

8847

Diag. Cht. Nos. 1107, 1209-3 & 1210-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. WH-20-2-65 Office No. H-8847

LOCALITY

State Massachusetts

General locality Cape Cod

Locality South of Martha's Vineyard

1965

CHIEF OF PARTY

J.P. Randall

LIBRARY & ARCHIVES

DATE February 28, 1966

USCOMM-DC 87022-P66

8847

HYDROGRAPHIC TITLE SHEET

H-8847

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.

WH 20-2-65

State Massachusetts

General locality Cape Cod

Locality South of Martha's Vineyard

Scale 1:20,000

Date of survey

July 27 to Aug 28

1965

11 March 1963, amended 19 June 1963, supplemented

Instructions dated 7 April and 23 April 1965 Project No. OPR-369

Vessel USC&GS Ship WHITING

Chief of party LCDR J. P. Randall

LCDR J. P. Randall, Lt. R. J. Land, LTjg J. D. Boon, LTjg

Surveyed by J. E. Dropp, Ens. R. M. Petryczanko, Ens. P. L. Richardson

Soundings taken by echo sounder, ~~XXXXXX~~ pole (D.E.- 723 Depth Recorder)

Graphic record scaled by Ship's personnel

Graphic record checked by Ship's personnel

Protracted by DOROTHY C. CALLAND

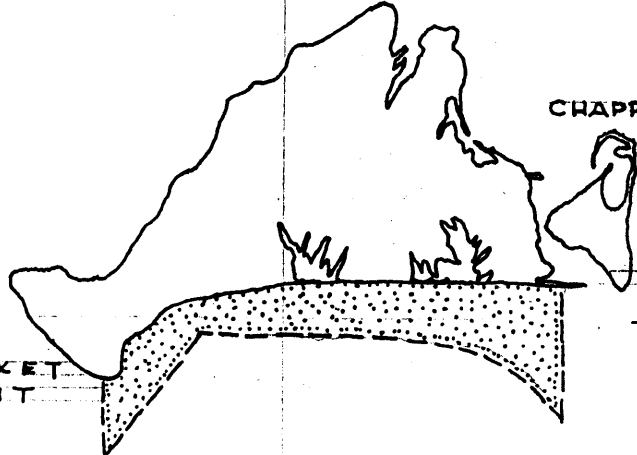
Automated plot by _____

Soundings penciled by DOROTHY C. CALLAND

Soundings in ~~XXXXXX~~ feet at MLW ~~MLW~~ are true depths

REMARKS:

MARTHAS
VINEYARD



CHAPPAQUIDDICK I.

WASQUE PT.
41° 20'

SQUIBNOCKET
POINT

NOMANS LAND

71° 00'

70° 40'

70° 20'

41° 00'

41° 40'

*Alvoda
Coyack
Rt.*

DESCRIPTIVE REPORT TO ACCOMPANY
HYDROGRAPHIC SURVEY H-8847
Field No. WH 20-2-65

South of Martha's Vineyard, Massachusetts

Scale 1:20,000
Ship WHITING

J. P. Randall
Commanding 1965

Surveyed By:

LCDR J. P. Randall
LT R. J. Land
LTjg J. D. Boon
LTjg J. E. Dropp
Ens R. M. Petryczanko
Ens P. L. Richardson

A. Project

The authorization for this project is contained in revised instructions for project OPR-369, Nantucket Sound, Massachusetts, dated March 11, 1963 and amended June 19, 1963, and supplemented April 7 and April 23, 1965.

B. Area Surveyed

The area surveyed is located adjacent to the south side of Martha's Vineyard, Massachusetts, from Norton Point to Squibnocket Point. The area is bounded by $\phi 41^{\circ} 15.90$ to $\phi 41^{\circ} 20.90$ and $\lambda 70^{\circ} 29.80$ to $\lambda 70^{\circ} 46.60$ and extends from one to four miles offshore. Hydrography was begun on July 27, 1965 and ended August 28, 1965.

The contemporary adjoining surveys are:

| | | |
|--------|----------|--------------|
| H-8846 | 1:12,500 | WH 12.5-1-65 |
| H-8820 | 1:10,000 | WH 10-1-64 |

The prior surveys are:

| | | | | | |
|--------|----------|------|--------|----------|------|
| H-1843 | 1:40,000 | 1888 | H-2130 | 1:10,000 | 1892 |
| H-1844 | 1:20,000 | 1888 | H-2131 | 1:10,000 | 1892 |
| H-1941 | 1:40,000 | 1889 | H-2132 | 1:10,000 | 1892 |
| H-2090 | 1:10,000 | 1892 | H-6446 | 1:40,000 | 1939 |

C. Sounding Vessels

Launch 1, Launch 2 and skiff 1 used blue, red and green ink, respectively, on this survey.

D. Sounding Equipment

Depths were recorded by means of the following instruments:

| <u>Vessel</u> | <u>Soundings</u> | <u>Depth Range</u> |
|---------------|------------------|--------------------|
| Launch 1 | DE-723 #250 | 3 - 63 feet |
| Launch 2 | DE-723 #262 | 3 - 62 feet |
| Skiff 1 | 12 foot pole | 0 - 9 feet |

The skiff was used to locate rocks, and therefore no corrections will be required. Velocity corrections for the launches were determined by means of bar checks which were made during the survey. Squat and settlement values were obtained April 1965 by rod and level. For more detailed information see fathometer report.

E. Smooth Sheet

The smooth sheet ^{was} ~~will~~ be plotted by the processing office at the Atlantic Marine Center, Norfolk, Virginia.

F. Control

Hydrography was controlled visually using 3-point fixes, but to reduce the time lost to reruns and splits, Hiran arcs of station MAD were used as a navigational aid.

Visual signals were located by the following three methods: 1) photogrammetrically from advance manuscripts; 2) by traverse; and 3) by sextant cuts. Visual signals include triangulation landmarks plotted on the boat sheet. The following advance manuscripts were used to locate signals: T-11214, T-11215, T-11218, T-10642, and T-10643. A photogrammetrist, Mr. R. Tibbetts, of Photo Party 759 was assigned to the project by Washington.

G. Shoreline

Shoreline was transferred from the T-sheets*listed in F above. The low-water line was not defined by launch because of the presence of large breakers near the water line. The high-water line was checked by Mr. R. Tibbetts from signal ACE $\phi 41^{\circ} 20.87$

* Final shoreline from Revision Survey of above listed photogrammetric surveys. See Review par 2.

$\lambda 70^{\circ} 29.50'$ to VAL $\phi 41^{\circ} 20.35'$ $\lambda 70^{\circ} 43.50'$. For more detailed information see special report by Mr. R. Tibbetts.

H. Crosslines

8% of the principal system of sounding lines exclusive of developments was verified by crosslines. A difference of as much as 3 feet* was noted between crosslines and regular lines. This can probably be credited to the variation of tides along the area surveyed. It amounts to two feet and two hours between Chilmark Pond and Wasque Point. For more information see Tide Note. * *Crossings on smooth plot in good agreement.*

I. Junctions

The junction with H-8846, WH 12.5-1-65, and H-8820, WH 10-1-64 was good; *soundings agree within 1 to 2 feet. *Disagreement of 2 to 3 ft in overlap with H-8846. See Review par. 5.*

J. Comparison with Prior Surveys

There were no presurvey review items covered by this survey. *See Review par 6*

K. Comparison with the Chart

A comparison of this sheet with chart C&GS 264 (revised 6/8/64) shows only minor changes with respect to soundings. Observed soundings beyond the 30 foot depth curve generally agree within one or two feet with the charted soundings. *

The only notable exception occurs ~~1/2~~² nm south^{east} of South Beach at $\phi 41^{\circ} 19.60'$, $\lambda 70^{\circ} 30.03'$. At this point a pronounced sand wave was located and later identified by swimmers; it has a confirmed least depth of ~~22~~ feet. Its sharp center ridge is elongated in a northwest southeast direction for 500 yards, and its width is 100 yards. Charted soundings at this point are on the order of 40 feet and the bottom appears smooth. A development was made over the area.

A large concrete bunker approximately 50 feet on a side extends from shore into the surf zone to a depth of about 6 feet. Its center is located and designated as topographic signal ADD at $\phi 41^{\circ} 20.89'$, $\lambda 70^{\circ} 31.29'$. A hard object, probably a piece from the bunker, was struck while running the launch close into the swash zone, approximately 200 yards east of the bunker. Murky water and heavy surf prevented its exact location. *Plotted at an assumed dept of 3 feet (approx. draft of launch)*

Location of numerous rocks was completed at the western end of the sheet; however, most of these were recovered as shown on advanced manuscripts and the chart which shows fewer than the manuscript.

There are few shoreline changes within the area of this survey. The exception is the area between Norton and Wasque Points at the northeast corner of the sheet. This area is quite subject to change. It was recently surveyed by the WHITING (H-8820), WH 10-1-64) so the description is not repeated here. *

See H-8820 (1964)

L. Adequacy of Survey

This survey is considered complete and adequate to supercede all prior surveys.

M. Aids to Navigation

There are no aids to navigation on this sheet.

N. Statistics

The total area surveyed was 21.8 square nautical miles, with 435.9 miles of sounding lines, 643.2 miles total. There were 20 bottom samples taken at the spacing required for a basic survey in an area that had been surveyed previously. Two current stations fell within the limits of this survey and were located at $\phi 41^{\circ} 19'30''$, $\lambda 70^{\circ} 39'54''$, and $\phi 41^{\circ} 19'54''$, and $\lambda 70^{\circ} 29'15''$.

| <u>VESSEL</u> | <u>NO. POSITIONS</u> | <u>MILES OF SOUNDINGS</u> | <u>TOTAL MILES</u> | <u>BOTTOM SAMPLES</u> |
|---------------|----------------------|---------------------------|--------------------|-----------------------|
| Launch 1 | 254 | 60.4 | 86.8 | ----- |
| Launch 2 | 1540 | 375.5 | 556.4 | 20 |
| Skiff 1 | <u>26</u> | <u>-----</u> | <u>-----</u> | <u>-----</u> |
| Total | 1822 | 435.9 | 643.2 | 20 |

O. Miscellaneous

To be completed by smooth plotter.

P. Recommendations

To be completed by smooth plotter.

Q. References to Reports

Coast Pilot Report
Current Observations
Fathometer Report
Magnetic Observations
Photogrammetry Report

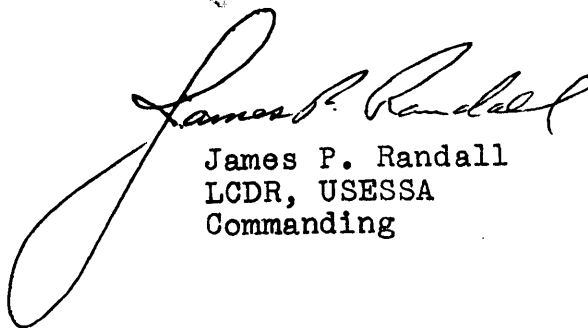
Respectfully submitted

Philip L. Richardson

Philip L. Richardson
Ltjg ESSA-C&GS

APPROVAL SHEET

The boatsheet and records for the area surveyed are complete and approved. The boatsheet and sounding volumes were examined daily during the survey. The survey is complete and adequate for charting and should supercede all prior surveys.

A handwritten signature in cursive script, reading "James P. Randall". The signature is written in black ink and is positioned to the left of the typed name and title.

James P. Randall
LCDR, USESSA
Commanding

TIDE NOTE

Tide corrections to soundings for the smooth sheet were obtained from a portable bubbler gage maintained at the southwest end of Martha's Vineyard near Squibnocket Point at $\phi 41^{\circ} 18.70$, $\lambda 70^{\circ} 46.10$. Tides were recorded using 60th meridian time-- the same used while running hydrography. The plane of reference was at 0.7 feet on the 1965 tide staff.

Two sets of predicted tides were applied to boat sheet soundings. East of $\lambda 70^{\circ} 38.00$ predicted tides for Wasque Point were used; west of $\lambda 70^{\circ} 38.00$ predicted tides for off Chilmark Pond were used. The tide range and time of high water varied considerably along the area. Corrections to soundings on a day picked at random, August 21, 1965, show a difference of as much as 2.2 feet between the two areas. Reduced soundings using corrections from both a flooding and ebbing tide in a location between Wasque Point and Chilmark Pond could easily differ as much as 3 feet.

TIDE NOTE FOR HYDROGRAPHIC SHEET

September 30, 1966

~~NO. 1000~~ Atlantic Marine Center

Plane of reference approved in
10 volumes of sounding records for

HYDROGRAPHIC SHEET 8847

Locality: South of Marthas Vineyard, Mass.

Chief of Party: J. P. Randall - 1965

Plane of reference is mean low water

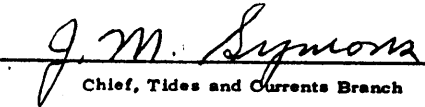
Tide Station Used (Form C&GS-681):

Squibnocket Point, Mass.

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

2.9 feet

Remarks


Chief, Tides and Currents Branch

SQUAT & SETTLEMENT

ML# 1+2

| f.p.m. | ROD | ΔTIDE | f.p.m. | Ave. ROD + Ave TIDE | Ave. INIT | CORR'N |
|--------|-------|---------------------------|--------|------------------------|-----------|--------|
| 0000 | 6.530 | 0.000 | 0000 | 6.531 | 6.531 | +0.000 |
| 1000 | 6.720 | 0.027 | 1000 | 6.693 | 6.531 | +0.162 |
| 1500 | 6.500 | 0.019 0.053 | 1500 | 6.697 | 6.531 | +0.166 |
| 2000 | 6.750 | 0.105 0.049 | 2000 | 6.645 | 6.531 | +0.114 |
| 2500 | 6.600 | 0.132 0.105 | 2500 | 6.446 | 6.531 | +0.085 |
| 1500 | 6.850 | 0.157 0.132 | | | | |
| 2500 | 6.640 | 0.183 0.157 | | | | |
| 1500 | 6.910 | 0.209 0.183 | | | | |
| 0000 | 6.830 | 0.235 0.209 | | | | |
| 0000 | 6.860 | 0.393 0.23 | | | | |
| 2500 | 6.830 | 0.417 | | | | |

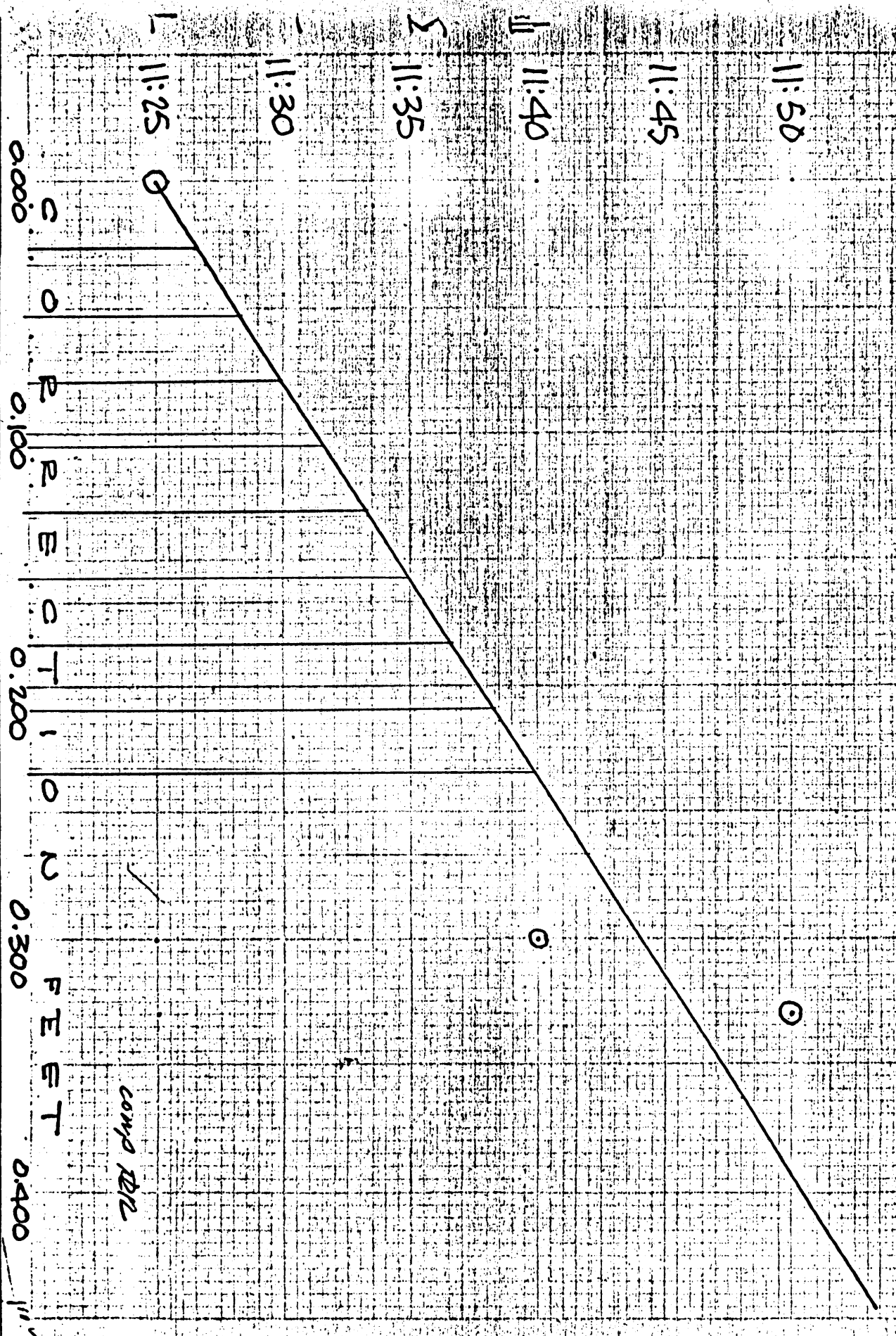
———— CORRECTIONS FROM GRAPH ————

| f.p.m. | CORR'N |
|-----------|--------|
| 000-500 | : 0.0 |
| 500-2025 | : +0.2 |
| 2025-2500 | : 0.0 |

APRIL 30 1965

SQJATP SETTLEMENT

TIME VS 0000 RPM BOD READINGS ML#1

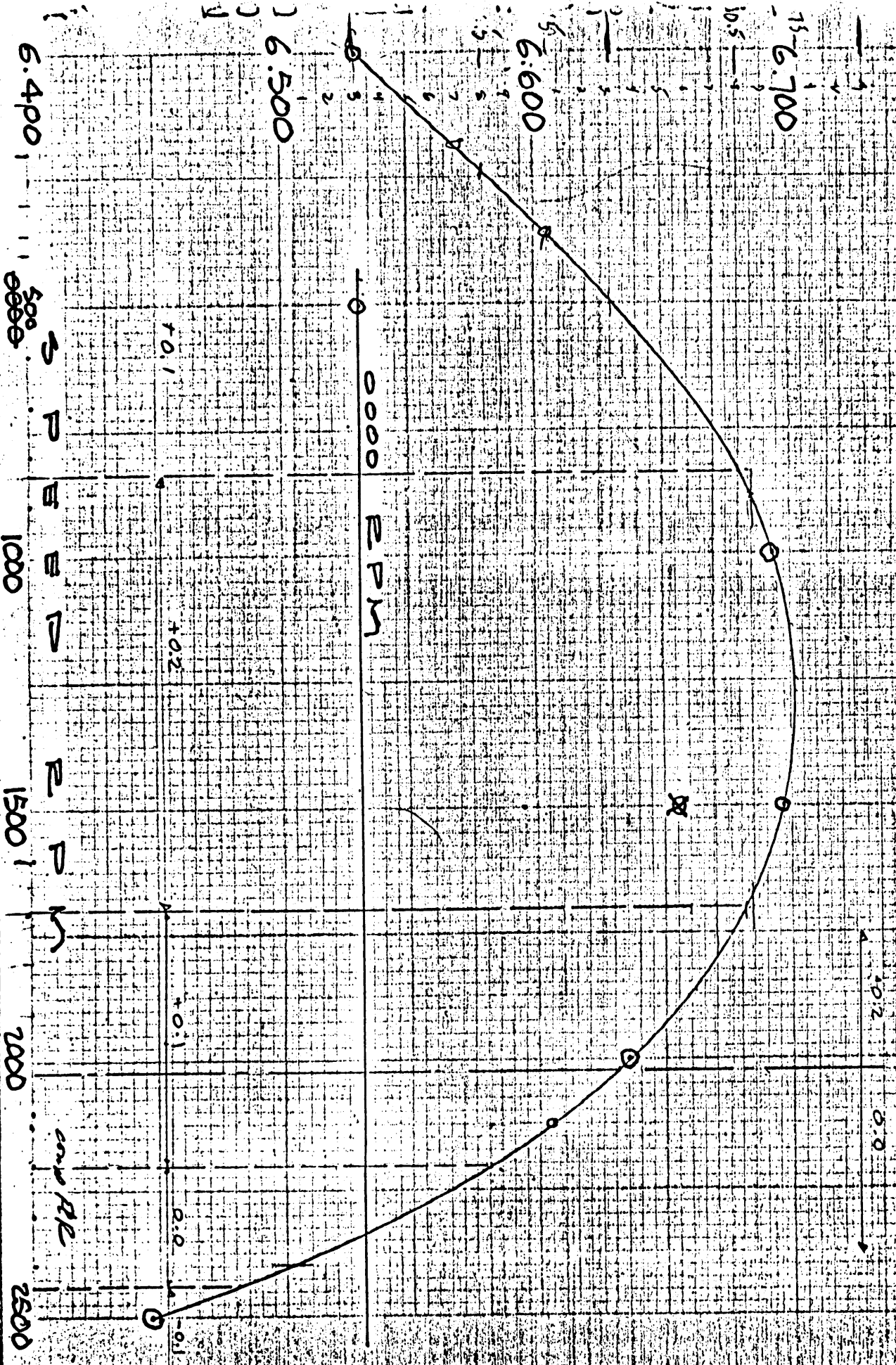


comp RBR

APRIL 30 1965

SQUAT & SETTLEMENT

CORRECTED (FOR TIDE) ROD READINGS VS RPM ML#



WH-125-1-65

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal.)

-0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2

CORRECTIONS IN FEET, FATHOMS

| | | |
|--|--|--------|
| FORM C&GS-117 (A-82) | U.S. DEPARTMENT OF COMMERCE COAST AND GEODETIC SURVEY | |
| VELOCITY CORRECTIONS | | |
| Ship | WHITING | ML |
| Comdg. | CDR. RANALL | Comdg. |
| These corrections are to be used between 21 JULY 1965 and 27 AUG. 1965 in the locality SOUTH COAST of MASS. CHAPPAQUIDICK IS. | | |
| for hydrographic surveys Nos. | | |

(For deep wats. d & 0 to these figures

DEPTH DEPTHS IN FATHOMS FEET

| DEPTH | CORR'N |
|-------------|--------|
| < 5.5 | - 0.6 |
| 5.5 - 7.3 | - 0.4 |
| 7.3 - 8.7 | - 0.2 |
| 8.7 - 11.3 | 0.0 |
| 11.3 - 14.7 | + 0.2 |
| 14.7 - 19.3 | + 0.4 |
| 19.3 - 24.7 | + 0.6 |
| 24.7 - 30.3 | + 0.8 |
| 30.3 - 36.7 | + 1.0 |
| 36.7 - 43.7 | + 1.2 |
| 43.7 < | + 1.4 |

"A" SCALE

| | |
|-------------|-------|
| < 44.1 | + 1.4 |
| 44.1 - 50.3 | + 1.6 |
| 50.3 - 59.5 | + 1.8 |
| 59.5 - 74.5 | + 2.0 |
| 74.5 < | + 2.2 |

"B" SCALE

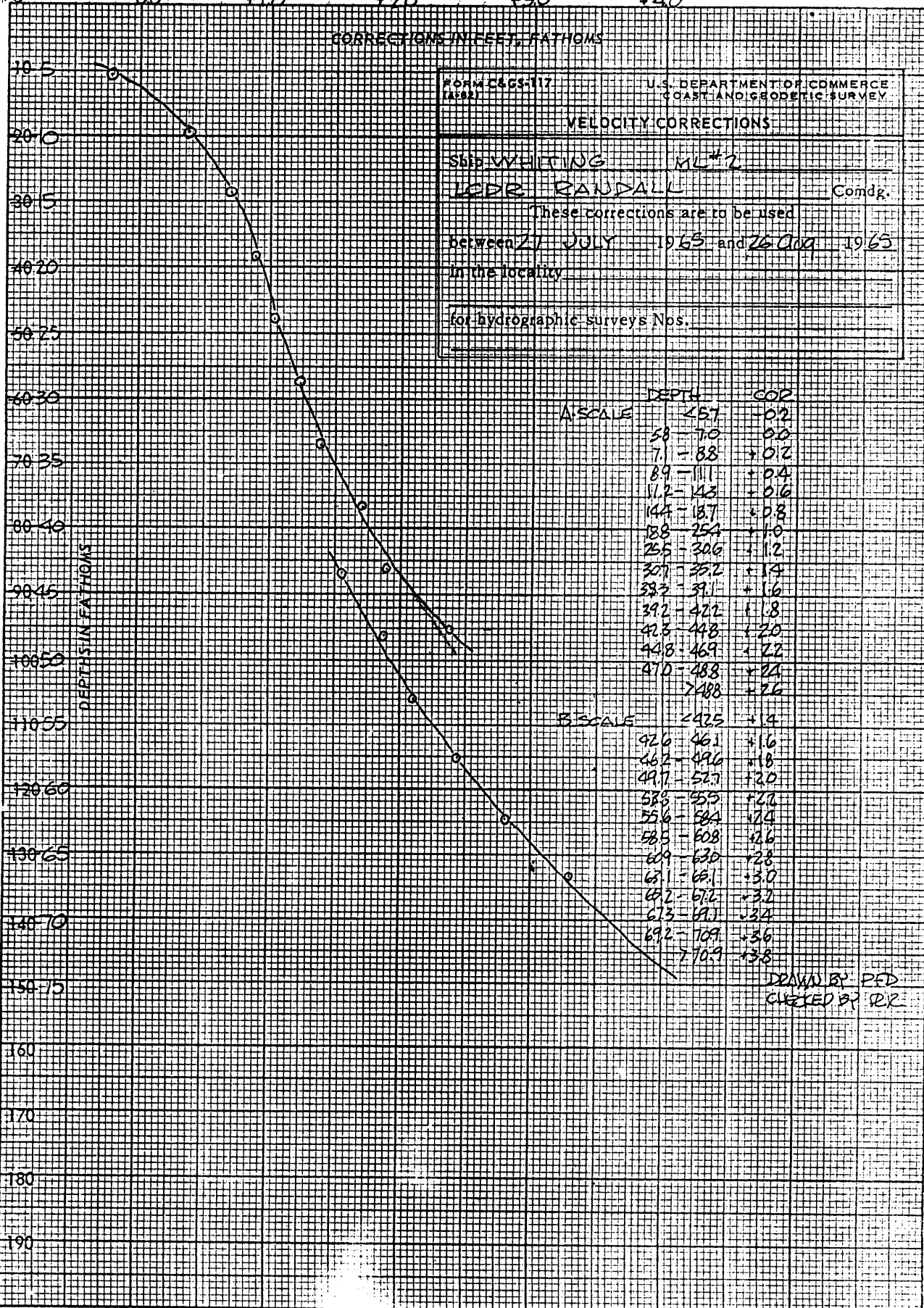
COMP. RMP

-1.0

(Let 1 inch equal 4 fathoms for deep water and 1 inch equal 0.4 fathom for shoal)

CORRECTIONS IN FEET, FATHOMS

(For deep water add a 0 to these figures



FORM C&GS-117 (AF-62)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

VELOCITY CORRECTIONS

SHIP: WHITING ML# 2
LEER RANDALL Comdg.

These corrections are to be used
between 21 JULY 1965 and 26 AUG 1965

In the locality

for hydrographic surveys Nos.

| DEPTH | COR |
|-----------|------|
| A SCALE | |
| 25.7 | +0.2 |
| 58 - 70 | 0.0 |
| 7.1 - 88 | +0.2 |
| 89 - 111 | +0.4 |
| 112 - 143 | +0.6 |
| 144 - 187 | +0.8 |
| 188 - 254 | +1.0 |
| 255 - 306 | +1.2 |
| 307 - 352 | +1.4 |
| 353 - 391 | +1.6 |
| 392 - 422 | +1.8 |
| 423 - 443 | +2.0 |
| 448 - 469 | +2.2 |
| 470 - 488 | +2.4 |
| 488 | +2.6 |
| B SCALE | |
| 425 | +1.4 |
| 426 - 461 | +1.6 |
| 462 - 496 | +1.8 |
| 497 - 527 | +2.0 |
| 528 - 555 | +2.2 |
| 556 - 584 | +2.4 |
| 585 - 608 | +2.6 |
| 609 - 630 | +2.8 |
| 631 - 651 | +3.0 |
| 652 - 672 | +3.2 |
| 673 - 691 | +3.4 |
| 692 - 709 | +3.6 |
| 710.9 | +3.8 |

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CHECKED BY: RR

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WH 20-2-65

27 July-26 Aug. 1965

ML # 2

| DAY | VOL | PG | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 66 | 70 |
|-----------|-----|----|-----|------|--------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|----|----|
| a July 27 | I | 3 | 5.0 | 9.8 | 14.3 | 19.1 | 24.2 | 28.9 | 33.8 | | | | | | | |
| | | | 5.3 | 9.8 | 14.2 | 19.3 | 24.0 | 28.9 | | | | | | | | |
| z July 27 | I | 35 | 5.2 | 9.6 | 14.2 | 19.0 | 24.0 | 28.8 | 33.4 | 38.4 | 43.2 ^A | 47.8 | - A scale | | | |
| | | | 5.2 | 9.6 | 14.2 | 19.2 | 24.0 | 28.4 | 33.4 | 38.2 | 43.8 ^B | 48.2 | - B " | | | |
| | | | 5.2 | 9.6 | 14.2 | 19.2 | 24.0 | 28.4 | 33.4 | 38.2 | 43.2 ^A | 48.0 | - A " | | | |
| | | | 5.2 | 9.6 | 14.2 | 19.0 | 24.0 | 28.8 | 33.6 | 38.4 | 43.4 ^B | 48.2 | - B " | | | |
| b July 28 | I | 37 | 5.2 | 9.2 | 14.2 | 19.0 | 24.0 | 28.8 | 33.6 | 38.4 | 43.0 | | | | | |
| | | | 5.2 | 9.6 | 14.4 | 19.0 | 24.2 | 28.2 | 33.8 | 38.6 | 43.0 | | | | | |
| b July 28 | I | 71 | 4.6 | 9.8 | 14.4 | 19.0 | 24.2 | 29.0 | 33.8 | 38.4 | | | | | | |
| | | | 5.4 | 9.8 | 14.4 | 19.0 | 23.8 | 29.0 | 33.6 | 38.4 | | | | | | |
| c July 29 | II | 4 | 5.0 | 9.2 | 14.4 | 19.0 | 24.0 | 28.6 | 33.6 | 33 | | | | | | |
| | | | 5.2 | 9.4 | 14.0 | 19.0 | 23.8 | 28.6 | 33.6 | | | | | | | |
| c July 29 | II | 25 | 5.4 | 9.8 | 14.2 | 19.0 | 24.0 | 29.0 | 33.4 | 38.4 | 43.2 ^A | 48.0 ^A | 53.0 ^B | 58.0 ^B | | |
| | | | 5.4 | 9.6 | 14.4 | 19.0 | 24.0 | 28.6 | 33.8 | 38.0 | 43.0 ^A | 48.4 ^B | 53.2 ^B | 58.0 ^B | | |
| d July 30 | II | 30 | 5.0 | 9.8 | 14.0 | 19.0 | 23.6 | 28.6 | 33.6 | | | | | | | |
| | | | 5.0 | 9.8 | 14.2 | 19.2 | 24.2 | 29.4 | 34.0 | 38.8 | 44.0 | | | | | |
| | | | 5.2 | 9.8 | 14.6 | 19.4 | 24.4 | 29.0 | 34.0 | 38.8 | 43.6 | | | | | |
| e a, 4 | II | 46 | 5.2 | 9.4 | 14.6 | 19.4 | 24.2 | 29.2 | 34.0 | 38.6 | 43.6 | | | | | |
| | | | 5.4 | 9.6 | 14.0 | 19.2 | 24.2 | 29.0 | 34.0 | 38.8 | 44.4 | | | | | |
| e Aug 4 | II | 63 | 5.6 | 9.8 | 14.2 | 19.0 | 24.6 | 29.0 | 33.8 | 38.4 | 43.4 ^A | | | | | |
| | | | 5.4 | 10.0 | 14.4 | 19.4 | 24.2 | 29.0 | 33.4 | 38.0 | 43.6 ^B | | | | | |
| f Aug 5 | III | 4 | 4.6 | 9.2 | 14.0 | 19.0 | 23.8 | 28.8 | 33.6 | 38.2 | 43.2 ^A | | | | | |
| | | | 5.0 | 9.6 | 14.2 | 19.0 | 23.8 | 28.6 | 33.4 | 38.2 | 43.6 ^B | | | | | |
| f Aug 5 | III | 27 | 5.4 | 10.0 | 14.4 | 19.4 | 24.4 | 29.0 | 34.0 | 38.8 | 43.8 ^A | 48.4 ^A | 53.2 | | | |
| | | | 5.6 | 10.0 | 14.8 | 19.6 | 24.4 | 29.0 | 34.0 | 38.8 | 43.8 ^B | 48.2 ^B | 53.2 | | | |
| g, 6 | III | 30 | 5.4 | 9.8 | 14.4 | 19.0 | 24.2 | 29.0 | 33.8 | 38.6 | | | | | | |
| | | | 5.0 | 10.0 | 14.0 | 19.2 | 24.2 | 29.4 | 34.0 | 38.4 | | | | | | |
| g Aug 6 | III | 49 | 5.2 | 9.2 | 14.0 | 19.6 | 24.0 | | | | | | | | | |
| | | | 5.2 | 9.8 | 14.6 | 19.2 | 23.6 | | | | | | | | | |
| h Aug 7 | III | 52 | 5.2 | 9.4 | 14.0 | 19.4 | 24.0 | 29.0 | 33.6 | 38.6 | 43.6 ^A | | | | | |
| | | | 5.0 | 9.4 | 14.0/2 | 19.0 | 24.0 | 29.0 | 34.0 | | 43.6 ^B | | | | | |
| h Aug 7 | IV | 6 | 5.2 | 9.6 | 14.6 | 19.0 | 24.0 | 29.0 | 33.8 | 38.8 | 43.6 | 48.6 | | | | |
| | | | 5.0 | 10.0 | 14.4 | 19.2 | 23.8 | 28.6 | 33.6 | 38.6 | 43.4 | 48.0 | | | | |
| y Aug 8 | IV | 9 | 5.0 | 9.3 | 14.3 | 19.1 | 24.5 | 29.1 | 33.6 | 38.6 | 43.5 ^A | | | | | |
| | | | 5.3 | 9.5 | 14.2 | 18.8 | 24.2 | 29.0 | 33.8 | 38.8 | 43.5 ^B | | | | | |
| j Aug 8 | IV | 31 | 5.1 | 9.8 | 14.8 | 19.3 | 24.1 | 29.0 | 34.0 | | | | | | | |
| | | | 5.3 | 9.3 | 14.5 | 19.2 | 24.3 | 29.0 | 34.0 | | | | | | | |
| k Aug 9 | IV | 33 | 5.0 | 9.8 | 14.6 | 19.6 | 24.7 | 29.0 | 33.8 | 38.6 | | | | | | |
| | | | 5.4 | 9.8 | 14.2 | 19.6 | 24.4 | 29.4 | 34.0 | | | | | | | |
| l Aug 9 | IV | 62 | 5.6 | 10.0 | 14.6 | 19.6 | 24.0 | 29.0 | | | | | | | | |
| | | | 5.2 | 9.8 | 14.4 | 19.4 | 24.2 | 28.8 | | | | | | | | |
| l Aug 20 | V | 3 | 5.0 | 9.4 | 14.0 | 18.8 | 23.4 | 28.2 | 33.0 | 37.6 | | | | | | |
| | | | 5.2 | 9.6 | 14.0 | 18.8 | 23.4 | 28.2 | 33.2 | 37.8 | | | | | | |
| o Aug 20 | IV | 32 | 5.4 | 9.4 | 14.0 | 19.0 | 23.6 | 28.8 | 33.8 | 38.0 | | | | | | |
| | | | 5.2 | 9.4 | 14.5 | 19.1 | 24.0 | 28.8 | 33.2 | 38.0 | | | | | | |

ML# 2

| DAY | VOL | PC | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 |
|----------|-----|----|-----------------|------|------|------|------|------|------|------|----------------------------|------|------|------|-----------------|----|----|
| m Aug 21 | V | 35 | 50 | 9.6 | 14.0 | 19.0 | 23.8 | 28.4 | 33.4 | 37.8 | 42.8A 43.2B 47.8A | | | | | | |
| m Aug 21 | V | 70 | 52 | 9.6 | 14.4 | 19.0 | 24.0 | 28.6 | 33.6 | 38.4 | 43.0A 47.8A 43.4B 48.2B | 53.0 | | | | | |
| n Aug 22 | VI | 4 | 52 | 9.5 | 14.1 | 18.9 | 24.0 | 28.8 | 33.5 | 38.0 | 43.0A 43.5B | | | | | | |
| p Aug 23 | II | 11 | 54 | 9.6 | 14.4 | 19.6 | 23.8 | 28.6 | 33.2 | 38.0 | 43.0A 43.4B | | | | | | |
| r Aug 23 | VI | 33 | 52 | 9.4 | 14.6 | 19.6 | 23.8 | 28.6 | 33.6 | 38.2 | 43.0A 47.2A 43.6B 48.0B | 52.6 | 57.2 | 62.4 | 62.2 | | |
| q Aug 24 | VI | 34 | 55 ² | 9.4 | 14.2 | 19.0 | 24.0 | 28.8 | 33.5 | 38.2 | 42.8A 47.0A 43.4B 47.8B | 52.6 | 57.6 | 62.2 | | | |
| q Aug 24 | VI | 61 | 52 | 9.6 | 14.0 | 18.8 | 23.6 | 28.4 | 33.0 | 38.0 | 43.0A 47.7A 43.4B 48.1B | 53.0 | 57.9 | 62.2 | | | |
| r Aug 25 | VII | 3 | 54 | 9.4 | 14.1 | 18.6 | 23.4 | 28.2 | 33.0 | 37.7 | 42.2A 47.2A 43.4B 48.1B | 52.8 | 57.2 | 62.0 | 66.8 | | |
| r Aug 25 | VII | 33 | 54 | 10.0 | 14.6 | 19.4 | 24.2 | 29.0 | 34.2 | | | | | | | | |
| s Aug 26 | VII | 34 | 56 | 9.9 | 14.6 | 19.5 | 24.1 | 29.2 | 33.8 | 38.7 | 43.5 | | | | | | |

| | | | | | | | | | | | | | | | |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
| Ecol = | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |
| Σ | 0.5 | 0.9 | 1.4 | 1.9 | 2.3 | 2.8 | 3.3 | 3.8 | 4.3 | 4.7 | 5.2 | 5.7 | 6.2 | 6.7 | 7.2 |
| Z | 13.1 | 38.9 | 17.9 | 6.7 | 53.8 | 45.6 | 34.3 | 13.9 | 3.7 | 9.8 | 12.4 | 5.6 | 1.5 | 2.8 | |
| d | 5.21 | 9.62 | 14.29 | 19.11 | 23.96 | 28.76 | 33.66 | 38.29 | 43.10 | 47.61 | 52.89 | 57.56 | 62.19 | 66.70 | |
| cor | -0.21 | +0.38 | +0.71 | +0.89 | +1.04 | +1.24 | +1.40 | +1.71 | +1.90 | +2.39 | +2.11 | +2.44 | +2.81 | +3.30 | |

n-43 n-47
11.9 18.0
B scale
d 43.44 48.12
cor
COR +1.56

comp entered FER
checked JEP

XERO COPY

XERO COPY

XERO COPY

XERO COPY

LIST OF SIGNALS

| | | | |
|---------------|--|-----------------------------------|--------------------------|
| ACE (H) | Traverse Vol. 3, pg. 4 & 5 | LOW | Traverse |
| ACT | T-11218 | LUX | T-11214 |
| ADD | Traverse | MAG | T-11214 |
| AHA | Traverse | MAL | Traverse |
| AIM | T-11215 | MARK | CHILMARK METHODIST |
| BAH | T-10643 | | EPISCOPAL CHURCH 1939 |
| BOA | T-11215 | MOO | Traverse |
| BON | T-11218 | NAY | Traverse |
| BUM | Traverse | NOR | Traverse |
| CAB (T-10642) | T-11218 | OAK | T-11214 |
| CAT | Traverse | ODD | Traverse |
| CHAP | Chappaquiddick 1965 | OUT | Traverse |
| COP | T-11215 | PUP | Traverse |
| CUP | WASQUE PT. HOUSE | PUT | Traverse |
| | CUPOLA 1932 | QUO | Traverse |
| DIX | T-11218 | RAM | Traverse |
| DOC | T-10642 | RIM | Traverse |
| DOME | Traverse | RIO | T-11214 |
| DUD | Traverse | ROS (Vol. 6, pg. 27) | Located by Sextant Cuts |
| EAR | T-10642 | SAD (Vol. 5, " 70 & 71) | T-11218 |
| EBB | Traverse | SIC | T-10643 |
| FAR | Traverse | SOX | Traverse |
| FIX | T-11214 | SUB | Traverse |
| FOG | Traverse | TAN | EDGARTOWN STANDPIPE 1932 |
| FOX | T-11218 | THY | T-11218 |
| GAL | T-11214 | TOM | Traverse |
| GAS | Traverse | TRY (TOP (H) Vol. 1, pgs 37 & 42) | Traverse |
| GEM | T-11218 | USE | Traverse |
| GET | Traverse | VAL | Traverse |
| HIS | Traverse | VAN | Traverse |
| HUG | T-11218 | VET | T-11218 |
| HUM | T-11214 | WHO | Traverse |
| ICE | T-11218 | WIT | T-11215 |
| IRA | Located by Sextant Cuts Vol. 7, pgs. 23 & 24 | YAM | Traverse |
| IVY | T-11214 | YES | T-11215 |
| JET | Traverse | ZAG | Traverse |
| JIM | T-11214 | ZIG | T-11218 |
| KIM | Traverse | ZOO | T-11215 |
| LIP | Traverse | | |

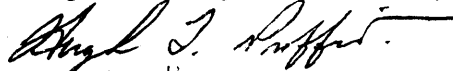
NORFOLK HYDROGRAPHIC PROCESSING BRANCH
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8847 (Wh 20-2-65)

GENERAL

This appears to be an excellent basic survey. Depth curves follow normal patterns and soundings are in good agreement, although some difficulty was experienced getting this agreement in alongshore areas where the bottom is irregular and highly changeable.

Respectfully submitted,



Hugh L. Proffitt
Carto-Tech

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. *W/ 20-2-65*
H-8847

Records accompanying survey: Smooth sheets *1*;
 boat sheets *1*...; sounding vols. *10*...; wire drag vols. *NONE*...;
 Descriptive Reports *1*...; graphic recorder envelopes *1-Cahier*...;
 special reports, etc.

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

| | Verif. | Review. |
|--|-------------|---------|
| Number of positions on sheet | 1822 | |
| Number of positions checked | 50 | 30 |
| Number of positions revised | 7 | 7 |
| Number of positions revised (refers to depth only) | 6 | |
| Number of soundings/erroneously spaced | 12 | |
| Number of signals erroneously plotted or transferred | NONE | |
| Topographic details | Time 4 hrs | 40 |
| Junctions | Time NONE | 40 |
| Verification of soundings from graphic record | Time 12 hrs | 8 |
| Special adjustments | Time NONE | |

Verification by *Fred Bean*... Total time *158 hrs* Date *12/12/66*

Reviewed by *A. R. Engle **... Time *172* Date *2/4/69*

OFFICE OF HYDROGRAPHY AND OCEANOGRAPHY

MARINE CHART DIVISION

HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8847

FIELD NO. WH-20--2--65

Massachusetts, Cape Cod, South of Martha's Vineyard

SURVEYED: July 27, 1965 to August 28, 1965

SCALE: 1:20,000

PROJECT NO.: OPR-369

SOUNDINGS: DE-723 Depth
Recorder, 12 ft.
sounding pole

CONTROL: Sextant fixes
on shore signals

Chief of Party..... J. P. Randall
Surveyed by..... J. P. Randall
..... R. J. Land
..... J. D. Boon
..... J. E. Dropp
..... R. M. Petryczanko
..... P. L. Richardson
Protracted by..... D. C. Calland
Soundings Plotted by..... D. C. Calland (Norfolk)
Verified and Inked by..... F. Bean
Reviewed by..... D. R. Engle
..... Date: 02/04/69
Inspected by..... R. H. Carstens

1. Description of the Area

The survey covers the area south of Martha's Vineyard from Squibnocket Point to Norton Point, from the shoreline to depths of approximately sixty feet.

The sandy bottom drops rapidly to thirty-foot depths and then gradually to maximum depths of 60 to 68 feet. prominent sand ridges are noted on both the east and west extremities of the survey. The foreshore of the western quarter of the survey is strewn with boulders.

2.

2. Control and Shoreline

The origin of the control is given in the Descriptive Report.

The shoreline originates with revision surveys RS-770 (T-11214), RS-771(T-11215), RS-772(T-11218), RS-816(T-10642), and T-10643A(T-10643) of photogrammetric surveys of 1955-61 corrected with 1964 photography. High-water rocks in the vicinity of Squibnocket Point inked in red are from T-12499, field edit of 1961.

3. Hydrography

A. Depths at crossings are in good agreement.

B. The usual depth curves are adequately delineated with the exception of the mean low water line, which could not be defined because of the large breakers near the water line.

C. The development of the bottom configuration and least depths is satisfactory with the following exceptions:

✓ 1. The rock covered 2 feet at MLW in lat. $41^{\circ} 20:23$, long. $70^{\circ} 43:32$ was not accurately located or sounded by the hydrographer.

✓ 2. The obstruction struck by the launch in lat. $41^{\circ} 20:90$, long. $70^{\circ} 31:15$ was not investigated because of heavy surf and murky water. It was necessary to use the 3-foot draft of the launch as the assumed depth of the obstruction.

4. Condition of Survey

The field plotting, records, and reports are adequate and conform to the requirements of the Hydrographic Manual.

5. Junctions

An adequate junction was effected with H-8820 (1964) on the northeast.

A butt junction was made with H-8846(1965) on the east. Unresolved depth differences of 2 to 3 feet, attributed to incomplete tidal data in the area of H-8846, exist in the overlap of these two surveys. This survey, H-8847, supersedes H-8846 in the common area.

3.

The junction with noncontemporary survey H-6446(1939) is not in accordance with the requirements of the Hydrographic Manual inasmuch as holidays of as great as 500 meters exist in the junctional area.

There are no modern junctional surveys on the west.

6. Comparison With Prior Surveys

| | | |
|--------|--------|---------------------------|
| H-344 | (1852) | 1:20,000 (Reconnaissance) |
| H-378 | (1853) | 1:40,000 |
| H-1802 | (1887) | 1:20,000 |
| H-1843 | (1888) | 1:40,000 |
| H-1844 | (1888) | 1:20,000 |
| H-1941 | (1889) | 1:40,000 |
| H-2090 | (1892) | 1:10,000 |
| H-2130 | (1892) | 1:10,000 |
| H-2131 | (1892) | 1:10,000 |
| H-2132 | (1892) | 1:10,000 |

These prior surveys cover the area of the present survey. A comparison of the prior and present surveys reveals major change in the shoreline and foreshore area out to depths of 30 to 40 feet, beyond which the bottom has remained stable. The high water line has receded as much as 250 meters on the eastern three-quarters of the survey while that on the western quarter remained fairly stable. Inshore depths have generally increased from one to ten feet probably due to the scouring action of the surf.

Other noteworthy changes in the bottom occurred 3/4 mile south of Squibnocket Point where deepening action has detached the outer half of a shoal bank; one mile south of South Beach where deepening action has completely removed the outer half of the prior 25- to 30-foot bank; and two miles southeast of South Beach where a steep sand ridge has formed with a least depth of 21 feet in prior depths of 38 to 44 feet.

The 36-foot sounding in lat. 41°18'43, long. 70°44'81 from H-1843(1888) was not investigated on the present survey and has been carried forward.

The 47-foot sounding in lat. 41°19'68, long. 70°35'4 from H-1843(1888) falling in present depths of 52 feet was not investigated on the present survey and has been carried forward.

4.

With these additions, the present survey is adequate to supersede the prior survey in the common area.

7. Comparison With Charts 261 (Latest print date 02-06-67)
264 (Latest print date 11-25-68)

A. Hydrography

The charted hydrography originates with the previously discussed prior surveys supplemented by partial application of the present survey before and after verification.

Attention is called to the rock awash charted on 264 in lat. $41^{\circ}17'93''$, long. $70^{\circ}46'32''$ from the boat sheet of the present survey. This rock was erroneously plotted on the boat sheet, is considered to be non-existent and should be removed from the chart.

The present survey is adequate to supersede the charted hydrography within the common area.

*Npr.
aad*

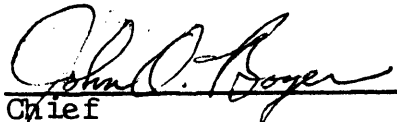
8. Compliance With Instructions

The survey adequately complies with project instructions.

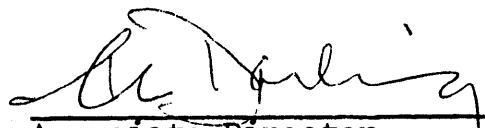
9. Additional Field Work

This is an adequate basic survey. At an opportune time the 36-ft. ^{sounding} in lat. $41^{\circ}18.43'$, long. $70^{\circ}44.81'$ carried forward from H-1843(1888) in depths of 55 ft. should be verified or disproved.

Examined and Approved:



Chief
Marine Chart Division



Associate Director
Office of Hydrography
and Oceanography

H-8847 South Martha's Vineyard

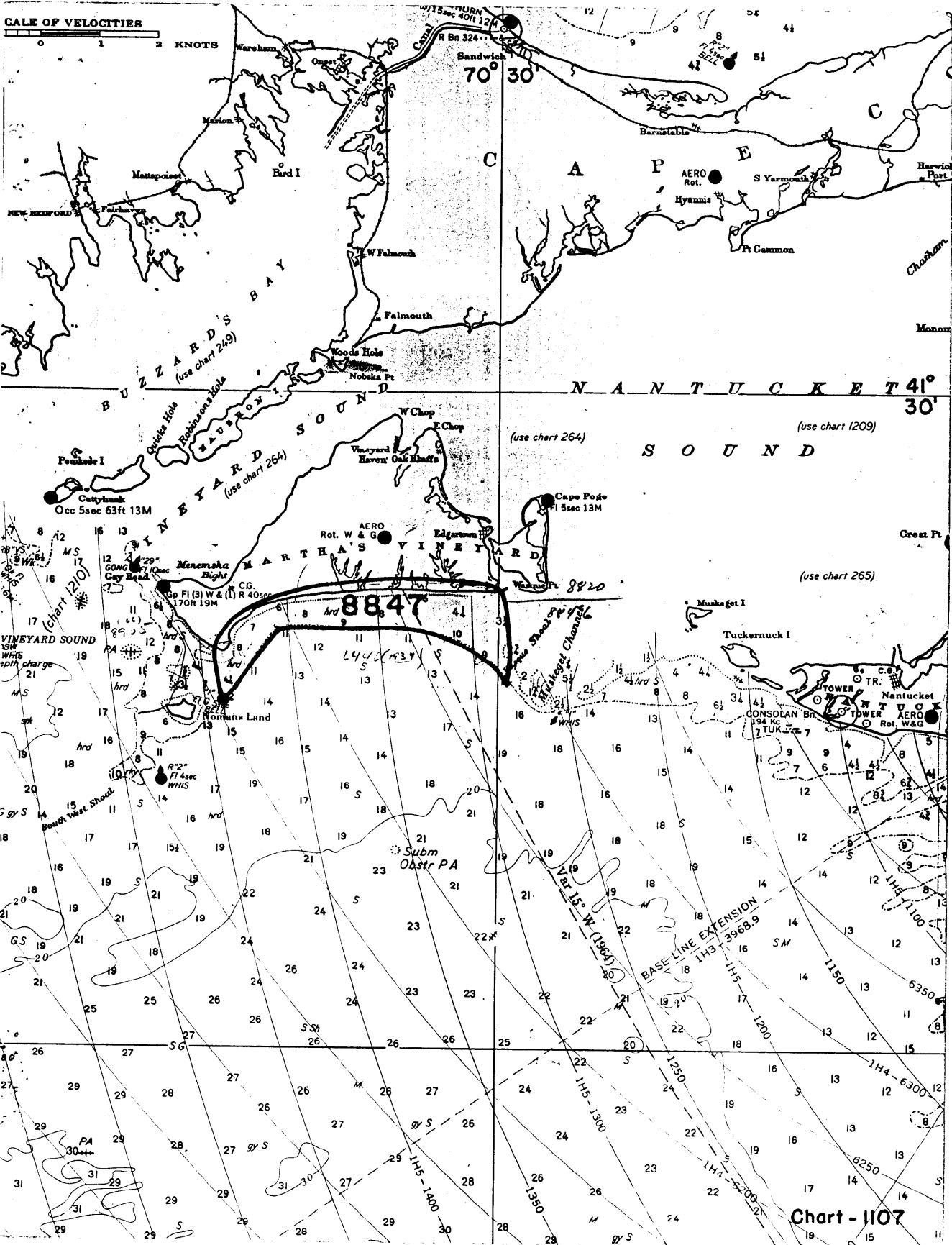
Information for Future Pre-Survey Reviews

The constant erosion of the shoreline and foreshore of the eastern three-quarters of Martha's Vineyard since the earliest surveys may be expected to continue. The large newly formed sand ridge in lat. $41^{\circ}19'6$, long. $70^{\circ}30'1$ may be an indication that some of the soil eroding from inshore areas is being deposited compactly enough to form new off-shore features, while the remainder is so sparsely scattered in deep water as to show no indication of bottom change.

The following soundings carried forward from H-1843(1888) should be verified or disproved:

| Sounding | Latitude | Longitude | Present depth |
|----------|--------------------|-------------------|---------------|
| 36 | $41^{\circ}18.43'$ | $70^{\circ}44.81$ | 55 |
| 47 | $41^{\circ}19.68'$ | $70^{\circ}35.4'$ | 52 |

SCALE OF VELOCITIES
0 1 2 KNOTS



RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8847

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart.

1. Letter all information.

2. In "Remarks" column cross out words that do not apply.

3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review

| CHART | DATE | CARTOGRAPHER | REMARKS |
|-------|----------|---------------|--|
| 264 | 3/23/67 | Frank Pavlat | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Critical corr. only.</i> |
| 1210 | 3/23/67 | Frank Pavlat | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>App'd thru Dwg —, Chart 264</i> |
| 1000 | 5-2-67 | J.T. Gallehan | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>42 - exam. no correction - falls when hydro deleted on cht. No further consideration necessary.</i> |
| 71 | 6/19/67 | W.H. Mill | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Exam, no corr., Hydro deleted from chart, consider fully applied</i> |
| 70 | 8/9/67 | W.H. Mill | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Exam, no corr., Hydro deleted from chart, consider fully applied</i> |
| 1209 | 9-9-67 | H. Radde | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>34 Part App'd thru cht 264</i> |
| 1108 | 9-22-67 | W.H. Mill | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>No correction</i> |
| 1107 | 12-11-67 | W.H. Mill | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>No correction</i> |
| 261 | 9/16/68 | J.M. Millan | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>No critical correction at this time</i> |
| 261 | 10-17-69 | Irene Beeler | Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>to dwg #5</i> |
| 264 | 10-25-69 | Irene Beeler | Full; After Verification; Review; Inspection; Signed thru cht 261 & Smooth Sheet & Review |
| 1209 | 10-28-69 | Irene Beeler | Full; After Verification; Review; Inspection; Signed thru cht 264 & Review |
| 1210 | 3-27-70 | Jeff Stuart | Full; After Verification; Review; Inspection thru (in part) cht 1209 Dwg #36 & 264 #6. |

