F00028

NOAA FORM 76-35A

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

DESCRIPTIVE REPORT

Type of Survey Field Edit

Field No.

Registry No. F00028

LOCALITY

State Massachusetts to Virginia

General Locality Atlantic Ocean

Sublocality Chesapeake Light Vessel to Nantucket Shoals Light Vessel to Cape Cod Light

1940

CHIEF OF PARTY

LIBRARY & ARCHIVES

DATE

F00028

NOTE: A new system for registering Field Examinations (FE's) was established in 1980. All FE's are now consecutively numbered as shown hereon. The date shown in the new format is the actual date of survey. This material was previously registered as: FE No.8 1940

REPORT TO ACCOMPANY SOUNDINGS

Chesapeake Light Vessel

to

Nantucket Shoals Light Vessel

and

Cape Cod Light

April 10 to April 12, 1940

Ship OCEANOGRAPHER - Fred. L. Peacock, Comd'g.

REPORT TO ACCOMPANY SOUNDINGS

Chesapeake Light Vessel

to

Nantucket Shoals Light Vessel
and
Cape Cod Light

April 10 to April 12, 1940.

GENERAL:

Enroute from Norfolk, Va. to the Gulf of Maine working grounds, Project H.T.-248, a departure was made from Chesapeake Light Vessel and a course of 52° true by Gyro compass was set for Nantucket Shoals Light Vessel. This course was steered without interruption to a point with Nantucket Shoals Light Vessel bearing 56° true, distant 5¼ miles. Various courses to the South and East of Phelps Bank were steered from this point to the end of the line. The line ended with Cape Cod Light bearing 238° true, distant 8.5 miles.

In the area outside the 500-fathom curve, off the Hudson Canyon, considerable difficulty was experienced in obtaining soundings. The return echo was very weak, and in areas of steep slopes disappeared entirely.

The operation of the Meridian Electric Log was very erratic and several times was entirely out of operation.

CONTROL AND PLOTTING:

The position of the line is controlled by star sights in the evening and morning of April 10th and April 11th, respectively, and two positions by Summer Line in the morning and afternoon of April 11th. From Nantucket Shoals Light Vessel the position of the line is fixed by bearings on shore objects.

From the departure at Chesapeake Light Vessel to the star fix on the evening of April 10th, a course of 52½° true was made good. When the morning star fix was plotted it was noted that the position was too far inside the 1000-fathom curve according to the incoming soundings. From position 235-B, 5¼ miles southwest of Nantucket Shoals Light Vessel, a straight line was laid down to the first star fix. This line passed through the two Summer Line positions, and made the soundings correspond more nearly to those on the chart. The line from the first star fix, Position 70-A, to Position 235-B was therefore adopted as the course made good and the soundings plotted accordingly. The star fix of the morning of April 11th was disregarded.

Due to the erratic operation of the log no effort was made to use log distances for plotting purposes. The distances between fixes or positions were scaled, speed over the ground computed, and the soundings plotted at two-mile intervals by time.

Position numbers were recorded for each mile by the electric log when it was operating. At times when the log was not operating, position numbers were recorded each five minutes. The positions fall so close together on Chart 1000 that it was impracticable to show them. Hence, positions are shown only at definite fixes and at changes of course.

FATHOMETER CORRECTIONS:

Only one stop for serial temperature and salinity determinations was made. As this was inadequate for the distance covered and depths encountered, these values were not used. The correction computations are based on temperature and salinity values for the month of April tabulated in the Woods Hole Oceanographic Institutions Publication Vol. II, No. 4, 1933.

Four profiles; i.e., Martha's Vineyard, New York, Cape May, and Winterquarter were used. As the temperatures and salinities for depths below 1000 meters are practically constant for the four profiles in the early Spring, a general average for temperature and salinity on these profiles was used below 1000 meters. The values were plotted in red, the color used for Martha's Vineyard profile.

TIDE CORRECTIONS:

The tide reducers used were computed as follows:

April 10, 12:00 to 23:00 - Cape Henry

April 10, 23:00 to April 11, 08:00 - Composite curve from Cape Henry and Block Island (Basin) minus 30 minutes.

April 11, 08:00 to 19:00 - Block Island (Basin)

April 11, 19:00 to April 12, 03:42 - A mean curve based on 0.3 to 0.6 range ratio of the Boston Tides, with no time correction.

AGREEMENT WITH CHARTED SOUNDINGS:

The limited number of soundings shown on Chart 1000 and the bottom irregularities of the area this line traverses, make it difficult to arrive at any definite conclusion as to agreement. In the areas of comparatively smooth bottom, the soundings agree reasonably well.

STATISTICS

Number of positions..... 500

Number of soundings..... 2228

Statute miles of sounding line..... 547

Respectfully submitted,

Ira T. Sanders

Ira T. Sanders, Jr. H. & G. Engineer.

Approved and forwarded:

Fred. L. Peacock

Fred. L. Peacock, Lt. Comdr., C&GS,
Commanding Ship OCEANOGRAPHER.

SOUNDING LINE

Chesapeake Light Vessel
to
Nantucket Shoals Light Vessel
and
Cape Cod Light.

April 10 to April 12
1940

SHIP OCEANOGRAPHER FRED.L.PEACOCK, COMD'G.

14 sheets, Form 719: Astronomic Sight for Hydrographic Control.
8 sheets, Form 612: Dead Reckoning Abstracts.
2 sheets, Tide Curves.

E.S.T. 18:38—

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form No. 719
Ed. May 1935

Sheet No. 1 of 14 sheets

ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, ... Commanding. Date {A.M. / P.M.} 4/10, 19.....

Project ..... Locality .....

Celestial object observed Venus, Approximate bearing 270° true. R. A. 4h 16m 04s Rating of sight

Dead reckoning position: φ 37° 41.4 Course 52½° true. δ 24° 26.5 (Check one)
λ 74° 31.7 Height of eye 28 feet. Observer RDM Excellent .....
λ 4h 58m 06s.8 Sextant No. ..... Recorder DMW Good .....

12.05
8.21
3.84

Log reading 8.21 Index correction 0 Comp. by RDM Fair .....

Sid. M.T. Watch No. ..... Sid. M.T. Chronometer No. ..... Checked by ..... Poor .....

		Watch Time hrs. min. sec.	Observed Altitude	Notes:
	1		41 59	R.A. 10 4-11-46 ✓ 24-12.5
For other than sun sights, use italicized elements in this column.	2			
	3			(11th) 4-16-05 ✓ 24-26.7
	4			2625 14.2
	5			
	6			
Sum				13-16-13.8
Mean			41-59	3.6 s
Chron.-watch				13-16-10.2
Chron. time		23-18-55		
Chron. cor'n		+18-54.6 ✓	✓	
G. C. T.		23 37-49.6 ✓	6.3	13-12-17.2
Eq. of T or *R. A. M. S.* + 12h		13-16-10.2 ✓		3.52.9
Cor'n, Table III (Naut. Almanac)		13	✓	13.16.10!
G. A. T. or *G. S. T.*		36 53-59.8	41 52.7	
Longitude		4-58-06.8 ✓		
L. A. T. or *L. S. T.*		7-55-53.0 ✓		
R. A.		4-16-04 ✓		
Hour angle, *t*		3-39-49 ✓		
φ		37-41.4 ✓		
δ	+	24-26.5 ✓		
φ ~ δ		13-14.9 ✓		
Zenith distance		48 01 11.5		
h (computed)		41 58 48.5		
h (observed)		41 52.7 ✓		
Difference	away	5.4		
	Toward	4.2 ✓		

h	32814	log sec	
log hav	9.32577	log sin	
log cos	9.89886 ✓		
log cos	9.95922	log cos	
log hav	9.18335	log sin	→ 9.18572
nat hav	0.15253	Azimuth	→ 0.15336
nat hav	0.01331 ✓	For use with Polaris	
nat hav	0.16584	*h*	→ 0.16667
	9.872	Cor'n (Table I, Naut. Almanac)	
	N 81° W	φ, latitude	
	279		

✓ E.H.C.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	*at*¹ (Table 27, Bowditch)				
					h	
					*at*¹	
					Meridian altitude	
					Zen. dist.	
					δ	
					φ	
				Sum		
				*at*¹		

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E.S.T. 18:54 — Log 19:00 12.61 speed 12 knots

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Commanding. Date (A. M. / P. M.) 4/10, 19 40

Project ____ Locality ____

Celestial object observed Octans, Approximate bearing 73° true. R. A. 14h 12m 57.6 Rating of sight ✓

Dead reckoning position: φ 37° 41.4 ✓ λ 74° 31.7 ✓ Course ____° true. δ + 19° 29.4 ✓ (Check one)

Height of eye ____ feet. Observer Comm — Excellent ____

Sextant No. ____ Recorder ____ Good ____

0.65 Log reading 11.4 Index correction ____ Comp. by Comm — Fair ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by EMK — Poor ____

	Watch Time hrs. min. sec.	Observed Altitude
1		11 43 '
2		
3		
4		
5		
6		
Sum		
Mean		11-43.0
Chron.-watch		
Chron. time	23-35-15	
Chron. cor'n	+18-54.6 ✓	
G. C. T.	23-54-09.6 ✓	
Eq. of T or *R. A. M. S.* + 12h	13-16-13 ✓	− 9.6 ✓
Cor'n, Table III (Naut. Almanac)	13	
G. A. T. or *G. S. T.*	37-10-22.6 ✓	11° 33.4 ✓
Longitude	4-58-06.8 ✓	
L. A. T. or *L. S. T.*	8-12-15.8 ✓	
R. A.	14-12-57.6 ✓	h ✓
Hour angle, *t* E	6-00-41.8 ✓	log hav 9.700 29 ✓
φ N	37-41.4 ✓	log cos 9.898 36 ✓
δ +	19-29.4 ✓	log cos 9.974 38 ✓
		log hav 9.573 03 ✓
		nat hav 0.374 14 ✓
φ ~ δ	18-12.0 ✓	nat hav 0.025 01 ✓
Zenith distance	75-21.8 ✓	nat hav 0.399 15 ✓
h (computed)	11-38.2 ✓	9.974
h (observed)	11-33.4 ✓	N 74.5 E ✓
Difference away	4.8 ✓	

Notes:

Rams 13 -16 13.8
-0.8

13-12-17.2
3-55.7
13-16-12.9

*h*o, observed altitude
Index correction
Arc correction
Dip, refraction, semi-diameter, and parallax
h, true altitude

log sec
log sin
log cos
log sin
Azimuth

For use with Polaris
h
Cor'n (Table I, Naut. Almanac)
φ, latitude

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	*at*¹ (Table 27, Bowditch)		
		Sum		
		*at*²		

h
*at*²
Meridian altitude
Zen. dist.
δ
φ

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E.S.T. 18:57 —

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred L. Peacock Commanding. Date {A.M. / P.M.} 4/10, 19

Project _____ Locality _____

Celestial object observed Sirius, Approximate bearing 205° true. R. A. 6h 42m 31s ✓ Rating of sight

Dead reckoning position: φ _____ λ _____ h. m. s. λ _____ Course _____° true. Height of eye _____ feet. Sextant No. _____ δ -16° 38.3 ✓ (Check one)

Observer Comm Recorder _____ Excellent _____

Log reading 12.05 Index correction _____ Comp. by Comm Good _____

Sid. M. T. Watch No. _____ Sid. M. T. Chronometer No. _____ Checked by BK Fair _____

Poor _____

	Watch Time hrs. min. sec.	Observed Altitude ° ′ ″
1		
2		
3		
4		
5		
6		
Sum		
Mean		31-36
Chron.-watch		
Chron. time	28 38 19	
Chron. cor'n	+ 18 54.6 ✓	
G. C. T.	23 57 13.6 ✓	6.8 ✓
Eq. of T or *R. A. M. S.* + 12h	13 16 13.1 ✓	
Cor'n, Table III (Naut. Almanac)	13	
G. A. T. or *G. S. T.*	37 13 26.7 ✓	31-29.2 ✓
Longitude	4 58 06.8 ✓	
L. A. T. or *L. S. T.*	8 15 19.9 ✓	
R. A.	6 42 31.0 ✓	✓
Hour angle, *t* W	1-32 48.9	log hav 8.606 87
φ	37 41.4 ✓	log cos 9.898 36 ✓
δ -	16-38.3 ✓	log cos 9.981 43 ✓
		log hav 8.486 66 ✓
		nat hav 0.030 546
φ ~ δ	54-19.7 ✓	nat hav 0.208 424
Zenith distance	58-34.2 33.6	nat hav 0.239 28
h (computed)	31-25.8 27.9	9.573 11
h (observed)	31-29.2 ✓	S 26 W
Difference toward	2.2 3.4	206

Notes:

13-12-17.2 ✓
+ 3-56.1
13-16 13.3

h_o, observed altitude	
Index correction	
Arc correction	
Dip, refraction, semi-diameter, and parallax	
h, true altitude	

log sec	
log sin	
log cos	
log sin	
Azimuth	

For use with Polaris

h	
Cor'n (Table I, Naut. Almanac)	
φ, latitude	

✓ 671 C.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	at¹ (Table 27, Bowditch)		
			Sum	
			at¹	

h	
at¹	
Meridian altitude	
Zen. dist.	
δ	
φ	

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E.S.T. 18:58 —

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship _____, _____ Commanding. Date (~~A. M.~~) (P. M.) Apr. 10, 1940

Project _____ Locality _____

Celestial object observed Venus, Approximate bearing 270° true. * R. A. 4h 11m 46s

Rating of sight (Check one)

Dead reckoning position: φ 37° 41.4 Course 52° true * δ + 24° 12' 30"
λ 74° 31.7 Height of eye 28 feet. Observer H.E.L.
λ 4h 58m 06.8 Sextant No. _____ Recorder _____

Excellent _____ Good _____ Fair _____ Poor _____

Log reading _____ Index correction _____ Comp. by _____

Sid. M. T. Watch No. _____ Sid. M. T. Chronometer No. _____ Checked by _____

	Watch Time hrs.	min.	sec.	Observed Altitude °	'	"
1	11	39	24	37	56	30
2						
3						
4						
5						
6						
Sum						
Mean	11 -	39 -	24	37°	56'	30"

For other than sun sights, use italicized elements in this column.

Notes:
* Rate 26.2s
* Rate 14.2m

11h 4h 16m - 8sec
24° 26' - 4½"

Chron.-watch			10	00	Index correction
Chron. time	23 -	39 -	24	00	Arc correction
Chron. cor'n	+	18	54.6		
G. C. T.	23	58	18.6		
Eq. of T or *R. A. M. S.* + 12h	13	16	13.8	- 6	30 / 22 — Dip, refraction, semi-diameter, and parallax
Cor'n, Table III (Naut. Almanac)			0.0		
G. A. T. or *G. S. T.*	13	14	32.4	37 - 50 -	+8 — *h*, true altitude
Longitude	4	58	06.8		00
L. A. T. or *L. S. T.*	9	16	25.6		
R. A.	4	16 -	08.0	*h* 37° 45.5'	log sec 0.102 06
Hour angle, *t* 60° - 04' - 24"	4 -	00 -	17.6	log hav 9.39890	log sin 9.93786
+ φ 37° - 41.4'				log cos 9.89836	
+ δ 24° 26.7				log cos 9.95924	log cos 9.95921
				log hav 9.25647	log sin 9.99913
				nat hav 0.18049	Azimuth 273° - 34.7
φ ~ δ 13° 14.7				nat hav 0.01330	For use with Polaris
Zenith distance	52° -	14.3		nat hav 0.19379	*h*
h (computed)	37	45.7			Cor'n (Table I, Naut. Almanac)
h (observed)	37	50.3			φ, latitude
Difference		4.6	Towards		

✓ E. H. L.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min.	sec.	Sidereal time min.	sec.	*at*¹ (Table 27, Bowditch)			
							h
							*at*²
							Meridian altitude
							Zen. dist.
							δ
							φ
				Sum			
				*at*²			

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E.S.T. = 19:00

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship ____, ____ Commanding. Date {~~A. M.~~ / P. M.} 4 00 10, 1940

Project ____ Locality ____

Celestial object observed Sirius, Approximate bearing ____° true. R. A. 6h 42m 31.0 ✓ *Rating of sight*

Dead reckoning position: φ 37° 41.4 Course ____° true. δ −16° 38.3 ✓ (Check one)
λ 74° 31.7 Height of eye ____ feet. Observer ____ Excellent ____
λ 4h 58m 06.8 Sextant No. ____ Recorder ____ Good ____

Log reading ____ Index correction ____ Comp. by ____ Fair ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____ Poor ____

	Watch Time hrs. min. sec.	Observed Altitude ° ′ ″	Notes:
1			
2			
3			
4			
5			
6			
Sum PM	N-39-24	31-25	
Mean			h_o, observed altitude
Chron.-watch			Index correction
Chron. time	23-40-53.0		Arc correction
Chron. cor'n	+18 54.6 ✓		
G. C. T.	23-59-47.6 ✓	✓	Dip, refraction, semi-diameter, and parallax
Eq. of T or *R. A. M. S.* + 12h	13-16 13.8 ✓	−6.9 ✓	
Cor'n, Table III (Naut. Almanac)	0.0 ✓	✓	
G. A. T. or *G. S. T.*	13 37-16 01.4 ✓	31-18.1 ✓	*h*, true altitude
Longitude	4 58 06.8 ✓		
L. A. T. or *L. S. T.*	8 17 54.6 ✓		
R. A. ✓	6 42 31.0 ✓	*h* 31-13.4 33 ✓	log sec 0.06795 ✓
Hour angle, *t* 23h-50.9 W'ly	1 35 23.6 ✓	log hav 8.63042	log sin 9.60673 ✓
+ φ 37-41.4 ✓		log cos 9.89836 ✓	
− δ 16-38.3 ✓		log cos 9.98143 ✓	log cos 9.98143 ✓
		log hav 8.51021 ✓	log sin 9.65671 ✓
		nat hav 0.032387	Azimuth 206° 56 ✓
φ ~ δ 54°19.7 ✓		nat hav 0.20843 ✓	For use with Polaris
Zenith distance	58 46.6 ✓	nat hav 0.24080	*h*
h (computed)	31-13.4 ✓		Cor'n (Table I, Naut. Almanac)
h (observed)	31-18.1 ✓		φ, latitude
Difference	Toward ✓ 4.7 ✓		✓ E.H.K.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	*at*¹ (Table 27, Bowditch) ′ ″	′ ″	′ ″		
					h	
					*at*¹	
					Meridian altitude	
					Zen. dist.	
					δ	
					φ	
			Sum			
			*at*¹			

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MARICA B

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred L. Peacock Commanding. Date (A.M.) Apr 11, 1940

Project _____ Locality S.E. N.Y. Bay

Celestial object observed Star - α Pegasi, Approximate bearing 88° true. R. A. h. m. s. _____

Dead reckoning position: φ 38° 51' Course _____° true. δ _____
λ 72° 34' Height of eye _____ feet. Observer F.R. Gossett
λ h. m. s. _____ Sextant No. _____ Recorder D.A. Jones

Log reading 206 Index correction _____ Comp. by _____

Sid. M. T. Watch No. _____ Sid. M. T. Chronometer No. _____ Checked by _____

Rating of sight (Check one): Excellent _____ Good _____ Fair _____ Poor _____

Notes: 23-01 α Pegasi NG

	Watch Time	Observed Altitude
Log. 04-33-55 (206.38) For other than sun sights, use italicized elements in this column.	hrs. min. sec.	° ′ ″
1	9 15 16.5	21 06 15
2		
3		
4		
5		
6		
Sum (Log.) 04-33-55		
Mean 206.38	9 15 16.5	21-06-15
Chron.-watch		0
Chron. time	9 15 16.5	
Chron. cor'n	+18 51.7	
G. C. T.	9 34 08.2	-7 41
Eq. of T or R. A. M. S. + 12h	13-16-13.8	
Cor'n, Table III (Naut. Almanac)	1-34.3	
G. A. T. or G. S. T.	22-51-56.3	2058.34
Longitude	4-50-16.0	
L. A. T. or L. S. T.	18-01-40.3	
R. A.	23-01-46.4	
Hour angle, t 75-01-30	18 59 53.9	
φ 38 51		
δ +14-52-54		
φ ~ δ 23-58.1		
Zenith distance	69 10 12	
h (computed)	20 49 48	
h (observed)	20 58 34	
Difference	8-46	towards

Notes (continued):
- h_o, observed altitude
- Index correction
- Arc correction
- Dip, refraction, semi-diameter, and parallax
- h, true altitude

log hav	9.56914
log cos	9.89142
log cos	9.98518
log hav	9.44574
nat hav	0.27908
nat hav	0.04312
nat hav	0.32220

log sec	0.02978
log sin	9.98500
log cos	9.98519
log sin	9.99997
Azimuth	89° 20'

For use with Polaris

h	
Cor'n (Table I, Naut. Almanac)	
φ, latitude	

19 24 42

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Intervals From Transit: Sidereal time min. sec.	at¹ (Table 27, Bowditch)		
		′ ″	′ ″	′ ″
			Sum	
			at²	

h	
at²	
Meridian altitude	
Zen. dist.	
δ	
φ	

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred. L. Peacock Commanding. Date {A. M. / P. M.} Apr 11, 1940

Project ____ Locality S.E. of N.Y. Bay

Celestial object observed Polaris, Approximate bearing N ° true. R. A. ____ h. m. s.

Dead reckoning position: φ 38° 52' Course 52 ° true. δ ____
λ 72° 32' Height of eye ____ feet. Observer F.R. Gassett
λ 4h 50m 08s Sextant No. ____ Recorder D.A. Jones

Log reading ____ Index correction ____ Comp. by ____
Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____

Rating of sight (Check one): Excellent ____ Good ____ Fair ____ Poor ____

Log
207-52
207-81 4-39-30 4-40-53
For other than sun sights, use italicized elements in this column.

	Watch Time hrs.	min.	sec.	Observed Altitude °	'	"	Notes:
1	9	20	25.5	38	33	00	(?)
2	9	21	50.5	38	35	50	
3	9	23	15.0	38	35	30	
4							
5							
6							

Log

Time 4-40-11

Sum							
Mean	207.66	9	21	50.3	38	34	46.7
Chron.-watch						0	00
Chron. time		9	21	50.3			
Chron. cor'n			+ 18	51.7			
G. C. T.		9	40	42.0		- 6	26.0
Eq. of T or *R. A. M. S.* + 12h		13	11	13.8			
Cor'n, Table III (Naut. Almanac)			+ 1	35.4			
G. A. T. or *G. S. T.*		22	53	31.4	38	28	20.7
Longitude		4	50	08.0			
L. A. T. or *L. S. T.*		18	09	23.4			
R. A.							
Hour angle, *t*							
φ							
δ							
φ ~ δ							
Zenith distance							
h (computed)							
h (observed)							
Difference							

h_o, observed altitude	
Index correction	
Arc correction	
Dip, refraction, semi-diameter, and parallax	
h, true altitude	

✓ I.T.S. ✓ E.H.K.

h		log sec	
log hav		log sin	
log cos			
log cos		log cos	
log hav		log sin	
nat hav		Azimuth	
nat hav			
nat hav			

For use with Polaris

h	38 28.34 ✓
Cor'n (Table I, Naut. Almanac)	+ 0 25.5
φ, latitude	38 53.84

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min.	sec.	Sidereal time min.	sec.	at1 (Table 27, Bowditch) °	'	"	'	"	'	"
							Sum			
							at1			

h	
at1	
Meridian altitude	
Zen. dist.	
δ	
φ	

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred. L. Peacock, Commanding. Date (A.M.) [redacted] Apr 11, 1940

Project ____ Locality S.E. of N.Y. Bay

Celestial object observed Spica α Virginis, Approximate bearing 250° true. R. A. h. m. s. ____ Rating of sight

Dead reckoning position: φ 38° 52' ✓ λ 72 h. 31 m. s. ✓ λ ____

Course ____ ° true. δ -10° 51.1' ✓ Height of eye ____ feet. Sextant No. ____

Observer F.R. Gossett. Recorder D.A. Jones.

(Check one): Excellent ____ Good ____ Fair ____ Poor ____

Log reading ____ Index correction ____ Comp. by ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____

Log

208.44 4-43-55
208.97 4-46-30
For other than sun sights, use italicized elements in this column.
209.23 447-43

time ← log →

	Watch Time (hrs. min. sec.)	Observed Altitude (° ′ ″)
1	9 26 18.0	06 36 20
2	9 28 53.0	06 06 40
3	9 30 06.0	05 52 15
4		
5		
6		
Sum		
4-46-03 Mean 208.88	9 28 25.7 ✓	06 11 45.0 ✓

Notes: Log at 05:00 = 211.79

Chron.-watch		0 - 00
Chron. time		
Chron. cor'n	+18 51.7 ✓	
G. C. T.	9 47 17.4 ✓	
Eq. of T or *R. A. M. S.* + 12h	13 16 13.8 ✓	
Cor'n, Table III (Naut. Almanac)	+ 1 36.5 ✓	-13.25 ✓
G. A. T. or *G. S. T.*	23 05 07.7 ✓	5-58-20 ✓
Longitude	4 50 04.0 ✓	
L. A. T. or *L. S. T.*	18 15 03.7 ✓	
R. A.	13h 22 04.3 ✓	h 5-58-20
Hour angle, *t* 73-14-51	4 52 59.4	log hav 9.551131 ✓
φ 38-52 +		log cos 9.891132 ✓
δ -10 51.1 - ✓		log cos 9.992177 ✓
		log hav 9.434804 ✓
		nat hav 0.27214 ✓
φ ~ δ 49-431		nat hav 0.17673 ✓
Zenith distance	84 07 51 ✓	nat hav 0.44887 ✓
h (computed)	5 52 09 ✓	
h (observed)	5 58 20	
Difference	6.11 ✓	Towards ✓

Dip, refraction, semi-diameter, and parallax

h, true altitude

log sec	0.00236 ✓
log sin	9.98116 ✓
log cos	9.99217 ✓
log sin	9.97569 ✓
Azimuth	251 - 00.5 ✓

For use with Polaris

h	
Cor'n (Table I, Naut. Almanac)	
φ, latitude	

✓ I.T.S. E.H.F.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time (min. sec.)	Sidereal time (min. sec.)	at¹ (Table 27, Bowditch)		
		′	′	′
		Sum		
		at¹		

h	
at¹	
Meridian altitude	
Zen. dist.	
δ	
φ	

71
180
251

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred C. Ainsworth Commanding. Date (A.M.) (P.M.) April 11, 1940

Project ____ Locality ____

Celestial object observed Arcturus, Approximate bearing 269° true. R. A. 14h 12m 57.6s Rating of sight

Dead reckoning position: φ 38° - 53' Course 52° true. δ + 19° 29.4' (Check one)
λ 72° 36' Height of eye 28 feet. Observer F. R. Garratt Excellent ____
λ h. m. s. Sextant No. ____ Recorder D. A. Jones Good ✓
Log reading ____ Index correction 0 ✓ Comp. by ____ Fair ____
Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____ Poor ____

Clock 4-49-23 Log 209.16 4-51-20 4-52-51

For other than sun sights, use italicized elements in this column.

	Watch Time hrs. min. sec.	Observed Altitude ° ' "
1	9 32 06.5	34 16 45
2	9 33 42.5	33 57 40
3	9 35 15.0	33 38 30
4		
5		
6		
Sum		
4-51-13 Mean 209.97	9 33 41.3	33 57 38.3
Chron.-watch		0 00
Chron. time		
Chron. cor'n	+18 51.6	
G. C. T.	9 52 32.9	-6 37
Eq. of T or *R. A. M. S.* + 12h	13 16 13.8	
Cor'n, Table III (Naut. Almanac)	+ 1 37.4	
G. A. T. or *G. S. T.*	23-10-24.1	33-51-01.3
Longitude	- 4 50 24.0	
L. A. T. or *L. S. T.*	18-20-00.1	
R. A.	14-12-57.6 h	
Hour angle, *t*	4-07-02.5	log hav 9.42065
φ	+ 38 53	log cos 9.89122
δ	+ 19 29.4	log cos 9.97437
		log hav 9.28624
		nat hav 0.19331
φ ~ δ	+ 19 23.6	nat hav 0.02837
Zenith distance	56 10 36	nat hav 0.22168
h (computed)	33 49 24	
h (observed)	33 51 01	
Difference	1 37	towards

NOTES:

h_o, observed altitude
Index correction
Arc correction
Dip, refraction, semi-diameter, and parallax
h, true altitude

log sec	0.08066
log sin	9.94495
log cos	9.97437
log sin	9.99998
Azimuth	269-30

For use with Polaris

h	
Cor'n (Table I, Naut. Almanac)	
φ, latitude	

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	at¹ (Table 27, Bowditch) ° '	'	"
		Sum		
		at¹		

h	
at¹	
Meridian altitude	
Zen. dist.	
δ	
φ	

I.T.S.

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred. L. Peacock Commanding. Date {A. M. / P. M.} 4/11, 1940

Project ____ Locality ____

Celestial object observed Sun, Approximate bearing 135° true. R. A. ____ h. m. s. Rating of sight (Check one)

Dead reckoning position: φ 39° 37 Course 52 ° true. δ + 8° 25.3
λ 7h 16m Height of eye 28 feet. Observer Comm — Excellent ____
λ ____ h. m. s. Sextant No. ____ Recorder ____ Good ____

Log reading 286.2 Index correction ____ Comp. by ____ Fair ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____ Poor ____

		Watch Time hrs. min. sec.	Observed Altitude ° ′ ″
For other than sun sights, use italicized elements in this column.	1		56 32
	2		
	3		
	4		
	5		
	6		
Sum			
Mean			56-32
Chron.-watch			
Chron. time		15-35-40	
Chron. cor'n		+ 18-50	
G. C. T.		15-54-30	× 10.2
Eq. of T or *R. A. M. S.* + 12h		- 1-02	
Cor'n, Table III (Naut. Almanac)			
G. A. T. or *G. S. T.*		15-53-28	56-42.2
Longitude		4 45 04	
L. A. T. or *L. S. T.*		11 08 24	
R. A.		0 51 36	
Hour angle, *t*		0 51 36	log hav 8.101 04
φ		39° 37	log cos 9.886 68
δ		8° 25.3	log cos 9.995 80
			log hav 7983 02
			nat hav 0.009 62
φ ~ δ		31 - 11.7	nat hav 0.072 30
Zenith distance		33 - 15.8	nat hav 0.081 92
h (computed)		56 - 44.2	156.5 {bearing of sun computed
h (observed)		56 - 42.2	
Difference	away	2.0	

NOTES:

4-44
1 04
4-45 04

10-55

16-30
1F 50
48
9.345
S 23.5 E
156.5

h, true altitude

*h*o, observed altitude	
Index correction	
Arc correction	
Dip, refraction, semi-diameter, and parallax	
h, true altitude	
log sec	
log sin	
log cos	
log sin	
Azimuth	

For use with Polaris

h	
Cor'n (Table I, Naut. Almanac)	
φ, latitude	

✓ 67 10.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Intervals From Transit: Sidereal time min. sec.	*at*¹ (Table 27, Bowditch) ′ ″	′ ″	′ ″
			Sum	
			*at*¹	

h	
*at*¹	
Meridian altitude	
Zen. dist.	
δ	
φ	

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship ....., ... Commanding. Date {A. M. / P. M.} 4/11, 1940

Project ..... Locality .....

Celestial object observed ....., Approximate bearing .....° true. R. A. h. m. s. .....

Dead reckoning position: φ ° ' ..... λ ° ' ..... λ h. m. s. .....
Course .....° true. δ .....
Height of eye ..... feet. Observer .....
Sextant No. ..... Recorder .....

Rating of sight (Check one): Excellent ..... Good ..... Fair ..... Poor .....

Log reading 297.0 ..... Index correction ..... Comp. by .....
Sid. M. T. Watch No. ..... Sid. M. T. Chronometer No. ..... Checked by .....

	Watch Time hrs. min. sec.	Observed Altitude ° ' "
1		
2		
3		
4		
5		
6		
Sum		
Mean		58 32
Chron.-watch		
Chron. time	16 27	
Chron. cor'n		
G. C. T.		
Eq. of T or *R. A. M. S.* + 12h		+ 10.3
Cor'n, Table III (Naut. Almanac)		
G. A. T. or *G. S. T.*		58 - 42.3
Longitude		
L. A. T. or *L. S. T.*		
R. A.		
Hour angle, *t*		
φ		
δ		
φ ~ δ		
Zenith distance		
h (computed)		
h (observed)		
Difference		

For other than sun sights, use italicized elements in this column.

Notes:

58 - 42.3 ✓
31 - 17.7 ✓
8 - 26.2 ✓
39 - 43.9 ✓
Latitude noon

h_o, observed altitude	58 32
Index correction	
Arc correction	✓
Dip, refraction, semi-diameter, and parallax	✓
h, true altitude	58 - 42.3

✓ & H/C
Long about 4 hrs 45 min

h		log sec	
log hav		log sin	
log cos			
log cos		log cos	
log hav		log sin	
nat hav		Azimuth	
nat hav		**For use with Polaris**	
nat hav		*h*	
		Cor'n (Table I, Naut. Almanac)	
		φ, latitude	

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	at^1 (Table 27, Bowditch) ' "	' "	' "
		Sum		
		at^1		

h	
at^1	
Meridian altitude	
Zen. dist.	
δ	
φ	

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, ____ Commanding. Date {A. M. / P. M.} 4/11, 1940

Project ____ Locality ____

Celestial object observed Sun, Approximate bearing ____° true. R. A. ____ h. ____ m. ____ s.

Dead reckoning position: φ 40° 03' Course ____° true. δ S 8° 29'
λ 70° 36' Height of eye ____ feet. Observer [redacted]
λ ____ h. ____ m. ____ s. Sextant No. ____ Recorder ____

Log reading 334.9 Index correction ____ Comp. by ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____

Rating of sight (Check one): Excellent ____ Good ____ Fair ____ Poor ____

	Watch Time	Observed Altitude
	hrs. min. sec.	° ′ ″
1	14 42	
2		
3		
4		
5		
6		
Sum		
Mean		39-06
Chron.-watch		
Chron. time	19 22 44	
Chron. cor'n	+18 49	
G. C. T.	19 41 33	+ 9.8
Eq. of T or *R. A. M. S.* + 12ʰ	− 0 59.5	
Cor'n, Table III (Naut. Almanac)		
G. A. T. or *G. S. T.*	19 40-33.5	39-15.8
Longitude	4 42 24	
L. A. T. or *L. S. T.*	14 58 09.5	
R. A.		
Hour angle, *t*	2 58 09.5	
φ	40° 03	
δ	+ 8 29	
φ ~ δ	31 34	
Zenith distance	50 36.6	
h (computed)	39 23.4	
h (observed)	39 15.8	
Difference	away −07.6	

For other than sun sights, use italicized elements in this column.

4 − 40
2 24
4 42 24

h, observed altitude
Index correction
Arc correction
Dip, refraction, semi-diameter, and parallax
h, true altitude

h		log sec	
log hav	9.157 20	log sin	
log cos	9.883 94		
log cos	9.995 22	log cos	
log hav	9.036 36	log sin	
nat hav	0.108 73	Azimuth	
nat hav	0.073 98	For use with Polaris	
nat hav	0.182 71	*h*	
	9.840	Cor'n (Table I, Naut. Almanac)	
	S 63° W	φ, latitude	

✓ G.H.C.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit		*at*² (Table 27, Bowditch)			
Mean time	Sidereal time				*h*
min. sec.	min. sec.	′ ″	′ ″	′ ″	*at*²
					Meridian altitude
					Zen. dist.
					δ
					φ
			Sum		
			*at*²		

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, ____ Commanding. Date (A. M.) (P. M.) 4/11, 1940

Project ____ Locality ____

Celestial object observed Sun, Approximate bearing ____° true. R. A. h. m. s. ____ Rating of sight (Check one)

Dead reckoning position: φ 40° 10.5 Course 52½° true. δ + 8° 29.7
λ 70° 16.5 ✓ Height of eye 25 feet. Observer WDM — Excellent ____
λ 4h 41m 06s Sextant No. ____ Recorder ____ — Good ____

Log reading not operating. Index correction 0 Comp. by WDM — Fair ____

Sid. M. T. Watch No. ____ Sid. M. T. Chronometer No. ____ Checked by ____ — Poor ____

		Watch Time hrs. min. sec.	Observed Altitude ° ′ ″	Notes:
For other than sun sights, use italicized elements in this column.	1			
	2			
	3			
	4			
	5			
	6			
Sum				
Mean			30 07.5	h_o, observed altitude
Chron.-watch		20 12 17.0		Index correction
Chron. time		+18 48.5 ✓		Arc correction
Chron. cor'n		20 31 05.5 ✓	✓	
G. C. T.			9.3	Dip, refraction, semi-diameter, and parallax
Eq. of T or *R. A. M. S.* + 12h		− 0 59.5 ✓		
Cor'n, Table III (Naut. Almanac)			✓	
G. A. T. or *G. S. T.*		20 30 06.5	30 16.8	*h*, true altitude
Longitude		4 41 06 ✓		
L. A. T. or *L. S. T.*		15 49 00.0		
R. A.			*h*	log sec
Hour angle, *t*		3 49 00.5	log hav 9.360 83	log sin
φ		40 10.5 ✓	log cos 9.883 14 ✓	
δ		+ 8 29.7 ✓	log cos 9.995 22 ✓	log cos
			log hav 9.239 19 ✓	log sin
			nat hav 0.173 46 ✓	Azimuth
φ ~ δ		31 40.8 ✓	nat hav 0.074 50 ✓	For use with Polaris
Zenith distance		59 43.8 ✓	nat hav 0.247 96 ✓	*h*
h (computed)		30 16.2 ✓	9.920	Cor'n (Table I, Naut. Almanac)
h (observed)		30 16.8 ✓	574.5 Wag.	φ, latitude
Difference	toward	0.6 ✓		✓ G.H.K. I.T.S.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time min. sec.	Sidereal time min. sec.	at¹ (Table 27, Bowditch)			
					h
					at¹
					Meridian altitude
					Zen. dist.
					δ
					φ
			Sum		
			at²		

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ASTRONOMIC SIGHT FOR HYDROGRAPHIC CONTROL

U. S. C. & G. S. Ship Oceanographer, Fred. L. Peacock Commanding. Date (Greenwich) (P. M.) April 11, 1940

Project ..... Locality S.W. of Nantucket L.V.

Celestial object observed ☉, Approximate bearing .....° true. R. A. h. m. s. .....

Dead reckoning position: φ 40° 19 ..... λ 70° 05 ..... λ h. m. s. .....
Course .....° true. δ 8° 30.4
Height of eye 28 feet. Observer C.A.M. K. J.P.L.
Sextant No. H753 K564 Recorder .....

Rating of sight (Check one): Excellent ..... Good ..... Fair ..... Poor .....

Log reading not operating. Index correction ..... Comp. by .....
Sid. M. T. Watch No. ..... Sid. M. T. Chronometer No. ..... Checked by .....

	Watch Time (hrs. min. sec.)	Observed Altitude
1	21 07 20.0	19° 40.7'
2		
3		
4		
5		
6		

For other than sun sights, use italicized elements in this column.

Notes: 4 − 40 20

Sum				
Mean		19 40.7		h_o, observed altitude
Chron.-watch				Index correction
Chron. time	21 07 20			Arc correction
Chron. cor'n	+18 48			
G. C. T.	21-26-08	+8.2		Dip, refraction, semi-diameter, and parallax
Eq. of T or *R. A. M. S.* + 12h				
Cor'n, Table III (Naut. Almanac)	− 0 58.4			
G. A. T. or *G. S. T.*	21-25-09.6	19 48.9		h, true altitude
Longitude	4 40 20			
L. A. T. or *L. S. T.*	16-44 49.6			
R. A.		h		log sec
Hour angle, *t*	4 44 49.6	log hav	9.530 10	log sin
φ	40 19	log cos	9.882 23	
δ	+8 30.4	log cos	9.995 20	log cos
		log hav	9.407 53	log sin
		nat hav	0.255 57	Azimuth
φ ~ δ	31 48.6	nat hav	0.075 10	For use with Polaris
Zenith distance	70 12.2	nat hav	0.330 67	h
h (computed)	19 47.8		9.970	Cor'n (Table I, Naut. Almanac)
h (observed)	19 48.9		S82°W	φ, latitude
Difference	toward 1.1			

G.M.K. L.T.S.

FOR EX-MERIDIAN SIGHTS

Intervals From Transit: Mean time (min. sec.)	Sidereal time (min. sec.)	at³ (Table 27, Bowditch)			
					h
					at³
					Meridian altitude
					Zen. dist.
					δ
					φ
			Sum		
			at³		

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
m 612
an., 1930

①

DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. Chesapeake L.V. to Atlantic Coast. Nantucket L.V. (Locality) April 10. 1940 (Date) A Day

U. S. C. and G. Survey Ship Oceanographer, Fred. L. Peacock, Commanding

Abstracted by J.T.S.
Abstract checked by C.H.C.
Plotted by
Plotting checked by

U. S. GOVERNMENT PRINTING OFFICE: 1930 11—7884

Pos.	P.M. Time 75 Mar.	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Total Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n / Am't	ADJUSTMENTS Closure	Other	REMARKS
	13hr.						Log #	f=												
							Log #	f=												
1	23:10					52°	13.35		—	00.0										Chesapeake L.V aw pt. beam.
2	26:10	3'				"	13.95		0.60											Chesapeake L.V on pt. quarter.
3	31—	4.8				"	15.00		1.65											
4	40—	9					17.00		3.65											* sat clock ahead 30 sec.
5	45:55	5.4				"	18.00		4.65											Ches. L.V. bears 241° T
6	50:45	4.8				"	19.00		5.65											Ches. L.V. bears 239.5° T.
7	55:45	5				"	20.00		6.65											
8	14hr 00:20	4.6				"	21.00		7.65											
		"				"														
		4hr 35'				"														
		"				"														
to																				
	18hr.																			
64	35:50		22:34 - + 22:49 — 23:44 - + End of Day.			"	79.00		58.0	65.65										
	38:00					"	(79.45)		0.45											Star VENUS
	54:00	10'				"	(82.80)		3.35											Arcturus
to	57:00	24'	between			"	(83.40)		0.60											Sirius
	58:00	0hr	"			"	(83.60)		0.20											Sights VENUS
70	19hr 00.00					"	84.05		0.45	70.70										Sirius
		1hr 58.3				"														
	23 hr	4	No says.																	
133	58:22		No "			"	148.00			134.65										Continues to "B" Day

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(2)

DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. ____

Atlantic Coast (Locality) Chesapeake L.V. to Nantucket L.V. April 11, 1940 (Date) "B" Day

U. S. C. and G. Survey Ship Oceanographer, Fred. L. Peacock, Commanding

Abstracted by I.T.S
Abstract checked by E.G.C.
Plotted by ____
Plotting checked by ____

U. S. GOVERNMENT PRINTING OFFICE 1930 11—7684

Pos.	A.M. Time 75 Mer.	Elapsed Time	COURSE		Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot. Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n Am't	ADJUSTMENTS Closure	Other	REMARKS
							Log #	f=												
	00 hr						Log #	f=												
1	07:45	—				52°	150.00			136.65										
			No Sags between Mid. + 00:40 —	Sags irregular between 00:40 — + 05:21		"														
						"														Log out of order between 01:24
to		4 hr 24' 15"				"														+02:30. 04.06 Log stopped
	04 hr.																			
50	32:00	—				52°	206.00		56.0	192.65										
	34:00					"	206.38	.41												Star Sights: Pegasi, Polaris, Spica, Arcturus
	40:00					"	207.66	.83												
to	46:00	19' - 25"				"	208.88	.86												
	51:00					"	209.97	.91												
	04 hr.																			
54	51:25	—				"	210.00		4.00	196.65										
		6 hr - 02' - 25"	No Sags between 05:21 — + 07:27 —	Sags irregular between 07:27 — + 08:52 —		"														
						"														
to						"														10:27 Log stopped
	10 hr																			
135	53:50	—				"	286.00		76.00	272.65										
	54:00	4' 45"					(286.10)	.04												⊙ sight
136	58:35	—				"	287.00			273.65										
		4' 45"																		
to																				
	11 hr																			
146	41:20	4'					296.00		10.00	282.65										

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
Form 613
Jan., 1930

(3)

DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. Chesapeake L.V. to Nantucket L.V. Atlantic Coast — April 11, 1940 — "B" Day

U. S. C. and G. Survey Ship Oceanographer (Locality), Fred L. Peacock (Date), Commanding

Abstracted by T.S.
Abstract checked by [illegible]
Plotted by
Plotting checked by

U. S. GOVERNMENT PRINTING OFFICE 1930 11—7684

Pos.	AM Time 75 Mar.	Elapsed Time	COURSE P.S.C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot. Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n Am't	ADJUSTMENTS Closure	Other	REMARKS
	11 hr.					52°	Log #	f=												
to	45:00	45"				"	Log # (296.80)	f= .77		283.45										Noon Latitude
147	46:05	1'				"	297.00		1.00	283.65										
		40"				"														
						"														
to	P.M.					"														
						"														
	14 hr	2 hr 52'				"														
184	38:45					"	334.00		37.00	320.65										
	41:00	45"				"	(334.9)	.60												⊙ sight
185	42:30	3'				"	335.00		1.00	321.65										
		30"				"														Log stopped at 14 hr 44:00'
to		45'				"														
	15 hr					"														
194	28:00					"	No Log													
	31:00	00"				"	"		(9.75) (10.80)	(331.40)										⊙ sight
195	33:00	5'				"	"													
		00"				"														
						"														
		50'				"														
	16 hr					"														
205	23:00					"	No Log													

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY
Form 612
Jan., 1930

(4)

DEAD RECKONING ABSTRACT

Abstracted by I. I. S.
Abstract checked by [illegible]
Plotted by
Plotting checked by

HYDROGRAPHIC SHEET No. Atlantic Coast — Chesapeake L.V. to Nantucket L.V. — April 11, 1940 — "B" Day
(Locality) (Date)

U. S. C. and G. Survey Ship Oceanographer, Fred L. Peacock, Commanding

U. S. GOVERNMENT PRINTING OFFICE: 1930 11—7684

Pos.	P.M. Time	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot. Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n / Am't	ADJUSTMENTS Closure	Other	REMARKS
	75 Mar																			
	16 hr						Log #	f=												
		5'-00"					Log #	f=												
	16:00					52°	No Log		(11.00)	(342.4)										⊙ Sight.
206	28:00					52	"		(11.86)											
		8'55"				"	"													Log operating at 16 hr 34:00'
209	36:55					"	338.00		(2.20)	(344.60)										
		1'55"				"														
						"														
						"														
		1 hr 49'				"														
	18 hr					C/C 65°														Nantucket L.V. bears 56°T
235	26:50						361.00		23.00											
236	27:20					C/C 65°	361.11		23.11											" " " 54°T
237	31:35					65°	362.00		24.00											" " " 51.6°T
238	36:20					"	363.00		25:00											" " " 46°T
239	41:05					"	364.00		26:00											" " " 38.5°T
240	44:38					"	364.75		26.75											" " " 34°T
241	45:45					"	365.00		27.00											" " " 20°T. ow pt. bow.
242	48:15					"	365.52		27.52											" " " 350.1°T.
243	50:30					"	366.00		28.00											" " " 335°T ow pt. beam.
244	57:50					"	366.28		28.28	372.88										

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Jan., 1930

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DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. ____

Atlantic Coast (Locality) Nantucket L.V. to Cape Cod L.H. April 11, 1940 (Date) "B" Day

U. S. C. and G. Survey Ship Oceanographer, Fred. L. Peacock, Commanding

Abstracted by L.T.S.
Abstract checked by CWC
Plotted by ____
Plotting checked by ____

U. S. GOVERNMENT PRINTING OFFICE: 1930 11—7684

Pos.	P.M Time 75 Mer.	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot. Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n / Am't	ADJUSTMENTS Closure	Other	REMARKS
	18 hr						Log # f=													
							Log # f=													
						C/C	366.28	L.V. Abm.		00.00										Nantucket L.V. bears 290° T
245	55:20					67°	367.02													
246	59:55					"	368.00			✓										" " " 269° T
247	19 hr 00:00					"	368.02			✓										
248	04:40					"	369.00			✓										" " " 261.2° T
249	09:20					"	370.00			✓										" " " 257.1° T
250	14:10					"	371.00			✓										" " " 258° T
251	18:55					"	372.00			✓										" " " 253.3° T
252	23:35					"	373.00			✓										" " " 252.5° T
253	28:20					"	374.00			✓										" " " 251.4° T
254	33:05					"	375.00			✓										" " " 250.5° T
255	37:45					"	376.00			✓										" " " 250.1° T
256	42:30					"	377.00			✓										" " " 250° T
257	47:15					"	378.00			✓										" " " 249.° T
258	51:55					"	379.00			✓										" " " 249° T
259	56:35					"	380.00			✓										" " " 248.8° T
260	20 hr 00:00					"	380.74			✓										" " " 248.6° T
261	01:15					"	381.00			✓ 14.72										

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
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Jan., 1930

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DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. Atlantic Coast — Nantucket L.V. to Cape Cod L.H. — April 11, 1940 — "B" Day

U. S. C. and G. Survey Ship Oceanographer (Locality), Fred. L. Peacock (Date), Commanding

Abstracted by I. T. S.
Abstract checked by E & C.
Plotted by
Plotting checked by

U. S. GOVERNMENT PRINTING OFFICE: 1930 11—7684

Pos.	P.M Time	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot. Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n / Amt	ADJUSTMENTS Closure	Other	REMARKS
	75 Mer.																			
	20 hr						Log #	f=												
							Log #	f=												
262	06:00					67°	382.00			15.72										
						"														
						"														
						"														
						℄ 346°	389.50			23.22										
270	41:35																			
271	43:30					℄ 346°	389.90			23.62										
						"														
						"														
						"														
						"														
	23 hr					℄ 328°	430.00			63.72										
315	48:40																			
	49.00					℄ 328°														
						"														
	24 hr																			"B" Day ends "C" " begins
318	00:00					"	432.44			66.16										

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Form 612
Jan., 1930

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DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. Nantucket L.V. to Cape Cod L.M.

Atlantic Coast (Locality) April 12, 1940 (Date) "C" Day

U. S. C. and G. Survey Ship Oceanographer, Fred L. Peacock, Commanding

Abstracted by I.T.S.
Abstract checked by C.H.C.
Plotted by
Plotting checked by

U. S. GOVERNMENT PRINTING OFFICE: 1930 11—7684

Pos.	AM Time 75 Mer	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n Am't	ADJUSTMENTS Closure	Other	REMARKS
							Log #	f=												
							Log #	f=												
318 B						328°	432.44													
1C	00hr 02:35					328°	433.00			66.72										
						"														
						"														
						"														
19	01 hr 25:40					"	451.00													
	28:00					"	451.40			85.12										Pollock R.p L.V. on pt. beam.
20	30:20					"	452.00			85.72										
						"														
						"														
						"														
22	39:30					"	454.00													
	43:30					"	454.70			88.42										Pollock R.p L.V. ⌀ 225°T Nauset Beach Lt. ⌀ 291°T
23	44:10					"	455.00			88.72										
						"														
						"														
						"														
28	02 hr 07:15					"	460.00			93.72										Chatham Lt. ⌀ 229.2°T Nauset Beach Lt. ⌀ 275.5°T

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
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Jan., 1930

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DEAD RECKONING ABSTRACT

HYDROGRAPHIC SHEET No. _____

Atlantic Coast (Locality) Nantucket L.V. to Cape Cod L.H. April 12, 1940 (Date) "C" Day

U. S. C. and G. Survey Ship Oceanographer, Fred. L. Peacock, Commanding

Abstracted by I.T.S.
Abstract checked by E.W.C.
Plotted by _____
Plotting checked by _____

U. S. GOVERNMENT PRINTING OFFICE 1930 11—7684

Pos.	AM Time 75 Mer	Elapsed Time	COURSE P. S. C.	Dev.	Var'n	True	DISTANCE Log Reading	Log Dist.	True Dist.	Tot Mean Dist.	CURRENT Set	Drift	Corr'n	LEEWAY Dir'n of Wind	Vel.	Corr'n	TRANSFER Dir'n / Am't	ADJUSTMENTS Closure	Other	REMARKS
							Log #	f=												
							Log #	f=												
	02 hr																			
36	44:10					328°	467.90			101.6									obs.	Nauset Beach Lt. ⌀ 238°T Cape Cod L.H. ⌀ 293.8°T
						"														
						"														
39	58:00					"	471.00													
	03 hr 02:00					"	471.90			105.6								Pt. bow		Cape Cod L.H. ⌀ 283°T Nauset Beach Lt. 215.8°T
40	02:35					"	472.00			105.7										
						"														
						"														
						"														
49	42:00					"	480.48			114.2										Cape Cod L.H. ab pt. beam Nauset Beach Lt ⌀ 187°T
																				Line Ends.

F A T H O M E T E R C O R R E C T I O N S

Chesapeake Bay light Vessel to

Nantucket Shoal Light Vessel and Cape Cod Light

Enroute from Norfolk, Virginia to

Boston.,Mass. April 10 to April 12, 1940

SHIP OCEANOGRAPHER FRED. L. PEACOCK, COMD'G.

Temperature and Salinity Curves plotted from values for the month of April, tabulated in Woods Hole Oceanographic Institution Publication, Vol.11, No.4, 1933

SUMMARY

of

FATHOMETER CORRECTIONS

T. S. & D. Correction

Correction Feet		to Depth Fm.
Plus	Minus	
	0	14½
	-1.0	31
	-2.0	49
	-3.0	69½
	-4.0	94
	-5.0	117
	-6.0	138
	-7.0	162
	-8.0	184
	-9.0	220
Fathoms		Depth.
	-2.0	278
	-3.0	347
	-4.0	420
	-5.0	498
	-6.0	580
	-7.0	668
	-8.0	775
	-9.0	925
	-10.0	1080

INDEX CORRECTION -1.5 ft.

SETTLEMENT (plus) +0.5 "

I. & S. Corr'n -1.0 "

Draft Readings

Date	Draft
4/10/40	14.8
4/16/40	14.4
Mean Draft Correction	+ 0.6 ft.

Trip No. _____

Date Apr. 10 to Apr. 11, 1940

I.T.S.

- D.A.J.

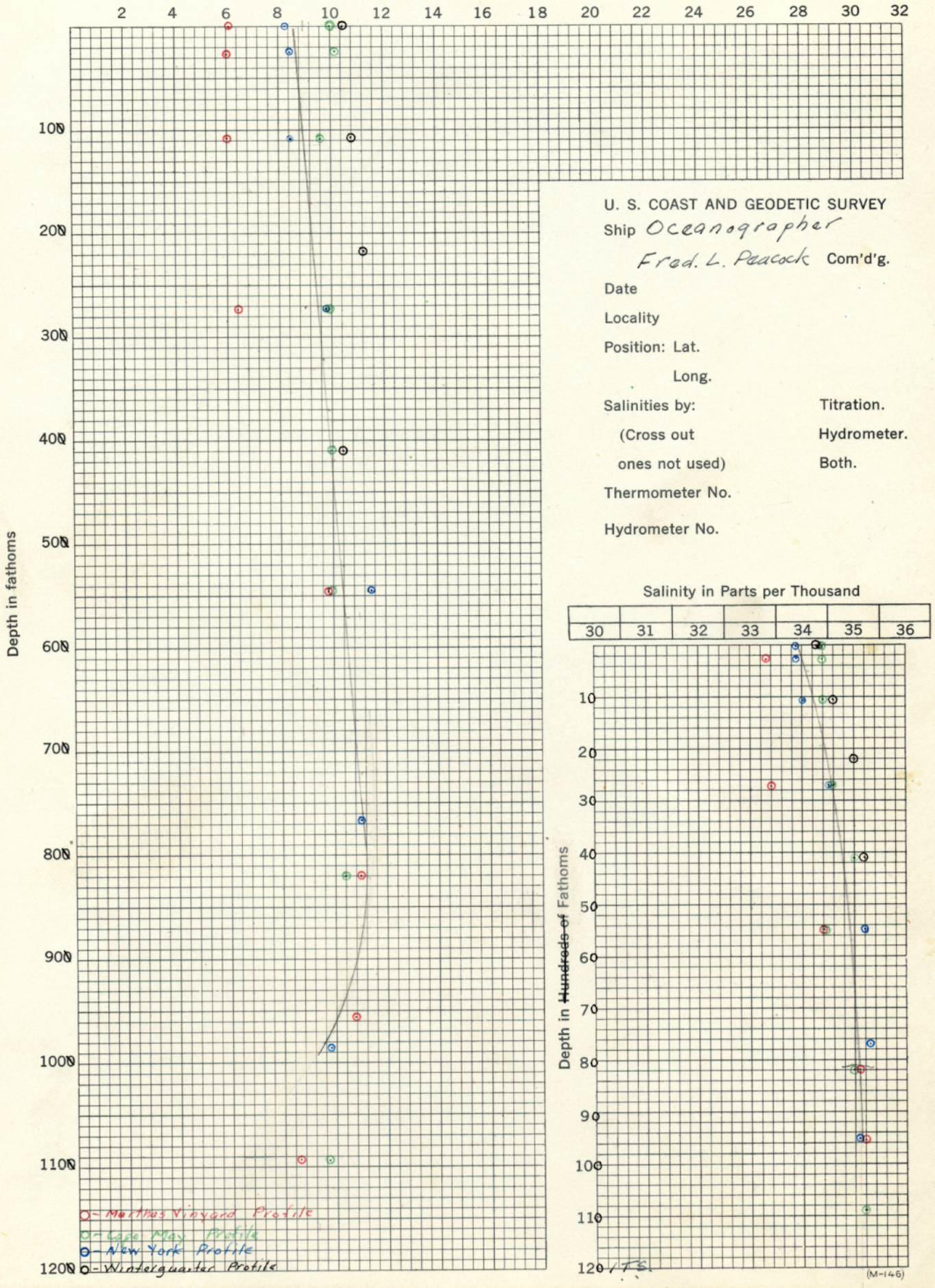
SIMULTANEOUS COMPARISONS
for
INDEX CORRECTIONS

Date	Fathometer		T.S.& D. Corr.Ft.	Fath. Corr'd.		V.C. Sd'g.		V.C.- Fath. Ft.	Remarks
	Fm.	Ft.		Fm.	Ft.	Fm.	Ft.		
4/10/40	10	5.6	- 0.4	11	0.0	10	4.8	- 1.2	At Chesapeake Bay
	10	5.9	- 0.4	11	0.3	10	4.8	- 1.5	Entrance
	11	0.2	- 0.4	11	0.6	10	5.4	- 1.2	
	11	0.3	- 0.4	11	0.7	10	4.8	- 1.9	

Mean Index Correction — 1.5

J.C.M.
I.T.S.

GRAPH OF WATER TEMPERATURES AND SALINITIES



U. S. COAST AND GEODETIC SURVEY

Ship *Oceanographer*

Fred. L. Peacock Com'd'g.

Date

Locality

Position: Lat.

Long.

Salinities by: Titration.

(Cross out Hydrometer.

ones not used) Both.

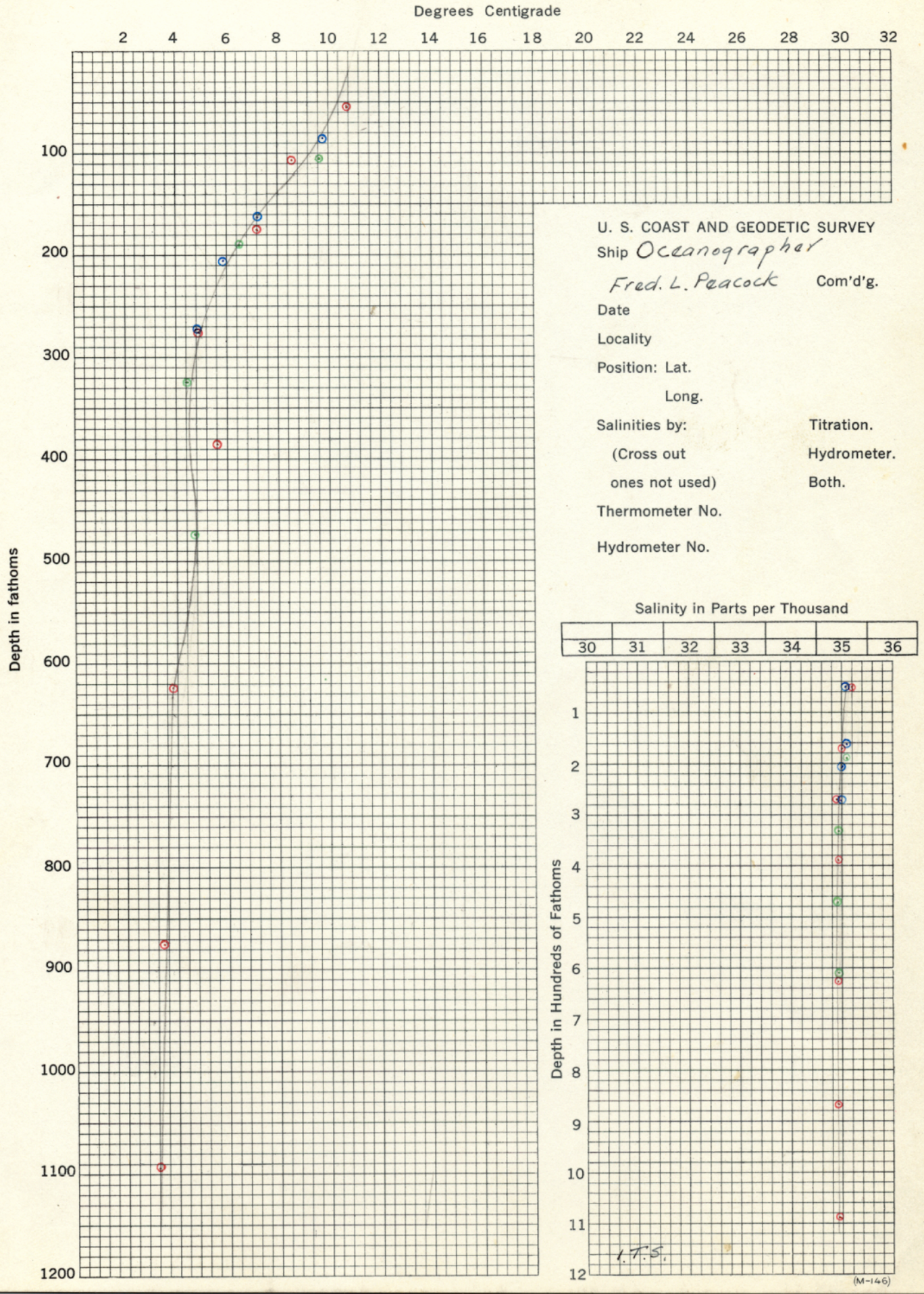
Thermometer No.

Hydrometer No.

T.S.

(M-146)

GRAPH OF WATER TEMPERATURES AND SALINITIES



U. S. COAST AND GEODETIC SURVEY

Ship Oceanographer

Fred. L. Peacock Com'd'g.

Date

Locality

Position: Lat.

Long.

Salinities by: Titration.

(Cross out Hydrometer.

ones not used) Both.

Thermometer No.

Hydrometer No.

(M-146)

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

0 -2 -4 -6 -8 -10

CORRECTIONS IN FATHOMS

100
200
300
400
500
600
700
800
900
1000
110
120
130
140
150
160
170
180
190

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

FATHOMETER CORRECTIONS

U.S. Coast and Geodetic Survey

Ship Oceanographer
Fred L. Peacock Comdg.

These corrections are to be used
between Apr. 10 1940 and Apr. 12 1940
in the locality Chesapeake L.V. to
Nantucket Shoals L.V. and Cape Cod
for hydrographic surveys Nos. .....

I.T.S.
D.A.S.

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

+1 0 -1 -2 -3 -4 -5 -6 -7 -8 -9 -10

CORRECTIONS IN ~~FATHOMS~~ FEET.

10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190

DEPTHS IN FATHOMS

(For deep water add a 0 to these figures)

FATHOMETER CORRECTIONS
U.S. Coast and Geodetic Survey

Ship Oceanographer
Fred L. Peacock Comdg.

These corrections are to be used
between Apr. 10 1940 and Apr. 12 1940
in the locality Chesapeake L.V. to
Nantucket Shoals L.V. and Cape Cod
for hydrographic surveys Nos. .....

I.T.S.
D.A.J.

TIDE CURVES

Boston = Reference Sta.
Ratio of Range = 0.3. No Time correction

April 11 & 12, 1940

18:45 to 20:23 = 0 ft.
20:23 to 22:18 = -1 "
22:18 to 23:55 = -2 "
23:55 to 24:00 = -3 "

Use This Curve to Find Boston

2
1
0
13 14 15 16 17 18 19 20 21 22 23 24 1 2 3 4 5 6 7

April 12, 1940

Ratio Range = 0.6 No Time Correction

00 to 00:30 = -5 ft.
00:30 to 7:58 = -6 "
2:58 to 3:52 = -5 "

Apr. 11

— to 19:00 = -1 ft.
19:01 to 20:12 = -0 "
20:13 to 21:48 = -1 "
21:49 to 22:48 = -2 "
22:49 to 23:50 = -3 "
23:51 to 24.00 = -4 "

Apr. 12

— to 1:18 = -4 ft.
1:19 to 2:18 = -5 "
2:19 to 3:55 = -4 "

Mean Curve

5
4
3
2
1
0
19 20 21 22 23 0 1 2 3 4 5 6 7 8 9 4 5 6 7

Curves by I.T.S.
EJC

Mean Block Island & Cape Henry
— 30 minutes

Block Island

APR. 11.

April 10
13:00 to 14:25 ✓ — 1 ft
16:36 ✓ — 0
18:15 — 1
19:30 ✓ — 2
23:06 — 3
23:06 Midnight — 2

April 11
Midnight to 00.25 ✓ — 2
to 01:47 ✓ — 1
to 04:51 ✓ — 0
to 06:36 ✓ — 1
to 08:30 ✓ — 2
11:08 ✓ — 3
12:28 ✓ — 2
14:43 ✓ — 1
17:02 ✓ — 0
18:50 ✓ — 1

Cape Henry

APR. 10

Legend
○ Block Island
△ Atlantic City
□ Cape Henry
◇ Selected Curve

Comp. ID M W
J C M

COMPUTATION OF FATHOMETER CORRECTIONS

Type 111 Dorsey Fathometer — 0 - 200 Fathoms — Calibrated for Velocity of 1499.6 m./sec.

Depth in Fathoms	Depth below Transceiver Fms.	Depth below Transceiver Ft.	Temp. C	Mean Temp.	Salinity pp/1000	Mean Sal.	Depth Corr.	Velocity m./sec.	Mean Velocity	Factor	Correction Fms.	Correction Ft.	Draft Corr. +0.6 ft. Ft.
2	5	28	8.5										
7	5	28	8.8	8.8	34.1		0.2	1482.2	1482.2	-0.0116		- 0.32	+0.28
12	10	58	9.0	8.9	34.3		0.3	82.7	82.4	- .0115		- 0.66	+0.06
17	15	88	9.2	9.0	34.4		0.5	83.3	82.7	- .0113		- 0.99	-0.39
22	20	118	9.4	9.1	34.5		0.7	83.9	83.0	- .0111		- 1.31	-0.71
27	25	148	9.5	9.2	34.6		0.8	84.3	83.3	- .0108		- 1.60	-1.00
32	30	178	9.6	9.3	34.7		0.9	84.8	83.5	- .0107		- 1.90	-1.30
37	35	208	9.8	9.3	34.7		1.1	85.0	83.7	- .0106		- 2.20	-1.60
42	40	238	10.0	9.4	34.8		1.3	85.6	84.0	- .0104		- 2.47	-1.87
47	45	268	10.1	9.5	34.8		1.4	86.0	84.2	- .0103		- 2.76	-2.16
52	50	298	10.3	9.6	34.9		1.6	86.6	84.4	- .0101		- 3.01	-2.41
57	55	328	10.4	9.6	34.9		1.8	86.8	84.7	- .0099		- 3.24	-3.64
62	60	358	10.6	9.7	35.0		1.9	87.3	84.9	- .0098		- 3.51	-2.91
67	65	388	10.7	9.8	35.0		2.1	87.9	85.2	- .0096		- 3.72	-3.12
72	70	418	10.9	9.9	35.0		2.3	88.4	85.5	- .0094		- 3.93	-3.33
77	75	488	11.1	9.9	35.1		2.5	88.6	85.7	- .0092		- 4.12	-3.52
82	80	478	11.2	10.0	35.1		2.6	89.1	85.9	- .0091		- 4.35	-3.75
87	85	508	11.0	10.1	35.1		2.8	89.6	86.1	- .0090		- 4.57	-3.97
92	90	538	10.6	10.1	35.1		3.0	89.8	86.3	- .00889		- 4.73	-4.13
97	95	568	9.8	10.1	35.1		3.1	89.9	86.5	- .0087		- 4.94	-4.34
102	100	598	9.2	10.1	35.0		3.3	90.1	86.6	- .0086		- 5.14	-4.54
120	118	706	8.7	10.0	35.0		4.0	90.5	86.8	- .0085		- 6.00	-5.40
140	138	826	8.0	9.9	35.0		4.6	90.7	87.0	- .0084		- 6.94	-6.34
160	158	946	7.3	9.8	35.0		5.3	91.1	87.2	- .0082		- 7.76	-7.16
180	178	1066	6.7	9.6	35.0		6.0	91.0	87.3	- .0081		- 8.63	-8.03
200	198	1186	6.2	9.5	35.0		6.7	91.3	87.4	- .0081		- 9.61	-9.01
0			8.5										
200			6.2	9.5	34.9		3.3	1487.9	1487.9	-0.0078	1.56		
400			4.6	5.4	34.9		10.0	78.7	83.3	- .0108	4.32		
600			4.0	4.3	34.9		16.7	80.8	82.5	- .0114	6.48		
800			3.6	3.8	34.9		23.2	85.2	83.1	- .0110	8.80		
1000			3.3	3.4	34.9		29.8	90.1	84.5	- .0100	10.00		

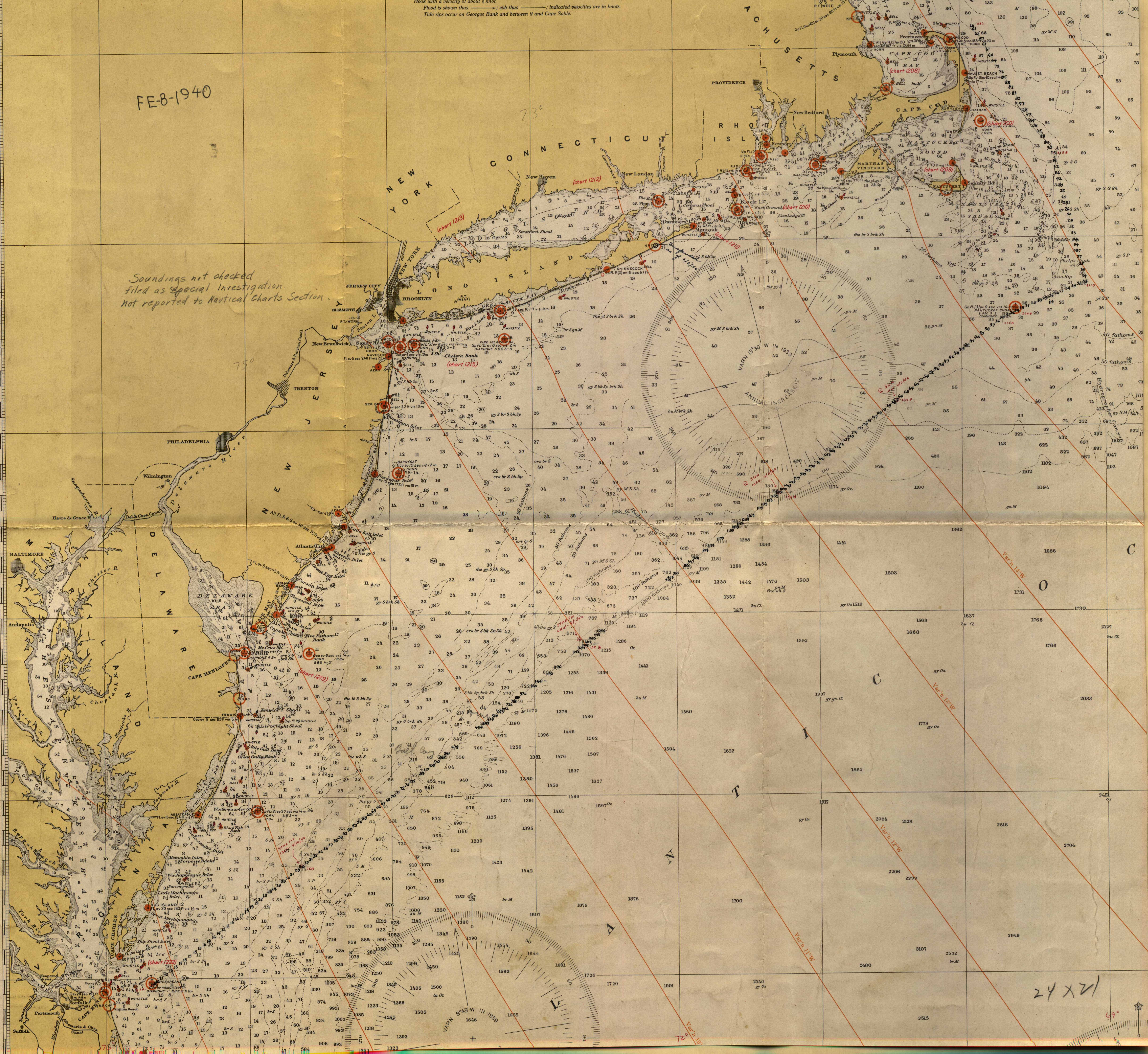
34.87

34.9

200 - 1000 Fathoms

Final Value of Correction in ft.

I.T.S.
D.A.J.



Flood is shown thus ; ebb thus , indicated velocities are in knots.
Tide rips occur on Georges Bank and between it and Cape Sable.
FE-8-1940
Soundings not checked
filed as Special Investigation.
Not reported to Nautical Charts Section.
CONNECTICUT
NEW YORK
RHODE ISLAND
MASSACHUSETTS
NEW JERSEY
DELAWARE
MARYLAND
VIRGINIA
LONG ISLAND
PROVIDENCE
New Bedford
Plymouth
CAPE COD
CAPE COD BAY
NANTUCKET SOUND
MARTHAS VINEYARD
New Haven
New London
Block I.
Montauk
Gardiners B.
Stratford Shoal
JERSEY CITY
BROOKLYN
ELIZABETH
Staten I.
New Brunswick
Sandy Hook
Cholera Bank
TRENTON
PHILADELPHIA
Wilmington
Havre de Grace
BALTIMORE
Annapolis
Atlantic City
Barnegat Inlet
CAPE HENLOPEN
CAPE CHARLES
Norfolk
Portsmouth
Suffolk
Five Fathom Bank
Winter Quarter Sh.
Great Gull Bank
Chesapeake
Delaware River
Potomac R.
York R.
(chart 1208)
(chart 1209)
(chart 1210)
(chart 1211)
(chart 1212)
(chart 1213)
(chart 1215)
(chart 1219)
(chart 1222)
VARN 13°30' W IN 1939
ANNUAL INCREASE
VARN 8°45' W IN 1939
Var'n 14°W
Var'n 13°W
Var'n 12°W
Var'n 11°W
Var'n 10°
100 fathoms
1000 fathoms
40 fathoms
50 fathoms
20 fathoms
30 fathoms
A T L A N T I C
O C
42°
41°
40°
39°
38°
37°
73°
75°
24 x 21