8963

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.* SU-10-1-67

*Office No.* H-8963

## LOCALITY

*State* ALASKA

*General Locality* COOK INLET

*Locality* REDOUBT BAY

1967

CHIEF OF PARTY
Norman E. Taylor

LIBRARY & ARCHIVES

DATE January 14, 1971

☆ U.S. GOV. PRINTING OFFICE: 1976—669-441

8963

FORM C&GS-537
(8-15-59)

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

REGISTER NO.

H-8963

# HYDROGRAPHIC TITLE SHEET

INSTRUCTIONS - 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.
SU-10-1-67

State Alaska

General locality Cook Inlet - Redoubt Bay

Locality ~~Redoubt~~ Vicinity of Drift River

Scale 1:10,000 Date of survey 9 Aug. 67 - ~~22~~ 28 Aug 67

Instructions dated 25 May 67 Supplemented 3 June 67 Project No. OPR-469

Vessel Ship SURVEYOR, Launch #4, and Launch #6

Chief of party Norman E. Taylor, CAPT, USESSA

Surveyed by Ship's personnel

Soundings taken by echo sounder, hand lead, pole DE 723

Graphic record scaled by Ship's personnel

Graphic record checked by Ship's personnel

Protracted by Digital Plotter Automated plot by Gerber Digital Plotter PMC

~~Soundings plotted~~ Verified by A.E. Eichelberger PMC

Soundings in fathoms and tenths at [redacted] MLLW

REMARKS:

applied to charts
3-19-71
3-2-71

USCOMM-DC 19086-P65

DESCRIPTIVE REPORT

TO ACCOMPANY

HYDROGRAPHIC SURVEY H-8963 (Field No. SU-10-1-67)

Scale: 1:10,000 1967 CAPT N. E. Taylor
Commanding
USC&GSS SURVEYOR

A. PROJECT:

This survey is part of Project OPR-469. The original instructions were dated 25 May 1967 and were supplemented by instructions dated 13 June 1967.

B. AREA SURVEYED:

This survey is located in the State of Alaska in the Redoubt Bay area of Cook Inlet. The Cook Inlet Pipeline Company's submarine pipeline and tanker berth are located on this sheet. The area surveyed roughly bounded on the south by 60° 32' N, on the north by 60° 35'N, on the east by 152°-04W, on the west by 152° 10'W. The hydrography began on 9 August 1967 and ended on 28 August 1967. see Review

The survey overlaps survey H-8964 ~~and survey H-8965 Sheet limits.~~ This survey falls inside the limits of H-8964 (1967-74).

C. SOUNDING VESSEL:

Soundings were taken by Launch No. 4, (purple position numbers) and Launch No. 6, of the ship SURVEYOR (green position numbers)

D. SOUNDING EQUIPMENT:

Soundings were taken by Ratheon DE 723 fathometer No. 939 in Launch No. 6, No. 938 in Launch No. 4. Echo sounder corrections were determined from bar checks and velocity correctors from Nansen casts.

E. SMOOTH SHEET:

The paper boat smooth sheet projections were done by the Gerber plotter at Pacific Marine Center. The mylar sheets were traced from the paper sheets.

F. CONTROL:

The survey was controlled by visual fixes near shore and by shoran, further off shore. Signals were located by a traverse using electrochain distances and angles observed with a T-2. see Review

| | | |
|---|---|---|
| △RIFT (405) | SET (407) | DON (409) |
| △IVE (404) | NET (408) Tide Sta. | SOD (410) |
| PAD (403) | WOO (401) | BUT (406) |
| OIL (402) | | |

Signals DON & SOD were located by sextant cuts. Shoran station GIN was located near triangulation station "NORTH KALGIN 1944". Shoran station DRY was located near triangulation station DRIVER 1967. ✓
GIN (12)(502) at lat. 60°30'32.9", long. 151°56'44.7" on H-8964 (1967-74)

G. SHORELINE:

The shoreline was transferred from Chart 8553 as photogrametric manuscripts were not available. The ✓ see Review shoreline is inaccurate and should not be used for charting purposes. There is no shoreline shown on the present survey; added at Review stage

H. CROSSLINES:

The percentage of crosslines run was approximately 15%. All crosslines were checked and no excessive discrepancies were found. Boat sheet soundings were reduced using predicted tides which could cause some differences. ✓

I. JUNCTIONS:

The area surveyed on H-8963 is included within the limits of sheet SU-20-1-67 (H-8964) (1967-74). A comparison with H-8964 was made and no excessive descrepancies were found. Differences exist between the 1967 and 1974 hydro. see Review

J. COMPARISON WITH PRIOR SURVEYS:

Item 29 on the presurvey review of OPR-469 Upper Cook Inlet is the only item within the limits of this sheet. see Review The tanker loading berth was largely complete in August of 1967 with the final hook up of the pipeline from shore in progress. The mooring dolphins DON & SOD were located by sextant cuts and a plan of tanker loading berth is inserted in ~~attached to the sheet~~. Descriptive Report

Comparison was made with the 1911 survey, Register No. H-3322a (1911) 1:40,000 and H-3322, scale 1:100,000. Soundings were generally found to be about 2 fathoms shoaler than the 1911 survey. see Review This is probably due to an increase in bottom sediment as this area is just south of the mouth of Drift River.

K. COMPARISON WITH CHART:

Comparison was made with chart 8553, 8th Edition, Oct. 10, 1966. Soundings agree fairly well in the area surveyed. The 10 fathom curve appears to be about 2/10 of a mile further off shore between 60°-32'N and 60-34N than presently charted. see Review Smooth sheet checks 1970 edition.

L. ADEQUACY OF SURVEY:

In the portion of H-8963 that was surveyed, coverage was adequate and complete enough to be used for charting. see Review Shore line verification and soundings near shore are not complete. The pipeline location and depth needs to be determined.

N. STATISTICS:

| | |
|---|---|
| Number of positions Launch #4 | ~~456~~ 540 } 836 |
| Number of Positions Launch #6 | ~~284~~ 296 } |
| Nautical miles sdg line Launch #4 | 91.4 |
| Nautical miles sdg line Launch #6 | 75.9 |
| Area in square nautical miles | 7 |

P. RECOMMENDATIONS:

The pipe line from shore to the tanker loading berth should be located and charted. The tank farm as well as the airstrip should be charted.
All of the above added to chart Inset subsequent to this survey.
Due to the extensive nature of the mud flats, a helicopter would be very useful in getting men and equipment ashore. ✓

The shoreline needs to be verified and soundings along see Review the shore needs to be completed. Having the photo manuscripts during the field work would be advantageous.
Inshore sndgs. on H-8964 (1967-74).

Q. REFERENCES TO REPORTS:

1. Memorandum - Use of Helicopters - mailed 27 Sept. 1967.
2. Coast Pilot Notes - mailed 13 Nov. 1967.
3. Special Report "Use of LCVP and Dredge for Bottom Sampling - OPR-469, Summer, 1967" - mailed to PMC 14 Nov. 67.
4. Special Report - Oceanographic Stations, Cook Inlet. - OPR-469, Summer, 1967.
5. Special Report - Current Observations, Cook Inlet.

Respectfully submitted,

Roger F. Anderson

H-8963

## Control Stations

| | | | | | |
|---|---|---|---|---|---|
| ~~32067~~ 8963 | 401 * | | 60334613 | 152123425 | WOO |
| 32067 | 402 * | | 60341918 | 152110980 | OIL |
| 32067 | 403 * | | 60343555 | 152102619 | PAD |
| 32067 | 404 * | | 60°35'11.03" | 152°09'43.01" | IVE △ on H-8964 |
| 32067 | 405 * | | 60°35'00.85" | 152°08'06.33" | RIF △ on H-8964 |
| 32067 | 406 * | | 60361763 | 152053943 | BUT |
| 32067 | 407 * | | 60333436 | 152085880 | SET hydro sta. on final SS. H-8964 |
| 32067 | 408 * | tide sta. | 60335097 | 152080394 | NET hydro sta. on H-8964 final S.S. 1974 Tide Sta. |
| 32067 | 409 * | Hydro sta | 60°33'20.13" | 152°07'59.02" | DON topo. sta on H-8964 |
| 32067 | 410 | Hydro sta. | 60°33'13.54" | 152°08'08.39" | SOD not on H-8964 |

* stations on H-8964

Hydro sta. SOD (410) only sta. not on H-8964 (1967-74)

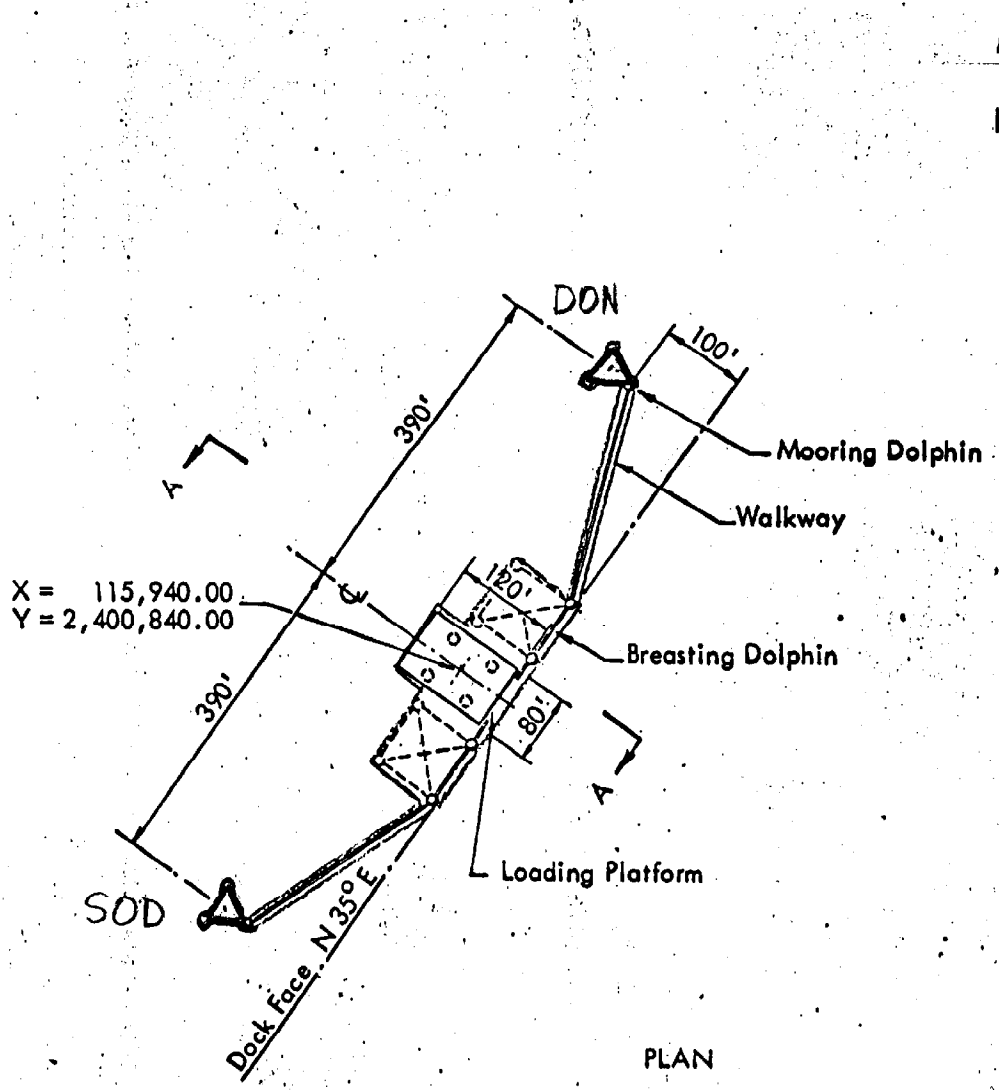
ADDENDUM

Diagram of DRIFT RIVER MARINE TERMINAL

by Cook Inlet Pipe Line Co.

See SU-10-1-67, 1:1,000 (approx.) Inset. filed with fathograms H-8963

see Review par. 3a & 6a




PLAN

Tanker Loading Berth

200 100 0 200 400

Scale of Feet

see vol 2 p.5
see vol. 5 p. 8-9

Drift River Marine Terminal

PROPOSED

Submarine Pipeline and Tanker Berth
in Cook Inlet near Drift River, Alaska
Application by Cook Inlet Pipe Line Co.

Dated: ~~June 28, 1966~~ 22 Feb 67 Sheet 2 of 4

DISC. REP. SU-10-1-67 H-8963

ECHO SOUNDER CORRECTIONS

Velocity corrections for the entire survey were determined from combined data from 3 Nansen casts. These casts were taken at the following positions: SU-111-67, 60° 36.8'N., 151° 41.4'W; (SU-112-67, 60° 32.7' N, 152° 07.9'W;) SU-113-67, 60° 20.5N, 152° 10.8'W. Information gathered in these casts was processed according to procedures outlined in Pub. 20-2. A series of positive corrections, increasing with depth, resulted from the calculations.

center location on H-8963 survey limits

Bar check corrections encompass all fixed (TRA) corrections to the soundings. One set of corrections was calculated and applied to the entire survey. This was done by averaging and graphing the results of bar checks for each launch. The resulting graphs were similar enough to be combined into one set of corrections applicable to all areas.

# ABSTRACT OF VELOCITY CORRECTIONS

| CORRECTION (fath) | DEPTH (fath) |
|---|---|
| + 0.0 | 0 to 3.9 |
| + 0.1 | 11.6 |
| + 0.2 | 19.3 |
| + 0.3 | 26.8 |
| + 0.4 | 34.3 |
| + 0.5 | 41.8 |
| + 0.6 | 49.5 |
| + 0.7 | 57.0 |
| + 0.8 | 64.6 |
| + 0.9 | 73.5 |

FOR: OPR 469, July 8, 1967 to August 23, 1967

VESSELS: SURVEYOR, Launch #3, #4, #6

INSTRUMENTS: DE-723, #937, 938, 939, 941.

PARAMETERS FOR DIGITAL COMPUTING
POLYCONIC PROJECTION

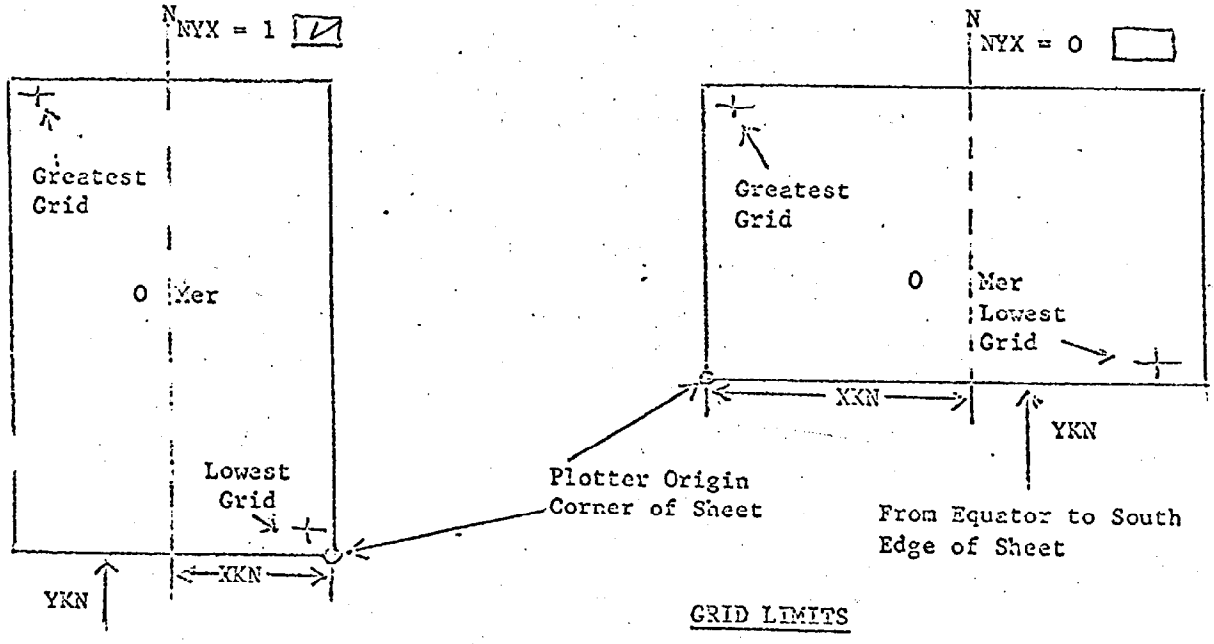
(XEROX) Form #1

(1) Project No. OPR-469
(2) H No. Sheet AK, revised grid limits
(3) Field No. SU-10-1-67
(4) Requested by SURVEYOR
(5) Ship or Office
(6) Date Required 11 Sept. or 5 Oct.
(7) Visual ✓
(8) Electronic ____ (fill out Form #3)

(9) XKN (SP 5) Distance from OMER to East Edge (NYX = 1) or West Edge (NYX = 0). 4655 Meters

(10) YKN (SP 241) Distance from Equator to South Edge of Sheet 6,710,000 Meters

(11) Central Meridian 152° 08' 30"
(12) Survey Scale 1: 10,000
(13) Size of Sheet (Check One) 36 X 60 ✓ 42 X 60 ____
(14) NYX Orientation of Sheet (Check One)




GRID LIMITS

(15) Greatest Latitude 60° 37' 30" (Projection Line Interval Page 4 Hydro Manually)
(16) Lowest Latitude 60° 31' 00"
(17) Difference 06' 30"
(18) 00' 30"
(19) 13 YSN
(20) Greatest Longitude 152° 13' 00"
(21) Lowest Longitude 152° 03' 30"
(22) Difference 09' 30"
(23) 00' 30"
(24) 19 XKN

List G.P. of all stations to be plotted on this projection on the back of this form

H-8963

H 32067

Field No. SU 10-1-67

Date 10/23/67

# HYDRO II AND III PARAMETER CARDS

PARAMETER CARD II

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |

| | | | |
|---|---|---|---|
| Semi major axis of the earth | 6,378,206.4 | RDA | 6378206.4 |
| X Constant- Distance from central meridian to origin of plotter SP 5 | meters | XKN | 0 |
| Y Constant - Distance from equator to origin of plotter SP 2/1 | meters | YKN | 0 |
| Central Meridian of Projection | 152° 08' 30" | CMR | 152.1416666 |
| Plotter Scale/Survey Scale | *30498.6876 1:10,000 | SCA | 30498.6876 |
| North/south axis of sheet - to correspond to (Y axis - 0) (X axis - 1) of plotter | | NYX | |
| Feet/Fathom indicator | 0 - feet 1 - fathom | FOF | |
| H Identification No. | | JN | 326 |
| | | YR | |

FOF - 1

PARAMETER CARD III

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| | 31 | 32 | | | | | | | | |

| | | | |
|---|---|---|---|
| Lowest Lat. Intersection | 60 31 00 | YST | 60.3100 |
| Lowest Long. Intersection | 152 03 30 | XST | 152.0330 |
| Difference between Grid | 30 | DXY | 30 |
| Interval (Long) | | XSN | |
| Interval (Lat) | | YSN | |

Computed JW

Punched JW

Checked JW

Date 10/23/67

# TIDE NOTE

One temporary bubbler tide gage at Latitude 60° 33' 51" N. and Longitude 152° 08' 04" W. was set at the North East Survey Tower (NET) for the hydrographic survey. MLLW is 8.6 feet above gage zero. Between July 13, 1967 to July 29, 1967 MLLW was 6.4 feet above gage zero because the wrong scale paper was used. The hourly heights between July 13-29 were furnished by the Washington Office.

FORM C&GS-712
(3-9-64)

U.S. DEPARTMENT OF COMMERCE
ESSA COAST AND GEODETIC SURVEY

# TIDE NOTE FOR HYDROGRAPHIC SHEET

March 4, 1968

~~[illegible]~~: Pacific Marine Center

Plane of reference approved ~~[illegible]~~ for

HYDROGRAPHIC SHEET 8963, 8964, 8965

Locality: Cook Inlet, Alaska

Chief of Party: N. E. Taylor, 1967

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681): topo sta. Net (408)

Drift River, Cook Inlet, Alaska
lat. 60°33.5'  long. 152°08'03"

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

17.1 feet

Remarks

J. W. Simmons
Chief, Tides and Currents Branch

FORM 197
(3-16-55)

# GEOGRAPHIC NAMES

Survey No. H-8963

| Name on Survey | A On Chart No. | B On previous survey No. | C On U. S. quadrangle Maps | D From local information | E On local Maps | F P. O. Guide or Map | G Rand McNally Atlas | H U. S. Light List | K | |
|---|---|---|---|---|---|---|---|---|---|---|
| Cook Inlet | | | | | | | | | | 1 |
| Drift River Marine Terminal | | | | | | | | | | 2 |
| Redoubt Bay | | | | | | | | | | 3 |
| Drift River | | | | | | | | | | 4 |
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| | | | | | | | | | | 27 |

PREPARED BY

Frank Ratchett

CARTOGRAPHIC TECHNICIAN

APPROVED BY

A. Joseph Wright

CHIEF GEOGRAPHER

APPROVAL SHEET

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

Examined and approved

William M. Martin
Supervisory Carto. Tech.

Approved and Forwarded

For

James S. Midgley, CDR, NOAA
Chief, Processing Division
Pacific Marine Center

APPROVAL SHEET

Standard hydrographic procedures were used and the records of this hydrography were examined daily during its execution.

The smooth plotted positions on the boat sheets and the accompanying records have been inspected. This survey is complete and adequate except as noted in the recommendations and is approved for further processing.

Harley D. Nygren

Harley D. Nygren
Commanding

FORM C&GS-946
(REV. 11-65)
(PRESC. BY HYDROGRAPHIC MANUAL 20-2, 6-94, 7-13)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

# HYDROGRAPHIC SURVEY STATISTICS

## HYDROGRAPHIC SURVEY NO. H-8963

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

| RECORD DESCRIPTION | AMOUNT | RECORD DESCRIPTION | AMOUNT |
|---|---|---|---|
| SMOOTH SHEET | 1 | BOAT SHEETS | 2 |
| DESCRIPTIVE REPORT | 1 | OVERLAYS (INSET) | 2 |

| DESCRIPTION | DEPTH RECORDS | HORIZ. CONT. RECORDS | PRINTOUTS | TAPE ROLLS | PUNCHED CARDS | ABSTRACTS/ SOURCE DOCUMENTS |
|---|---|---|---|---|---|---|
| ENVELOPES | | | 2 ea. | | | |
| CAHIERS | 1 | | | | | |
| VOLUMES | 5 | | | | | |
| 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 | | | | |
| POSITIONS CHECKED | | 740 | 30 | |
| POSITIONS REVISED | | 71 | 2 | |
| DEPTH SOUNDINGS REVISED | | 129 | ✓ | |
| DEPTH SOUNDINGS ERRONEOUSLY SPACED | | 17 | ✓ | |
| SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED | | 0 | 2 | |
| | TIME (MANHOURS) | | | |
| TOPOGRAPHIC DETAILS | | | 12 | |
| JUNCTIONS | | 12 | reapplied 30 | |
| VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS | | 47 | 10 | |
| SPECIAL ADJUSTMENTS | | | 10 | |
| ALL OTHER WORK | | 276 | 93 | |
| **TOTALS** | | 335 | 155 | |

| | | | |
|---|---|---|---|
| PRE-VERIFICATION BY | | BEGINNING DATE | ENDING DATE |
| VERIFICATION BY | A. E. Eichelberger | BEGINNING DATE 5/28/68 | ENDING DATE 12/29/70 |
| REVIEW BY | John T. Gallahan 156 hr. | BEGINNING DATE | ENDING DATE 4/28/78 |
| Inspected – John T. Gallahan 42 hr. | | 03-04-78 | 5-8-78 |

Carstens 2 hr 5/23/78

USCOMM-DC 36271-P65

REGISTRY NO. _____

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:

H-8963

Information for Future Presurvey Reviews

This is a good basic survey and the bottom is considered adequately developed. The area in the proximity of the entrance to Drift River is subject to extensive change. With the completion of Drift River Marine Terminal there should be a considerable increase of marine vessel traffic in the area.

| Position Index | | Bottom Change | Use | Resurvey |
|---|---|---|---|---|
| Lat. | Long. | Index | Index | Cycle |
| 603 | 1521 | 5 | 2 | 25 years |

OFFICE OF MARINE SURVEYS AND MAPS

MARINE SURVEYS DIVISION

MODIFIED HYDROGRAPHIC SURVEY REVIEW

REGISTRY NO. H-8963 FIELD NO. SU-10-1-67

Alaska, Cook Inlet - Redoubt Bay, Vicinity of Drift River

SURVEYED: August 9-28, 1967

SCALE: 1:10,000 PROJECT NO.: OPR-469

SOUNDINGS: DE-723 Depth Recorder CONTROL: Shoran, Visual Fixes on Shore Signals

Chief of Party ..... N. E. Taylor
Surveyed by ..... A. D. Anderson
..... W. H. Dvorachek, Jr.
..... F. L. Jeffries
..... S. S. Nakao
..... L. K. Nelson
..... D. K. Rea
..... G. B. Wharton, Jr.
..... S. K. Yoshida
Automated Plot by ..... Gerber Digital Plotter (PMC)
Verified by ..... A. E. Eichelberger
Reviewed by ..... J. T. Gallahan
Date: May 8, 1978
Inspected by ..... J. T. Gallahan

1. Control and Shoreline

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

The position of hydro station DON (409) at latitude 60°30.33', longitude 152°07.98' is in agreement with the same station on H-8964 (1967-74) where it is shown as a topographic station.

The shoreline on the present survey was transferred from H-8964 (1967-74) and originates with T-12047 (1966-74) and T-12048 (1966).

The mean high water line is shown for guidance only; the true position is shown on the topographic surveys mentioned above.

2. Hydrography

a. Depths at crossings are in agreement.

b. The usual depth curves were adequately delineated.

c. The development of the bottom configuration is adequate.

d. Although the hydrographer exceeded the specified line spacing occasionally it did not adversly affect the determination of the depth curves and bottom configuration.

3. Condition of Survey

The sounding records, smooth plotting, Descriptive Report, and printouts are adequate and conform to the requirements of the Hydrographic Manual and the Instruction Manual - Automated Hydrographic Surveys, except as follows:

a. Bottom samples were not taken on the present survey.

b. The shoreline was added to the verified smooth sheet during review.

c. Triangulation stations RIF, 1966 and DRIVER, 1967 were incorrectly shown as topographic stations on the verified smooth sheet.

d. The 1:1,000-scale inset in the vicinity of latitude 60°32.2', longitude 152°08.0' submitted as part of the present survey could not be fully utilized. This large-scale inset comprised the work of Launch 4 on August 28, 1967, in the location of the 12 platform legs of the incomplete Drift River Marine Terminal (Presurvey Review Item No. 29) and adjacent depths. The control used on the inset was weak and unreliable and therefore rejected. The positions of the platform legs as shown on the inset differed from those using the sextant fixes recorded in volume 5. However, several depths were retained to supplement existing hydrography. The present delineation of the bottom in the area is adequate.

e. The positions (5267-5361) and soundings for the aforementioned inset were not incorporated in the computer overlays or printouts.

f. The reapplication of the junction with H-8964 (1967-74) required excessive time to accommodate the 1974 additional work on the junctional survey.

4. Junctions

A butt junction has been effected with a portion of H-8964 (1967-74). The present survey falls inside the survey limits of H-8964. Junctional depths

are in general agreement except in the northwest part of the present survey which lays east of the entrance to Drift River. This area, which is subject to change, reveals differences as great as 30 feet between the 1967 and 1974 depths. The area on the present survey is outlined and noted as superseded by H-8964 (1967-74).

5. Comparison with Prior Surveys

| | | |
|---|---|---|
| H-3322 | (1911) | 1:100,000 |
| H-3322a | (1911) | 1: 40,000 |

A paucity of depths on the prior surveys in the common area precluded a detailed comparison with the present survey. A comparison of the few depths from the early surveys with the present survey range from general agreement to differences as great as 30 feet. The affected area, east of the Drift River entrance, is subject to continuous change.

The present survey is adequate to supersede these prior surveys within the common area.

6. Comparison with Chart 16660 (8553), latest print date December 18, 1976

a. Hydrography

The present survey falls within the limits of the Drift River Inset of this chart. The charted hydrography is from boat sheet information of the present survey (Bp-73168-69) and H-8964 (1967-74) (Bp-73170-71) supplemented by information from these surveys after verification. The present survey is adequate to supersede the charted hydrography except in the area indicated as superseded by H-8964 (1967-74).

Attention is directed to the following:

(1) The proposed tanker loading dock (Presurvey Review Item No. 29) has been completed. The tanker terminal charted at latitude 60°33.3', longitude 152°08.0' originates with Chart Letters 1280 of 1967 and 301 of 1968 and is subsequent to the 1967 hydrography of the present survey.

This item also is discussed under paragraph 3.d. The tanker terminal should be retained as charted.

(2) The charted pipeline extending from the center of the tanker terminal in a northwesterly direction to the shoreline originates with Chart Letter 1280 of 1967 and Bp-73180 and is subsequent to the present survey. The charted pipeline should be retained as charted.

b. Topography

The charted shoreline west of longitude 152°09.3' lies approximately 200 meters further inland than that shown on the present survey. The charted shoreline, which originates with an earlier source, should be updated.

c. Aids to Navigation

There are no aids to navigation located on the present survey. Drift River Terminal North and South Lights were charted subsequent to the present survey. These two fixed aids adequately serve the purpose intended.

7. Compliance with Instructions

This survey adequately complies with project instructions except that:

a. Bottom samples were not taken as called for in the project instructions.

b. The larger scale survey of the Marine Terminal (Presurvey Review Item 29) called for in the project instructions did not conform to survey standards. This was previously discussed under items 3.d and 6.a.

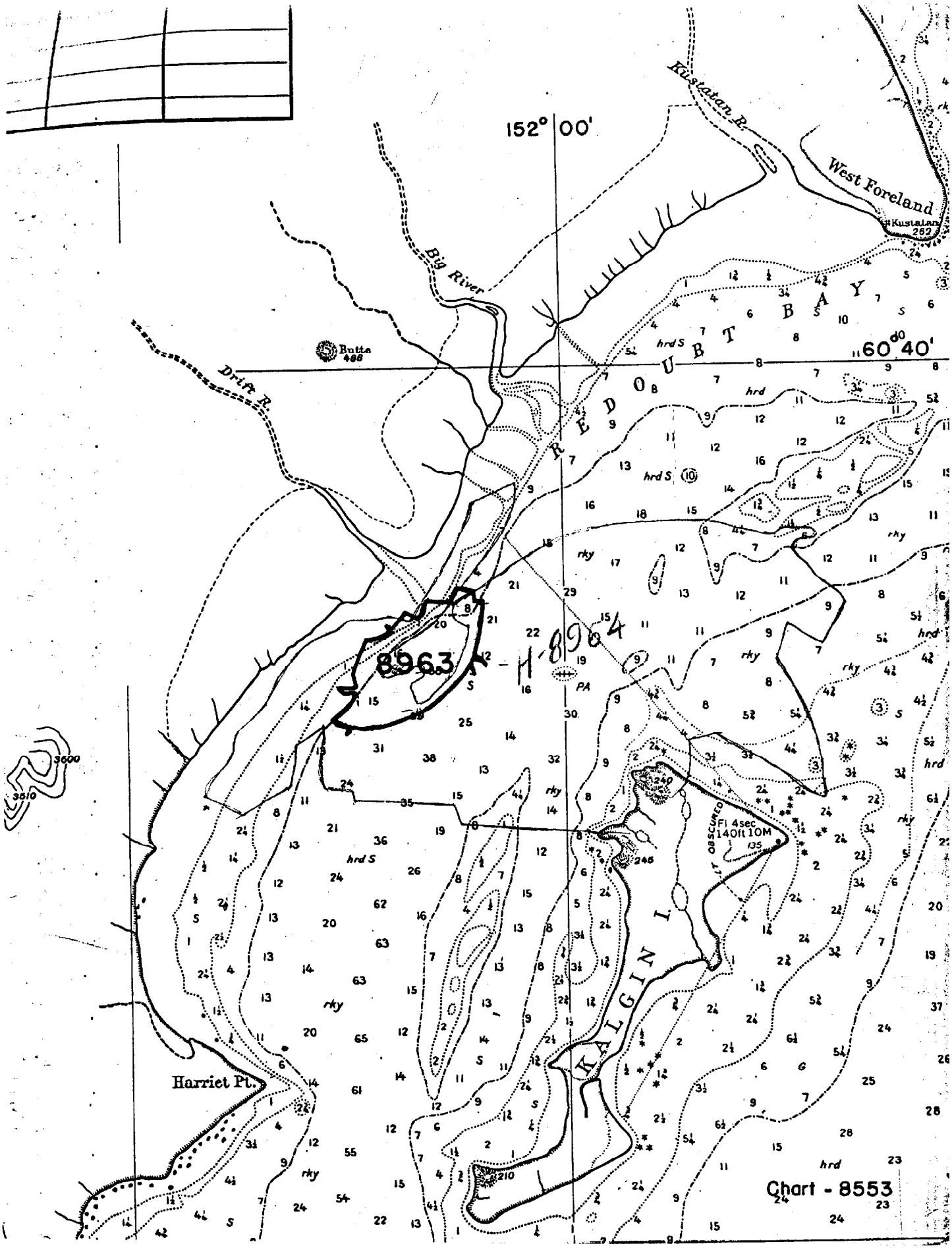
8. Additional Field Work

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

Examined and Approved:

Chief
Marine Surveys Division

Associate Director
Office of Marine Surveys
and Maps


152° 00'
60° 40'
Kustatan R.
West Foreland
Kustatan
262
Big River
Butte
488
Drift R.
REDOUBT BAY
H-8964
8963
PA
3600
3610
240
246
210
Fl 4sec
140ft 10M
135
OBSCURED
KALGIN I.
Harriet Pt.
hrd S
rky
hrd
Chart - 8553

# RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-8963

## 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 Review.

| CHART | DATE | CARTOGRAPHER | REMARKS |
|---|---|---|---|
| 8502 | 4/13/71 | C B Samuel | ~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed Via~~ |
| | | | Drawing No. Examined for critical change - No Corr. |
| 8553 | 10/4/71 | J A Graham | ~~Full~~ Part ~~Before~~ After Verification ~~Review Inspection Signed~~ Via |
| | | | Drawing No. 17 [redacted] critical Corr. made to |
| | | | 1/10,000 Drift River Inset. No corr to base. |
| 8553 | | D J Kennon | ~~Full~~ Part Before After Verification Review Inspection Signed Via |
| | | | Drawing No. 24 |
| 16662 | 10/16/81 | Rantoul | Full ~~Part~~ Before After Verification Review Inspection Signed Via |
| | | | Drawing No. 1 thru 16660 & directly |
| 16660 | 4/25/91 | B. Szatkowski | Full ~~Part~~ ~~Before~~ After Verification Review Inspection Signed Via |
| | | | Drawing No. 29 thru 16662 |
| 16013 | 8-7-97 | William Hagan | Full ~~Part Before~~ After Verification Review Inspection Signed Via |
| | | | Drawing No. #30 Fully APPLIED THRU 16660 |
| | | | 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. |

FORM C&GS-8352 SUPERSEDES ALL EDITIONS OF FORM C&GS-975.

USCOMM-DC 8558-P83