T-12029

T-12029

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-12029

Classification No. Final Map *Edition No.* 1

LOCALITY

State Alaska

General Locality Cook Inlet, Kalgin Island to Anchorage

Locality Moose Point

1966 TO 1977

REGISTRY IN ARCHIVES

DATE

☆ U.S. GOVERNMENT PRINTING OFFICE: 1974-762-901

NOAA FORM 76-36A (3-72) — U. S. DEPARTMENT OF COMMERCE, NATIONAL OCEANIC AND ATMOSPHERIC ADMIN.

DESCRIPTIVE REPORT - DATA RECORD

TYPE OF SURVEY: [X] ORIGINAL [ ] RESURVEY [ ] REVISED

SURVEY NR. T-12029

MAP EDITION NO. (1)

MAP CLASS Final Map

JOB PH- 6013

PHOTOGRAMMETRIC OFFICE: Coastal Mapping Division, Atlantic Marine Center, Norfolk, VA

OFFICER-IN-CHARGE: Jeffrey G. Carlen, Cdr,

LAST PRECEEDING MAP EDITION

TYPE OF SURVEY: [ ] ORIGINAL [ ] RESURVEY [ ] REVISED

JOB PH- _____ MAP CLASS _____ SURVEY DATES: 19__ TO 19__

I. INSTRUCTIONS DATED

1. OFFICE		2. FIELD	
Aerotriangulation	9/15/66 , 8/13/73	Field	6/6/66
Compilation, Supplement 3	4/26/67	Supplement 1	8/08/66
		Field	3/30/73

II. DATUMS

1. HORIZONTAL: [X] 1927 NORTH AMERICAN — OTHER (Specify)

2. VERTICAL: [X] MEAN HIGH-WATER [ ] MEAN LOW-WATER [X] MEAN LOWER LOW-WATER [ ] MEAN SEA LEVEL — OTHER (Specify)

3. MAP PROJECTION: Polyconic

4. GRID(S): STATE: Alaska; ZONE: 4

5. SCALE: 1:20,000 — STATE: ; ZONE:

III. HISTORY OF OFFICE OPERATIONS

OPERATIONS		NAME	DATE
1. AEROTRIANGULATION	BY	P. Hawkins	4/67
METHOD: Stereoplanigraph	LANDMARKS AND AIDS BY		
2. CONTROL AND BRIDGE POINTS	PLOTTED BY	A. Shands - A. C. Rauck, Jr	5/24/67
METHOD: Manual	CHECKED BY	C. Blood - C. Bishop	6/07/67
3. STEREOSCOPIC INSTRUMENT COMPILATION	PLANIMETRY BY	A. Shands	6/01/67
	CHECKED BY	R. Smith	6/67
INSTRUMENT: Kelsh Plotter	CONTOURS BY	NA	
SCALE: 1:20,000	CHECKED BY	NA	
4. MANUSCRIPT DELINEATION	PLANIMETRY BY	A. Shands	6/07/67
	CHECKED BY	A. Rauck, Jr.	6/67
METHOD: Smoothdrafted	CONTOURS BY	NA	
	CHECKED BY	NA	
SCALE: 1:20,000	HYDRO SUPPORT DATA BY	A. Rauck, Jr.	6/67
	CHECKED BY	A. Rauck, Jr.	6/67
5. OFFICE INSPECTION PRIOR TO FIELD EDIT	BY	A. Rauck, Jr.	6/67
6. APPLICATION OF FIELD EDIT DATA	BY	F. Mauldin	1/78
	CHECKED BY	C. Blood	1/78
7. COMPILATION SECTION REVIEW	BY	C. Blood	1/78
8. FINAL REVIEW	BY	J. Byrd/C. Blood	5/86
9. DATA FORWARDED TO PHOTOGRAMMETRIC BRANCH	BY	J. Byrd	9/86
10. DATA EXAMINED IN PHOTOGRAMMETRIC BRANCH	BY	P. Dempsey	OCT. 1986
11. MAP REGISTERED - COASTAL SURVEY SECTION	BY	E.L. DAUGHERTY	Dec '86

NOAA FORM 76-36A — SUPERSEDES FORM C&GS 181 SERIES

* U.S. G.P.O. 1972-769382/582 REG.#6

NOAA FORM 76-36B
(3-72)

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

T-12029

COMPILATION SOURCES

1. COMPILATION PHOTOGRAPHY

CAMERA(S): Wild RC-8 "L" and RC-5 "W"

TIDE STAGE REFERENCE
- [X] PREDICTED TIDES
- [ ] REFERENCE STATION RECORDS
- [ ] TIDE CONTROLLED PHOTOGRAPHY

TYPES OF PHOTOGRAPHY LEGEND
- (C) COLOR
- (P) PANCHROMATIC
- (I) INFRARED

TIME REFERENCE
ZONE: Alaska — [X] STANDARD
MERIDIAN: 150th — [ ] DAYLIGHT

NUMBER AND TYPE	DATE	TIME	SCALE	STAGE OF TIDE
66L6716 - 66L6720	8/14/66	09:23	1:40,000	0.2 ft. above MLLW
*60W(P)1344-1346	8/30/60	unknown	1:30,000	unknown

REMARKS: *Ratio photographs only.

2. SOURCE OF MEAN HIGH-WATER LINE:

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

The area not covered by the 1966 compilation photography was delineated graphically from 1960 photography.

3. SOURCE OF MEAN LOWER LOW-WATER LINE:

A parial mean lower low water line was compiled from 66L6716 - 66L6719 at 0.2 ft. above MLLW. This line was compiled only to the limits of the 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
No Survey	T-12030	No Survey	T-12028

REMARKS

*U.S. GOVERNMENT PRINTING OFFICE:1977-765-092

NOAA FORM 76-36C
(3-72)

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

T-12029

HISTORY OF FIELD OPERATIONS

I. [X] FIELD INSPECTION OPERATION [ ] FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		A. Wardwell	4/61 - 7/61
2. HORIZONTAL CONTROL	RECOVERED BY	G. Saladin	4/61 - 7/61
	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: [ ] COMPLETE [ ] SPECIFIC NAMES ONLY [X] 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 [X] NONE

6. BOUNDARY AND LIMITS: [ ] REPORT [X] NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

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

None

☆ U.S. GPO: 1977-765-092/1105 Region 6

NOAA FORM 76-36C
(3-72)

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

T-12029

HISTORY OF FIELD OPERATIONS

I. [X] ...Premarking ☐ FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		R. Melby	6/66
2. HORIZONTAL CONTROL	RECOVERED BY	R. Melby	6/66
	ESTABLISHED BY	None	
	PRE-MARKED OR IDENTIFIED BY	L. Riggers	6/66
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 ☐ COMPLETE ☐ SPECIFIC NAMES ONLY [X] 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

2. VERTICAL CONTROL IDENTIFIED

NA

PHOTO NUMBER	STATION NAME	PHOTO NUMBER	STATION DESIGNATION
66L6718	CREEK, 1963		

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 [X] NONE

6. BOUNDARY AND LIMITS: ☐ REPORT [X] NONE

7. SUPPLEMENTAL MAPS AND PLANS

None

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

1 Form 152

*U.S. GOVERNMENT PRINTING OFFICE: 1974 - 768-078

NOAA FORM 76-36C
(3-72)

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

T-12029

HISTORY OF FIELD OPERATIONS

1. ☐ FIELD INSPECTION OPERATION ☒ FIELD EDIT OPERATION

OPERATION		NAME	DATE
1. CHIEF OF FIELD PARTY		B. Williams	June 1977
2. HORIZONTAL CONTROL	RECOVERED BY	G. Leigh	May 1977
	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	G. Leigh	May 1977
	LOCATED *(Field Methods)* BY	None	
	IDENTIFIED BY	None	
5. GEOGRAPHIC NAMES INVESTIGATION	TYPE OF INVESTIGATION ☐ COMPLETE ☐ SPECIFIC NAMES ONLY ☒ NO INVESTIGATION — BY		
6. PHOTO INSPECTION	CLARIFICATION OF DETAILS BY	N. Millett	June 1977
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)*

66-L-6718

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-12029

NOAA FORM 76-36C
(3-72)

*U.S. GOVERNMENT PRINTING OFFICE: 1974 - 768-078

NOAA FORM 76-36D
(3-72)

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

T-12029

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

1. REPORTS TO MARINE CHART DIVISION, NAUTICAL DATA BRANCH

NUMBER	CHART LETTER NUMBER ASSIGNED	DATE FORWARDED	REMARKS
1		2/6/78	Aid for charts

2. [X] REPORT TO MARINE CHART DIVISION, COAST PILOT BRANCH. DATE FORWARDED: February 6, 1978
3. [ ] REPORT TO AERONAUTICAL CHART DIVISION, AERONAUTICAL DATA SECTION. DATE FORWARDED: _____

III. FEDERAL RECORDS CENTER DATA

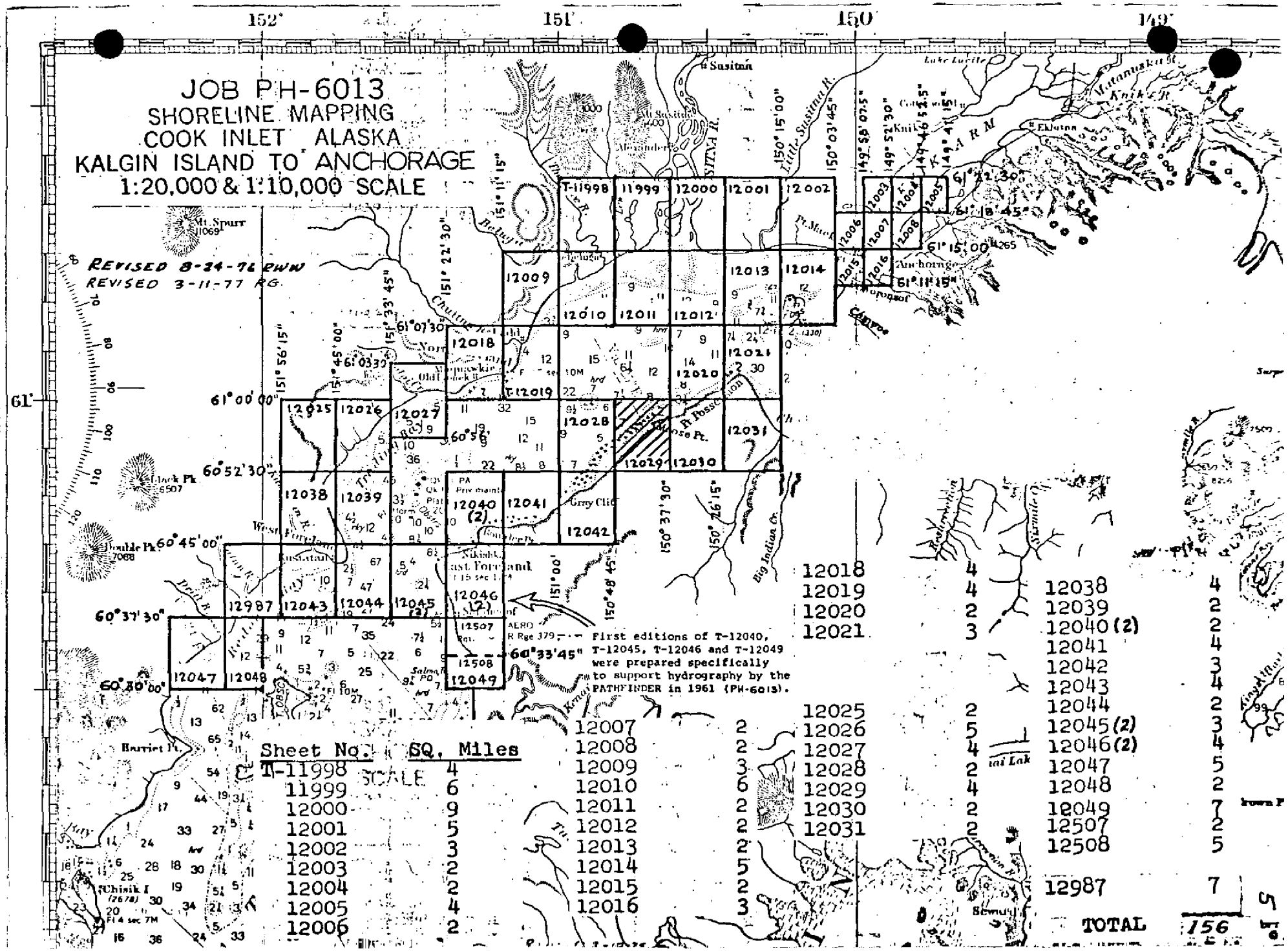
1. [X] BRIDGING PHOTOGRAPHS; [X] DUPLICATE BRIDGING REPORT; [X] COMPUTER READOUTS.
2. [X] CONTROL STATION IDENTIFICATION CARDS; [X] FORM NOS 76-40 ~~667~~ SUBMITTED BY FIELD PARTIES.
3. [X] SOURCE DATA *(except for Geographic Names Report)* AS LISTED IN SECTION II, NOAA FORM 76-36C. ACCOUNT FOR EXCEPTIONS:

4. [ ] DATA TO FEDERAL RECORDS CENTER. DATE FORWARDED: _____

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

	SURVEY NUMBER	JOB NUMBER	TYPE OF SURVEY / MAP CLASS
SECOND EDITION	TP - _____ (2)	PH - _____	[ ] REVISED [ ] RESURVEY [ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
THIRD EDITION	SURVEY NUMBER TP - _____ (3)	JOB NUMBER PH- _____	TYPE OF SURVEY [ ] REVISED [ ] RESURVEY MAP CLASS [ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	
FOURTH EDITION	SURVEY NUMBER TP - _____ (4)	JOB NUMBER PH - _____	TYPE OF SURVEY [ ] REVISED [ ] RESURVEY MAP CLASS [ ] II. [ ] III. [ ] IV. [ ] V. [ ] FINAL
	DATE OF PHOTOGRAPHY	DATE OF FIELD EDIT	

☆U. S. GOVERNMENT PRINTING OFFICE: 1973--778075/1077 REGION NO. 6



Sheet No.	SQ. Miles
T-11998	4
11999	6
12000	9
12001	5
12002	3
12003	2
12004	2
12005	4
12006	2
12007	2
12008	2
12009	3
12010	6
12011	2
12012	2
12013	2
12014	5
12015	2
12016	3
12018	4
12019	4
12020	2
12021	3
12025	2
12026	5
12027	4
12028	2
12029	4
12030	2
12031	2
12038	4
12039	2
12040 (2)	2
12041	4
12042	3
12043	4
12044	2
12045 (2)	3
12046 (2)	4
12047	5
12048	2
12049	7
12507	2
12508	5
12987	7
TOTAL	156

SUMMARY TO ACCOMPANY
DESCRIPTIVE REPORT

T-12029

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-12029 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.

A history of the field recovery and premarking of the control or the bridging of the control is not available for the 1960 photography.

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 aerotriangulation.

This area was photographed in August 1966 with the RC-8 "L" camera using panchromatic film at 1:40,000 scale. The photography was used for bridging, compilation, and hydrographic support. An area not covered by the August 1966 photography was compiled graphically from photography flown in August 1960 with the RC-8 "W" camera using panchromatic film at 1:30,000 scale.

Aerotriangulation was performed in the Washington Office in April 1967.

T-12029 was compiled at the Norfolk office in June 1967.

Field edit was performed for T-12029 during the 1977 field season. Field edit data was applied at AMC in January 1978.

Final review was performed at the Atlantic Marine Center 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&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.		

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 heliocopter 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

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 gradiation 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 photogrammentrically, 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

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

Approved by:

John D. Perrow, Jr.

NOAA FORM 76-41
(6-75)

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

DESCRIPTIVE REPORT CONTROL RECORD

MAP NO.	JOB NO.	GEODETIC DATUM	ORIGINATING ACTIVITY
T-12029	PH-6013	NA 1927	Coastal Mapping Division, AMC, Norfolk, VA

STATION NAME	SOURCE OF INFORMATION (Index)	AEROTRI-ANGULATION POINT NUMBER	COORDINATES IN FEET (STATE / ZONE)	GEOGRAPHIC POSITION (φ LATITUDE / λ LONGITUDE)	REMARKS FORWARD	REMARKS BACK
CREEK, 1963	Unadj. Field 1966		x=	φ 60 55 16.768	519.0	(1338.2)
			y=	λ 150 44 57.161	861.3	(42.7)
MOOSE, 1966	Unadj. Field 1966		x=	φ 60 57 23.556	729.1	(1128.1)
			y=	λ 150 40 59.368	893.5	(9.5)
BIRCH HILL (U.S.E.), 1942	Unadj. Field 1966		x=	φ 60 55 16.774	519.2	(1338.0)
			y=	λ 150 44 58.060	874.8	(29.2)
MOOSE POINT LIGHT, 1966	Unadj. Field 1966		x=	φ 60 57 22.878	708.1	(1149.1)
			y=	λ 150 41 02.001	30.1	(872.9)
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		
			x=	φ		
			y=	λ		

COMPUTED BY	DATE	COMPUTATION CHECKED BY	DATE
C. H. Bishop	4/21/67	A. C. Rauck, Jr.	6/07/67
LISTED BY	DATE	LISTING CHECKED BY	DATE
HAND PLOTTING BY	DATE	HAND PLOTTING CHECKED BY	DATE

SUPERSEDES NOAA FORM 76-41, 2-71 EDITION WHICH IS OBSOLETE.

COMPILATION REPORT

T-12029

31. DELINEATION

Delineation was be the Kelsh stereoplotter. Photography was adequate.

Because of a holiday in the shoreline of the 1966 compilation photography, 1960 photography was used graphically to complete the shoreline.

32. CONTROL

See the attached Photogrammetric Plot Report dated April 13, 1967.

33. SUPPLEMENTAL DATA

None.

34. CONTOURS AND DRAINAGE

Contours are not applicable to the project. Drainage was delineated by the Kelsh stereoplotter and by office interpretation of the photographs.

35. SHORELINE AND ALONGSHORE DETAILS

Alongshore details were delineated by the Kelsh stereoplotter and by office interpretation of the photographs.

The mean high water line was delineated from the photographs. A partial mean lower low water line was compiled to the limits of photography.

36. OFFSHORE DETAILS

Numerous offshore boulders were delineated.

37. LANDMARKS AND AIDS

One charted aid to navigation, a triangulation station, was plotted during compilation.

38. CONTROL FOR FUTURE SURVEYS:

No statement.

39. JUNCTIONS:

See the attached Form 76-36B, Item 5 of the Descriptive Report, concerning junctions.

40. HORIZONTAL AND VERTICAL ACCURACY:

Refer to the Photogrammetric Report dated April 13, 1967.

46. COMPARISON WITH EXISTING MAPS:

A comparison was made with the following USGS Quadrangles: KENAI (D-2) and (D-3), ALASKA, scale 1:63,360, dated 1951, revised 1960 and 1965.

47. COMPARISON WITH NAUTICAL CHARTS:

A comparison was made with the following Coast and Geodetic Survey Chart: No. 8553, 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.

Albert C. Rauck, Jr.
Cartographer
June 14, 1967

Approved:

Albert C. Rauck, Jr.

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

GEOGRAPHIC NAMES

FINAL NAME SHEET

PH-6013 (Cook Inlet)

T-12029

Birch Hill

Cook Inlet

Kenai National Moose Range

Moose Point

Moose Point Shoal

Otter Creek

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 [redacted] 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.

Map T-12029
Moose Point

METHOD

Due to the large number of boulders, very few of which are within the limits of photography, only those in outer areas and those used to delineate foul limits were located.

MAP ACCURACY

The distance from station MOOSE 1966 to the apparent high water line was measured. This information, and the plotted position of station CREEK 1963, indicate that the shoreline is accurately located.

FOUL LIMITS

Sounding lines were run within the revised foul limits during high tides. The limits are still valid as these areas are unsafe for all but shallow draft vessels at any stage of tide.

Submitted by:

Robert B Crowell

Robert B Crowell
LTJG, NOAA

Approved by:

Bruce I. Williams

Bruce I Williams
Commanding Officer
NOAA Ship Fairweather

REVIEW REPORT
SHORELINE

T-12029

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 contemporary Hydrographic Survey covering the area of this map was not available for comparison at the time of Final Review, east of longitude 150°47'.

H-9896, 1:20,000 scale, July 6, 1979 was compared to this map. There were no major conflicts.

65 - COMPARISON WITH NAUTICAL CHARTS

A comparison was made with the following NOS Charts: 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

J. L. Byrd Jr.

James L. Byrd, Jr.
Final Reviewer

Approved for forwarding

Billy H. Barnes

Billy H. Barnes
Chief, Photogrammetric Section

Approved

J. M. Murray

Chief, Photogrammetric Production Sec.

Ronald K. Brewer

Chief, Photogrammetry Branch

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY
- [ ] HYDROGRAPHIC PARTY
- [ ] GEODETIC PARTY
- [ ] PHOTO FIELD PARTY
- [XX] COMPILATION ACTIVITY
- [ ] FINAL REVIEWER
- [ ] QUALITY CONTROL & REVIEW GRP.
- [ ] COAST PILOT BRANCH

(See reverse for responsible personnel)

[XX] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	Coastal Mapping Unit AMC, Norfolk, VA	ALaska	Cook Inlet, Kalgin Island to Anchorage	May 1986

The following objects HAVE [XX] HAVE NOT [ ] been inspected from seaward to determine their value as landmarks.

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
469	PH-6013	T-12029	N.A. 1927

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LIGHT	(MOOSE POINT LIGHT, 1966)	60 57	22.878	150 41	02.001		Triang. Rec. June 1977	16660

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	B. Williams	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	G. Leigh	FIELD ACTIVITY REPRESENTATIVE
	F. Mauldin	OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES	C. Blood	☒ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS
Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.
EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED
Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.
EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED
When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH
Enter 'V-Vis.' and date.
EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

☆ U.S.GPO:1975-0-665-080/1155

FORM C&GS-8352
(3-20-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. ____________

INSTRUCTIONS

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart

1. Letter all information.
2. In "Remarks" column cross out words that do not apply.
3. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Rev

CHART	DATE	CARTOGRAPHER	REMARKS
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
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