

T- 12011

T- 12011

NOAA FORM 76-35

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

## DESCRIPTIVE REPORT

Type of Survey ..... Shoreline .....  
Job No. .... PH-6013 ..... Map No. .... T-12011 .....  
Classification No. Final Map Edition No. .... 1 .....

### LOCALITY

State ..... Alaska .....  
Cook Inlet  
General Locality .... Kalgin Island to Anchorage .....  
Locality ..... Lewis River .....

1966 TO 1977

### REGISTRY IN ARCHIVES

DATE .....

NOAA FORM 76-36A (3-72)		U. S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.	
<b>DESCRIPTIVE REPORT - DATA RECORD</b>		TYPE OF SURVEY <input checked="" type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED	
PHOTOGRAMMETRIC OFFICE Coastal Mapping Division Atlantic Marine Center, Norfolk, VA		SURVEY <del>REF.</del> T-12011 MAP EDITION NO. (1) MAP CLASS Final Map JOB PH. 6013	
OFFICER-IN-CHARGE  Jeffrey G. Carlen, Cdr.		LAST PRECEDING MAP EDITION TYPE OF SURVEY <input type="checkbox"/> ORIGINAL <input type="checkbox"/> RESURVEY <input type="checkbox"/> REVISED JOB PH. _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__	
<b>I. INSTRUCTIONS DATED</b>			
1. OFFICE		2. FIELD	
Aerotriangulation 9/15/66 Compilation, Supplement 3 4/26/67 Compilation, Supplement 4 9/11/67		Supplement 1 8/8/66 Field 6/6/66	
<b>II. DATUMS</b>			
1. HORIZONTAL: <input checked="" type="checkbox"/> 1927 NORTH AMERICAN		OTHER (Specify)	
2. VERTICAL: <input checked="" type="checkbox"/> MEAN HIGH-WATER <input type="checkbox"/> MEAN LOW-WATER <input checked="" type="checkbox"/> MEAN LOWER LOW-WATER <input type="checkbox"/> MEAN SEA LEVEL		OTHER (Specify)	
3. MAP PROJECTION  Polyconic		4. GRID(S) STATE Alaska ZONE 4	
5. SCALE  1:20,000		STATE ZONE	
<b>III. HISTORY OF OFFICE OPERATIONS</b>			
OPERATIONS		NAME	DATE
1. AEROTRIANGULATION BY METHOD: Stereoplanigraph LANDMARKS AND AIDS BY		P. Hawkins	Apr 1967
2. CONTROL AND BRIDGE POINTS PLOTTED BY METHOD: Manual CHECKED BY		L. O. Neterer, Jr.	Jul 1967
3. STEREOSCOPIC INSTRUMENT PLANIMETRY BY COMPILATION CHECKED BY		L. O. Neterer, Jr.	Jul 1967
INSTRUMENT: Kelsh plotter SCALE: 1:20,000		R. E. Smith	Jul 1967
4. MANUSCRIPT DELINEATION PLANIMETRY BY CHECKED BY		NA	NA
METHOD: Smoothdrafted SCALE: 1:20,000		R. R. White	Jul 1967
HYDRO SUPPORT DATA BY CHECKED BY		L. Graves	Jul 1967
5. OFFICE INSPECTION PRIOR TO FIELD EDIT BY		L. Graves	Jul 1967
6. APPLICATION OF FIELD EDIT DATA BY		I. Perkinson	Jan 1978
7. COMPILATION SECTION REVIEW BY		C. Blood	Jan 1978
8. FINAL REVIEW BY		C. Blood	Jan 1978
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH BY		J. Byrd/C. Blood	May 1986
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH BY		J. Byrd	Sept 1986
11. MAP REGISTERED - COASTAL SURVEY SECTION BY		P. Dempsey E. L. DAUGHERTY	Oct 1986 Dec '86

NOAA FORM 76-36B  
(3-72)U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEYT-12011  
COMPILATION SOURCES

## 1. COMPILATION PHOTOGRAPHY

CAMERA(S) Wild RC-8 "L" and RC-9 "M"		TYPES OF PHOTOGRAPHY LEGEND (C) COLOR (P) PANCHROMATIC X (I) INFRARED		TIME REFERENCE	
TIDE STAGE REFERENCE <input type="checkbox"/> PREDICTED TIDES <input type="checkbox"/> REFERENCE STATION RECORDS <input type="checkbox"/> TIDE CONTROLLED PHOTOGRAPHY				ZONE Alaska MERIDIAN 150th	<input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> DAYLIGHT
NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE	
66L6669 - 66L6671	8/14/66	08:42	1:40,000	2.6 ft. above MLLW	

REMARKS

## 2. SOURCE OF MEAN HIGH-WATER LINE:

The mean high water line was compiled from the above listed compilation photography.

3. SOURCE OF ~~MEAN LOW-WATER~~ OR MEAN LOWER LOW-WATER LINE:

The mean lower low water line was compiled graphically from the 1966 L photography.

## 4. CONTEMPORARY HYDROGRAPHIC SURVEYS (List only those surveys that are sources for photogrammetric survey information.)

SURVEY NUMBER	DATE(S)	SURVEY COPY USED	SURVEY NUMBER	DATE(S)	SURVEY COPY USED

## 5. FINAL JUNCTIONS

NORTH	EAST	SOUTH	WEST
T-11999	T-12012	No Survey	T-12010

REMARKS

NOAA FORM 76-36C  
(3-72)U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION  
NATIONAL OCEAN SURVEY

T-12011

## HISTORY OF FIELD OPERATIONS

I. ☒ FIELD INSPECTION OPERATION Premarking ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	A. Wardwell	1961
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	NA NA NA
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	None None None
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY BY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	None
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	NA

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED None		2. VERTICAL CONTROL IDENTIFIED NA	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
3. PHOTO NUMBERS (Clarification of details) None			
4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED None			
PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME
5. GEOGRAPHIC NAMES: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE		6. BOUNDARY AND LIMITS: <input type="checkbox"/> REPORT <input checked="" type="checkbox"/> NONE	
7. SUPPLEMENTAL MAPS AND PLANS None			
8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division) None			

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(3-72)

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NATIONAL OCEAN SURVEYT-12011  
HISTORY OF FIELD OPERATIONSI. ☒ FIELD INSPECTION OPERATION *Premarking* ☐ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. Melby	1966
2. HORIZONTAL CONTROL	RECOVERED BY A. C. Weymann, III	1966
	ESTABLISHED BY None	
	PRE-MARKED OR IDENTIFIED BY None	
3. VERTICAL CONTROL	RECOVERED BY NA	
	ESTABLISHED BY NA	
	PRE-MARKED OR IDENTIFIED BY NA	
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY None	
	LOCATED (Field Methods) BY None	
	IDENTIFIED BY None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION BY	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY None	
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY NA	

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED

None

2. VERTICAL CONTROL IDENTIFIED

NA

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

None

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T-12011

## HISTORY OF FIELD OPERATIONS

I. ☐ FIELD INSPECTION OPERATION☒ FIELD EDIT OPERATION

OPERATION	NAME	DATE
1. CHIEF OF FIELD PARTY	R. L. Williams	July 1977
2. HORIZONTAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	None None None
3. VERTICAL CONTROL	RECOVERED BY ESTABLISHED BY PRE-MARKED OR IDENTIFIED BY	NA NA None
4. LANDMARKS AND AIDS TO NAVIGATION	RECOVERED (Triangulation Stations) BY LOCATED (Field Methods) BY IDENTIFIED BY	NA NA NA
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION <input type="checkbox"/> COMPLETE <input type="checkbox"/> SPECIFIC NAMES ONLY <input checked="" type="checkbox"/> NO INVESTIGATION	
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	R. Crowell
7. BOUNDARIES AND LIMITS	SURVEYED OR IDENTIFIED BY	NA

## II. SOURCE DATA

1. HORIZONTAL CONTROL IDENTIFIED		2. VERTICAL CONTROL IDENTIFIED	
None		NA	
PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION

3. PHOTO NUMBERS (Clarification of details)

None

4. LANDMARKS AND AIDS TO NAVIGATION IDENTIFIED

None

PHOTO NUMBER	OBJECT NAME	PHOTO NUMBER	OBJECT NAME

5. GEOGRAPHIC NAMES: ☐ REPORT ☒ NONE

6. BOUNDARY AND LIMITS: ☐ REPORT ☒ NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

8. OTHER FIELD RECORDS (Sketch books, etc. DO NOT list data submitted to the Geodesy Division)

Field edit data volume  
Field edit ozalid, Map T-12011NOAA FORM 76-36C  
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NOAA FORM 76-36D  
(3-72)U. S. DEPARTMENT OF COMMERCE  
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATIONT-12011  
RECORD OF SURVEY USE

## I. MANUSCRIPT COPIES

COMPILATION STAGES			DATE MANUSCRIPT FORWARDED	
DATA COMPILED	DATE	REMARKS	MARINE CHARTS	HYDRO SUPPORT
Compilation complete, pending field edit.	6/67	Class III Manuscript	None	5/15/73
Field edit applied. Compilation complete.	1/78	Class I Manuscript	2/1/78	2/1/78
Final Review	5/86	Final Map		

## II. LANDMARKS AND AIDS TO NAVIGATION None

## 1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS

2. ☐ REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: \_\_\_\_\_3. ☐ REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: \_\_\_\_\_

## III. FEDERAL RECORDS CENTER DATA

1. ☒ BRIDGING PHOTOGRAPHS; ☒ DUPLICATE BRIDGING REPORT; ☒ COMPUTER READOUTS.  
 2. ☐ CONTROL STATION IDENTIFICATION CARDS; ☐ FORM NOS 567 SUBMITTED BY FIELD PARTIES.  
 3. ☒ SOURCE DATA (except for Geographic Names Report) AS LISTED IN SECTION II, NOAA FORM 76-36C.  
 ACCOUNT FOR EXCEPTIONS:

4. ☐ DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: \_\_\_\_\_

## IV. SURVEY EDITIONS (This section shall be completed each time a new map edition is registered)

SECOND EDITION	SURVEY NUMBER TP - _____ (2)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY <input type="checkbox"/> REVISED <input type="checkbox"/> RESURVEY MAP CLASS <input type="checkbox"/> II. <input type="checkbox"/> III. <input type="checkbox"/> IV. <input type="checkbox"/> V. <input type="checkbox"/> FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

REVISED 8-24-76 PWN  
REVISED 3-11-77 RG.

REVISED 8-24-76 PWN  
REVISED 3-11-77 RG.



Sheet No.	Scale	SQ. Miles
T-11998	SCALE	4
11999		6
12000		9
12001		5
12002		3
12003		2
12004		2
12005		4
12006		3

12018		12038		TOTAL
12019	4	12039		
12020	4	12040(2)		
12021	2	12041		
	3	12042		
		12043		
		12044		
		12045(2)		
		12046(2)		
		12047		
		12048		
		12049		
		12507		
		12508		
		12987		

157.00" 150°48'45"

100°39'45" -- First editions of T-12040,  
T-12045, T-12046 and T-12049  
were prepared specifically  
to support hydrography by the  
PATHFINDER in 1961 (PM-6013).

12007  
12008  
12009  
12010  
12011  
12012  
12013  
12014  
12015  
12016

THE

First editions of T-12040, T-12045, T-12046 and T-12049 were prepared specifically to support hydrography by the PATHFINDER in 1961 (P-6-601).

**TOTAL****TOTAL**



SUMMARY TO ACCOMPANY  
DESCRIPTIVE REPORT

T-12011

This 1:20,000 scale Final shoreline map is one of 44 maps designated as project PH-6013 Cook Inlet, Kalgin Island to Anchorage, Alaska. T-12010 was compiled from photography taken after the 1964 earthquake.

The purpose of this map was to provide contemporary shoreline in support of hydrographic operations and to aid in chart revision.

Field work prior to compilation in the 1961 field season consisted of recovery of horizontal control and limited field inspection. Field work in 1966 consisted of premarking of horizontal control for future aerotriangulation.

This area was photographed in August 1961 with the RC-8 "M" camera and in August 1966 with RC-8 "L" camera using panchromatic film at 1:40,000 scale.

Bridging was performed in the Washington office in April 1967.

This map was compiled at the Norfolk office in July 1967.

Field edit was performed for T-12011 during the 1977 field season. Field edit data was applied at AMC in January 1978.

Final review was performed at the Atlantic Marine Center in May 1986.

This Descriptive Report contains all pertinent information used to compile this Final Map. The original base manuscript and all related data were forwarded to the Washington Science Center for final registration.

## FIELD INSPECTION REPORT

COOK INLET, ALASKA

PROJECT SP-1-61 1961

USC&amp;GS Ship PATHFINDER

Arthur L. Wardwell, CAPT., Comdg.

MANUSCRIPTS:-

12049, 12046, 12045, 12040, 12031, 12032, 12026, 12027, 12028, 12020, 12021, 12022, 12017, 12015, 12016, 12014, 12013, 12008, 12007, 12006, 12003, 12004, 12005, 12002, 12001, 12000, 12012, 11999, 12011, 11998, 12010, 12009, 12019, 12018, 12023, 12025, 12024, 12029, 12030, 12035, 12034, 12033, 12037, 12036

AERIAL FIELD INSPECTION:-

Areas inspected were as follows: Manuscripts No. 12049, 12046, 12045, 12040, Kenai to Boulder Point, all shoreline and alongshore features.

Balance of above listed manuscripts were used only for horizontal control identification.

The area is primarily moderately timbered with spruce, fir, alder and bear claw above the mean high water line. Shoreline varies from fine black silt at the mouth of the Kenai River mouth to large fragmented boulders at Boulder Point. Most of the beachline is sand and shingle interspersed with boulders of varying sizes. Numerous underground springs and some small creeks discharge small quantities of silt and water and are subject to constant change.

The area was inspected by cruising alongshore by launch and by walking the beach and bluff line. Foul areas now indicated on Chart No. 8553 are adequate. Two primary foul areas were noted as follows:

Kenai River Mouth

East Foreland to Moose Point

Quality of photographs was excellent. Areas of shadow were limited to the shoreline east of East Foreland and upper Knik Arm. No attempt was made to sketch in the mean high water line. Enough open areas in shadowed areas are available to adequately delineate mean high water line.

HORIZONTAL CONTROL:-

Four additional second-order triangulation stations were established between Kenai and East Foreland to supplement existing control in the area of hydrography. They were identified as follows:

AUDRY 1961	Manuscript No. 12049	Photo No. 1397
LOUISE 1961	" " 12049	" " 1402
BOO 1961	" " 12045	" " 1420
HELEN 1961	Traverse from East Foreland Light 1960.	

-(2)-

Additional horizontal control recovery was made in upper Cook Inlet in accordance with project instructions. All stations were searched for and approximately 75 percent were recovered. Most of the stations not recovered are considered lost. It is recommended that the next vessel assigned to this project be given a Tellurometer. Simple traverse between recovered triangulation stations would adequately control presently un-controlled flight lines.

In many cases the listed triangulation station was not recovered and a U.S. Engineers' triangulation station was used as a substitute. It appears that the U.S. Engineers could not recover listed C&GS control and substituted their own stations.

Great assistance was rendered by the 5040 Air Transport Squadron at Elmendorf AFB in furnishing helicopter service. Three days of flying enabled personnel to cover shoreline control stations over the greater part of upper Cook Inlet.

If additional control is required in the vicinity of Elmendorf AFB, use can be made of triangulation now being observed by a C&GS geodetic party. Triangulation station DORF 1961 (in the vicinity of LOOP 2) is to be set in the roof of a building on the base. By use of the description written by the observing party, an accurate office identification can be made.

Triangulation not plotted on the Photo Index was identified where it was on photographs. This control was established by G.W.M. in 1959 and H.G.C. in 1960.

VERTICAL CONTROL:-

None recovered or established.

CONTOURS AND DRAINAGE:-

No contouring was attempted.

Primary drainage features are the Kenai, Matanuska, Little Susitna, Susitna, Beluga, Kustitan, and Drift Rivers. Tidal sweep keeps some of the rivers from building up deltaic features. An extremely flat foreshore on the Matanuska, Little Susitna, Susitna and Beluga rivers give rise to wide deltas that change seasonally. Many small streams discharge around Cook Inlet but have no apparent seasonal change.

WOODLAND COVER:-

The major portion of the area is wooded and interspersed with muskeg and open grassy areas. These are easily identifiable on the photographs. In areas of increasing cultural activity, the woodland cover is being removed. No attempt was made to indicate these areas.

SHORELINE AND ALONGSHORE FEATURES:-

The mean high water line is adequately delineated on manuscripts 12049, 12046, 12045, 12040. In the area of photo hydro signals IVY and EGG, east of East Foreland, the mean high water line is as follows:

IVY 30 meters inside MHW

EGG on piles at MHW

-(3)-

Most of the shoreline signals are located at MHW along the beach. Many of the fishing huts set on piles at the base of the bluff were used as signals.

No attempt was made to delineate the low water line. Hydrography in the area should be satisfactory.

The foreshore area is primarily sand, small stones and boulders. The normal gradation from stones at MHW to sand at MLW exists in all areas, except south of the Kenai River. In this area a heavy layer of silt is found in the tide zone.

OFFSHORE FEATURES:-

All offshore features are located by the hydrographer.

LANDMARKS AND AIDS:-

There are two fixed aids to navigation within the limits of the hydrographic project:

EAST FORELAND LIGHT

KENAI RIVER ENTRANCE RANGE

Both are located on Chart No. 8553.

One floating aid is also located on Chart No. 8553. Another can buoy is maintained by the oil company and is located just north of the pier.

One landmark for charts is recommended in the Descriptive Report for SP-1-61. This landmark is identified as follows:

KENAI TANK 1959, located by G.W.M. and identified on Photo No. 60W1400.

BOUNDARIES, MONUMENTS AND LINES:-

None shown.

OTHER CONTROL:-

Photo hydro signals were located in accordance with standard instructions. Signal IVY was found in error and relocated photogrammetrically, then verified by hydrographic cuts. Final location is shown on manuscript 12045.

Final location of photo hydro signals will remain in their relative position with the shoreline. Final compilation will cause a datum shift which will move both hydrography and signals the same relative amount.

DATUM DIFFERENCES:-

Radial plotting of photo identified control stations was made in the field. The following discrepancies were noted between plot positions and geographic positions.

EAST FORELAND LIGHT 1960	Lat. -13.8 meters
	Long. -75.4 meters
BOULDER (USE)	Lat. -37.0 meters
	Long. -45.2 meters
KENAI CHURCH STEEPLE 1909	Lat. -15.3 meters
	Long. -23.6 meters

-(4)-

CULTURAL FEATURES:-

Numerous fishing shacks are located along high water line in the area of hydrography. These huts are subject to damage by winter storms and are in a constant state of transition. No attempt was made to locate current huts.

The Nikiski Oil Pier was under construction at the time of photography. The completed dimensions are available from a blueprint of the structure submitted with descriptive report for Project SP-1-61.

Respectfully submitted,

Robert E. Williams,  
Lieut. Comdr., C&GS

*Gerald C. Saladin*  
Gerald C. Saladin  
LTJG, C&GS

*Arthur L. Wardwell*  
Arthur L. Wardwell,  
Captain, C&GS  
Comdg., Ship PATHFINDER

## PHOTOGRAMMETRIC PLOT REPORT

Job PH-6013

Cook Inlet, Alaska

April 13, 1967

21. Area Covered

The area covered by this report extends from the Redoubt Bay-East Foreland area to Anchorage, Alaska. Included in this area are T-sheets 11998 thru 12001, 12009 thru 12012, 12018, 12019, 12021, 12025 thru 12030, 12038, 12039, 12042 thru 12044, 12047, 12048 and 12987.

22. Method

Five strips were bridged on the C-8 and C-5 stereoplanigraph. Strip #1 (66-L-6602 thru 6623) was adjusted on four triangulation stations with tie points used as checks. Strip #2 (66-L-6629 thru 6634) was adjusted on two triangulation stations plus tie points from Strip #1. Strip #3 (66-L-6641 thru 6653) was adjusted on three triangulation stations plus ties. Strip #4 (66-L-6667 thru 6677) was adjusted on three triangulation stations plus ties. Strip #9 (66-L-6713 thru 6725) was adjusted on three triangulation stations.

23. Adequacy of Control

The control, being premarked, was very good insofar as being able to see it clearly; however, in several cases, the 1:40,000 scale photography completely missed the stations. It should be noted that all strips were adjusted with minimum control, and as such, no positive proof can be provided that the adjustments are correct other than by means of tie points and residuals of adjustment. The tie points and residuals do indicate a good adjustment on all strips. Strip #4 had to be terminated at station SIT 1966 due to lack of control beyond this point. (Port McKenzie could not be seen on the 1:40,000 scale photography.) Attempts were made to provide a tie point for the terminal station on the east end of this strip by bridging three models south of Anchorage, dropping points onto Strip #4. This met with complete failure. Strip #6 had to be terminated on the southern end at station GRAY CLIFF 1909 since the station at East Foreland was not covered by the 1:40,000 scale photography.

#### 24. Supplemental Data

Local USGS quads were used to provide vertical control used in the bridging adjustment.

The coverage of 1966 photography falls short of being sufficient to show the shallow mud areas which are near lower-low water level in the area of the Susitna River Delta. To provide for the delineation of the limiting line of this feature, scale points have been selected which are common to 61M photography which does show the limiting line. Ratios of these photographs will be provided for the graphic delineation of the limiting line only. The compiler should select whatever additional points are necessary for correct delineation. A holiday exists on some of the shoreline along Strip #9. A flight of 60W photography provides coverage and three ratio photos were provided for compilation of this area.

All points on the bridged plates were drilled by PUG methods. Plate 66-L-6719 was broken after bridging. A new plate was provided but it does not contain any drilled points. It is suggested that the models on either side be compiled and pass points be dropped on this plate for compilation.

#### 25. Photography

Photography was adequate as to definition and overlap but was not adequate as to coverage. The 1:40,000 scale photos did not cover either the shoreline or the marked control on the east end of Strip #4 or the southwest end of Strip #9. A portion of the shoreline along the part of Strip #9 which was bridged also lacks coverage.

Submitted by:

*Paul Hawkins*  
*by J.F.P.*

Paul Hawkins

Approved by:

*John D. Perrow, Jr.*  
John D. Perrow, Jr.

## COMPILATION REPORT

T-12011

31. DELINATION:

The Kelsh plotter was used for the compilation of planimetry, the mean high water line, and the mean lower low water line from 1:40,000 scale panchromatic photographs, taken in 1966.

The mean lower low water line was delineated graphically.

32. CONTROL:

See Photogrammetric Plot Report dated April 13, 1967.

33. SUPPLEMENTAL DATA:

None.

34. CONTOURS AND DRAINAGE:

Contours are inapplicable.

35. SHORELINE AND ALONGSHORE DETAILS:

The shoreline was delineated by office interpretation of photographs taken at 2.6 feet above MLLW. Two mean lower low water lines were delineated from the 1966 L photography.

36. OFFSHORE DETAILS:

No statement.

37. LANDMARKS AND AIDS:

No charted landmarks or aids were located during compilation.



38. CONTROL FOR FUTURE SURVEYS:

None.

39. JUNCTIONS:

Junctions are in agreement with T-12012 to the east, T-12010 to the west, and T-11999 to the north. There is no contemporary survey to the south.

40. HORIZONTAL AND VERTICAL ACCURACY:

No statement.

46. COMPARISON WITH EXISTING MAPS:

A comparison was made with USGS Quadrangles TYONEK (A-3), ALASKA, and TYONEK (A-2), ALASKA, scale 1:63,360, dated 1958 and 1952, respectively.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with C&GS Chart 8553 (Cook Inlet, Northern Part), scale 1:194,154, 7th Edition, dated May 17, 1965.

ITEMS TO BE APPLIED TO NAUTICAL CHARTS IMMEDIATELY

None.

ITEMS TO BE CARRIED FORWARD

None.

Submitted by:

*Albert C. Rauck, Jr. For*  
L. L. Graves  
Cartographic Technician  
July 1967

Approved:

*Albert C. Rauck, Jr.*  
Albert C. Rauck, Jr.  
Chief, Coastal Mapping Section

## GEOGRAPHIC NAMES

## FINAL NAME SHEET

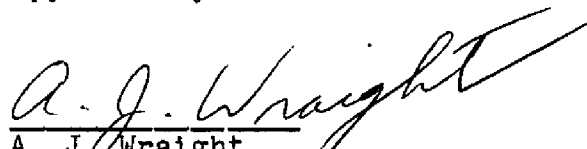
PH-6013 (Cook Inlet)

T-12011


Cook Inlet

Lewis River

Approved by:

  
A. J. Wraight  
Chief Geographer

Prepared by:

  
Frank W. Pickett  
Cartographic Technician

Field Edit Report  
Number Three Bay to Miller Creek  
Tyonek to Ivan River  
OPR-469-FA-77

GENERAL

This report covers the following manuscripts:

T-11998 T-11999 T-12009 T-12010 T-12011 T-12019  
T-12020 T-12028 T-12029 T-12030 T-12041 T-12042

Field work is essentially complete on all maps.

The northern shore between North Foreland and Shorty Creek is characterized by sand and gravel beaches, backed by dirt bluffs in some areas, with small mud flats in the vicinity of the Tyonek Timber Company pier and Shorty Creek which are exposed at low tides. The rest of the northern shore is low and gently sloping with marshy areas above high water and extensive mud flats exposed at low tide.

The entire southern shore is littered with rocks and boulders, often to considerable distances from shore. Beach areas are sand and gravel with occasional areas of mud flats, not as extensive as found on the northern shore. Dirt bluffs line most of the beach.

A total of 153 fixes were taken to locate significant features along 44 nautical miles of shoreline. Each was assigned a number with the format DDD-FF, where DDD represents the julian day of the fix and FF represents the sequential fix number for that day.

All fix information is recorded in the field edit data volume. Fix times are given in Greenwich mean time. All height information is noted on the master field edit ozalid. Information on all signals and stations used for control is included with this report. Deletions are noted in green ink, additions and changes in red ink, verifications in violet ink. All are noted on the master field edit ozalid.

METHOD

Field edit along the southern shoreline was done by LTJG Neal Millett and ENS Robert Crowell during the month of June, 1977. Work was performed at low tidal stages using a 17 foot skiff equipped with a Mini-ranger console and transceiver. Copies of the field edit ozalids and corresponding photographs were examined in the field. General features, including the mean high water line, were verified by visual comparison of the field edit ozalid

and the areas concerned.

Detached positions and heights were obtained on the more significant rocks. Control for fixes was by range-range and range-azimuth. In several instances sextant angles were also taken. Heights were estimated by comparison to a boathook of known length.

Field edit along the northern shoreline was done by LTJG Neal Millett and ENS Robert Crowell during the month of July, 1977. Initial field edit was done by helicopter at a low tidal stage. Copies of the field edit ozalids and corresponding photographs were examined in the field. Verification of general features, including the mean high water line, was done by visual comparison of the field edit ozalid and the area concerned. No control was used for this phase.

Follow-up field edit was done in those areas where detached positions were needed. Work was done using a 29 foot launch equipped with Raydist electronic positioning equipment. Control for fixes was a combination of range-range, used to locate the launch, and visual. Three lines of position were determined to each object by taking horizontal sextant angles from the launch. The position of the launch was provided by the Raydist system. Heights were estimated by comparison to nearby objects of known size.

#### ADEQUACY OF COMPILATION

Compilation of the maps is generally adequate. Not all existing rocks on the southern shore were located due to their large numbers. Photography at low tidal stages would best accomplish this.

#### MAP ACCURACY

The positions of horizontal control stations as they plotted on the maps were compared to surrounding features, in some cases by measurement. These comparisons generally gave good results. Fix accuracy, as indicated by check fixes, was good.

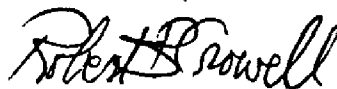
#### RECOMMENDATIONS

It is recommended that the maps be revised as noted on the master field edit ozalid and then be accepted as advanced manuscripts. Improved photography, both in coverage and quality, would aid all stages of field edit.

#### INDIVIDUAL MANUSCRIPTS

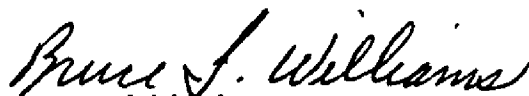
Details specific to each manuscript are included in the following individual reports.

Submitted by:



Robert B Crowell  
LTJG, NOAA

Approved by:



Bruce I Williams  
Commanding Officer  
NOAA Ship Fairweather

REVIEW REPORT  
T-12011

SHORELINE

61. GENERAL STATEMENT

See Summary included with this Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS

Not applicable.

63. COMPARISON WITH MAPS OF OTHER AGENCIES

Not applicable.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS

A comparison was made with Hydrographic Survey H-9447, scale 1:20,000, date unknown.

There were no major conflicts.

The contemporary Hydrographic Survey for the area west of longitude 150 44.3 was not available for comparison at the time of Final Review.

65. COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS chart: 16660, scale 1:194,154, 22nd edition, May 8, 1982.

The chart compared well with this manuscript.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS

This map complies with the Project Instructions, and meets the requirements for National Standards of Map Accuracy.

Submitted by

*James L. Byrd, Jr.*  
James L. Byrd, Jr.  
Final Reviewer

Approved for forwarding

*Billy H. Barnes*  
Billy H. Barnes  
Chief, Photogrammetric Section

Approved

*James L. Mooney*  
Chief, Photogrammetry Production Sec.

*Ronald K. Brewer*  
Chief, Photogrammetry Branch

