6159

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: California

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 11 H6159

LOCALITY

~~Southern California~~

~~Pyramid Cove~~ San Clemente I.

~~San Clemente Island~~ China Pt. & Vic.

193 6

CHIEF OF PARTY

H. B. Campbell

U. S. GOVERNMENT PRINTING OFFICE: 1933

6159

6159-3

Form 537
Ed. Sept., 1929

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

REG. NO.

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

Field No. 11

REGISTER NO. H6159

State California

General locality ~~Southern California~~ San Clemente I.

Locality ~~Pyramid Cove, San Clemente Island.~~ China Pt. & Vic.

Scale 1:10,000 Date of survey May 14 to Nov. 17 19 36

Vessel M. V. JOANNE and Port Motorsailer of Ship PIONEER.

Chief of Party H. B. Campbell

Surveyed by J. C. Sammons and G. M. Marchand.

Protracted by R. R. Moore, W. M. Scaife, and R. C. Rowse.

Soundings penciled by R. C. Rowse and G. R. Fish.

Soundings in fathoms ~~feet~~

Plane of reference M.L.L.W.

Subdivision of wire dragged areas by

Inked by W. R. Jackson

Verified by W. R. Jackson

Instructions dated March 9 and April 29, 19 36

Remarks:

U. S. GOVERNMENT PRINTING OFFICE: 1929

DESCRIPTIVE REPORT

TO ACCOMPANY HYDROGRAPHIC SHEET FIELD NO. 11.

U.S.C.& G.S.S. PIONEER Season 1936 H. B. Campbell, Commanding.

DATE OF INSTRUCTIONS

This survey was undertaken in pursuance of the Director's Instructions for Project No. HT 187, dated March 9 and April 29, 1936.

SURVEY METHODS

The offshore portion of the survey was made by the Motor Vessel JOANNE, Mr. J. C. Sammons in charge, using a power sounding machine. The inshore work was done by the port motorsailer, Mr. G. M. Marchand in charge, using handlead and sounding machine.

The control was by visual fixes on recovered 1860-2 and 1933-1934 triangulation stations established by Lieuts Charles Pierce and Robert W. Knox and referred to the 1927 North American Datum. Supplemental control was from topographic surveys by this party (see topographic sheets Nos. T-6510a A and T-6510b B), 1933 topographic surveys (T-4857 and T-6089) of Lieut. R. W. Knox, and a few hydrographic stations cut in by the field party. In regard to the topographic stations attention is drawn to the fact that most of the signals used by Lt. Knox in his 1933 surveys were recovered and used for the present survey. In most cases the identical signal names were used. For a complete list of the signals used see the inside of the title page of Vol. 1 of the sounding records.

Inasmuch as the hydrography of the sheet was done somewhat in advance of the topography it was necessary to transfer the signal locations from T-4857 and T-6089 to the boat sheet. Likewise the shoreline of the boat sheet is from the previous surveys.

Complete notes were made in the sounding records where kelp was encountered. The kelp symbol was omitted from the boat sheet for the sake of greater clarity.

Three boat sheets were used for this survey. They were numbered 11a, 11b, and 11c. Boat sheet No. 11a is the primary boat sheet and covers the entire area surveyed. It contains all the motorsailer work except the inner portion of Pyramid Cove which is shown on an insert on boat sheet No. 11b. The offshore work of the M. V. JOANNE is shown on boat sheet 11b and 11c. A boat sheet overlay of a portion of the development of the shoal in latitude 32° 48.7', longtitude 118° 22.0' is pasted on page 2 of Vol. 1 of the sounding records. *This information applied to smooth sheet.*

The position numbers of the motorsailer work are indicated by red lower case letters while the JOANNE'S work is shown in blue upper case letters.

DISCREPANCIES

There are no important discrepancies in this survey. The sounding line crossings are in good agreement where the bottom is smooth. In rocky and irregular bottom areas the crossings are satisfactory.

Due to the nature of the shoreline in the vicinity of Pyramid Point it was difficult to obtain strong fixes for portions of the offshore work in this vicinity.

Drag sheet should be in by March 15th

For this reason the boat sheet positions at the outer edge of boat sheet No. 11c are at some variance with the same positions as plotted on the smooth sheet. Particular care was taken in protracting the smooth sheet in this area.

DANGERS AND SHOALS

There are no offshore dangers within the limits of this survey. The inshore dangers consist of numerous sunken rocks and rocks bare at various stages of the tide.

The following comment is submitted concerning the depths found and extent of development of certain shoals.

In Lat. 32° 48.75, Long. 118° 21.97' there was found a depth of 11 fathoms at M.L.L.W. The bottom is rockyand very irregular. The least depth of 11 fathoms (see Pos. 89b - Port Motorsailer) was found after very careful development on a and b days by the port motorsailer. Two and one half hours of drift sounding around a marker buoy placed on this shoal failed to reveal any lesser depth. This shoal was included in the wire drag survey made by a sub-party of the Ship GUIDE under the immediate charge of Lt. I. Rittenberg, and the record of his survey should be referred to before the final charting of this shoal. This shoal is not marked by kelp. Cleared with an effective depth of 40 feet, H-6165(1936)W.D. Kum.

In Lat. 32° 48.82', Long. 118° 21.71' a least depth of 9 fathoms at M.L.L.W. was found (See Pos. 91 u, motorsailer). after one hour and ten minutes of drift sounding around a marker buoy. This is a sharp pinnacle of small area and is not marked by surface kelp. It is not known if this area was passed over by Lt. Rittenberg's wire drag survey, although this sounding was furnished to his party. Falls outside drag limits of H-6165(1936)W.D. Kum.

In Lat. 32° 47.47', Long. 118° 25.09' the 16 fathom shoal from the 1879 survey (H-1429) was verified. The bottom is sandy. This area was covered by Lt. Rittenberg's wire drag survey. While developing this area some lines were extended to cover the 18 fathom sounding in Lat. 32°47.57', Long. 118° 25.05'. (See H-5459). This sounding was not verified but as only a limited amount of work was done here it is the opinion of the hydrographer that the 18 fathoms should be retained. The existence of a small salient of the 20 fathom curve extending to southward at this point gives credence to the existence of the 18 fathom sounding mentioned above. 16 fms., cleared by 40 and 49', 18 fms. by 39 and 40' on H-6165(1936) W.D. Kum. 18 fm. sdg retained.

In Lat. 32° 47.77, Long. 118° 25.25 the 12 fathom sounding shown on H 5459 was not verified. In view of limited time spent on this development it is recommended that the 12 fathoms be retained. Falls outside drag limits on H-6165(1936)W.D. and just south of kelp limits shown on H-5459(1933), 12 fm. sdg retained.

The cove at China Point was developed in accordance with the supplemental instructions dated April 29, 1936. This cove is of no practical importance as a small boat anchorage for the area is almost entirely covered with thick kelp. The bottom is rocky and heavy swells make into the cove. There is an excellent boat landing in the east side of the cove between the signals Dit and Tip. When entering this cove vessels should keep close to the east side in order to avoid the reef which blocks the entrance. There is also less kelp in this side. No attempt was made to sound the reef at the entrance to this cove as the survey of Lt. Knox appeared adequate. It was noted that the seas broke over the reef during periods of moderate swells.

In Lat. 32° 47.95, Long. 118° 25.81 a least depth of 5 fathoms at M.L.L.W. was found. (See pages 13 to 14, Vol. 8 of sounding records).

In Lat. 32° 47.9; Long. 118° 26.0' a least depth of 11 and 10¾ fathoms at M.L.L.W. was found. This area was very carefully developed and drift sounding carried on for one hour. (See page 45, Vol. 7). The least depth of 11 fathoms is in agreement with H-5474.

In Lat. 32° 48.47', Long. 118° 26.18' a shoal with least depth of 7 fathoms was found. This area is covered with a large expanse of thick kelp. This area was very carefully developed and in addition a period of forty two minutes (See pages 65 and 66, Vol. 5) was spent in drift sounding over the area. The least depth was obtained on Pos. 26S, motorsailer.

In Lat. 32° 48.92', Long. 118° 26.74', a least depth of 3-5/6 fathoms at M.L.L.W. was obtained. This sounding was obtained after considerable development and 20 minutes of drift sounding around a marker buoy. See Pos. 1 to 14X, Vol. 8.

In Lat. 32° 48.98', Long. 118° 27.17', a least depth of 5-2/6 fathoms at M.L.L.W. was found. This area was closely developed and a period of forty minutes was spent in drift sounding around a marker buoy. (See pages 9 - 11, Vol. 8 of sounding records).

ANCHORAGES

On the east side of San Clemente Island in the vicinity of topographic station Reef, small fishing craft find anchorage during moderate northwesterly weather. These boats usually anchor about 200 meters southeast of ⊙ Reef in ten fathoms. The bottom is sandy.

Pyramid Cove affords protection for all craft from northerly weather. The best small boat anchorage is in 7 - 8 fathoms, sandy bottom, in approximate Lat. 32° 49.1', Long. 118° 23.9'. The additional sounding done in this area was not required by the instructions, but was undertaken when it was learned by the field party that the Navy intended to build a landing pier in this cove. No time was lost to the regular work on the sheet as this sounding was accomplished during an afternoon when weather conditions did not permit work elsewhere on this sheet. At the time of closing the present field season (Nov. 18, 1936) no work had been done toward construction of a landing pier but it is understood that such a project is planned by the Navy. It is thought that the pier will be constructed about midway between ⊙ Wk and Oat in approximately Lat. 32° 49.2', Long. 118° 24.1'. This is the pos tion recommended by the field party to the Navy Engineers (Lieut. Comdr. Gebhart) as being the quietest water in the cove.

this name should not be used.

On the west side of the island the cove known as Los Angeles Harbor is suitable as an anchorage during northeasterly weather. The best approach is on a true north course toward the center of the bight immediately east of ⊙ Hip. The entrance is practically closed by dense kelp and vast fields of kelp extend in a northwesterly direction along the coast. The prevalance of kelp in this area makes this anchorage unfavorable to larger vessels as there are few large areas entirely free from this growth. Small vessels can find some protection from moderate northwesterly weather by anchoring in five or six fathoms about 400 meters southeast of ⊙ Hip. The thick kelp patches extending south and west from the reef off ⊙ Hip serve as a barrier to the seas. It was noted by the field party that it could be blowing quite hard from northwest and kicking up a rough sea outside the kelp while at the position mentioned above it would be practically smooth.

COMPARISON WITH PREVIOUS SURVEYS

H-5459 The present survey is in good general agreement with the survey of Lt. Knox (H-5459). Areas where particular differences were noted are discussed under the heading of "Dangers and Shoals" of this report.

In the area of the inner cove of Pyramid Cove some differences were noted in the extent of the ledges extending from shore.

H-5474 The present survey is in good general agreement with the survey of Lt. R. W. Knox (H-5474). Lesser depths were obtained on certain shoal areas by the present survey, but no new shoals were found.

Off the east end of Pyramid Point the offshore one of a group of sunken rocks (sketched) shown on H-5474 should be removed from the chart and the results of the present survey substituted. Soundings were obtained over this area by the present survey and no evidence of a sunken rock was noted. The rock referred to on H-5474 lies between 25 fathoms and 35 fathoms soundings. The other sunken rocks as sketched on H-5474 in this area are alright as they fall within the foul area noted by this survey.

Removed from smooth sheets. See Rev., par. 7a(2)

Other Previous Surveys - No photostats are at hand for comparing the present survey with previous surveys other than thos mentioned above.

COMPARISON WITH ADJOINING SHEETS

There are no contemporary adjoining sheets.

GEOGRAPHICAL NAMES

No new geographical names were obtained. However, the existing name Los Angeles Harbor to the west and north of China Point appears confusing to navigators in view of the existence of a Los Angeles Harbor on the mainland sixty miles away. It is recommended that a new name be given to this feature. No new name is suggested by the field party.

STATISTICS

A table of statistics is appended to this rpport.

Respectfully submitted,

George M. Marchand

George M. Marchand,
Lieut. (j.g.), C.& G. Survey.

Approved and forwarded:

H. B. Campbell

H. B. Campbell,
Chief of Party
Commanding Ship PIONEER.

CHIEF OF PARTY'S REPORT OF INSPECTION OF RECORDS AND SHEETS

This sheet and the accompanying records for this survey have been examined and are approved ~~by me~~. No further work is recommended within the areas surveyed.

H. B. Campbell
H. B. Campbell,
Chief of Party,
Commanding Ship PIONEER.

STATISTICS

HYDROGRAPHIC SHEET FIELD NO. 11

U.S.C.& G.S.S. PIONEER   Season 1936   H. B. Campbell, Commanding

Day	Date 1936	Vol.	Soundings Wire	H. L.	Total	No. Pos.	Stat. Miles Sdg. Lines	Boat used
a	5/14	1	37		37	27	1.5	Port motorsailer
b	5/15	1	16	105	121	89	1.5	" "
c	5/19	1	62		62	25	1.8	" "
d	5/20	1	22		22	8	1.0	" "
e	5/21	1	190	8	198	83	8.9	" "
f	5/27	1	180	100	280	105	9.5	" "
	5/28	2	129	41	170	98	6.6	" "
h	5/29	2	72	21	93	64	4.2	" "
j	6/3	2	194		194	88	6.0	" "
k	6/11	2		473	473	132	12.9	" "
l	6/12	2-3		570	570	156	11.7	" "
m	6/13	3		437	437	126	12.6	" "
n.	6/14	3-4	301	27	328	107	12.9	" "
p	6/15	4		461	461	140	11.6	" "
q	6/17	5	63	421	484	147	14.2	" "
r	6/18	5	260	79	339	105	10.9	" "
s	6/23	5-6	24	313	337	125	7.6	" "
t	6/24	6	218	78	296	116	13.6	" "
u	6/25	6	200	61	261	91	9.7	" "
v	6/26	7	222	89	311	118	9.4	" "
w	6/27	7	119	11	130	46	3.0	" "
x	11/17	8		92	92	49	--	" "
A	6/11	9	128		128	97	6.0	Launch JOANNE
B	6/12	9	152		152	77	8.5	" "
C	6/13	9	149		149	78	7.5	" "
D	6/14	9	153		153	80	8.5	" "
E	6/15	9	44		44	44	2.8	" "
F	6/17	9-10	251		251	127	12.2	" "
G	6/18	10	112		112	59	5.5	" "
H	6/23	10	228		228	128	10.0	" "
J	6/24	10	46		46	46	4.5	" "
K	6/25	10	41		41	41	5.0	" "
L	6/26	10	64		64	64	6.0	" "
Totals:			3677	3387	7064	2886	247.6	

Area in square statute miles = 10.0

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. H6159

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet	2886
Number of positions checked	354
Number of positions revised	298
Number of soundings recorded	7064
Number of soundings revised	743
Number of signals erroneously plotted or transferred	5

Date: April 21, 1937.

Verification by W. R. Jackson — Time: 208 hrs.

Review by Harold W. Murray — Time: 34½ "

Ver. Cor. by " — " 7 "

Verification Report on H-6159

1. The records conform to the requirements of the General Instructions except as noted in this report and in the review.

2. A small portion of the drafting had to be done over. The shore line and control was checked with T-6089, T-4857 and T-6510.

~~The control around Pyramid Head was off and had to be changed. Two triangulation stations were erroneously plotted and the adjacent Topo signals were off. These were corrected, and consequently all the hydrography using these signals had to be replotted.~~

~~Five triangulation stations failed to check with the Topo sheet. All information in the office indicated erroneous plotting, however, after several days investigation it was learned that Navy Beacons One, Two, and Three were plotted from computations made in the field or else from a direction and distance from Beacon 1, 2, and 3 respectively. The geographic positions of the latter being the only data in the office. Beacons 1, 2, and 3 are standard station marks set near the large structures of the U.S.N. Beacons One, Two, and Three, respectively.~~

~~Their distinction were not known until after considerable investigation. The hydrographic sheet now has both stations plotted on it, namely the Navy beacon and the corresponding station mark.~~

~~In the case of~~ △ stations Pyramid and "U.S.N. W.W. Rock," ~~it was assumed that station Pyramid was erroneously plotted and since W.W. Rock was plotted from a direction and distance from Pyramid, thus~~ were both incorrectly plotted ~~were wrong~~. In transfering the Topo signals in this immediate vicinity it seems that the error was split between the projection and the triangulation, because the Topo signals were in error one half the amount the stations Pyramid and W.W. Rock were off. As a consequence several hundred positions in the hydrography had to be replotted.

3. The sounding line crossings are good considering the rocky bottom and quick changing depths.
4. The usual depth curves were completely drawn.
5. The aids to navigation and the Navy mooring buoys were located by sextant fixes.
6. The junctions were made by merely butting the soundings together rather than make an overlap because of the extensive common area on both sheets

6. (Cont'd) Junctions were made with H-5474, H-5758, H-

The junctions were in general good, except the junction with H-5758. Considerable differences occured here and the soundings that overlaped were left in pencil. Additional sdgs added by Reviewer; see Rev., par. 6

7. The field plotting was anything but good. Many errors were found in the protracting. In some cases information in the sounding records had been ignored.

The prick holes for the positions were many times too big, making the sheet unsightly and difficult to ink on.

8. Attention is called to a change in a depth on position "76 e" a sounding of 94 was changed to 74.

Attention is also called to a note on position "36 m" a rock awash sketched on the boat sheet. This seems to be rather indefinite. Lat. 32 - 49.8
Long. 118 - 27.7

Rock shown 10 m. NE on T-6089(1933) plotted instead of this rock. Hum.

Respectfully submitted,

4/21/37

William R. Jackson

HYDROGRAPHIC SURVEY NO. H6159

Smooth Sheet Yes

Boat Sheet Three

Note: Important information shown on two overlays (vellum) applied to smooth sheet and overlays destroyed. H.W.M. 4/27/37

Sounding Records 10 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals Vol #1

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) None

Special Chart for Lighthouse Service No
(Circular Nov. 30, 1933)

Remarks

33

Nov. 17, 1936

705

	Remarks	Decisions
1		See T-6087, 6088, 6089
2		" "
3		" "
4		" "
5		" "
6		" "
7		app'd for Title only
8		
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1 234

GEOGRAPHIC NAMES

Survey No. H6159

Name on Survey	A On Chart No. 5101, 5126	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
San Clemente I.	✓ app'd									1
~~Los Angeles Harbor~~	GN Stand	See ~~p.~~ IP Geog. Names, this report.								2
Pyramid Cove	✓ app'd									3
Pyramid Head	✓ app'd									4
China Pt.	✓ app'd									5
Outer Santa Barbara Passage	✓ app'd									6
California	✓	(For Title)								7
										8
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										25
										26
										27

Names underlined in red approved by GHE on 3/5/37

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT } No. ~~H~~ 6159
~~PHOTOSTAT OF~~ ~~No.~~

received Mar. 2, 1937
registered Mar. 5, 1937
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
✓ 25			
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	C. K. Green

✓

eac

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Ed. Feb. 1935

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 6, 1937.

Division of Hydrography and Topography:

✓Division of Charts: Attention: Mr. E. P. Ellis

Tide Reducers are approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 6159

Locality China Point and Vicinity, Pyramid Cove, San Clemente Island, Coast of California.

Chief of Party: H. B. Campbell in 1936
Plane of reference is mean lower low water reading
3.6 ft. on tide staff at Wilson Cove*
16.2 ft. below B.M. 2

Height of mean high water above plane of reference 4.4 feet.

*On the dates when the Wilson Cove gage was not operating, curves were drawn from the observations at the standard station at Los Angeles Harbor with corrections to refer them to Wilson Cove.

Condition of records satisfactory except as noted below:

Actg Harm
Chief, Division of Tides and Currents.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 6159 (1936) FIELD NO. 11

China Point and Vicinity, San Clemente Island, California
Surveyed in May to November 1936, Scale 1:10,000
Instructions dated March 9 and April 29, 1936 (PIONEER)

Hand Lead and Machine Soundings. 3 Point fixes on shore signals.

Chief of Party - H. B. Campbell.
Surveyed by - J. C. Sammons and G. M. Marchand.
Protracted by - R. E. Moore, W. M. Scaife and R. C. Rowse.
Soundings plotted by - R. C. Rowse and G. R. Fish.
Verified and inked by - W. R. Jackson.

1. Condition of Records.

The records are neat and legible and conform to the requirements of the Hydrographic Manual except as follows:

Triangulation stations Pyramid Point and U. S. N. Ww (whitewash) Rock on Pyramid Head were plotted approximately 15 m. south of their correct positions. Topographic stations Ome, Flag and Mid were found to be about 5 m. in error. All these were replotted in the office. These discrepancies introduced errors in many of the boats' positions amounting to as much as 60 meters. Approximately 300 positions required replotting in the office (see verifier's report).

The Descriptive Report is clear and comprehensive and covers all items of importance.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project. Investigation of specific soundings or areas called for in the supplemental instructions dated April 29, 1936, was accomplished and is discussed in paragraphs 6a of this review.

3. Shoreline and Signals.

The shoreline and signals are from plane table surveys: T-6089 (1933), T-4857 (1933), T-6510a (1933) and T-6510b (1933). Several hydrographic signals were also used, the sextant cuts being listed in the index of the sounding volumes.

4. Sounding Line Crossings.

Such cross lines as were run or those that result from the work are satisfactory. Small differences in adjacent soundings are noted on the east end of the island and are probably due to the sloping bottom or slight irregularities in the bottom.

5. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn including portions of the 1, 2, 3 and 5 fathom curves.

6. Junctions with Contemporary Surveys.

a. H-5459 (1933).

The present survey makes a satisfactory junction with H-5459 (1933). The additional development in the cove west of China Point and the examination of the 16 fathom shoal in latitude 32° 47.5', longitude 118° 25.1', both called for in paragraph 9 of the review of H-5459 (1933) have been accomplished on the present survey. The 16 fathom shoal was verified but no less water found. The present survey also includes additional work on two small areas previously covered by H-5459 (1933). The first is in Pyramid Cove in the vicinity of U. S. N. Beacon Three, and the second is an area southwest of Pyramid Head where the Navy Department had reported a 12 fathom depth (see Chart Letter 287 of 1936). The present survey found 11 fathoms in the reported area. A 40 foot drag cleared this spot (see H-6165 W.D.). Because of the close development on the present survey only selected soundings from H-5459 (1933) were transferred in the overlapping areas.

b. H-5758 (1934).

The junction with this survey south of China Point is satisfactory. Off the eastern end of the island and outside the 100 fathom curve, the soundings on H-5758 (1934) are consistently shoaler than the depths on the present survey, the differences running as high as 10 per cent. The soundings on the 1934 survey are fathometer soundings corrected for slope while those on the present survey are machine soundings. The differences noted are believed to be due to several causes among which are the following: The machine soundings may be slightly deep, the fathometer soundings may have insufficient plus corrections for slope making them too shoal, or the lines may be somewhat displaced due to the not too rigid control in this area. It was not considered advisable to combine the soundings on H-5758 (1934) with those on the present survey because this would introduce irregularities which probably do not exist. The use of one or the other surveys in the common area would merely have the effect of moving the depth curves inshore or offshore a very small amount.

In view of the fact that the soundings on the present survey (H-6159) are in general agreement with the 1933 work in this area (H-5474), both being machine work, and the fact that H-6159 is in sufficient detail for adequate charting, it should be given preference in the common area. Except for a few soundings from H-5758 (1934) that are in good agreement with the present survey none of the soundings of the former survey have been transferred to the latter in the common area.

7. Comparison with Prior Surveys.

a. H-5474 (1933).

(1) This survey is on a scale of 1:20,000 and covers the area along the northeast and southwest coast of San Clemente Island. The present survey is a resurvey of portions of this sheet on a scale of 1:10,000. This 1933 survey is in general good agreement with the present survey although the latter shows considerably more detail. In some instances, the development on the present survey while good is not sufficiently close nor was the least depth obtained on some minor shoal areas. In these cases, representative soundings have been carried forward from the prior survey. In this connection, the 33, 133, 116 and two 136 fathom soundings carried forward in latitude 32° 49.1', longitude 118° 20.3', were reprotracted on the present survey, this larger scale plotting placing the soundings approximately 20 to 40 m. to the westward.

(2) Two sunken rocks (not charted on Chart 5111) shown on this survey off Pyramid Head in latitude 32° 49.2' longitude 118° 20.8' originate with T-1526 (1878). (See Review T-4857 (1933)). The hydrographer of the present survey obtained a number of soundings in this area during tides of 2 to 3 feet and saw no evidence of these rocks. (See Descriptive Report, page 4, par. 4). These rocks are probably a generalized representation of the offshore limit of the foul area shown here on the present survey. They have been removed from H-5474 (1933) and T-4857 (1933).

The present survey being on a larger scale and in more detail should with the indicated additions supersede this 1933 survey in future charting.

b. Other prior surveys falling within the area of the present survey were considered in the reviews of H-5474 (1933), H-5459 (1933) and H-5758 (1933).

8. Comparison with Chart No. 5111 (New Print dated July 30, 1936)

a. Hydrography.

Within the area covered, the chart is based on surveys discussed in the foregoing paragraphs and contains no additional information that needs consideration in this review except the 11 fathom sounding surrounded by general depths of 24 fathoms in latitude 32° 48.8', longitude 118° 22.0'. This 11 fathom sounding is an advance charting from the present survey. The final position is about 30 meters northward of the charted position.

b. Aids to Navigation.

(1) Aids to Navigation located on the present survey are in substantially the same positions as charted and satisfactorily mark the features intended.

(2) The present survey shows a number of U. S. Navy mooring buoys that are not charted.

9. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual. (See par. 1, this review).

10. Additional Field Work Recommended.

This survey is complete and no additional field work is required.

11. Note to Compiler.

Attention is called to paragraph 6b of this review regarding the use of soundings from the contemporary survey H-5758 (1934) in the area common to the present survey.

12. Superseded Previous Surveys.

Within the area covered, the present survey with the indicated additions from previous surveys supersedes the following surveys for charting purposes:

H-5474 (1933) In part

13. Reviewed by - Harold W. Murray, April 26, 1937.

Inspected by - A. L. Shalowitz.

Examined and approved:

C. K. Green, C. K. Green.
Chief, Section of Field Records.

Fred. L. Peacock
Chief, Section of Field Work.

L. O. Colbert.
Chief, Division of Charts.

G. T. Rude
Chief, Division of H. & T.

Applied to Chart 5117 June 7, 1937 J. H. S.

applied to Ch 5111 - Apr. 1938. H.S.B.