

8641

Diag. Cht. No. 8102-3.

Form 504 U. S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY DESCRIPTIVE REPORT	
Type of Survey	Hydrographic
Field No.	LJ-10-2-62
Office No.	H-8641
LOCALITY	
State	S. E. Alaska
General locality	Prince of Wales Island
Locality	Cholmondeley Sound, South Arm
1962	
CHIEF OF PARTY	
M. E. Natto	
LIBRARY & ARCHIVES	
DATE	March 14, 1963

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

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.

REGISTER No. H-8641 ✓

Field No. LJ-10-2-62 ✓

State S.E. ALASKA ✓

General locality Prince of Wales Island

Locality Cholmondeley Sound, South Arm ✓

Scale 1:10,000 ✓ Date of survey MAY-JUNE 1962 ✓

Instructions dated October 2, 1956 and January 31, 1962 ✓

Vessel USC&GS Ship LESTER JONES ✓

Chief of party M. E. Natto, LCDR, C&GS ✓

Surveyed by B. I. Williams, LT(j.g.), C&GS ✓

Soundings taken by ~~fathometer~~, graphic recorder, ~~hand-lead~~, ~~wire~~ fathometer

Fathograms scaled by W. R. White

Fathograms checked by Ships Officers

Protracted by G. W. HOHMANN, ENS. C&GS

Soundings penciled by G. W. HOHMANN, ENS. C&GS

Soundings in fathoms ~~and tenths~~ at ~~MLLW~~ MLLW

REMARKS:

GM

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8641

(LJ-10-2-62)
1962

USC&GSS LESTER JONES

M. E. NATTO, LCDR, C&GS
COMMANDING OFFICER

SCALE 1:10,000

A. PROJECT - This survey was accomplished in accordance with Original instructions for Project OPR-381 dated October 2, 1956 and Supplemental instructions dated January 31, 1962.

B. AREA SURVEYED - The South Arm of Cholmondeley Sound. The arm is surrounded by rugged mountains and the shoreline is generally steep and rocky. Cholmondeley Sound is on the East side of Prince of Wales Island. The survey is bounded by Lat. 55° 08' 00"N, 55° 14' 00"N, and Long. 132° 17' 00"W, 132° 21' 30"W and was accomplished between May 5 and May 23, 1962.

This survey makes a junction with contemporary surveys H-8640 and H-8659.
(LJ-10-1-62) (LJ-10-3-62)

C. SOUNDING VESSEL - All soundings were obtained with Launch #88. Positions were numbered in blue.

D. SOUNDING EQUIPMENT - All soundings were obtained with 808 type fathometers numbers 148, 125-S, and 75. The determination of the least depth over some shoals was determined by lead line. Phase corrections were determined by direct comparison as discussed in the Hydrographic Manual. Velocity corrections were computed from temperature and density observations and found to be under one half of one percent and were not applied.

E. SMOOTH SHEET - The smooth sheet projection was constructed in the Washington Office. *Smooth sheet plotted by field personnel.*

F. CONTROL - Control for this survey was visual. Photo located signals were transferred using incomplete manuscripts T-11513, T-11514, and T-11516.

G. SHORELINE - Manuscripts listed in F. Corrections to manuscripts are as follows: (1) Reef at Lat. 55° 10' 00"N, Long. 132° 20' 40"W does not bare at MW as is indicated on the manuscript. This was determined by observation. (2) No rock was found at Lat. 55° 10' 96"N, Long. 132° 21' 57"W. This was determined by drifting over area at low water dragging lead line at 10 fathoms. No indication of shoal was found. (3) A number of rock ledges were found to exist which were not shown on the manuscripts. They were located by sextant cut and by reference to the high water line; Reference is made to ozalid prints of manuscripts listed in F forwarded to W. O. Sept. 17 and Aug. 4, 1962.

Photogrammetry notified
of change.
Rock
not shown
on
Advance
Manuscript

- H. CROSSLINES - 8.4% of the hydrography was run as crosslines. The agreement of the crosslines with the principal system of lines is good considering that the area is one of steep sloping and irregular bottom. All apparent discrepancies were reconciled by closer examination of the fathograms. /
- I. JUNCTIONS - Agreement of depths at junctions with contemporary surveys was good. /
- J. COMPARISON WITH PRIOR SURVEYS - The only prior survey of the area is 1649-B, 1885, 1:80,000 and there are only a few widely spaced leadline soundings in the area. Therefore it is difficult to make any reasonable comparison between the two surveys. What comparison it was possible to make was good however. /
- K. COMPARISON WITH THE CHART - The largest scale chart of the area is C&GS Chart No. 8102, 6th Ed., revised 12/18/61. The scale of the chart is 1:229,376 and is too small to allow a close comparison. No new dangers to navigation were found. /
- L. ADEQUACY OF SURVEY - The survey is complete and adequate for charting. /
- M. AIDS TO NAVIGATION - Not applicable.
- N. STATISTICS -
Total positions - 1119
Nautical miles of sounding lines - 110.1
Square nautical miles surveyed - 2.8
Number of bottom samples - 26
Magnetic stations observed - 1
Temperature & Density observations - 1
Recoverable topographic marks established - 3
Tide Station constructed - 1
- O. MISCELLANEOUS - Not applicable. ;
- P. RECOMMENDATIONS - None. /
- Q. REFERENCES TO REPORTS - Report on corrections to echo soundings. /

ABSTRACT OF CORRECTIONS TO ECHO SOUNDINGS

Velocity corrections for all soundings on
survey LJ-10-2-62

Correction (fms.)	To depth (fms.)
0	10.0
+0.1 <i>0.6 ft</i>	38.5
+0.2 <i>= 1.2 ft</i>	65.0
+0.3 <i>= 1.8 ft</i>	91.5 <i>= 579 ft</i>

The velocity correction is less than 1/2
of 1% of the depth and was not applied to
the soundings on LJ-10-2-62

These velocity corrections were arrived at
using the method described in the Hydrographic
Manual. That is, the temperature & salinity
curves were plotted from the observed data
and the temperature & salinity for five fathom
layers was obtained from the curves and used
to plot the velocity correction curve from the
velocity correction graph with proportional
dividers.

TIDE NOTE

A portable automatic tide gage was established at Divide Head in Cholmondeley Sound at Lat. $55^{\circ} 14.55'N$, Long. $132^{\circ} 17.27'W$. The height on the tide staff of ~~4.78~~ ^{4.8} feet corresponds to Mean Lower Low Water. No Correction for difference in time or height was applied to the observed tides. 120th Meridian time was used at this gage.

LIST OF SIGNALS FOR LJ-10-2-62

ABE	T-11516	LAY (Hydro)	Vol. 5 pg 10
AHA (Hydro)	Vol. 5 pg 9	LEO (Hydro)	Vol. 5 pg 10
BAH	T-11516	LUG	T-11516
CRY	T-11516	MAN (Hydro)	Vol. 5 pg 10
DIX (Hydro)	Vol. 5 pg 9	MAX	T-11516
DOL	T-11516	MOP (Sub Pt)	Vol. 5 pg 11 &
DON (Hydro)	Vol. 5 pg 9		T-11516
EAT (Hydro)	Vol. 5 pg 9	NON	T-11514
EGG	T-11516	NUT (Sub Pt)	Vol. 5 pg 11 &
FAT	T-11516		T-11516
FEW	T-11516	ODD (Hydro)	Vol. 2 pg 58
FIG	T-11516	PAL	T-11516
GAD	T-11516	PLY	T-11514
GUM	T-11516	PRO	T-11514
HOE (Sub Pt)	Vol. I pg 11 &	RAM	T-11513
	T-11514	SIR	T-11514
HUT	T-11516	TAN	T-11516
ICE	T-11514	TOM (Hydro)	Vol. 5 pg 10
IDA (Hydro)	Vol. 5 pg 9	WAD (Hydro)	Vol. 5 pg 10
JAY	T-11514	WHO* (Hydro)	LJ-10-2-62 , Vol. 5 pg 13
JOE	T-11516	YAK	T-11514
JUG	T-11516	YET	T-11516
KEY	T-11516	ZAG	T-11514
KID (Hydro)	Vol. 5 pg 9	ZOO	T-11516

~~NO P. OF WHO~~

APPROVAL SHEET

Survey H-8641 and accompanying records have been examined by me and are approved. No additional field work is recommended.

M. E. Natto, LCDR, C&GS
Comdg. Ship LESTER JONES
Chief of Party

USC&GSS LESTER JONES
705 Federal Office Building
Seattle 4, Washington

7 March, 1963

REPORT ON SMOOTH SHEET PLOTTING OF LJ 10-2-62 (H-8641)

The Smooth Sheet for H - 8641 of Project OPR - 381 was plotted by personnel of the Ship LESTER JONES at the Seattle Ship Base. Shoreline and control were plotted and verified by R. K. Hanson and B. I. Williams, while the remainder of the work was done by G. W. Hohmann.

✓ Very good agreement is found between the boat sheet and smooth sheet of this survey; the same shoal areas are noted and depth curves are similar. Although there is no triangulation in the area, no problems with control were encountered, apparently due to extreme care taken in the field work.

* Several developmental overlays are included in the sounding volumes, but all needed soundings from the overlays are plotted on the smooth sheet. Thus, no overlays have been smooth plotted. Positions marked "N.P." in the sounding volumes are superfluous and were not plotted on the Smooth Sheet. All changes in signal names and angles are noted in red in the sounding volumes, as are positions plotted from the boat sheet and by time and course. Positions 64a and 75a were found to be interchanged on the Boat Sheet.

Gerald W. Hohmann
Gerald W. Hohmann, Ens.
Ens, C&GS

* All positions have been smooth plotted - There were areas that had large holidays and by plotting all of the positions this was corrected. Ninety-six positions had to be plotted — *McSchugold*

1/16/63

Survey H-8641 and accompanying records have been examined
by me and are approved. No additional field work is recommended. /

M E Natto
M. E. Natto, LCDR, C&GS
Chief of Party
Ship LESTER JONES

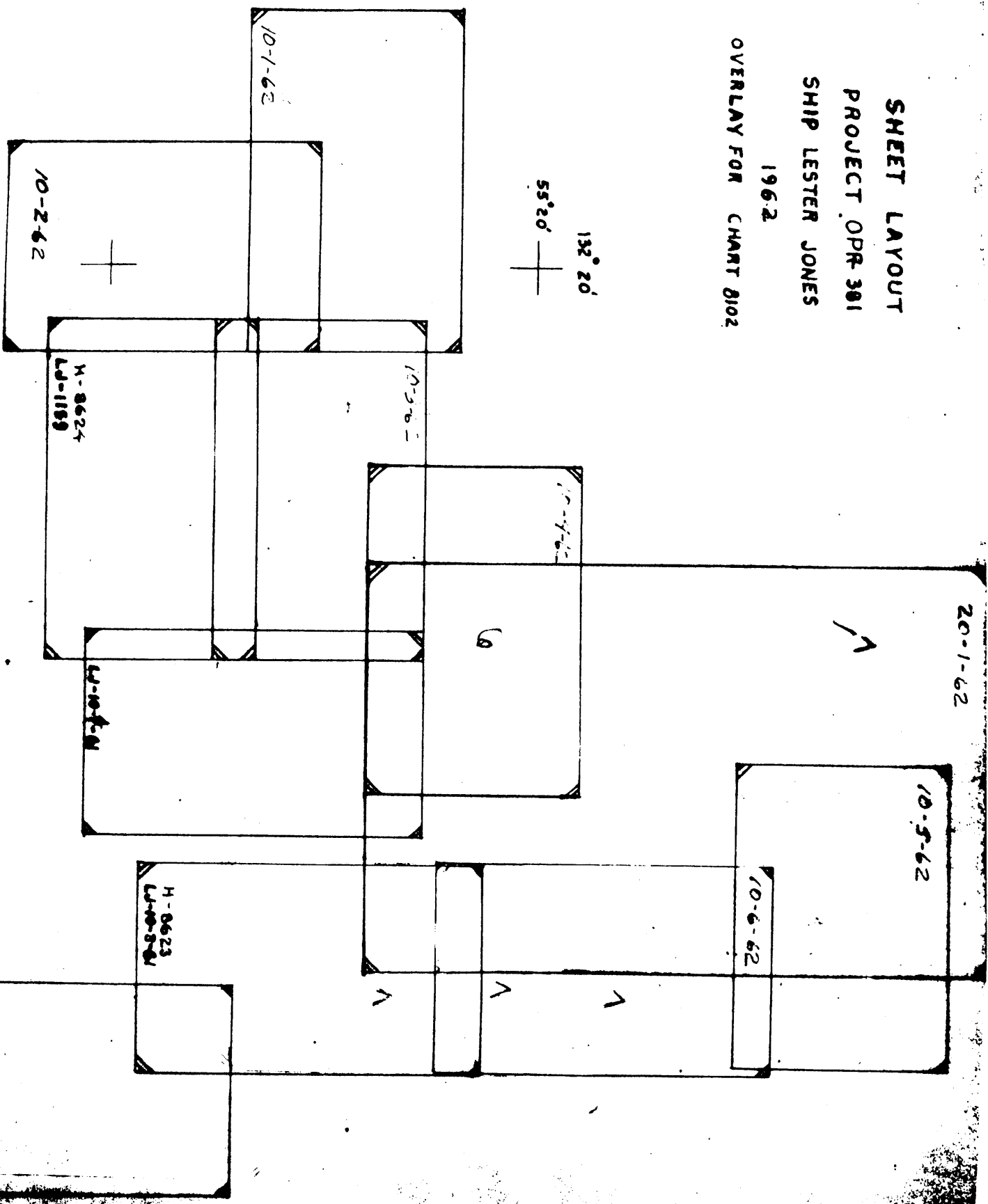
7 March, 1963

Smooth Sheet H-8641 has been examined by me and is approved.

Alfred C. Holmes
Alfred C. Holmes, LCDR, C&GS
Chief of Party
Ship LESTER JONES /

SHEET LAYOUT
PROJECT OPR 301
SHIP LESTER JONES
1962
OVERLAY FOR CHART 8102

132' 20'
55' 20'



GEOGRAPHIC NAMES
Survey No. H-8641

Name on Survey	<div style="display: flex; justify-content: space-around; font-size: small;"> On Chart No. 8102 On previous survey No. On U. S. Quadrangle Maps From local information On local Maps P. O. Guide or Map Rand McNally Atlas U. S. Light List </div>										
	A	B	C	D	E	F	G	H	K		
(TITLE) CHOLMONDELEY SOUND	✓									✓	1
DIVIDE HEAD	✓										2
PRINCE OF WALES I	✓										3
SOUTH ARM	✓									✓	4
											5
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George M. Ball
Geographic Names
28 March 62

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. ...8641...

Records accompanying survey: Smooth sheets ..1...;
 boat sheets ..1...; sounding vols. .5....; wire drag vols.;
 Descriptive Reports ..1...; graphic recorder envelopes ...1...;
 special reports, etc. Blueline manuscripts T-11516 & T-11517..
Blackline T-11516.....

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

		<u>Review</u>
Number of positions on sheet	1119	
Number of positions smooth plotted	96	
Number of positions checked	100	
Number of positions revised	3	3
Number of soundings revised (refers to depth only)		4
Number of soundings erroneously spaced		
Number of signals erroneously plotted or transferred		
Topographic details	Time	16 hrs.
<i>curves</i>		
Junctions	Time	8 hrs.
Verification of soundings from graphic record	Time	18 hrs
Special adjustments	Time	20 hrs
<i>J. B. Hankins</i>		4 6/30/65
Verification by <i>Alvin S. Shepard</i>	Total time	96 hrs Date 12/22/64
Reviewed by <i>Dale E. Westbrook</i>	Time	49 hrs Date Oct. 4, 1966

H-8641 (1962)

INFORMATION FOR FUTURE PRE-SURVEY REVIEWS

This area appears to be one of relative stability in general depths, shoreline, and bottom configuration. Some sedimentation may be occurring in the deeper portions of the area, however.

A future survey should develop the following shoals:

<u>Sounding</u>	<u>Latitude</u>	<u>Longitude</u>
1.7 fathom	55°08!80	132°20!84
9.3 fathom	55°10!35	132°21!20
13 fathom	55°12!76	132°18!35

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8641

FIELD NO. LJ-10-2-62

Southeast Alaska, Prince of Wales Island, Cholmondeley Sound - South Arm

SURVEYED: May - June 1962

SCALE: 1:10,000

PROJECT NO.: OPR-381

SOUNDINGS: 808 Depth Recorder, Leadline

CONTROL: Sextant fixes on shore signals

Chief of Party..... M. E. Natto
Surveyed by..... B. I. Williams
Protracted by..... G. W. Hohmann
Soundings plotted by..... G. W. Hohmann
Verified and inked by..... A. K. Schugeld (AMC)
Reviewed by..... D. E. Westbrook
..... date: 10/4/66
Inspected by..... R. H. Carstens

1. Description of the Area

This survey covers the South Arm of Cholmondeley Sound on the east side of Prince of Wales Island, Southeast Alaska.

The arm is long and narrow and has the general characteristics of a glacial fiord; steep smooth shoreline, relatively deep water, and few dangers to navigation.

The rock ledge fringing most of the shoreline is often interrupted by small sand and gravel beaches.

The bottom is composed of mud sediments in the deeper portions of the area.

2. Control and Shoreline

The source of the control is adequately described in the Descriptive Report.

2.

The shoreline originates with Advance Photogrammetric Manuscripts T-11513(1954-62); T-11514(1954-62); T-11516(1954-62); and T-11517(1954-59).

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves were adequately delineated except in areas inshore of 5-fathom depths where the steep gradients and the need for clarity prevented the delineation of all depth curves.

C. The development of the bottom configuration and investigation of least depths are considered adequate except that the three shoals listed below should have been more closely developed for the least depth:

<u>Soundings</u>	<u>Latitude</u>	<u>Longitude</u>
1.7 fathom	55°08'80	132°20'84
9.3 fathom	55°10'35	132°21'20
13 fathom	55°12'76	132°18'35

4. Condition of the Survey

The sounding records, field plotting, the Atlantic Marine Center verification, and the Descriptive Report are adequate and conform to the requirements of the Hydrographic Manual.

Additional time, however, was spent on the survey during review in adding Photogrammetric low water line and ledge symbols from the Advance Manuscripts and in revising depth curves.

5. Junctions

The junction of this survey with H-8640(1962) and H-8659(1962) on the north will be discussed in the reviews of those surveys.

6. Comparison With Prior Surveys - H-1649b (1:80,000), 1885

This is the only prior survey which covers the present survey area. The small scale and widely scattered soundings on this old survey preclude a detailed comparison with the present survey.

3.

The present survey more completely portrays the bottom configuration and least depths and is, therefore, adequate to supersede the prior survey within the common area.

7. Comparison With Chart 8102, 8th Ed., Dec. 20, 1965

The charted hydrography originates with the present survey before verification and review.

The small islet charted in lat. 55°10'00, long. 132°20'14 originates with the Incomplete Manuscript of T-11516(1954-62). The present survey indicates this feature to be a reef which bares 11-ft. at MLLW. The charted islet should be revised to a rock awash symbol. *Reef symbol properly ch'd on ch. 8083 as per D.W. 1/8/72*

Except as noted above the charted hydrography is in adequate agreement with the present survey.


8. Compliance With Instructions

The present survey adequately complies with the Project Instructions.


9. Additional Field Work

This survey is considered to be a good basic survey and no additional field work is recommended.

Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Hydrography
and Oceanography

TIDE NOTE FOR HYDROGRAPHIC SHEET

4/12/63

Nautical Chart Division: R. H. Carstens

Plane of reference approved in
5 volumes of sounding records for

HYDROGRAPHIC SHEET 8641

Locality Prince of Wales Island, Alaska

Chief of Party: M. E. Natto 1962

Plane of reference is mean lower low water

4.8 ft. on tide staff at Divide Head

16.4 ft. below B. M. 1 (1962)

Height of mean high water of above plane of reference is
14.2 feet.

Condition of records satisfactory except as noted below:


Chief, Tides and Currents Branch

