6478

Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY
L.O. Colbert, Director

State: Alaska

DESCRIPTIVE REPORT

~~Topographic~~
Hydrographic } Sheet No. 121

LOCALITY

Aleutian Is.
~~Southwestern Alaska~~
South of Islands of Four Mountains
~~Pacific Side of Aleutian Islands~~
Samalga Island to Yunaska Island

1939

CHIEF OF PARTY

Roland D. Horne

U. S. GOVERNMENT PRINTING OFFICE: 1928

6478

Form 587

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

REG. NO.

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.

Field No. 121

REGISTER NO. H-~~T6~~478

State ~~Southwestern Alaska~~ Aleutian Islands

General locality ~~Pacific Side of Aleutian Islands~~ South of Islands of Four Mountains

Locality Samalga Island to ~~Yunaski~~ Yunaska Island ~~- Offshore~~

Scale 1:120,000 Date of survey July 23 to Aug. 31, 1939

Vessel Ship PIONEER

Chief of Party Roland D. Horne

Surveyed by Roland D. Horne

Protracted by Gilbert R. Fish and R. C. BOLSTAD

Soundings penciled by Gilbert R. Fish

Soundings in fathoms ~~feet~~

Plane of reference M L L W

Subdivision of wire dragged areas by

Inked by
Verified by } G. H. Everett

Instructions dated February 3, 1938

Remarks: Inner ends of Aleutian Deep Lines, Ship PIONEER, 1939, to be plotted on sheet by Washington Office

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET FIELD 121
Project HT-218
Southwestern Alaska
Pacific Side of Aleutian Islands
Samalga Island to Yunaska Island
U.S.C. & G.S.S. PIONEER
1939

INSTRUCTIONS:

Instructions for this project were dated February 3, 1938. ✓

SURVEY METHODS:

The sounding on this sheet was done with the Ship PIONEER equipped with a Type 312 Fathometer. See special fathometer report for serial temperatures, salinities, etc., used to compute fathometer corrections. ✓

The position control is principally by R A R and sono-radio-buoys were used in place of shore stations. Visual fixes were obtained where possible but on only three days (P, Q, and R days) was it possible to obtain fixes farther out than the inner ends of the lines near an island. ✓

Three sono-radio-buoys were used to control the R A R. Buoy EAST proved to be in a poor position for bomb reception and it was moved to deeper water and renamed SOUTH. The buoy positions were plotted directly on Sheet 121 from the fixes. The scaled positions are as follows: ✓

Datum - Unalaska 1901

EAST	Lat.	52 - 44	-784 M	Long.	169 - 10	-444 M
SOUTH	Lat.	52 - 40	-1752 M	Long.	169 - 15	-639 M
MID	Lat.	52 - 47	-1202 M	Long.	169 - 54	-308 M
WEST	Lat.	52 - 35	-699 M	Long.	170 - 40	-804 M

✓

Bomb reception and buoy returns were uncertain. Part of this was due to the uneven bottom and weak bomb signals and part to difficulty with the buoys which kept getting out of adjustment and required frequent servicing. It was also noted that the ship's ✓ Jn Lorey radio reception of the buoy signals was better with the signals coming over certain quarters of the ship, other conditions being equal.

The weakest control is on the inner and outer ends of the lines. On the inner ends the bomb signals from the ship had to pass close to the islands and frequently the only return was from the nearest buoy and fixed the line in only one direction. These lines were plotted by considering all factors, sometimes including a variable current. On the outer ends of the lines the bomb signals encountered a steep bottom slope and a rapid shoaling to several hundred fathoms and reception was uncertain and questionable. The extremely uneven bottom in this area made the adjustment of the lines dependent more on the bomb returns available and deadreckoning. The sounding crossings were compared by reference to the 100 fathom form lines on the boat sheet. N.B.

Current effect was a considerable factor in the plotting of this sheet for it was unpredictable by reference to adjacent areas. From 115 L to 127 L (Lat. 52-20, Long. 169-35) the ship was on course 350 whc, 3 True, and bomb returns were received only from buoy SOUTH. The line has been adjusted to show a 1.4 knot current setting westerly beginning at position 115 and varying to a 1.7 knot current setting northeasterly from position 124 to position 126. All of this change of current took place in one and a half hours and the inner end of the line is over ten miles from the nearest land.

South of Chuginadak Island (the land in the central portion of the sheet) it was frequently noted that there was considerable difference in direction and intensity of the current in short distances and that large eddies were indicated. Current boils were noted as far as seven miles offshore. Inshore the set appeared to be to the eastward most of the time. Offshore around the 500 to 1000 fathom curves the set appeared to be principally to the westward.. Coupled with these were strong currents thru the passes.

Velocity tests were taken as tests permitted. On P and Q days conditions were good for visual fixes but the area in which the ship was working was not suitable for good velocity tests due to the nearness of buoy SOUTH and the presence of the large shoal area south of Concord Point between the ship and buoy MID. The fixes were plotted on the smooth sheet and the distances to the buoys scaled from the sheet. The results are wild and only by keeping in all values within fifteen meters/second from the mean could enough values be retained to give a fair result. A value of 1470 meters/second was used to plot both the boat sheet and the smooth sheet. This value is probably a few meters too high for part of the inshore area as indicated by the overlapping of the time circles on the inner ends of the lines in Longitude 169-40. Five second time circles were penciled on the smooth sheet.

Inshore the surface temperature of the water was around five degrees Centigrade and nearly constant all of the way to the bottom. Offshore around the 1000 fathom curve the surface temperature of the water was around ten degrees Centigrade and the underwater temperatures correspond to the regular temperature-depth curves for the Pacific Ocean. The lowness of the inshore surface temperature and the uniformity of the temperature from the surface to the bottom are probably accounted for by the upwelling of the deep, cold water as it is carried northward by the current and mixed by passing over the uneven bottom. See special report for results of velocity tests.

DISCREPANCIES:

The following positions and soundings were not plotted due to inadequate control: 17-39 C, 67-69 C, 1-41 F, 1-22 H, 1-11 N, 53-57 T.

The area inside the 50 fathom curve in Latitude 52-41, Longitude 169-41, has an uneven bottom as indicated by several notes in the sounding records. Cross-lines in this area usually check within 1 fathom but in several instances they fail to check by 3 fathoms as shown by the 46 fathoms 7-8 G crossing 43 fathoms between 108-109 M and on 96 M(Lat. 52-39.8, Long. 169-46.1).

Lat. 52-41.3, Long. 169-49.1; 47 fathoms between 13-14 J retained although 76 fathoms on 10 L plots in the same position. The bottom is uneven in this area and the 47 fms. may indicate a ridge running out from the shoal.

Lat. 52-27.5, Long. 170-09: 109 fms. between 23-24 R crosses 113-116 fms. between 12-13 E.

Lat. 52-30.2, Long. 170-05.3: 110 fms. between 24-25 S crosses 114 fms. between 54-55 E.

Lat. 52-38, Long 169-59. 80-82 D and 13-14 T are parallel lines falling nearly on top of each other and the agreement between soundings is poor for part of the distance. The trouble may be due to poor control for the lines , especially T day, lack adequate control in the east-west direction but the soundings also indicate an uneven bottom. Immediately north of this area 160 fms. between 82-83 D crosses 153 fms. between 135-136 M. This would indicate that the D day line should be shifted to the west but that would not conform to the deadreckoning and the return from buoy WEST on position 81 D. Several soundings were rejected in the sounding volume betweem 135-136 M, and between 133 and 134 M all of the soundings were rejected due to faulty operation of the fathometer. It may be that the 153 fathoms immediately following position 135 M should be deeper as the rejected soundings soon after this were evidently too shoal. The lines on D and T days in this area were not shifted as a movement to the east or west would not materially affect the depth curves.

Lat. 52-40.7, Long. 169-20.8: 67 fms. on position 35 B was rejected as it is apparently 10 fms. too deep.

DANGERS AND SHOALS:

There are no dangers to navigation on this sheet.

The shoal in Lat. 52-41.2, Long. 169-41.2, has a minimum depth of 15 fms. and is apparently the high spot of a large shoal area rather than a pinnacle. As effort was made to plant a marker buoy on the shoal in order to develop it more fully but there was too much current and the buoy towed under and could not be used.

CHANNELS:

This is an offshore sheet and does not extend an appreciable distance into the passages between the islands.

ANCHORAGES:

This is an offshore sheet and there are no anchorages.

COMPARISON WITH PREVIOUS AND CONTEMPORARY SURVEYS:

There are no previous surveys of this area.

The only junction with a contemporary survey is along the east edge of this sheet where it joins the hydrography done by the Ship SURVEYOR in 1939. The smooth plotting of the SURVEYOR'S work is not available but a comparison of soundings transferred to Boat Sheet 121 from the SURVEYOR'S boat sheet indicate good agreement. In Lat. 53-35, Long. 169-13, there is evidence of a deep canyon running in towards shore and the soundings can not be directly compared but the 100 fathom depth curves appear to fit well enough when applied to both sets of soundings.

ADDITIONAL WORK:

The 109 fathom sounding between 83-84 D in Lat. 52-41, Long. 169-58.5, indicates a sub~~terranean~~ marine hill with the possibility of shoaler soundings and additional development is recommended.

Respectfully submitted,
Gilbert R. Fish
Gilbert R. Fish,
Jr. H. & G. Engineer,
Oakland Processing Office.

LIST OF SIGNALS

to accompany

HYDROGRAPHIC SHEET FIELD 121

TRIANGULATION

Triangulation and hydrographic names synonymous

Ship SURVEYOR	Ship PIONEER		
Elbow 1937	Art 1938	Elk 1939	Mt. Cleveland 1938
Ama 1938	Bold 1939	Flat 1939	Pass 1938
Adugak 1938	Cinder 1938	Flow 1939	Prom 1939
Sagak 1938	Concord 1938	Fuzz 1938	Thum 1938
Samalga 1938	Cor 1938	Ginn 1938	Tit 1939
	Dak 1938	Goat 1939	West Pk. 1938
	Dove 1939	Herbert Pk. 1938	
	Easy 1939	Knob 1939	

HYDROGRAPHIC

Name	Recorded
Black	Volume 5, Page 39, 3 cuts
	" 40 2 "
	" 41 1 "
Rino	Volume 6, Page 31, 2 cuts
	" 34 2 "
	35 3 "

TOPOGRAPHIC

Tax - from tracing of topographic sheet of Samalga Island, Ship SURVEYOR

FINAL FATHOMETER CORRECTIONS
For 1939
Field Sheet No. 121, Aleutian Deep, and Sept. Gulf of Alaska
Sounding Line.

For Fast Dial Speed. (0.3 & 0.8 used as change points)

Depth Range Fms	Cor'n Fms	:	Depth Range Fms	Cor'n Fms	:	Depth Range Fms	Cor'n Fms
9 - 36	0	:	102 -122	-2.0	:	185 - 229*	-4.0
37 - 58	-0.5	:	123 -142	-2.5	:	230 - 290	-5.0
59 - 80	-1.0	:	143 -163	-3.0	:	291 - 353	-6.0
81 - 101	-1.5	:	164 -184	-3.5	:	354 - 410	-7.0

*Over 200 fms 0.6 used as change point.

For Slow Dial Speed. (Change points taken as 0.6 on neg.;0.4 on positive side)

Depth Range Fms	Cor'n Fms	Depth Range Fms	Cor'n Fms	Depth Range Fms	Cor'n Fms
100-147	-1.0	2605-2646	0.0	3425-3449	+28
148-199	-2.0	2647-2684	+1.0	3450-3477	+29
200-249	-3.0	2685-2718	+2.0	2478-3500	+30
250-299	-4.0	2719-2749	+3.0	3501-3523	+31
300-354	-5.0	2750-2786	+4.0	3524-3544	+32
355-409	-6.0	2787-2821	+5.0	3545-3567	+33
410-469	-7.0	2822-2851	+6.0	3568-3588	+34
470-537	-8.0	2852-2882	+7.0	3589-3609	+35
538-599	-9.0	2883-2916	+8.0	3610-3629	+36
600-677	-10.0	2917-2944	+9.0	3630-3649	+37
678-750	-11.0	2945-2978	+10.0	3650-3677	+38
751-839	-12.0	2979-3003	+11.0	3678-3697	+39
840-949	-13.0	3004-3037	+12.0	3698-3720	+40
950-1089	-14.0	3038-3061	+13.0	3721-3740	+41
1090-1715	-15.0	3062-3089	+14.0	3741-3759	+42
1716-1834	-14.0	3090-3119	+15.0	3760-3775	+43
1835-1937	±13.0	3120-3145	+16.0	3776-3793	+44
1938-2024	-12.0	3146-3169	+17.0	3794-3809	+45
2025-2100	-11.0	3170-3199	+18.0	3810-3829	+46
2101-2170	-10.0	3200-3224	+19.0	3830-3847	+47
2171-2227	-9.0	3225-3257	+20.0	3848-3867	+48
2228-2284	-8.0	3258-3281	+21.0	3868-3885	+49
2285-2334	-7.0	3282-3304	+22.0	3886-3904	+50
2335-2387	-6.0	3305-3329	+23.0	3905-3922	+51
2388-2429	-5.0	3330-3356	+24.0	3923-3940	+52
2430-2477	-4.0	3357-3379	+25.0	3941-3960	+53
2478-2519	±3.0	3380-3403	+26.0	3961-3972	+54
2520-2564	-2.0	3404-3424	+27.0	3973-3990	+55
2565-2604	-1.0			3991-4005	+56

STATISTICS

to accompany

HYDROGRAPHIC SHEET FIELD 121

Date 1939		Day Letter	Positions Visual	Bomb	Dead Reck.	No. of Fath.	Sdgs. Wire	Statute Miles
July	23	A	7	21	13	357		83.5
	24	B	8,	36	22	358		101.0
	25	C	[illegible]	55	16	569		150.7
	26	D	9	53	29	588		135.0
	27	E	1	76	42	773		192.0
	28	F	16	42	9	493		116.0
	29	G	--	62	35	691		123.3
	31	H	--	17	5	171		37.8
Aug.	5	J	9	12	2	190		31.0
	6	K	46	27	7	649		86.2
	7	L	13	94	37	997		195.7
	8	M	--	80	57	1077		112.0
	9	N	6	79	32	797	1	170.0
	10	P	148	18	4	818	1	164.0
	12	Q	121	3	--	595		107.1
	14	R	45	2	--	227	1	47.0
	15	S	2	52	46	555	1	78.3
	21	T	3	41	13	417		72.2
	22	U	--	80	33	729		167.5
	24	V	--	12	8	87		22.6
	31	W	--	9	2	108	2	32.0
		Totals	434	869	412	11246	6	2224.9

Total No. of Sdgs.	Total Positions	Total Miles
11,246 Fath. 6 Wire	1715	2,224.9

Area of sheet - 1913 square statute miles

STATEMENT

to accompany

HYDROGRAPHIC SHEET FIELD 121

The projection was made and all signals were plotted on the smooth sheet aboard the Ship PIONEER. All visual fix positions, and buoy positions were plotted aboard ship and the velocity test distances were also scaled aboard ship. Part of the R R R lines were plotted aboard the Ship PIONEER and the remainder of the work on the sheet was finished after the sheet was transferred to the Oakland Processing Office. Lieut. (j.g.) R. C. Bolstad plotted part of the visual fixes and prepared the special report on Velocity Tests. The remainder of the work was done by Lieut. (j.g.) G. R. Fish.

The completed smooth sheet has been inspected and is approved.

Roland D. Horne

Roland D. Horne,
Chief of Party,
Commanding Officer,
U.S.C.& G.S.S. PIONEER.

File in Descriptive Report of H-6478

POST-OFFICE ADDRESS: U.S.C. & G.S.S. PIONEER,
Box 1197, Oakland, Calif.

TELEGRAPH ADDRESS:

EXPRESS ADDRESS:

22 sel
80 for reply a memorandum for reply

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

JAN 22 PM 3

January 18, 1940

To: The Director,
U.S.Coast & Geodetic Survey,
Washington, D. C.

From: The Commanding Officer,
U.S.C. & G.S.S. PIONEER.

Subject: Field Records, Sheet No. 201 H-6576

The inshore ends of three of the four Aleutian Deep lines plotted on Field Sheet No. 201, 1939, fall in the area covered by Field Sheet No. 121 now being plotted at the Oakland, Processing Office. These three sections of R. A. R. line should be plotted eventually on R. A. R. sheet No. 121, as they are not shown completely on sheet No. 201.

Sheet No. 201 with all records was forwarded to Washington on December 18, 1939. If it is your desire that these lines be plotted on R. A.R. Sheet No. 121 before that sheet is forwarded to Washington, the following records should be returned to the Processing Office at Oakland:

1 vol. Bomb Record sheet	No.	201
2 vol. Sounding Record	"	201
R. A. R. Abstracts . . .	"	201

It may be desirable to plot the three sections of lines on sheet 121 when that sheet is forwarded to Washington rather than to return the records to the field. Please advise what action is to be taken.

Roland D. Horne

Roland D. Horne,
Chief of Party, C&GS,
Commanding Ship PIONEER.

RDH/b Plot in Washington Office.
J.A.M.

JBR

80-RJS

January 24, 1940.

To: The Commanding Officer,
U. S. Coast and Geodetic Survey,
Ship PIONEER,
Box 1197,
Oakland, California.

From: The Director,
U. S. Coast and Geodetic Survey.

Subject: Plotting of Sounding Lines.

In reply to your letter of January 18, 1940, you are informed that the inshore ends of the three sounding lines on field sheet No. ~~H-6478~~ 201 H-6576 will be plotted on field sheet No. 121 H-6478 in this office when that sheet is received from the field.

(Signed) J. H. HAWLEY

Acting Director.

copy to H. & T.

HYDROGRAPHIC SURVEY NO. T6478

Smooth Sheet Yes

Boat Sheet Yes

Records; Sounding 7 Vols., Wire Drag ___ Vols., Bomb 2 Vols.

Descriptive Report Yes

Title Sheet Yes

List of Signals No

Landmarks for Charts (Form 567) No

Statistics Yes

Approved by Chief of Party Yes

Recoverable Station Cards (Form 524) 2

Special Chart for Lighthouse Service No
(Circular Nov.30, 1933)

Hydrography: Total Days 21 ; Last Date Aug. 31, 1940

Remarks

3776

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. T6478

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

Number of positions on sheet 1715 " from H6526 50	1765	Total
Number of positions checked	22	
Number of positions revised	8	
Number of soundings recorded 11246 " from H6526 489	11735	Total
Number of soundings revised	9	
Number of soundings erroneously spaced	—	
Number of signals erroneously plotted or transferred	—	

Plotting work from H6526 12 hrs

Date:

Verification by G. H. Everett Time: 72 hrs / 84 hrs Total

Review by J. A. McCormick 6/17/40. Time: 7 hrs.

2629

Report on Verification of H 6478

Contemporary Topo Surveys - Not in office to date ✓

Records - Conform to General Instructions ✓

Field Drafting - Very good. The revised positions were not due to errors in plotting. The few positions revised were ✓ dead reckoning positions slightly shifted to make better agreement.

Four of the nine revised soundings were reduced wrong by 100 fathoms and were detected by sketching form lines. ✓ They are not errors of field draftsman.

Office Drafting - Sounding lines (see Report H 6526) which enter the area of this survey were plotted on this survey. ✓ These lines from H 6526 are inked with green position numbers. Agreement is good.

Junctions - There are no adjoining surveys to date. ✓

Curves - Complete within limits of survey. ✓

Submitted May 17, 1940

G. F. Everett

	Remarks	Decisions
1		File No. 525 690
2	* USGB decision	525 705
3		525 695
4	* USGB decision approved names	525 695
5	omit from survey unless shore line	525 690
6	is added.	525 690
7	Title only	525695
8	" "	525695
9		
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M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT } No. H T6478
PHOTOSTAT OF ~~No. T~~

received March 6, 1940
registered March 8, 1940
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓		
~~26~~ 21	✓ Dr. Dorsey	HGD	Pages 1 and 2
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed

✓ TBR

RAC
HRE.

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

March 18, 1940

Division of Hydrography and Topography:

✓ Division of Charts: Attention: Mr. H. R. Edmonston

Plane of reference approved in
7 volumes of sounding records for

HYDROGRAPHIC SHEET 6478

Locality Samalga Island to Yunaska Island, South of the Islands of Four Mts., Aleutian, Islands.

Chief of Party: R. D. Horne in 1939
Plane of reference is mean lower low water reading
4.0ft. on tide staff at Dutch Harbor
12.6 ft. below B. M. 1

Height of mean high water above plane of reference is 4.1 feet.

Note: The standard gage at Dutch Harbor was used as a reference for computing tide reducers. Time - 5.0 hours with a range ratio of 1.2 was used. Records from gages at Driftwood Bay and Cape Sagak on the south side of Umnak Island and at Adugak Island in the Bering sea were given consideration in arriving at the factors referenced to Dutch Harbor.

Condition of records satisfactory except as noted below:

Harn
Acty Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154337

GEOGRAPHIC NAMES

Survey No.

T6478

Name on Survey	A, On Chart No. 8802	B, On previous survey No.	C, On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H U. S. Light List	K	
Samalga Island	✓									1
Yunaska Island *	✓									2
Concord Pt	✓									3
Chuginadak I *	✓									4
Cape Sagak	✓									5
Adugak I	✓									6
Islands of Four Mts.	✓									7
Aleutian Is.	✓									8
										9
										10
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Names underlined in red approved by GHE on 3/26/40

M 234

DIVISION OF CHARTS

REVIEW OF HYDROGRAPHIC SURVEY NO. 6478 (1939) FIELD NO. 121

Aleutian Islands; Islands of Four Mountains; Samalga Island to Yunaska Island
Surveyed in July - August 1939, Scale 1:120,000
Instructions dated February 3, 1938 (PIONEER)

Soundings:	Control:
Type 312 Fathometer	R.A.R. and Visual fixes

Chief of Party - R. D. Horne.
Surveyed by - R. D. Horne.
Protracted by - G. R. Fish; R. C. Bolstad.
Soundings plotted by - G. R. Fish.
Verified and inked by - G. H. Everett.
Reviewed by - J. A. McCormick, June 17, 1940.
Inspected by - H. R. Edmonston.

1. Shoreline and Signals.

Shoreline is not shown. Cuts fixing locations of sono-radio buoys and shore hydrographic signals are recorded in the sounding volumes. The topographic survey on which signal TAX was located had not been received in the office at the date of this review.

2. Depth Curves.

Satisfactory.

3. Sounding Line Crossings.

Several relatively minor discrepancies at crossings are listed in the descriptive report, pages 3 and 4. A combination of weak control (descriptive report, page 2) and rugged submarine topography are responsible for several apparent discrepancies of some magnitude in the vicinity of the 1000 fathom curve.

4. Junctions with Contemporary Surveys.

H-6526 (1939), with two loops of soundings across the Aleutian Trough, is the only contemporary survey in this area received in this office at this date. Inshore ends of the overlapping lines are plotted directly on the present survey rather than on H-6526 and are indicated by the day letter L (green).

5. Comparison with Prior Surveys.

This Bureau has made no previous surveys of the area covered by the present survey.

6. Comparison with Chart 8802 (New Print of Dec. 21, 1939).

Soundings charted within the area of the present survey were obtained by the U. S. Coast Guard and reported to this office in Chart Letter 559 of 1925. The Coast Guard locations are undoubtedly very approximate which would account for the charted depths of 40 to 90 fathoms falling considerably to the westward of similar depths on the present survey.

7. Condition of Survey.

Satisfactory.

8. Compliance with Instructions for the Project.

See par. 9.

9. Additional Field Work Recommended.

Further investigation of the 15 fathom shoal in lat. 52°41.2', long. 169°41.2', should be attempted (descriptive report, page 4). The field party also recommends development of the 109 fathom sounding in lat. 52°41', long. 169°58.5' (descriptive report, page 4).

Found two 13 fm. spots on H-6503 (1938-40). H.V.M. 9/4/41.

10. Superseded Surveys.

None.

Examined and approved:

Thos B Reed
T. B. Reed,
Chief, Section of Field Records.

F. S. Borden
Chief, Division of Charts.

Raymond P. Eyman
Chief, Section of Field Work.

G. T. Rude
Chief, Division of H. & T.

Applied to clt. 8802 F.M.A. 10-31-40
" " " 8861 JJW. 2/27/42
" " new chart 9030. G.H.S. 3/25/42