DESCRIPTIVE REPORT

State: CALIFORNIA

Locality:
Gulf of Santa Catalina
Carlsbad

South Claire

1934

Chief of Party:
Applied to Chart 5701 - May 14, 1936 - R.M.Z.
Applied to Chart 3360 Dec 27, 1943 20, M.
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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 - 5412

State...CALIFORNIA
Chief of Santa Catalina

General locality...SOUTHERN CALIFORNIA

Carlsbad

Locality...Ponto to South Oceanside
photographs

Scale.1:10,000 Date of Survey January 17, 1934

Vessel...Launch and Shore Party, California, Project...No. 102

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

Surveyed by...see descriptive report data sheet

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 & supplemental dated Aug. 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-5412

PORTION OF WORK       DONE BY       DATE COMPLETED

PROJECTION PLOTTED     J.C. Mathisson  8-10-34
PROJECTION CHECKED     D.L. Askland   8-10-34
CONTROL PLOTTED        J.C. Mathisson  9-12-34
CONTROL CHECKED        W.J. Mignola    9-12-34
RADIAL LINE PLOT       J.C. Mathisson  9-20-34
RADIAL PLOT CHECKED    W.J. Mignola    10-1-34
COMPILED AND INKED     W.J. Mignola    10-23-34
TOPO. TRANSFERRED      W.J. Mignola    10-16-34
TOPO. CHECKED          D.L. Thompson   12-27-34

AREA OF SHEET: 12.9 square statute miles
LENGTH OF SHORE LINE: 6.6 statute miles
LENGTH OF RIVERS AND SLOUGHS: 4.4 statute miles
DESCRIPTIVE REPORT
To Accompany
PHOTO-TOPOGRAPHIC SHEET, REGISTER NO.7-5412
PONTO TO SOUTH OCEANSIDE
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 Register No.7-5410.

DESCRIPTION OF THE AREA
This sheet covers the section of the coast between South Oceanside and Ponto, a point approximately two and one-half miles south of Carlsbad.

Agua Hedionda Creek and Canyon de las Encinas are the only stream beds between Batiquitos Lagoon (at the north limits of Register No.7-5411) and Buena Vista Creek. There is a small flat at the mouth of Canyon de las Encinas. The flats at the mouths of Buena Vista and Agua Hedionda creeks are fairly wide, and extend a considerable distance inshore.
A sand bar completely closed the mouths of all drainage except Agua Hedionda Creek, which was open at the time of the photographs and also at the time of the plan tabular survey of the coast-line. This drainage is evidently closed at times as it is shown completely cut off from the ocean in the U.S. Geological Survey quadrangle and in Register No. F1899, dated 1887-88.

Water stands in the tidal channels behind the closing sand bars at the mouths of Agua Hedionda and Buena Vista creeks.

For a further discussion of the streams see descriptive report accompanying Register No. F5410.

The southern boundary of the Rancho Agua Hedionda reaches the shore at the mouth of the Canyon de las Encinas; the northern boundary falls just north of the mouth of Agua Hedionda Creek.

The beach, from the State Highway to the high water line, from Oak Street, Carlsbad, south to the north point of Agua Hedionda Creek has been set aside as a state park and is designated Carlsbad Beach State Park, according to information supplied by the State Park Division, Department of Natural Resources, Sacramento, California.

Ponto, near the southern edge of this sheet, is a railroad station and a very small group of houses. The only other settlement except South Oceanside, which
falls on this sheet, is Carlsbad, a resort settlement and the home of many of the orchard owners of this district.

A large rooster is on top of the dome of Twin Inns, Carlsbad. This rooster is prominent from the highway and from the sea. It was located by the triangulation party of Charles Pierce in 1933.

There is considerable acreage on this sheet devoted to the culture of avocados; mostly in the vicinity of Carlsbad, between Agua Hedionda and Buena Vista creeks. There are no orchards on this sheet south of Carlsbad.

The terrain shown on this sheet is fairly level for a distance of about a mile back of the bluffs at the shore-line. The elevation of this bench is slightly under a hundred feet in most places.

East of this bench the slope increases, and canyons which are tributary to the drainage mentioned above cut deeply into the hillsides.

The tracks of the Atchison, Topeka and Santa Fe Railway and the main highway (U.S. 101) between San Diego and Los Angeles follow the shore-line very closely for the entire length of this sheet.
PHOTOGRAPHS

This sheet is covered by photographs Nos. 211 to 230 inclusive. These photographs were secured January 17, 1934 between the hours of 10:22 and 10:30 A.M.

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

BRIDGES

The only bridges appearing on this sheet are railway and highway bridges across sloughs or the mouths of normally dry drainage. They provide outlets in case of periodic flow, with no provision for the passage of navigation.

No information as to clearance of span of these structures was available to the compilation party.

GEOGRAPHIC NAMES

The railway station Ponto, at the south edge of this sheet, was formerly Lacosta - the name which appears on the U.S. Geological Survey Quadrangle. The use of the name Lacosta has been discontinued.

The dry stream bed designated canyon de las Encinas on this sheet and on the U.S. Geological Survey quadrangle is sometimes spoken of locally as Kelly's canyon. As the name canyon de las Encinas is evidently
the original designation, and the one used on the highway maps of the highway department of the State of California, as well as most other maps, it has been retained in this compilation.

Buena Vista Creek is designated Buena Vista Valley on Register No. 1899, dated 1887-88; and Agua Hedionda Creek is also called Valley on that sheet; but since the U.S. Geological Survey Quadrangle for this area designates these features as creeks, and since this is the name generally accepted in the region itself, the names have been used on this compilation to conform with general usage.

Canyon de las Encinas is called Canada de Macario on Register No. 1899, dated 1887-88; but since no other authority can be found for this name it has been abandoned in favor of the name appearing on all other maps of the area: Canyon de las Encinas.

RADIAL PLOT

Difficulty was experienced in locating the radial points on the wing photographs immediately adjacent to the 'B' prints. Investigation disclosed that the axes of the mounting cards were in error by as much as 10 meters. The photographs were remounted and a smooth plot was accomplished without any great adjustment being necessary.
CONTROL

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

A proportional adjustment was made by the compilation party to correct an error of several meters in the triangulation where the two parts joined near Leucadia.

A table of control is appended to this report. The positions used to plot the control on this sheet; including the DMs and DPs corrected to the scale of the compilation - 1:10,500 - appear on this list.

The triangulation station STEWARDS 1933, established and described by Charles Pierce in 1933, was destroyed by the construction of a state highway. Before the station was disturbed a new station STEWARDS 2, 1934 was established and tied in with STEWARDS 1933. This new station was described on form 525, forwarded to the office by the compilation party.

Triangulation station FLAGPOLE, ½ mile north of station POST was destroyed sometime before the compilation of this sheet commenced, and has, therefore, been omitted.
INFORMATION FROM OTHER SOURCES

The state highway was being revised for the entire length of this sheet at the time of the compilation. The new location and alignment was secured from the state highway department and plotted on this sheet accordingly.

High and low water lines were not sufficiently clear on the photographs for charting purposes. This was due partially to the fact that the line of flight was so far inshore that the beach was largely obscured by the top of the bluffs at the high water line.

High and low water lines, and the toe of the bluffs were located by planetable methods by the topographic party, and transferred to this sheet.

The shore line of this sheet appears on Topographic Sheets, Field Letters 'C' and 'D', 1934. For a comparison of shore lines developed by this survey with those charted by the survey of 1887-88, see descriptive reports accompanying those sheets.

Street names in Carlsbad, the alignment of main tracks and spurs and sidings of the railway, and the positions and alignment of abandoned railway grades were all secured from maps furnished by the Chief Engineer, Atchison, Topeka and Santa Fe Railway.
Note:

The estimated accuracy of location given on the opposite page is high for work on this scale. Though the compilation is carefully made and well controlled, a better estimate is 2 to 5 meters for intersected points and 2 to 8 meters for other detail except in mountain areas where only stream lines show. In these areas due to frequent change in elevation and consequent change in scale of photographs a better estimate of accuracy in location is 5 to 10 meters for intersected points and 5 to 20 meters for other detail.
RECOMMENDATIONS FOR FURTHER SURVEYS

This compilation is believed to have a probable error of less than 2 meters in positions of well defined detail of importance for charting purposes, and of less than 4 meters for all other data. A slightly greater error may be found in the positions of the drainage at the extreme east edge of the sheet. See opposite page.

BENCHMARKS

The benchmarks recovered by the U.S. Coast and Geodetic Survey in 1933, as well as older U.S. Bench Marks, are shown on this sheet. They have been located by intersection from photographs only, after location by field inspection. These benchmarks have been filed on Form 524.

LANDMARKS

List of Landmarks submitted on Form No. 567 with Register No. 5410 includes the area of this sheet.

COMPARISON WITH OTHER SURVEYS

The junction of this sheet with Register No. 5-5411 on the south and with Register No.7-5413 on the north has been checked and was found to be satisfactory.

For a comparison of high water line and all offshore obstructions on this sheet with the surveys of
of 1887-88 see descriptive report accompanying
Topographic Sheets Field Letters C and D, 1934.  
This sheet was compared with photostat
of Register No. 71899, dated 1887-88, in regard to
topographic features back of the high water line.
Agreement was very good where drainage and other
natural features were concerned, with the exceptions
noted in preceding pages of this report.

A difference will be noted at several
points on this sheet between the top of the bluffs
at the high water line as shown here and as shown on
Topographic Sheets Field Letters C and D. These
discrepancies are due to the fact that after the state
highway alignment was changed there were several cases
where this new alignment brought the highway close to
or over the bluff line and fills were necessitated.

INTERPRETATION OF PHOTOGRAPHS

In general little difficulty was encountered
on this sheet with interpretation, the detail of the
photographs being sufficiently clear for charting
purposes.

Schools and postoffices have been shown
throughout the area of this sheet.

Portions of the old highway along the
cost line have not been shown as they have been
abandoned since the new construction has been completed.

The delineation of the slough at the mouth of Agua Hedionda Creek was taken directly from the photographs. This area is, by its nature, very changeable; but since the photographs were taken during the rainy season it was believed that they showed the slough and surrounding mud flats at their most typical stage.

LETTERING

All lettering required for the completion of this sheet has been shown in ink on the cover sheet. The position and spelling of all geographic names have been checked and are believed to be correct.

Respectfully submitted

[Signature]

W.J. Mignola
Compiler

Approved:

[Signature]

John G. Mathisson
Jr. H. & G. Engineer
<table>
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<tr>
<th>Triangulation Station</th>
<th>Position</th>
<th>Seconds in Meters</th>
<th>Plotting Distance Scale 1:10,500</th>
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<tr>
<td>ROCK, 1887</td>
<td>33 - 06'</td>
<td>1223.7 (614.7)</td>
<td>1175.0 (585.4)</td>
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<td>117 - 17'</td>
<td>1513.7 (241.9)</td>
<td>1251.1 (230.4)</td>
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<tr>
<td>POST, 1887</td>
<td>33 - 06'</td>
<td>1132.8 (715.6)</td>
<td>1078.9 (681.5)</td>
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<td></td>
<td>117 - 19'</td>
<td>458.2 (1097.4)</td>
<td>436.4 (1045.1)</td>
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<td>AGUA, 1933</td>
<td>33 - 08'</td>
<td>721.0 (1127.4)</td>
<td>686.7 (1073.7)</td>
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<td></td>
<td>117 - 17'</td>
<td>1876.9 (278.4)</td>
<td>1216.1 (265.1)</td>
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<td>STEWARDS 2, 1934</td>
<td>33 - 07'</td>
<td>1729.7 (118.7)</td>
<td>1647.3 (113.0)</td>
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<td>117 - 20'</td>
<td>87.3 (1468.0)</td>
<td>83.1 (1398.1)</td>
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<td>MULL, 1887</td>
<td>33 - 08'</td>
<td>1721.7 (126.7)</td>
<td>1659.7 (120.7)</td>
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<td>117 - 20'</td>
<td>1161.4 (393.5)</td>
<td>1106.1 (374.8)</td>
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<td>MULL 2, 1933</td>
<td>33 - 08'</td>
<td>1747.5 (100.8)</td>
<td>1664.4 (96.0)</td>
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<td>117 - 20'</td>
<td>1176.7 (378.2)</td>
<td>1120.7 (360.2)</td>
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<td>KELLEY 2, 1933</td>
<td>33 - 09'</td>
<td>1466.8 (379.6)</td>
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<td>435.7 (1119.0)</td>
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<td>SALTO, 1933</td>
<td>33 - 10'</td>
<td>506.6 (1341.8)</td>
<td>482.5 (1277.9)</td>
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<td>117 - 21'</td>
<td>1165.3 (291.3)</td>
<td>1107.9 (372.7)</td>
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<td>ECONOMY GAS TANK, east of Vaileta Point, edge of U.S.Highway 101, 1933</td>
<td>33 - 05'</td>
<td>1290.6 (557.8)</td>
<td>1229.1 (531.2)</td>
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<td>117 - 18'</td>
<td>1342.4 (213.4)</td>
<td>1278.5 (203.2)</td>
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<td>SOUTH CHIMNEY, large white house, 2.0 miles east of Carlsbad, 1933</td>
<td>33 - 08'</td>
<td>1608.1 (240.3)</td>
<td>1531.5 (228.9)</td>
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<td>117 - 19'</td>
<td>997.0 (553.2)</td>
<td>949.5 (551.6)</td>
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<tr>
<td>WATER TANK, 1½ miles east of Carlsbad, 1933</td>
<td>33 - 09'</td>
<td>1266.0 (582.3)</td>
<td>1205.7 (554.6)</td>
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<td>117 - 19'</td>
<td>584.6 (970.2)</td>
<td>556.8 (924.0)</td>
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<tr>
<td>ROOSTER, atop Twin Inns, Carlsbad, 1933</td>
<td>33 - 09'</td>
<td>965.0 (883.3)</td>
<td>919.0 (841.2)</td>
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<td>117 - 21'</td>
<td>8.6 (1546.4)</td>
<td>8.2 (1472.8)</td>
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<td>MOUNT, 1933</td>
<td>33 - 11'</td>
<td>836.4 (1011.9)</td>
<td>796.6 (963.7)</td>
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<td>117 - 20'</td>
<td>421.0 (1133.4)</td>
<td>401.0 (1079.4)</td>
</tr>
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</table>
At Carlsbad, about 600 feet southwest of the Atchison, Topeka and Santa Fe R.R. station, northwest of the Twin Inns, at the east corner of the large two-story white house and in the top of the south end of the first concrete step leading to the basement. A copper bolt. Note: since this bolt was put in place a structure has been built around the cellar steps which obscures the approach to the benchmark. The vertical clearance over the mark is not more than seven feet. (16.896 meters or 55.433 feet.)

About 0.7 miles southeast along the Atchison, Topeka and Santa Fe R.R. from Carlsbad, about 2½ poles northwest from milepost 230, about 100 feet east of the center line of the tracks, and at a property line between two avocado trees. The bottom of a square hole cut in the top of a granite post, lettered U.S.B.M. (13.437 meters or 44.085 feet.)

At Carlsbad, at the northeast corner of First and Elm Streets, at the brick building owned by Mr. Ramsey, north of the doorway to the corner store, in the west face of the wall, and 3 feet above the sidewalk. A standard disk, stamped "J 131 1933" and set vertically. (13.553 meters or 44.465 feet.)

About 2.7 miles southeast along the Atchison, Topeka and Santa Fe R.R. from Carlsbad, about 0.3 miles southeast of the signpost at Farr, 4 feet east of milepost 232, about 50 feet east of the track, and at a property fence. A standard disk, stamped "K 131 1933" and set in the top of a concrete post. (14.452 meters or 47.415 feet.)
L 131 1933  About 4.7 miles southeast along the Atchison, Topeka and Santa Fe R.R. from Carlsbad, about 0.3 miles northwest of the station at Ponto, 11 feet east of milepost 234, and 52 feet east of the center line of the track. A standard disk, stamped L 131 1933, and set in the top of a concrete post. (14.398 meters or 47.237 feet.)

H 131 1933  About 1.7 miles southeast along the Atchison, Topeka and Santa Fe R.R. from Oceanside, at the second pole northwest of milepost 228, about 42 feet east of the center line of the track, and 44 feet north of the center of a street crossing. A standard disk stamped H 131 1933 and set in the top of a concrete post. (11.795 meters or 38.697 feet.)
BENCH MARKS
NO. T - 5412

GEOREGRAPHIC POSITIONS AS SCALED FROM SHEET

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<th>Longitude</th>
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<tr>
<td>H 131 1933</td>
<td>33° 10'</td>
<td>117° 21'</td>
<td>+ 822.0 (1026.4)</td>
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<tr>
<td>N 1887</td>
<td>33° 09'</td>
<td>117° 21'</td>
<td>+ 1015.0 (833.4)</td>
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<tr>
<td>J 131 1933</td>
<td>33° 09'</td>
<td>117° 20'</td>
<td>+ 1079.6 (768.3)</td>
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<tr>
<td>U.S.B.M. &quot;M&quot;</td>
<td>33° 09'</td>
<td>117° 20'</td>
<td>+ 185.2 (1665.2)</td>
</tr>
<tr>
<td>K 131 1933</td>
<td>33° 07'</td>
<td>117° 19'</td>
<td>+ 957.4 (891.0)</td>
</tr>
<tr>
<td>L 131 1933</td>
<td>33° 05'</td>
<td>117° 18'</td>
<td>+ 1690.3 (158.1)</td>
</tr>
</tbody>
</table>

Scaled from celluloid sheet by: D.L. Thompson 1-15-35
Scaling and conversion checked by: J.C. Mathisson 1-16-35
REVIEW OF PHOTO COMPILATION T-5412 (1934)

The compilation has been reviewed and compared with previous surveys in the same area with the following results.

Comparison with T-6226a,b (1934).

This is a graphic control sheet on a scale of 1:10,000.

With the exception of temporary plane table stations and magnetic declination all information on T-6226a,b is shown on the compilation.

Comparison with T-6227a, (1934).

The same statement applies as above.

Comparison with T-1899, (1888).

This is a topographic survey on a scale of 1:10,000 executed nearly 50 years ago. The compilation agrees with it quite satisfactorily considering the changes to be expected in such an area on account of natural causes and works of man during this interval.

Minor differences are found in the relation of drainage detail and form lines but there is sufficient evidence to accept the compilation as correct.

Except for magnetic declination and contours the compilation is adequate to supersede T-1899.

Comparison with H-5663, (1934).

This is a hydrographic survey on a scale of 1:10,000. All topographic detail shown thereon is in agreement with the compilation.

Comparison with H-5648, (1934).

The same statement applies as in previous paragraph.

Comparison with Chart 5102.

This chart is on an approximate scale of 1:235,100 and the information shown thereon has been taken in part from the surveys discussed above.

There are no appreciable differences.

General.

Instructions for the project have been complied with. The projection has been checked. The drafting is well rendered and the compilation is suitably controlled and carefully made.
An unusual adjustment of the control used was necessary. This is referred to on page 5a of the Descriptive Report with a complete description of the adjustment necessary on pages 10-13 of the Descriptive Report accompanying T-5410.

In the position of the reference station in the title of T-5412 the value of the seconds has been omitted because the adjusted values of the control mentioned above were given in meters and the adjusted value in seconds is not available. (See page 13 of the Descriptive Report).

The descriptions of Bench Marks submitted on pages 14, 15 and 15 of the Descriptive Report have been filed on Form 524.

Respectfully submitted,

Inspected:

B.G. Jones

E.G. Jones

Approved

K.T. Adams

Joseph Andrews III
Reviewer

7/29/35
REVIEW OF AIR PHOTO COMPILATION NO. T-5412

Chief of Party: R.W. Knox H. & G. Engineer Compiled by: W.J. Mignola

Project: 102

Instructions dated: Aug. 6, 1934

1. The charts of this area have been examined and topographic information necessary to bring the charts up to date is shown on this compilation. (Par. 16a, b, c, d, e, g and i; 26; and 64)

2. Change in position, or non-existence of wharfs, lights, and other topographic detail of particular importance to navigation which affect the chart, is discussed in the descriptive report. (Par. 26; and 66 g, n)

3. Ground surveys by plane table, sextant, or theodolite have been used to supplement the photographic plot where necessary to obtain complete information, and all such surveys are discussed in the descriptive report. (Par. 65; and 66 d, e)

4. 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.

5. 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)

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, 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)

10. A list of landmarks was furnished on Form 567 and instructions in the Director's letter of July 18, 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. 18c)

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.) Unadjusted in office

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;

[Signature]
Robert W. Knox H & G Engr.
Chief of Party

19. Remarks after review in office:

Reviewed in office by: [Signature] [Signature]

Examined and approved:

[Signature]
Chief, Section of Field Records

[Signature]
Chief, Division of Charts

[Signature]
Chief, Section of Field Work

[Signature]
Chief, Division of Hydrography and Topography.
<table>
<thead>
<tr>
<th>Name on Survey</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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Names approved Dec. 6, 1935 -

Signed:

M 234