

8777

Diag. Cht. No. 526

Form 504

U. S. DEPARTMENT OF COMMERCE  
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HFP 12-6-63 Office No. H-8777

LOCALITY

State NEVADA-ARIZONA

General locality VIRGIN BASIN

Locality LAKE MEAD

1964

CHIEF OF PARTY  
P. A. STARK, CDR., USC&GS  
H. E. McCALL, LT., USC&GS

LIBRARY & ARCHIVES

DATE

2228

**HYDROGRAPHIC TITLE SHEET**

H-8777

**INSTRUCTIONS** - 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.

HFP-12-6-63

State NEVADA-ARIZONA

General locality VIRGIN BASIN

Locality LAKE MEAD

Scale 1:12,000 Date of survey \_\_\_\_\_  
2100 B-pt s-2-219

Instructions dated 10 May 1963 Project No. OPR-443

Vessel LAUNCH C.S. 1177 and LAUNCH C.S. 183

Chief of party P.A. STARK, CDR., USC&GS, and H.E. McCALL, LT., USC&GS

Surveyed by GUY F. TREFETHEN, ROBERT A. LEWIS and R.H. Albritton, LT. (jg), USC&GS

Soundings taken by echo sounder, hand lead, pole \_\_\_\_\_

Graphic record scaled by PARTY PERSONNEL

Graphic record checked by PARTY PERSONNEL

Protracted by \_\_\_\_\_

Soundings penciled by \_\_\_\_\_

Soundings in fathoms feet at MLW MLLW ELEVATION ABOVE MEAN SEA LEVEL

REMARKS: All edho soundings are in feet and tenths of feet. All soundings are converted to elevation of feet above MSL. Soundings on the boat sheet are elevations above MSL. Only three digits in 1000, 1100 and 1200 were left off to make the sheet less congested. For example: Elevation 1129 on the boat sheet would be 129.

114° 45'

30'

15'

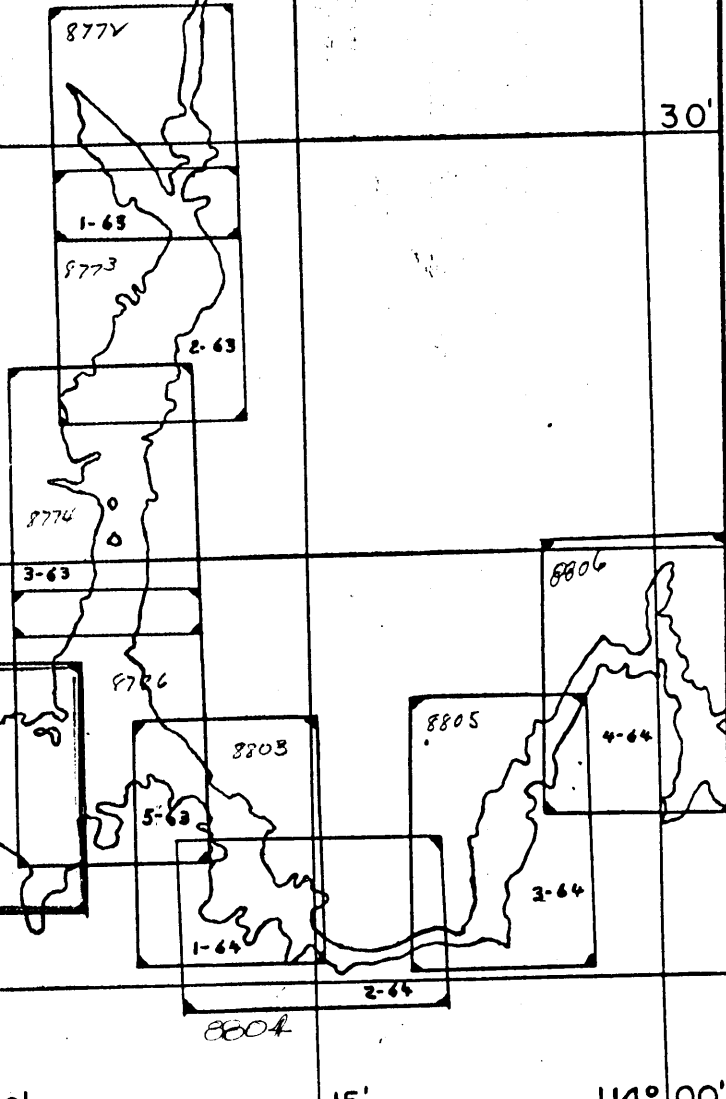
114° 00'

# LAKE MEAD, NEVADA — ARIZONA

36° 30'

30'

15'



36° 00'

114° 30'

15'

114° 00'

COAST & GEODETIC SURVEY  
 H. ARNOLD KARO — DIRECTOR  
 SHEET LAYOUT SKETCH  
 HYDROGRAPHIC FIELD PARTY 242  
 SCALE — 1:500,000

36° 45'

114° 45'

DESCRIPTIVE REPORT  
TO ACCOMPANY HYDROGRAPHIC SURVEY H-8777  
(Field No. HFP-12-6-63)

SCALE: 1:12,000

HFP 219

CHIEF OF PARTY

H.E. McCALL, LT., USC&GS

A. PROJECT

Project OPR-443 was completed in accordance with instructions 2100 B-pt,s-2-219 dated 10 May 1963, Lake Mead, Nevada-Arizona.

B. AREA SURVEY

The geographical limits of this sheet are from Lat.  $36^{\circ}03'N$  to Lat.  $36^{\circ}11'N$  and Long.  $114^{\circ}25'W$  to Long.  $114^{\circ}33'W$ .

This sheet covers the western section of Virgin Basin and Bonelli Bay.

Hydrography began on 9 Dec., 1963 and was complete on 14 Oct., 1964.

This survey junctions with contemporary survey H-8776 (HFP 12-5-63) on the East. Scale 1:12,000 and contemporary survey H-8807 (HFP 12-5-64) on the West. Scale 1:12,000.

This survey also junctions with prior Navy survey sheet No. 10 on the East dated 1948-1949 Scale 1:12,000 and prior Navy sheet No. 2 on the West dated 1948-1949 Scale 1:12,000.

B. AREA SURVEYED (cont.)

This survey is covered by prior Navy sheet No. 3 dated 1948-1949 Scale 1:12,000

C. SOUNDING VESSEL

The vessels used for hydrography were Launch C.S. 1177 designated by blue day letters, and Launch C.S. 183 designated by violet day letters.

D. SOUNDING EQUIPMENT

On launch C.S. 1177 the following Raytheon D.E. 723 fathometers were used. Numbers 265, 263 and 549.

On launch C.S. 183 the following Raytheon D.E. 723 fathometers were used. Number 263 and 549.

In certain areas two fathometers were run simultaneously. The 200 KC fathometer was operated on feet and the 20 KC fathometer was operated on fathoms. This procedure was used to assist the fathometer operator in keeping up with the scale changes. To show sedimentation on crosslines, two fathometers were operated simultaneously.

In some instances the soundings from the 20 KC fathogram were converted from fathoms to feet and placed in the sounding volumes. Such soundings are noted in the sounding volumes by an asterisk and the word fathoms or an abbreviation thereof was placed in the remarks column.

Daily bar checks were taken to determine the corrections to be applied for the 200KC unit.

Bathythermography observations were made to obtain temperatures at depths beyond the range of the bar check.

E. SMOOTH SHEET

To be completed by the smooth plotter.

## F.CONTROL

All signals were located by ground survey methods. Appendix B contains a list of signals and indicates the methods used to locate the signals.

The hydrography was controlled by visual three point fixes. In coves where hydrography was accomplished but no control~~l~~ was available, hydrographic lines were run by dead reckoning.

## G.SHORELINE

The shoreline was transferred from a film positive of Navy sheet No.3 dated 1948-1949 outlining the 1200 foot and the 1150 foot contour.

The 1150 foot contour is shown in red and the 1200 foot contour is shown in black on the boat sheet (HFP 12-6-63).

When the lake level dropped to 1150 feet above MSL, aerial infrared photographs were made. This contour was not varified by hydrography due to the low lake level at the time of hydrography.

## H.CROSSLINES

Crosslines were run in excess of 7 %. Favorable crossings were found.

## I.JUNCTIONS

Depths at junctions with contemporary surveys H-8807 (HFP 12-5-64) and H-8776 (HFP 12-5-63) are in agreement. Contour curves can be adequately drawn at the junction.

## J.COMPARISION WITH PRIOR SURVEYS

Comparision with Nayy sheet No.3 dated 1948-1949 Scale 1:12,000.

The prior survey was of a reconnaissance nature and since no shoals or rocks were investigated, an adequate comparision can not be made.

K.COMPARISION WITH CHART

Chart C&GS 5457B 2nd edition  
Oct. 17, 1955  
Revised Oct. 16, 1961  
Scale 1:48,000

All reefs and rocks indicated on the chart were plotted on the boat sheet in red pencil with their respective elevations indicated in pencil.

The following is a list of rocks and reefs that were investigated.

1. ROCK

Charted pos.	Lat.	36°06.83'
	Long.	114°26.20'
Charted elev.		1163
New elev.		1147✓
Located on		24 d-day CS 183

It is recommended that the new elevation be charted. *Agree*

2. ROCK

Charted pos.	Lat.	36°06.78'
	Long.	114°26.30'
Charted elev.		1125
New elev.		1113✓
Located on		48 v-day CS 183

It is recommended that the new elevation be charted. *Agree*

3. ROCK

Charted pos.	Lat.	36°06.58'
	Long.	114°26.22'
Charted elev.		1095✓

A thorough investigation was made and no evidence of this rock was found. The lake level at the time of investigation was 1093. Pos. 18 w Launch C.S. 1177. *Deleted*

K. COMPARISION WITH CHART(cont.)

4. ROCK

Charted pos.	Lat.	36°06.31'
	Long.	114°26.32'
Charted elev.		1105
New elev.		1103 ✓
Located on		17 W-day CS 1177

It is recommended that the new elevation be charted. *Appd*

5. ROCK

Charted pos.	Lat.	36°05.69'
	Long.	114°26.20'
Charted elev.		1150
New elev.		1128 ✓
Located on		15 w-day CS 1177

It is recommended that the new elevation be charted. *Appd*

6. ROCK

Charted pos.	Lat.	36°05.35' ✓	} Pos. of this rock located on 13 w-day elev. 1115. see B.S.
	Long.	114°26.33' ✓	
Charted elev.		1128	
New elev.		1116 ✓	
Located on		14 w-day CS 1177	

*1115*  
*13 w-day*

It is recommended that the new elevation be charted. *Appd*

7. ROCK

Charted pos.	Lat.	36°04.96'
	Long.	114°26.73'
Charted elev.		1109
New elev.		1099 ✓
Located on		12 w-day CS 1177

It is recommended that the new elevation be charted. *Appd*





K.COMPARISION WITH CHART (cont.)

12.ROCK

Charted pos.	Lat.	36°03.93'
	Long.	114°27.78'
Charted elev.		1120
New elev.		1137
Located on		22 g-day CS 183

It is recommended that the new elevation be charted. *4/5 2011*

13.ROCK

Charted pos.	Lat.	36°03.98'
	Long.	114°27.73'
Charted elev.		1130
New elev.		1134✓
Located on		45 c-day CS 183

This is not a rock but a point of land jutting out from the shore. *Appd new elev. Retained as symbol.*  
It is recommended that the new elevation be charted.

14.ROCK

Charted pos.	Lat.	36°04.12'
	Long.	114°27.73'
Charted elev.		1100
New elev.		1121
Located on		44 c-day CS 183

It is recommended that the new elevation be charted. *Appd*

15.ROCK

Charted pos.	Lat.	36°04.23'
	Long.	114°27.69'
Charted elev.		1115
New elev.		1123✓
Located on		43 c-day CS 183

It is recommended that the new elevation be charted. *Appd*

K.COMPARISION WITH CHART(cont.)

16.ROCK

Charted pos.	Lat.	36°04.27'
	Long.	114°27.71'
Charted elev.		1115
New elev.		1116✓
Located on		24 g-day CS 183

It is recommended that the new elevation be charted.

*Appd*

17.ROCK

Charted pos.	Lat.	36°04.28'
	Long.	114°27.20'
Charted elev.		1095
New elev.		1099✓
Located on		11 w-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

18.ROCK

Charted pos.	Lat.	36°05.61'
	Long.	114°28.08'
Charted elev.		1153
New elev.		1137✓
Located on		9 z-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

19.ROCK

Charted pos.	Lat.	36° <sup>06</sup> 04.43'
	Long.	114°27.37'
Charted elev.		1150
New elev.		1134
Located on		43 h-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

K.COMPARISION WITH CHART(cont.)

20.ROCK

Charted pos.	Lat.	36°06.39'
	Long.	114°27.45'
Charted elev.		1150
New elev.		1145/
Located on		44 h-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

21.ROCK

Charted pos.	Lat.	36°06.40'
	Long.	114°27.53'
Charted elev.		1150
New elev.		1123/
Located on		9 j-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

22.ROCK

Charted pos.	Lat.	36°06.18'
	Long.	114°27.97'
Charted elev.		1122
New elev.		1114/
Located on		28 k-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

23.ROCK

Charted pos.	Lat.	36°06.77'
	Long.	114°27.90'
Charted elev.		1125
New elev.		1105/
Located on		1 y-day CS 1177

*Appd*

K.COMPARISION WITH CHART(cont.)

24.ROCK

Charted pos.	Lat.	36°06.92'
	Long.	114°28.30'
Charted elev.		1150
New elev.		1146✓
Located on		20 e-day CS 183

It is recommended that the new elevation be charted.

*Appd*

25.ROCK

Charted pos.	Lat.	36°06.95'
	Long.	114°28.53'
Charted elev.		1129
New elev.		1080✓
Located on		3 ca-day CS 1177

This rock was investigated on 3ca day and a least depth of 1080 was found. The lake level was 1092 and no visual evidence of the charted rock of 1129 was found to exist. It is recommended that the new elevation be charted.

*Appd*

26.ROCK

Charted pos.	Lat.	36°07.09'
	Long.	114°28.23'
Charted elev.		1150
New elev.		1144✓
Located on		23 e-day CS 183

It is recommended that the new elevation be charted this rock is also signal SIC.

*Appd*

27.ROCK

Charted pos.	Lat.	36°07.08'
	Long.	114°28.40'
Charted elev.		1125
New elev.		1127✓
Located on		22 e-day CS 183

It is recommended that the new elevation be charted.

*Appd*

K.COMPARISION WITH CHART(cont.)

28.ROCK

Charted pos.	Lat.	36°06.71'
	Long	114°30.08'
Charted elev.		1140
New elev.		1095 ✓
Located on		8 aa-day CS 1177

This rock was visually <sup>searched for</sup> inspected at a lake level of 1092 and no evidence of the charted rock of 1140 was found. It is recommended *Appd* that the new elevation be charted.

29.ROCK

Charted pos.	Lat.	36°06.68'
	Long.	114°30.16'
Charted elev.		1121
New elev.		1092 ✓
Located on		5 aa-day CS 1177

It is recommended that the new elevation be charted. *Appd*

30.ROCK

Charted pos.	Lat.	36°06.63'
	Long.	114°30.16'
Charted elev.		1107
New elev.		1094 ✓
Located on		6 aa-day CS 1177.

It is recommended that the new elevation be charted *Appd*

31.ROCK

Charted pos.	Lat.	36°06.63'
	Long.	114°30.25'
Charted elev.		1107
New elev.		1117 ✓
Located on		67 m-day CS 1177

It is recommended that the new elevation be charted. *Appd*

32.ROCK

Charted pos.	Lat.	36°06.47'
	Long.	114°30.46'
Charted elev.		1112
New elev.		1113 ✓
Located on		10 n-day CS 1177

It is recommended that the new elevation be charted *Appd*

K.COMPARISION WITH CHART(cont.)

33.ROCK

Charted pos.	Lat.	36°06.52'
	Long.	114°30.55'
Charted elev.		1107
New elev.		1097✓
Located on		11 aa-day CS 1177

It is recommended that the new elevation be charted.

*App'd*

34.ROCK

Charted pos.	Lat.	36°06.58'
	Long.	114°30.69'
Charted elev.		1100?
New elev.		1136✓
Located on		12 aa-day CS 1177

It is recommended that the new elevation be charted.

*App'd*

35.ROCK

Charted pos.	Lat.	36°06.72'
	Long.	114°30.53'
Charted elev.		1117
New elev.		1113✓
Located on		97 m-day CS 1177

It is recommended that the new elevation be charted.

*App'd*

36.ROCK

Charted pos.	Lat.	36°06.76'
	Long.	114°30.59'
Charted elev.		1117
New elev.		1104✓
Located on		9 aa-day CS 1177

It is recommended that the new elevation be charted.

*App'd*

K. COMPARISON WITH CHART (cont.)

37. ROCK

Charted pos.	Lat.	36°06.82'
	Long.	114°30.61'
Charted elev.		1117
New elev.		1112
Located on		98 m-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

38. ROCK

Charted pos.	Lat.	36°06.96'
	Long.	114°30.70'
Charted elev.		1115
New elev.		1110
Located on		100 m-day CS 1177

It is recommended that the new elevation be charted,

*No Corr*

39. ROCK

Charted pos.	Lat.	36°06.97'
	Long.	114°30.75'
Charted elev.		1115
New elev.		1112
Located on		101 m-day CS 1177

*Appd*

40. ROCK

Charted pos.	Lat.	36°06.93'
	Long.	114°30.49'
Charted elev.		1132
New elev.		1117
Located on		96 m-day CS 1177

It is recommended that the new elevation be charted.

*Appd*



K. COMPARISION WITH CHART (cont.)

41. ROCK

Charted pos.	Lat.	36°07.02'
	Long.	114°30.48'
Charted elev.		1132
New elev.		1091
Located on		15 aa-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

42. ROCK

Charted pos.	Lat.	36°07.10'
	Long.	114°30.78'
Charted elev.		1095
New elev.		1094✓
Located on		16 aa-day CS 1177

It is recommended that the charted elevation be retained.

*Appd*

43. ROCK

Charted pos.	Lat.	36°07.28'
	Long.	114°31.24'
Charted elev.		1132/

This rock was visually investigated at a lake level of 1106 and no evidence of the rock was found to exist.

*Deleted*

44. ROCK

Charted pos.	Lat.	36°07.53'
	Long.	114°31.26'
Charted elev.		1116
New elev.		1110/
Located on		10 v-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

K.COMPARISION WITH CHART(cont.)

45.ROCK

Charted pos.	Lat.	36°09.62'
	Long.	114°31.46'
Charted elev.		1157
New elev.		1133 ✓
Located on		21 u-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

46.ROCK

Charted pos.	Lat.	36°09.74'
	Long.	114°31.05'
Charted elev.		1104
New elev.		1097 ✓
Located on		16 ba-day CS 1177

It is recommended that the new elevation be charted.

*Appd*

47.ROCK

Charted pos.	Lat.	36°09.62'
	Long.	114°30.17'
Charted elev.		1105
New elev.		1102 ✓
Located on		11 ba-day CS 1177

It is recommended that the new elevation be charted.

*Appd.*

Reefs, rocks, or ledges above 1150 feet above MSL were not investigated, except that all National Park Service Reef Markers were located.

### L.ADEQUACY OF SURVEY

This survey is adequate to supercede prior surveys up to the 1150 foot contour. The actual hydrography covered only that area up to about the 1125 foot contour, but all rocks, reefs, and ledges up to the 1150 foot contour were located. Above the 1150 foot contour this survey is not adequate for charting.

### M.AIDS TO NAVIGATION

There are no lighted aids to navigation on this sheet (HFP 12-6-63 )

There are reef markers on some of the numerous reefs. All reef markers were located. The reef markers are placed on the highest part of the reef .

The reef markers are all maintained by the National Park Service.

The Standard National Park Service reef markers are a hard black, rubber cylinder which is 4.0 feet to 4.5 feet in length with an outside diameter of 6 inches. It is bolted to a pipe which is embedded in concrete at the top of the reef. None of the reef markers are lighted. The top two feet of the reef marker is flexible enough that if hit by a boat, it would bend and probably not inflict any serious damage to the boat.

### N.STATISTICS

Launch	No.of Positions	Nautical Miles of sounding lines
CS 1177	2270	295.7
CS 183	322	32.3

Total area of survey 16.0 sq. n. miles  
Total of bottom samples 29

A bristol bubbler gauge located at Boulder Wash provided lake level control for this sheet.

Data for this reduction of sounding was taken directly from the marigram without time or range corrections. See appendix A for additional information concerning tides.

O. MISCELLANEOUS

A hand level and a Zeiss level were used to run levels to points above the existing lake level.

The elevations shown in the sounding volumes and on the boat sheet of reef markers marked by National Park Service are to the top of the reef markers.

The term shoreline as used in this report and in the sounding volumes is the shoreline of the lake at the time of hydrography which for this sheet varies from a lake level of 1140 to a lake level of 1092.

The following scheme was used for placing contours on the boat sheet

CONTOUR (feet above MSL)	COLOR
1200	black
1150	red
1100	orange
1050	green
1000	red
950	blue
900	red
850	orange
800	blue

Respectfully submitted,

*George A. Fernandez*

FOR: Richard H. Allbritton  
LTJG., USC&GS

APPENDIX A  
TIDAL NOTE  
PROJECT OPR-443

Gage Location: Boulder Wash, Lake Mead, Nevada  
Lat.  $36^{\circ} 10.28'$   
Long.  $114^{\circ} 31.18'$

Gage Type: Bristol Bubbler Gage

Staffs Zeros:

<u>Staff Number</u>	<u>Date Established</u>	<u>Elevation</u>
1	12 July 1963	1153.412
2	30 August 1963	1142.086
3	13 November 1963	1132.766
4	17 January 1964	1124.260
5	30 March 1964	1114.125
6	23 June 1964	1107.007
7	23 July 1964	1094.771
8	23 September 1964	1088.165

Gage was used to control sheets 12-5-63, 12-6-63, and 12-5-64. No time or height corrections were applied to the results obtained from the gage for the reduction of soundings, except for the following days; November 20th, 21st, 22nd, 26th, and the 27th 1963. Hoover Dam gage was used with a  $-0.1ft$  correction applied to the heights, due to the gage at Boulder Wash out of operation necessitated this action.

105th meridian time was used from July 1963-through October 1963.  
120th meridian time was used from November 1963 through the completion of the project.

## APPENDIX B

The basic control on H-8777 (HFP 12-6-63) was USGS third-order triangulation . Additional topographic stations were located with a Wild T-2. Hydrographic signals were located with a sextant.

The source of this list of (topo. & Hydro.) signals is Master Control Sheet (HFP 12-6-63) except as noted:

### TRIANGULATION

ALE	A-25AA	1948
AMP	N-27B	1948
BAR	A-25D	1948
BEL	N-31	1948
BRA	A-25B	1948
DEE	A-26A	1948
ENT	A-22 <del>A</del>	1948
GAL	A-25A	1948
GUT	A-23	1948
HER	A-25C	1948
JIM	N-32	1948
Law	N-29	1948
MON	N-30	1948
NAN	A-24	1948
SUB	N-33	1948
SUN	A-25E	1948
TAN	A-26C	1948
VIM	N-27A	1948

### TOPOGRAPHIC SIGNALS

ALL	Master control sheet	HFP 12-5-63
ART		
BED		
BIL		
BLU		
BOX	Master control sheet	HFP 12-5-64
BUD	Master control sheet	HFP 12-5-63
CAN		
DEB	Master control sheet	HFP 12-5-64
HIE		
HIT		
HON	Master control sheet	HFP 12-5-63
HOW	Master control sheet	HFP 12-5-63
HUR	Master control sheet	HFP 12-5-63

APPENDIX B (cont.)

JAK  
JOE  
LAG  
LAT  
MOE  
NIG  
PEN  
RAG  
RAY  
RED  
ROB  
SAL  
SIC  
SUM  
TIC  
TRE  
WHY

Master control sheet HFP 12-5-63  
Master control sheet HFP 12-5-64

HYDROGRAPHIC SIGNALS

BED Vol. 7 page 49  
ERG Vol. 7 page 22  
JOB Vol.10 page 35

FATHOMETER CORRECTIONS  
 HYDROGRAPHIC SURVEY H-8777-(12-6-63)  
 Lake Mead, Nevada-Arizona

Vessel: Launch CS-183  
 Day Letters: a,b,c,d,e,f  
 Fath. No: DE-723- #263

A SCALE

Fath. Depth (ft.)	Corr. (ft.)
6.0 to 11.0	+0.6
11.0 to 18.0	+0.8
18.0 to 26.5	+1.0
26.5 to 42.0	+1.2
42.0 to 48.0	+1.4

B SCALE

48.0 to 51.5	+1.0
51.5 to 81.5	+1.2
81.5 to 86.0	+1.4
86.0 to 90.0	+1.6

C SCALE	+1.0
D SCALE	+0.8
E SCALE	+0.4
F SCALE	0.0
G SCALE	+1.1
H SCALE	+0.9
I SCALE	+0.5
J SCALE	+0.1

Vessel: Launch CS-183  
 Day Letters: g  
 Fath. No: DE-723-#549

A SCALE

Fath. Depth (ft.)	Corr. (ft.)
0.0 to 10.0	+0.6
10.0 to 18.0	+0.8
18.0 to 24.0	+1.0
24.0 to 30.0	+1.2
30.0 to 36.0	+1.4
36.0 to 41.5	+1.6
41.5 to 45.5	+1.8
45.5 to 48.0	+2.0

B SCALE

48.0 to 50.5	+0.6
50.5 to 55.0	+0.8
55.0 to 74.5	+1.0
74.5 to 78.5	+1.2
78.5 to 82.5	+1.4
82.5 to 90.0	+1.6

C SCALE	+1.6
D SCALE	+0.2
E SCALE	+0.3
F SCALE	0.0
G SCALE	+0.5
H SCALE	-0.5
I SCALE	+0.1

Vessel: Launch CS-183  
 Day Letters: h  
 Fath. No: DE-723-#549

A SCALE

Fath. Depth (ft.)	Corr. (ft.)
6.0 to 10.5	+0.8
10.5 to 15.5	+1.0
15.5 to 21.5	+1.2
21.5 to 27.5	+1.4
27.5 to 33.0	+1.6
33.0 to 38.0	+1.8
38.0 to 42.0	+2.0
42.0 to 45.0	+2.2
45.0 to 48.0	+2.4

B SCALE

48.0 to 52.5	+1.2
52.5 to 54.0	+1.4
54.0 to 60.0	+1.6
60.0 to 67.0	+1.8
67.0 to 76.5	+2.0
76.5 to 90.0	+2.2



FATHOMETER CORRECTIONS  
 HYDROGRAPHIC SURVEY H-8777-(12-6-63)  
 Lake Mead, Nevada-Arizona

C SCALE	+2.1	<u>B SCALE</u>	
D SCALE	+1.0		
E SCALE	+0.7	40.0 to 62.2	0.0
F SCALE	+0.4	62.2 to 90.0	+0.2
G SCALE	+0.2		

Vessel: Launch CS-1177  
 Day Letters: a,b,c,d,e,f,g  
 Fath. No: DE-723-#263

C SCALE	0.0
D SCALE	-0.3
E SCALE	-0.4
F SCALE	-0.9
G SCALE	-0.2
H SCALE	-0.1

A SCALE

Depth. (ft.)	Corr. (ft.)
0.0 to 42.0	0.0
42.1 to end	-0.2

Vessel: Launch CS-1177  
 Day Letters: j,k,l,m,n,p,q,r,s,t,  
 u,v  
 Fath. No: DE-723-#265

B SCALE

42.0 to 75.0	0.0
75.1 to 82.0	-0.2
82.1 to end	-0.4

A SCALE

Fath. Depth. (ft.)	Corr. (ft.)
6.0 to 10.0	+0.4
10.1 to 18.0	+0.6
18.1 to 30.0	+0.8
30.1 to 38.0	+1.0
38.1 to 48.0	+1.2

C thru K SCALES

90.0 to 180.0	-0.4
180.0 to 265.0	-1.0
265.0 to 325.0	-1.5
325.0 to 390.0	-2.0
390.0 to 460.0	-2.5
460.0 to end	-3.0

B SCALE

48.0 to 60.0	+1.2
60.1 to 84.0	+1.4
84.1 to 90.0	+1.6

Vessel: Launch CS-1177  
 Day Letters: h  
 Fath. No: DE-723-#265

C SCALE	+1.2
D SCALE	+1.0
E SCALE	+0.8
F SCALE	+0.7
G SCALE	+0.7
H SCALE	+0.6
I SCALE	+0.1
J SCALE	-0.1

A SCALE

Fath. Depth. (ft.)	Corr. (ft.)
0.0 to 18.9	0.0
18.9 to 37.2	+0.2
37.2 to 50.0	+0.4

APPENDIX D

Approval sheet to accompany Hydrographic sheet H-8777  
( HFP 12-6-63 )

Project OPR-443


The records, corrections and all field and office work ~~was~~<sup>were</sup>  
supervised by

P.A.STARK, CDR.,USC&GS and  
H.E.McCALL, LT.,USC&GS

This descriptive report was written by

GUY F. TREFETHEN, SURVEYING TECH. and  
RICHARD H. ALLBRITTON LT.(jg),USC&GS

Approved and forwarded,

  
R.E.ALDERMAN LCDR.,USC&GS  
Officer-in-Charge

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 11, 1968

Nautical Chart Division: R. H. Carstens

Plane of reference approved in  
12 volumes of sounding records for

HYDROGRAPHIC SHEET 8777

Locality: Lake Mead, Arizona - Nevada

Chief of Party: R. A. Stark; H. E. McCall (1963-64)

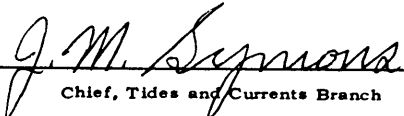
Plane of reference is mean lower lake level (which is 1100 feet  
above sea-level datum)

Tide Station Used (Form C&GS-681):

Boulder Wash

Height of Mean High Water above Plane of Reference is as follows:

Remarks

  
Chief, Tides and Currents Branch



**HYDROGRAPHIC SURVEY STATISTICS**  
**HYDROGRAPHIC SURVEY NO. 8777**

**RECORDS ACCOMPANYING SURVEY:** To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET			BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS			
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	2					
VOLUMES	12					
BOXES						

T-SHEET PRINTS (*List*)

SPECIAL REPORTS (*List*)

1 Cahier - Misc. Data filed with H-8772

**OFFICE PROCESSING ACTIVITIES**

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				
POSITIONS CHECKED				
POSITIONS REVISED				
DEPTH SOUNDINGS REVISED				
DEPTH SOUNDINGS ERRONEOUSLY SPACED				
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS				
JUNCTIONS				
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS				
SPECIAL ADJUSTMENTS				
ALL OTHER WORK				
<b>TOTALS</b>				
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
REVIEW BY	BEGINNING DATE		ENDING DATE	

**VERIFIER'S REPORT**  
**HYDROGRAPHIC SURVEY, H - 8777**

**INSTRUCTIONS** - This form serves to identify items of a checklist in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

**CL - Check List Items:** should be checked as having been completed during the verification processes.

**R - Report Item:** This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p><b>Note:</b> The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>			<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of <b>Butt</b> junctions and areas which are <b>SUPERSEDED</b>.</p>		
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>			<p><b>Part IV - VOLUMES</b> 11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>		
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>			<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>		
<p><b>Part II - SHORELINE AND SIGNALS</b> 4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>					
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>					
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>					
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>			<p><b>Part V - PROTRACTING</b> 13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>		
<p><b>Part III - JUNCTIONS</b> <b>Note:</b> Make a cursory comparison preliminary to inking soundings in area of overlap. 8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>			<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>		
<p>9. The notation in slanted lettering "JOINS H--- (19 )" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>			<p>15. All detached positions locating <b>critical</b> soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>		

Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
<p>16. The protracting was satisfactory except as follows:</p> <p>Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.</p>			<p>26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey.</p> <p>Remarks Required: -- Conflicts of any nature listed.</p>		
<p>17. The protractor has been checked within the last three months.</p> <p>Remarks Required: -- Date of check, type of protractor and number.</p>			<p>27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification.</p> <p>Remarks Required: -- None</p>		
<p><b>Part VI - SOUNDINGS</b></p> <p>18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings.</p> <p>Remarks Required: -- None</p>			<p><b>Part IX - BOATSHEET</b></p> <p>28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information.</p> <p>Remarks Required: -- None</p>		
<p>19. Sounding line crossings were satisfactory except as follows:</p> <p>Remarks Required: -- Discuss adjustments.</p>			<p>29. Heights of rocks awash were correctly reduced and compared with topographic information.</p> <p>Remarks Required: -- Note excessive conflicts with topographic information.</p>		
<p>20. The spacing of soundings as recorded in the records was closely followed;</p> <p>Remarks Required: -- None</p>			<p><b>Part X - GENERAL</b></p> <p>30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2).</p> <p>Remarks Required: -- None</p>		
<p>21. The scanning, reduction, spacing, plotting of questionable soundings have been verified.</p> <p>Remarks Required: -- None</p>			<p>31. Unnecessary pencil notes have been removed from the sheet.</p> <p>Remarks Required: -- None</p>		
<p>22. The smooth plotting of soundings was satisfactory except as follows:</p> <p>Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.</p>			<p>32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet.</p> <p>Remarks Required: -- None</p>		
<p><b>Part VII - CURVES</b></p> <p>23. The depth curves have been inspected before inking.</p> <p>Remarks Required: -- By whom was the penciled curves inspected.</p>			<p>33. The bottom characteristics are adequately shown.</p> <p>Remarks Required: -- None</p>		
<p>24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following:</p> <ul style="list-style-type: none"> <li>a. From T-Sheet in dotted black lines</li> <li>b. From soundings in orange</li> <li>c. Approximate position of sketched curve is dashed orange</li> <li>d. Approximate position of shoal area not sounded in black dashed</li> </ul> <p>Remarks Required: -- None</p>			<p><b>Part XI - NOTES TO THE REVIEWER</b></p> <p>34. Unresolved discrepancies and questionable soundings.</p>		
<p>25. Depth curves were satisfactory except as follows:</p> <p>(This statement should not refer to the manner in which the curves were drawn).</p> <p>Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.</p>			<p>35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.</p>		
<p>36. Supplemental information.</p>					
Verified by				Date	

