

MAR 12 1935

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Form 504 Rev. Dec. 1933	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY R. S. PATTON, DIRECTOR	
DESCRIPTIVE REPORT	
Photo Topographic <del>Hydrographic</del>	Sheet No. T 5410
State CALIFORNIA	
LOCALITY <del>SOUTHERN CALIFORNIA</del> Gulf of Santa Catalina	
DEL MAR	
193 <sup>4</sup>	
CHIEF OF PARTY Robert W. Knox, H. & G. E.	

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GENERAL DESCRIPTIVE REPORT  
For Area covered By

PHOTO-TOPOGRAPHIC SHEETS, REGISTER NOS.  
T-5375, and T-5410 to T-5418 inclusive.

LA JOLLA  
TO  
NEWPORT BAY  
CALIFORNIA

1934--35

ROBERT W. KNOX, CHIEF OF PARTY

Scale 1:10,500

AREA COVERED BY PROJECT

This project covers a section of the coast from La Jolla on the south to Newport Bay on the north. It includes ten photo-topographic sheets, Register Nos. 5375, and 5410 to 5418 inclusive.

This section of the coast follows very closely the arc of a circle with a radius of about sixty miles. There are very few points extending into the water area, and no inlets of any size or importance.

PROJECT INFORMATION

The compilation was authorized by a letter from the Director, dated April 14, 1932; and supplemented by a letter, dated August 6, 1934.

All ten of these sheets have been compiled at a scale of 1:10,500 for reproduction by the photo-litho-

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graphic process at a scale of 1:10,000.

The aerial photographs were secured by the 23rd., Photo Section, Air Corps, U.S.Army, March Field, California. Pilot Manton W. Kaye, 2nd. Lieut., Air Corps; and cameraman G.W.Edwards, Technical Sergeant, Air Corps. A Fairchild F - 1 a plane was used, Serial No. 31467. The camera was Army Camera T 3a, Serial No. 31-79.

The photographs from the south edge of Register No. 5410 to Leucadia -- Nos. 172 to 188, inclusive -- were secured December 22, 1933 between the hours of 12:18 and 12:22 P.M. Those beyond Leucadia and to the north limits of this project at Newport Bay were secured on January 17, 1934, between the hours of 10:11 and 11:20 A.M.

A copy of the index map furnished with the photographs by the 23rd. Photo Section is appended to this report. The date of the photographs north of Leucadia is given as January 18, 1934 on this map. The date January 17, 1934, however, is stamped on the photographs themselves, and as it is believed to be more accurate, the earlier date has been used in the preparation of the descriptive reports for this area.

The project was covered by a single flight, with alternate pictures crabbed at an angle of about forty-five degrees. The pilot followed the shore line most of the time at about one half mile back from the high water line. At San Mateo Point and again at Dana Point there is an interruption in the strip of photographs due to changes in the plane's direction necessitated by changes in the direction of the shore line.

No field inspection report of this project has been prepared as no field inspection was made before beginning the work of compilation. In this case such an inspection was considered to be unnecessary since the compilation was executed in San Diego. The draftsman compiling a sheet made a personal inspection in the field of all doubtful points which developed in the progress of the work.

Because of the rugged nature of the terrain, it was found impracticable to make a general field inspection before compilation began; and highly desirable that the compiler make a personal inspection of the ground covered by the sheet he was commencing before or during the compilation of that sheet.

## GENERAL DESCRIPTION OF COMPILATION METHODS

Since the photographs were secured from a single flight which paralleled the shore line for the length of the project; and in order to cover the area most effectively and to develop the maximum strength at the sheet junctions, it was considered advisable to lay out the sheets with the line of flight very close to the long axis of each sheet. For this reason most of the projections were 'skewed' and the angle of the 'skew' usually varies from one sheet to the next.

All sheets of this project have been laid out so that they will not exceed the dimensions of 29 x 46 inches when they have been <sup>enlarged</sup> reduced to the scale of 1:10,000.

All photographs were trimmed and mounted in San Diego by civilian draftsmen under the personal supervision of the undersigned.

Considerable difficulty was experienced with the mounting cards furnished for this project. All cards were tested with a straight-edge before being used. In some cases the lines through the axes of the wing prints were straight from edge to edge of the card. In others was found a decided bow in the middle, sometimes reaching a maximum of about one millimeter.

Since this 'bow' was not uniform, a pencil line

was drawn between the ends of the line. After a check for perpendicularity this line was used in mounting the 'B' prints. This method was apparently successful.

Many wing prints were inaccurately transformed. The scale of the wing prints in such cases failed to agree with the scale of the corresponding 'B' prints at the junction, making it impossible to match detail when mounting them.

Where there was adequate detail at the junction of the 'B' and wing prints, this condition was readily detected. Only the middle part of the wing print was used in the compilation when that condition was discovered.

In many cases there was not enough detail at the junction line to detect faulty transformation. In such cases the trouble was soon detected when the points were used in the radial plot. All points except those in the middle part of the wing prints affected were discarded.

Steep slopes and large changes in elevation in short distances introduced many unusual problems. In some instances elevation differences caused points to be 'thrown' as much as 600 to 700 meters out of position.

Radial lines were drawn on the sheets in pencil and all detail traced first in pencil and inked later. This is believed to produce the most accurate results, particularly in places of large and sudden elevation changes.

The width of roads and streets has been shown as near as possible to the width in the photographs, except that a minimum width of 0.7 millimeter~~s~~ was adopted to avoid trouble in reproduction.

#### CONTROL

None of the control had been marked for identification before the photographs were secured. For this reason it was found impossible to identify many control stations in the pictures, even after a careful inspection in the field. This was particularly true in the large undeveloped areas found on this project where it was very hard to find any well defined points of any kind.

Very few of the control points which fell on the 'C' wing prints could be identified in the photographs. This materially complicated the work of the compilation which presented many problems due to the material changes in elevation.

In order to provide readily identified control along the shore several points on each sheet of the project were selected from the photographs and were located by the topographic party in the field, using plane table methods. The use of such points in the compilation effected a material saving in time.

These points were not shown on the phototopographic sheets but were inked in blue on the topographic sheets and pricked and described on the field prints of the photographs.

#### GENERAL DESCRIPTION OF THE AREA

The drainage on this project is normally nothing more than dry stream beds. A surface flow occurs only at rare intervals, often separated by a period of years. The construction of dams and reservoirs on the upper reaches of some of the larger drainage areas tends to reduce still further the flow.

From the southern end of the project north to, and including, San Juan Creek, sand bars built up during dry periods often completely close the mouths of the stream beds. When a flow occurs these sand bars are broken open; but not necessarily in the same location as that of the previous break. The result is a constantly changing shore line in the vicinity of the mouths of the drainage.

Bodies of water often occupy tidal channels in the mouths of the drainage when they are open to the sea; and sloughs usually occupy these areas when the sand bar closes the mouth of the drainage.

Most of the level land in the area of this project is found in the mouths of the drainage. Several



attempts have been made to cultivate such localities; but the alkaline character of the soil has made most such attempts abortive.

North of San Juan Creek -- on Register Nos. 5417 and 5418 -- the stream beds reach the shore at a much steeper grade than elsewhere on the project. In this section there are no large flat areas at the mouths of the drainage; and, with only one or two exceptions, there are no sand bars across the mouths.

Mountains of considerable height and with steep slopes are found a short distance back from the shore line for the entire length of the project. Earth bluffs up to three hundred feet in height follow the high water line very closely except where they are interrupted by the mouths of the drainage. In a few cases there is a gently sloping sand beach between the foot of the bluffs and the high water line.

The greatest elevations are found in the mountains just north of Latitude 33 - 20. In this part of the project elevations of over 1000 feet are encountered within a distance of a mile inshore.

There is no natural timber in the area of this project. Willow brush is found in a few of the stream beds. Brush, grass, and semi-arid vegetation covers the

slopes of the mountains and the benches except where it has been cleared off.

The usual types of desert vegetation are found above the flats at the mouths of the stream beds. Grass is usually limited to those flats and to parts of the gently sloping benches just inshore from the bluffs.

Cultivation is limited to areas where water for irrigation is available. There is considerable truck farming in the area. Avocados are raised extensively, particularly in the section between Oceanside and Leucadia. (cf. Register Nos. 5410 to 5413 inclusive.)

Most of the settlements are resort towns. There has been considerable development along the lines of attractive and comfortable homes in the vicinity of Del Mar, as well as those of San Clemente, Dana Point, and Laguna Beach.

The line of the Atchison, Topeka and Santa Fe Railway and U.S. Highway No. 101 both follow the shore from Soledad Valley north to San Juan Creek, where they both turn inland. There is no railway along the coast from San Juan Creek to Newport Bay; and a branch of the coast highway, State Highway No. 3, continues up the coast from San Juan Creek to the north limits of the project.

There are several state, county, and city parks in the area covered by this project. In most cases these have been shown on the sheets. Some of them, however,

have been shown on the sheets. Some of them, however,

have not been shown for the reason that they either; (a) were too small and relatively unimportant; or (b) were not well enough defined as to limits to allow their boundaries to be delineated with the required accuracy. In the case of parks falling under the class (a) the park has been omitted; and in (b) the park has been designated by name only, without any attempt being made to trace the boundary lines.

#### RADIAL PLOT

In general it was found impossible to pick out triangulation stations on the wing photographs because they were usually located in mesquite and unsettled areas. For purposes of radial plot picture points were chosen and located on the area covered by the topographic sheets. These were used to steady the radial plot in the 'C' wing print areas.

In some cases the 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. This was expanded in two or more steps to locate the outer points on the extreme inshore edge of the sheets.

The longest radial plot was carried southward from San Onofre where the wing 'C' print was firmly held by identified control. This covers approximately six

miles and joined the sheet to the south satisfactorily. (cf. Sheets Register Nos. 5415 and 5414.) No adjustment was necessary. The radial plot from the south was carried northward from triangulation station RED WATER TANK which is about three miles from the junction of the two sheets.

#### FIELD ADJUSTMENT OF CONTROL

The control on this project was plotted from the field computations of the triangulation party of Charles Pierce in 1933.

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 two parts came together. To compensate for this error a proportional adjustment was made by the compilation party upon receipt of a letter authorizing this step from the Director, dated August 25, 1934.

The second order scheme of triangulation from Newport Bay to the Mexican Border began from first order line Golf-Baranca used as a base and G.P. computations carried south to Encinitas 2-Beans. G.P.s were then computed north from first order line Soledad-Pt. Loma Old. The computations of positions of Encinitas 2 - Beans from north computation was in error 5.01 meters in latitude

and 2.69 meters in longitude as compared with the positions computed from the south.

A weighted means of the positions of Encinitas 2 and Beans was considered to be the correct position. This mean was arrived at by considering 1/5 of the error to be in the south arc and 4/5 of the error to be in the north portion of the arc, (cf. The Director's letter, August 25, 1934.)

The error was adjusted proportionately from the common base southward and northward to the two origins.

The mean difference was determined to be approximately 5.01 meters in Latitude and 2.69 meters in Longitude.

Corrections applied to positions as follows to and including stations listed from south to north:

STATION	CORRECTION	
	LATITUDE	LONGITUDE
Position from south		
Origin to N.W. Range	6.0 meters	0.0 meters
to Pole minus	0.5 "	minus 0.3 "
to Encinitas 2 "	1.0 "	" 0.6 "
Position from north		
to Economy Gas Tank		
plus	4.0 meters	plus 2.2 meters
to Rooster on Twin Inns		
plus	3.6 "	" 2.0 "
to Side "	3.2 "	" 1.8 "
to North Base "	2.8 "	" 1.5 "
to Horno Hill "	2.4 "	" 1.3 "
to Onofre Bluff "	2.0 "	" 1.1 "
to Segunda "	1.6 "	" 0.9 "
to Dana "	1.2 "	" 0.7 "

(continued)

CORRECTIONS (continued)

STATION	CORRECTION		LONGITUDE
	LATITUDE	Position from north	
Dana			
to Goff Ridge	plus 0.8 meters	plus	0.4 meters
to center	" 0.4 "	" "	0.2 "
to Golf	0.0 "		0.0 "

This scheme of corrections was applied to the control as plotted on the celluloid sheets but not to the control as plotted on the topographic sheets. As a consequence the celluloid sheets will not compare exactly with the topographic sheets in regard to the relative positions of control and projection on these sheets. The topo points, located by the compilation party, were plotted on the topographic sheets with the correction applied as above.

INFORMATION FROM OTHER SOURCES

The middle point of the photographs usually falls about one half a mile inland from the bluffs along the shore. For this reason the bluffs obscure the high water line in the photographs of a large part of the project. Sunken rocks, and rocks awash were not visible in the photographs.

For these reasons the high water line, low water line, toes of the bluffs, and all offshore detail were located by the topographic party using the plane table.

The positions of some offlying rocks, as shown on the photo-topographic sheets on this project, may be found to be in error. These positions, as shown on these sheets, were taken from the photostats of the topographic sheets.\* The positions on the topographic sheets were determined by the usual plane table methods.

After the topographic sheets were transmitted to the office, however, the positions of some of the offlying rocks were verified by sextant cuts during the progress of smooth-plotting the hydrographic sheets which was done at Santa Barbara.

It is believed that the verified positions of some of these rocks may show the topographic positions to be in error. No data on this was available to the compilation party since the compilation was being done in San Diego at the time that the smooth-plotting was being done in Santa Barbara.

*\* The transfer of positions from the photostats has been checked in the office with distortion free photo litho prints, and comparison made with both the planotable control sheets and the hydrographic sheets.*

*B. J. Jones*

These plane table sheets were reduced, by means of photostats made locally by commercial companies, to the scale of the compilations, i.e. 1:10,500. The detail was then transferred from the photostats to the celluloid sheets.

These photostats are being transmitted to the office with the last shipment of sheets of this project.

The shore line from the southern end of the project to Newport Bay is shown on Topographic Sheets, Field Letters I, H, G, B, C, D, E, F, U, V, W, X, and Y, 1934. For a description of features on these sheets refer to the descriptive reports transmitted with them.

Maps furnished by the various settlements in the area of the project were used with which to check street names and the names of other geographical features.

Geographic names were also checked against those on published quadrangles of the U.S. Geological Survey and any discrepancies noted.

Maps furnished by the Chief Engineer of the Atchison, Topeka and Santa Fe Railway were used to check the position and alignment of main line, spurs, and all railway structures.

Maps furnished by the highway department of the State of California were used to plot all changes in the

*Sheet Nos. (registry) assigned are:*

"B"-T-4887	"G"-T-6225 b	"W"-T-4894
"C"-T-6226 a, b	"H"-T-6225 a	"X"-T-4895
T-6227 a, b	"I"-T-6224 b	"Y"-T-4896
"D"-T-6226 b	"U"-T-4892	
"E"-T-6227 a	"V"-T-4893	
"F"-T-6227 b		



state highway since the date of the photographs. The district engineer of the highway department has given information as to projected changes in alignment and position of the state highway which has enable the compilation party to bring the compilations up to date in this respect.

changes which have not as yet been completed but which change the alignment materially were scaled and plotted from the maps of the highway department. The most important of these was the change in alignment and the construction of a new bridge over San Elijo Lagoon (Escondido Creek) on Sheet Register No. 5411. The sheet shows the highway as it actually will appear when the changes under course of construction are completed.

changes which were projected but not actually under course of construction were checked but found to be of such nature as not to materially change the alignment of the highway as shown on the sheets.

#### BLUEPRINTING PHOTO-TOPOGRAPHIC SHEETS

Upon authorization from the Director in a letter dated June 20, 1934 the District Engineer of the highway department was permitted to have VanDyke negatives made from the sheets on this project which delineated San Diego county. This included Sheets Register Nos. 5371 - 5375,

and 5410 - 5416 inclusive. Blue-line prints were made from these negatives. A note referring to the fact that these sheets represented advance information from unverified surveys subject to change by the Washington Office of the U.S. Coast and Geodetic Survey, together with the date on which the negative was made, appeared on each sheet thus treated.

The San Diego division of the state highway department used the information found on these sheets with which to estimate the extent of drainage areas, to estimate the size of culverts, and to determine proposed alternate routes for roads taking into consideration such economic conditions as settlements etc. as shown on the sheets, cultivation and its absorption of drainage, etc., etc.

The Planning Commission of the County of San Diego also made use of these advance prints in completing their crop survey. The orchards and cultivated fields as shown on the sheets aided this work.

The Chief Draftsman of the highway department considered these prints to be accurate enough to enable him to scale distances off, for purposes of plotting changes in the work of that department.

#### COMPARISON WITH OTHER SURVEYS

The sheets on this project were compared with the photostats of the sheets of the survey of 1885-88. Generally all natural features checked as to position and size in a satisfactory manner. The only discrepancies of any importance were those occurring at the mouths of the larger drainage beds. These usually showed the mouths of the drainage to be in a different position. (See above p.7 this report.)

#### GEOGRAPHIC NAMES

The names of all geographic features were checked from all available information and a full discussion of any discrepancies will be found in the report for each sheet.

It will be noted that the sheet Register No. 1738, dated 1886 designated the northwesterly boundary line of San Diego County as the line between San Diego and Los Angeles Counties. Since the date of that survey a portion of Los Angeles County has been set aside and designated as a new county, Orange County. This boundary line, therefore, is designated on Photo-Topographic Sheet Register No. 5416 as the line between San Diego and Orange Counties.

#### LANDMARKS

A copy of Form No. 567, Landmarks for Charts, is submitted with this report. This list includes the area covered by Register Nos. 5410 to 5418 inclusive, and that portion of Register No. 5375 north of the Scripps Institute of Oceanography.

#### BENCHMARKS

The bench marks for the area of the project have been visited in the field and their positions have been pricked on field prints. These have been transferred to mounted prints and intersected along with the regular work of compilation.

The accuracy with which these bench marks have been located is believed to have a probable error of less than 2 meters in the case of points well defined, and a probable error of not more than 4 meters where the points appear only on wing prints.

Since in most cases the benchmarks appear at points off the main highways, therefore field roads or trails have been shown which will lead to them.

All of the benchmarks described by the re-leveling party of G.R.Fish in 1932-33, as well as those of the U.S. Geological Survey, were found to be in good condition.

The descriptions given by the releveled party are in most cases quite adequate. A few minor exceptions have been noted and the descriptions have been corrected. These corrected descriptions as well as the GPs of the benchmarks as scaled from the sheets have been appended to the reports on the various sheets. \*

Benchmark 'N' at Carlsbad, (Sheet Register No. 5411), as noted in the description of that benchmark, is believed to be of little use as a reference point since structures have been built around it, obscuring the approach.

#### RECOMMENDATION FOR FURTHER SURVEYS

The compilation of the sheets on this project is believed to have a probable error of less than two meters in positions of well defined detail of importance for charting purposes; and of less than four meters for all other data. A slightly greater error may be found in the positions of drainage and poorly defined detail at the extreme inshore edge of the project.

#### SUPPLEMENTAL CONTROL

A system of photo points was used with which to steady the radial plot where the triangulation was weak due to the impossibility of identifying control

\* These observations and positions

in areas of mesquite. These points were pricked in the field and located by plane table methods. The positions as thus determined were then plotted on the celluloid sheets and used, only where absolutely necessary, in the radial plot.

Respectfully submitted:

*John C. Mathisson*  
John C. Mathisson,  
Jr. H. & G. Engineer,  
U.S. Coast and Geodetic  
Survey.

Approved:

*Robert W. Knox*  
Robert W. Knox,  
H. & G. Engineer,  
U.S. Coast and Geodetic  
Survey.

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DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY

# LANDMARKS FOR CHARTS

San Diego, California.

January 23, 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: **All objects have been inspected from the water area for prominence:**

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

DESCRIPTION	POSITION						METHOD OF DETERMINATION	CHARTS AFFECTED	
	LATITUDE			LONGITUDE					DATUM
	°	'	D. M. METERS	°	'	D. P. METERS			
TWIN TANKS, (Δ Center of double water tank back Del Mar, 1933) (2)	32	57	330.5 (1517.8)	117	15	534.4 (1023.9)	N.A. 1927 Field Comp.	Triangu- lation.	5101 & 5102
*STACK, (Δ Stack on coast in Del Mar, 1933) (2)	32	57	1300.2 (548.1)	117	16	16.9 (1541.4)	Field Adj.	"	"
DOME, (Δ Aluminum Dome Beacon Inn, Cardiff 1933) (2)	33	00	1319.4 (529.0)	117	16	1131.3 (426.1)	"	"	"
TOWER, (Belfry White School Red Roof) (2)	33	01	869.5 (978.9)	117	16	1199.6 (53.0)	"	Radial Inter- section	"
TOWER, (Δ White Church Belfry, Encinitas, 1933) (2)	33	02	1168.6 (679.8)	117	17	1108.4 (448.4)	"	Triangu- lation.	"
*TANK, (ELEVATED), (Δ Silver water tank, 1/2 mile west Station WATER, 1933) (2)	33	03	1661.1 (187.3)	117	16	1222.2 (334.2)	"	"	"
TANK, (Economy Gas), (Δ Economy Gas Tank, east of Valletta Pt., edge of U.S. Highway 101, 1933)	33	05	1290.6 (557.8)	117	18	1342.4 (213.4)	"	"	"

NOTES:

\*Indicates most

A list of objects visual descriptions, m Chief of Party to his The selection, del marks selected at app objects may by their The description o tank, gas tank, church (2) inshore, (3) harb permanent to chart.

TOWER, ( White Church Belfry, Encinitas, 1933). The name of the triangulation station has been corrected by recovery card to read: "White School Belfry, Encinitas, 1933." This is actually a school but has every appearance of a church.

TANK, (Economy Gas). This is a tall, narrow, cylindrical tank for the storage of gasoline. The name "ECONOMY GAS" appears on it in very large letters.

All positions have been checked by scaling back to sheets from this list by: D. L. Thompson Jan 25, 1935

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY

## LANDMARKS FOR CHARTS

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Robert W. Knox, U. S. G. S.

Chief of Party.

DESCRIPTION	POSITION						METHOD OF DETERMINATION	CHARTS AFFECTED	
	LATITUDE			LONGITUDE					DATUM
	°	'	D.M. METERS	°	'	D.P. METERS			
BUILDING, TOWER, (△ Rooster atop Twin Inns, Carlsbad, 1933) (2)	33	09	965.0 (883.3)	117	21	8.6 (1546.4)	N.A. 1927	Triangulation	5101 & 5102
TANK, WEST, (West of two Tanks) (2)	33	11	536.5 (1311.9)	117	22	76.9 (789.5)	Field Comp. Field Adj.	Radial Inter- section.	"
*DOME, (△ Finial atop Dome, Rosierovian bldg., Oceanside, 1933) (2)	33	12	1296.9 (551.6)	117	21	72.6 (759.2)	"	Triangulation.	"
TANK, small, red, (△ Red Water Tank, Stuart R.R. siding, 1933) (2)	33	15	229.2 (1619.2)	117	25	321.2 (1232.0)	"	"	"
BUILDING, north gable, (△ North gable large warehouse on Coastal Mesa, 1933) (2)	33	18	1416.3 (432.1)	117	23	930.9 (621.2)	"	"	"
CUPOLA, (△ Cupola, red-roofed house, east Mateo Pt., 1933) (2)	33	24	717.3 (1131.2)	117	36	540.5 (1009.9)	"	"	"
BUILDING, SIGN, Bank of Amerion.	33	25	1216.4 (632.1)	117	36	1079.2 (471.0)	"	Radial Inter- section.	"

## NOTES:

\*If locates most

A list of objects visual descriptions, i Chief of Party to his  
The selection, d marks selected at ap objects may by their  
The description tank, gas tank, churc (2) inshore, (3) har permanent to chart.

BUILDING, TOWER, ( Rooster atop Twin Inns, Carlsbad, 1933)

The most outstanding feature about this landmark is the fact that a rooster, modeled in the full round, and at least eight feet in height has been placed atop the tower of this hostelry. It is suggested that ROOSTER would be a good identification of this point.

CUPOLA, ( Cupola, red roofed house, east Mateo Pt., 1933)

This is actually east of Mateo Rk. See recovery card.

All positions have been checked by scaling back to sheets from this list by: D. L. Thompson Jan 23, 1935



DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEY

## LANDMARKS FOR CHARTS

San Diego, California,January 23, 1935

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Robert W. Knox, H. A. G. N.

Chief of Party.

DESCRIPTION	POSITION						METHOD OF DETERMINATION	CHARTS AFFECTED	
	LATITUDE			LONGITUDE					DATUM
	°	'	D.M. METERS	°	'	D.P. METERS			
BUILDING, WINDVANE, (Δ Windvane atop Flunge bldg., near Bohemy Pier, 1933) (2)	33	27	500.8 (1347.7)	117	39	1528.3 (21.2)	N.A. 1927 Field Comp.	Triangulation.	5101 & 5102
*TANK, green, (Δ Green water Tank, E.E. of Dana Pt., 1933) (2)	33	28	966.7 (881.8)	117	41	969.3 (580.0)	Field Adj.	"	"
TOWER, (Richfield), (Δ Richfield Tower, Dana Pt., 1933) (2)	33	27	1607.6 (240.9)	117	41	66.2 (183.1)	"	"	"
TOWER, church cross, (Δ Cross atop Catholic Church Tower, Laguna Beach, 1933) (2)	33	32	509.1 (1339.4)	117	46	391.3 (1156.8)	"	"	"
TANK, round, white, (2)	33	29	1597.7 (250.8)	117	44	312.9 (1236.1)	"	Radial	" 514
TANK, low, white, (2)	33	30	1010.3 (838.2)	117	44	1296.3 (251.9)	"	Inter-section.	"
TANK (2)	33	31	1194.5 (654.0)	117	45	1151.4 (397.0)	"	"	" N.P. not 1948
*BUILDING, grey stone, (Δ North spire, grey stone bldg., Laguna Beach, 1933) (2)	33	32	1692.5 (156.0)	117	47	972.1 (575.7)	"	Triangulation.	" 514
*Indicates most prominent landmark in vicinity									
All positions have been checked by scaling back to sheets from this list by: <i>D. L. Thompson Jan 23, 1948</i>									

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, flagstaffs and like objects are not sufficiently permanent to chart.

DEPARTMENT OF COMMERCE  
U.S. COAST AND GEODETIC SURVEYLANDMARKS FOR CHARTS  
San Diego, California,January 23, 5  
193DIRECTOR, U.S. COAST AND GEODETIC SURVEY **Instrument aids to navigation**

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

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

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM		
S.W. RANGE, (Δ S.W. Range U.S.N., 1933) Elevation to ground 331'	32	53	1066.1 (782.0)	117 11	172.2 (86.7) 1927 Field Comp. Unadj.	Triangulation	5101 & 5102
S.E. RANGE, (Δ S.E. Range U.S.N., 1933) Elevation to ground 430'	32	53	1066.0 (782.3)	117 14	658.5 (901.0)	"	"
N.W. RANGE, (Δ N.W. Range U.S.N., 1933) Elev. to ground 315'	32	54	1071.7 (776.6)	117 15	188.5 (1370.7)	"	"
N.E. RANGE, (Δ N.E. Range U.S.N., 1933) Elev. to ground 425 feet	32	54	1071.4 (776.9)	117 14	973.3 (585.9)	"	"
ENCINITAS AVIATION BEACON (Δ Air Beacon No. 2 1933)	33	03	1711.3 (137.1)	117 18	369.0 (1187.6) 1927 Field Comp. Unadj.	"	"
AIR BEACON NO. 3 (Δ Oceanside Airway, 1932.)	33	13	1459.8 (388.6)	117 23	1545.8 (7.8)	"	" 3360
SAN MATEO AVIATION BEACON (Δ Beacon No. 5, 1933) Elev. to ground 64 feet.	33	22	1845.5 (3.0)	117 54	1546.1 (4.7)	"	"
DANA POINT AVIATION BEACON (Δ Dana, 1884) Elev. to ground 283 feet.	33	27	1575.2 (273.3)	117 42	780.1 (769.5)	"	"

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.

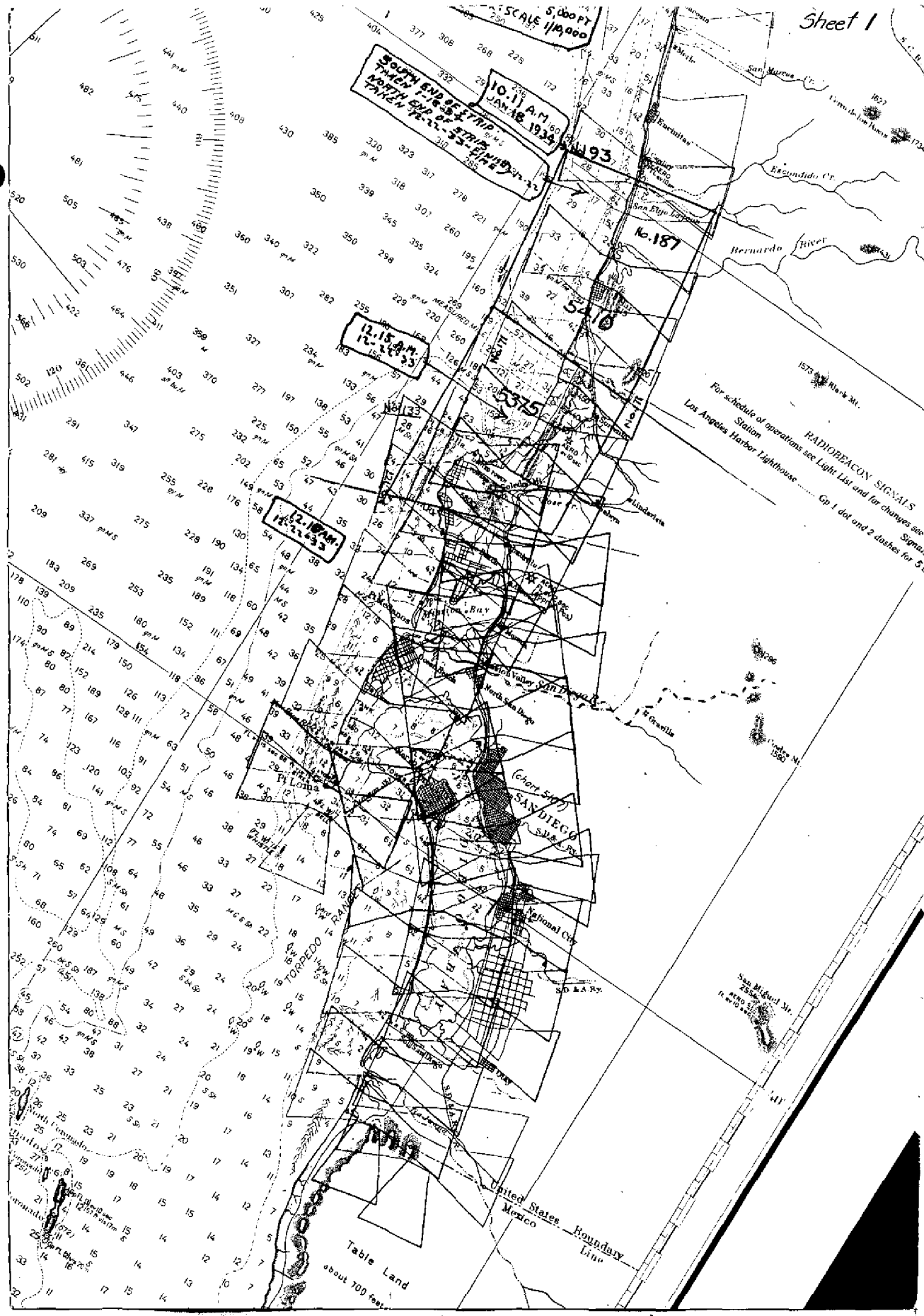
The description of each object should be short, but such as will clearly identify it; for example, a standpipe, elevated tank, gas tank, church spire, tall stack, red chimney, radio mast, etc. Assign numerals to landmarks to indicate: (1) Offshore, (2) inshore, (3) harbor, 1, 2, 3 would be a mark useful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

U. S. GOVERNMENT PRINTING OFFICE: 1934 23470

All positions checked by scaling back to sheets by: D. Livingston Jan 23, 1935

INDEX MAP  
PHOTOGRAPHS  
LA JOLLA TO NEWPORT BAY  
CALIFORNIA  
1934

SCALE 500 FT  
1/10,000



SOUTH EXP. STATION  
NORTH EXP. STATION  
TAKEN FEB. 25, 1923

10.11 AM  
JAN 18 1923

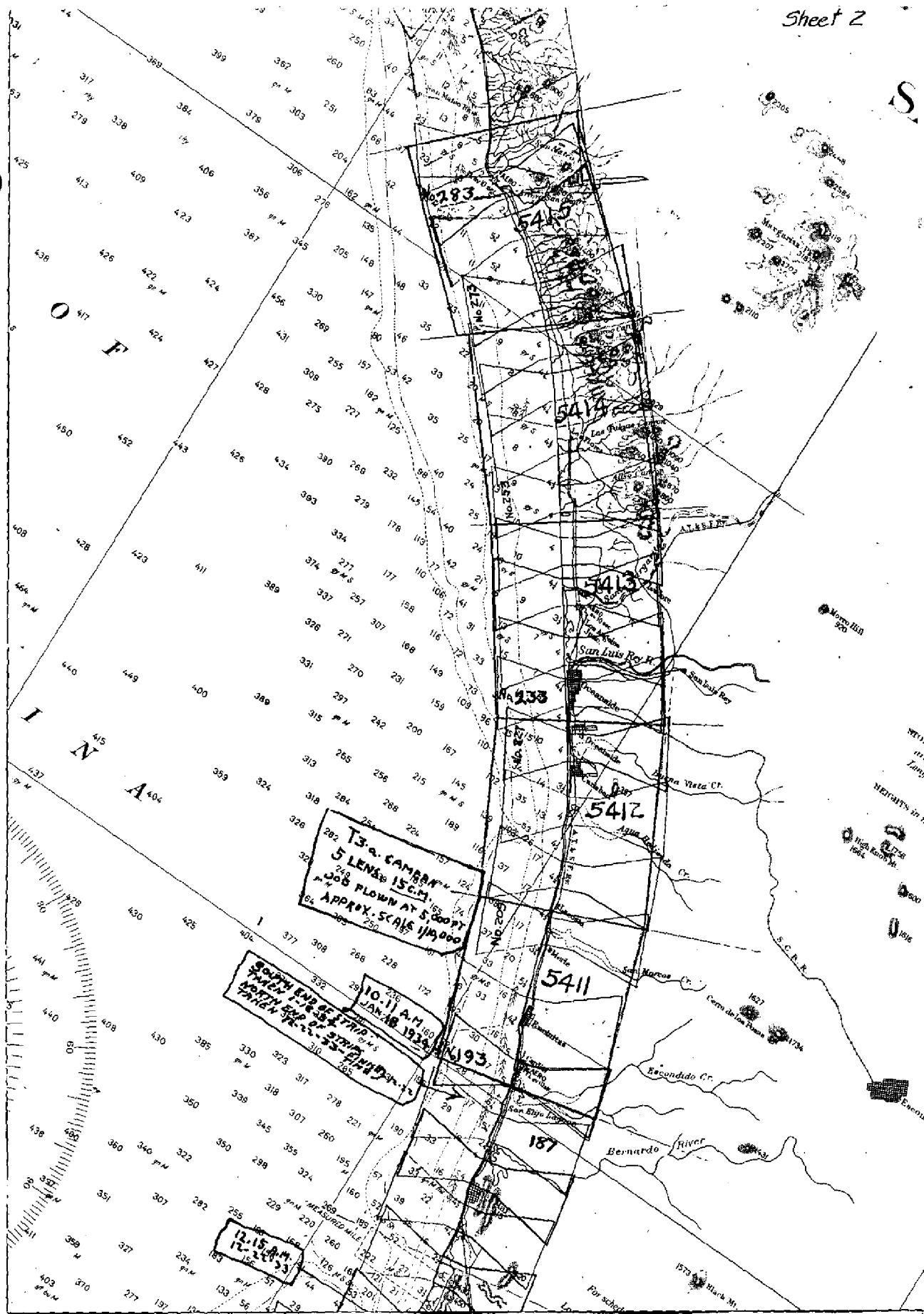
12.15 AM  
FEB 25 1923

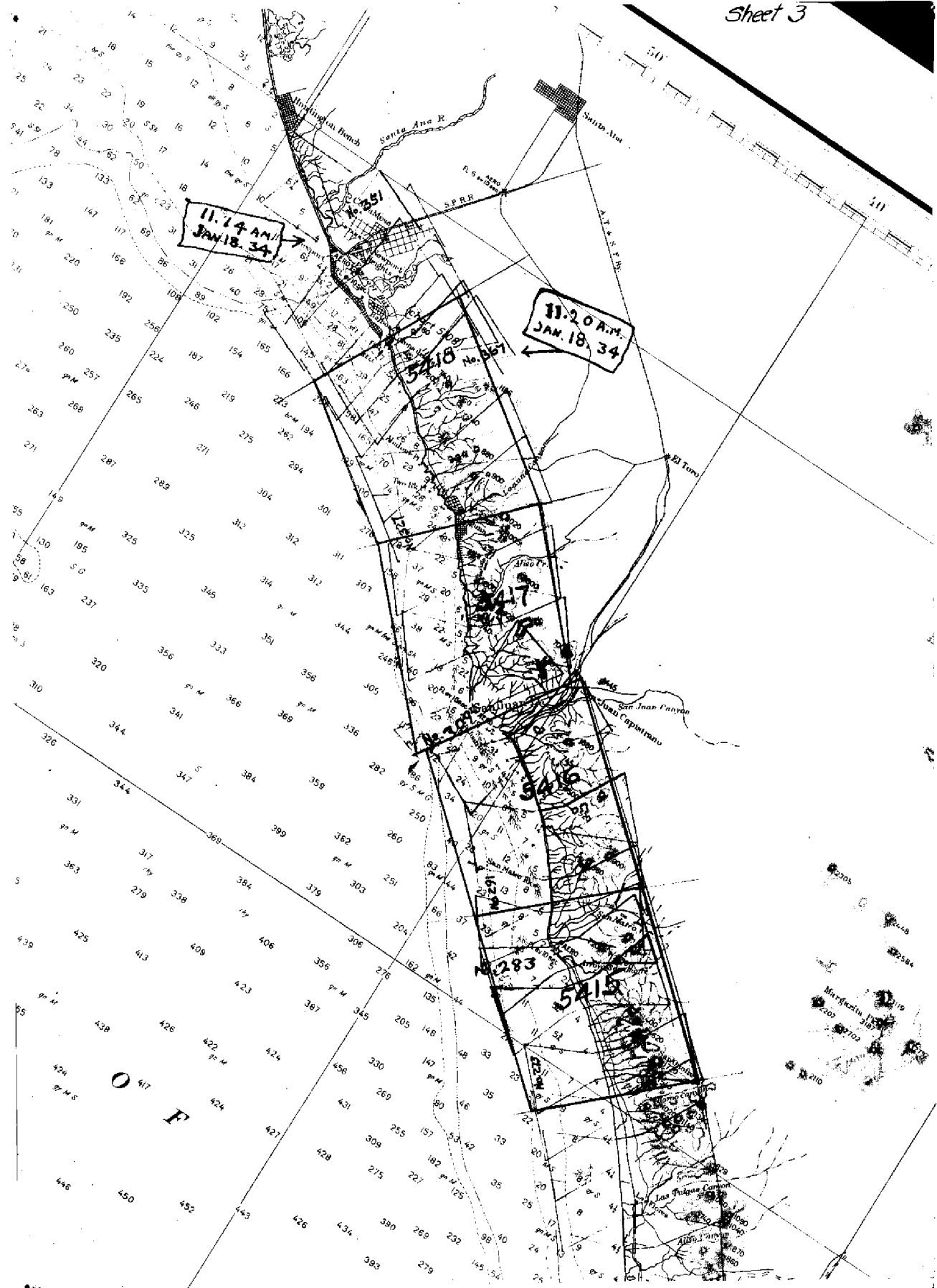
12.15 AM  
FEB 25 1923

RADIOBEACON SIGNALS  
For schedule of operations see Light List and for changes see Signal Station Los Angeles Harbor Lighthouse  
Gp 1 dot and 2 dashes for 500 fms.

Table Land  
about 700 feet

United States  
Mexico  
Boundary Line





DEPARTMENT OF COMMERCE  
U. S. COAST AND GEODETIC SURVEY

REG. NO.

PHOTO  
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. ....

REGISTER NO. 5410

5410

State CALIFORNIA

General locality Gulf of Santa Catalina  
SOUTHERN CALIFORNIA

Locality Del Mar

Scale ..... Date of photographs December 22, 1933  
Survey & January 17, 1934

Vessel Launch and Shore Party, California Project No. 102

Chief of party Robert W. Knox

Surveyed by see data sheet of descriptive report

Inked by W.J. Mignola

Heights in feet above ..... to ground to tops of trees

Contour, Approximate contour, Form line interval ..... feet

Instructions dated April 14, 1932 and August 6, 1934

Remarks: Compiled from aerial photographs Nos. 172 to  
192, inc. at a scale of 1:10,500 for reproduction at  
a scale of 1:10,000.

DATA SHEET

NO. T-5410

PORTION OF WORK	DONE BY	DATE COMPLETED
PROJECTION BY	<i>John C. Mathisson</i> J.C. Mathisson	August 9, 1934
PROJECTION CHECKED BY	✓ S.B. Lane	August 9, 1934
CONTROL PLOTTED BY	✓ S.B. Lane	September 8, 1934
CONTROL CHECKED BY	✓ T.W. Lukens	September 8, 1934
RADIAL PLOT BY	✓ S.B. Lane	September 12, 1934
RADIAL PLOT CHECKED BY	<i>W.J. Mignola</i> W.J. Mignola	January 9, 1935
COMPILED IN PENCIL BY	✓ S.B. Lane and W.J. Mignola	November 1, 1934
INKED BY	<i>W.J. Mignola</i> W.J. Mignola	February 15, 1935
TOPOGRAPHY TRANSFERRED BY	<i>W.J. Mignola</i> W.J. Mignola	January 30, 1935
TOPOGRAPHY CHECKED BY	<i>D.L. Ackland</i> D.L. Ackland	February 9, 1935
AREA OF SHEET: 13.22 square statute miles		
LENGTH OF SHORE LINE: 6.00 statute miles		
LENGTH OF RIVERS AND SLOUGHS: 5.22 statute miles		



DESCRIPTIVE REPORT

To Accompany

PHOTO-TOPOGRAPHIC SHEET, REGISTER NO. T-5410

DEL MAR

CALIFORNIA

1934-35

ROBERT W. KNOX, CHIEF OF PARTY

Scale 1:10,500

PROJECT INFORMATION

For information which applies to the entire project refer to general descriptive report accompanying this report.

DESCRIPTION OF THE AREA

This sheet covers the area from Soledad Valley on the south to a point north of the settlement of Solana Beach and south of San Elijo Lagoon which appears on the next sheet to the north.

At the southern edge of the sheet the land rises abruptly from the shore line to an elevation of approximately 350 feet, then drops again to an elevation of less than 50 feet at a point about three quarters of a mile inshore.

Between Soledad Valley and the valley of the San

Dieguito River the land rises rapidly from almost sea level to a height of 400 feet at a point inshore from Del Mar, and then drops abruptly to the San Dieguito River flats.

The portion of the Soledad Valley which appears on this sheet consists mostly of mud flats and marshy ground. This comprises the outlets for several creeks and canyons draining a rather extensive area quite a distance inland. Mc-Gonigle Canyon is the only one of these which appears on this sheet.

The mouth of Soledad Valley was completely closed by a sand bar at the time of the photographs and also at the time of the plane table survey. Water stands in the channels back of the sand bar; and overflows onto the mud flats during the accumulation of rain in the winter. Just as soon as this water area attains a level sufficient to break the sand bar a channel to the sea is rapidly formed and the area is drained of its fresh water. The channels inshore are then tidal for a short time. As soon as the wave action has built up the sand bar again, thus closing the outlet, this process, having completed its cycle, begins all over again.

The fact that the mouth of the channel in this sand the other similar drainage outlets on this project, seldom is broken out twice in exactly the same place tends to

make the character of the high water line in the immediate vicinity a changeable one.

The mouth of the San Dieguito River lies just north of Del Mar. The mouth of the channel of this stream bed was completely closed by a sand bar at the time of the photographs as well as at the time of the plane table survey. There is an extensive system of channels back of the mouth of this stream bed; and, as is the case at the mouth of the Soledad Valley, this area is changeable in character, varying with the seasons.

Hodges Dam and Reservoir on the upper reaches of this drainage area tend to control the flow. (See comparison with other surveys, page 7, this report.)

According to the residents near Soledad Valley the ground is in a marshy state all the year, within the limits of the marsh symbol as shown on the sheet. A few alkali flats are exposed in summer; but in winter most of the area is covered with water.

That portion of San Dieguito River valley between the railroad and the first road to the east is not being used at present. East of this most of the land is used for grazing purposes.

Del Mar, a resort town, occupies the sloping

bench back of the bluffs north of Soledad Valley. The slope increases rapidly east of the State Highway, reaching an elevation of about 400 feet within a mile of the shore.

Solana Beach, an agricultural settlement, occupies the land along the bluffs north of the San Dieguito River. West of the highway this settlement has an elevation of about 150 feet. Most of the land is devoted to the raising of avocados.

#### PHOTOGRAPHS

This sheet is covered by photographs Nos. 172 to 192 inclusive. These photographs were secured in two flights at different times. Nos. 172 to 188 inclusive were secured December 22, 1933 between the hours of 12:18 and 12:22 P.M. and Nos. 189 to 192 inclusive were secured January 17, 1934 between the hours of 10:11 and 10:14 A.M.

For further information in regard to photographs refer to the general descriptive report accompanying this report.

#### CONTROL

The control for this sheet was plotted from the field computations of the triangulation party of Charles Pierce in 1933. These computations were adjusted by the compilation party to compensate for an error of several

meters where two parts of this survey joined.

For further information in regard to this field adjustment refer to general descriptive report accompanying this report. *Pages 10 and 13.*

A table of control for this sheet, giving geographic positions together with the DMs and DPs converted to the scale of this compilation - 1:10,500 - is appended to this report.

#### COMPILATION METHODS

The compiler who started the work on this sheet was discharged at his own request before the completion of the sheet. The undersigned took over the compilation at the point where it had been left off. Many difficulties arose in this compilation due, not to the usual factors of relief, tilt or photographs, but rather to the necessity of adjusting the radial plot as developed by the original compiler to that as checked by the undersigned. Many small discrepancies were noted and it is believed that these have been corrected.

#### RADIAL PLOT

The development of the final radial plot presented no unusual difficulties other than those mentioned in the preceding paragraph.

## INTERPRETATION OF PHOTOGRAPHS

The detail on the photographs was clear enough to enable the compiler to identify all data of importance for charting purposes.

## GEOGRAPHIC NAMES

The stream between Del Mar and Solana Beach is designated Bernardo River on Charts Nos. 5101 and 5102. This stream is commonly known as the San Dieguito River. It is so shown on the published quadrangle of the U.S. Geological Survey; on maps supplied by the state highway department, and on all other available local maps. This name, San Dieguito River, has, therefore, been retained in this compilation.

The settlement between the San Dieguito River and San Elijo Lagoon is officially known as Solana Beach. This is the spelling on the railroad time-tables, the station sign, and on other signs displayed in the settlement.

On some maps this name is spelled "Solano". Information obtained in the field indicates that the word solana means sunny; and the word solano means windy. There is another settlement elsewhere in California which is called Solano Beach. As there appears to be no authority for the 'o' ending in reference to the settlement on this sheet, the name Solana Beach has been retained.

The name Del Mar is spelled as one word:

Delmar; on the published quadrangle of the U.S. Geological Survey. Local usage appears to call for two words. Railway time-tables, and all signs in the town spell the name Del Mar. This spelling has therefore been retained on this sheet. ✓

#### COMPARISON WITH OTHER SURVEYS

This compilation was compared with Register No. T-2014, dated 1889. Most natural features checked satisfactorily as to position and size.

The only important differences showed in the valley of the San Dieguito River. The delineation on Register T-2014 shows this as a flowing river east to the limits of the sheet. The present condition of this stream, that of a dry canyon with an intermittent slough at the mouth, is due to the fact that the upper reaches of the drainage have been dammed at Lake Hodges, a water storage system for the City of San Diego. This dam and reservoir have been established since the date of the survey in 1889.

The channels through the marshy area in Soladad Valley show a difference in this sheet and that of the 1889 survey due to the fact that the highway department has constructed levees and has dredged new channels in order to protect structures through this valley.

Note The estimated accuracy of the plot given on the opposite page is rather high for work on this scale though the compilation is well controlled and has been carefully compiled. A better estimate is an accuracy of location of 2 to 5 meters for interested points and 2 to 8 meters for other detail except in the mountain areas where only stream lines are shown. In these areas due to the frequent and erratic change in elevation and consequent change in scale of the photos, a better estimate is an accuracy of location of 5 to 10 meters for interested points and 5 to 20 meters for other detail. B.G. Jones



## LANDMARKS

Landmarks for this sheet have been selected by field inspection and inspection from the water area. A list of Landmarks for Charts, Form 567, has been submitted, and a copy is appended to the general descriptive report accompanying this report.

## BENCHMARKS

All benchmarks described by the releveing party of G.R.Fish in 1932-33 have been shown on this sheet.

These have been shown with an accuracy believed to be within the limits of less than two meters error in position in all well defined marks and of not more than four meters error in position of benchmarks in areas of the wing prints.

A complete list of benchmarks is appended to this report, giving the descriptions, as well as the geographic positions as scaled from the sheet.

*These have been copied on Form 524 and filed.*

## RECOMMENDATION FOR FURTHER SURVEYS

This compilation is believed to have a probable error of less than two meters in positions of well defined detail of importance for charting purposes and of less than four meters for all other data. *See opposite page*

LETTERING

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

All geographic names have been checked for spelling and position and are believed to be correct.

Respectfully submitted

*W. J. Mignola*  
W. J. Mignola  
Compiler

Approved:

*John C. Mathisson*  
John C. Mathisson  
Jr. H. & G. Engineer  
U.S.C.&G. Survey

5410

## TABLE OF CONTROL

-1-

TRIANGULATION STATION	POSITION	Scale 1:10,000		Scale 1:10,500	
		SECONDS	IN METERS	PLOTTING	DIST.
TORREY, 1933	32 - 55	535.0	(1313.3)	509.5	(1250.8)
	117 - 15	319.7	(1239.3)	304.5	(1180.3)
FLAGPOLE ATOP TORREY PINES LODGE, 1933 (Radio Mast)	32 - 55	464.8	(1383.6)	442.7	(1317.7)
	117 - 15	225.0	(1334.0)	214.3	(1270.5)
MESQUITE, 1933	32 - 55	1762.4	( 85.9)	1678.5	( 81.8)
	117 - 13	53.4	(1505.3)	50.9	(1433.6)
GONIGLE, 1933	32 - 57	367.3	(1481.0)	349.8	(1410.5)
	117 - 13	8.0	(1550.4)	7.6	(1476.6)
HIGH OIL DERRICK 2 MILES EAST DEL MAR, 1933	32 - 57	877.5	( 970.8)	835.7	( 924.6)
	117 - 13	318.0	(1240.3)	302.9	(1181.2)
TOWN, 1887	32 - 57	142.4	(1705.9)	135.6	(1624.7)
	117 - 14	1423.1	( 135.3)	1355.3	( 128.9)
SAN DIEGUITO, 1887	32 - 57	951.1	( 897.3)	905.8	( 854.6)
	117 - 14	1507.4	( 51.0)	1435.6	( 48.6)
SLOUGH, 1933	32 - 58	352.4	(1495.9)	335.6	(1424.7)
	117 - 16	145.6	(1412.5)	138.7	(1345.2)
POLE, 1933	32 - 59	17.9	(1830.4)	17.0	(1743.2)
	117 - 14	493.1	(1064.8)	469.6	(1014.1)
CENTER OF DOUBLE WATER TANK BACK DEL MAR, 1933	32 - 57	330.5	(1517.8)	314.8	(1445.5)
	117 - 15	534.4	(1023.9)	509.0	( 975.1)
STACK ON COAST IN DEL MAR, 1933	32 - 57	1300.2	( 548.1)	1238.3	( 522.0)
	117 - 16	16.9	(1541.4)	16.1	(1468.0)
CASTELLATED TOWER OF MANSION BACK DEL MAR, 1933	32 - 57	1485.1	( 363.3)	1238.3	( 522.0)
	117 - 15	800.5	( 757.7)	762.4	( 721.6)
POLE AT END DEL MAR PIER, 1933	32 - 57	1091.6	( 756.7)	1039.6	( 720.7)
	117 - 16	382.9	(1175.5)	364.7	(1119.5)

TRANGULATION STATION	POSITION	Scale 1:10,000		1:10,500	
		SECONDS IN METERS		PLOTING DIST.	
COAST, 1933	32 - 59	137.4	(1711.0)	130.9	(1629.5)
	117 - 16	460.8	(1097.0)	438.9	(1045.4)
SANTA FE, 1933	33 - 00	65.3	(1783.0)	62.2	(1698.1)
	117 - 15	1274.1	( 283.5)	1213.4	( 270.0)
BISHOP, 1933	33 - 00	596.4	(1252.0)	568.0	(1192.4)
	117 - 13	1169.9	( 387.6)	1114.2	( 369.1)
VENTILATOR ATOP HOUSE ON COAST, 1933	32 - 59	1039.7	( 808.7)	990.2	( 770.2)
	117 - 16	670.4	( 887.3)	638.5	( 845.0)
LADDER ATOP RESERVOIR JUST NORTH SAN DIEGUITO RIVER, 1933	32 - 59	1417.5	( 430.8)	1350.0	( 410.3)
	117 - 14	657.1	( 900.6)	626.8	( 857.7)

12

BENCH MARKS

NO. T-5410

- Z 131 1933 About 4 miles southeast along the Atchison, Topeka and Santa Fe R.R. from Del Mar, about  $\frac{1}{4}$  mile northwest of milepost 248, at a sidetrack at Reba, about 90 feet north of bridge A-248, 53 feet east of the center-line of the track, and at a property line fence. A standard disk, stamped Z 131 1933 and set in the top of a concrete post.  
(4.009 meters or 13.153 feet.)
- I (C.S.H.D.) About 1.3 miles south along the U.S. Highway 101 from Del Mar, about 700 feet north of a concrete bridge and overhead crossing, about 225 feet east of the center-line of a highway (abandoned), at the intersection of a 1/16 section line, and the east and west center-line of Section 23, T.14 S., R.4 W., 20 feet southeast of the southeast one of a group of pine trees, and  $6\frac{1}{2}$  feet south of a 1 inch iron pipe marking the intersection. At the top of a steep cut on Highway 101. A standard disk, stamped I 1932 and set in the top of a  $4\frac{1}{2}$  inch iron pipe filled with concrete. (58.512 meters or 191.968 feet.)
- 42.38 (C.S.H.D.) About 1.6 miles south along the Atchison, Topeka and Santa Fe R.R. from the station at Del Mar, at an overhead crossing, 63 feet west of the center-line of the tracks and in line with the third bent from the north end. A steel pin, set in the top of a concrete post.  
(12.823 meters or 42.070 feet.)
- W 131 1933 At Del Mar, at the Atchison, Topeka and Santa Fe R.R. station, in the face of the west wall, between two windows south of the waiting-room door, and about 4 feet above the ground. A standard disk, stamped W 131 1933 and set vertically.  
(12.876 meters or 42.244 feet.)

V 131 1933      About 0.3 miles north along the Atchison, Topeka and Santa Fe R.R. from the station at Del Mar, at an overhead highway crossing, west of the track, in the east side of the north one of a group of concrete piers, and about 2 feet above the track. A standard disk, stamped V 131 1933 and set vertically.  
(6.427 meters or 21.086 feet.)

U 131 1933      At Solana Beach, on the Atchison, Topeka and Santa Fe R.R., at mileage 241.7, about 850 feet northwest of the road leading to the Rancho Santa Fe, 51 feet east of the center line of the main track, and in line with a row of poles. A standard disk stamped U 131 1933 and set in the top of a concrete post.  
(20.443 meters or 67.070 feet.)

5410

## BENCH MARKS

-1-

## BENCHMARK

## POSITION

SECONDS IN METERS  
1:10,000

Z 131 1933

32° 55'  
117° 14'+ 10.5 - (1837.8) ✓  
+ 332.5 - (1226.5)

I 1932 C.S.H.D.

32° 56'  
117° 15'+ 949.4 - (898.9)  
+ 880.1 - (678.7)

42.38 C.S.H.D.

32° 56'  
117° 15'+ 656.4 - (1191.9)  
+ 1019.6 - (539.2)

W 131 1933

32° 57'  
117° 15'+ 1221.4 - (626.9)  
+ 1522.3 - (36.2)

V 131 1933

32° 57'  
117° 15'+ 1746.7 - (101.7)  
+ 1377.1 - (181.4)

U 131 1933

32° 59'  
117° 16'+ 1178.7 - (669.7)  
+ 384.7 - (1173.2)Scaled by: D.L.T. 2-13-35  
Checked by: W.J.M. 2-13-35

## REVIEW OF AIR PHOTO COMPILATION NO. T 5410

Chief of Party: Robert W. Knox H. & G.E.      Compiled by: W.J. Mignola  
 April 14, 1932  
 Project: 102      Instructions dated: August 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 charts. (Par. 28)  
 No blueprints or maps transmitted.
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 zone marshy and mangrove swamp is shown on the compilation for the area (Par. 16a, 26, and 64)~~

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, ~~mountain reefs~~ and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41)
9. Recoverable 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)  
First order benchmarks recovered and located, positions are given in appendix to report.
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 waters 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)

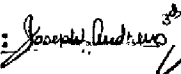
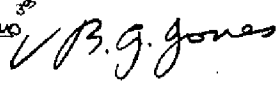
16./ No additional surveying is recommended at this time.

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:  

Examined and approved:

  
L. K. Green  
Chief, Section of Field Records

  
L. O. Pollock  
Chief, Division of Charts

  
J. B. Bordin  
Chief, Section of Field Work

  
H. M. Hude  
Chief, Division of Hydrography  
and Topography.

Review of Air Photo Compilation T 5410 (1934)

Comparison with other surveys:

Chart 5102. This is a small scale chart and comparison shows no large changes. Bernardo River is designated San Diequito River on the compilation. This is discussed on page 6 of the descriptive report.

T 6225b (1934), 1:10,000, graphic control aluminum sheet. No descriptions were submitted on Form 524. Except for temporary control stations and magnetic declination all detail is shown on the compilation.

T 4487 (1934), 1:10,000 graphic control Whatman sheet. No descriptions were submitted on Form 524. Except for temporary control stations all detail is shown on the compilation.

T 2104 (1889), 1:10,000. See discussion of comparison on page 7 of descriptive report. In addition it is noted that the high water line on the compilation varies from 10 to 50 meters farther westward than the old survey. Except for contours and magnetic declination the compilation is adequate to supersede this survey.

T 1898 (1888), 1:10,000. So much of this survey as is covered by the compilation is superseded thereby, the same notes applying as for T 2104.

H 5664 (1934), 1:10,000. This hydrographic survey is in agreement with the high water line and all rocks shown on the compilation.

H 5649 (1934), 1:10,000. Same notes apply as for H 5664.

The descriptions of recoverable bench marks as listed on pages 11 and 12 of the descriptive report have been filed on Form 524.

Attention is called to the discussion on page 11 of the general report of T 5410 and the comment thereon on page 13 concerning the adjustment of control. Because of this field adjustment the value of the seconds is not given in the datum note. The field party furnished only the records in meters to the nearest 0.1 meter (see page 11) and the exact values in seconds are not known.

The compilation is exceptionally well executed, instructions have been complied with and it reflects the proficiency of the field party. The projection has been checked and is satisfactory.

*Joseph Andrews*  
Joseph Andrews-3rd.

*B. G. Jones*

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Survey No. T-5410

Date. 5-6-35

Chart No. 5102

Diagram No. \_\_\_\_\_

\*, Approved by the Division of Geographic Names, Department of Interior.

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

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

[illegible]

applied to Chart 5101 - May 15, 1936 - L.M.J.