

5644

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GUIDELINES AS DESCRIBED IN SECTION
3.3(a), EXECUTIVE ORDER 12356.

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Form 504
Ed. June, 1928

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: S. W. Alaska

DESCRIPTIVE REPORT

Topographic } Sheet No. 21-N-34
Hydrographic }

LOCALITY

Nazan Bay, Atka Island,

Aleutian Islands.

1934

CHIEF OF PARTY

H. B. Campbell

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

U. S. COAST & GEODETIC SURVEY
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FEB 14 1935

REG. NO.

Acc. 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. 21¹¹N-34REGISTER NO. 5644State S. W. Alaska, Aleutian IslandsGeneral locality Atka IslandLocality Nazan BayScale 1:20,000 Date of survey July, Aug., Sept., 1934Vessel M.V. WESTDAHL, Port Motor SailerChief of Party H. B. CampbellSurveyed by W. M. ScaifeProtracted by R. A. MarshallSoundings penciled by R. A. MarshallSoundings in fathoms feetPlane of reference M.L.L.W.Subdivision of wire dragged areas by -----Inked by E.W. SMITH, P.H. SCHERRVerified by E.W. SMITH, P.H. SCHERRInstructions dated April 13, 1934Remarks: -----

U. S. GOVERNMENT PRINTING OFFICE

*Applied to compilation of new chart 9010
Mar. 1935*

D.H. Bumble

DESCRIPTIVE REPORT

to accompany

HYDROGRAPHIC SHEET, FIELD NO. 21-N-34.

Scale 1:20,000

NAZAN BAY, ATKA ISLAND, ALEUTIAN ISLANDS, S. W. ALASKA

U.S.C. & G.S.S. DISCOVERER

H. B. Campbell, Commanding

U.S.C. & G.S.M.V. WESTDAHL

W. M. Scaife, Officer in Charge

Season of 1934

INSTRUCTIONS

This survey was executed in compliance with the Director's instructions, dated April 13, 1934. ✓

SURVEY METHODS

The hydrography on this sheet was executed from the WESTDAHL and the DISCOVERER's Port Motor Sailer. Visual fixes on triangulation stations and topographic signals were used to locate the boats' position. ✓

Lines on which the fathometer soundings appeared to be erroneous were rerun with wire soundings. ✓

Positions on a, b, and part of c day (Port Motor Sailer) were inked in blue on the sheet by mistake. The rest of the positions were inked in their proper color (red). ✓

Positions obtained when sounding with the Dinghy were inked in violet. Only a few of the shoalest soundings (taken on shoals and reefs by the Dinghy) were plotted on the smooth sheet. The Dinghy was used in sounding out kelp patches and it was possible to plot only a few of the soundings taken. *add'l sdp. added to sheet in April. 1935.*

SHORELINE

The shoreline was transferred from topographic sheet B.

DANGERS

(a) Shoals:

Least depth 6-1/6 fms. at M.L.L.W., Lat. 52°-11'-471 m., Long. 174°-06'-878 m. ✓

Verif. Chubs accepted by H.M.S.

"	"	5-1/6	"	"	"	"	52	11	1369 m.	"	174	08	155 m. ✓
"	"	9-3/4	"	"	"	"	52	12	347 m.	"	174	07	892 m. ✓
"	"	5	"	"	"	"	52	12	1210 m.	"	174	07	885 m. ✓
"	"	3	"	"	"	"	52	12	815 m.	"	174	08	476 m. ✓
"	"	9-3/4	"	"	"	"	52	12	1142 m.	"	174	10	407 m. ✓
"	"	8-1/2	"	"	"	"	52	12	1010 m.	"	174	09	897 m. ✓
"	"	7-1/2	"	"	"	"	52	12	666 m.	"	174	09	118 m. ✓
"	"	8-3/4	"	"	"	"	52	12	314 m.	"	174	08	917 m. ✓
"	"	4-5/6	"	"	"	"	52	11	695 m.	"	174	07	1050 m. ✓
"	"	8-3/4	"	"	"	"	52	11	302 m.	"	174	07	928 m. ✓
"	"	8-3/4	"	"	"	"	52	11	250 m.	"	174	07	815 m. ✓
"	"	2-4/6	"	"	"	"	52	11	335 m.	"	174	09	42 m. ✓

(b) Rocks above M.L.L.W.

Bares 3' at M.L.L.W. - - - - -	"	52	10	652 m.	"	174	07	849 m. ✓
" 1' " "	"	52	10	769 m.	"	174	07	878 m. ✓
" 3' " "	"	52	10	928 m.	"	174	07	1055 m. ✓
Awash " "	"	52	10	1500 m.	"	174	07	1062 m. ✓
Sunken rock	"	52	10	1720 m.	"	174	07	1092 m. ✓
Bares 3' at M.L.L.W.	"	52	10	1348 m.	"	174	08	909 m. ✓
" 3' " " on reef in heavy kelp, breaker,	"	52	11	475 m.	"	174	08	111 m. ✓

(mentioned in Ver. Report, page 3, pos. 2c) *H.M.S.*

DANGERS (cont'd)*verifier's check accepted. Hym.*

Awash at M.L.L.W. on reef in heavy kelp, breaker, ✓

Lat. 52°-11'-670 m., Long. 174°-08'-242 m.

" " " " end of reef, "	52	12	752 m.	"	174	08	984 m.	✓	
Bares ^{3'} ₁ at M.L.L.W.	"	52	12	970 m.	"	174	08	1073 m.	✓
Awash " "	"	52	12	1003 m.	"	174	09	118 m.	✓
Bares 2' at M.L.L.W.	"	52	14	149 m.	"	174	07	764 m.	✓
" 3' " "	"	52	14	93 m.	"	174	07	778 m.	✓
Awash at M.L.L.W.	"	52	13	1281 m.	"	174	07	344 m.	✓
Bares 1' at M.L.L.W.	"	52	13	1260 m.	"	174	07	224 m.	✓
" 4' " "	"	52	14	74 m.	"	174	06	33 m.	✓
" 4' " "	"	52	13	1308 m.	"	174	04	989 m.	✓
" 3' " "	"	52	13	1305 m.	"	174	04	611 m.	✓
" 4' " "	"	52	13	1361 m.	"	174	03	884 m.	✓
" 3' " "	"	52	13	1416 m.	"	174	03	565 m.	✓
" 2' " "	"	52	13	1583 m.	"	174	03	428 m.	✓
Outer edge of reef, bares 2' at M.L.L.W.									
	Lat.	52	14	120 m.	"	174	03	209 m.	✓
Breaker	"	52	14	598 m.	"	174	02	1060 m.	✓
Sunken rock	"	52	11	1572 m.	"	174	08	317 m.	✓

STATISTICS

A table of statistics accompanies this report.

LIMITS

This sheet joins sheet 5-N-34 outside of the Bolshoi Islands. The outside line of the survey extends from a point about 1-3/8 mile east of Cape Kudugnak

LIMITS (cont'd)

to a point about mile^{0.5}_^ southeast of Cape Utes.

Respectfully submitted,

R.A. Marshall
R. A. Marshall,
Jr. H. & G. E.

Forwarded and approved,

H.B. Campbell

H. B. Campbell,
Chief of Party.

✓

STATISTICS FOR SHEET, FIELD NO. 21-N-34

Number of positions - - - - - 2138

Number of hand lead soundings - - - - - 1401

Number of wire soundings - - - - - 2953

Number of fathometer soundings - - - - - 1161

Total number of soundings - - - - - 5515

Statute miles of hand lead sounding lines - - - 37.7

Statute miles of wire sounding lines - - - - 153.5

Statute miles of fathometer sounding lines - - 83.2

Total statute miles of sounding lines - - - - 274.4

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

LANDMARKS FOR CHARTS

seattle, washington

February 8, 1935

DIRECTOR, U. S. COAST AND GEODETIC SURVEY:

The following determined objects are prominent, can be readily distinguished from seaward from the description given below, and should be charted.

H. B. Campbell

Chief of Party.

[illegible]

A list of objects which are of sufficient prominence for use on the charts, together with a description of the same, must be furnished in a special report on this form, and a copy of such report must be attached by the Chief of Party to his descriptive report. The selection, determination, and description of these points are of primary importance.

The description of each object should be short, but such as will identify it; for example, standpipe, water tower, church spire, tank, tall stack, red chimney, radio mast, etc. Generally, flagstaves and like objects are not sufficiently permanent to chart.

ANALYSIS OF FATHOMETER CORRECTIONS

Season of 1934

M. V. WESTDAHL

Ship DISCOVERER

H. B. Campbell, Commanding

Fathometer corrections were derived by methods described in
Special Publication No. 143.

The analysis is divided into two parts:

- I. Corrections for work performed in Nazan Bay, Atka Island.
- II. Corrections for work performed in Anderson Arm, Makushin
Bay, Unalaska Island.

The depth of the hydrophone is six feet. The length of the
base line between the hydrophone and the oscillator is 21.5 feet.
Factors are computed with an assumed velocity of 800 fathoms per
second.

PART I

Pages 1 to 4 inclusive contain an abstract of all the fatho-
meter comparison data and serial temperatures taken during the field
season.

The results of the three serial temperatures taken during the
season were combined to derive a mean value for the salinity of
the water in Nazan Bay. The mean value derived for the salinity
was 33.8.

Page No. 5 is an abstract of the fathometer factors and corrections derived from them.

Page No. 6 is an abstract of the index corrections grouped by days.

After deriving the index correction for each day it was found that the correction on July 7, 23, and 24 was minus, while the correction to be applied on July 25, 26, 28, and August 27 was positive.

Therefore it was decided to divide the mean index correction into two parts as shown on Page No. 6, and to apply the -0.3 fm. correction on July 7, 23, and 24; and the plus 0.2 fm. correction on July 25, 26, 28, and August 27.

The mean value of the index correction on July 7, 23, and 24 was found to be -0.3 fm.

On July 25, 26, 28, and August 27 the mean value derived was plus 0.2 fm.

On Page No. 8 two index correction curves are drawn in addition to the T & S curve and the 1% curve.

The mean index corrections were added algebraically to the Temperature and Salinity curve. The fathometer corrections obtained from the curves are to be applied as noted in these remarks and on the graph.

On Page No. 7 is an abstract of the water temperatures in Nazan Bay taken during the season and plotted for comparison.

Fathometer corrections as obtained from the curves:

July 21, 22, 23, and 24:

2 fms. - 14 fms. -1/2 fm.

14 fms. - 70 fms. 0 fm.

Corrections less than 1% were disregarded.

July 25, 26, 28, and August 27~~th~~ *Sept. 6th*

$6\frac{1}{2}$ fms.	- $58\frac{1}{2}$ fms.	plus $\frac{1}{2}$ fm.
$58\frac{1}{2}$ fms.	- 70 fms.	" 1 fm.
70 fms.	-----	" $1\frac{1}{2}$ fm.

REMARKS

In general, fathometer soundings taken in depths of twenty-five fathoms or less read too deep.

Lines with fathometer soundings under twenty-five fathoms were checked with frequent vertical casts. Only those lines that checked satisfactorily were retained. The remainder were re-run with wire soundings.

The operation of the fathometer in depths greater than twenty-five fathoms was satisfactory and reliable as shown by the frequent comparisons taken with vertical casts.

PART II

This section of the field work was performed in Anderson Arm of Makushin Bay.

Page No. 9 is an abstract of the fathometer comparisons and serial temperatures taken in Anderson Bay.

The mean value for the salinity in the bay was derived from results of the serial temperature taken on September 15, 1934.

The mean value derived for the salinity was 32.9.

Page No. 10 contains an abstract of the fathometer factors and corrections.

Page No. 11 contains an abstract of the index corrections

grouped by days. The mean value derived for the index correction was 0.47 fm. Value of 0.5 fm. was used in plotting the index correction curve.

Page No. 12 is an abstract of the temperature curve plotted from the results of the serial temperature.

Page No. 13 is a graph showing the temperature and salinity curve, the index correction curve, and the 1% curve.

Fathometer corrections as obtained from the curve:

0	-	25 fms.	plus $\frac{1}{2}$ fm.
25	-	$78\frac{1}{2}$ fms.	" 1 fm.
$78\frac{1}{2}$ fms.	----		" $1\frac{1}{2}$ fm.

REMARKS

It was noted that the difference between fathometer soundings and vertical casts was greater in a number of instances than those obtained in Nazan Bay. It is believed that this difference is due to the uneven character of the bottom found in Anderson Bay.

Respectfully submitted,

Robert A. Marshall

Robert A. Marshall,
Jr. H. & G. Engineer.

Approved:

W. M. Scaife

W. M. Scaife, H. & G. Engr.,
Officer in Charge, M. V. WESTDAHL.

Approved and forwarded:

H. B. Campbell

H. B. Campbell, H. & G. Engr.,
Commanding, Ship DISCOVERER.

Date	Pos.	Bottom	Temperature		Salinity		Sounding		Fath. Error.	T & S Corr.	Index Corr.	Note
			S	B	S	B	Fath.	V.C.				
7-21-34	1A	S					46.0	47.6	+1.6	0.5	+1.1	All comparisons on 1:20,000 sheet, Nazan Bay
"	10A	S&brk Sh					37.0	35.7	-1.3	0.4	-1.7	
"	14A	bk S					39.0	38.5	-0.5	0.5	-1.0	
"	19A	fne gy S					51.0	50.9	-0.1	0.6	-0.7	
"	28A	"					29.0	29.0	0.0	0.3	-0.3	
"	29A	"					26.0	25.7	-0.3	0.3	-0.6	
7-23-34	1B	"					48.0	47.2	-0.8	0.6	-1.4	
"	9B	fne bk S					22.0	21.6	-0.4	0.3	-0.7	
"	59B						46.0	46.4	+0.4	0.5	-0.1	
"	71B	Sh					24.0	24.0	0.0	0.3	-0.3	
"	72B						29.0	29.5	+0.5	0.3	+0.2	
"	73B						28.0	28.6	+0.6	0.3	+0.3	
"	76B	S & Sh					38.0	38.5	+0.5	0.5	0.0	
"	77B	Sh					34.0	34.5	+0.5	0.4	+0.1	
"	135B						22.0	22.0	0.0	0.3	-0.3	
"	136B						23.0	23.7	+0.7	0.3	+0.4	
"	137B						25.0	24.1	-0.9	0.3	-1.2	
"	137B						24.0	24.8	+0.8	0.3	+0.5	
7-24-34	1C						20.0	20.5	+0.5	0.2	+0.3	
"	3C	M					21.0	21.5	+0.5	0.2	+0.3	
"	4C						20.5	20.8	+0.3	0.2	+0.1	
"	8C						24.0	24.0	0.0	0.3	-0.3	
"	10C						34.5	34.0	-0.5	0.4	-0.9	
"	11C						34.0	34.6	+0.6	0.4	+0.2	
"	14C	S					34.0	33.8	-0.2	0.4	-0.6	
"	31C	stk					34.0	34.5	+0.5	0.4	+0.1	
"	34C						30.0	28.6	-1.4	0.4	-1.8	
"	34C	rky					27.0	26.8	-0.2	0.3	-0.5	
"	35C						28.0	27.6	-0.4	0.3	-0.7	
"	36C						23.0	24.9	+1.9	0.3	+1.6	
"	37C	S					29.0	28.5	-0.5	0.3	-0.8	
"	38C						26.0	25.8	-0.2	0.3	-0.5	
"	38C	hrd					23.0	23.2	+0.2	0.3	-0.1	
"	39C	stk					26.0	25.3	-0.7	0.3	-1.0	
"	40C						40.0	40.5	+0.5	0.5	0.0	

Date	Pos.	Bottom	Temperature		Salinity		Sounding		Fath. Error	T & S Error	Index Corr.	Note
			S	B	S	B	Fath.	V.C.				
7-24-34	40C						41.0	41.0	0.0	0.5	-0.5	
"	41C						45.0	44.5	-0.5	0.5	-1.0	
"	43C	stk					43.0	43.3	+0.3	0.5	-0.2	
"	52C	M, S&Sh					61.5	61.5	0.0	0.7	-0.7	
"	64C	fne gy S					36.0	36.2	+0.2	0.4	-0.2	
"	65C						31.0	30.3	-0.7	0.4	-1.1	
"	66C						30.0	29.5	-0.5	0.4	-0.9	
"	80C	S & Sh					64.0	65.8	+1.8	0.7	+1.1	
"	88C						31.0	32.0	+1.0	0.4	+0.6	
"	89C						28.0	28.0	0.0	0.3	-0.3	
"	94C						31.0	31.0	0.0	0.4	-0.4	
"	111C						23.0	24.0	+1.0	0.3	+0.7	
"	115C						29.0	29.9	+0.9	0.3	+0.6	
"	120C						31.0	32.0	+1.0	0.4	+0.6	
"	133C	rky					29.0	27.8	-1.2	0.3	-1.5	
"	136C						25.0	26.5	+1.5	0.3	+1.2	
"	139C						24.0	25.1	+1.1	0.3	+0.8	
"	139C						26.0	26.0	0.0	0.3	-0.3	
"	140C	S					23.0	23.3	+0.3	0.3	0.0	
"	144C	fne bk S					22.0	21.5	-0.5	0.3	-0.8	
7-25-34	3D						22.0	21.2	-0.8	0.3	-1.1	
"	7D	stk					27.0	27.2	+0.2	0.3	-0.1	
"	13D						43.0	44.2	+1.2	0.5	+0.7	
"	14D						40.0	41.5	+1.5	0.5	+1.0	
"	16D						27.0	27.4	+0.4	0.3	+0.1	
"	21D						32.0	32.8	+0.8	0.4	+0.4	
"	22D	S					32.0	33.0	+1.0	0.4	+0.6	
"	23D						33.0	33.2	+0.2	0.4	-0.2	
"	30D	S					19.0	20.8	+1.8	0.2	+1.6	
"	31D						22.0	22.5	+0.5	0.3	+0.2	
"	33D	hrd					24.0	24.6	+0.6	0.3	+0.3	
"	38D						31.0	30.0	-1.0	0.4	-1.4	
"	39D						31.0	32.8	+1.8	0.4	+1.4	
"	45D						51.0	52.0	+1.0	0.6	+0.4	
"	46D						51.0	52.0	+1.0	0.6	+0.4	
"	47D						51.0	54.0	+3.0?	0.6	+2.4R	

Date	Pos.	Bottom	Temperature			Salinity		Sounding		Fath. Error	T & S Error	Index Corr.	Note
			S	B		S	B	Fath.	V.C.				
7-26-34	3E							28.0	27.5	-0.5	0.3	-0.8	
"	5E							25.0	26.0	+1.0	0.3	+0.7	
"	6E							25.0	25.5	+0.5	0.3	+0.2	
7-28-34	8F							21.0	21.6	+0.6	0.2	+0.4	
"	9F							21.0	22.2	+1.2	0.2	+1.0	
"	10F	fne S						23.0	23.8	+0.8	0.3	+0.5	
"	12F							25.0	25.9	+0.9	0.3	+0.6	
"	19F							27.0	27.1	+0.1	0.3	+0.2	
"	31F							31.0	31.2	+0.2	0.4	-0.2	
"	45F	S						19.8	21.8	+2.0?	0.2	+1.0R	
"	59F	rky						21.0	20.5	-0.5	0.2	-0.7	
"	64F							35.0	35.0	0.0	0.4	-0.4	
"	65F							41.0	42.2	+1.2	0.5	+0.7	
"	70F							53.0	54.2	+1.2	0.6	+0.6	
"	71F							52.0	52.6	+0.6	0.6	0.0	
"	78F							30.0	31.0	+1.0	0.4	+0.6	
"	78F							31.0	30.8	-0.2	0.4	-0.6	
8-27-34	6K							28.0	28.3	+0.3	0.3	0.0	
"	27K							23.0	24.3	+1.3	0.3	+1.0	
"	31K							26.0	25.7	-0.3	0.3	-0.6	
9- 6-34	1L	S						54.0	55.3	+1.3	0.6	+0.7	
"	65L							35.0	35.5	+0.5	0.4	+0.1	
8-30-34	A	rky	Serial Temperatures										
"	"		7.9	6.8	33.6				39.0				
"	"			7.0	33.86				36.0				
"	"			6.8	33.83				31.0				
"	"			7.3	34.03				26.0				
"	"			7.0	33.86				21.0				
"	"			7.2	33.88				16.0				
"	"			7.0	33.73				11.0				
"	"			7.4	33.66				6.0				
"	"			7.8	33.55				1.0				

Date	Pos.	Bottom	Temperature		Salinity		Sounding		Fath. Error	T & S Error	Index Corr.	Note
			S	B	S	B	Fath.	V.C.				
8-30-34 "	B	(vol.) (ash)	7.8	6.9	33.7	33.85		52.0				
				7.0		34.00		36.0				
9- 6-34	C	clam Sh, rky	7.8	6.8	33.7	33.95		70.5				
				7.8		33.70		1.0				

Mean Salinity - 33.8

NAZAN BAY

FATHOMETER FACTORS and CORRECTIONS.

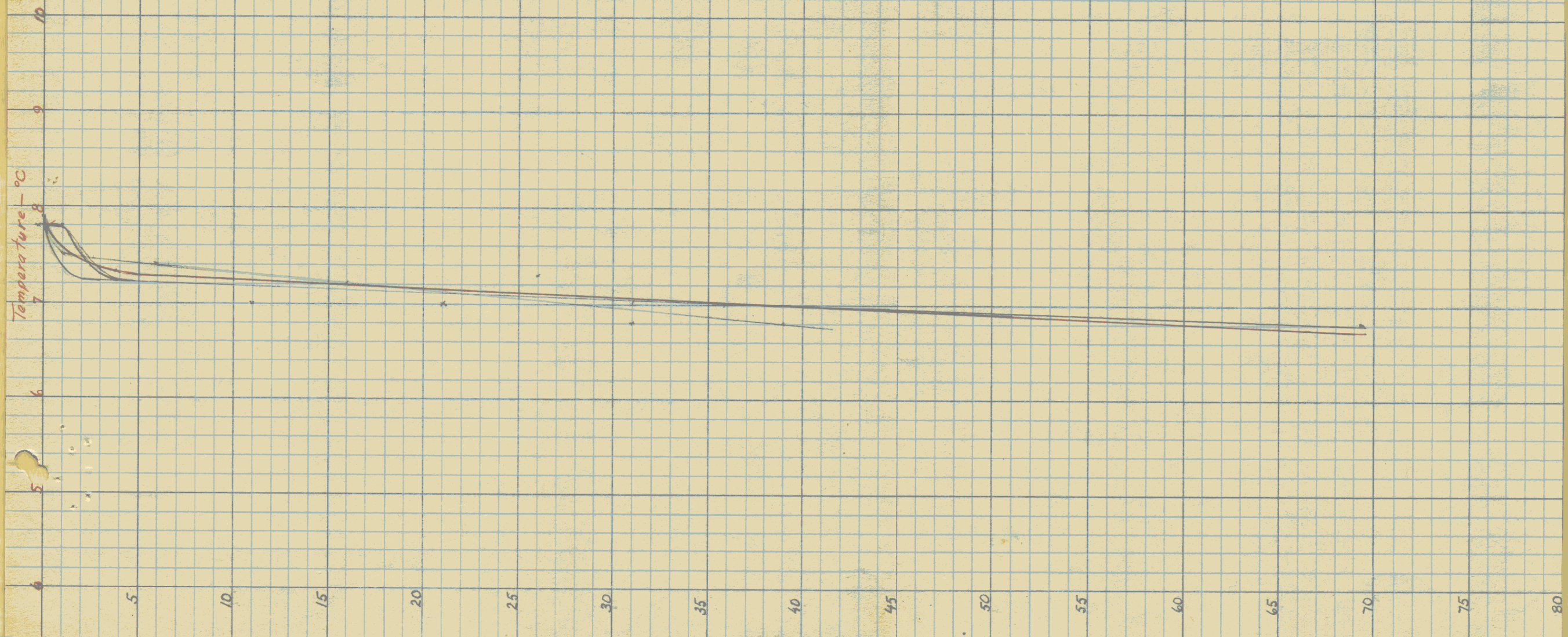
Depth in Fms.	Temperature C	Mean Temperature	Factor	Corr. Fms.	Mn. Sal- inity.
0	7.9	--	--	--	33.8
1	7.5	--	--	--	33.8
6	7.4	--	--	--	33.8
11	7.0	7.3	0.012	0.13	33.8
16	7.2	7.3	0.012	0.19	33.8
21	7.0	7.2	0.012	0.25	33.8
26	7.3	7.2	0.012	0.31	33.8
31	6.8	7.2	0.012	0.37	33.8
36	7.0	7.2	0.012	0.43	33.8
39	6.8	7.1	0.012	0.47	33.8
52	6.9	6.9	0.0113	0.59	33.8
70	6.8	6.7	0.0108	0.76	33.8

INDEX CORRECTIONS

<u>DATE</u>	<u>MEAN INDEX CORR. for DAY</u>
July 7	-0.6 fm.
July 23	-0.2 fm.
July 24	<u>-0.2 fm.</u>
MEAN CORR.	-0.3 fm.
July 25	0.3 fm.
July 26	0.0 fm.
July 28	0.2 fm.
Aug. 27	<u>0.2 fm.</u>
MEAN CORR.	0.2 fm.

Nazan Bay

Green Curve - A' Serial Temp - Page 51-Vol 2.
Blue Curve - B' Serial Temp - ditto.
Black Curve - C' Serial Temp - Page 70-Vol 2.
Red Curve = Mean Curve.



Corrections-
(+)

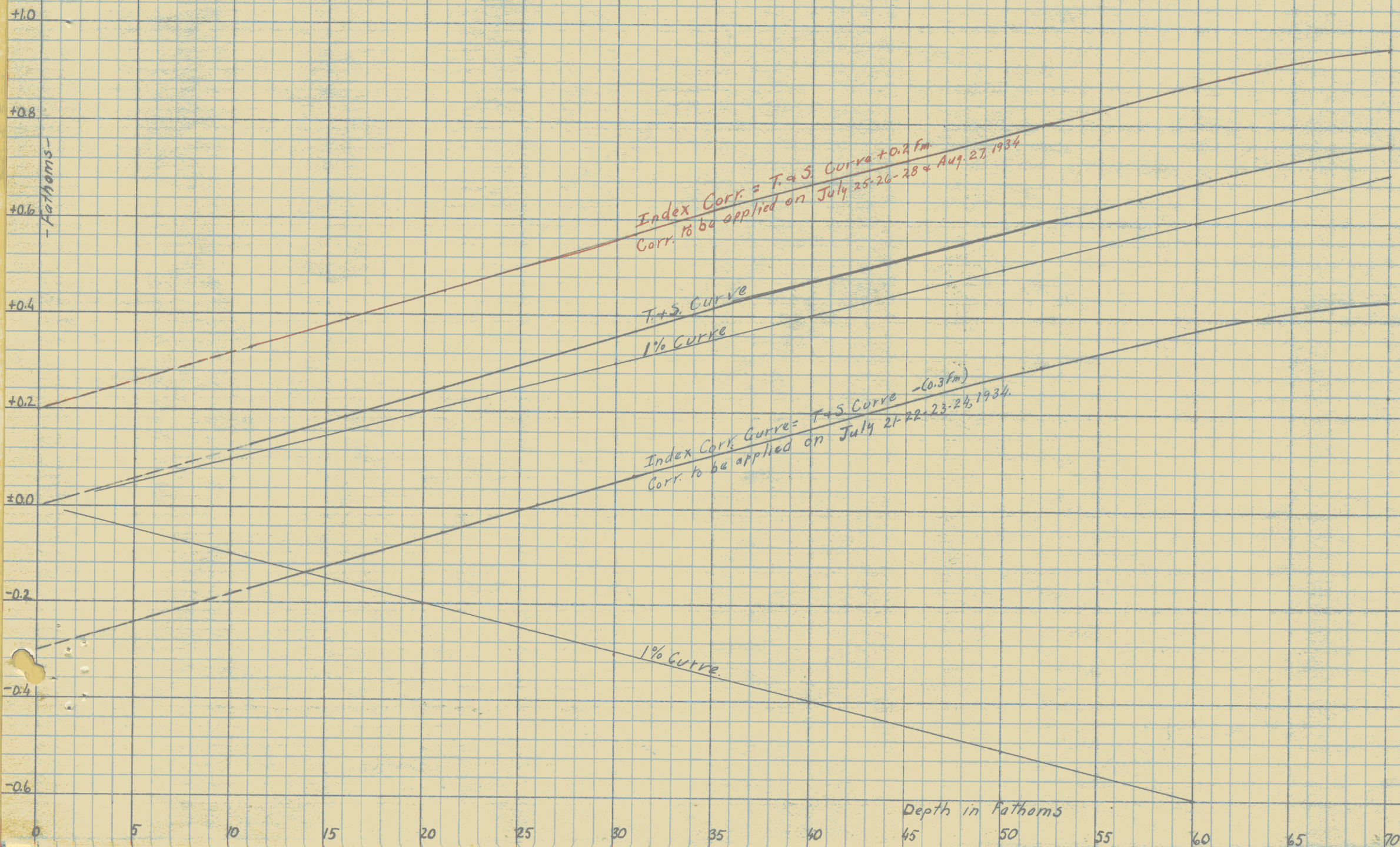
6 1/2 fm. to 58 1/2 fm. = + 1/2 fm.
58 1/2 fm. to 70 fms. = + 1 fm.

NAZAN BAY
ATKA Id. SW. Alaska.

20,000 Sheet

Corrections
(-)

2 fm. - 14 fm. = - 1/2 fm.
14 fm. - 70 fm. = 0 fm. (Less than 1% corr.)



Date	Pos.	Bottom	Temperature			Salinity		Sounding		Fath. Error	T & S Error	Index Corr.	Note
			S	B		S	B	Fath.	V.C.				
9-14-34	1A	gy M						97.0	96.0	-1.0	1.0	-2.0	
"	17A	hrd, rky						54.0	54.2	+0.2	0.6	-0.4	
"	20A	S & Sh						62.0	64.0	+2.0	0.7	+1.3	
"	22A	gy M						88.0	90.0	+2.0	0.9	+1.1	
"	47A	stk						56.0	56.8	+0.8	0.6	+0.2	
"	51A	gy M						84.0	85.5	+1.5	0.9	+0.6	
"	63A							78.0	79.1	+1.1	0.8	+0.3	
"	68A	M						70.0	71.2	+1.2	0.8	+0.4	
"	70A	M						100.0	102.0	+2.0	1.0	+1.0	
"	109A							20.0	20.4	+0.4	0.3	+0.1	
"	122A	stk						81.0	81.5	+0.5	0.8	-0.7	
9-15-34	3B							62.0	62.9	+0.9	0.7	+0.2	
"	23B	stk						51.0	52.3	+1.3	0.6	+0.7	
9-18-34	35C							80.0	81.6	+1.6	0.8	+0.8	
Serial Temperatures													
9-15-34	40B		9.2	9.4	50.6				2.0				
"	"			8.5					7.0				
"	"			8.0					12.0				
"	"			7.6					17.0				
"	"			7.6					22.0				
"	"			7.5					27.0				
"	"			7.0					32.0				
"	"			7.0					37.0				
"	"			6.6					42.0				
"	"			6.5					47.0				
"	"			6.7					52.0				
"	"			6.1					57.0				
"	"			6.2					62.0				
"	"			6.0					67.0				

Mean Salinity - 32.9

10

MAKUSHIN BAY

FATHOMETER FACTORS and CORRECTIONS.

Depth in Fathoms	Temp. C.	Mean Temp.	Factor	Corr. Fms.	Mean Salinity.
2	9.4	*	-	-	32.9
7	8.5	-	-	-	32.9
12	8.0	8.6	0.0143	0.17	32.9
17	7.6	8.4	0.0140	0.24	32.9
22	7.6	8.2	0.0135	0.30	32.9
27	7.5	8.1	0.0133	0.36	32.9
32	7.0	7.9	0.0128	0.41	32.9
37	7.0	7.8	0.0125	0.46	32.9
42	6.6	7.7	0.0123	0.52	32.9
47	6.5	7.6	0.0120	0.56	32.9
52	6.7	7.5	0.0118	0.61	32.9
57	6.1	7.4	0.0115	0.66	32.9
62	6.2	7.3	0.0113	0.70	32.9
67	6.0	7.2	0.0110	0.74	32.9

11

INDEX CORRECTIONS

<u>DATE</u>	<u>MEAN INDEX CORR. FOR DAY.</u>
Sept. 14	0.17
Sept. 15	0.45
Sept. 18	<u>0.80</u>
Mean Corr.	0.47

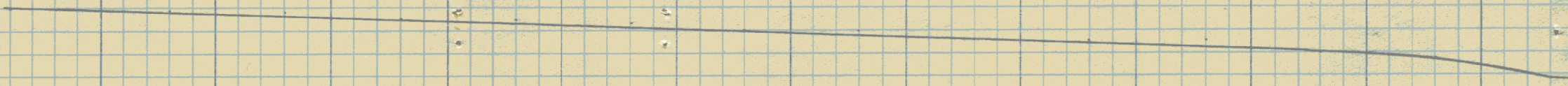
PART II

Temperature - °C

5
10
15
20
25

— Depth in Fathoms —

0
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85



MAKUSHIN BAY S.W. ALASKA

Corrections (+)

0-25 Fms. = $+\frac{1}{2}$ Fm.
25 Fms. - 78 $\frac{1}{2}$ Fms. = + 1 Fm.
78 $\frac{1}{2}$ - = + $1\frac{1}{2}$ Fm.

Index Corr. = T+S Curve + 0.5 fm.

T+S Curve

1% Curve

Fathoms

- Depth in Fathoms -

5

10

15

20

25

30

35

40

45

50

55

60

65

70

75

80

85

90

LAC

February 14, 1935

Division of Hydrography and Topography:

✓ Division of Charts: Attention Mr. E. P. Ellis

Tide Reducers are approved in
8 volumes of sounding records for

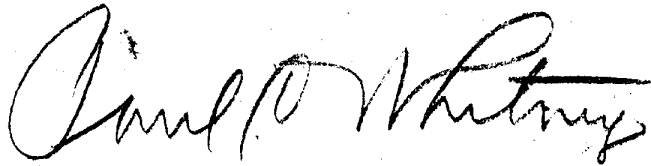
HYDROGRAPHIC SHEET 5644

Locality Nazan Bay, Atka Island, Southwestern Alaska

Chief of Party: H. B. Campbell in 1934
Plane of reference is mean lower low water, reading
4.2 ft. on tide staff at Atka
6.2 ft. below B.M. 1

Height of mean higher high water above plane of reference is 3.3 feet .

Condition of records satisfactory except as noted below:



Chief, Division of Tides and Currents.

Field Records Section (Charts)

HYDROGRAPHIC SHEET NO. 5644

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

Number of positions on sheet	2138
Number of positions checked	234
Number of positions revised	15
Number of soundings recorded	5515
Number of soundings revised	52
Number of signals erroneously plotted or transferred	None.

Date:

Verification by

Review by

P. H. Scherr
E. W. Smith

Harold W. Murray

Time:

Time:

5 days, 5½ hrs }
4 days, 3 hrs } 10 days, 1½ hrs

11½ hrs

Section of Field Records.

Report on H. 5644

Chief of Party H. B. Campbell

Protracted by R. A. Marshall

Surveyed in July, Aug., Sept., 1934

Surveyed by W. M. Scaife

Soundings plotted by R. A. Marshall

Verified and inked by E. Smith, P. Scherr.

1. The records conform to the requirements of the General Instructions
2. The usual depth curves were drawn.
In tightly congested soundings areas the minimum curve alone was inked.
3. The field plotting was complete to the extent prescribed in the Hydrographic Manual with the following exception -
The great majority of soundings ^{in Vol. 8,} taken in the dinghy,

II

were not plotted on the sheet or elsewhere by the field party although some of the omitted soundings are important. All positions were plotted by us and a selection of soundings made and indexed.

4. The office draftsman changed no drafting done by the field party.

5. Junction with H. 5643 - was made. Curves were adjusted on both sheets to agree.

6. Remarks -

a. - The transfer of topo signals from the topographic sheet to the smooth sheet was checked in the office.

b. - The topography was transferred from the topo sheet to the

III

smooth sheet. In the shoal areas off Profile Pt. not all of the sunken rocks shown on the topo sheet were inked on the smooth sheet as the soundings previously inked were given the preference. The dashed line indicating the foul area was inked.

A rock awash 2' located by line 9-10 "b" day on Page 19, Vol. 4, at latitude $52^{\circ}14'.1$; longitude $174^{\circ}07.7$, is evidently the same rock as located by the topo party although there is a discrepancy between the two. Topo. pos. accepted. X.M.M.

The sunken reef at latitude $52^{\circ}12'.5$; longitude $116^{\circ}09'.0$ as shown by the topo sheet was transferred to the smooth sheet, although ^{the hydrographic party} ~~in a note~~ on Page 5 Vol. 8 describes this reef as sunken. Soundings taken on the edge of this reef were inked. OK X.M.M. F.P. obtained Sdg. at our table.

Position 2C, P. 14, Vol. 8 falls on a rock awash as located by the topo party, at latitude $52^{\circ}11'.3$; longitude $174^{\circ}08'.2$
Topo notation accepted. X.M.M.
 mentioned on page 2 of D.R. and in review.

IV

* which note "anomaly at extreme low tide" shown at both positions. num. Pos. checks + on tape.

The ~~nk~~ awash symbol with the accompanying note was inked at position 16 a, ^(P.6 Vol.8) 100 meters SE of "BLACK" (approx). The depth given here is 2' at MLLW. Position 18 a (P.6, Vol.8) also has the same depth but is inked by the field party as a sunken rock. This remains pending review of the sheet after consulting Assistant Chief of Field Records. (lat $52^{\circ}11'.8$; long. $174^{\circ}08'.3$)

Position 17, g day on P. 35 Vol.8 plots a depth not consistent with surrounding soundings at lat $52^{\circ}10.9$; longitude $174^{\circ}08'.1$. The verifier recommends a change of 5 degrees in the right angle, placing the sounding where it is consistent with surrounding depths and closer to the plotting of 18, a day.

Change in angle accepted. num. only not needed on sheet.

Submitted by

Paul H. Scherr

Edward W. Smith

February 19, 1935.

Addition to Report. H 5644

By order of the Chief of Section, cuts to topographic features to eastward of Nozan Bay were plotted on this Hydro sheet. These cuts were included in the triangulation field records and taken from A.S. Nozan Vts, Pass and Top.

Due to the uncertainty of the points observed upon, i.e. no uniformity in ^{of stations} names, observed upon from the 4 stations, ~~indefinite~~ no definite data resulted from the plotting.

These cuts are not used on the sheet, found to be too indefinite.

by Chief of Section

Smith & Scherr

Photographs of area not included on Topo sheet to be furnished by Navy Dept about March 4th
C.K.G.

Section of Field Records

REVIEW OF HYDROGRAPHIC SURVEY NO. 5644 (1934)

Nazan Bay, Atka Island, S.W. Alaska
Instructions dated April 13, 1934 (SURVEYOR)
Surveyed July - Sept. 1934

Fathometer and Hand Lead Soundings - 3-Point Control on Shore Signals

Chief of Party - H. B. Campbell.

Surveyed by - W. M. Scaife.

Soundings protracted and plotted by - R. A. Marshall.

Verified and inked by - E. W. Smith, P. H. Scherr.

1. Condition of Records.

The records are neat, legible and conform to the requirements of the Hydrographic Manual except as follows:

a. Evidence that the plotting of topographic signals had been checked was lacking, since the initials of the checker were omitted. This was accomplished in the office.

b. On the cover label and title page of the sounding records, the position numbers and day letters were in black ink. These were changed to the proper color in the office (Par. 138).

c. Rocky ledges originating with the topographic sheet were not shown on the smooth sheet. These were added in the office.

2. Compliance with Instructions for the Project.

The plan, character and extent of the survey satisfy the instructions for the project.

3. Sounding Line Crossings.

No general system of cross-lines was run but those that were, as well as the adjacent lines show good agreement.

4. Depth Curves.

Within the limits of the survey, the usual depth curves may be satisfactorily drawn including positions of the low water, 1, 2 and 3 fathom curves.

5. Junctions with Contemporary Surveys.

a. The junction on the middle west with H-5643(1934) is satisfactory.

b. The junction on the east and northeast will be considered when that work is received from the field.

6. Comparison with Prior Surveys.

a. T-4149(1925)

This survey is principally a topographic reconnaissance with a fair hydrographic development of the southwestern portion of Nazman Bay. Soundings falling within the limits of the present survey are generally in good agreement. However, a number of rocks, inshore and offshore originating with this survey were found to be in conflict with those of the present survey. These have been disposed of in accordance with principles laid down in "Instructions for Review of Hydrographic Surveys". The more important of those so disposed of are the following:

1. The sunken rock (charted) in lat. $52^{\circ}11.4'$, long. $174^{\circ}08.5'$ falls in depths of about 10 fathoms on the present survey. The rock evidently originates with a note recorded at position 39B (green) which reads "Northwest end of kelp covered reef extending 100m. $25^{\circ}W.$ of Triangulation station Reef". This note while somewhat vague is believed to refer to the reef which is more accurately located on the present survey. The sunken rock should be disregarded in future charting.

2. The bare islet (charted) in lat. $52^{\circ}10.8'$, long. $174^{\circ}07.7'$ was not located on the present hydrographic, topographic nor aerial survey. The fact that the islet falls on a sunken rock on the present topographic survey is believed to be a mere coincidence for the rock was not definitely located and is evidently a ^{generalized} geological representation of the foul area shown here. In view of this and the fact that a rock awash at M.L.L.W. about 220m. to the WxN is clearly shown on the Air Photo but not the islet, the islet is believed to be non-existent in its present position and should be omitted in future chartings.

7. Compliance with Chart No. 9196.

Soundings shown on the above chart within the limits of the present survey and originating with sources other than those discussed in the foregoing paragraphs are from H.O. Chart No. 2147(1903). Comparison of depths with those of H-5644(1934) shows fairly good agreement in most areas but differences of as much as 10 fms. in others ^{among} amount which are the 8 fms. in lat. $52^{\circ}13.5'$, long. $174^{\circ}11.3'$ and the 13 fm. about ⁴⁰⁰ 410 m. southeastward which fall in comparatively even bottom of 18 and 22 fms., respectively on the present survey. Investigation disclosed that the soundings were obtained on lines, all soundings of which in the immediate vicinity of the 8 and 13 fms. consistently varied 1 to 10 fms. shoaler than those of the present survey. The soundings are clearly out in position and should be

disregarded in future chartings. Within the area covered, H-5644 (1934) should supersede for charting purposes all soundings shown on H.O. Chart No. 2147.

8. Field Plotting.

Field protracting and plotting were accurate and conform to the requirements of the Hydrographic Manual with the exception that a number of soundings obtained by the "Dinghy" (see D. R., page 1) were plotted on the smooth sheet in the office.

9. Doubtful Rocks and Positions.

a. Position 17 g (blue) depth $3\frac{1}{2}$ fms. plots in depths of about 11 fms. (lat. $52^{\circ}10.9'$, long. $174^{\circ}08.1'$), and if correct indicates a possible menace. From the remarks in the sounding record it is evident that the field party was outlining kelp limits close to Δ Reef. Furthermore, if the recorded position is correct the pulling boat would have had to travel at an excessive speed to reach the next position which is close to the Δ Reef. A change of 5 degrees in the right angle brings the position close to the islet and the $3\frac{1}{2}$ falls in comparable depths. It is therefore considered that the recorded position is erroneous. The $3\frac{1}{2}$ has been omitted from the sheet because in its corrected position the area is amply covered by the other soundings.

b. Some doubt exists regarding the true character of the rock awash shown in Lat. $52^{\circ}11.3'$, long. $174^{\circ}08.1'$ and originating with the present topographic survey T-6209 (1934) where it is noted as bare 3 ft. at M.L.L.W. The present hydrographic party obtained a 2 foot sounding at zero tide (position 2c, blue) at the position of the rock but no mention is made of the rock. The 1925 survey T-4149 mentions breakers at a 0.5 tide and shows a sunken rock at this position but no mention of a rock bearing at that time. There is a possibility that the present topographic party intended the note to be "covered 3 ft. at MLLW" instead of the note as indicated on the sheet. It would then agree with the present hydrographic information as well as with the sunken rock shown on the 1925 survey. The topographic notation has, however, been retained on this sheet until further information is received.

RK changed on T-6209 to sunken
RK covered 3ft. at MLLW. (See
letter from field attached to
D.R. T-6209).
HWM 3/27/35

10. Additional Field Work Recommended.

This survey is complete, no additional field work is required.

11. Superseding Previous Surveys.

Within the area covered, H-5644 (1934) with the indicated additions

from previous surveys supersedes the following survey for charting purposes:

T-4149 (1925) - In part.

12. Reviewed by - Harold W. Murray

February 23, 1935.

Inspected by - A. L. Shalowitz.

Examined and approved:

K. T. Adams, *C. N. Green*
Asst. Chief Division of Charts.

L. O. Lobbut.
Chief, Division of Charts.

H. L. Borden
Chief, Section of Field Work.

Grude
Chief, Division of H. & T.

25 J 9, 1936
EUG.

