

5371

U.S. COAST & GEODETIC SURVEY

NOV 8 1934

Acc. No. _____

Form 504
Rev. Dec. 1933
DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
R. S. PATTON, DIRECTOR

DESCRIPTIVE REPORT

Photo
Topographic
~~Photographic~~ Sheet No. T-5371 537

U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES

JUL 17 1934

Acc. No. _____

State CALIFORNIA

LOCALITY

Southern California

From the Mexican Boundary

North to Chula Vista

1934

CHIEF OF PARTY

Robert W. Knox, H. & G. Engr/

U. S. GOVERNMENT PRINTING OFFICE: 1934

Applied to ch. 5107 J.M.A. Feb. 1936
Applied to Chart 5107 L.M.Z. May 26, 1936

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

TOPOGRAPHIC TITLE SHEET

32 45 03439 105.7
05630 2447
U. S. COAST & GEODETIC SURVEY
LIBRARY AND ARCHIVES
NOV 8 1934
Acc. No. _____
REG. NO. 537

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. _____

0

REGISTER NO. T-5371 5371

State CALIFORNIA

General locality SOUTHERN CALIFORNIA

Locality MEXICAN BOUNDARY TO CHULA VISTA

Scale _____ Date of photographs December 22, 1933

Vessel Project No. 102, Launch and ^{Shore} ~~Field~~ Party, California

Chief of party Robert W. Knox

Surveyed by See data sheet in descriptive report

Inked by _____

Heights in feet above _____ to ground to tops of trees

Contour, Approximate contour, Form line interval _____ feet

Instructions dated April 14 1932 and supplemental

Remarks: Compiled at a scale of 1:10,500 for reproduction
at a scale of 1:10,000. Compilation of aerial photographs
Nos. 37 to 74, inc. Reduced to scale and printed by
photo lithographic process.

T-5371

DATA SHEET

NO. T-5371

PORTION OF WORK	DONE BY	DATE COMPLETED
PROJECTION PLOTTED	<i>S.B. Lane</i> S.B. Lane	April 16, 1934
PROJECTION CHECKED	<i>John C. Mathisson</i> J.C. Mathisson	April 16, 1934
CONTROL PLOTTED	<i>John C. Mathisson</i> J.C. Mathisson	April 17, 1934
CONTROL CHECKED	<i>S.B. Lane</i> S.B. Lane	April 18, 1934
RADIAL LINE PLOT	<i>John C. Mathisson</i> J.C. Mathisson	April 27, 1934
RADIAL PLOT CHECKED	T.P. Pendleton	April 27, 1934
COMPILED IN PENCIL	<i>John C. Mathisson</i> J.C. Mathisson	May 16, 1934
INKED	<i>John C. Mathisson</i> J.C. Mathisson	June 18, 1934

PROJECT NO. HT 102
DESCRIPTIVE REPORT
SHEET NO. T-5371
STATE OF CALIFORNIA
MEXICAN BOUNDARY TO CHULA VISTA

PROJECT INFORMATION

This project includes five sheets, Registry Numbers T-5371 to 5375 inc., compiled from aerial photographs. These five sheets cover the area between the United States-Mexico Boundary Line and a point on the coast one quarter of a mile south of the Scripps Institute Pier, north of La Jolla.

The compilation was authorized by letter from the Director dated April 14, 1932, and supplemental instructions dated March 16, 1934 and May 9, 1934.

All five of these sheets have been compiled on a scale of 1:10,500 for reproduction at a scale of 1:10,000.

Photographs were secured by the 23rd Photo Section, U.S. Army, March Field, California. Camera No. AC 31-79. The date and time of photographs are given in the descriptive reports of the sheets to which they apply.

A copy of the index map furnished with the photographs is attached.

No field inspection report of this area was prepared as no field inspection was made prior to the compilation. In this case such an inspection was regarded as an unnecessary expense and delay as the work of compilation was done in San Diego and the draftsman compiling a sheet was able to make a personal inspection of all doubtful details.

GENERAL DESCRIPTION OF AREA

The area of these sheets includes several localities of moderately high relief. The low land toward the south end of San Diego Bay slopes gently upward to the east. In the vicinity of Old Town, San Diego, this rise is rather abrupt and is cut by steep canyons.

The high mountains south of the International Boundary extend across the line in the form of high mesas from 300 to 400 feet in elevation. These mesas break abruptly to the bed of the Tia Juana River.

The area surrounding Mission Bay is low and marshy. A ridge of comparatively high relief extends southward from the mouth of Mission Bay to form Point Loma and the western shore of the entrance to San Diego Bay. North of Mission Bay the area is high

and rolling from the ocean inshore. This area attains a height of approximately 800 feet at Soledad Mountain, and then slopes downward to the north to the limits of the project.

The entire area is covered with a scanty growth of desert vegetation except in populated areas and areas under cultivation.

That area which forms the west shore of San Diego Bay -- Silver Strand, Coronado, and North Island -- is low and sandy. On the bay side of Silver Strand there are many marsh areas with marsh grass extending beyond the high water line into the waters of the bay.

The rivers of this area, including the San Diego and the Tia Juana, are normally dry washes, and have been so shown on these sheets. There is an underground flow in most of the streams, but water is visible only at rare intervals, usually several years apart. For this reason the streams other than the San Diego, Tia Juana, Sweetwater, and Otay Rivers, are usually referred to as "canyons" or "valleys." Due to the fact that the most prominent features of these streams on these sheets is the tidal stream at the mouth of each, the term "Canyon" or "valley" is not appropriate. For this reason streams, other than those

usually designated as rivers, have been marked "creek."

GENERAL DESCRIPTION OF COMPILATION METHODS

Trimming and Mounting

All photographs were trimmed and the majority mounted by civilian personnel before the arrival of the writer in San Diego. The "B" prints were trimmed at 68.5 mm. in order to eliminate the black portion from the junction with the wing prints. The trimming distances of the wing prints was determined and the prints trimmed as follows:

"A" prints	70.0 mm.
"C" prints	70.25 mm.
"D" prints	70.0 mm. minus
"E" prints	70.0 mm. plus

"B" Prints

Four sets of "B" prints were furnished, two on Bromide paper and two on Contrast paper. The prints on Contrast paper failed to develop detail which was clear on the Bromide prints, and so were not mounted. The continued use of the smooth Bromide paper is, therefore, recommended.

Wing Prints

Some of the wing prints were inaccurately transformed, as evidenced by the failure of the images

of the wing prints not matching the detail of the "B" prints. Such photographs were not used in the compilation after they were detected. ?

The wing prints were furnished on a rough surface paper. It was found very difficult to draw fine radial lines on this paper due to the absorption of the ink and the consequent blurring.

Center Point

Due to the great amount of control included in the recent triangulation of this area, and to the fact that several of the flights were made on a curve, instead of on a straight line, no attempt was made to mark the centers of adjacent pictures on the "B" prints. In this case this would have been of no particular help, and was therefore regarded as an unnecessary expense and delay.

When the existing control was inadequate to rigidly fix the photographs, additional points were located by theodolite three-point fixes. A list of the original control, showing the plotting distances for a scale of 1:10,500, together with a list of three-point positions, is appended elsewhere to this report.

Radial Lines and Detail

The radial lines were drawn on the celluloid sheets in pencil. It is believed that a closer determination was obtained than could have been obtained by the use of inked lines.

The line detail was first traced in pencil on the celluloid sheets and then inked. This method proved very satisfactory and the draftsman was able to accomplish a neat job of inking.

The streets and roads as shown on these sheets do not represent the actual width. The center lines were located in the radial plots and widths assigned to different type of streets and roads. The widths conform very closely to the actual widths and are within the right of way of the various roads. In general, the following table was used for this purpose:

Main State Highways	2.0 mm
Secondary State Highways	1.75 mm.
City Streets	1.50 mm.
Country Roads	1.25 mm.
Private and Second Class	1.00 to 0.5 mm.

SIZE OF SHEETS

The border lines -- shown in blue -- enclose an area $27 \frac{5}{8}$ inches wide and $43 \frac{7}{8}$ inches long. These dimensions were figured to bring the sheet to size when enlarged to scale of 1:10,000. The projection lines and triangulation stations outside of this line but

used in the compilation of the sheet are shown for use in the office verification.

INFORMATION FROM OTHER SOURCES

A few topographic features along the waterfront have been built or changed since the date of the photographs. These changes have been located by stadia on aluminum plane table sheets and transferred to the celluloid sheets.

In such cases proper attention is called to the fact in the report on compilation.

Right of way maps of the line of the Atchison Topeka and Santa Fe Ry. from the north edge of the project to the end of their line in National City were furnished by that railway and used to check the location of the line, particularly the number of tracks in yards and the location of spurs.

Maps of the line of the San Diego and Arizona Eastern Ry. were furnished by that line. These maps included the line to Coronado as well as their main line south from San Diego to the International Line. They were used in the same way as the maps of the Santa Fe Ry.

Official maps of all naval reservations in

area of this project were furnished from the Public Works Office of the 11th Naval District. These maps were particularly valuable in locating buildings and such features on these reservations.

The Commanding Officer of the 11th Naval District requested that the fuel oil tanks at the Reserve Fuel Depot of the navy on Point Loma and the fuel tanks on North Island be omitted from the chart. This has been done, although the fuel oil tanks on Point Loma appear on earlier editions of C. & G.S. charts.

Several highway projects are now under construction by the Highway Division of the State of California. This work was shown on the sheets from maps furnished by the local office of the Division of Highways.

Quadrangles of the U.S.G.S. were used to compare with these sheets.

The County Surveyor of San Diego County was consulted in regard to the status of County Highways and other matters under the jurisdiction of his office.

The City Engineer of the City of San Diego was consulted in regard to the street layout of San Diego. The Harbor Engineer of the City of San Diego

furnished a city map of the waterfront of San Diego.

Map of San Diego Bay was furnished by the U.S. Engineer Office, Los Angeles, together with information as to the army system of rectangular co-ordinates.

Maps from other sources were used as a check. All information on them that varied in any way from the photographs was verified before being used.

U.S. ENGINEER RECTANGULAR CO-ORDINATE GRID

The U.S. Corps of Engineers makes use of a system of rectangular co-ordinates in their surveys of the harbor area. This system is based on C. & G.S. triangulation station OLD TOWN. This system is also in use by the the Public Works Office of the U.S. Navy, the Harbor Department of the City of San Diego, and others.

The station OLD TOWN has been reported lost. Before plotting the grid on these sheets it was necessary to determine the position of OLD TOWN on the 1927 Datum.

This was done by conversion of rectangular co-ordinate values of triangulation stations POINT LOMA LIGHT, (OLD) 1933 and MARSH, 1933. This computation resulted in the following geographic position:

OLD TOWN Lat. 32 - 45 - 02.841 Long. 117 - 11 - 07.194

After the construction of the rectangular grid from a number of converted geographic positions and values furnished by the U.S. Engineers, additional values were computed to check the construction. A list of these co-ordinates is appended.

This grid is shown on sheets covering the bay areas. Each 10,000 foot line is numbered in the border of the sheet.

SUPPLEMENTAL CONTROL

In the area of these sheets numerous theodolite three point fixes were made to more rigidly control the radial plot. These stations are shown on the sheets by the standard symbol for triangulation stations. There being no printed names available, the names are shown on the cover name sheets.

In all cases the point shown on the sheet is the picture point, and not the set-up of the three point, except when the set-up was the picture point.

There are approximately thirty-three theodolite three point fixes. The check computation on a fourth point proved all except three to be within third order accuracy.

These computations, together with the inverse

computations necessary for them, are being transmitted.

These stations have been described on Form No.524

John C. Mathisson
John C. Mathisson
Jr. H. & H. Engr.
U.S.C. & G. Survey

Respectfully forwarded approved:

Robert W. Knox
Robert W. Knox
H. & G. Engr.
Chief of Party

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Page 1 of 4

San Diego, California

July 6, 1934

193

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:

See also Page 20 of This report.

B. J. F.

Chief of Party.

DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM		
	°	D. M. METERS	°	D. P. METERS			
Oil Derrick 1,2,3	32-33	965.2	117-06	630.6	1927 N.A.	Triang.	5102
Richfield Tower 3	32-34	1538.5	117-05	4.9	do	do	5102
Salt Works 3	32-36	180.9	117-05	840.0	do	do	5107
South East 1,2,3	32-35	326.5	117-07	1351.7	do	do	5101
Radio Compass Sta. 3	32-35	326.5	117-07	1351.7	do	do	5102
Red Stack 3	32-36	693.7	117-04	1491.0	do	do	5102
Silo Type Structure 2,3	32-37	789.8	117-07	1489.3	do	do	5101, 5102
West Gable 3	32-38	33.6	117-06	479.0	do	Air Photos	5107
Abandoned Mill Bldg. 3	32-38	774.2	117-06	920.4	do	Triang	5107
Cupola, so. end 3	32-38	774.2	117-06	920.4	do	Air Photos	5107
Cottonseed Warehse. 3	32-39	603.2	117-06	891.5	do	Photos	5107
Four Black Tanks 3	32-41	244.3	117-07	790.1	do	Triang	5107
Brewery Flag Pole 3	32-40	1321.4	117-07	578.3	do	do	5107
So. west Corner 3	32-40	436.3	117-06	1111.9	do	Air Photos	5107
White Sawtooth Bldg. 3	32-41	1168.1	117-08	529.2	do	Photos	5107
Neon Sign 3	32-41	1168.1	117-08	529.2	do	Air Photos	5107
A.B.C. Brewery 1,2,3	32-42	853.5	117-09	224.7	do	Triang	5101, 5102
Largest Gas Tank 1,2,3	32-40	1513.6	117-10	997.9	do	do	5105, 5107
Tower 1,2,3	32-40	1513.6	117-10	997.9	do	do	5101, 5102
Coronado Hotel 1,2,3	32-40	1513.6	117-10	997.9	do	do	5105, 5107

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 SURVEY

LANDMARKS FOR CHARTS

Page 2 of 4

San Diego, California

July 6, 1934

193

DIRECTOR, U.S. COAST AND GEODETIC SURVEY:

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Chief of Party.							
DESCRIPTION	POSITION					METHOD OF DETERMINATION	CHARTS AFFECTED
	LATITUDE		LONGITUDE		DATUM		
	°	D.M. METERS	°	D.P. METERS			
3 Black Tank	32-41	1374.0	117-09	(61.4) 1501.7	1927		
1,2,3 Exposition Tower	32-43	1654.3	117-09	126.1	do	do	5105, 5107
2,3 Stack	32-43	862.6	117-08	1202.2	do	do	5101, 5102
Navy Hospital	32-43	862.6	117-08	1202.2	do	do	5206, 5107
2,3 Flagpole	32-43	862.6	117-08	1202.2	do	do	5105, 5107
El Cortez Hotel	32-43	396.0	117-09	659.7	do	do	5105, 5107
2,3 West Tank, Navy Hdqrs	32-42	1695.0	117-10	481.3	do	do	5105, 5107
1,2,3 Lindberg Beacon	32-42	1756.0	117-09	812.8	do	do	5101, 5102
East Radio Twr. 2,3	32-42	1789.9	117-09	(587.4) 975.4	do	do	5105, 5107
U.S. Grant Hotel	32-42	1789.9	117-09	975.4	do	do	5105, 5107
West Radio Tower 2,3	32-42	1789.5	117-09	1024.2	do	do	5105, 5107
U.S. Grant Hotel	32-42	1789.5	117-09	1024.2	do	do	5105, 5107
Cupola Adm. Bldg. 3	32-43	1791.4	117-10	807.9	do	do	5105, 5107
2,3 Lindberg Airport	32-44	1235.8	117-11	1223.1	do	do	5105, 5107
Stack, Brick	32-44	1235.8	117-11	1223.1	do	do	5201, 5102
White Tower 2,3	32-45	1077.0	117-11	867.3	do	do	
Junipero Serra Musm Stack 3	32-44	915.3	117-10	1524.8	do	do	5105, 5107
Amer. Agar Co. Steel Stack 3	32-43	411.7	117-13	1089.5	do	do	5105, 5107
Portola Sardine Co.	32-43	411.7	117-13	1089.5	do	do	5101, 5102
Light on Tower. 1,2,3	32-42	1238.0	117-11	857.1	do	do	5105, 5107
Admin. Bldg. 2,3	32-41	1723.4	117-11	1183.8	do	do	5105, 5107
No. Radio Tower	32-41	1723.4	117-11	1183.8	do	do	

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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Page 3 of 4

San Diego, CaliforniaJuly 6, 1934

193

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	°	D.M. METERS	°	D.P. METERS			
So. Radio Tower 2,3	32-41	1601.4	117-11	1183.2	1927 N.A.	Triang	5105, 5107 ✓
Searchlight Tower 2,3	32-41	694.4	117-11	1476.2	do	do	5101, 5102 ✓
Stack 3							5105, 5107 ✓
Pt. Loma High School 1,2,3	32-44	724.8	117-13	733.3	do	do	5105, 5107 ✓
Theosophical Dome 1,2,3	32-43	250.6	117-14	1456.7	do	do	5101, 5102 ✓
Water Tank 1,2,3	32-42	864.6	117-14	1409.1	do	do	5105, 5107 ✓
East Radio Tower 2,3	32-42	756.7	117-14	1188.9	do	do	5101, 5102 ✓
West Radio Tower 2,3	32-42	828.8	117-14	1366.2	do	do	5105, 5107 ✓
Pt. Loma Lt. (Old) 1,2,3	32-40	583.4	117-14	633.3	do	do	5101, 5102 ✓
Bennington Monum't. 2,3	32-41	724.6	117-14	958.7	do	do	5105, 5107 ✓
Brick Stack 2	32-44	1493.1	117-15	346.0	do	do	5101, 5102 ✓
Oil Derrick 2,3	32-45	1366.0	117-13	36.5	do	do	5105, 5107 ✓
Morena Air Beacon 2,3	32-48	1526.5	117-12	149.2	do	do	5101, 5102 ✓
Dome on Casino 2	32-46	307.6	117-15	69.5	do	do	5101, 5102 ✓
No. of 2 domes) 2							
Four Square Dome 2	32-47	1438.4	117-15	551.7	do	do	5101, 5102 ✓
Easter Cross 2	32-50	703.2	117-14	978.7	do	do	5101, 5102 ✓

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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.

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DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

Page 4 of 4

San Diego, California

July 6, 1934

193

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[illegible]

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U.S. ENGINEER CO-ORDINATES OF VARIOUS STATIONS

DISTANCES IN FEET

* ADMINISTRATION, 1933	14417.6 south	2196.7 west
* EXPOSITION TOWER 1916	6985.8 south	10452.4 east
* CORONADO TOWER	25641.5 south	2469.5 east
* FLAGPOLE ON BREWERY 1933	23737.4 south	18536.8 east
* MARSH 1916	40796.2 south	14631.7 east
WHITE TIPPED BLACK STACK, 1933	43226.9 south	26433.9 east
* FINIAL OF BLACK TANK	20033.7 south	5941.4 east
* RADIO	59571.0 south	16643.3 east
SILVER STRAND 1933	33205.6 south	9321.2 east
LARGEST GAS TANK IN SOUTH SAN DIEGO 1933	15677.0 south	10131.5 east
SOUTH TOWER CASTELLATED BUILDING, 1933	27163.9 south	4725.6 east
FLAG POLE MEMORIAL JR. HIGH SCHOOL, 1933	19338.3 south	16337.4 east
DUNE 2, 1933	49806.3 south	16168.0 east
BASIN, 1933	58367.1 south	21924.9 east
FRUIT 1933	52824.7 south	29478.4 east
* BAY, 1908	52961.4 south	18268.8 east
FLAG POLE DESTROYER BASE, 1933	25192.1 south	18528.8 east
NORTH RANGE MARKER LOWER BAY, 1933	41044.8 south	19438.9 east

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U.S. ENGINEER CO-ORDINATES OF VARIOUS STATIONS

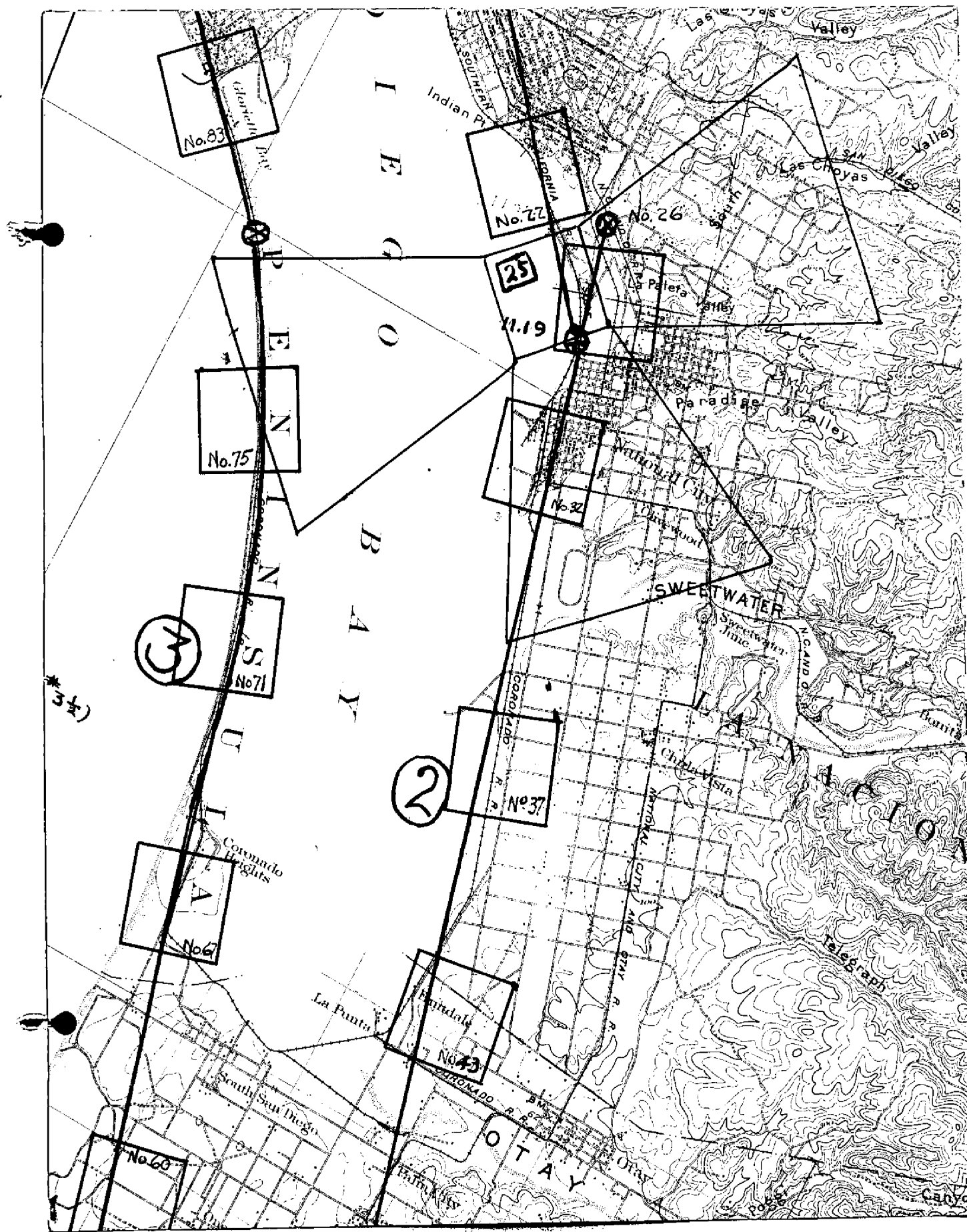
DISTANCES IN FEET

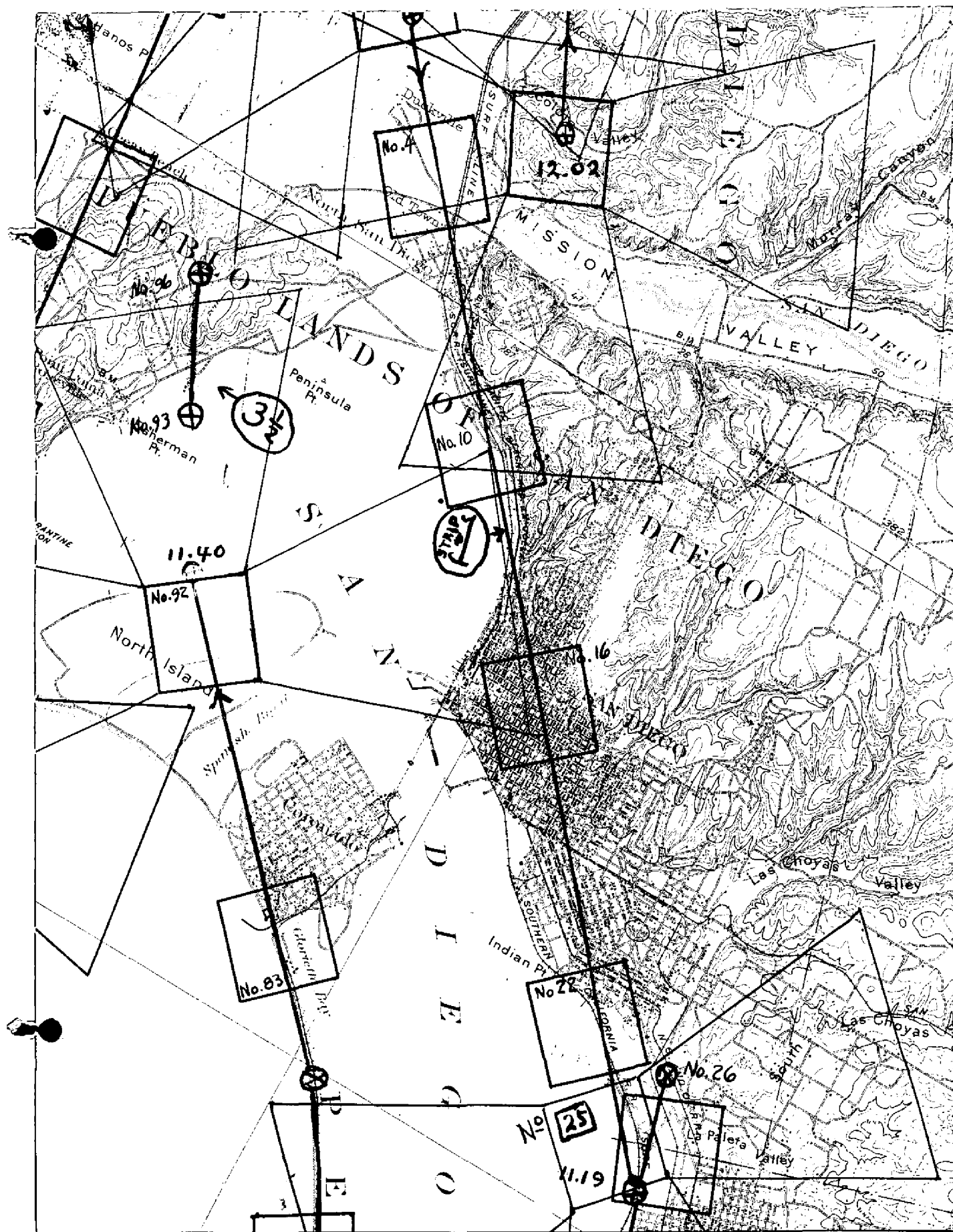
(continued)

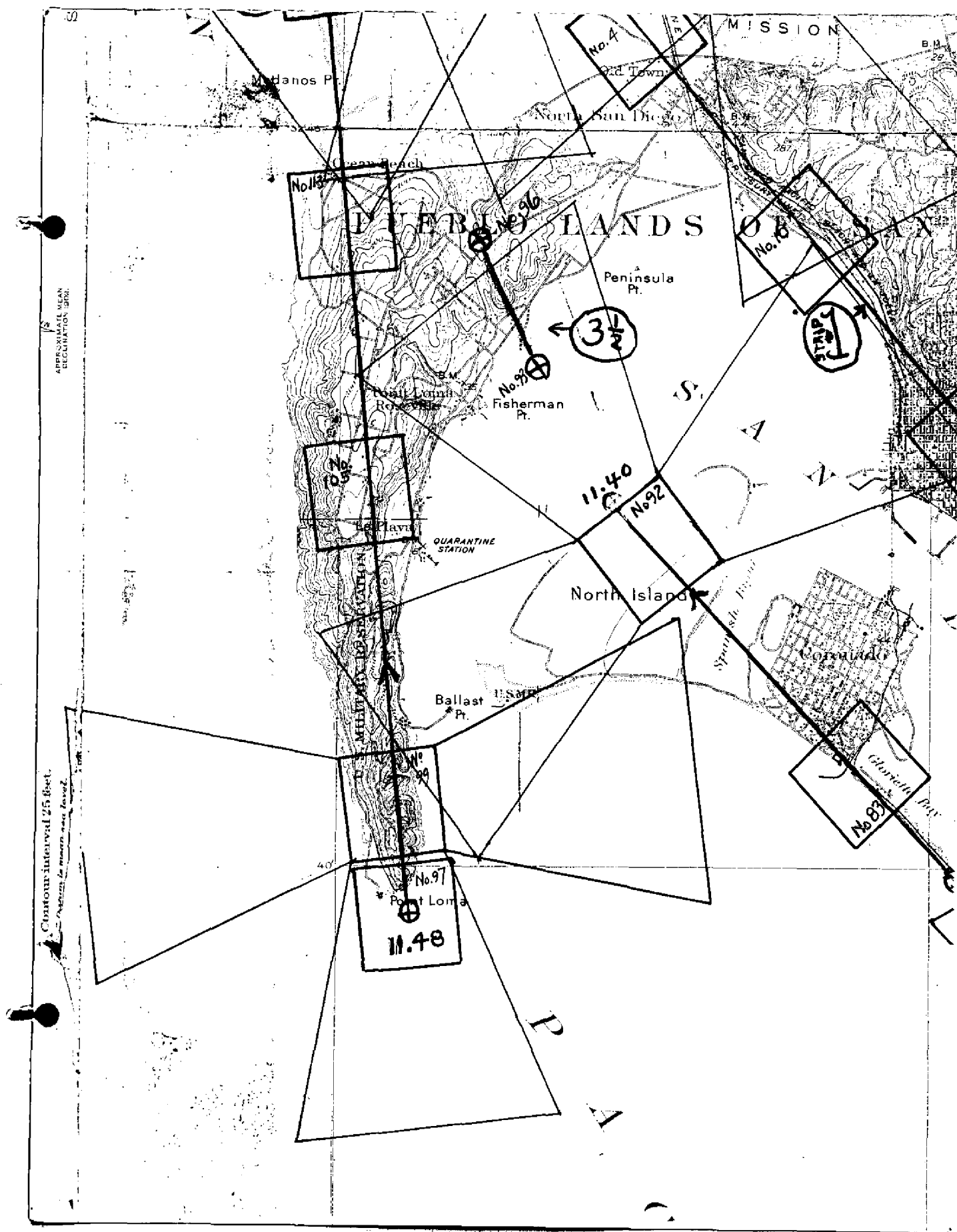
TALLEST OF TWIN BLACK STACKS, AT& SF RY.	34180.7 south	23289.2 east
OIL DERRICK 1933	4196.0 north	9753.2 west
BAY POINT, 1887	10577.0 north	15554.3 west

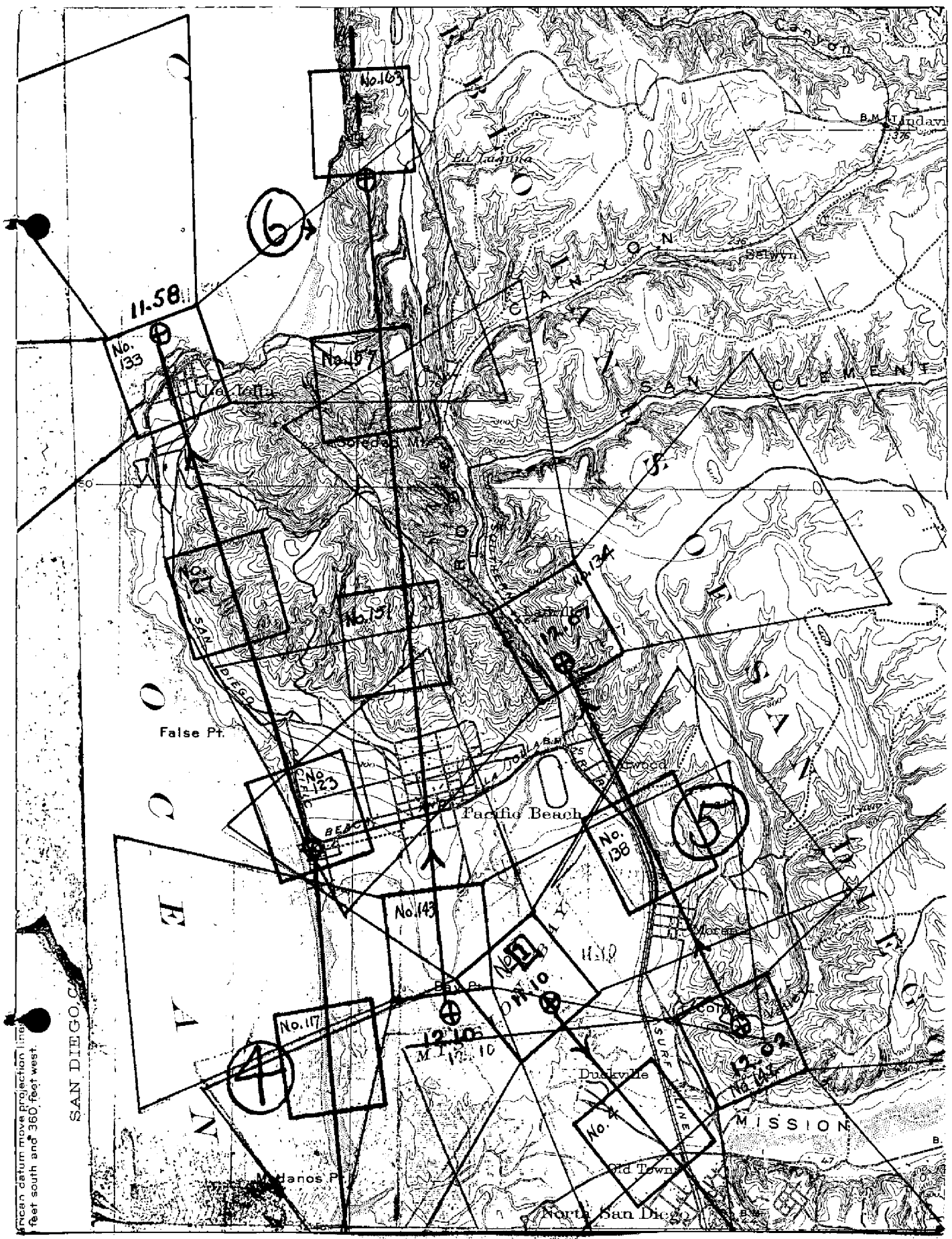
Co-ordinates of stations marked * were supplied by U.S. Engineers
Co-ordinates of other stations were computed in office from
geographic positions determined by C. & G. Survey.











REPORT ON COMPILATION
PHOTO TOPOGRAPHIC SHEET T-5371
MEXICAN BOUNDARY TO CHULA VISTA
CALIFORNIA
SCALE 1:10,500

STATISTICS

Area of Sheet: 26.2 square statute miles.

Length of Shoreline: 17.7 statute miles.

Length of Rivers and Sloughs: 7.6 statute miles.

DESCRIPTION OF AREA

This sheet covers that area from the Mexican Boundary north to Chula Vista, and from the high water line eastward for about three and a half miles.

The topography in this locality is low surrounding San Diego Bay and in the Tia Juana River bottoms, but considerable relief is found elsewhere. The high table land south of the International Boundary extends over the line in places and break abruptly to the level of the Tia Juana River bed. That part of the mesa extending north of the boundary has an elevation of 300 to 400 feet.

The topography northward from the Tia Juana River rises gently toward the northeast until the Otay

River is encountered. Here the terrain breaks to the floor of the valley in steep bluffs.

Immediately north of the Otay Valley the drainage is into that valley, but a little farther north the drainage is into San Diego Bay to the west.

North of the Otay River the land is extensively cultivated. A large part of the area is given over to groves of orange, lemon, and avocado.

There is considerable cultivation in the valley of the Tia Juana River, but many former fields have been allowed to return to grass and are used for grazing purposes. The last flow of water in this river was in 1927, at which time several bridges were swept away. This probably accounts for the abandoning of these fields which were formerly cultivated.

The high land south of the Otay Valley and east of Palm City is covered with a scanty growth of desert vegetation.

There are many salt evaporation ponds at the head of San Diego Bay. These ponds are maintained by the Western Salt Co. They are built by dredging material from the bottom of the bay to form dykes. The shape and area of these ponds are changed occasionally.

The strip of land between San Diego Bay and the ocean consists of wind-blown sand dunes covered with

a scattering growth of vegetation, which shows clearly in the photographs. Marsh areas extend into the bay at various points along the east side of this strip.

GENERAL INFORMATION

The area of this sheet is covered by photographs Nos. 37 to 74, inc. These photographs were secured December 22, 1933 between the hours of 11:19 and 11:35 A.M.

The tide at the time of these photographs was about 4 feet above M.L.L.W. This data was not used, however, in delineating the high water line, which was determined along the ocean beach by the deposit of debris, with due regard to that deposited by storm high water.

CONTROL

The control for the compilation of this sheet was executed by Charles Pierce in 1933. This control was supplemented by theodolite three-point fixes executed by the compilation party in 1934.

unadjusted

There is appended hereto a list of the triangulation stations and three-point fixes used in the compilation, showing the plotting distances used for the scale of the sheet -- 1:10,500.

In several cases the names of intersected stations as given by triangulation party have been shortened to facilitate showing them on the sheet.

COMPILATION

The usual radial line method was used in the compilation of this sheet.

No adjustments were made in the radial plot as there was sufficient control to fix each photograph.

INTERPRETATION OF PHOTOGRAPHS

Generally, most of the detail on the photographs was clear for charting purposes. There was some question about the charting of the bed of the Tia Juana River, but it was best to show it as a wash, after delineation was determined with the aid of the stereoscope.

No signs of a river bed were apparent in Otay Valley. A flood, caused by the breaking of a dam farther up the valley, probably washed out the river bed. There being no drainage since that time, no stream bed is apparent. In places the willows have been cleared to bare gravel pits.

A field inspection was made at high water to

determine the high water line and the limits of the marshes along the west side of San Diego Bay. After this inspection the high water line was easily determined.

Because of the lack of space it was impossible to show the ends of the two intermittent drainages just inshore of the salt works near the head of the bay. This drainage goes under the road through culverts and then between the road and the railroad to the drainage ditch as shown on the sheet.

The unimproved roads in Coronado Heights are lined on both sides with evergreen trees. This feature makes the locality quite prominent.

The limits of air landing fields as shown on this sheet are approximate only, being taken direct from the visible landing areas as shown on the photographs. The buildings connected to these landing fields have been shown.

Ream Field and Border Field are air landing fields under lease by the U.S.Navy.

The salt pond to the west -- which is traversed by the San Diego and Arizona Eastern Railway -- is open to the flow of the tide in that an automatic gate allows the water to flow into the pond at high tide, and retains it as the tide falls.

This area is the first step in the process of evaporation, the other ponds being filled from this area. In the area of this pond there are several abandoned dykes shown by dotted lines.

The dotted area near triangulation station SILO TYPE STRUCTURE on Silver Strand encloses an area of hog pens. There is also an abandoned clay pit nearby. The houses in this area have been shown in detail as they may serve as landmarks, however they are all more or less of a temporary type structure.

In thickly settled localities only the larger buildings adjacent to the water area have been shown. In the less populated districts and districts of scanty population all of the buildings are shown where they will be useful to the mariner. The school buildings and post offices are also shown.

The low water line is shown on the ocean side of the beach. This determination is approximate only as it was taken from the photographs, however the line is believed well within the farthest offlying breakers.

No attempt was made to show the low water line in the shoal areas of San Diego Bay.

INFORMATION FROM OTHER SOURCES

There are several topographic details that

have been constructed since the date of the photographs. This detail has been located on Topo Sheet Field No. "A" by the topographic party and includes the new piece of dyke built by the Western Salt Co. in the salt ponds at the head of the bay. Also located on this sheet was the group of three buildings in Coronado Heights which are prominent because they are an isolated group.

Since the date of the photographs the State of California has begun construction of a highway which extends from a point on National Avenue, Chula Vista, about 130 meters north of the center line of Anita Street in a southerly and southeasterly direction to a junction with the state highway about one mile east of Nestor.

As this highway is now being graded, it has been shown on the sheet. It was plotted from drawings furnished by the Division of Highways, State of California. This transfer was checked by plotting the crossings of the existing roads and railroads, which were shown on the state drawings.

COMPARISON WITH OTHER SURVEYS

The junction of this sheet with the sheet to the north -- Register No. T-5372 -- has been checked and found to show excellent agreement.

Although the current topographic sheets of this area were on a different scale, the agreement was very good. The mouth of the Tia Juana River was charted differently, but this was probably due to it being of a changable nature. An extremely high tide forces water into the river bed, and the runoff causes the mouth of the river to change.

There are several docks shown on the present edition of Chart No. 5107, which includes a portion of this area, which should be expunged from future editions.

After a field inspection no remains were found of the small dock shown at Lat. 32 -- 36.8', Long. 117 - 07.9'. Evidences were found of the two docks shown at Lat. 32 - 37.9', Long. 117 - 06.4' and Lat. 32 - 37.4, Long. 117 - 07.8', but the sites were marked by a single pile or remaining bent, close inshore.

The abandoned dock shown at Lat. 32 - 38.0', Long. 117 - 06.5' is no longer maintained and is in a dilapidated condition.

LANDMARKS

The list of landmarks has been submitted on Form No. 567 to cover the entire area of this sheet. A duplicate copy is attached to this report.

The following landmarks should be deleted from future editions of Chart No. 5107

HOUSE	Lat. 32 - 36.3'	Long. 117 - 07.7'
ELEVATOR	Lat. 32 - 36.2'	Long. 117 - 05.6'

The landmark shown on chart as TOWER, in Lat. 32 - 37.9' and Long. 117 - 06.0' should be replaced by WEST GABLE OF ABANDONED MILL BUILDING, whose position is given in List of Landmarks, Form No. 567. This last object is much more prominent than TOWER, although TOWER is still in existence and in good condition.

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 4 meters for other data.

To prove the compilation, several points were plotted from the U.S. Engineer list of rectangular co-ordinates after the grid had been placed on the sheet. These points checked the compilation within the above specified limits.

Further surveys are considered unnecessary in this area at this time.

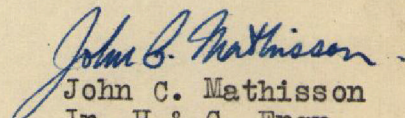
LETTERING

As far as possible, lettering was placed on the sheet from printed name lists furnished by the office. The

names of topographic features for which there were no ^{print}~~names~~ included have been shown on the cover name sheet. The names of three point fixes are also shown on the cover name sheet, and if a picture reference point from a set-up, it is so noted.

A line was drawn through a name on the cover name sheet when that name was attached to the celluloid. It is respectfully requested that names be provided and attached in the office for all names not so ruled out on the cover name sheet.

Respectfully submitted:


John C. Mathisson
Jr. H. & G. Engr.
U.S.C. & G. Survey

REVIEW OF PHOTO TOPOGRAPHIC SURVEY NO. T-5371

Title (Par. 56) Mexican Boundary to Chula Vista, California

Chief of Party Robert W. Knox Compiled by J.C. Mathisson

Project No. 102

Instructions dated

- ✓ 1. The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and 1.) Yes
- ✓ 2. The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".
Except as noted in descriptive report
3. The control and adjustment of the radial plot were adequate.
(Par. 12, 29.)
✓ Control adequate. No adjustment necessary
4. There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.)
✓ No maps are transmitted with the sheet
5. ✓ High water line on marshy and mangrove coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)
Yes
- ✓ 6. 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.) *See page 17*
7. Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front.
Yes *See pages 17 to 20 of the descriptive report.*
- ✓ 8. The span, draw and clearance of bridges are shown. (Par. 16c.)
There are no bridges on this sheet
- ✓ 9. The data furnished by the Field Inspection is adequate.

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.

Except for O West globe abandoned mill B. 222.
Note - The ^{young} descriptions on 7524 submitted
with this compilation were ~~local~~ for
stations located by the white 3 pt. fix
positions. The computations were later
forwarded to the division of geodesy and
filed as triangulation. The descriptions
have been transferred to triangulation
files and a cross reference card
placed in the file of topographic
station descriptions. These stations
are shown on the compilation
as topographic stations but the
symbols will be changed to Δ
at the next printing. The stations
are reported as above third order
accuracy. See pages 10 and 11
of this report.

B.G. Jones

10. The descriptive report covers all details listed in the Manual, so far as they apply to this survey. (Par. 64, 65 and 66.)

Yes

11. The descriptive report also contains all additional information required in photo topography as prescribed in the instructions and in the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".

Yes

12. The descriptions of recoverable stations and references to shore line were accomplished on Form 524, and scaling of positions checked. (Par. 29, 30 and 57.) *See offsite page.*

Yes

13. A list of landmarks for charts was furnished on Form 567 and scaling of positions checked. (Par. 16d, e, 60.) *See also page 19 and 20 of the desc. report.*

Yes

14. The geographic datum of the sheet is N.A.1927 *unadjusted* and the reference station is correctly noted. (Par. 34.)

15. Junctions with contemporary surveys are adequate.

Yes

16. Geographic names are shown on the sheet and are covered by the Descriptive Report. (Par. 64, 66k.)

Yes

17. The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46.)

18. No additional surveying is recommended.

19. Remarks:

20. Examined and approved:

Robert W. Knox
Robert W. Knox

Chief of Party

21. Remarks after review in office: *Review report attached at back.*

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

Examined and approved:

K.T. Adams
Chief, Section of Field Records

L.O. Lobst
Chief, Division of Charts

F.S. Borden
Chief, Section of Field Work

G. Wade
Chief, Division of
Hydrography and Topography.

REVIEW OF AIR PHOTO COMPILATION 5371 (1934)

Refer to paragraph 5, page 9, of the descriptive report: The geographic position of the U.S.E., grid origin as given by the compiler has been checked in this office.

The computations of the three point fix positions mentioned on page 10 of the report and described on Form 524 are filed in the section of air photo mapping.

The recent plane table surveys and hydrographic surveys of Knox in this area are not yet in the office. However, there should be no considerable discrepancies between those surveys and the compilations as both were done under one Chief of Party and Knox has made comparisons before sending the compilations to this office.

Names are in agreement with the chart except for the railroads. The names on this compilation for the railroads are more detailed and complete. New names are shown which are not on the present charts. See pages 7 to 9 of the report for maps and sources of information. The report does not mention geographic names specifically but from the amount of data used the compilation was evidently made carefully and was compared with the U.S.G.S. maps and other surveys in this area.

This compilation shows changes along the waterfront as listed on pages 19 and 20 of the report and also considerable detail not shown on the present chart 5107.

This compilation also shows numerous changes and considerable additional detail as compared with topographic survey 3644 (1916-17). The important changes are included in the discussion of changes on the chart, pages 19 and 20 of the descriptive report.

The 1916-17 survey shows a number of marked topographic stations, and also, along the east side of the bay, several city monuments (evidently city survey marks) which have not been recovered and shown on this compilation nor mentioned in the report. Otherwise all detail of importance on the 1916-17 survey is either shown on this compilation or discussed in the report.

B. G. Jones

Additional Review Note Added March 3, 1936

Comparison with Graphic Control Surveys

This compilation was reviewed and completed prior to the receipt in this office of the Graphic Control Surveys:

T-6222a (1:10,000)(1934)

Comparison has been made at this date and all detail shown on the graphic control surveys in this area appears on this compilation and is in agreement.

Ralph M. Berry

Ralph M. Berry

✓ B. J. Jones

5371

TABLE OF CONTROL

TRIANGULATION STATION	POSITION	DMS & DPs	METERS	PLOTTED DISTANCE	SCALE 1:10,500
Bay	Lat. 32° - 36' Long. 117° - 07'	577.6 878.0	(1270.6) (686.4)	550.1 836.2	(1210.0) (653.7)
Dune 2	Lat. 32° - 36' Long. 117° - 07'	1539.6 1516.9	(308.6) (47.4)	1466.2 1444.6	(294.0) (45.2)
Baja	Lat. 32° - 32' Long. 117° - 05'	913.5 1258.2	(934.8) (307.4)	869.8 1198.3	(890.1) (292.8)
Waste	Lat. 32° - 33' Long. 117° - 07'	1129.0 1306.4	(719.2) (258.9)	1075.2 1244.2	(685.0) (246.5)
Boundary Monument No. 258	Lat. 32° - 32' Long. 117° - 07'	116.2 492.8	(1732.0) (1073.0)	110.6 469.2	(1649.6) (1021.9)
Basin	Lat. 32° - 35' Long. 117° - 06'	777.5 1328.7	(1070.8) (236.1)	740.4 1265.3	(1019.8) (224.9)
Fruit	Lat. 32° - 36' Long. 117° - 05'	616.8 589.4	(1231.5) (975.0)	587.3 561.3	(1172.8) (928.5)
Palm	Lat. 32° - 35' Long. 117° - 04'	33.2 729.3	(1815.0) (835.5)	31.6 694.6	(1728.5) (795.7)
South Pylon	Lat. 32° - 37' Long. 117° - 07'	1524.8 1254.6	(323.4) (309.5)	1452.2 1194.9	(307.9) (294.7)
Silo Type Structure	Lat. 32° - 37' Long. 117° - 07'	789.8 1489.3	(1058.4) (74.8)	752.2 1418.4	(1008.0) (71.3)
White Tipped Black Stack	Lat. 32° - 37' Long. 117° - 05'	1694.7 1514.6	(153.5) (49.4)	1614.0 1614.0 1442.5	(146.1) (47.0)
Red Stack	Lat. 32° - 36' Long. 117° - 04'	693.7 1491.0	(1154.5) (73.4)	660.6 1419.9	(1099.5) (69.9)
White Shed on Salt Works	Lat. 32° - 36' Long. 117° - 05'	180.9 840.0	(1667.3) (724.5)	172.2 800.0	(1587.9) (690.0)
Oil Derrick north Palm City	Lat. 32° - 35' Long. 117° - 04'	302.0 1354.7	(1546.2) (210.1)	287.6 1290.2	(1472.6) (200.1)
Richfield Tower	Lat. 32° - 34' Long. 117° - 05'	1538.5 4.9	(309.7) (1560.0)	1465.3 4.6	(294.9) (1485.7)
West. Radio Tower On Hangar	Lat. 32° - 34' Long. 117° - 03'	1601.2 1320.2	(247.0) (244.7)	1524.9 1257.3	(235.3) (233.1)

TABLE OF CONTROL (continued)

TRIANGULATION STATION	POSITION	DMS & DPs METERS		PLOTTED DISTANCE SCALE 1:10,500	
East. Radio Tower On Hangar	Lat. 32° - 34' Long. 117° - 03'	1600.4 1295.9	(247.8) (269.0)	1524.2 1234.6	(236.1) (256.2)
Wind Indicator, Union Oil Co. Plant	Lat. 32° - 37' Long. 117° - 05'	955.6 1019.1	(892.6) (545.0)	910.1 970.6	(850.1) (519.1)
North Radio Tower U.S. Navy	Lat. 32° - 35' Long. 117° - 07'	410.5 1368.2	(1437.7) (196.6)	390.9 1303.0	(1369.3) (187.2)
South Radio Tower U.S. Navy	Lat. 32° - 35' Long. 117° - 07'	326.5 1351.6	(1521.7) (213.2)	310.9 1287.2	(1449.2) (203.0)
White Silo	Lat. 32° - 33' Long. 117° - 05'	1725.1 620.9	(123.1) (944.3)	1643.0 591.2	(117.1) (899.3)
Flag Pole On Barn	Lat. 32° - 32' Long. 117° - 06'	799.7 607.2	(1048.5) (958.5)	761.7 578.3	(998.6) (912.8)
Boundary Monument No. 257	Lat. 32° - 32' Long. 117° - 06'	294.7 299.9	(1553.5) (1265.7)	280.7 285.6	(1479.5) (1205.4)
U.S. Navy Monument	Lat. 32° - 36' Long. 117° - 07'	1532.3 1513.2	(315.9) (51.1)	1459.4 1441.1	(300.8) (48.6)
Radio	Lat. 32° - 35' Long. 117° - 07'	410.8 1373.7	(1437.4) (191.1)	391.1 1308.3	(1369.0) (182.0)

TRIANGULATION BY COMPILATION PARTY, 1934

NEW DERRICK	Lat. 32° - 33' Long. 117° - 06'	965.1 630.6	(883.0) (934.8)	919.1 600.6	(841.0) (890.3)
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T-5371

TABLE OF CONTROL
(continued)THREE POINT FIXES BY COMPILATION PARTY
1934

STATION	POSITION	DMs & DPs METERS		PLOTTED DISTANCE SCALE 1:10,500	
Tia, R.M.	Lat. 32° - 32' Long. 117° - 03'	932.4 1095.4	(915.8) (470.3)	888.0 1043.5	(872.0) (447.9)
TORPEDO RANGE BEACON, 1000 yd	Lat. 32° - 37' Long. 117° - 08'	506.7 108.9	(1341.5) (1455.4)	482.6 103.7	(1277.6) (1386.1)
TORPEDO RANGE BEACON 2000 yd	Lat. 32° - 36' Long. 117° - 07'	1424.7 1556.0	(423.5) (8.3)	1356.8 1481.9	(403.3) (7.9)
TORPEDO RANGE BEACON 3000 yd	Lat. 32° - 36' Long. 117° - 07'	488.5 1356.5	(1359.7) (208.1)	465.2 1291.9	(1294.9) (199.0)
TORPEDO RANGE BEACON 4000 yd	Lat. 32° - 35' Long. 117° - 07'	1417.1 1339.2	(431.1) (225.4)	1349.6 1275.4	(410.6) (214.7)
TORPEDO RANGE BEACON 6000 yd	Lat. 32° - 34' Long. 117° - 07'	1435.6 1419.5	(412.6) (145.4)	1367.2 1351.9	(392.9) (138.5)
TORPEDO RANGE BEACON 8000 yd	Lat. 32° - 33' Long. 117° - 07'	1440.0 1347.7	(408.2) (217.5)	1371.4 1283.5	(388.8) (207.1)
TORPEDO RANGE BEACON 10,000 yd	Lat. 32° - 32' Long. 117° - 07'	1394.4 723.6	(453.8) (841.8)	1328.0 689.2	(432.2) (801.7)
TORPEDO RANGE BEACON 12,000 yd	Lat. 32° - 32' Long. 117° - 07'	302.1 433.5	(1546.1) (1132.2)	287.7 412.9	(1472.5) (1078.3)
CROSSROADS	Lat. 32° - 33' Long. 117° - 07'	1162.5 719.7	(685.8) (845.6)	1107.1 645.8	(653.1) (805.3)
BAY, R.M.	Lat. 32° - 36' Long. 117° - 07'	597.6 964.5	(1250.6) (600.1)	569.2 918.5	(1191.8) (571.5)
STATE PARK MON. No. 5	Lat. 32° - 37' Long. 117° - 08'	1457.9 483.1	(390.3) (1081.0)	1388.5 460.1	(371.7) (1029.5)
CONCRETE FLOOR	Lat. 32° - 36' Long. 117° - 05'	579.7 458.1	(1268.5) (1106.4)	552.1 436.3	(1208.1) (1053.7)
Center Line Railroad	Lat. 32° - 34' Long. 117° - 03'	147.2 1290.9	(1701.0) (274.3)	140.2 1229.5	(1618.0) (261.3)
HIGH, CORNER	Lat. 32° - 37' Long. 117° - 04'	43.7 276.8	(1804.4) (1287.5)	41.6 263.6	(1718.5) (1226.2)

Date. _____

Chart No. 5102-5101-07

Under investigation. Q

(AM-136)