

8789

March 27 1964

Diag. Cht. No. 8553

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT (HYDROGRAPHIC)

Type of Survey ... Hydrographic.....
Field No. PF-10-1-64.....
Office No..... H-8789.....

LOCALITY

State Alaska.....
General Locality .. Cook Inlet.....
Locality Kenai River Entrance.....

1964

CHIEF OF PARTY
H. J. Seaborg.....

LIBRARY & ARCHIVES

DATE Oct. 3, 1968.....

6828

DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

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

REGISTER No. H-8789

Field No. Pf-10-1-64

State Alaska

General locality Cook Inlet

Locality Kenai River Entrance

Scale 1:10,000 Date of survey 5 June 1964 - 27 Aug. 1964

Instructions dated 1 May 1964, 27 May 1964

Vessel Pathfinder Launches No. 1, 3&4

Chief of party Capt. H.J. Seaborg

Surveyed by Lt(jg) R.P. Williamson

Soundings taken by fathometer, ~~electric recorder, hand lead, wire~~ Rathcon 723

Fathograms scaled by Ships personnel

Fathograms checked by Ships personnel

Protracted by _____

Soundings penciled by _____

Soundings in fathoms ^{and tenths} ~~feet~~ at MEW MLLW

REMARKS: _____

X 441 7/13/90

F. J. G.

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8789

USC&GSS PATHFINDER

(PF 10-1-64)
1964

H.J. SEABORG, CAPT., C&GS
COMMANDING OFFICER

SCALE 1:10,000

A. PROJECT - This survey was accomplished under OPR-413 according to instructions dated 1 May 1964 as modified by supplemental instructions dated 27 May 1964.

B. AREA SURVEYED - The area of this survey is located on the East coast of Cook Inlet in the vicinity of the Kenai River. The area is bounded by Lat. 60 34' 00"N on the north and Lat. 60 30' 00"N on the south, 151 12' 00"W on the east and 151 27' 30"W on the west.

The survey makes a junction with contemporary survey PF 10-2-64, H-8790 to the south and is covered by prior surveys H-3196 (1910) 1:40,000 and H-3197 (1910) 1:10,000. Hydrography was begun on 5 June 1964 and completed on 27 August 1964. *See Review*

C. SOUNDING VESSEL All hydrography was done by the following Pathfinder launches:

Launch No. 1	Lower case blue
Launch No. 3	Lower case green
Launch No. 4	Lower case brown

D. SOUNDING EQUIPMENT All soundings were taken with a Ratheon 723 Fathometer. The "A" scale of the fathometer was used at all times.

Launch No.	Day letter	Serial No. of fathometer
1	a-s	143
3	a-p	140
4	a-b	145

Bar checks were taken daily to a depth of 4 fathoms. The velocity corrections were based on Oceanographic station No. 1 observed 7 June 1964 at 60 33.5'N, 151 23.0W and Oceanographic station No. 2 observed 17 August 1964 at 60 32.6N, 151 27.5W.

E. SMOOTH SHEET The smooth sheet projection was constructed in the Washington D. C. office

F. CONTROL Visual control was used throughout the survey. A shoran station was set up but not located or calibrated. The shoran was used only as an aid for line spacing, therefore the shoran rates were not recorded. The shoran was used by running concentric arcs.

All horizontal control except triangulation was located by photogrammetric methods. Photogrammetric compilations used for transfer of signals are as follows: T-12405, T-12507 & T-12508 dated 8 May 1964.

G. SHORELINE Shoreline was transferred from manuscripts listed in F. The shoreline details were found to be accurate except in a few cases where a few large rocks were located on the boat sheet. Submerged rocks were located and positioned on the boat sheet. The depth of these submerged objects was determined by means of the fathometer. Currents to 6 knots and the opaqueness of the water prevented the launch from holding its position over a submerged object in a ^{manner} ~~minor~~ *See Verifiers Report with Survey Records* suitable to obtain adequate lead line soundings on these objects.

The low water line was determined by running hydro lines at high tide and also by walking the beach in areas inaccessible to a hydro launch (BoulderPt.).

This is not a geographic name in area of survey.

H. CROSSLINES The percentage of crosslines runs to approximately 10% and any discrepancy on the boat sheet is assumed to be a result of using predicted tides in reducing the soundings.

I. JUNCTIONS. Junction comparisons are left to be made using the final reduced soundings on the smooth sheet. *See Review*

J. COMPARISON WITH PRIOR SURVEYS A general comparison was made in the field but a more accurate comparison should be made using the final reduced soundings on the smooth sheet. *See Review*

K. COMPARISON WITH THE CHART The field comparison was generally good but a more accurate comparison should be made using the final reduced soundings on the smooth sheet. *See Review*

L. ADEQUACY OF SURVEY The survey is complete and adequate for charting.

M. AIDS TO NAVIGATION There were no fixed aids to navigation in the area of the survey
(Buoy vol. 1 pg. 21, pos. 84)

N. STATISTICS The number of positions was 4114, nautical miles of sounding lines was 599.4, and the area in square miles was 23.2. There were 36 bottom samples obtained.

Q. REFERENCES TO REPORTS

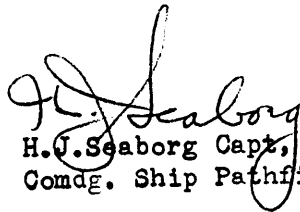
1. 1964 Pathfinder fathometer report forwarded to Washington D.C.
2. Tide Merigrams, Nikiski Fuel Pier, 5 June - 27 August 1964 forwarded to Washington D.C.
3. Form 275 - Sounding volumes - 20 each forwarded to Seattle processing office.
4. Fathograms - 28 each. Forwarded to Seattle Processing Office
5. Form 524 - Triangulation Recovery Notes forwarded to Washington D.C.

Respectfully submitted

Leland L. Reinke

Leland L. Reinke
LTJG, C&GS

Survey H-8789 and accompanying records have been examined
by me and are approved. No additional field work is recommended.


H. J. Seaborg Capt, C&GS
Comdg. Ship Pathfinder

List of Signals H-8789 (PF-10-1-64)

<u>Name</u>	<u>No.</u>	<u>Origin</u>
ACE	001	T-12508
AND	002	T-12508
BOB	003	T-12508
BON	004	T-12508
BOY	005	T-12507
BUD	006	T-12405
CAN	007	T-12508
CHI	008	T-12508
CID	009	T-12508
DRY	010	T-12508
EASY	011	T-12508
EAT	012	T-12508
EGO	013	T-12508
EVA	014	T-12508
FREE	015	T-12508
GEE	016	T-12508
HUT	017	T-12508
ICE	018	T-12508
JAP	019	T-12508
KEN	020	T-12508
KENAI CHURCH STEEPLE, 1909	021	Triangulation
LAX	022	T-12508
LEE	023	T-12405
LOW	024	T-12508
LUX	025	T-12508
MUD	026	T-12508
NUT	027	T-12508
ORE	028	T-12508
PAT	029	T-12405
POL	030	T-12508
POP	031	T-12508
QUB	032	T-12508
RIP	033	T-12508
ROT	034	T-12508
SAD	035	T-12508
SHO	036	T-12507
SIC	037	T-12507
SIL	038	T-12508
TAN	039	T-12508
TOP	040	T-12508
WIT	041	T-12508
WOO	042	T-12508
YES	043	T-12507
ZOO	044	T-12508
	101	Grid Intersection
	102	" "
	103	" "

USC&GSS PATHFINDER
OSS-30
H.J. Seaborg, Comdg.

VELOCITY CORRECTIONS
Kenai, Alaska

To be applied to all hydrography accomplished in the Kenai area on OPR-413 from 7 June 1964 through 25 July 1964.

<u>CORRECTION</u>	<u>TO DEPTH</u>
0.0FM	10 fm
+0.1fm	17 fm

To be applied to all hydrography accomplished in the Kenai area on OPR-413 from 26 July 1964 through 10 September 1964.

<u>CORRECTION</u>	<u>TO DEPTH</u>
0.0fm	5fm
+0.1fm	13fm
+0.2fm	17fm

The above data was obtained from the following Oceanographic stations:

Station No. 1
7 June 1964
60 33.5'N
151 23.0'W

Station No. 2
17 August 1964
60 32.6'N
151 27.5'W

USC&GSS PATHFINDER
 OSS-30
 H.J. Seaborg Comdg.
 Echo Corrections

Date	Day Letter	Corr.	Date	Day Letter	Corr.
Launch #1					
7-17- ⁹ 12	a	+0.3	7-27	k	+0.3
7-14	b	+0.3	7-28	l	+0.3
7-16	c	+0.3	7-29	m	+0.3
7-17	d	+0.3	7-30	n	+0.3
7-18	e	+0.3	8-3	p	+0.3
7-20	f	+0.3	8-4	q	+0.3
7-21	g	+0.3	8-5	r	+0.3
7-24	h	+0.3	8-8	s	+0.3
7-25	j	+0.3			
Launch #3					
6-12	a	+0.3	6-27	h	+0.3
6-15	b	+0.3	6-29	j	+0.3
6-16	c	+0.3	6-30	k	+0.3
6-22	d	+0.3	7-6	l	+0.3
6-23	e	+0.3	7-7	m	+0.3
6-24	f	+0.3	7-8	n	+0.3
6-25	g	+0.3	8-28	p	+0.3
Launch #4					
8-26	a	+0.3			
8-27	b	+0.3			

Table of Position Numbers and Computer Plotter Numbers

<u>Vessel</u>	<u>Position No.</u>	<u>Computer Plotter No.</u>
Launch #1	1 "a" to 3 "a"	2000 - 2002
"	1 "b" to 213 "b"	2003 - 2202
"	1 "c" to 256 "c"	2203 - 2451
"	1 "d" to 157 "d"	2452 - 2608
"	1 "e" to 162 "e"	2609 - 2769
"	1 "f" to 175 "f"	2770 - 2937B
"	1 "g" to 106 "g"	2938 - 3036
"	1 "h" to 124 "h"	3037 - 3159
"	1 "j" to 297 "j"	3160 - 3455
"	1 "k" to 154 "k"	3456 - 3604
"	1 "l" to 69 "l"	3605 - 3673
"	1 "m" to 72 "m"	3674 - 3744
"	1 "n" to 172 "n"	3745 - 3916
"	1 "p" to 28 "p"	3917 - 3944
"	1 "q" to 99 "q"	3945 - 4035
"	6 "r" to 116 "r"	4039 - 4148
"	1 "s" to 20 "s"	4149 - 4168
<hr/>		
Launch #3	1 "a" to 94 "a"	1 - 94
"	1 "b" to 191 "b"	127 - 313
"	1 "c" to 137 "c"	314 - 450
"	1 "d" to 193 "d"	451 - 641

(continued)

Table of Position Numbers and Computer Plotter Numbers

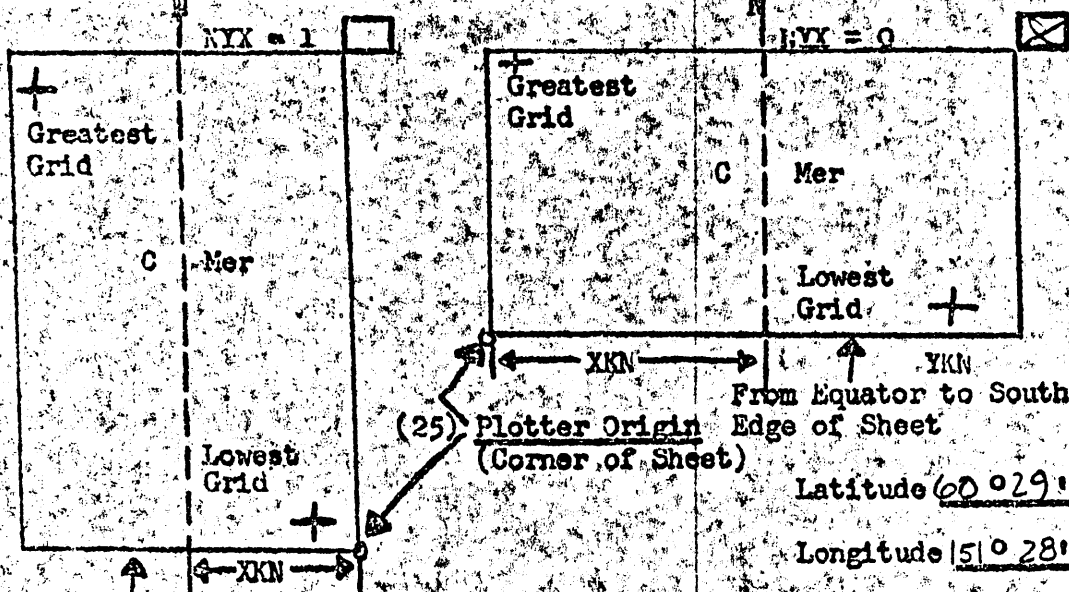
<u>Vessel</u>	<u>Position No.</u>	<u>Computer Plotter No.</u>
Launch #3	12 "e" to 138 "e"	642 - 772
"	1 "f" to 94 "f"	773 - 839
"	1 "g" to 127 "g"	840 - 966
"	1 "h" to 203 "h"	967 - 1169
"	1 "j" to 122 "j"	1170 - 1290
"	1 "k" to 156 "k"	1291 - 1446
"	1 "l" to 228 "l"	1447 - 1667
"	1 "m" to 30 "m"	1668 - 1697
"	1 "n" to 9 "n"	1698 - 1705
"	1 "p" to 9 "p"	1707 - 1715
<hr/>		
Beach Party	106 "a" to 137 "a"	6000 - 6030
<hr/>		
Launch #4	31 "a" to 42 "a"	4994 - 5005
"	1 "b" to 84 "b"	5006 - 5084

Statistics

<u>Launch #3</u>	<u>Automated No.</u>
"a" day thru "p" day	position 1 thru 1715
<u>Launch #1</u>	
"a" day thru "s" day	position 2000 thru 4168
<u>Launch #4</u>	
"a" day thru "b" day	position 5000 thru 5084
<u>Beach party</u>	
"a" day (vol. 1)	position 6000 thru 6030

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

- (1) Project No. _____
- (2) H No. 8789
- (3) Field No. PF 10-164
- (4) Requested by _____
- (5) Ship or Office _____
- (6) Date Required _____
- (7) Visual
- (8) Electronic (fill out form #3)
- (9) XKN (SP 5) Distance from CMER to East Edge (1.YX = 1) or West Edge (1.YX = 0). 7606.1 Meters
- (10) YKN (SP 241) Distance from Equator to South Edge of sheet. 6,707,997.08 Meters
- (11) Central Meridian 151° 20' 00"
- (12) Survey Scale 1: 10,000
- (13) Size of Sheet (Check one) 36x60 42x60
- (14) NYX, Orientation of sheet (Check one)



From Equator to South Edge of Sheet
Latitude 60° 29' 09"
Longitude 151° 28' 18"

Grid Limits

- (15) Greatest Latitude 60° 34' 30" (Projection Line Interval Page 4 Hydro Manual)
- (16) Lowest Latitude 60° 29' 30"
- (17) Difference 0° 5' 00" (18) 0' 30"
- (20) Greatest Longitude 151° 28' 00" (19) 10 YSN
- (21) Lowest Longitude 151° 12' 00" (23) 0' 30"
- (22) Difference 0° 16' 00" (24) 32 YSN

TIDE NOTE

PROJECT OPR - 413

A bubbler tide gage was established at the Nikiski Fuel Pier, 60 41.2N - 151 23.7'W. The gage was connected by 1.5 miles of levels to four existing tidal bench marks. The plane of reference (MLLW) corresponds to 11.5 feet on the tide staff. All tide reducers were computed using this value without time or height correction. All corrections applied to soundings were done according to the Hydrographic Manual (sec. 5-100). 150th Meridian time was used.

TIDE NOTE FOR HYDROGRAPHIC SHEET

May 11, 1965

~~Nautical Chart Division~~ Seattle Regional Office

Plane of reference approved in
20 volumes of sounding records for

HYDROGRAPHIC SHEET 8789

Locality: Cook Inlet, Kenai-Kasilof, Alaska

Chief of Party: Capt. H. J. Seaborg, 1964

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Nikiski, Cook Inlet

Height of Mean High Water above Plane of Reference is as follows: 19.2 feet

Remarks Tide reducers for the following positions have
been revised in red and verified.

<u>Vol.</u>	<u>Position</u>
1	35a - 65a 106a - 136a

J. M. Symons

Chief, Tides and Currents Branch

GEOGRAPHIC NAMES

Survey No. H-8789

Name on Survey											
	A	B	C	D	E	F	G	H	K		
Cook Inlet											1
Kalifornsky Beach											2
Kenai											3
Kenai River											4
Salmo Rock											5
Chinulna Point											6
											7
											8
											9
											10
											11
											12
											13
											14
											15
											16
											17
											18
											19
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											23
											24
											25
											26
											27

NAMES approved
Oct. 29, 1968

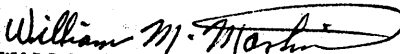
Frank W. Pillet
Chas. E. Harrington - C3x5

19 Aug 1980

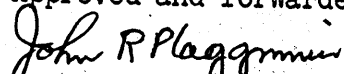
Approval Sheet

The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and Hydrographic Manual. (Note: All exceptions are listed in the verifier's report).

Examined and approved.


William M. Martin
Supervisory Carto. Tech.

Approved and forwarded.


John R. Plaggmier CDR USESSA
Chief Processing Division, PMC

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-8789

RECORDS ACCOMPANYING SURVEY: To be completed when survey is registered.

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET		1	BOAT SHEETS		1	
DESCRIPTIVE REPORT		1	OVERLAYS		4 8	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES			1			
CAHIERS	1		2			
VOLUMES	21					
BOXES						

T-SHEET PRINTS (List)

SPECIAL REPORTS (List)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				4114
POSITIONS CHECKED		444	41	41
POSITIONS REVISED		241	0	241
DEPTH SOUNDINGS REVISED		1329	30	1359
DEPTH SOUNDINGS ERRONEOUSLY SPACED		7	0	7
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED		0	0	0
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS			40	40
JUNCTIONS		23	10	33
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		24	10	34
SPECIAL ADJUSTMENTS		3	—	3
ALL OTHER WORK		779	40	819
TOTALS		829	100	929
PRE-VERIFICATION BY	BEGINNING DATE		ENDING DATE	
VERIFICATION BY	BEGINNING DATE		ENDING DATE	
REVIEW BY	BEGINNING DATE		ENDING DATE	

A. E. Eichelberger

L. G. G. G.

Sup: H. Myers 6/10/80 43 hrs

REGISTRY NO. H-8789

The Computer and Excess Sounding Cards for this survey have not been corrected to reflect the changes made to the Computer Card and Excess Card Printouts at this time of the review.

When the cards have been updated to reflect the final results of the survey, the following shall be completed:

CARDS CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

REGISTRY NO. _____

The magnetic tape containing the data for this survey has not been corrected to reflect the changes made during evaluation and review.

When the magnetic tape has been updated to reflect the final results of the survey, the following shall be completed:

MAGNETIC TAPE CORRECTED

DATE _____ TIME REQUIRED _____ INITIALS _____

REMARKS:

OFFICE OF MARINE SURVEYS AND MAPS
HYDROGRAPHIC SURVEYS DIVISION
MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8789

FIELD NO. PF-10-1-64

Alaska, Cook Inlet, Kenai River Entrance

SURVEYED: June 5 - August 27, 1964

SCALE: 1:10,000

PROJECT NO.: OPR-413

SOUNDINGS: Sounding Pole
DE-723 Depth Recorder

CONTROL: Visual

Chief of Party	H. J. Seaborg
Surveyed by	R. P. Williamson
Automated Plot by	Gerber Digital Plotter (PMC)
Verified by	A. E. Eichelberger
Reviewed by	L. Quinlan
	Date: May 30, 1980
Cursory inspection made--survey	G. K. Myers
processing considered complete	June 10, 1980

1. Control and Shoreline

The origin of the control is adequately discussed in part F of the Descriptive Report.

The shoreline originates with final reviewed photogrammetric manuscript T-12405 (1962) which was available at the time of review. Advanced manuscripts T-12507 and T-12508 addressed in the Verifier's Report, however, were not obtainable.

The mean high water line is shown for guidance only and its true position is delineated on photogrammetric sources.

2. Hydrography

- a. Depths at crossings are in good agreement.
- b. The usual depth curves are adequately delineated. Some brown curves and dashed curves were added to emphasize certain bottom features.
- c. The development of the bottom configuration and the investigation of the least depths are considered adequate.

3. Condition of Survey

The field work, survey records, Descriptive Report, cartographic presentation of data, and decisions and actions taken by the verifier conform to the National Ocean Survey's standards and requirements except as stated below.

a. The junctional notes were inked during verification indicating that the junctions had been accomplished although the depth curves had not been brought into coincidence as required. The junctional curves were brought into coincidence by the reviewer.

b. Dashed curves were revised to solid curves in areas where soundings justified the delineation of a standard depth curve on the survey.

c. The term "awash" used alone to describe the character of rocks on the smooth sheet is meaningless unless referenced to MLLW or MHW. These errors were corrected during review.

d. Curves were mistakenly drawn around rock awash symbols on the smooth sheet.

e. Bottom characteristics were not completely described on the verified smooth sheet. Many adjectives pertaining to the size and color of sediment noted on the boat sheet were added at the time of review.

f. Numbered positions annotated on the final position overlay are faint. In some cases, positions are manually inked in order to provide an adequate reference for survey data plotted on the smooth sheet.

g. Algebraic signs for tide correctors were incorrectly reversed in the sounding volumes for positions 3671-3673.

h. The hydrographer should have delineated a foul area limit line around the rock strewn area in the vicinity of latitude 60°33'30"N, longitude 151°18'30"W where hydrography was not run.

4. Junctions

Junctions were accomplished with H-8790 (1964) on the south and H-8618 (1961) on the west. A junction was made with H-9619 (1976) on the north during the quality evaluation of that survey. A butt junction was effected on the east where variable differences of as much as 1 fathom were noted. These changes are considered to have been caused by shifting sand.

5. Comparison with Prior Surveys

a.	H-3196	(1910)	1: 40,000
	H-3197	(1910)	1: 10,000
	H-3198	(1910)	1:120,000

The single line of soundings on H-3198 crossing the present survey affords an inadequate basis of comparison with present depths.

The other surveys taken together cover the area of the present survey. A comparison between prior and present depths reveals virtually no change, except in a few areas where a deepening of 2 to 4 feet has occurred. This difference is considered to be due to known current activity within the area.

Many rocks and some soundings were brought forward from these prior surveys to supplement present hydrography. With these additions, the present survey is considered adequate to supersede the prior surveys in the common area.

b. H-8617 W.D. (1961) 1:20,000

The effective depths of this wire-drag survey do not conflict with depths on the present survey which fall in the common area.

6. Comparison with Chart 8553, 14th Edition, January 20, 1973

a. Hydrography

The charted hydrography originates with the previously discussed prior surveys which require no further consideration.

The "submerged rock" PD originating with CL-111 (1919) charted in latitude 60°31.5'N, longitude 151°24'W was investigated with an improvised wire drag and was not found. However, inasmuch as the reported position was doubtful, the wire-drag coverage is not considered adequate. Hence it is recommended the submerged rock be retained on the chart.

AWOIS
52188
RWD
2/95

b. Aids to Navigation

A charted buoy within the survey area adequately marks the feature intended.

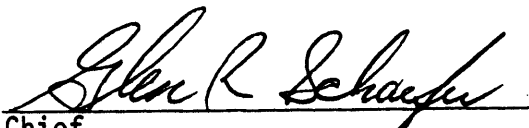
7. Compliance with Instructions

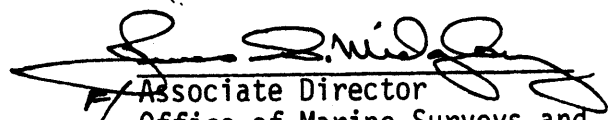
This survey adequately complies with the project instructions.

8. Additional Field Work

This is a very good basic survey and no additional field work is recommended.

Examined and Approved:


Chief
Hydrographic Surveys Division


Associate Director
Office of Marine Surveys and
Maps

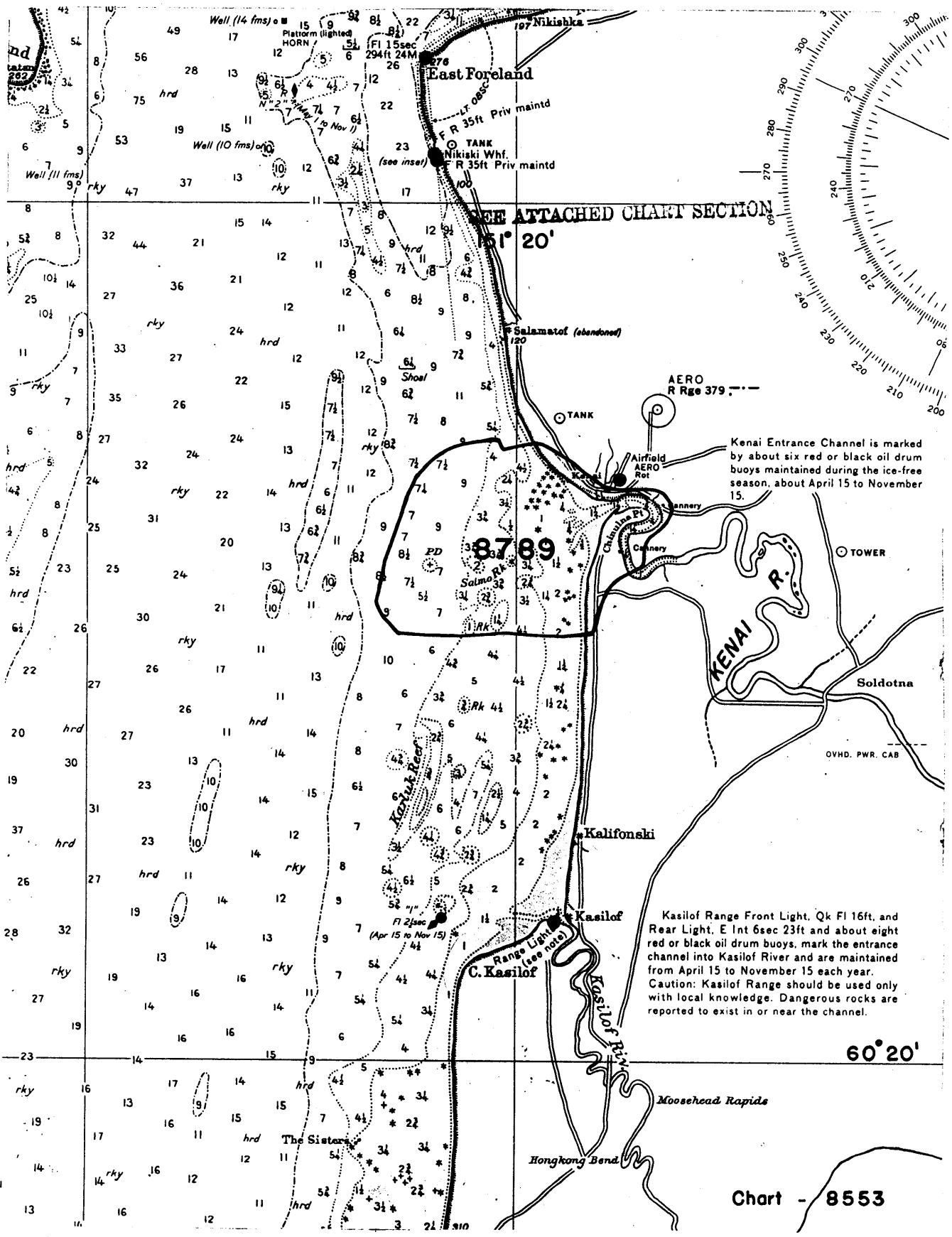


Chart - 8553

