

5031

U. S. COAST & GEODETIC SURVEY
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Form 504 Ed. June, 1928	
DEPARTMENT OF COMMERCE	
U. S. COAST AND GEODETIC SURVEY	
_____, Director	
<div style="border: 1px solid black; width: 100px; height: 80px; margin: 10px auto;"></div>	
State: _____	
DESCRIPTIVE REPORT	
Topographic Hydrographic	} Sheet No. _____
LOCALITY	
_____ _____ _____ _____	
19____	
CHIEF OF PARTY	
_____ _____	

5031

DESCRIPTIVE REPORT

to accompany

Sheet T 5031 Huntington Beach, California.

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

Instructions.

This sheet has been compiled from aerial photographs at the scale of 1:10,000, in accordance with Supplemental Instructions of the Director, dated October 24, 1932.

General Description of Area.

The city of Huntington Beach is built on a low mesa, bounded to the east and west by low lands which in no place exceed a few feet in elevation. The general elevation of the mesa adjacent to the ocean is 35 feet above sea level.

Physiography and Culture.

A large part of the city of Huntington Beach has been enveloped by an important oil field which largely hides a small hill in the central part of the city. The west end of the sheet is largely occupied by a marsh which is still much the same as it was when first mapped in 1873, except for changes made along its northern border by the Bolsa Chica Gun Club. East of the city is a large level area of farm land reclaimed from the marsh which formerly was found there. At one time, the Santa Ana River apparently wandered over this flat in finding an outlet to the sea, but is now confined to a narrow channel by flood control works which are located close to the bluff on the east of the flood plain, as shown on Sheet T 5030. Evidence of the former course of the river is seen in the old sloughs just north of the Coast Highway.

Control.

The sheet is controlled by triangulation performed by Robert W. Knox, in 1932 and 1933. Several theodolite three-point fixes were used along the north edge of the sheet to strengthen the graphical intersections in that area and one to locate station Stolco 1933. The latter position has a weak determination useful only for map work.

As a matter of record, the positions available to the map compiler are given below:

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>
Chica 1933	33° 42' 37".166✓	118° 02' 55".621✓
Weibling 1932	33 41 49.982	117 59 47.932

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>
Huntington 1932	33° 39' 12".442	117° 59' 46".525
Reservoir 2, 1920	33 40 56.807	118 00 17.481
Stolco 1932	33 40 40.825	118 01 46.177

Names.

The names applying to this sheet are also shown on an accompanying oversheet intended to serve as a record of the name and its position on the map. Inasmuch as the names are none to securely attached to the sheet, it is expected that many will be displaced before the sheet is photographed. Names obtained after the name-list was sent to Washington for printing do not appear on the map, but can readily be added by means of the oversheet. Words which have been placed on the map are shown by a line drawn through them and names which must be printed and cemented in place are not so marked.

The names shown on the sheet, other than street names, are in common use; a few are verified by the U. S. Geological Survey map of Newport Beach, California. Street names were largely obtained from a city map of Huntington Beach and from signboards along the country roads.

Changes.

The only map with which this sheet can be compared is the topographical sheet surveyed in 1874, Register No. 1369. This shows the area as it was before any attempt had been made at reclaiming the swamp lands or, in fact, before the city of Huntington Beach was in existence. The marsh which originally occupied the low lands east of the mesa have largely been reclaimed and there is little possibility of comparing one sheet with the other. West of the mesa a comparison of the two sheets will show that few changes have occurred other than those due to the encroachment of the oil field and the changes brought about by the use of the swamp by the Bolsa Chica Gun Club.

Landmarks.

From a distance, the only landmark of importance on this sheet is the great group of oil derricks which make up the Huntington Beach oil field. They are particularly prominent because they stand on a mesa with low lands to either side.

The only building on the sheet of particular prominence in the Huntington Beach High School building with a conical yellow tower. It is so masked by oil derricks, however, that its value as a landmark is greatly depreciated.

Personnel;

The drafting of the sheet was performed in a temporary field office in Long Beach, California, under the direction of Robert W. Knox, Chief of Party, in conjunction with a

second order triangulation of the coastline from Newport Bay to San Pedro, California.

The identification of control stations, construction of projections, compilation of the map from the aerial photographs and much of the triangulation computation, was performed by T. P. Pendleton.

The inking of the sheet was the work of K. B. Walker, except for hachures and the sand symbol, which were done by D. L. Ackland, who also fixed the lettering in position.

Specifications of the Aerial Photographs.

The photographs used in compiling this sheet were obtained on the same flight as others for adjacent sheets in the same project, and the type of camera used, date and hour of flight, and other pertinent information, is given below in an extract from the Director's letter to Lieutenant Robert W. Knox, dated December 7, 1932:

<u>Date of flight:</u>	January 24, 1932.
<u>Pilot:</u>	Lieutenant Northrup.
<u>Observer:</u>	S. S. Bush.
<u>Time:</u>	12:00 to 12:30 P.M.
<u>Location:</u>	San Pedro, Calif., along coast to Newport.
<u>Camera:</u>	Type T-3A No. 28-30-1, lens E.F. 6.0", R.A. 6.8, filter, B shutter speed 1/50.
<u>Emulsion:</u>	Special S. S.
<u>Altitude:</u>	5,000 feet.
<u>Light Conditions:</u>	Excellent; no haze, very heavy smoke, no clouds.
<u>Remarks:</u>	Very bumpy. Seemed almost too smoky for pictures, but since the job was en route to Rockwell Field for engine change, we took pictures, intending to refly on return trip if necessary. Lieutenant Phillips assisted as navigator on this flight, and as instructor for personnel of the 15th. Photo Section in use of T 3A camera.
<u>Negatives:</u>	O. K. for using.
<u>Conclusions:</u>	Even though smoke haze is very heavy, with super-sensitive film, satisfactory negatives can be obtained when light is strong.
<u>Tidal Data:</u>	The height of the tide at the San Diego Standard Station was 0.8 feet below mean

high water at noon January 24, 1932, and
2.5 feet below mean high water at 1:00 P.M.

Quality of Photographs.

The photographs on this sheet probably worked up more satisfactorily than those on any of the other sheets in the same project. The tilts were about the same as elsewhere on this flight but the low relief over the entire area aided greatly in working up the detail. In the marsh area, some difficulty occurred on account of the photographic quality due either to improper exposure or printing.

Statistics.

The area of this sheet is approximately 16.6 square statute miles and the length of the shoreline, about 6.9 statute miles.

The photographs used are numbered SP 61 to SP 81.

The only information available in the field as to the time the photographs were taken and the stage of the tide is embodied in the Director's letter, quoted above. From this data, it was concluded that the photographs were made about 12:20 P.M. when the tide was about 1.3 feet below its high water stage.

Compilation.

The mean scale of the photographs was determined by averaging the scale of the B prints on the flight line, securing the required distance from conveniently located triangulation stations. In this case, the scale of the photographs was so close to 1:10,000 for the detail adjacent to the coast, that it seemed desirable to adopt this as the scale for the map, rather than to seek for a scale which was perhaps more satisfactory for the wing pictures.

Several theodolite three point fixes were made on this sheet to strengthen the accuracy of the radial line work. They were located adjacent to the match lines between the sheets to the east and west as well as along the north edge of the mapped territory. The reference mark to the unrecovered triangulation station, Los Patos, is located on the water table of an electric substation, easily identified on the photographs. The position of this reference mark was computed from the data given in the record thus supplying an additional point for control of the compilation.

Station Stolco 1933 was marked and referenced for use as a main scheme station but was later abandoned as such. A three point fix made on it with a four inch theodolite gave an approximate value of service in the map work but probably too weak for other uses.

The appearance of this sheet is marred by a yellow stain which fortunately is outside of the neat lines.

Comparison with other Surveys.

The only sheet with which this can be compared is the topographical sheet surveyed in 1874, bearing the Register No. 1369 and the U. S. Geological Survey, Newport Beach, California, quadrangle at the scale of 1:24,000. The great changes which have occurred in this area make it difficult to draw any conclusions between the representation of culture and water features on the two Coast and Geodetic maps except as pointed out in the paragraph "Changes". The agreement with the Geological Survey map seemed satisfactory though the comparison between them consisted only of an inspection as to the general representation of the cultural features.

Recommendations.

It so happened that third order traverse of the Geological Survey was made available as a check on the accuracy of the compilation from the aerial photographs after the compilation of the sheet was finished. The average difference indicated by the comparison did not exceed 3 meters.

Respectfully submitted,

T. P. Pendleton
T. P. Pendleton.

Respectfully forwarded,

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

air photo.
 REVIEW OF TOPOGRAPHIC SURVEY No. 5031

Title (Par. 56)

Chief of Party *R.W. Knorr* *Confided* Surveyed by *J.P. Sanderson* Inked by *K.B. Walker*
Photo taken Jan 24, 1932
~~Ship~~ Instructions dated *Oct 24, 1932* Surveyed in *Confided June 1933*

1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 7, 8, 9, 13, 16.) *information required in Par. 7 is shown on the title sheet. Par 16 c -*
- ✓ 2. The character and scope of the survey satisfy the instructions.
3. The control ~~and closures~~ *the compilation was* of traverses ~~were~~ adequate. (Par. 12, 29.)
4. ~~The amount of vertical control that the Manual specifies for -contours-formlines- was accomplished. (Par. 18, 19, 20, 21, 22, 23.)~~
5. ~~The delineation of contours-formlines is satisfactory. (Par. 49, 50.)~~
6. ~~There is sufficient control on maps from other sources that were transmitted by the field party to enable their application to the charts. (Par. 28.)~~
7. ~~High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)~~
- ✓ 8. The representation of low water lines, reefs, coral reefs and rocks, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)
9. Rocks and other important details shown on previous surveys and on the chart were verified. (Par. 25, 26, 27.) *- see over sheet Par. headed "Comparison with other surveys"*
10. ~~The span, draw and clearance of bridges are shown. (Par. 16c.)~~
11. ~~Locations and elevations of summits are given. (Par. 19, 51.)~~
12. ~~The tree line was shown on mountains. (Par. 16c.)~~

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

13. The descriptive report covers all details listed in the Manual, in so far as they apply to this survey. (Par. 64, 65, 66, 67.) *Par. 67 no list of contents of illustrations created by the compilation was submitted*
- ✓ 14. The descriptive report also contains additional information required in aero-topography relative to type of photographs, method of compilation and type of ground control.
15. The descriptions of recoverable stations and references to shore line were accomplished on Form 524. (Par. 29, 30, 57, 67 except scaling of DMs and DPs, 68.) *None were submitted on form 524*
16. A list of landmarks for charts was furnished on Form 567 and plotting checked. (Par. 16d, e, 60.) *The descriptive report has a paragraph discussing landmarks for charts but no list was submitted on form 567*
- ✓ 17. The magnetic meridian was shown and declination was checked. (Par. 17, 52.) *None shown*
18. The geographic datum of the sheet is *N A 1927* and the reference station is correctly noted. (Par. 34.)
- ✓ 19. Junctions with contemporary surveys are adequate.
- ✓ 20. Geographic names are shown on the sheet and are covered by the Descriptive report. (Par. 64, 66k.)
21. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46, 47, 48, 49, 50.) *Interpolation exists within letters was shown in lead circles. Shows have been corrected in the revision of the sheet*
- ✓ 22. No additional surveying is recommended.
23. The Chief of Party inspected and approved the sheet and the descriptive report, ~~after review by~~
24. Remarks: *Sketch was compiled at Long Beach Calif. when it was possible to make a field check of questions arising during the compilation. The review indicates the survey to be thorough and accurate.*

Reviewed in office by *B.G. Jones*

Examined and approved:

K.T. Adams
Chief, Section of Field Records

L.O. Sallat
Chief, Division of Charts

B. Bordin
Chief, Section of Field Work

G. Hude
Chief, Division of Hyd. and Top.

applied to Chart 5101 - May 1936 L.M.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO. 5031

AIR 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 Letter

REGISTER NO. T 5031

State California

General locality Southern Coast

Locality Huntington Beach to Sunset Beach

Date of photographs January 24, 1932

Scale 1:10,000 Date of ^{compilation} survey June 30, 1933

Lieut. Northrup, Pilot

Vessel Army Air Corps F1A airplane S. S. Bush, Photographer

Reviewed and recommended for approval

Chief of Party Lieut. R. W. Knox R. W. Knox June 30, 1933

Photographs plotted by

Surveyed by T. P. Pendleton T. P. Pendleton June 30, 1933

Inked by K. B. Walker K. B. Walker June 30, 1933

D. L. Ackland D. L. Ackland

Heights in feet above to ground to tops of trees

Contour Approximate contour Form line interval feet

Instructions dated October 24, 1932

Remarks: Compilation of aerial photographs Nos. S.P. 61-S.P. 81

Reduced to scale and printed by photo lithographic process

Polyconic projection by T. P. Pendleton T. P. P. February 13, 1933

Projection verified by K. B. Walker K. B. W. February 13, 1933

Control plotted by T. P. Pendleton T. P. P. February 13, 1933

Control verified by K. B. Walker K. B. W. February 13, 1933

Applied to chart 6142 1950 L.H.M.