

7845

Diag. Cht. Nos. 9380 & 9100

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. PI-2250 Office No. H-7845

LOCALITY

State ALASKA

General locality CAPE PRINCE OF WALES

Locality PRINCE OF WALES SHOAL

1945

CHIEF OF PARTY

T. B. Reed

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DATE MARCH 20, 1951

7845

MAR 20 1951

Form 537
(Ed. June 1946)

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-7845

Field No. PI-2250

State Alaska

General locality Cape Prince of Wales

Locality Prince of Wales Shoal

Scale 1:20,000 Date of survey 10 July - 31 August 1950

Instructions dated 19 May 1950

Vessel Ship PIONEER

Chief of party Thos. B. Reed

Surveyed by Ship's Officers

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

Fathograms scaled by Fathometer Readers and Ship's Officers

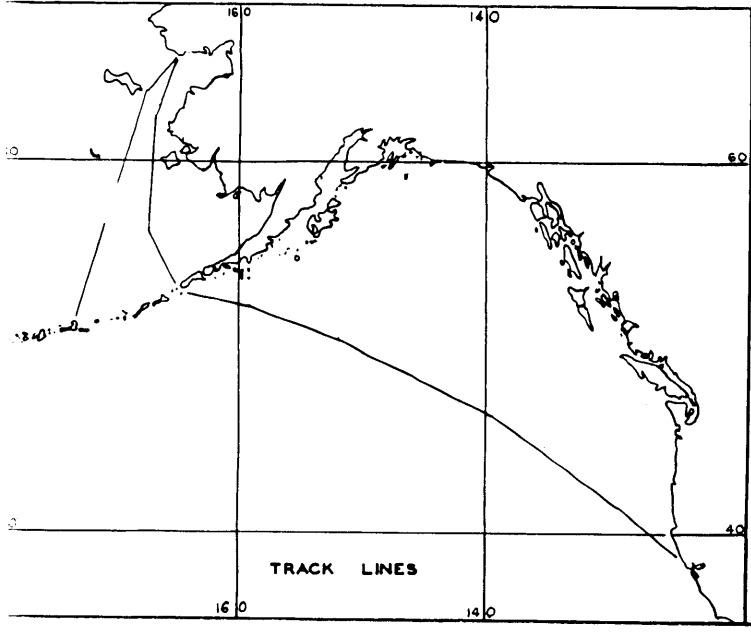
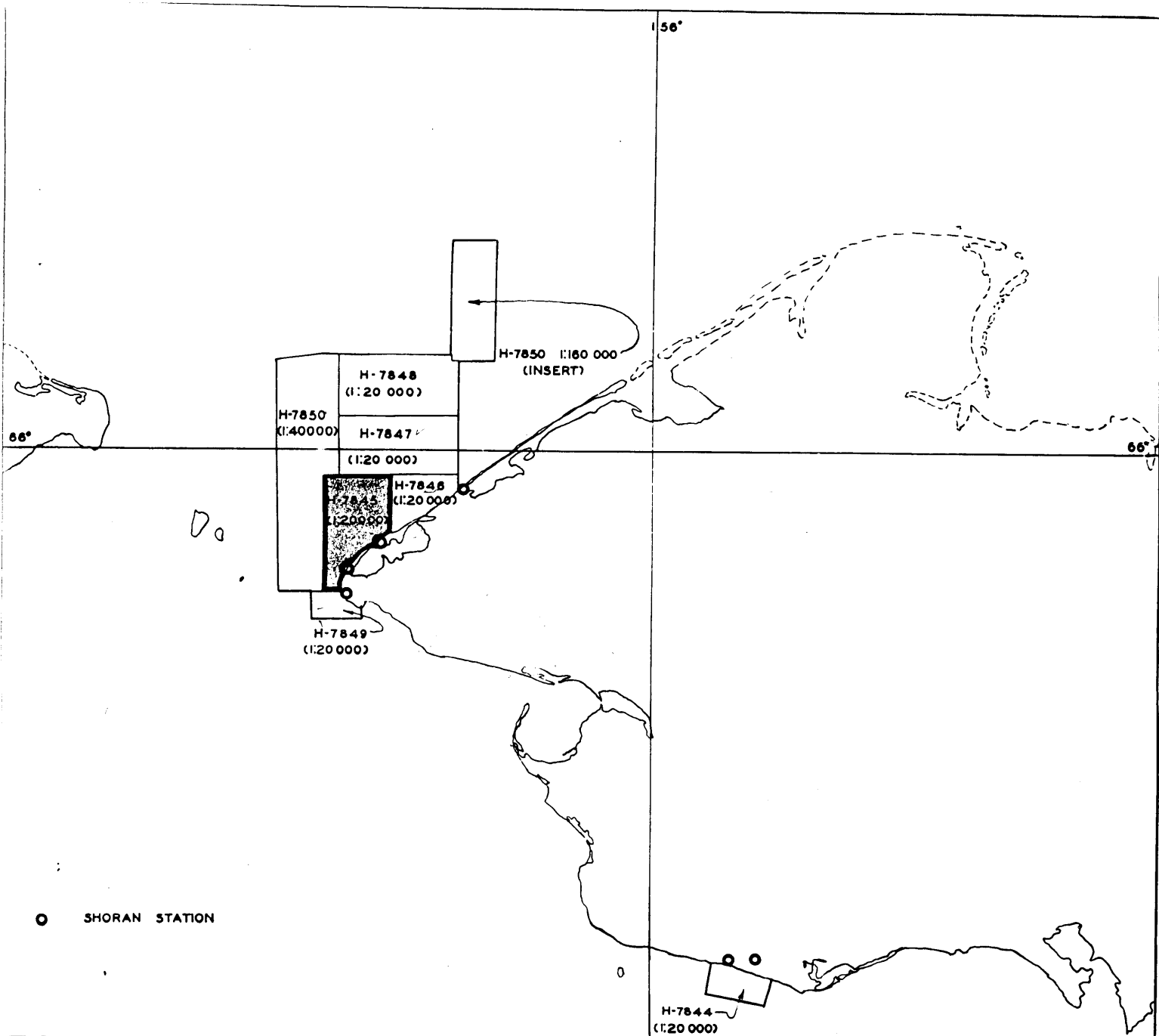
Fathograms checked by Ship's Officers

Protracted by A. C. Holmes

Soundings penciled by A. C. Holmes

Soundings in ~~fathoms~~ feet at ~~NEW~~ MLLW

REMARKS:



PROGRESS SKETCH
 TO ACCOMPANY SEASONS REPORT
 U.S. COAST & GEODETIC SURVEY
 COMBINED OPERATIONS
 9 JUNE 23 SEPT. 1950
 SEWARD PENINSULA
 NOME & CAPE PRINCE OF WALES
 SHIP PIONEER
 THOS. B. REED COMDG.
 PROJECT C.S. 341

DESCRIPTIVE REPORT TO ACCOMPANY HYDROGRAPHIC SURVEY

H-7845

(Field PI-2250)

PRINCE OF WALES SHOAL

Project CS-341
Ship PIONEER
Scale 1:20,000

Season of 1950
Thos. B. Reed, Chief of Party
Surveyed by: Ship's Officers

A. PROJECT

The work was done in accordance with the following instructions for project CS-341:

Original Instructions dated 19 May 1950
Amended Instructions dated 19 May 1950
Telegram dated 1 August 1950

B. SURVEY LIMITS AND DATES

This survey extends from the village of Wales at Cape Prince of Wales northward approximately 20 nautical miles along Prince of Wales Shoal. Limits of the survey are from Lat. $65^{\circ} 36.6' N.$ to $65^{\circ} 55.7' N.$, and from Long. $167^{\circ} 46.6' W.$ to $168^{\circ} 12.0' W.$

Junctions are made with contemporary surveys as shown on index of surveys.

Field work was begun on 10 July 1950 and ended on 31 August 1950.

C. VESSELS AND EQUIPMENT

The hydrography was performed by the ship PIONEER and Launches 3 and 4. The following sounding equipment was used:

Ship PIONEER:
808J No. 108S, and 808J No. 129S

Launch 3:
808J No. 69S, 808J No. 108S, and 808J No. 129S

Launch 4:
808J No. 107S

The turning radius of the ship was approximately 400 meters

D. TIDE AND CURRENT STATIONS

Tide reducers were obtained from the tide gage at Lepp Lagoon, Cape Prince of Wales. No time or range corrections were applied.

A tide note is included with this report.

No current stations were occupied within the limits of this survey.

E. SMOOTH SHEET

The projection was made by hand on the Ship PIONEER and Shoran arcs were drawn directly from the plotted positions of the Shoran stations on the sheet.

F. CONTROL STATIONS

All of the triangulation stations used for control on this survey were located by the Coast and Geodetic Survey and are on the NA 1927 Datum.

Shoran station Prin was located by theodolite and chain traverse from WALES, 1944, computed and plotted on geographic sheet PI-D-50. Station Lag was located in the same manner from LYNX, 1949, and plotted on PI-C-50. Station Man was similarly located from MANNA, 1949, computed and plotted directly on the sheet. The geographic position for WALES, 1944 is from office computations, while the geographic positions for LYNX, 1949, and MANNA, 1949 are from field computations. Computation for Man (Shoran) is included with this report.

G.C. Sheets destroyed. Des. Repts filed with H-7846 and H-7849

Visual signals Ice, Lig, Nat, Van, Bel, and Gab were located by plane table on PI-D-50.

G. SHORELINE AND TOPOGRAPHY

The indicated shoreline was located at the same time the visual control signals were located. Segments of the mean high water line were rodded or taped from the plane table setups.

H. SOUNDINGS

Depths were obtained by the 808J fathometers enumerated in Paragraph C. All soundings were scanned from the graphs and then verified. Lists of the applied fathometer corrections are included with this report.

I. CONTROL OF HYDROGRAPHY

Both Shoran and visual control were used in the survey. All but a small inshore area in the immediate vicinity of Wales was Shoran controlled, the visually controlled hydrography occurring in an area where line of sight reception from Station Man was cut off by the curve of the shoreline.

J. ADEQUACY OF SURVEY

This survey is considered adequate to supersede prior surveys for charting.

Junctions with all adjoining sheets are satisfactory.

K. CROSSLINES

Crosslines consist of approximately 9.5% of the total lines run.

All crossings are in good agreement except one at Lat. 65° 46.4' N, Long. 168° 07.6' W which shows a discrepancy of 6 feet between ship and launch lines. This is an area of rapidly changing bottom, and is probably caused by position error

Conflicts in depths eliminated.

L. COMPARISON WITH PRIOR SURVEYS

There are no prior surveys of this area.

M. COMPARISON WITH CHARTS

Chart No. 9380:

The shoreline is in error several miles on this chart, and the shoals and depth curves are displaced varying amounts.

Charted shoreline revised

Lat. 65° 55' }
Long. 167° 57' }

Lat. 65° 46.07', Long. 168° 05.65'

The 1 1/2 fathom PD soundings were proved non-existent, the least depth on Prince of Wales Shoal being 22 feet. The 14 fathom soundings shown at approximately 65° 52' N, 167° 52' W were also in error; the deepest soundings inside the shoal were found to be approximately 51 feet. The soundings west of the shoal approximated those found on this survey.

Since the hydrography on H-7845 is well controlled and the area thoroughly developed, it is recommended that it supersede all prior work for charting.

N. DANGERS AND SHOALS

The least depth on Prince of Wales Shoal was found to be 22 feet. Lat. 65° 46.07', Long. 168° 05.65'

False beaches extend parallel to the shore from Wales to the northeastern part of the survey. There are no other dangers to surface navigation within the limits of this survey.

O. COAST PILOT INFORMATION

See "Coast Pilot Notes, 1950", submitted 20 October 1950.

P. AIDS TO NAVIGATION

Cape Prince of Wales Light was located by plane table on Topographic Sheet PI-D-50. See Form 567, Non-floating Aids for Charts.

Graphic Control

Q. LANDMARKS FOR CHARTS

WALES, CENTER OF MIDDLE RADIO BEAM TOWER, 1944, a triangulation intersection station, is the only recommended landmark within the limits of this survey that is visible and distinct from an appreciable distance offshore. It is so recommended in Form 567, Landmarks for Charts, submitted separately from this report. In case a larger scale chart of the area is printed, all five towers should be shown. In case no photographs are available, the outer four can be determined, as reference marks for WALES, 1944 are set in the bases of two of them.

W. DATA INCLUDED WITH THIS REPORT

1. Index of Surveys
2. Velocity Corrections
3. Abstract of Instrumental Corrections
4. Shoran Summary, 1950
5. Shoran Corrections, 1950
6. Initial Corrections
7. Abstract of Statistics
8. Computations for Man (Shoran)
9. Approval Sheet
10. Tide Note
11. Tide Reducers

Z. TABULATION OF APPLICABLE DATA

The following special reports apply to this survey:

1. Instrumental Corrections, CS-341, 1950 - to be submitted.
2. Graphic Control Surveys PI-C-50, and PI-D-50 - submitted to Portland Photogrammetric Office 8 January 1951.
- (Filed with H-7844) 3. Velocity Corrections, CS-341, 1950 - submitted 2 March 1951.
4. Coast Pilot Notes, 1950 - submitted 20 October 1950.
5. Current Data, CS-341, 1950 - submitted 2 March 1951.
6. Non-floating Aids for Charts, Form 567 - submitted 2 March 1951.
7. Landmarks for Charts, Form 567 - submitted 2 March 1951.

Respectfully submitted:

A. C. Holmes
A. C. Holmes
Ensign USC&GS

Approved and forwarded:

Thos. B. Reed
Thos. B. Reed
CDR USC&GS
Comdg. Ship PIONEER

VELOCITY CORRECTIONS

CS-341

PI-2250

10 July 1950 - 22 July 1950

Depth From	Depth To	Correction (feet)
19.0	29.0	-0.4
29.5	39.5	-0.6
40.0	49.5	-0.8
50.0	59.0	-1.0
59.5	69.0	-1.2
69.5	78.0	-1.4
78.5	87.5	-1.6
88.0	96.5	-1.8
97.0	105.5	-2.0
106.0	114.5	-2.2
115.0	123.0	-2.4
123.5	132.0	-2.6

Comp: WNM
 Checked: PAW
 Copy Ch'k: ~~WMM~~

VELOCITY CORRECTIONS - FATHOMS
PI-4250 & PI-2250 CS - 341

17 - 21 July 1950

Depth From	Depth To Fms.	Corr'n
0	4.0	0.0
4.2	7.6	-0.1
7.8	11.2	-0.2
11.4	14.8	-0.3
15.0	18.2	-0.4
18.4	21.8	-0.5
22.0	25.2	-0.6
25.4	28.6	-0.7
28.8	32.2	-0.8
32.4	35.6	-0.9

Comp. WHH
Checked. PAW
Copy.

VELOCITY CORRECTIONS

Ship PIONEER 1950

To be applied to Sheet PI-2650, Ship and Launches ^{A.H. 883}
 and to Sheet (PI-2250) Launches, from 29 August to 13 September 1950

H-7845

<u>DEPTH, Feet</u>		<u>CORR'N., Feet</u>
<u>From</u>	<u>To</u>	
17.0	18.5	0.0
19.0	32.0	-0.2
32.5	45.0	-0.4
45.5	58.0	-0.6
58.5	73.0	-0.8
73.5	88.0	-1.0
88.5	103.0	-1.2
103.5	117.0	-1.4
117.5	131.0	-1.6
131.5	144.0	-1.8
144.5	158.0	-2.0
Over	158.0	-2.2

<u>DEPTH, Fms.</u>		<u>CORR'N., Fms.</u>
	12.2	-0.1
12.3	19.5	-0.2
19.6	26.4	-0.3
26.5	33.0	-0.4

Comp. PAW
 Checked WNM
 Copy Checked ✓

**ABSTRACT OF
INSTRUMENTAL CORRECTIONS, CS-341
808J FATHOMETERS # 69S, 103S, 108S, & 129S**

H-7845 18 July - 13 Sept., 1950
(PI-2250) 2350, 2450, 2550, 2650, 4250 & 16250

	From 1950	To 1950	Corr A	Corr. B	FEET		FATHOMS
					Corr. C	Corr. D	Corr. A
808J 69S	4 Aug.	12 Aug.	-1.0	-1.0	-0.8	-0.4	
	13 Aug.	13 Aug.	-0.4	0.2	0.0	-0.2	
	10 Sep.	12 Sep.		-0.8	-1.2	-1.4	
103S	4 Aug.	0400 16 Aug.	-1.0	-0.6	-4.4	-9.4	0.0
	16 Aug.	13 Sep.	+0.4	+0.4	-3.6	-3.6	0.0
108S	18 July	22 July	-1.0	-1.3	-2.4	-2.4	-0.4
129S	18 July	20 July	+1.2	0.0	+1.2		
	27 July	0408 29 July		+0.4			
	0409 29 July	5 Aug.		-0.6			
	27 July	5 Aug.	-0.6		+1.4	+3.6	
	17 July	21 Aug.					0.0
	15-34-30 30 July	16-39-00 30 July	+0.2	+0.2			
	0849 1 Aug.	0909 1 Aug.		+1.4			
0909 1 Aug.	1721 1 Aug.	+0.4	+0.4				
0541 2 Aug.	1803 2 Aug.	+0.4	+0.4				

Except as noted below
Except as noted below

Special corr. based on
Sim. Comp. take, 1600,
30 July
*Arbitrary correction
Survey H-7846

**Arbitrary correction
Survey H-7846

**Arbitrary corr. H-7846

* Correction of plus 2.0 ft. applied to mean correction
** Correction of plus 1.0 ft. applied to mean correction

SHORAN SUMMARY - 1950 SEASON

SHIP PIONEER

Project CS-218 Sheets PI-4150, 8150, 8250, 16150
Project CS-341 Sheets PI-2150, (2250) 2350, 2450, 2550, 4250
H-7845

The following Shoran Stations were installed and operated by the Ship PIONEER during the 1950 field season:

Station GARE on NE side Gareloi Id., Aleutians, elevation 840 ft.
Station SEMI on east side Semisopochnoi Id., Aleutians, elevation 820 ft.
Station HIEE 3.7 naut. miles NE of Nome, Alaska, elevation 380 ft.
Station QUON 2.0 naut. miles NW of Nome, Alaska, elevation 45 ft.
Station PLEH 0.5 naut. miles East of Wales, Alaska, elevation 770 ft.
Station LAC 12.3 naut. miles NE of Wales, Alaska, elevation 70 ft.
Station THH 25.2 naut. miles NE of Wales, Alaska, elevation 155 ft.
Station TAN 3.0 naut. miles NNE of Wales, Alaska, elevation 50 ft.

In addition Station THY installed by the Ship EXPLORER on the eastern end of Anchitka Id. (Constantine Harbor), Aleutian Ids. was used for a short time.

This season a refinement was used in taking the periodic "zero checks". The receiver was tuned to approximately 250 mcps (the normal received pulses on the ship equipment are 310 mcps) and only the high frequency output pulse from the ship transmitter was used on both the rate and drift channels (the two output frequencies of the ship equipment are 230 and 250 mcps). The various zero check readings agreed so closely that an average correction was applied for each shore station.

Prior to leaving Oakland each shore set was taken to a triangulation station approximately 29 statute miles southeast of the ship site and was calibrated against each ship set. In all cases the zero set reading was adjusted so that actual or true distance readings were observed on the ship indicators.

On the two shore installations in the Aleutian Ids. (GARE AND SEMI) it was not practicable to calibrate the observed distances against true distances due to rough seas and inclement weather. Selected fixes that occurred on the GARE*SEMI range were abstracted and the shoran distances were compared to the true distance (computed). The average distances for the shoran failed to add to the true distance by less than .01 mile and therefore there were no corrections applied to GARE or SEMI. The zero check readings for these two stations have a run of ~~plus~~ $\pm .005$ mile from the average. The correction for THH was obtained while plotting smooth Sheet PI-8250 to obtain a minimum jump on the sounding lines when changing the shoran stations.

Three-point fixes were used to obtain the correction for HILL and QUON. Triangulation stations were used in all cases with an average distance of 3 miles for the ship and Launch #3 (Launch #3 was in the chocks and the angles were taken at the Launch antenna) and 2.5 miles for Launch #4. Simultaneously with the fixes the shore distances were read. The true distances were obtained mathematically.

For the field work around Cape Prince of Wales the same shore equipment was used at LAG, CHUK, and NAM with the only difference being in the length of coax cables (130 feet for CHUK and 82 feet for LAG and NAM). The equipment at PRIN was not changed during the time the station was in operation. Three-point fixes on triangulation stations were used to obtain the shore corrections on PRIN and CHUK (the data on CHUK used also for LAG and NAM). The Ship and Launch were close to the station, as in the case for HILL and QUON. There were no tests made for Launch #4 (it was assumed that the test for Launch #3 would suffice as the installations were similar) as the shore equipment kept breaking down due to an inadequate power supply - an Onan Gasoline Generator was mounted on the fantail and the roll and pitch of the Launch caused excessive voltage fluctuations.

The various zero-check readings for HILL, QUON, PRIN, LAG, CHUK and NAM agreed closely-plus or minus .008 mile being the maximum from the average.

SHORAN CORRECTIONS 1950

Project CS-218, CS-341

Ship PIONEER

GARE	Ship	Plot as observed
SEMI	Ship	Plot as observed
TINY	Ship	Plot as observed
HILL	Ship, Launch #3 Launch #4	Add .03 miles Plot as observed
QUON	Ship, Launch #3 Launch #4	Add .02 miles Plot as observed
PRIN	Ship (Set #4) Ship (Set #3) Ship, (Set #3) Launch #3 & #4	Add .02 miles Add .01 miles for sheets PI 2350, 2450 & 2550 Plot as observed for sheets PI 2250, 4250 Plot as observed (#7845)
CHUK	Ship (Set #4) Ship (Set #3) Ship (Set #3) Launch #3 & #4	Subtract .01 mile Subtract .02 miles for sheet PI 2350 Subtract .01 mile for sheets PI 2450 & 2550 Plot as observed
LAG	Ship Launch #3 & #4	Subtract .02 miles Plot as observed
MAN	Launch #3	Plot as observed

INITIAL CORRECTIONS

Ship PIONEER

Sheet PI-2250 (H-7845)

808 Fathometer

DAY	From Position	To Position	Corr'n Fathoms	Fath. No.	DAY	From Position	To Position	Corr'n Feet	Fath. No.
A	1	30+6	0.0	129S	B	68	69	0.0	S 129
	30+6	31+5	-0.2			69+1	70	-0.2	
	31+6	87+2	0.0			70+1	71+4	-0.4	
	87+3	101+3	-0.2			71+5	75	-0.6	
	101+4	108+3	0.0			76	78	0.0	
	108+3	113+3	-0.2			78	82	+0.2	
		113+4	-1.7			82	86+6	0.0	
	113+6		-0.2			87	91	+0.2	
	113+7	114+1	-1.4			92	92+3	0.0	
	114+2	153+2	0.0			92+4	96+6	-0.2	
	153+3	153+4	+0.4			96+7	97+6	0.0	
	153+5	314+6	0.0			97+7	98	-0.2	
	314+7		+1.0			99-Fathometer Comp.		-0.2	
	315+1		+0.4			100	101+1	0.0	
	315+2	327+7	0.0			101+2	104+2	-0.2	
		328	+0.4			104+3	111	0.0	
		328+1	+0.2			111+1	111+7	-0.2	
	328+2	355	0.0			112	117+3	0.0	
	355	373	-0.2			117+4	117+5	-0.2	
374	406	0.0	117+6	132	0.0				
406	417	+0.2							
		Feet							
		Corr'n							
B	1	5	0.0	S 108	C	1	26	0.0	S 129
	5+1	10	+0.2						
	11	28	-0.2						
	Fathometer Comp.					0.0			
	29	31+5	-3.0			S 129			
	31+6	32+5	-2.8						
	32+5	33+6	-2.6						
	33+7	34+6	-2.4						
	34+7	35+7	-2.2						
	35+7	37	-2.0						
	38	40	0.0						
	40+1	42	+0.2						
	42+1	44	+0.4						
	45	45+5	0.0						
	45+6	48+3	-0.2						
	48+4	51	-0.4						
52	64+1	0.0							
64+1	67	+0.2							

Comp. HWK
Checked. RAM
Copy. *RAM*

Initial Corrections

Launch #3

(H-7845)

PI-2250 CS-341

695

808J Fathometer #108S

Day	From position	To position	Corr'n feet	Initial set at Ft.	Day	From position	To position	Corr'n feet	Initial set at Ft.
a Fath #695	1	20	+0.2	2.0	c (cont)	72	90	-0.2	2.0
	20 + 1	21 + 1	+0.4			91	115	0.0	
	21 + 2	22	+0.6			116	117 + 2	+0.6	
	23	114	0.0	2.0		117 + 3	119 + 3	+0.4	
	115	119 + 2	+0.6	1.4		119 + 4	121 + 4	+0.2	
	119	143	+0.4	1.4		121 + 5	123	+0.4	
	144	153	+0.4	2.0		123 + 1	127 + 3	+0.2	
	154	170 + 5	0.0			127 + 4	133	+0.4	
	171	172 + 4	-0.2			134	178	0.0	
	173 + 5	end	0.0	2.0		178 + 1	178 + 3	-0.2	
						178 + 4	end	0.0	2.0
	b Fath #695 #695 Fath #108S	1	22 + 4	0.0		2.0	d Fath #108S	1	6 + 3	+0.4	1.6
22 + 5		25 + 2	+0.2		6 + 4	11 + 2		+0.2	
25 + 3		55 + 2	0.0		11 + 3	17		+0.4	
55 + 3		57	-0.2		18	19 + 5		+0.2	
57 + 1		96	0.0	2.0	20	33		+0.4	
97		106	+0.2	1.8	34	38		+0.2	
106 + 1		114	0.0		38 + 1	44 + 1		+0.4	
115		120 + 2	+0.2		44 + 2	48		+0.2	
		120 + 3	0.0		49	66		0.0	1.6
		120 + 4	+0.6		67			0.0	1.8
		120 + 5	0.0		67 + 1			+0.2	
147		161 + 3	+0.4		67 + 2	70 + 3		+0.4	
161 + 4		end	+0.2	1.8	70 + 4	84		+0.2	
				84 + 1	94 + 4	+0.4			
c Fath #108S	1	3	0.0	2.0	94 + 5	98 + 2	+0.2		
	3 + 1	5 + 4	-0.2		98 + 3	130	+0.4		
	5 + 5	8 + 3	0.0		131	132	+0.2		
	8 + 4	9 + 4	-0.2		132 + 1	end	+0.4	1.8	
	9 + 5	34 + 3	0.0						
	34 + 4	53 + 5	-0.2						
	54	57 + 4	0.0						
	57 + 5	58 + 1	-0.2						
	58 + 2	68 + 3	0.0						
	68 + 4	69 + 1	-0.2						
	69 + 2	69 + 3	0.0						
	69 + 4	70 + 5	-0.2						
	71	71 + 5	0.0						
	continued next column		2.0						

Comp. *ARB*
 ✓ *ARB*
 Copy *ARB*

Initial Corrections

Launch #3

(H-7845)

PI-2250 CS-341

808J Fathometer #1295 #108S

Day	From position	To position	Corr'n feet	Initial set at-Ft	Day	From position	To position	Corr'n feet	Initial set at-Ft
e Fath 108	2	7 + 3	-0.2	2.0	j Fath 108	2	7	+0.8	1.4
	7 + 4	8 + 2	0.0			9	26	+0.4	
	8 + 3	39	-0.2	28		28 + 1	-1.0		
	41	91	0.0	28 + 2		31	+0.8		
	92	98	+0.2	31 + 1		32	+0.6		
	98 + 1	117	+0.4	32 + 1		33 + 5	+0.4		
	119	127	-0.6	34		36 + 3	+0.2		
	128	130 + 4	-1.0	36 + 4		40 + 3	+0.6		
	130 + 5	132	-0.6	40 + 4		43	+0.8		
	133	133 + 2	-0.8	43 + 1		46	+0.6		
	133 + 3	134 + 3	-0.4	48		52	+0.8		
	134 + 4	135 + 2	-0.2	52 + 1		52 + 2	+0.6		
	135 + 3	138 + 4	-0.4	52 + 3		52 + 4	+0.4		
	138 + 5	139 + 1	-0.6	52 + 5		70 + 3	+0.6		
	139 + 2	142 + 2	-0.8	70 + 4		76	+0.8		
	142 + 3	145	-0.4	77		end	+1.0		
146	152	+0.4	2.2	k Fath 108	2	14	0.0	2.0	
152 + 1	160	+0.2			15	16 + 1	-0.4		
160 + 1	end	+0.4			16 + 2	21	0.0		
f Fath 108	1	57	0.0	2.0	22	23 + 4	-0.2	2.0	
	58	89	0.0		23 + 5	40	0.0		
	90	110	-0.2		41	41 + 3	-0.4		
	141	135	0.0		41 + 4	end	0.0		
	136	135	0.0						
g Fath 108	1	6	-0.8	2.4	l Fath 108	1	16	+1.0	1.0
	6 + 1	end	###			16 + 1	19	+0.8	
			-0.4			19 + 1	32	+1.0	
h Fath 108	2	12	-0.6	2.0	33	34 + 3	+0.6	1.0	
	12 + 1	19	-0.8		34 + 4	94	+1.0		
	20	34 + 1	-1.0		94 + 1		+0.6		
	34 + 2	42	0.0		94 + 2	177	+1.0		
	43	48	-0.2		178	181 + 5	+0.8		
	49	59	-0.4		182	end	+1.0		
	60	end	0.0						
m Fath 108	1	26 + 2	+1.0	1.0	1.0	1	26 + 2	+1.0	1.0
	26 + 3	33	+0.8			26 + 3	33	+0.8	
	33 + 1	end	+1.0			33 + 1	end	+1.0	

Comp *POP*
 ✓ *APB*
 Copy *POP*

Initial Corrections

Launch #4

(H-7845)

PI-2250 CS-341

808J Fathometer #107S

Day	From position	to position	Corr'n feet	Initial set at-Ft.	Day	From position	to position	Corr'n feet	Initial set at-Ft.
a	1	13	0.0	0.7	b	1		0.0	1.3 1.3
	14	14 + 1	-0.2			1 + 1		+0.2	
	14 + 2	34	0.0			1 + 2		+0.4	
		35	+0.6			1 + 3		0.0	
		35 + 1	-0.4			1 + 4		+0.2	
	35 + 2	50 + 3	0.0			1 + 5	3	0.0	
	50 + 4	60	+0.2			3 + 1	5 + 1	-0.2	
		62	0.0			5 + 2	27 + 1	0.0	
	62 + 1	66	+0.2	0.7		27 + 2	28	+0.2	
	67	74	0.0	1.3		28 + 1	30 + 1	-0.4	
	74 + 1	77	-0.2			30 + 2	42	0.0	
	78	70 + 1	-0.4			42 + 1	42 + 2	+0.2	
	90 + 2	91 + 1	-0.2			42 + 3	42 + 4	+0.4	
	91 + 2	91 + 5	-0.4			42 + 5	44	+0.6	
	92	92 + 4	0.0			44 + 1	46 + 4	0.0	
	92 + 5	93 + 1	-0.2			46 + 5	47 + 2	+0.2	
	93 + 2	101 + 1	0.0			47 + 3	54 + 1	0.0	
	101 + 2	102 + 1	+0.2			54 + 2	55 + 1	-0.6	
	102 + 2	103	0.0				55 + 2	-0.4	
		104	-2.0			55 + 3	59	0.0	
		104 + 1	-1.8				59 + 1	-0.6	
		104 + 2	-1.0			59 + 2	81 + 2	0.0	
		104 + 3	0.0			81 + 3	82	+0.2	
	104 + 4	105	+0.2			83	92 + 1	0.0	
	105 + 1	106 + 5	0.0			92 + 2	92 + 4	-0.2	
	107	110	-0.2			92 + 5	114	0.0	
	110 + 1	110 + 3	-0.4			114 + 1	115	+0.2	
	110 + 4	112 + 2	-0.2			115 + 1	118 + 4	+0.4	
	112 + 3	114 +	-0.4			115 + 5	116 + 2	0.0	
	114 + 1	end	-0.2	1.3		116 + 3	117 + 2	0.0	
						117 + 3	120 + 2	+0.2	
						120 + 3	127	0.0	
						128	130 + 2	-0.4	
						130 + 3	131 + 2	-0.2	
						131 + 3	148 + 2	0.0	
						148 + 3	150 + 4	-0.2	
						150 + 5	172 + 2	0.0	
						172 + 3	174	+0.2	
						174 + 1	end	0.0	1.3

Initial Corrections

Launch #4 (cont'd)

(H-7845)

PI-2250 CS-341

808J Fathometer #107S

Day	From position	to position	Corr'n feet	Initial set at-Ft.	Day	From position	to position	Corr'n feet	Initial set at-Ft.
c	1	9	0.0	1.3	e (cont'd)	89	91	0.0	1.0
		9 + 1	-0.4			92	93	+0.2	1.3
	9 + 2	70	0.2 ⁰			93 + 1	109	0.0	
	71	72 + 3	+0.2			110	110 + 5	+1.2	
	72 + 4	92 + 3	0.0			111	111 + 1	+0.8	
	92 + 4	96 + 5	-0.2			111 + 2	149	0.0	
	97	98 + 5	0.0			150	150 + 1	-0.6	
		99	-1.2			150 + 2	173 + 3	0.0	
		99 + 1	-0.2			173 + 4	175 + 1	-0.2	
	99 + 2	105	0.0			175 + 2	183	0.0	
	105 + 1	109 + 5	+0.2			184	184 + 1	+1.2	
	110	end	0.0			184 + 2	184 + 3	+0.2	
	d	1	9 + 2			0.0	1.2	184 + 4	193	0.0
9 + 3		35 + 2	-0.2	194	---	+1.0			
35 + 3		48 + 4	0.0	194 + 1	194 + 2	-0.2			
48 + 5		59	-0.2	194 + 3	207 + 3	0.0			
60		62	0.0	207 + 4	end	+0.2		1.3	
63		65 + 4	-0.2						
65 + 5		69	-0.4	f	1	5 + 5		+0.2	1.3
69 + 1		75	0.0		6	12 + 3		0.0	
76		99	-0.2		12 + 4	13		-0.2	
100		101 + 2	-0.4		13 + 1	25		0.0	
101 + 3		123	0.0		25 + 1	25 + 4		+0.2	
124		124 + 3	-0.6		25 + 5	58 + 2		0.0	
124 + 4		139	0.0		58 + 3	59 + 1		+0.2	
139 + 1	155 + 3	-0.2	59 + 2		59 + 4	0.0			
155 + 4	end	0.0	59 + 5		60 + 1	+0.2			
			60 + 2		82	0.0			
			82 + 1		---	+0.2			
			82 + 2		86 + 1	0.0			
e	1	4 + 1	+1.0		86 + 2	87	-0.2		
	4 + 2	22 + 5	0.0	87 + 1	87 + 4	+0.2			
	23	24 + 5	+0.2	87 + 5	88 + 5	-0.2			
	25	58 + 3	0.0	89	90	0.0			
	58 + 4	59 + 4	+0.2	90 + 1	104 + 4	-0.2			
	59 + 5	88	0.0	104 + 5	107 + 2	-0.4			
	continued next column				continued next page				

Initial Corrections

Launch 4 (Continued)

(H-7845)

PI-2250

CS-341

808J Fathometer No. 107-S

Day	From position	To position	Corr'n feet	Initial set at, ft.	Day	From position	To position	Corr'n feet	Initial set at, ft.
f (cont'd.)	107 + 3	111	-0.2	1.3	j	2	6 + 5	+0.2	1.3
	112	112 + 1	-2.4			7	17	0.0	
	112 + 2	---	-0.2	18		21 + 5	+1.2		
	112 + 3	116 + 5	0.0	22		26	0.0		
	117	119 + 4	-0.2	27		28 + 1	-0.4		
	119 + 5	end	0.0	28 + 2		45	0.0		
				1.3					
g	1	29	0.0	1.3	k	1	5 + 3	0.0	1.0
	30	---	+0.2			6	10	+1.0	
	30 + 1	50	0.0	10 + 1		26 + 1	0.0		
	50 + 1	52 + 5	-0.4	26 + 2		29 + 1	-0.2		
	53	79	0.0	29 + 2		44 + 1	0.0		
	80	80 + 5	+0.2	44 + 2		47 + 1	-0.2		
	81	85 + 5	0.0	47 + 2		62 + 1	0.0		
	86	86 + 5	+0.2	62 + 2		64	-0.2		
	87	end	0.0	65		70 + 5	0.0		
			1.3	71	75	-0.2			
				75 + 1	94	0.0			
h	1	16 + 3	0.0	1.2	95	97 + 2	-0.2		
	16 + 4	24 + 2	-0.6		97 + 3	end	0.0		
	24 + 3	37 + 4	0.0						
	37 + 5	42	-0.6						
	43	47	0.0						
	48	49 + 3	+2.0						
	49 + 4	53	0.0						
	54	54 + 4	-1.6	1.2					
	54 + 5	67 + 3	0.0	1.3					
	67 + 4	70 + 3	+0.2						
70 + 4	end	0.0	1.3						

STATISTICS FOR HYDROGRAPHIC SURVEY H-7845 (1950)

Ship PIONEER

Project CS-341

Day	Vol. No.	Date	No. Pos.	No. Stat. Mi.
Ship PIONEER (<i>blue</i>)				
A	1,2	19 July	417	183.8
B	2,3	20 July	132	53.3
C	3	21 July	26	10.7
Launch 3 (<i>red</i>)				
a	4	10 July	176	73.2
b	4,5	11 July	167	72.1
c	5,6	12 July	183	74.7
d	6	13 July	146	62.4
e	6,7	14 July	174	70.5
f	7	15 July	161	64.3
g	8	20 July	89	37.0
h	9	21 July	70	26.9
j	9	22 July	104	39.0
k	9	29 August	62	26.3
l	10	30 August	211	95.8
m	10	31 August	71	17.1
Launch 4 (<i>green</i>)				
a	11	10 July	116	37.7
b	11,12	11 July	186	68.9
c	12	12 July	114	41.2
d	12,13	13 July	155	57.4
e	13,14	14 July	210	73.7
f	14	15 July	123	46.2

Continued on next page - g day, Launch 4

STATISTICS FOR HYDROGRAPHIC SURVEY H-7845 (1950)

Continued from preceding page - f day, Launch 4

Day	Vol. No.	Date	No. Pos.	No. Stat. Mi.
g	14	20 July	90	27.5
h	15	21 July	83	28.4
j	15	22 July	45	12.6
k	15	30 August	121	30.8
TOTALS	15		3432	1331.5

Area in Square Statute Miles: 214.5

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

α	2	Manna	to 3	Manna Azi. Mc	55	42	15.1						
$2d \angle$			&		+ 82	31	36.8						
α	2		to 1		138	13	51.9						
$\Delta\alpha$													
α'	1		to 2		180	00	00.0						

FIRST ANGLE OF TRIANGLE

ϕ	65	42	44.158	2	Manna, 1919	λ	168	00	20.237
$\Delta\phi$			08.310		1132.24 ft.	$\Delta\lambda$			18.025
ϕ'	65	42	52.468	1	Man (Shoren mast)	λ'	168	00	38.262

s	2.537 954	Logarithms	1625.1	Values in seconds	$\frac{1}{2}(\phi+\phi')$	Logarithms	488.0	Values in seconds
$\text{Cos } \alpha$	8.509 003		(233.3)		s			
B	0.919 601				$\text{Sin } \alpha$			
h		1st term	08.310	"	A'			
s^2					$\text{Sec } \phi'$			
$\text{Sin}^2 \alpha$					$\Delta\lambda$			
C		2d term	+		$\text{Sin } \frac{1}{2}(\phi+\phi')$			
h^2					$-\Delta\alpha$			
D		3d term	+					

Comp. PAV
Ch. WNL
Copy ch. WNL

APPROVAL SHEET TO ACCOMPANY

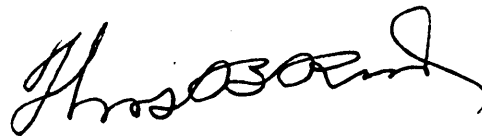
SURVEY H-7845

(Field PI-2250)

The field work was supervised closely and the boat sheet was inspected daily.

The records and smooth sheet have been inspected and approved.

The survey is considered adequate.

A handwritten signature in cursive script, appearing to read "Thos. B. Reed".

Thos. B. Reed
CDR USC&GS
Comdg. Ship PIONEER

TIDE NOTE

Project ~~68~~-341

Ship PIONEER

Field Season 1950

Survey H-7845 (PI-2250)

The portable tide gage at Lopp Lagoon, Cape Prince of Wales, Alaska, (Lat. $65^{\circ} 46' N.$, Long. $167^{\circ} 43' W.$) was used for the reduction of all soundings.

A height of 2.8 ft. on the staff at Lopp Lagoon corresponds to mean lower low water.

TIDE REDUCERS

H-7845 PI-2250

Lopp Lagoon Gage

From	To	Corr. Ft.	From	To	Corr. Ft.
	10 July			29 Aug.	
0647	1000	0.0	1300	1700	-1.0
1001	1500	0.2			
1501	2200	0.0		30 Aug.	
	11 July		0600	1100	-0.8
0620	1700	-0.2	1101	1600	-1.0
1701	2000	-0.4	1601	2000	-0.8
	12 July			31 Aug.	
0630	0800	-0.2	0900	1200	-0.8
0801	1300	-0.4	1201	1500	-1.0
1301	2000	-0.2			
	13 July				
All day		-0.2			
	14 July				
All day		-0.2			
	15 July				
All day		-0.2			
	18 July				
2300	2400	-0.6			
	19 July				
0000	0500	-0.6			
0501	1100	-0.4			
1101	1500	-0.6			
					-0.1 fathoms
	20 July				
0600	1400	-0.6			
1401	1500	-0.8			
1501	1800	-0.6			
1801	2200	-0.4			
	21 July				
0700	0801	0.0			
1200	1800	-0.2			
1801	2000	0.0			
	22 July				
0600	0700	0.2			
0701	1000	0.4			
1001	1130	0.2			
1131	1300	0.0			

Comp. WNM
 Ch. RAM
 Copy Ch. WNM

EHC

TIDE NOTE FOR HYDROGRAPHIC SHEET

~~Division of Hydrography and Topography~~

24 April 1951

Division of Charts: R. H. Carstens

Plane of reference approved in 15
volumes of sounding records for

HYDROGRAPHIC SHEET 7845

Locality Prince of Wales Shoal, Bering Strait

Chief of Party: T. B. Reed in 1950

Plane of reference is mean lower low water, reading
2.8ft. on tide staff at Lopp Lagoon
17.8ft. below B. M. 1 (1950)

Height of mean high water above plane of reference is 0.3 foot.

Condition of records satisfactory except as noted below:

E. C. McKay
Section

Chief, ~~Division of Tides and Currents.~~

GEOGRAPHIC NAMES

Survey No. H-7845

Name on Survey	On Chart No.		On previous survey No.		On U. S. quadrangle Maps		From local information		On local Maps		P. O. Guide or Map		Rand McNally Atlas		U. S. Light List	
	A	B	C	D	E	F	G	H	K							
<u>Alaska</u>					(top title)											1
<u>Cape Prince of Wales</u>					" "									U.S.G.B.		2
																3
<u>Prince of Wales Shoal</u>																4
																5
																6
																7
																8
																9
																10
																11
																12
																13
<u>Lopp Lagoon</u>					(location of tide gage)											14
																15
																16
																17
																18
																19
																20
																21
																22
																23
																24
																25
																26
																27

Names underlined
in red are approved
4-16-57. h Heck

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7845...

Records accompanying survey:

Boat sheets ..2...; sounding vols. ..15...; wire drag vols.;
 bomb vols.; graphic recorder rolls .19...;
 special reports, etc. .1. Smooth Sheet; .1. env. Plotting Abstracts.

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

Number of positions on sheet	.....	3432	
Number of positions checked	.....	20	614
Number of positions revised	.....	-	99
Number of soundings revised (refers to depth only)	.....	40	1109
Number of soundings erroneously spaced	.....	12	Norfolk 19 May '54 EBA
Number of signals erroneously plotted or transferred	.....	-
Topographic details	Time	.....	none at present
Junctions	Time	.....	12
<i>Transferring Soundings & tying junctions</i>		.....	28
Verification of soundings from graphic record	Time	.....	2
<i>Add. Verification E. THOMAS</i>		28 hrs	9/2/52
<i>Preliminary</i>		51	9/18/51
Verification by <i>A. S. Hoffman</i>	Total time	.....	Date
<i>A. J. Stini 2 hrs.</i>			
Reviewed by <i>A. M. Ziskind</i>	Time	22	Date 9-15-52
<i>add Review</i> <i>J. J. Stini</i>			3-23-56

DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH
REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7845

FIELD NO. PI-2250

Alaska, Cape Prince of Wales, Prince of Wales Shoal

Project No. CS-341

Surveyed in July - August 1950

Scale 1:20,000

Soundings:

Control:

808 Fathometer

Sextant fixes on shore signals
Shoran

Chief of Party - T. B. Reed

Surveyed by - H. W. Keith, W. M. Martin, J. O. Phillips,
R. A. Marshall and P. A. Weber

Protracted by - A. C. Holmes

Soundings plotted by - A. C. Holmes

Preliminary Verification by - A. J. Hoffman and E. Thomas

Verified and inked by - *E. B. Adamson*

Preliminary Review by - I. M. Zeskind, 15 September 1952

Inspected by - R. H. Carstens

1. Shoreline and Signals

Contemporary air-photographic surveys of the area covered by the present survey have not yet been completed. Surveys T-9640 and T-9644 of 1951 will cover the area of the present survey.

The control originates with triangulation of 1944 and 1949 supplemented by signals located on graphic control surveys PI-D-50 and PI-C-50. The graphic control surveys have been destroyed.

2. Sounding Line Crossings

Depths at crossings are in adequate agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves were adequately delineated, except the 6-ft. and low-water curves.

The bottom is fairly smooth, except inshore in depths less than 18 ft. where long narrow ridges parallel the shore.

4. Junctions with Contemporary Surveys

Adequate junctions were effected with H-7849 (1950) on the south, with H-7850 (1950) on the west, with H-7847 (1950) on the north, and with H-7846 (1950) on the east.

5. Comparison with Prior Surveys

No prior surveys by this Bureau fall in the area of the present survey.

6. Comparison with Chart 9380 (Latest print date 8/6/51)
Chart 9400 (Latest print date 6/30/52)

A. Hydrography

The charted hydrography originates with advance information of the present survey contained in Chart Letter No. 799 (1950). A comparison between the present and charted depths shows no conflicts.

B. Aids to Navigation

There are no floating aids to navigation in the area of the present survey. No new features which would be considered dangers to navigation were revealed by the survey.

The fixed aids to navigation located on the present survey are in substantial agreement with their charted positions and adequately mark the features intended.

7. Condition of Survey

a. This survey has been given only a preliminary verification in accordance with recently adopted procedure. A complete statement concerning the condition of the survey will be made after the survey has been completely verified.

b. Few bottom characteristics were obtained in the area of the present survey.

8. Compliance with Project Instructions

The present survey adequately complies with the Project Instructions, except as noted in paragraph 7b above.

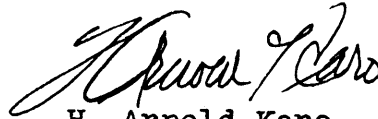
9. Additional Work Recommended

This is a very good basic survey and no additional work is recommended. Attention, however, is directed to the paucity of bottom characteristics.

Examined and approved:



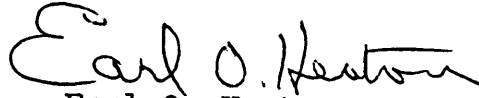
H. R. Edmonston
Chief, Nautical Chart Branch



H. Arnold Karo
Chief, Division of Charts



L. S. Hubbard
Chief, Section of Hydrography



Earl O. Heaton
Chief, Division of Coastal Surveys

Addendum to Review

H-7845 (1950)

Verified and inked by - E. B. Adamson (Norfolk)
Review Addendum by - I. M. Zeskind 3-26-56
Inspected by - R. H. Carstens


The verification of this survey has been completed. Soundings and depth curves have been completely inked and junctional soundings of verified contemporary surveys have been transferred to H-7845.

The sounding records and Descriptive Report are complete and comprehensive.

The smooth plotting was accurately done, except in a great many instances the penciled soundings were inaccurately spaced on the smooth sheet. The spacing was corrected during inking of the soundings.

No changes in charted information have been made subsequent to the original review of the survey. Only minor changes in depths were made during the completion of the inking of the soundings of the survey.

Approved:


E. R. McCarthy
Chief, Chart Division

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7845

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
4/13/53	9380	H.W. Burgoyne	Before ^{Preliminary} After Verification and Review - completely applied
10/1/54	9302	JAE	Before ^{Prelim.} After Verification and Review
2/27/56	Reconst. 9380	JAE	Before ^{Prelim.} After Verification and Review <i>rev. after final review 5/1/56</i>
6/1/56	9369	JAE	Before After Verification and Review
2-11-58	9402	RKD	Before After Verification and Review <i>then chart 9380 Reconstruction</i>
2-13-58	9400	RKD	Before After Verification and Review <i>then chart 9402</i>
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.