6933

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. 102 *Office No.* H-6933

6933

LOCALITY

State ~~Alaska~~

General locality Aleutian Islands
Kiska Island

Locality Kiska Harbor ~~& South Pass~~

1943

CHIEF OF PARTY

W. M. Seaife, HYDROGRAPHER
G. C. Mattison, EXPLORER

LIBRARY & ARCHIVES

DATE

B-1870-1 (1)

Form 537
Ed. Dec. 1930

REG. NO.

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.

Field No. 102

REGISTER NO. H-6933

State ~~Alaska~~

General locality Aleutian Islands

Locality Kiska Island ~~Kiska Harbor and South Pass~~

Scale 1:10,000 Date of survey Aug. & Sept., 19 43

Vessel HYDROGRAPHER EXPLORER

Chief of Party W. M. Scaife G. C. Mattison

Surveyed by ~~officers of the HYDROGRAPHER;~~ A.L. Wardwell R. C. Rowse

Protracted by Christine N. Hillman

Soundings penciled by Christine N. Hillman

Soundings in fathoms ~~feet~~ Fathoms

Plane of reference MLLW

Subdivision of wire dragged areas by

Inked by J. A. McCormick

Verified by J. A. McCormick

Instructions dated HYDROGRAPHER acting under orders from the Navy EXPLORER under instructions from Liaison Officer, Adak, 19

Remarks: Smooth Sheet and Plotting by the Seattle Processing Office.

U. S. GOVERNMENT PRINTING OFFICE

Descriptive Report

for

H-6933

Aleutian Islands

Kiska Harbor & South Pass

Scale 1:10,000

Surveyed by parties on the HYDROGRAPHER & EXPLORER

1943

Report prepared by Seattle Processing Office

- - - - - - - -

In the latter part of August, 1943, the sounded area in the north part of Kiska Harbor was surveyed by the HYDROGRAPHER. During September the EXPLORER's party sounded out South Pass and the small area on the south side of Kiska Harbor. The two parties together also made wire drag survey H-6934, to which you are referred. A report of that sheet was prepared by Lieut. Comdr. Grenell of the EXPLORER.

Washington, D.C

August 4, 1944

MEMORANDUM to accompany Descriptive Report H-6933.

Reference: Datum - Page 1.

With reference to the Kiska datum, the original chart of Kiska Harbor was published in 1905, based on Dall's Latitude value of 1870 and that datum has been retained to date for all published charts of the Rat Islands.

It is expected that the triangulation will be extended to Kiska within the next two years, possibly this year, after which the charts of the Aleutians west to Kiska may be all corrected to the same datum. To make a temporary change in datum using Pratt's latitude value as intimated in the Descriptive Report would only lead to more confusion.

If any copies of survey H-6933 are issued before triangulation is extended to Kiska, it is recommended that the user be cautioned to retain the chart datum which is indicated on the survey.

H. E. Finnegan
Lieut. (jg) C&GS

(with 57376)

60-BCP

February 11, 1937.

To: Chief, Division of Charts.

From: Chief, Division of Geodesy.

Subject: Kiska Island data.

There has apparently been some confusion in regard to control data for Kiska Island, Alaska. There are two old surveys of this area, one by Wm. H. Dall in 1873 and the other by J. F. Pratt in 1904. Pratt made astronomical determinations with a meridian telescope. His latitude is based on one pair of stars and his longitude on a one-way transportation of the Patterson's chronometers. We do not find (a thorough search was not made) any record of astronomical determinations by Dall. He apparently determined the latitude, perhaps by sextant, but assumed the longitude. Both he and Pratt measured a base and determined an azimuth.

There are two computations covering this area filed in the archives. Acc. 29086 is for Dall's survey and Acc. 57376 for Pratt's. The computation of Dall's work depends upon his latitude and base line and on an assumed longitude. The computation of Pratt's work is based on Pratt's longitude and his measured length but upon Dall's latitude. On the position of the astronomical station given in the list of positions in Acc. 57376, however, occurs the following footnote, "The field result for latitude from one pair is 51°58'39!91 showing a correction to these latitudes = -24!09."

At another place in Acc. 57376 occurs the following note by Pratt: "The latitude, longitude and azimuth used in the following preliminary field computations were obtained as follows:

"The latitude of the astronomical station (51°59'04!00) is adopted from Dall's position of 1874. See chart No. 9192. From subsequent tentative observations it appears that this adopted position of the astronomical station is about 20 seconds too far north.

(with 57376)

"The longitude of the astronomical station is from one half of a round trip between Unalaska astronomical station and Kiska astronomical station with the Patterson's chronometers.

"The azimuth is deduced from the reduction of the time observations at the astronomical station."

On March 22, 1934, there were delivered to you for transmission to the U.S. Hydrographic Office, photostat copies of both Dall's and Pratt's positions. The copy of Pratt's positions contained the footnote, mentioned above, in regard to the discrepancy in latitude. It has just been learned that the Hydrographic Office did not correct the latitudes as indicated in this footnote before using them in the construction of a confidential chart of this area. The general chart of this area published by the Coast and Geodetic Survey is however based on the corrected latitudes, that is, on Pratt's latitude determination.

Pratt's latitude is undoubtedly more reliable than Dall's but it must be remembered that too much dependence should not be placed on a latitude based on a single Talcott pair. It is recommended that modern astronomical determinations be made in this area as soon as practicable but that in the meantime no undue preference be given Pratt's work if this involves major revisions of the charts of this area.

Chief, Division of Geodesy.

Unadjusted Independent Astronomic Datum (ON ORIGINAL DOCUMENT)

57376

GEOGRAPHICAL POSITIONS.

#57376 unadjusted Independent Astronomic

(East of Greenwich)

STATIONS	Latitude °	'	"	Seconds in Metres	Longitude °	'	"	Seconds in Metres
Kiska Astronomical Sta. *	51	59	04.00	123.62 / 1730.69	177	32	26.66	508.97 / 636.18
Azimuth Mark	51	57	38.88	1201.68 / 652.72	177	32	26.67	509.15 / 636.37
N. Head	51	58	44.17	1365.07 / 489.28	177	34	24.62	469.87 / 675.18
South Base	51	57	55.66	1720.17 / 134.13	177	32	07.90	150.83 / 994.69
North Base	51	58	44.66	1380.21 / 474.09	177	32	05.55	105.92 / 1039.22
Ledge	51	57	34.48	1065.60 / 788.70	177	38	49.71	949.46 / 196.64
South Head	51	57	22.17	685.16 / 1169.14	177	36	10.50	200.56 / 944.44
Little	51	58	32.62	1008.18 / 846.18	177	38	02.13	40.64 / 1104.51
Ridge	51	57	32.09	991.77 / 862.56	177	37	49.79	950.24 / 194.91
Late	52	00	41.16	1272.05 / 582.25	177	35	13.73	266.02
Clint	52	02	48.83	1509.09 / 345.21	177	38	22.41	427.02
Bean	52	01	59.60	1841.94 / 12.36	177	36	11.63	222.67

Azimuth °	'	"	Back Azimuth °	'	"	To Stations	Distance Metres	Logarithms
359	59	45.0	179	59	45.0	Azimuth Mark	2630.76	3.4200806
285	12	53.2	105	14	26.1	South Head	2333.29	3.3679685
228	07	20.0	48	08	52.9	North Head	3023.65	3.4805301
274	53	42.5	94	54	47.9	Ledge	1591.48	3.2018006
48	08	52.9	228	07	20.0	Azimuth Mark	3023.65	3.4805301
105	14	26.1	285	12	53.2	Astronomical Sta.	2333.29	3.3679685
240	06	27.2	60	08	14.9	North Head	3010.10	3.4785814
288	35	45.0	108	37	05.2	Ledge	2051.22	3.3120130
270	18	35.7	90	20	25.3	North Head	2654.45	3.4239742
317	28	28.7	137	29	50.8	Ledge	2942.58	3.4687308
94	54	47.9	274	53	42.5	Azimuth Mark	1591.48	3.2018006
197	11	20.4	17	11	47.9	South Head	2254.71	3.3530911
98	04	10.3	278	02	25.4	Ledge	2715.23	3.4338070
141	26	15.5	321	24	52.1	North Head	3241.84	3.5107911
44	23	53.0	224	22	25.1	South Head	3047.07	3.4838837
94	56	12.1	274	53	20.8	North Head	4167.06	3.6198300
80	49	27.0	260	48	08.8	South Head	1920.68	3.2834568
119	39	09.5	299	36	27.9	North Head	4506.09	3.6538000
333	00	33.8	153	02	36.6	Ridge	6556.87	3.8166965
14	35	43.4	194	35	04.6	N. Head	3734.26	3.5724365
341	47	30.6	161	49	52.7	Little	11024.85	4.0423727
42	20	23.1	222	17	54.6	Late	5336.77	3.7272784
216	40	02.2	36	42	52.7	Red.	6842.52	3.8353786
326	24	48.9	146	28	54.1	Little	10742.46	4.0311039

Do not write in this margin.

* The field result for latitude from one pair is 51° 58' 39"91 showing a correction to these latitudes - 24.09

* The field result for latitude from one pair is 51° 58' 39" 91 showing a correction to these latitudes 24:09

ON ORIGINAL DOCUMENT

note on page 1 of position comp

ON ORIGINAL DOCUMENT
Independent Datum

32

Treasury Department, U. S. Coast and Geodetic Survey, Form 98.

GEOGRAPHICAL POSITIONS.

#57376 2nd

Locality

State Independent Datum

STATIONS.	LATITUDE. °	′	″	Seconds in Metres.	LONGITUDE (East of Greenwich) °	′	″	Seconds in Metres.
Red	52	04	58.42	1805.48 48.53	177	39	47.77	909.66
Middle	51	56	47.49	1467.68 386.62	177	34	09.69	185.07
Little	51	57	09.95	307.50 1546.79	177	41	22.79	435.29

AZIMUTH °	′	″	BACK AZIMUTH °	′	″	TO STATIONS.	DISTANCE. Metres.	LOGARITHMS.
352	51	22.2	172	52	37.1	Little	14592.4	4.1641275
33	18	24.8	213	14	48.9	Late	9510.76	3.9782151
184	31	02.1	4	31	13.8	N. Head	3617.67	3.5584287
245	03	57.8	65	05	32.9	S. Head	2544.04	3.4055242
99	34	26.8	279	31	38.5	Ridge	4124.79	3.6154025
132	52	52.1	312	48	01.5	Late	9600.45	3.9822914

copy checked by CCC & PCW
ON ORIGINAL DOCUMENT

Do not write in this margin.

#3

Treasury Department, U. S. Coast and Geodetic Survey, Form 98.

GEOGRAPHICAL POSITIONS.

#57376 3rd

Locality

State Independent Datum

STATIONS.	LATITUDE. °	′	″	Seconds in Metres.	LONGITUDE (East of Greenwich) °	′	″	Seconds in Metres.
⊙ Post	51	58	35.38	1092.42 760.88	177	32	00.53	10.12 1135.40
⊙ Gull	51	58	05.56	171.84 1682.48	177	32	01.69	32.26 1113.26
⊙ Cozy	51	57	32.40	1001.32 852.98	177	32	39.78	759.61 386.00
⊙ Bum	51	57	33.52	1035.94 818.36	177	33	22.21	423.99 721.57
⊙ Slag.	51	57	23.88	738.01 1116.29	177	34	28.15	537.65 608.35
⊙ Find	51	57	18.44	569.89 1284.42	177	35	35.59	679.77 466.23
⊙ Cel.	51	57	27.21	840.93 1013.37	177	36	14.05	268.34 877.64
⊙ Head	51	58	39.54	1221.99 632.32	177	34	19.13	365.19 780.01
⊙ Egg	51	58	58.67	1813.20 41.11	177	33	41.16	785.54 359.61
⊙ Old	51	59	08.89	274.74 1579.56	177	33	08.69	165.85 979.30
⊙ Tide Gauge	51	59	10.16	313.99 1540.31	177	32	46.25	882.68 262.46
⊙ Barrel	51	59	13.97	431.75 1422.56	177	32	47.62	909.92 235.22

Do not write in this margin.

AZIMUTH °	′	″	BACK AZIMUTH °	′	″	TO STATIONS.	DISTANCE. Metres.	LOGARITHMS.
312	04	10.5	132	05	36.5	Ledge	2808.44	3.4484651
353	27	52.9	173	27	58.7	South Base	1235.72	3.0919185
246	21	40.3	66	23	32.9	North Head	2977.89	3.4739090
294	57	51.5	114	59	16.6	Ledge	2271.15	3.3570106
163	41	38.7	343	41	11.7	North Base	2327.05	3.3668064
222	02	46.4	42	04	11.0	North Head	2987.81	3.4753536
146	21	35.1	326	20	34.7	North Base	2641.20	3.4218008
208	36	45.6	28	37	34.8	North Head	2487.53	3.3957684
114	02	54.5	294	02	24.2	Ledge	803.89	2.9051948
178	26	33.2	358	26	30.4	North Head	2482.42	3.3948746
103	47	33.8	283	46	10.4	Ledge	2081.76	3.3184308
152	55	36.3	332	54	40.4	North Head	2976.16	3.4736564
116	48	09.4	296	44	52.7	North Base	5313.88	3.7254121
138	43	19.7	318	41	53.5	North Head	3165.92	3.5005002
15	36	32.1	195	36	08.9	Ledge	2087.72	3.3196717
61	35	03.3	241	33	19.9	South Base	2848.77	3.4546577
356	24	27.2	176	24	32.9	Ledge	2607.01	3.4161434
42	26	31.0	222	25	17.5	South Base	2638.46	3.4213508
344	58	29.2	164	59	01.5	Ledge	3021.10	3.4801643
27	09	09.1	207	08	21.2	South Base	2543.56	3.4054412
293	08	46.8	113	10	04.3	North Head	2042.08	3.3100719
17	38	28.0	197	37	54.8	South Base	2416.08	3.3831120
338	52	51.2	158	53	40.2	Ledge	3296.20	3.5180138
17	21	15.4	197	20	44.2	South Base	2535.83	3.4041205

Copy checked C.C.C. P.C.W.

#4

Treasury Department, U. S. Coast and Geodetic Survey, Form 26. (Ed. 11-20-'03—4,000.)

GEOGRAPHICAL POSITIONS.

#[illegible]76 4

Locality

State Independent Datum

STATIONS.	LATITUDE °	'	"	Seconds in Metres.	LONGITUDE °	'	"	Seconds in Metres.
○ East Hut	51	59	12.56	388.17 1466.14	177	32	42.10	822.56 322.59
○ West Hut	51	59	11.89	367.46 1486.84	177	32	42.00	820.57 342.58
○ Cave	51	58	57.17	1766.84 87.46	177	32	22.08	420.82 724.23
△ Coal I	51	58	56.23	1737.80 116.51	177	32	18.20	347.40 797.76
△ Coal II	51	59	16.00	494.48 1359.82	177	33	02.39	45.61 1099.54
△ Coal III	51	59	02.41	74.48 1779.83	177	33	51.42	981.40 163.75
○ Navy.	51	58	56.34	1741.20 113.11	177	32	19.86	379.26 766.07
○ Grave	51	59	10.51	324.97 1527.33	177	32	37.87	722.70 422.54
○ Bluff	52	01	07.94	245.39 1608.91	177	35	56.36	1074.88
○ Cliff	52	01	34.18	1056.33 797.97	177	36	25.66	489.34
○ Sand	51	58	02.05	63.35 1790.94	177	37	45.68	872.14
Sale	51	57	44.07	1362.60 491.70	177	36	53.73	1025.81

AZIMUTH °	'	"	BACK AZIMUTH °	'	"	TO STATIONS.	DISTANCE. Metres.	LOGARITHMS.
337	14	09.0	157	15	01.5	Ledge	3287.22	3.5168305
15	47	21.4	195	46	53.7	South Base	2469.99	3.3926960
336	45	36.9	156	46	30.2	Ledge	3276.48	3.5154081
15	26	58.1	195	26	31.2	South Base	2444.60	3.3882080
326	46	26.2	146	47	35.2	Ledge	3054.84	3.4849889
8	05	21.1	188	05	09.9	South Base	1920.31	3.2833709
325	19	44.4	145	20	56.5	Ledge	3071.75	3.4873855
5	59	52.0	185	59	44.9	South Base	1882.42	3.2747158
343	55	57.9	163	56	35.2	Ledge	3265.02	3.5138865
22	44	00.4	202	43	17.5	South Base	2692.11	3.4300925
00	41	11.5	180	41	10.2	Ledge	2717.71	3.4342030
43	46	39.0	223	45	17.5	South Base	2856.70	3.4558650
145	52	31.5	325	51	20.7	Ledge	3056.68	3.4852503
186	56	31.2	6	56	40.6	South Base	1889.45	3.2763355
155	13	28.9	335	12	32.8	Ledge	3271.51	3.5147484
193	52	29.9	13	52	53.5	South Base	2385.35	3.3775516
							[illegible]	
357	47	03.2	177	47	14.3	South Head	6983.58	3.8440783
21	30	23.1	201	29	10.8	North Head.	4776.14	3.6790771
2	07	42.7	182	07	31.7	South Head	7794.53	3.8917899
23	44	05.0	203	42	29.6	North Head	5739.64	3.7588843
108	46	38.4	288	43	00.1	North Head	4052.92	3.6077676
149	31	42.9	329	29	43.4	Late.	5706.84	3.7563959
50	37	40.7	230	37	06.7	South Head	1068.01	3.0285743
123	08	02.0	303	06	04.6	North Head	3398.66	3.5313054

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#5

Treasury Department, U. S. Coast and Geodetic Survey, Form 26. (Ed. 11-20-'03—4,000.)

GEOGRAPHICAL POSITIONS.

[illegible]7376 5

Locality

State Independent Datum

STATIONS.	LATITUDE °	'	"	Seconds in Metres.	LONGITUDE °	'	"	Seconds in Metres.
○ Easy	51	57	25.89	800.13 1054.17	177	37	14.09	269.12
○ Point	51	57	18.13	560.31 1293.99	177	36	28.67	547.59
○ N.E. Rock.	52	05	49.61	1535.36 318.94	177	40	44.88	854.29
○ Haystack.	52	04	53.04	1639.21 215.09	177	40	45.69	870.06
○ Horse	51	56	46.07	1423.79 430.51	177	36	12.94	247.15
○ Top.	51	56	06.95	214.78 1639.51	177	36	21.42	409.23
○ Fog.	51	59	27.02	835.06 1019.24	177	34	28.11	536.48
○ Buck.	51	59	14.39	444.72 1409.58	177	34	26.43	504.41
○ Arch.	51	58	59.16	1828.34 25.96	177	34	38.18	728.62
○ Rock.	51	58	53.91	1666.09 188.21	177	35	15.65	298.73
○ East.	51	57	18.69	577.61 1276.69	177	42	13.07	249.64
○ Lee.	51	57	26.74	826.40 1027.90	177	41	25.53	487.62

AZIMUTH °	'	"	BACK AZIMUTH °	'	"	TO STATIONS.	DISTANCE. Metres.	LOGARITHMS.
84	35	54.4	264	35	04.3	South Head	1219.79	3.0862847
126	48	30.6	306	46	17.1	North Head.	4039.99	3.6063800
217	45	57.2	37	47	10.8	Chute	2912.94	3.4643311
254	25	31.4	74	26	35.3	Ridge	1607.98	3.2062820
357	25	09.3	177	25	39.0	Little	16079.9	4.2062848
34	28	13.4	214	27	28	Red.	1921.4	3.2836359
357	09	59.0	177	10	28.2	Little	14330.	4.1562613
98	35	14.0	278	34	28.3	Red.	1115.5	3.0474991
277	35	41.5	357	35	39.6	South Head	1116.73	3.0479501
332	25	30.3	52	26	46.6	Ridge	2333.12	3.3679377
174	52	14.9	354	52	06.3	South Head	2334.28	3.3681536
212	39	52.0	32	41	01.6	Ridge	3126.29	3.4950299
200	53	00.2	20	53	36.3	Late.	2452.83	3.3896673
312	40	24.7	132	43	03.6	Ridge.	5238.05	3.7191698
198	40	15.1	378	40	52.5	Late	2831.01	3.4519419
309	08	19.6	129	10	59.8	Ridge	5006.50	3.6995344
192	12	44.3	12	13	12.5	Late.	3225.70	3.5086240
306	19	06.4	126	21	37.3	Ridge.	4541.09	3.6571605
179	26	27.1	359	26	25.8	Late	3314.89	3.5204694
310	39	28.4	130	41	29.8	Ridge.	3879.97	3.5888285
128	05	00.8	307	59	30.6	Late.	10155.95	4.0067206
156	41	48.9	336	38	47.1	Climb.	11112.32	4.0458048
130	19	04.9	310	14	12.1	Late.	9295.11	3.9682547
160	40	58.4	340	38	34.1	Climb.	10560.37	4.0232675

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Treasury Department,
U. S. Coast and Geodetic Survey,
Form VII.

Locality

GEOGRAPHICAL POSITIONS.

#5 76 — 6

State. Independent Bottom

STATIONS	LATITUDE ° ′ ″	Seconds in Metres	LONGITUDE (East of Greenwich) ° ′ ″	Seconds in Metres	AZIMUTH ° ′ ″	BACK AZIMUTH ° ′ ″	TO STATIONS	DISTANCE Metres	LOGARITHMS
o High	51 57 27.47	1006.34 (946.96)	177 40 51.76	969.32	133 00 07.9	312 55 42.6	Fate	8782.71	3.9436816
					164 06 47.0	344 04 50.1	Climb	10327.94	4.0140135
o Leaf	51 57 38.76	656.73 (1197.56)	177 39 54.69	1044.7	136 29 30.0	316 25 49	Fate	7777.61	3.8908464
					169 36 06	349 34 53	Climb	9744.38	3.9887540
o Lump	51 57 06.95	1639.51 (814.78)	177 39 27.42	523.72	112 38 53.4	292 37 36.5	Ridge	2020.02	3.3053563
					167 33 59.9	87 35 30.8	Little	2206.22	3.3434619
o Nil	51 57 27.74	996.99 (857.30)	177 40 02.37	45.27	289 41 22.5	109 42 26.8	Little	1631.19	3.2126047
					93 03 22.9	273 01 31.5	Ridge	2636.18	3.4040091
o Basal	51 58 29.91	930.24 (924.06)	177 38 31.54	602.20	137 07 09.3	317 04 33.6	Fate	5538.22	3.7433704
					178 45 14.3	358 45 07.1	Climb	8004.73	3.9033466
o Bend	51 58 20.93	1207.46 (646.84)	177 38 04.63	88.39	50 12 19.2	230 10 49.3	South Head	2836.82	3.4528310
					99 43 47.9	279 40 54.6	North Head	4260.66	3.6294768

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Do not write in this margin.

6933

H-6934

Datum-

The datum is the same as Pratt 1904 after applying to latitude the correction of -24.09 as shown on G.P.#57376. Since making the smooth sheet, the new charts 9124 and 9155 have been issued. These use the datum of G.P. #57376 without the latitude correction, or Dall's latitude of 1870 and Pratt's longitude of 1904. The chart datum is indicated on the smooth sheet.

N.B. Jan.

See following page concerning retention of datum now used on charts.

Control-

The control is based on the 1904 triangulation. Extensions were made in 1943 by the party on the HYDROGRAPHER, W. M. Scaife, Commanding. The computations of Pratt 1904 and Scaife 1943 are on Dall's latitude of 1870 and Pratt's longitude of 1904. Pratt's latitude correction of -24.09 was applied to all triangulation stations plotted.

Photostats of Scaife's Lists of Directions were obtained and cuts on the signals plotted. There are many cuts in the sounding records of sheet H-6933 which were plotted. The intersections were very good. The plotting was checked.

As the cuts on Signal DOC were slim, this point was computed from the available information, computations attached to the report for H-6934.

DOC or DOCK

Latitude	51° 56'	07.18	221.9 (1632.6) Met.
Longitude	177 36	26.67	509.6 (638.8) Met.

Surveying Methods-

Soundings were made with recording fathometers. Positions were determined by visual three point fixes. The signals were fixed by triangulation or sextant cuts.

In the case of the HYDROGRAPHER, soundings were entered on positions only. The fathograms were scanned in the Seattle Processing Office, the intermediate soundings were entered, and the work was checked.

Fathometer Corrections-

The party on the EXPLORER entered corrections in their records. The HYDROGRAPHER's fathometers were calibrated for a sound speed of 800 fms. per second. A table of corrections for the EXPLORER's Hughes fathometer calibrated for the same speed shows almost no correction within the depths of Kiska Harbor. The fathometer corrections are deemed negligible and have not been applied. The following page is a duplicate from reports for H-6933 and H-6934.
40

Duplicate of pages in reports for H6939 & H6940

3

Fathograms - Ship HYDROGRAPHER:

In general, the party on the HYDROGRAPHER entered soundings in the volumes at positions only. In some books they maintained sounding entries at thirty second intervals.

The fathograms have been scanned in this office and the soundings entered for the usual intervals, all high points on the profile being entered at its proper time.

There are frequent long intervals on the fathograms with no positions indicated - 6, 8, or 10 positions skipped. These spaces were divided in proportion to time intervals between positions and scanned.

Index Correction-

In the report submitted by the party on the HYDROGRAPHER for the Korovin Bay sheet, Atka Island, H-6845, there are the following paragraphs:

"Ship soundings were obtained with a standard Navy NJ-3 or NMB-2 fathometer. The sounding records indicated which was being used. Both fathometers were calibrated for a velocity of 4800 feet per second. The NJ-3 fathometer is designed to give the depth below the oscillators. A constant correction of plus 2 fathoms was added to all NJ-3 soundings on the boat sheet. The NMB-2 fathometer was adjusted to give approximate true depths and no correction to NMB-2 soundings was applied on the boat sheet. Comparisons between wire soundings (vertical casts) and each fathometer are recorded in the sounding records.

Launch soundings were obtained with a standard Navy NK-1 fathometer which is similar to a Submarine Signal Co. 808 fathometer. The fathometers were set to give true depths by bar checks and lead line soundings on the bottom." The NK-1 is a Submarine Signal product.

Since there are no reports from the HYDROGRAPHER concerning the sheets west of Atka, it is inferred that the statements concerning fathometers at Atka continued through the season. However, the type of sounding apparatus used is not always stated in the sounding record, and it is presumed that the same instrument was used on the different days in a book. In processing the sheet, the continuity of fathograms from book to book has been used as evidence of the continued use of the same fathometer, and the boat sheet plotting at two fathoms deeper than recorded soundings has been used as corroborative evidence of the use of the NJ-3.

There is no description of the NMB-2 fathometer in any of the HYDROGRAPHER's records. Apparently it was rarely used for recorded soundings. It is believed that whenever it was used, entries were made in the records.

FATHOMETER CORRECTIONS

for

HUGHES & R.C.A. on ONONDAGA

800 Fms. (1463 Meters) Per Sec.

-Used for HYDROGRAPHER's Records-

				Ft.
0	to	30	=	0
30.1	to	100	=	-1
101	to	129	=	0

				Fms.
130	to	290	=	+1
291	to	420	=	+2
421	to	525	=	+3
526	to	630	=	+4

Net-

The position of the net guarding the harbor entrance is plotted on the smooth sheet. It runs from North Head to South Head.

Soundings - "a" day- See below.

The sounding record of HYDROGRAPHER's Launch #2 on August 26th shows fairly large differences between the fathogram readings and the hand lead tests.

The paper speed on "a" day was investigated for each five positions. The speed for the day was 21.5 millimeters per minute with the speed for the five position intervals agreeing reasonably closely.

Bar tests for "b" and "c" days were satisfactory.

The paper speed for "b" and "c" days were found to be 27.5 millimeters per minute with selected intervals throughout the period consistent with the mean. A factor devised by dividing one paper feed by the other gave results which did not agree with the tests. We infer that a different fathometer was installed after "a" day.

A correction curve for "a" day was made by plotting recorded depths less index correction against tested depths, resulting in a nearly straight correction curve.

On "b" and "c" days, which have satisfactory bar tests, the draft setting is approximately at the two foot mark, and on "a" day, it is at the 3 foot mark. Therefore, two feet is assumed as the proper draft setting and minus one foot was applied to "a" day soundings before using the figure to obtain true depths from the correction graph.

The corrected sounding in feet is entered in the column adjacent to the sounding as first recorded, in ink. No further mention is made of index in the sounding record, for index was applied in taking out the corrected sounding.

This method is considered substantially correct, because the soundings during the day do not greatly exceed the tested depths and because the speed of the fathometer was fairly constant during the day. The resulting soundings are slightly deeper where crossed by soundings of "c" day (r), but the agreement is closer than it would be with uncorrected soundings.

All of the "a" day soundings have been rejected. They are not needed for coverage.

Disregard.

Bar Checks

Kiska Harbor HYDROGRAPHER's Launch #2

"a" day				"b" day		"c" day	
Fathometer ft.	Index	Corrected Fathometer ft.	H.L. ft.	Fath.	H.L. or Bar	Fath.	Bar
12½	-1	11½	11½	13	12	12½	12
15	-1	14	15	18	18	18	18
18	-1	17	19	24	24	24	24
28	-1	27	32	30	30	30	30
40	-1	39	45	40	39		

Rate of Paper feed in millimeters per minute

Positions	Millimeters	Minutes	Mill./Min.
1-5 "b" day	362	13.25	27.3
1-12 "c" day	573	21.0	27.3
15-24 "	564	20.75	27.2
31-40 "	605	22.0	27.5
46-55 "	483	17.25	27.9
60-70 "	566	20.0	28.8
Totals	3153	114.25	27.5
1-5 "a" day	245	11.5	21.3
5-10 "a" day	295	13.75	21.4
10-15 "	202	9.25	21.8
15-20 "	224	10.5	21.3
20-25 "	218	105	20.8
25-30 "	181	8.5	21.3
30-35 "	226	10.5	21.5
35-40 "	249	11.0	22.6
40-45 "	379	17.5	21.6
45-50 "	250	11.5	21.7
Totals	2469	114.50	21.5

$\frac{27.5}{21.5} = 1.28$ Factor not satisfactory.

Note- Apparently the fathometer used on "a" day is different from the fathometer used on "b" and "c" days.

Note the following soundings-

Lat. & Long.	Position #	Sounding	Remarks
51° 57.07 177 36.55	43d	1 5/6 fms. Accept 1 5/6	See report for H-6934 WD See Graph. Sdg. looks like kelp. Sdg. plotted as decided by Officer in Charge of Wire Drag party.
51 57.05 177 36.55	67c	2 1/2 fms.	Same shoal as 1 5/6
51 57.1 177 36.98	78-79a	3 4/6 fms. ✓	
51 57.15 177 36.6	51-52c	2 1/2 fms. ✓	
51 57.32 177 36.5	68-69a	2 1/6 fms. ✓	
51 57.3 177 36.6	63-64a	1 2/6 fms. ✓	See Graph. Looks like kelp over 4 fms. Accept 1 2/6
51 56.75 177 36.65	44-45b	4 5/6 fms. ✓	
51 57.16 177 34.16	96-97b	~~7~~ 6 5/6 fms. ✓	
51 57.14 177 36.08	23-24d	1 2/6 fms. ✓	
51 57.05 177 36.52	1f 2f	Fath. 2 2/6 fms. H.L. 4 fms. Fath. 2 4/6 fms. H.L. 4 fms.	With the knowledge of the 4 fms hand lead sdgs. and kelp noted in the record, the 4 fm. bottom profile can be followed under heavy kelp. Reject fathometer sdgs. Deeper sdgs. omitted on account of crowding other shoal sdgs. Same shoal as 1 5/6
51 56.8 177 36.9		4 1/6 fms. ✓	

8

One rock awash was recorded in the volumes for H-6934 (1943) W.D. Only one has been inked.

Rocks-

Latitude	Longitude	Object	How Located
51° 57'	177° 34.3	3 Rocks just east of signal STERN	Transferred from Boat Sheet #2 of H-6934.
51 57.3	177 36.66	Rock awash	Transferred from Boat Sheet #2. This has already been charted as a highwater rock. The field party has changed its character on the boat sheet. NB 83
51 57.1	177 35.52	Sunken Rock-Breaker	Located by cuts, Vol. 4 P. 28, already charted. ✓

There are 5 boat sheets for this area. 4 show a bare rock and 1 a rock awash. Retain bare rock.

Wrecks-

Four wrecks are shown on this sheet.

Latitude	Longitude	Object	Name	How Located
51° 58.73	177° 33.33	Stack of Wreck	Stack	Hydrographic ✓
51 58.3	177 32.13	Stack of Wreck	Rust 1943	Triangulation ✓
51 57.7	177 33.31	South Mast	Mast 1943	Triangulation ✓
51 57.8	177 33.34	North Mast 15 ft. above surface	Nor 1943	Triangulation ✓
51 56.98	177 34.20	Stern of ship	Stern	Hydrographic ✓
51 56.93	177 34.10	Bow of ship	Bow	Hydrographic ✓

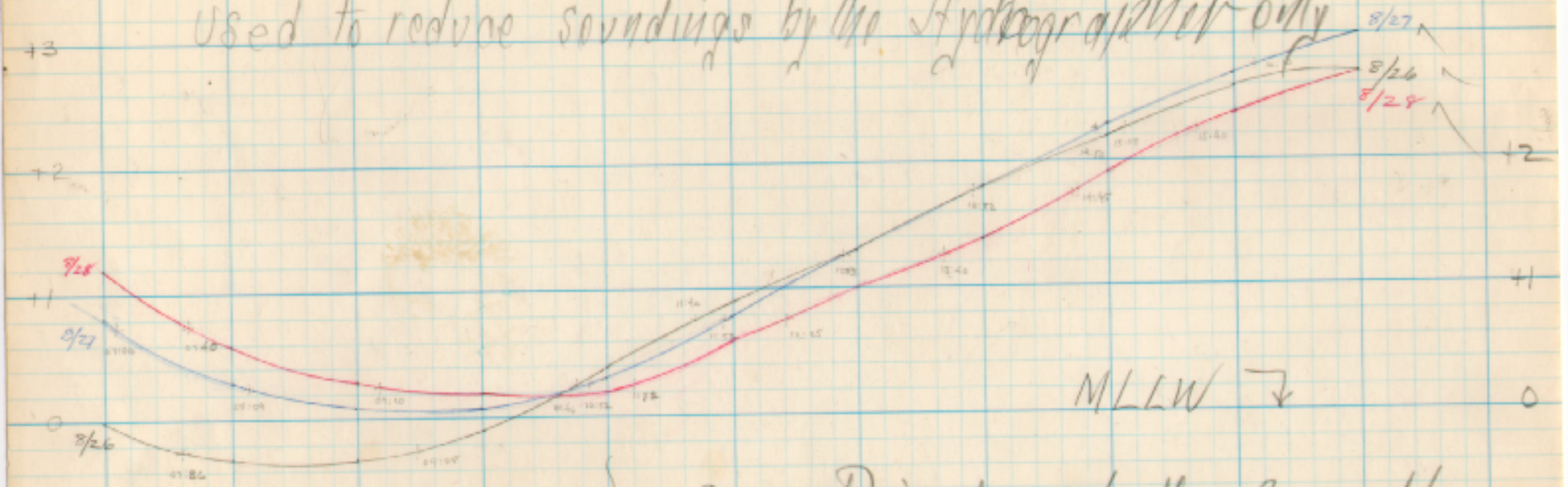
All four of the above wrecks are shown on Chart #9124 of May, 1944. ✓

TIDE REDUCERS — KISKA HARBOR

August 26, 1943
August 27, 1943
August 28, 1943

By comparison with SWEEPERS COVE Tides
Recd from Wash. Office

Used to reduce soundings by the Hydrographer only



Curves plotted from hourly heights furnished by the Washington Office

See Director's letter 36 m/h of 6/19/44 to Officer in Charge Seattle Processing Office

6933

H-6933

Tidal Note

Aleutian Islands

Kiska Harbor and South Pass

The tidal reducers for the HYDROGRAPHER's soundings were taken from hourly heights based on MLLW, prepared by the Washington Office, by application of differences to tides of Sweeper Cove, Adak Island. See Director's letter of June 19, 1944, 36-mlh, to Officer in Charge, Seattle Processing Office.

The reducers for the EXPLORER's work were entered by the field party from Kiska tides. The wire drag boat sheet H-6934 indicates a tide gage near Signal DOG in the north part of Kiska Harbor at

Latitude 51° 58'.75 Longitude 177° 33'.20

(per datum of the smooth sheet).

Statistics-

	HYDROGRAPHER	EXPLORER	TOTAL
Stat. Miles Sdg. Line	25	43.5	68.5
Number of Positions	219	326	545
Number of Soundings	905	2370	3275
Area - Sq. Stat. Miles			1.2

- - - -

Edgar E. Smith
Assoc. Cartographic Engineer
Seattle Processing Office

Approved and Forwarded:

F. H. Hardy
Officer in Charge,
Seattle Processing Office.

Surveys Section (Chart Division)

HYDROGRAPHIC SURVEY NO. H6923

Records accompanying survey:

Boat sheets ....; sounding vols. ....; wire drag vols. ....;

bomb vols. .....; graphic recorder rolls .....;

special reports, etc. .....

.....

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

Number of positions on sheet		545
Number of positions checked		34
Number of positions revised		0
Number of soundings recorded		3275
Number of soundings revised (refers to depth only)		9
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	.....
Junctions	Time	.....
Verification of soundings from graphic record	Time	.....

Verification by J. A. McCormick ..... Total time 28 hrs. Date 8/29/44

Review by J. A. McCormick ..... Time 4 hrs. Date 9/5/44

GEOGRAPHIC NAMES

Survey No. H6933

Name on Survey	A	On Chart No. 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	
Aleutian Islands		(for title)								1
Kiska Island		515710E			(USGB)					2
Kiska Harbor		515715E			"					3
South Pass		"			"					4
North Pass		"			"					5
South Head		515715E			"					6
Little Kiska I.		"			"					7
										8
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										27

Names ascertained in the office
by L. Heck 9/23/44

M 234

FORM M-238

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

No. H H6933
No. T

received
registered
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			
30			
40			
62			
63			
82			
✓ 83	Comdr Finnegan	[illegible]	Pg 8
88			
90			

RETURN TO

82	

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

August 2, 1944

~~Division of Hydrography and Topography:~~

✓ Division of Charts: Attention: H. R. EDMONSTON

Plane of reference approved in
4 volumes of sounding records for

HYDROGRAPHIC SHEET 6933

Locality Aleutian Islands: Kiska Harbor and South Pass

Chief of Party: G. C. Mattison in 1943
Plane of reference is mean lower low water reading
1.0 ft. on tide staff at Kiska Harbor
5.3 ft. below B. M. 1 (USN)

Height of mean high water above plane of reference is 3.4 feet.

Condition of records satisfactory except as noted below:

E. F. Green
Chief, Division of Tides and Currents.

U. S. GOVERNMENT PRINTING OFFICE 154327

DIVISION OF CHARTS

REVIEW SECTION - SURVEYS BRANCH

REVIEW OF HYDROGRAPHIC SURVEY REGISTRY NO. 6933

Field No. 102

Aleutian Islands; Kiska Island; Kiska Harbor
Surveyed in Aug.-Sept., 1943, Scale 1:10,000
Project CS 218

Soundings: Control:

808 Fathometer Three-point fix on shore signals

Chief of Party - W. M. Scaife; G. C. Mattison
Surveyed by - A. L. Wardwell; R. C. Rowse
Protracted by - C. N. Hillman
Soundings plotted by - C. N. Hillman
Verified and inked by - J. A. McCormick
Reviewed by - J. A. McCormick
Inspected by H. R. Edmonston, September 5, 1944

1. Sounding Line Crossings

Satisfactory.

2. Depth Curves and Bottom Relief

Sand bottom in the anchorage area on the north side of the Harbor is fairly uniform. A 3-5/6 fathom wire drag grounding in fathogram depths of 5 to 5-1/2 fathoms will be considered further in the review of H-6934 (1943) W.D.

On the south side of the harbor, a 6-5/6 fathom sounding stands out in depths of 9 to 10 fathoms.

In South Pass, there are several outstanding shoals, some of which are questioned in the Descriptive Report (written in the Processing Office) as possibly being depths to kelp rather than to bottom. The fathograms have been carefully studied in conjunction with the boat sheets and the wire drag survey (H-6934) with the result that no rejections have been made for kelp.

3. Contemporary Surveys

Only contemporary survey in the area is H-6934 (1943) W.D. Comparisons with wire drag findings can best be made in the review of that survey.

4. Previous Surveys

H-2700 (1904) is a well-developed survey on a scale of 1:10,000. In South Pass, it shows indications of

all shoals developed by the present survey but in every instance the shoalest depths obtained in 1904 are the deeper by 1 to 2 fathoms. In the Harbor, the only exceptions to good agreement are the 3-5/6 and 6-5/6 fathom soundings noted in paragraph 2. The 1 and 2 fathom differences on shoals in the Pass tend to support the Processing Office remarks on kelp in some instances but the total information available still is not considered sufficient to warrant rejection of any of the 1943 soundings. The present survey supersedes H-2700 in the common areas.

5. Comparison with Chart 9124 (Print of May 12, 1944)

Boat sheet depths on the shoals have been applied to the chart from the EXPLORER's blueprint 37692. Other charted depths are from H-2700 (1904). The reviewed survey supersedes depths from both sources. Survey positions of channel buoys in South Pass agree with those charted.

6. General Comment

The HYDROGRAPHER's red "a" day soundings (Aug. 26th) on the north side of the Harbor were subjected to considerable investigation by the Processing Office because of large differences between fathogram and hand lead depths. Corrections averaging 15% bettered the agreement with succeeding days' work but, in the Washington Office, it was decided best simply to omit all of the "a" day soundings.

The independent datum upon which the smooth sheet projection is based is not the one used on charts of these islands. The Chief of Nautical Chart Branch takes cognizance of the difference in a memorandum attached to the Descriptive Report and states that the chart datum will not be changed at the present time because further changes will be necessary when triangulation is extended from the east. The chart datum is indicated on the survey by an intersection.

7. Compliance with Project Instructions.

Satisfactory.

8. Additional Field Work Recommended.

The survey consists of three detached investigations, none of which require additional work in themselves. If a complete resurvey of Kiska Harbor were to be made, it might be well to cover the entire area using the present developments simply as guides.

Examined and approved:

Chief, Surveys Branch

Chief, Division of Charts

Chief, Section of Hydrography

Chief, Division of Coastal Surveys

Applied to chart 9124, 9155, 9180 } after review — D. M. A. — Sept. 14, 1944

Applied to chart 8864 Thru chart 9124. — [illegible] — Jan. 1945

Applied to chart 9124 (reconst.) — A.W. — Nov 18th 1954

" " " 9180 (reconst.) — " — July 19th 1955 Thru 9124 Recon

" " " 8864 — WE — 11/16/61