

5414

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 5414
~~Hydrographic~~

State CALIFORNIA

LOCALITY

~~SOUTHERN CALIFORNIA~~

GULF OF SANTA CATALINA

LAS FLORES

1934

CHIEF OF PARTY

Robert W. Knox, H. & G.E.

U. S. GOVERNMENT PRINTING OFFICE: 1934

5414

Applied to Chart 5101 - May 1936 L.M.Z.
Applied to Chart 3360 Dec 21, 1943 L.A.M.

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 forwarded to the Office.

Field Letter

REGISTER NO. 5414

State CALIFORNIAGeneral locality SOUTHERN CALIFORNIA GULF OF SANTA CATALINALocality Las FloresScale 1:10,000 photographs January 17, 1934
Date of summer 19Vessel Launch and Shore Party, California, Project No. 102Chief of Party Robert W. Knox, H. & G. EngineerSurveyed by see data sheet of descriptive reportInked by D.L. Thompson

Heights in feet above to ground to tops of trees

Contour Approximate contour Form line interval feet

Instructions dated April 14, 1932 & August 6, 1934

Remarks: Compiled from aerial photographs at a scale of
1:10,500 for reproduction by the photo-lithographic
process at a scale of 1:10,000.

DATA SHEET

NO. T-5414

PORTION OF WORK	DONE BY	DATE COMPLETED
PROJECTION BY	<i>W.J.M.</i> W.J. Mignola	September 12, 1934
PROJECTION CHECKED BY	<i>J.C.M.</i> J.C. Mathisson	September 12, 1934
CONTROL PLOTTED BY	<i>J.C.M.</i> J.C. Mathisson	September 26, 1934
CONTROL CHECKED BY	<i>D.L.A.</i> D.L. Ackland	September 26, 1934
RADIAL PLOT BY	<i>J.C.M.</i> J.C. Mathisson	October 17, 1934
RADIAL PLOT VERIFIED BY	<i>D.L.T.</i> D.L. Thompson	November 15, 1934
COMPILED AND INKED BY	<i>D.L.T.</i> D.L. Thompson	November 28, 1934
TOPOGRAPHY TRANSFERRED BY	<i>D.L.T.</i> D.L. Thompson	November 30, 1934
TOPOGRAPHY CHECKED BY	<i>W.J.M.</i> W.J. Mignola	January 15, 1935

AREA OF SHEET: 16.8 square statute miles

LENGTH OF SHORELINE: 6.9 statute miles

LENGTH OF RIVERS AND SLOUGHS: 0.4 miles

DESCRIPTIVE REPORT

To Accompany

PHOTO-TOPOGRAPHIC SHEET, REGISTER NO. 5414

LAS FLORES

CALIFORNIA

1934

ROBERT W. KNOX, CHIEF OF PARTY

Scale 1:10,500

PROJECT INFORMATION

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

DESCRIPTION OF THE AREA

This sheet covers that section of the coast north from Aliso Canyon to San Onofre Mountain.

Bluffs follow the shore for the entire length of the sheet with the exception of the vicinity of the mouth of Las Flores Creek. These bluffs vary in height from about 60 feet at the south edge to nearly 100 feet at the north limit of the sheet.

A gently sloping bench lies between the bluffs along the coast and the steep slopes of the mountains to the east. The width of this bench varies from about two miles at the south edge of the sheet to about one half

a mile at the north edge.

The mountains along the east edge of this sheet rise to considerable elevations. At the north end of the sheet an elevation of 1000 feet is found slightly more than a mile inshore.

Las Flores creek appears near the center of the sheet and has two tributaries; Las Pulgas and Piedra de Lumbre canyons.

Las Flores valley has a width of about 500 meters. All other drainage is nothing but dry canyons with steep sides and rapidly sloping bottoms eroded in the soft soil of the sloping bench.

Both Piedra de Lumbre and Las Pulgas canyons extend a considerable distance back into the mountains and drain fairly large areas.

An intermittent pond appears at the south end of the sheet near the shore line. Register No. J-2015, dated 1889 shows this pond with the note: "Pond in winter. Alkali Flat in summer." This is believed to be correct.

The entire area covered by this sheet is part of the Rancho Santa Margarita y las Flores. As shown on the sheet, cultivation is limited to the bench west of the mountains and north of Las Flores creek.

There are no settlements of any size within the boundaries of this sheet. Las Flores and Don are

railway sidings. A privately owned packing and warehouse is located at Don, and a stockyard and small freight house at Las Flores.

GENERAL INFORMATION

This sheet is covered by photographs Nos. 250 to 269 inclusive. These photographs were secured January 17, 1934 between the hours of 10:38 and 10:46 A.M.

For further information regarding photographs see descriptive report accompanying sheet Register No. F5410.

CONTROL

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

This triangulation was executed in two parts, one working south from the vicinity of Newport Bay and the other working north from the vicinity of San Diego. There was a discrepancy of several meters where the two parts joined. In order to take care of this, the positions of the control were adjusted by proportion by the compilation party and the resulting positions used. *See general report in T 5410 pages 10 and 13.*

A table of control giving the positions used and the DMS and DPs converted to the scale of this compilation - 1:10,500 - is appended to this report.

RADIAL PLOT

It was found impossible to pick triangulation stations on the wing photos because they were all located in mesquite and unsettled areas. For purposes of radial plot, ten picture points located on area of Topographic Sheet, Field Letter 'U', 1934, were used to steady the 'C' wing print.

Radial plot was accomplished by locating the radial points in a narrow band in the inner edge of the 'C' wing prints and points on the 'B' prints for the length of the sheet. This was expanded in two steps to locate the outer points on the extreme inshore edge of the sheet.

COMPILATION

See Review
Difficulties arising from a combination of rapid relief changes and poor control in the wing photographs made delineation of the drainage to the east a very doubtful matter. The location of the main channels of the drainage is believed to be within the required ^{allowable ?} limits of error, but the feeders may be found to be out as much as ten meters in position.

In intersecting points photographs Nos. 251, 257, and 261 were not used due to excessive tilt. Photographs Nos. 260, 263, 264 and 265 showed poor cuts, probably due to tilt also.

INTERPRETATION OF PHOTOGRAPHS

In general detail showed in the photographs with sufficient clarity for charting purposes.

The mouth of Las Flores creek showed as being open at the time of the photographs; while the Topographic Sheet, Field Letter 'U', 1934 showed this as being closed. This has been shown closed on this sheet.

INFORMATION FROM OTHER SOURCES

Information as to track alignment, location of spurs and sidings, and other detail not readily secured from the photographs was checked from the right of way map furnished by the Chief Engineer, Atchison, Topeka and Santa Fe Railway.

The highway department of the State of California informed the compilation party that there had been no changes in the state highway since the date of the photographs.

The height of the bluffs along the shore obscured the high water line in most of the photographs. For this reason high and low water lines were run in by plane table by the topographic party, and transferred to this sheet. *From T-4892*

COMPARISON WITH OTHER SURVEYS

The shore line on this sheet appears on
Topographic Sheets, Field letters 'U' and 'V', 1934.
For a comparison of this shore line with earlier
surveys see descriptive reports accompanying those
sheets.

This sheet was compared with Register No. T-
2015, dated 1889 and the positions of all natural
features was found to check satisfactorily.

Various detail was checked by reference to
railway right of way maps, state highway maps, and the
Geological Survey quadrangle of the area. No discrep-
ancies of any importance were found.

In comparing the shore line on this sheet
with that on Topographic Sheet, Field Letter 'U', 1934
it will appear that the hachures indicating the earth
bluffs back of the shore line will place several Topo-
graphic stations on the beach or lower than the top of
the bluffs. Topographic station KOR is actually located
lower than the elevation of the top of the bluffs.
Stations TEE, RAT, and HLP were located on the second
shelf of the bluff, lower than the top.

*Hachures are
not inked on T-4892*

LANDMARKS

Landmarks on this sheet have been selected by the compilation party after field inspection.

A list of landmarks on form 567 will go forward with sheet Register No. F5410 descriptive report.

BENCHMARKS

All U.S. benchmarks, as described by the re-leveling party of G.R. Fish in 1932-33, have been shown on this sheet.

The positions of these bench marks is believed to be shown with an error of less than two meters.

A list of benchmarks is appended to this report giving the revised descriptions and also the geographic positions as scaled from the sheet by the compilation party. *Positions and descriptions have been copied on and filed on Form 524.*

B.G. Jones

GEOGRAPHIC NAMES

The canyons shown on the U.S. Geological Survey quadrangle and other available maps of the region as Las Pulgas and Piedra de Lumbre canyons come together at the east edge of the bench. Below this junction the right of way map of the railway is the only available source of information, and it designated the stream bed west of that point 'Las Flores Valley' and the stream itself 'Las Flores Creek'. These names have been retained in the

compilation of this sheet. Las Flores siding on the railway strengthens the use of this name.

The intermittent pond at the extreme south west end of the sheet is designated as 'La Laguna' on the railway map. As this feature is of no great importance, and since no other authority can be found for this name it has been omitted on this compilation.

Register No. J-2015, dated 1889, designates Piedra de Lumbre canyon as Las Flores creek. It is believed, however, that the name on the U.S. Geological Survey quadrangle should be retained as far, at least, as the junction of the two branches. This has been done on this compilation.

Aliso Canyon is marked 'Sycamore Canyon' on the right of way map of the Atchison, Topeka and Santa Fe Railway. No other authority for this name has been available to the compilation party. Since the name 'Aliso Canyon' appears on all other maps of the area, including U.S. Geological Survey quadrangle, the name 'Aliso Canyon' has been retained as the designation on this sheet.

BRIDGES

All bridges on the sheet are railway and high-

way bridges built over normally dry canyons or small streams in which no navigation is possible. No allowance is, therefore, made for navigation under these spans.

RECOMMENDATION FOR FURTHER SURVEYS

This compilation is believed to have a probable error of less than two meters in all 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 delineation of the drainage in the steep slopes to the east side of the sheet. (See above p.4 this report.)

see review of the book.

ERRORS TO BE NOTED

Discrepancies between this compilation and that of Topographic Sheets, Field Letters ^{T-4002} 'U' and ^{T-4823} 'V', 1934 will be noted. The following table indicates these errors:

See Review

Road	Location	Direction	Change on T-5414
Highway	33 -18 117 -27	N by E	5 m. S.E.
"	33 -18 117 -28	NW	W end 10m. SW
"	33 -19 117 -28	NW	2m E
"	33 -19 117 -29	NW	5 M. W
"	33 -20 117 -29	NW	S end 20 m SW
Railway	33 -20 117 -30	NW	at neat line 5 m. E

During compilation a steel straight edge was dropped on the sheet causing a break in the celluloid occurring inside a cultivated field. This break has been repaired and the cultivation symbol has been broken at the cracks in the sheet.

LETTERING

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

The positions and spelling of all geographic names have been checked and are believed to be correct.

Respectfully submitted:

D. L. Thompson
D.L. Thompson
Compiler

Approved:

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

REVIEW OF AIR PHOTO COMPILATION NO. T - 5414

Chief of Party: Robert W. Knox, H. & G.E. Compiled by: D.L. Thompson

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. ~~Blue prints and maps from other sources which were transmitted by the field party contain sufficient control for their application to the chart. (Par. 26)~~
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 marks on wharfs and piers are taken from the compilation. (Par. 26, 43, 44)~~

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, rocks, and 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 geographic positions. *Filed on Form 524*
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:

See following pages

Reviewed in office by: *Joseph Andrews* *B.G. Jones*

Examined and approved:

K.T. Adams
Asst Chief, Section of Field Records
L.O. Roberts
Chief, Division of Charts

Francis Borden
Chief, Section of Field Work
Stude
Chief, Division of Hydrography
and Topography.

SHEET NO. 5414

TABLE OF CONTROL

Station	Position		Plotting Distance 1:10,500 scale	
Shingle Bluff 1886 ✓	33° 15'	1244.6' (603.8)	1185.3	(575.0) m.
	117° 26'	520.9' (1032.1)	496.1	(983.0) m.
Road Knoll 1886 ✓	33° 16'	1841.1' (7.3)	1753.4	(7.0) m.
	117° 24'	1113.8' (438.8)	1060.8	(417.9) m.
Oceanside North Base ✓ 1933	33° 16'	888.5' (959.9)	846.2	(914.2) m.
	117° 26'	452.7' (1100.1)	431.1	(1047.7) m.
Pulgas 1933 ✓	33° 17'	197.6' (1650.8)	188.2	(1572.2) m.
	117° 27'	852.9' (0699.7)	812.3	(666.4) m.
Quartz 1886 ✓	33° 18'	1076.2' (772.2)	1025.0	(735.4) m.
	117° 25'	594.5' (957.6)	566.2	(912.0) m.
Flores Hill 1886 ✓	33° 19'	407.2' (1441.2)	387.8	(1372.6) m.
	117° 27'	862.6' (689.3)	821.5	(656.5) m.
Don 1933 ✓	33° 18'	1188.1' (660.3)	1131.5	(628.9) m.
	117° 28'	1408.6' (143.5)	1341.5	(136.7) m.
Fiedra 1933 ✓	33° 19'	1520.4' (328.0)	1448.0	(312.4) m.
	117° 30'	143.3' (1408.5)	136.5	(1341.4) m.
Red Water Tank, West ✓ Flores R.R. Siding 1933	33° 19'	209.4' (1639.0)	199.4	(1561.0) m.
	117° 28'	425.4' (1126.6)	405.1	(1073.0) m.
North Gable Large Ware- house on Coastal Mesa 1933.	33° 18'	1416.3' (432.1)	1348.9	(411.5) m.
	117° 28'	930.9' (621.2)	886.6	(591.6) m.

BENCH MARKS

NO. T-5414

These descriptions were filed on Form 524.

- 165 S.B. ✓
(U.S.G.S) About 5.2 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, about 2.4 miles northwest from Don, about $\frac{1}{4}$ mile northwest of milepost 214, about 350 feet northwest of the signboard at Agra, about 50 feet east of the center-line of the main track, and 3 feet west of the property fence. A United States Geological Survey standard cap, stamped 165 S.B. and riveted on the top of a $3\frac{1}{2}$ inch iron pipe. (50.502 meters or 165.689 feet.)
- C 131 1933 / About 6.5 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, about 1.1 miles northwest of Don, opposite milepost 215, 43 feet east of the center-line of the track, and 7 feet west of the east property fence. A standard disk stamped C 131 1933 and set in the top of a concrete post. (42.664 meters or 139.973 feet.)
- U
(U.S.B.M.) ✓ About 7.6 miles southwest along the Atchison, Topeka and Santa Fe R.R. from San Onofre, at Don, about 150 feet northwest of the station sign, about 20 meters north of the north end of the warehouse building and in line with its longitudinal center-line, about 3 feet west of the property fence. The bottom of a square hole cut in the top of a granite post, lettered U.S.B.M. (41.671 meters or 136.716 feet.)
- D 131 1933 / About 9.4 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, about 0.6 miles northwest of a siding at Las Flores, about 195 feet southeast of milepost 218, at bridge A-219 over creek, in the top of the northwest corner of the headwall, and about 4 feet lower than the track. A standard disk stamped D 131 1933. (14.712 meters or 48.268 feet.)

Bench Marks 5414

-2-

T

✓ About 10.4 miles southeast along the Atchison, Topeka and Santa Fe R.R. from San Onofre, about 7.3 miles northwest of Oceanside, about $\frac{1}{2}$ mile south of a siding at Las Flores, about $1\frac{1}{2}$ poles southeast of milepost 219, at the southwest corner of concrete culvert A-220, and in the top of the coping. A copper bolt; (17.757 meters or 58.258 feet.)

J

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SHEET NO. 5414

GEOGRAPHIC POSITIONS

OF

BENCH MARKS

B. M. 165 S.B. (U.S.G.S.)	Lat. 33° 20'	572.3	(1276.1) m. ✓
	Long. 117° 30'	504.7	(1046.9) m. ✓
B. M. C-131, 1933	Lat. 33° 19'	1066.4	(782.0) m. ✓
	Long. 117° 29'	504.6	(1047.2) m. ✓
B. M. U. (U.S.B.M.)	Lat. 33° 18'	1430.9	(417.5) m. ✓
	Long. 117° 28'	949.5	(602.6) m. ✓
B. M. D-131, 1933	Lat. 33° 17'	978.2	(870.2) m. ✓
	Long. 117° 27'	556.6	(995.8) m. ✓
B. M. T.	Lat. 33° 16'	1440.5	(407.9) m. ✓
	Long. 117° 26'	1224.9	(327.7) m. ✓

Scaled by: WJM
Checked by: JCM

Survey No. T-5414

Chart No. 5102

Diagram No. _____

~~✓~~, Not Approved by the Division of Geographic Names, Department of Interior.

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

APPROVED NAMES
UNDERLINED IN RED
H. L. Flemer

REVIEW OF PHOTO COMPILATION T-5414 (1934)

Comparison with other surveys and with the charts:

Chart 5102 is very small scale and any differences of detail are only minor. The names are all verified by the compilation.

T-4892 (1934) 1:10,000. Comparison shows the projection of this sheet to have contracted about 15 meters in one minute of latitude. The bluff hachures are shown in pencil. All inked detail appears on the compilation except magnetic declination and temporary plane table stations. Three lines of fence were added in the office.

The compiler has discussed some differences on page 9 of the descriptive report. It should be added that the reverse curve of the railroad at lat. $33^{\circ}16.3'$, long. $117^{\circ}26.3'$ is not well drawn although the tangents are all right in azimuth. Comparison with the photographs shows the compilation to be correct.

T-2015 (1889) 1:10,000. Comparison shows a satisfactory agreement along the area to the seaward of U. S. Highway No. 101.

The hinterland canyon bottoms show many differences varying in amounts to fifty meters. The photographs were examined and new control points spotted to check a few of the marked discrepancies. Eight out of ten such supplemental points checked the compilation within 10 meters - that were picked on stream beds lying normal to the line of flight. A test was made of a few lateral feeders where no supplemental control was used and the tendency was to draw them in about twenty meters. Due to the difficulty experienced by the compiler as discussed on page 4 of the descriptive report which was verified in the office it is doubtful if the limit of accuracy of 10 meters as stated on page 4 is adequate. In view of office investigation a better estimate of accuracy for all drainage detail inshore of the main highway would be 5 to 10 meters for intersected points and 5 to 20 meters for interpolation. A better estimate of the accuracy of location for the detail seaward from the main highway than is given on page 9 is an accuracy of location of 3 to 5 meters for intersected points and 3 to 10 meters for other detail.

H-5602 (1934) 1:10,000. All detail on this survey is in agreement with the compilation.

Control:

Reference is made in connection with adjustment of control used for this compilation to discussion on page 11 of descriptive report of T-5410. Because of this field adjustment the value of seconds is not given in the datum note as the value in meters was only given to the nearest 0.1 meter, (see page 14).

The projection is satisfactory, instructions have been complied with and the sheet well rendered. The recoverable benchmarks listed on pages 15 and 16 have been filed on Form 524.

Joseph Andrews
~~Joseph Andrews 3rd~~
8-14-35

✓ J. G. Jones