man have altered much detail they are substantially in agreement except for the delineage of the washes in the mountain area where differences of 20 to 50 meters are noted. See discussion of the trouble encountered in compiling this area on pages 3 and 8 of the Descriptive Report. There is evidence to question the position of some of these washes on T-2016 but due to lack of verification by more recent contouring no disposition can be made. There is not sufficient justification for a chart change in this respect.

Except as noted above, magnetic declination and form lines the compilation is adequate to supersede T-2016 and T-1738.

Comparison with H-5605, H-5604 (1934). Hydrographic Surveys, Scale 1:10,000.

All topographic detail agrees with the compilation.

Comparison with Chart 5102. Approximate scale, 1:235,100.

Except as noted under T-2016 there are no appreciable differences.

General.

Instructions for the project have been complied with. The projection is satisfactory. The drafting is good.

See page 6 of the Descriptive Report for a discussion of errors in the control and adjustments made.

The descriptions of Bench Marks in the Descriptive Report, page 11, have been filed on Form 524.

The value of seconds in the reference station of the title

~~omitted because the adjusted values of the control station~~

REVIEW OF AIR PHOTO COMPILATION NO. T - 5415

Chief of Party: Robert W. Knox, H. & G. Eng
Compiled by: W.J. Mignola

Project: 102

Instructions dated: Aug. 6, 1934

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b,c,d,e,g and i; 26; and 64)
2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g,n)
3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d,e)
4. ~~XX~~
5. Differences between this compilation and contemporary plane table and hydrographic surveys have been examined and rectified in the field before forwarding the compilations to the office and are discussed in the descriptive report.
6. The control and adjustment of the photo plot are discussed in the descriptive report. Unusual or large adjustments are discussed in detail and limits of the area affected are stated. (Par. 12b; 44; and 66 c,h,i)
7. ~~High water line on beach XXXXXXXX
water for chart compilation Par. 16g, 20k, 21b~~

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Refer also to the pamphlet "Notes on the Compilation of Planimetric Line Maps from Five Lens Air Photographs."

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. ✓ ~~Relevant~~ objects have been located and described on Form 524 in accordance with circular 30, 1933, circular letter of March 3, 1933, and circular 31, 1934. (Par. 29, 30, and 57)

Bench marks have been located. See descriptive report for list of geographic positions.
10. ✓ A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 16, 1934, Landmarks for Charts, complied with. (Par. 16d, e; and 60)

11. ✓ All bridges shown on the compilation are accompanied by a note stating whether fixed or draw, clearance, and width of draw if a draw bridge. Additional information of importance to navigation is given in the descriptive report. (Par. 16c)

No bridges over navigable streams on this sheet.

12. ✓ Geographic names are shown on the overlay tracing. The accepted local usage of new names has been determined and they are listed in the report, together with a general statement as to source of information and a specific statement when advisable. Complete discussion of place names differing from the charts and from the U. S. G. S. Quadrangles is given in the descriptive report, together with reasons for recommendations made. (Par. 64, and 66k)

13. ✓ The geographic datum of the compilation is N.A. 1927 and the reference station is correctly noted. (Field comp. field adj.)

14. ✓ Junctions with adjoining compilations have been examined and are in agreement. (Par. 66j)

15. ✓ The drafting is satisfactory and particular attention has been given the following:
 1. Standard symbols authorized by the Board of Surveys and Maps have been used throughout except as noted in the report.
 2. The degrees and minutes of Latitude and Longitude are correctly marked.


3. All station points are exactly marked by fine black dots.
4. Closely spaced lines are drawn sharp and clear for printing.
5. Topographic symbols for similar features are of uniform weight.
6. All drawing has been retouched where partially rubbed off.
7. Buildings are drawn with clear straight lines and square corners where such is the case on the ground.

(Par. 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 48)

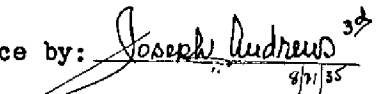

16. No additional surveying is recommended at this time.

17. Remarks:

18. Examined and approved;



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

19. Remarks after review in office:

Reviewed in office by:  3/1/35 

Examined and approved:


K.T. Adams


F.S. Borden

Survey No. T-5415

Chart No. 5101

R, Referred to the Division of Geographic Names, Department of Interior.

[illegible]