H-10055

Diagram No. 8102-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic Navigable Area

Field No. RA-10-7-82

Office No. H-10055

LOCALITY

State Alaska

General Locality Boca de Quadra

Locality Quadra Point to Badger Bay

1982

CHIEF OF PARTY
CAPT R.J.Land

LIBRARY & ARCHIVES

DATE April 24, 1984

☆U.S. GOV. PRINTING OFFICE: 1980—766-230

H-10055

AREA 6
CHTS:
17434 } to sign off on
17427 } Record of Application
17420

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO. H-10055

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. RA-10-7-82

State: Alaska

General locality: Boca de Quadra

Locality: Quadra Point to Badger Bay

Scale: 1:10,000 Date of survey: October 8-28, 1982

Instructions dated: June 2, 1982 Project No.: OPR-0361-RA-82

Vessel: NOAA Ship RAINIER (S221), Launches 2123, 2124, 2125, 2126

Chief of party: Capt. Ralph J. Land, NOAA

Surveyed by: Lt. O'Clock, Lt. Ludwig, Ens. Logue, Ens. Judson

Soundings taken by echo sounder, ~~hand lead, pole~~ ROSS Fineline 5000

Graphic record scaled by: RAINIER Personnel

Graphic record checked by: RAINIER Personnel

Evaluated by: Gordon E. Kay Automated plot by: PMC Xynetics Plotter

Verification by: C. Russel Davies

Soundings in fathoms ~~feet~~ at ~~MLW~~ MLLW

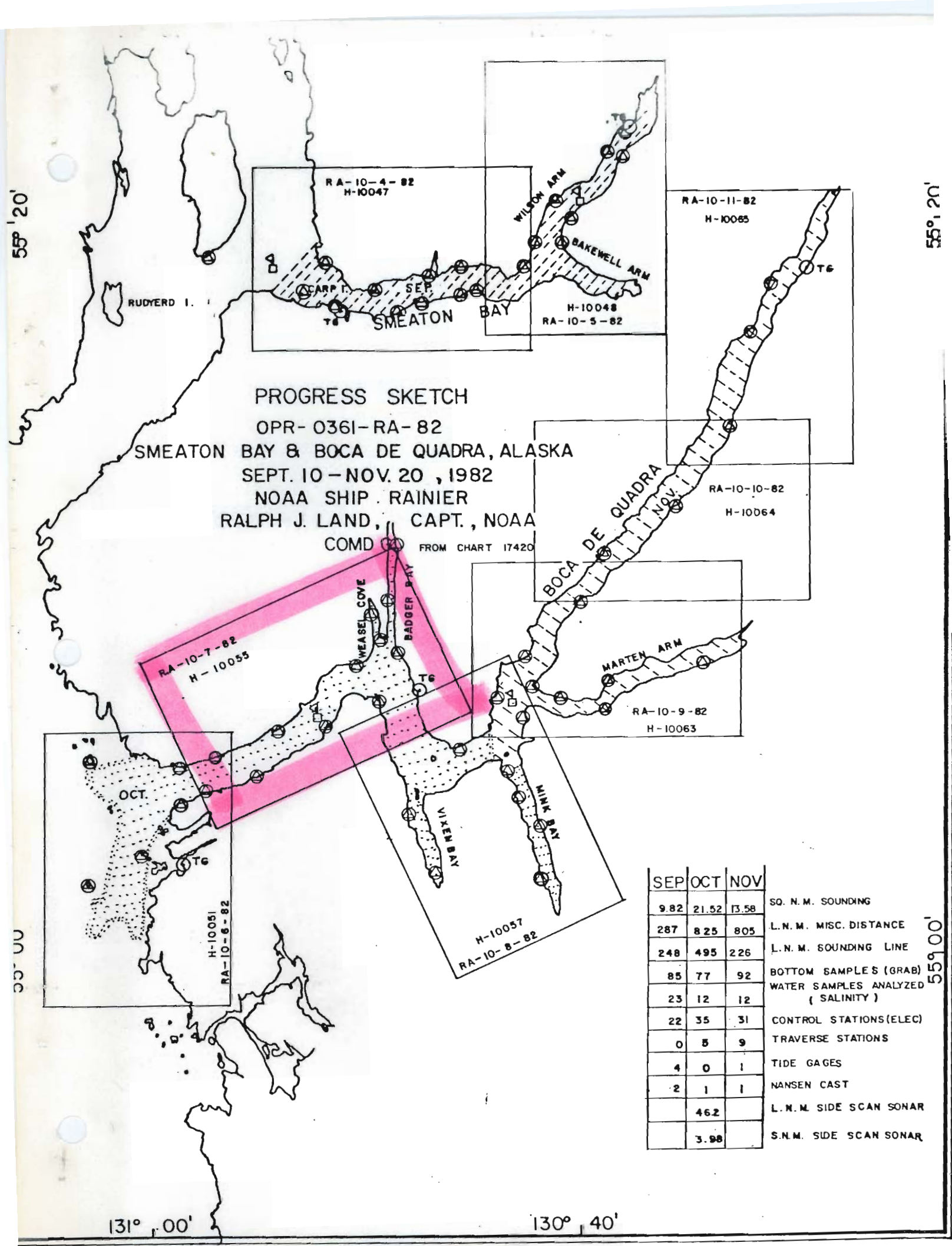
REMARKS: Notes and check marks in black ink were performed during Evaluation and or Quality Control at the Pacific Marine Center, Seattle, Washington.

AWOIS - 6/28/84 mf

SC 4-21-97 Applied to Std's 4-24-84 BR

NOAA FORM 77-28 SUPERSEDES FORM C&GS-537.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1978-665-010-1174



SEP	OCT	NOV	
9.82	21.52	13.58	SQ. N. M. SOUNDING
287	825	805	L.N.M. MISC. DISTANCE
248	495	226	L.N.M. SOUNDING LINE
85	77	92	BOTTOM SAMPLES (GRAB)
23	12	12	WATER SAMPLES ANALYZED (SALINITY)
22	35	31	CONTROL STATIONS (ELEC)
0	5	9	TRAVERSE STATIONS
4	0	1	TIDE GAGES
2	1	1	NANSEN CAST
	46.2		L.N.M. SIDE SCAN SONAR
	3.98		S.N.M. SIDE SCAN SONAR

A. PROJECT

Survey H-10055 was conducted in accordance with Project Instructions OPR-0361-RA-82, Smeaton Bay and Boca de Quadra, Alaska, dated June 2, 1982, and supplements to the Project Instructions, Change No. 1, dated July 28, 1982 and Change No. 2, dated August 23, 1982. ✓

B. AREA SURVEYED

Survey H-10055 was performed in western Boca de Quadra, including Badger Bay and Weasel Cove.

The area included the navigable waters east of longitude 130° 57' 30" along the shoreline extending northward to the ends of Weasel Cove and Badger Bay and southward to latitude 55° 06' 00".

The inshore limit was defined by the one fathom curve where possible. Because of the very steep inshore bottom gradient and poor observing conditions in some of the small bights along the shore, the one fathom curve was not possible on a number of lines. However, the inshore lines were always less than 100 meters from shore, thus meeting the requirement stated in section 4.11.2.1 of the Hydrographic Manual. Inclusive dates of the survey were October 8 - 28, 1982. ✓

C. SOUNDING VESSEL

All soundings were obtained using the following hydrographic launches: RA-3 (2123), RA-4 (2124), RA-5 (2125) and RA-6 (2126). No unusual sounding vessel configurations or problems were encountered. ✓

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

Introduction

All information contained in this section is applicable to survey H-10055. Sounding equipment is discussed as well as corrections, which include sound velocity, draft, settlement and squat, instrument corrections for blanking, and phase and initial drift errors. Analog interpretation problems are also discussed. ✓

Sounding Equipment

Echo soundings obtained during survey H-10055 were taken by RAINIER launches RA-3 (2123), RA-4 (2124), RA-5 (2125) and RA-6 (2126). Each launch was equipped with ROSS Fineline Fathometer systems. These systems include the following ROSS components: model 400 transceivers, model 5000 analog trace recorders, model 6000 digitizers, and 100 khz transducers. Ther serial numbers of these components are summarized in Table I. ✓

TABLE I

Echo Sounding Component Serial Numbers

Launch	2123	2124	2125	2126
Transceiver	1041	1040	1042	1080
Analog	1046/1071	1042	1070/1042	1071/1046
Digitizer	1041	1080	1042	1040

The analog recorders in RA-3 and RA-6 were exchanged on October 20, 1982 (JD 294). RA-5 used analog recorder 1042 on October 12, October 13 and October 18, 1982 (JD's 286, 287 and 292) only.

Sound Velocity Corrections

Two Nansen casts were performed in order to determine sound velocity corrections. TABLE II summarizes the Nansen cast data.

TABLE II

Nansen Cast Data

DATE	LOCATION	VELOCITY TABLE
18 October, 1982	55° 06.5' N 130° 52.6' W	8
18 November, 1982	55° 06.9' N 130° 43.3' W	8

Water samples obtained from the Nansen casts were analyzed for salinity using a Beckman model No. RS-713 salinometer (S/N 59265) and standard laboratory procedures (see H.O. 607, Instruction Manual for Obtaining Oceanographic Data, Third Edition, U.S. Naval Oceanographic Office, 1968). The salinometer was last calibrated in April 1982 by the Northwest Regional Calibration Center, Bellevue, Washington. The calibration results are provided in the separates following the text.

Velocity correction tables were yielded by inserting the Nansen cast results into computer program RK 530: Velocity Correction Computations (May 10, 1976 version) which was run on RAINIER's PDP 8/e digital computer system.

The standard velocity correctors for this survey were obtained by graphing the actual depths minus velocity corrections versus velocity corrections and picking off depths that corresponded to standard correction intervals (see Hydrographic Manual, Fourth Edition, 1976). A list of computed correctors is provided in the separates following the text.

Launch Draft Corrections

Corrections for launch draft were determined from standard bar checks (see Hydrographic Manual, Fourth Edition, 1976). Bar checks were performed daily, except when wind or rough seas prevented launch personnel from obtaining accurate bar check data.

Mean fathometer depth values were corrected for velocity and subtracted from the true bar depths. The resulting values agreed with the historic value of 0.3 fathoms for the survey launch's TRA's except for RA-3. The TRA for RA-3 was computed to be 0.45 fathoms which agrees with the prior TRA, computed since the installation of the side scan sonar equipment on this launch. see Evaluation Report Section I.

The smooth field sheets for this survey were plotted using a launch TRA value of 0.3 fathoms except for soundings obtained by RA-3. These soundings were plotted using a launch TRA value of 0.5 fathoms.
see Evaluation Report Section I

Launch Settlement and Squat Corrections

Settlement and squat tests were conducted at Shilshole Bay Marina in Puget Sound, Washington on April 2 and April 6, 1982 and at Port Chatham, Alaska on July 23, 1982. The second location was used to obtain new settlement and squat values for RA-3 after the installation of the side scan sonar equipment. A leveling rod was located over the transducer on each launch. An observer on shore sighted through a level to the rod and recorded the readings at various speeds. These readings were taken at speeds increasing from 0 RPM to 2600 RPM (full ahead) for each launch except RA-4, which went to 2800 RPM. A second set of readings were taken at speeds decreasing from full ahead to 0 RPM. The two sets of readings were then averaged to yield the final settlement and squat correctors. A list of the final correctors is included in the separates following the text.

Settlement and squat correctors were not applied to the final smooth field sheets of this survey. All soundings were obtained at speeds for which the corrector equaled 0.0 fathoms.

Sounding Instrument Correctors

During survey operations the blanking depth was set to a value shoaler than the shoalest bottom expected and was adjusted as the depth changed.

Corresponding analog trace depths were substituted for missing digital soundings as a part of standard scanning procedures.

The initial trace on the analog recorders was continuously monitored to prevent any error caused by a drifting initial. Phase calibrations were also performed to prevent belt tension error and stylus/paper misalignment on launch fathometers in accordance with PMC OPORDER.

Special Analog Interpretation Problems

Fathograms were scanned for peaks and deeps on-line and again at the end of each work day as part of standard scanning procedures. Due to the steepness of the bottom topography, side echoes were prevalent in the area of this survey. The side echo problem was enhanced when sounding parallel to a steep bottom gradient. The fathometers were operated using the manual gain control rather than the automatic gain control (AGC) to help keep the occurrence of side echoes to a minimum. Digital depths were replaced by analog depths whenever they were found to represent side echoes rather than the true bottom. However, due to the difficulty of interpreting side echoes, some interpretation discrepancies may still exist in areas where side echoes were prevalent.

E. HYDROGRAPHIC SHEETS

Field sheets RA-10-7N-82 and RA-10-7S-82 were prepared on board RAINIER using the PDP 8/e Complot System. The sheets were based on modified transverse mercator projections. A list of parameters used to define the hydrographic sheets are attached on the separates following the text. All field records will be sent to the Pacific Marine Center, Seattle, Washington for verification. The smooth field sheets for this survey are plotted at a 1:10,000 scale.

The basic mainscheme line spacing on this survey was 200 meters. The inshore lines were split to 100 meters. Depths of greater than 20 fathoms were observed less than 100 meters from the shore in most places. Due to the very limited anchorage areas in this fiord, any indication of such was further developed.

F. CONTROL STATIONS

The following control stations were recovered. All are Second Order stations on the North American 1927 Datum.

NOON	1933	LUM	1933
TUFY	1933	TURN	1933
GUS	1933	EASY	1933
~~STEP~~	~~1933~~	WET	1933
NOSS	1933	~~ORCA~~	~~1933~~

Control Stations continued:

ROCK	1933	WHITE	1933
~~CLIFF~~	~~1933~~	MAY	1933
HOW	1933	IDEAL	1933
WEAS	1933	CORKY	1933
NO	1933	~~ABLE~~	~~1933~~
SEEUM	1933	COHO	1933
VEIN	1933	~~DOME~~	~~1933~~
KEST	1933		

Only three new control stations were established for this survey. They are:

BADGER, 1981 (In Badger Bay)
KAY, 1981 (In Badger Bay)
PEGLEG, 1981 (In Weasel Cove)

All three stations were established in accordance with Third Order Class I specifications on the North American 1927 Datum. For more information, refer to the Horizontal Control Report, OPR-0361-RA-82.

G. HYDROGRAPHIC POSITION CONTROL

Electronic range/range and range/azimuth methods were used for hydrographic position control. Visual sextant fixes were used for some bottom samples. Motorola Miniranger III positioning systems and Wild Theodolites were used. The Tables below summarized the location of all miniranger mobile and shore equipment.

TABLE I

Miniranger Mobile Equipment

VESSEL	CONSOLE S/N	R/T S/N
2123	720	2710
2124	30269	1636
2125	715	1557
2126	711	1646

TABLE II

Miniranger Shore Equipment

CODE	TRANSPONDER S/N	STATION NUMBER
A	1645	NOT USED
B	4951	127
C	1628	NOT USED
D	1569	136, 146, 151, 154, 156, 196, 197, 198
E	911721	143
F	911711	132, 143, 144, 146, 153
0	911632	136, 151, 197
*1	C1680	151
2	B1106	137, 138, 141

Ending baseline calibration for these codes occurred in Ketchikan, Alaska on October 29 - 30, 1982. For more information concerning initial and ending calibrations, refer to the Electronic Control Report OPR-0361-RA-82.

Miniranger Calibration and System Check

The majority of the system checks were completed by observing horizontal sextant angles to visible Third Order, Class I or better geodetic stations, while the remaining system checks were completed by launch to launch, baseline crossing or static calibration methods.

Miniranger baseline calibrations for this survey were performed on August 30th, 31st, September 1st, and October 29th and 30th, 1982. These calibrations took place at Sand Point, Seattle, Washington and Ketchikan, Alaska. Only the initial correctors were used to plot the smooth field sheet. The initial baseline calibration for each R/T console pair and transponder combination also determine minimum signal strength cutoff values for each system. The data for all baseline calibrations are included in the Electronic Control Report.

Miniranger Performance

All shore stations were positioned on Third Order, Class I or better geodetic stations. Power was supplied by two 12-volt batteries connected in series. Overall, shore transponder units performed very well with few problems as did all mobile equipment.

* Sent to PMC for repairs.

H. SHORELINE

The shoreline for this survey was transferred from enlargements of U.S. Geological Survey Quadrangle Maps at 1:63,360 scale. The enlargements initially provided were not at the correct scale and had to be enlarged a second time to 1:10,000 by an enlargement projector at Marine Operations Pacific. This resulted in a large amount of distortion rendering the shoreline as inaccurate. Therefore, on the final smooth sheets it was necessary to adjust (in certain areas) the shoreline to conform with plotted sounding positions.

An excellent check on the accuracy of the shoreline is the fact that nearly all of the geodetic stations are located very near the tree line, which is basically the mean high water line in this area. ✓

Another major error was noted on the U.S. Geological shoreline sheets. The bottom characteristic chart symbol "rky" was misinterpreted as a "rock awash" (*) symbol and was transferred as such to the shoreline manuscripts. These "rock awash" symbols were deleted from the smooth field sheets.

It is recommended that the shoreline be recompiled and updated with photogrammetry in the near future.

I. CROSSLINES

See evaluation report section H

A total of 23.9 nautical miles of crosslines were run representing 13.7% of the mainscheme mileage. Agreement of the 291 comparisons between crossline and mainscheme sounding is as follows:

0 - 11 fathoms	6 comparisons within 0.2 fathoms 1 comparison within 0.5 fathoms 8 comparisons within 1.5 fathoms 0 comparisons greater than 1.5 fathoms
11 - 15 fathoms	75 comparisons within 0.2 fathoms 0 comparisons within 0.5 fathoms 16 comparisons within 1.5 fathoms 13 comparisons greater than 1.5 fathoms
55 - 110 fathoms	21 comparisons within 0.5 fathoms 5 comparisons within 1.5 fathoms 3 comparisons within 3% of depth 7 comparisons greater than 3% of depth
Greater than 110 fathoms	119 comparisons within 1.5 fathoms 13 comparisons within 3% of depth 4 comparisons greater than 3% of depth

Crossline agreement is good since 84.5% of the comparisons meet the criteria as stated in Section 1.1.2, part B.II.1 of the Hydrographic

Manual. The discrepancies seem to be a result of a small position difference which in turn reflects a relatively large discrepancy in depth due to the very steep bottom. The amount of disagreement is not unusual considering the steepness of the bottom profile and the fact that many of the comparisons were not exactly coincident. Three launches (RA-3, RA-5, RA-6) ran crosslines in addition to the mainscheme lines. The same launch did not necessarily run both types in a given area. ✓

The existence of side echoes also rendered some interpretation problems on some cross line comparisons. This problem was especially exagerated when running a sounding line parallel to a steep gradient.

J. JUNCTION

The junction of this survey was compared with present surveys H-10051 and H-10057. The junction between the north and south sheets of this survey were also compared. Results of the comparisons is as follows:

H-10051

11 - 55 fathoms	7 comparisons within 1.5 fathoms 0 comparisons within 3% of depth 8 comparisons greater than 3% of depth
55 - 110 fathoms	10 comparisons within 3% of depth 2 comparisons greater than 3% of depth
Greater than 110 fathoms	8 comparisons within 3% of depth ✓

Junction agreement was fair since 71% of the comparisons meet the citeria as stated in section 1.o.2, part B.II.1 of the Hydrographic Manual. The largest discrepancies occur where bottom slopes are very steep. Hence, a small difference in positioning would yield a relatively large difference in depth.

H-10055 (RA-10-7N-82/RA-10-7S-82)

0 - 5 fathoms	1 comparison within 0.5 fathoms 1 comparison greater than 1.5 fathoms
5 - 11 fathoms	1 comparison greater than 1.5 fathoms
11 - 55 fathoms	12 comparisons within 1.5 fathoms 9 comparisons greater than 3% of depth
55 - 110 fathoms	12 comparisons within 3% of depth 4 comparisons greater than 3% of depth ✓

Junction agreement was poor since only 60% of the comparisons meet the criteria as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual. The largest discrepancies occur where bottom slopes are very steep. Hence, a small difference in positioning would yield a relatively large difference in depth.

55 - 110 fathoms	3 comparisons within 3% of depth 3 comparisons greater than 3% of depth
Greater than 110 fathoms	26 comparisons within 3% of depth

Junction agreement was very good since 91% of the comparisons meet the criteria as stated in section 1.1.2. part B.II.1 of the Hydrographic Manual.

K. COMPARISON WITH PRIOR SURVEY

This survey was compared with prior survey H-5389 (1933), 1:10,000 enlargement of a 120,000 scale survey. Agreement of the 341 comparisons between the present and prior survey soundings is as follows:

0 - 5 fathoms	1 comparison within 0.2 fathoms
5 - 11 fathoms	2 comparisons within 0.5 fathoms 1 comparison within 1.5 fathoms 3 comparisons greater than 1.5 fathoms
11 - 55 fathoms	149 comparisons within 1.5 fathoms 2 comparisons within 3% of depth 63 comparisons greater than 3% of depth
55 - 110 fathoms	26 comparisons within 3% of depth 15 comparisons greater than 3% of depth
Greater than 110 fathoms	78 comparisons within 3% of depth 1 comparison greater than 3% of depth

Seventy-five per cent of the comparisons meet the criteria as stated in section 1.1.2. part B.II.1 of the Hydrographic Manual. Discrepancies were found in or near the shoreline due to the very steep sloping bottom. Again, these discrepancies can be explained by a small difference in position yielding a relatively large difference in depth due to the steep gradient of the bottom. Other areas of notable difference occurred where fresh water streams drained into the end of Badger Bay and Weasel Cove. These discrepancies were caused by sedimentation and erosion in the drainage areas at the river outlets.

In 1982, Tetra Tech, Inc. completed bathymetric surveys for sections of Boca de Quadra. Surveys KI-I and KI-4 apply to this hydrographic survey. Generally the soundings agreed. Line spacing was greater than what is required in the NOS Hydrographic Manual. The Tetra Tech Inc. surveys do not meet NOS Hydrographic standards but are useful in obtaining a profile of the submarine topography.

L. COMPARISON WITH THE CHART

This survey was compared with chart 17434, 9th Edition, February 14, 1981, 1:80,000 scale enlarged to 1:10,000. Agreement of the 67 comparisons is as follows:

0 - 5 fathoms	1 comparison greater than 1.5 fathoms
5 - 11 fathoms	1 comparison within 0.5 fathoms 1 comparison greater than 1.5 fathoms
11 - 55 fathoms	12 comparisons within 1.5 fathoms 1 comparison greater than 3% of depth
55 - 110 fathoms	15 comparisons within 3% of depth 8 comparisons greater than 3% of depth
Greater than 110 fathoms	28 comparisons within 3% of depth

Agreement is good since 84% of the comparisons meet the criteria as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual. Some discrepancies were observed. When enlarging a 1:80,000 scale chart to 1:10,000, position discrepancies will occur causing a decrease in accuracy. The noted chart soundings also appeared to be much further from the shoreline than they should be. Overall, the expansion of the 1:80,000 scale clearly distorts the published soundings. The enlarged soundings make comparisons with any one sounding on the survey almost impossible, since no one sounding from the survey is exactly coincident with the charted sounding. In all cases, the present surveyed soundings should be used.

It should also be mentioned that the rock positioned roughly at N55° 08', W 130° 50' 30" is probably much closer to the shoreline or is a part of the shoreline than the field smooth sheet has it positioned. The position discrepancy of this rock is caused by a decrease in accuracy when enlarging the 1:80,000 scale chart to 1:10,000. same PK as here

A charted rock position at Lat. 55° 08' N, Long. 130° 50.5' W was visually searched for but not found. It is believed that the rock is actually a ledge very near the shore. The position of the rock as plotted on the smooth field is also inaccurate as it is shown too far from shore. This inaccuracy was carried from the chart blowup. The original chart scale shows the rock as close to shore as possible.

see Evaluation Report Section 6

M. ADEQUACY OF SURVEY

This survey is complete and sufficient to supersede all prior surveys for charting purposes.

N. AIDS TO NAVIGATION

There are no aids to navigation in the survey area.

O. STATISTICS

Survey Launch	Linear/Nautical Miles of Hydrography	Square Nautical Miles of Hydrography	Number of Positions
RA-3 (2123)	58.5	----	~~676~~ 590
RA-4 (2124)	0.16	----	2
RA-5 (2125)	76.5	----	~~489~~ 530
RA-6 (2126)	39.7	----	~~336~~ 322
TOTAL	174.9	12.0	~~1443~~ 1450

BOTTOM SAMPLES: 53

P. MISCELLANEOUS

There were no dangers to navigation reported in the survey area.

A very small inlet exists just south of station MAY. The existing control would not see into the inlet and it is too small and felt unimportant to establish control to survey it. Therefore, a "SEE BOATSHEET" method was used. A single line was run down the middle. For plotting purposes, positions were scaled off the boatsheet for the mouth middle, and end of the inlet. These positions conform to the shoreline from the U.S.G.S. quadrangle shoreline maps. Since the shoreline is not accurate, and, if this data is to be retained, more accurate positions will have to be scaled from the final compiled shoreline.

Q. RECOMMENDATIONS

This survey is considered complete and adequate, and there are no recomendations except for the item previously mentioned in section I.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (Fourth Edition), Manual of Automated Hydrographic Surveys, the PMC OPORDER, Hydrographic Survey Guidelines and the Hydrographic Data Requirements for 1982.

Soundings and positions were taken by an ASI Logger and a Hydroplot system using range-range program RK 112 and range-azimuth program FA 181. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches and electronic control baseline correctors for miniranger consoles and R/T units and all depth corrections. Velocity tapes were generated from Nansen cast data. The following is a list of all computer programs and version dates used for data acquisition or processing:

	PDP 8/e Programs	Version Date
RK112	Range-Range and Hyperbolic Real-Time Plot	08/04/81
FA181	Range-Azimuth Hydrolog	02/23/78
RK201	Grid, Signal and Lattice Plot	04/18/75
RK211	Range-Range Non-Real Time Plot	02/02/81
RK212	Visual Station Table Load	04/01/74
RK215	Visual Non-Real Time Plot	02/11/81
RK216	Range-Azimuth Non-Real Time Plot	02/09/81
RK300	Utility Computations	10/21/80
RK330	Reformat and Data Check	05/04/76
PM360	Electronic Corrector Abstract	02/02/76
RK407	Geodetic Inverse/Direct Computation	09/25/78
AM500	Predicted Tide Generator	11/10/72
RK530	Layer Corrections for Velocity	05/10/76
RK561	H/R Geodetic Calibration	02/19/75
AM602	Elinore-Line Oriented Editor	05/20/75
AM603	Tape Consolidator	10/10/72
RK606	Tape Duplicator	08/22/74
	Focal	1969
	Nansen Cast Calculations	08/15/79

The HP97 and HP9815A programmable calculators were used to compute geographic positions of electronic control stations and visual signals for calibrations.

S. REFERRAL TO REPORTS

The following reports contain information related to this survey:

Echo Sounding Report	OPR-0361-RA-82
Electronic Control Report	OPR-0361-RA-82
Horizontal Control Report	OPR-0361-RA-82
Coast Pilot Report	OPR-0361-RA-82

Respectfully submitted,

for James W. O'Clock, CST
LT, NOAA

PARAMETER TAPE LISTING
RA-10-7-82(H-10055)

```
RA-10-7N-82
SKEW - 90,10,28
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/08/06
PLON=130/48/12
VESNO=2123
YR=82
ANDIST=0.0

RA-10-7S-82
SKEW - 24,22,53
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/03/30
PLON=130/57/09
VESNO=2123
YR=82
ANDIST=0.0
```

FIELD TIDE NOTE

Field tide reduction of soundings for survey H-10055 was based on predicted tides from Ketchikan, Alaska. Corrections were obtained from preliminary Tidal Zoning OPR-0361-RA-82. The predicted tides were derived using program AM500. The reference station, Ketchikan, Alaska (945-0460), Lat. 55° 19.5' N, Long. 131° 37.5' W, was leveled on October 2 and November 12, 1982. These levels agreed with the historical records.

Two subordinate tide stations provided data for survey H-10055. The Kestrel Tide gage (945-0305), Lat. 55° 07.1' N, Long. 130° 47.9' W, was installed on September 28, 1982 and removed on November 20, 1982. Initial and final levels for this gage were run on September 28, 1982 and November 17, 1982. The staff value of the zero line on the tide record was +5.0 feet and the time meridian for records annotation was 0° (UTC). The gage operated very well the entire period.

The Kah Shakes Cove Tide Gage (945-0254), Lat. 55° 02.5' N, Long. 130° 58.7' W was installed on September 29 and removed on November 4, 1982. Initial and final levels for this gage were run on October 4, 7 and November 4, 1982. The staff value of the zero line on the tide record was +1.8 feet and the time meridian for records annotation was 0° (UTC).

The Kah Shakes Cove gage experienced problems the entire time of installation. High humidity inside the gage caused the ink to constantly smear. The humidity problem also affected the transfer of paper through the chart drive. This resulted in the paper jumping sprocket holes, thus causing time problems. Although the marigrams look poor and gaps are present (never more than three days), the data is acceptable.

MASTER STATION LIST
OPR-0361-RA-82
BOCA DE QUADRA, ALASKA

FINAL VERSION

126 4 55 05 18124 131 03 03499 250 0000 000000
/CUSH 1933 NGS COMPUTER LISTING

127 1 55 05 10054 130 58 49848 250 0000 000000
/START 1933 NGS COMPUTER LISTING

128 7 55 04 14894 130 58 49500 250 0000 000000
/MOUTH 1933 NGS COMPUTER LISTING

129 4 55 02 47507 131 00 38168 250 0000 000000
/SHAK 1915 NGS COMPUTER LISTING

130 4 55 01 58570 131 03 03083 250 0000 000000
/SNAIL 1895 NGS COMPUTER LISTING

131 4 55 04 02272 131 01 57264 139 0000 000000
/REEF 1933 NGS COMPUTER LISTING

132 1 55 04 38728 130 56 47336 250 0000 000000
/COHO 1933 NGS COMPUTER LISTING

133 4 55 05 18999 130 54 08921 139 0000 000000
/CORKY 1933 NGS COMPUTER LISTING

134 7 50 04 56173 130 55 11812 139 0000 000000
/ABLE 1933 NGS COMPUTER LISTING

135 1 55 07 55716 130 50 38883 139 0000 000000
/CLIFF 1933 NGS COMPUTER LISTING

136 6 55 07 07380 130 49 49923 250 0000 000000
/EASY 1933 NGS COMPUTER LISTING

137 1 55 06 09245 130 54 12449 250 0000 000000
/GUS 1933 NGS COMPUTER LISTING

138 7 55 05 45898 130 52 55359 250 0000 000000
/IDEAL 1933 NGS COMPUTER LISTING

139 3 55 08 03008 130 50 07418 139 0000 000000
/HOW 1933 NGS COMPUTER LISTING

140 6 55 04 32589 130 57 37053 139 0000 000000
/DOME 1933 NGS COMPUTER LISTING

141 7 55 06 17876 130 52 01008 250 0000 000000
/MAY 1933 NGS COMPUTER LISTING

~~142 4 55 08 16905 130 48 42486 139 0000 000000~~ OK
~~/N0 1933 NGS COMPUTER LISTING~~

143 1 55 05 26779 130 57 11000 250 0000 000000
/NOON 1933 NGS COMPUTER LISTING

144 0 55 07 00576 130 52 32604 250 0000 000000
/NOSS 1933 NGS COMPUTER LISTING

~~145 6 55 07 12203 130 50 54603 139 0000 000000~~
~~/ORCA 1933 NGS COMPUTER LISTING~~

146 3 55 07 27625 130 52 18545 250 0000 000000
/ROCK 1933 NGS COMPUTER LISTING

147 4 55 07 50018 130 48 20565 139 0000 000000
/SEEUM 1933 NGS COMPUTER LISTING

148 1 55 05 48236 130 55 24872 139 0000 000000
/TUFY 1933 NGS COMPUTER LISTING

149 3 54 06 58589 130 49 32060 139 0000 000000
/TURN 1933 NGS COMPUTER LISTING

~~150 0 55 06 39774 130 53 04729 139 0000 000000~~
~~/STEP 1933 NGS COMPUTER LISTING~~

151 2 55 08 37551 130 49 30864 250 0000 000000
/WEAS 1933 NGS COMPUTER LISTING

152 6 55 07 10930 130 50 37357 139 0000 000000
/WET 1933 NGS COMPUTER LISTING

153 7 55 06 59640 130 51 19093 250 0000 000000
/WHITE 1933 NGS COMPUTER LISTING

154 3 5506 26939 130 49 16255 250 0000 000000
/LUM 1933 NGS COMPUTER LISTING

155 4 55 06 45211 130 47 53448 139 0000 000000
/VEIN 1933 NGS COMPUTER LISTING

156 4 55 06 26822 130 47 54718 250 0000 000000
/KEST 1933 NGS COMPUTER LISTING

~~157 2 55 05 57189 130 47 13604 250 0000 000000~~
~~/RAIN 1933 NGS COMPUTER LISTING~~

~~158 1 55 05 35525 130 46 20016 250 0000 000000~~
~~/CEDAR 1933 NGS COMPUTER LISTING~~

~~159 1 55 05 38807 130 45 48878 250 0000 000000~~
~~/GAL 1933 NGS COMPUTER LISTING~~

```
178 3  55 04 44319 130 43 20726  250 0000 000000
/BEACH 1933                    NGS COMPUTER LISTING

179 5  55 05 04104 130 43 33126  250 0000 000000
/GRASSY 1933                   NGS COMPUTER LISTING

180 0  55 05 21618 130 43 48465  250 0000 000000
/MINK 1933                     NGS COMPUTER LISTING

181 7  55 05 18571 130 44 27028  139 0000 000000
/BRICK 1933                    NGS COMPUTER LISTING

182 7  55 05 05738 130 45 11001  139 0000 000000
/JOHN 1933                     NGS COMPUTER LISTING

183 7  55 04 53927 130 45 45672  250 0000 000000
/SON 1933                      NGS COMPUTER LISTING

184 2  55 04 29761 130 47 55550  139 0000 000000.
/GANN 1933                     NGS COMPUTER LISTING

185 4  55 04 20474 130 47 55434  139 0000 000000
/SHINE 1933                    NGS COMPUTER LISTING

186 2  55 03 53778 130 47 34420  139 0000 000000
/BLACK 1933                    NGS COMPUTER LISTING

187 2  55 03 22077 130 47 18494  139 0000 000000
/ROUND 1933                    NGS COMPUTER LISTING

188 2  55 02 59281 130 47 04278  250 0000 000000
/RAVEN 1933                    NGS COMPUTER LISTING

189 3  55 02 18322 130 46 55763  250 0000 000000
/LORD 1933                     NGS COMPUTER LISTING

190 3  55 02 47787 130 47 28599  139 0000 000000
/HANG 1933                     GS COMPUTER LISTING

191 3  55 03 21774 130 47 48039  139 0000 000000
/VIXEN 1933                    NGS COMPUTER LISTING

192 3  55 03 54055 130 48 09540  250 0000 000000
/LONE 1933                     NGS COMPUTER LISTING

193 3  55 04 23527 130 48 13255  139 0000 000000
/PULL 1933                     NGS COMPUTER LISTING

194 3  55 04 42171 130 48 19477  250 0000 000000
/BAGO 1933                     NGS COMPUTER LISTING

195 3  55 04 41297 131 10 47375  139 0000 000000
/ROSEN 1932                    HGS COMPUTER LISTING
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196 3 55 09 42399 130 49 12231 250 0000 000000
/BADGER

197 4 55 11 13972 130 48 59775 250 0000 000000
/KAY

198 3 55 09 19260 130 49 50358 250 0000 000000
/PEGLEG

~~199 4 55 07 05753 130 41 16127 139 0000 000000~~
/PIRKKO

201 4 55 01 26576 131 03 29334 139 0016 000000
/BLACK ROCK LIGHT 1929 NGS COMPUTER LISTING

202 0 55 05 18432 131 03 04294 250 0010 000000
/SLATE ISLANDS LIGHT

203 0 55 07 32707 130 38 53128 250 0000 000000
/GEORGE

204 3 55 08 05238 130 37 18095 139 0000 000000
/MARTEN

205 6 55 07 59034 130 34 31700 250 0000 000000
/HARVEY

206 6 55 06 46485 130 39 08001 250 0000 000000
/JUNE

207 0 55 11 02860 130 39 07831 250 0000 000000
/CAROLINE

208 4 55 09 45306 130 40 18814 250 0000 000000
/BOCA

209 7 55 12 20336 130 35 56244 250 0000 000000
/DE

210 4 55 14 28140 130 33 12498 250 0000 000000
/QUADRA

211 3 55 16 59262 130 32 09418 250 0000 000000
/JUDY

212 3 55 18 14803 130 31 02646 250 0000 000000
/ROSIE

213 4 55 18 41682 130 29 27054 250 0000 000000
/BILLY

TRA (TC/TI) TAPE: VESSEL 2126 (RA-6) SURVEY RA-10-7-82 (H-10055) FATHOMETER S/N 1071 YR ____ PAGE ___ OF ___

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns: INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
163914	0.3	284	8	0.0	0.0	0.3	0.0	0.0	HYDRO
195000	0.3	301	8	0.0	0.0	0.3	0.0	0.0	HYDRO

3-32

TRA (TC/TI) TAPE: VESSEL 2125 (RA-5) SURVEY RA-10-7-82 (H-10055) FATHOMETER S/N 1070 YR 82 PAGE 1 OF

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
172944	0.3	281	8	0.0	0.0	0.3	0.0	0.0	HYDRO
182029	0.0	283	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
190933	0.3	292	8	0.0	0.0	0.3	0.0	0.0	HYDRO
223437	0.0	292	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
171543	0.3	293	8	0.0	0.0	0.3	0.0	0.0	HYDRO
223401	0.0	293	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
185624	0.3	294	8	0.0	0.0	0.3	0.0	0.0	HYDRO
200010	0.0	294	0	0.0	0.0	0.0	0.0	0.0	D.P. ON Rock.
201128	0.3	294	8	0.0	0.0	0.3	0.0	0.0	HYDRO
171017	0.0	295	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
183724	0.3	295	8	0.0	0.0	0.3	0.0	0.0	HYDRO
192131	0.0	296	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
202500	0.3	296	8	0.0	0.0	0.3	0.0	0.0	HYDRO
235557	0.0	298	0	0.0	0.0	0.0	0.0	0.0	BOTTOM SAMPLES
001000	0.0	299	0	0.0	0.0	0.0	0.0	0.0	END BOTTOM SAMPLES

3-32

TRA (TC/TI) TAPE: VESSEL 2124 (RA-4) SURVEY RA-10-7-82 (H-10055) FATHOMETER S/N 1040 YR 82 PAGE 1 OF 1

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns: INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
182130	0.3	293	8	0.0	0.0	0.3	0.0	0.0	HYDRO
190000	0.3	293	8	0.0	0.0	0.3	0.0	0.0	END HYDRO

TRA (TC/TI) TAPE: VESSEL 2123 (RA-3) SURVEY RA-10-7-82 (H-10055) FATHOMETER S/N 1041 YR 82 PAGE 1 OF ___

From TIME	TRA CORR.	DAY	VEL. TBL.	TRA corr. is the algebraic sum of these columns INITIAL	SCALE-PHASE	DRAFT	F. ARC	S./ SQUAT	COMMENTS
182852	0.5	286	8	0.0	0.0	0.5	0.0	0.0	HYDRO
205043	0.0	293	0	0.0	0.0	0.0	0.0	0.0	D.P ON ROCK
205721	0.5	293	8	0.0	0.0	0.5	0.0	0.0	HYDRO
230317	0.0	295	0	0.0	0.0	0.0	0.0	0.0	D.P ON ROCK
230601	0.5	295	8	0.0	0.0	0.5	0.0	0.0	HYDRO
195300	0.5	297	8	0.0	0.0	0.5	0.0	0.0	END HYDRO

ABSTRACT OF POSITIONS

RA-10-7-82 (H-10055)

VESSEL: 2123 (RA-3) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
286	3000-3116	04	143-137	Mainscheme Lines
287	3117-3145	04	143-137	Mainscheme Lines
291	3146-3179	04	143-137	Mainscheme Lines
291/292	3180-3207	04	143-137	Crosslines
292	3208-3291	04	138-132	Mainscheme Lines
293	3292-3316	04	138-132	Mainscheme Lines
293	3317	04	143-137	D.P. On Rock
293	3318-3327	04	143-137	Crosslines
293	3328-3352	04	137-144	Mainscheme Lines
294	3353-3413	04	137-144	Mainscheme Lines
295	3414-3443	04	137-144	Mainscheme Lines
295	3444-3461	04	137-144	Crosslines
295	3462-3463	04	137-144	Line to Fill Up Holiday
295	3464-3494	04	153-138	Mainscheme Lines
295	3495	04	153-138	D.P. On Rock
295	3496-3510	04	153-138	Mainscheme Lines
296	3511-3566	04	153-138	Mainscheme Lines
296	3567-3581	04	141-146	Mainscheme Lines
297	3582-3605	04	141-146	Mainscheme Lines
297	3606-3611	04	141-146	Crossline
297	3612-3615	04	137-144	Line Running to Center of Small Inlet

REJECTED POSITIONS: 3025-3028; 3098; 3120-3122; 3166; 3224; 3229; 3233-3234; 3271; 3298; 3368-3369; 3502; 3547; 3549; 3562-3564; 3576; 3589; 3590.

VESSEL: 2124 (RA-4) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
293	4000-4001	04	127-143	Crossline.

ABSTRACT OF POSITIONS

RA-10-7-82 (H-10055)

VESSEL: 2125 (RA-5) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
281	5308-5410	11	146-R/AZ	Mainscheme Lines
283	5000-5008	01	- VIS -	Bottom Samples
286	5009-5023	04	143-137	Bottom Samples
287	5024-5025	04	143-137	Bottom Samples
292	5032	01	- VIS -	Bottom Samples
292	5500-5507	11	151-R/AZ	Mainscheme Lines
292	5508-5510	11	151-R/AZ	D.P. Near Kestrel Is.
292	5511-5533	11	151-R/AZ	Mainscheme Lines
292/293	5534-5539	01	- VIS -	Bottom Samples
294	5618-5653	11	136-R/AZ	Mainshceme Lines
294	5654-5656	11	136-R/AZ	D? P. On Rocks
294	5657-5667	11	136-R/AZ	Mainscheme lines
294	5668-5688	11	197-R/AZ	Mainscheme Lines
295	5691-5693	11	136-R/AZ	Bottom Samples
295	5694-5709	11	136-R/AZ	Radial Lines
295	5711-5720	11	136-R/AZ	Crossline
295	5721-5728	11	151-R/AZ	Mainscheme Lines
295	5729-5762	11	197-R/AZ	Mainscheme Lines
296	5763-5774	11	197-R/AZ	Mainscheme Lines
296	5775-5781	11	197-R/AZ	Bottom Samples
296	5782-5800	11	197-R/AZ	Crossline
296	5801-5805	11	197-R/AZ	Mainscheme Lines
296/297	5806-5872	11	197-R/AZ	Crossline
297	5873-5896	11	196-R/AZ	Mainscheme Lines
297	5897-5911	11	156-R/AZ	Mainscheme Lines
297	5912-5924	11	136-R/AZ	Mainscheme Lines
298	5925-5927	11	198-R/AZ	Bottom Samples

REJECTED POSITIONS: 5033-5307 (NOT USED): 5372; 5385; 5388-5389; 5402-5406; 5411-5412; 5413-5499 (NOT USED); 5540-5617 (NOT USED); 5689-5690 (NOT USED).

ABSTRACT OF POSITIONS

RA-10-7-82 (H-10055)

VESSEL: 2126 (RA-6) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
284	6000-6095	11	151-R/AZ	Mainscheme Lines. Not to be smooth plotted. Data questionable.
285	6096-6108	11	151-R/AZ	Mainscheme Lines
285	6109	11	151-R/AZ	D.P. On Rock
285	6110-6187	11	151-R/AZ	Mainscheme Lines
298	6188-6277	11	151-R/AZ	Mainscheme Lines
298	6278-6304	11	198-R/AZ	Mainscheme Lines
301	6491-6497	11	154-R/AZ	Mainscheme Lines
301	6498-6512	11	198-R/AZ	Mainscheme Lines
301	6513-6515	11	198-R/AZ	Crosslines
301	6516-6519	11	197-R/AZ	Mainscheme Lines
301	6520-6523	11	196-R/AZ	Mainscheme Lines

REJECTED POSITIONS: 6016-6024; 6072-6074; 6165; 6273; 6305-6490 (NOT USED).

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	ORR-0361-RA-82	1982	RA-10-7-82 H-10055		

TRIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5000	JD 283 10/10/82	08/08.31	49/43.95	89.2	45lb.	2"		gn	M, crs P		
5001	"	07/57.83	50/09.69	101.0	"	"		gn	M, Sh	fine bone or mineral + fiber - fish bone	
5002	"	07/51.68	50/49.30	91.0	"	"		gn	M, brk Sh	" "	
5003	"	07/00.39	52/08.22	61.1	"	"		gn	M, fne S, med P, brk Sh		
5004	"	07/34.35	51/54.80	50.0	"	"		gn	M, fne S, crs P		
5005	"	07/09.13	52/16.54	65.0	"	"		gn	fne S, brk Sh		
5006	"	06/49.56	52/43.97	51.6	"	"		gn	M, fne brk Sh	mineral fiber	
5007	"	06/35.91	52/58.83	87.5	"	"		gn	M, fne S, brk Sh		
5008	"	06/21.87	53/26.59	62.5	"	"		gn	M, Sh, brk Sh, fne S,	Sf	
5009	JD 286 10/13/82	04/48.21	56/49.80	74.2	"	"		gn	M, fne S, Sh, med P	mineral, fiber hair	
5010	"	04/57.63	56/16.50	98.7	"	"		gn	M, fne S	fiber	
5011	"	04/56.92	55/32.97	84.1	"	"		gn	M, fne S, crs P		
5012	"	05/04.35	54/55.54	87.1	"	"		br	brk Sh, fne S	small sample possible rocky bottom	
~~5013~~	~~"~~	~~05/14.00~~	~~54/22.43~~	~~89.3~~	~~"~~	~~"~~		~~—~~	~~brk Co~~ RLH 12/13/82	small sample, same location as # 5014	
5014	"	05/14.07	54/21.90	86.9	"	"		gn	M, brk Sh		
5015	"	05/26.90	53/55.02	91.4	"	"		gn	fne S, brk Sh		
5016	"	05/43.91	53/27.73	90.1	"	"		gn	Silt, brk Sh, Co	large Coral branch caught on sampler	

* use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1979—665-018/1084

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-0361-RA-82	1982	RA-10-7-82 H-10055		

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE 55°N	SAMPLE POSITION LONGITUDE 130°W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5017	JD 286 10/13/82	06/01.64	52/51.71	89.8	4516	2"		gn + br	M, Cl	fiber	
5018	"	06/09.26	52/23.43	60.6	"	"		gn	fne S	fiber balls	
5019	"	05/52.15	54/21.71	92.9	"	"		gn + br	M, Cl		
5020	"	05/40.94	54/55.94	67.6	"	"		gn + br	M, Cl, med P		
5021	"	05/33.29	55/31.96	88.2	"	"		gn	Silt, fne S	small sample	
5022	"	05/26.62	56/10.56	95.3	"	"		gn + br	M, Cl		
5023	"	05/22.11	56/46.39	91.1	"	"		gn	M, fne S, med P		
5024	"	05/15.00	57/28.14		"	"		gn	~~med St~~ med S, G, P, St	RLH 12/20/82	
~~5025~~	~~"~~	~~04/40.63~~	~~57/37.49~~		~~"~~	~~"~~		~~gn~~	~~M~~ RLH 12/13/82	same location as #5028 RA-10-6-82	
5032	JD 292 10/19/82	06/25.26	52/03.43	102.5	"	"		gn	M		
5534	"	08/27.84	49/05.24	47.3	"	"		gn	fne S, St		
5535	"	08/07.37	48/51.57	64.1	"	"		gn	M, crs S, St		
5536	"	07/46.28	48/37.75	-	"	"		gn	fne S, ors S	small sample	
5537	"	07/23.81	48/33.06	105.0	"	"		gn	M, crs S, St, Sh		
5538	"	07/03.40	48/13.38	55.9	"	"		gn	M, crs S, St		
5539	"	06/38.29	48/07.83	63.9	"	"		gn	M		
5604	JD 293 10/20/82	07/14.45	50/37.68	69.2	"	"		gn	fne G	unknown mineral	

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—665-018/1084

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-0361-RA-82	1982	RA-10-7-82 H-10055		

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE 55° N	SAMPLE POSITION LONGITUDE 130° W	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5605	JD 293 10/20/82	07/13.75	49/57.95	69.2	45lb.	2"		gn	RLH 12/20/82 ~~fne~~ S, fne G	UNKnown mineral	
5606	"	07/06.40	49/22.67	76.4	"	"		gn	fne G, Sh	very small sample	
5607	"	06/45.50	49/11.75	86.7	"	"		gn	M, crs S, St		
5608	"	06/23.59	49/06.79	90.4	"	"		gn	M, Cl		
5609	"	06/21.25	47/59.45	54.2	"	"		gn	fne S, fne G		
5690	JD 295 10/22/82	06/57.11	51/26.66	105.8	"	"		gn	fne G, brk Sh	small sample	
5691	"	08/22.91	49/21.99	32.8	"	"		gn	crs S, G, P, St		
5692	"	08/30.83	49/37.17	26.6	"	"		gn	M, crs S, crs P		
5693	"	08/32.31	49/04.20	37.7	"	"		gn	crs S, crs G, crs P		
5775	JD 296 10/23/82	11/18.05	49/06.53	15.1	"	"		bk	M, fne S		
5776	"	10/52.58	49/05.07	24.4	"	"		bk	M		
5777	"	10/26.99	49/04.26	29.5	"	"		bk	M		
5778	"	10/03.73	49/04.21	28.7	"	"		bk	M, fne S, crs G		
5779	"	09/40.90	49/02.57	26.3	"	"		bk	M	WOOD CHIPS	
5780	"	09/19.42	49/02.06	19.7	"	"		bk	M, crs S, med G		
5781	"	08/57.42	49/02.02	26.4	"	"		bk	Sn, St		
5925	JD 298 10/25/82	09/19.04	49/48.25	17.0	"	"		bk	M		

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—606-018/1084

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2125	OPR-0361-RA-82	1982	RA-10-7-82 H-10055		

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE	SAMPLE POSITION LONGITUDE	DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
5926	JD 299 10/26/82	09/06.75 55°N	49/44.86 130°W	18.5	45lb.	2"		bk	M		
5927	"	08/46.31	49/43.06	14.2	"	"		bk	M, St		

Use more than one line per sample if necessary.

★ U.S. GOVERNMENT PRINTING OFFICE: 1978—665-016/1084

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-16-7-32

TIME	DAY	PATTERN 1	PATTERN 2
172944	281	+00002	-06461
233030		+00000	+00000
173627	286	+00001	-00001
165255	287	+00000	-00001
190933	292	+00001	-68353
220200		+00000	+00000
171543	293	+00001	-01040
222000		+00000	+00000
185624	294	+00001	-88435
200010		+00001	-01456
201128		+00001	-03242
224100		+00001	-60050
232500		+00000	+00000
175901	295	+00001	-02112
182000		+00000	+00000
183724	295	+00001	-03017
221329		+00001	-64435
235000		+00000	+00000
210243	295	+00001	-36059
211500		+00000	+00000
180006	296	+00002	-79425
202500		+00002	-75298
000020	297	+00002	-99400
000500		+00000	+00000
180022	297	+00002	-46232
222121		+00002	-00096
231924		+00002	-95115
234000		+00000	+00000
234624	297	+00002	-75111
235000		+00000	+00000
235557	298	+00002	-04030
000113	299	+00002	-60363
001000		+00000	+00002

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2126 SHEET : RA-10-7-82

TIME	DAY	PATTERN 1	PATTERN 2
		-000001	
163914	284	~~+00000~~	-13218
215431		+00000	+00000
171214	285	-00001	+62382
223455		+00000	+00000
172936	298	-00001	-12590
201000		+00000	+00000
215606	298	-00001	+03126
231500		+00000	+00000
000348	301	-00001	-35557
002000		+00000	+00000
174556	301	-00001	-85162
191428		-00001	-54440
193850		-00001	-50468
195000		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : RA-10-7-82

TIME	DAY	PATTERN 1	PATTERN 2
132130	293	+00002	+00002

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-10-7-82

TIME	DAY	PATTERN 1	PATTERN 2
182852	286	+00000	-00002
174126	287	+00000	-00002
213939	291	+00000	-00002
000008	292	+00000	-00002
184455	292	-00002	+00000
181552	293	-00002	+00000
205043		+00000	-00001
205721		+00000	-00002
222042		-00001	+00000
183641	294	-00002	+00000
175544	295	-00002	+00000
214407		+00000	-00001
181322	296	+00000	-00002
220211		-00002	+00000
174709	297	-00002	+00000
195050		+00000	+00000

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10055

Name on Survey	A ON CHART NO. 17434	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	
ALASKA (title)										1
BADGER BAY	X		X							2
BOCA DE QUADRA	X		X							3
KESTREL ISLAND	X		X							4
ORCA POINT	X									5
WEASEL COVE	X									6
QUADRA POINT	X									7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles E. Harrington					21
					Chief Geographer		N/C42x5			22
					9 SEPT. 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-10055

RA-10-7-82

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, Hydrographic Survey Guideline, 1982 Data Requirements Letter, and the Instruction Manual for Automated Hydrographic Surveys. The data was examined daily during the execution of the survey.

The boatsheet and the accompanying records have been examined by me, are considered complete and adequate for charting purposes, and are approved.

Ralph J. Land
Captain, NOAA
Commanding Officer

NOAA FORM 77-27 (5-77) | U. S. DEPARTMENT OF COMMERCE NOAA | HYDROGRAPHIC SURVEY NUMBER H-10055

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	BOAT SHEETS & PRELIMINARY OVERLAYS	2
DESCRIPTIVE REPORT	1	SMOOTH OVERLAYS: POS. 3 ARC, 3 EXCESS	6

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS			2			
VOLUMES						
BOXES			1			

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	AMOUNTS: VERIFICATION	AMOUNTS: TOTALS
POSITIONS ON SHEET			1450
POSITIONS CHECKED		1450	1450
POSITIONS REVISED		36	36
SOUNDINGS REVISED		41	41
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			

	TIME – HOURS			
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	2	Ver.	Eval.	2
VERIFICATION OF CONTROL	1	-0-	4	5
VERIFICATION OF POSITIONS		23	6	29
VERIFICATION OF SOUNDINGS		61	12	73
COMPILATION OF SMOOTH SHEET		33	24	57
APPLICATION OF TOPOGRAPHY		-0-	-0-	-0-
APPLICATION OF PHOTOBATHYMETRY		-0-	-0-	-0-
JUNCTIONS		1	3	4
COMPARISON WITH PRIOR SURVEYS & CHARTS		-0-	13	13
VERIFIER'S REPORT		4	5	9
OTHER			14	
Digitization				16
TOTALS	3	122	81	219

Pre-Verification by James L. Stringham	*Beginning Date* 4/4/83	*Ending Date* 4/4/83
Verification by C. Russel Davies Evaluated by: Gordon E. Kay	*Beginning Date* 7/18/83-1/23/84	*Ending Date* 10/25/83-3/14/84
Verification Check by James S. Green and James L. Stringham	*Time (Hours)* 25	*Date* 10/25/83-2/23/84
Marine Center Inspection by	*Time (Hours)*	*Date*
Quality Control Inspection by	*Time (Hours)*	*Date*
Requirements Evaluation by	*Time (Hours)*	*Date*

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10055 FIELD NO: RA-10-7-82

Alaska, Boca de Quadra, Quadra Point to Badger Bay

SURVEYED: October 8 - 28, 1982
SCALE: 1:10,000
SOUNDINGS: Ross Fineline Fathometer

PROJECT NO: OPR-0361-RA-82
CONTROL: Range/Azimuth Motorola Mini-Ranger III/Wild T-2

Chief of Party..... Capt. Ralph J. Land
Surveyed By..... Lt. J. O'Clock
Lt. S. Ludwig
Ens. W. Logue
Ens. J. Judson
Automated Plot By..... PMC Xynetics Plotter
Verified By..... C. Russell Davies
Evaluated By..... Gordon E. Kay

1. INTRODUCTION

H-10055 (1982) is a Navigable Area Survey (N.A.S.) conducted by the NOAA Ship RAINIER (S-221) in accordance with the following:

- o Project Instructions OPR-0361-RA-82, Smeaton Bay and Boca de Quadra , Alaska, dated June 2, 1982.
- o Change No. 1 dated July 28, 1982
- o Change No. 2 dated August 23, 1982

H-10055 is situated in Boca de Quadra just off of Revillagigedo Channel, Revillagigedo Island, Alaska. The survey extends from longitude 130°57'25"W on the west where it joins H-10051, east to include Badger Bay and then south to latitude 55°06'15"N, where it joins H-10057. The upper reaches of Badger Bay, north of latitude 55°10'00" are shown on an inset in order for the survey to remain within the minimum plottable sheet size.

During verification, evaluation/quality control, the following data was changed:

a. Projection parameters were changed to center the hydrography on the smooth sheet and to change the projection to polyconic.

b. Tide level corrections used on H-10055 are from observed tides, (see Tide Note for Hydrographic Sheet (H-10055) attached).

c. The TC/Ti Correctors for vessel 2123 were changed to include a TRA of 0.4 fathoms.

2. CONTROL AND SHORELINE

Horizontal control and hydrographic positioning are discussed in paragraph F and G of the Ship's Descriptive Report and in the Electronic and Horizontal Control Report for OPR-0361-RA-82.

The smooth sheet was plotted using published geodetic control station positions on the North American Datum of 1927.

Shoreline is not shown on H-10055 because of conflict with the supplied USGS Quad enlargements and the nautical chart (in accordance with Hydrographic Survey Guideline Number 17, section 6).

3. HYDROGRAPHY

Soundings at crosslines are in good agreement. The hydrography contained in the survey, H-10055, is adequate to determine the bottom configuration and least depths.

Standard depth contours were adequately drawn and developed with the exception of the 0-fathom, 1-fathom, 2-fathom, 3-fathom and 5-fathom depth contour, where hydrography was terminated at the limits of the navigable area survey. Supplemental depth contours were added to emphasize the following peaks:

Depth (fathoms)	Latitude North	Longitude West	Position #
109	55°05'08"	130°56'27"	3029/4
20.9	55°04'48"	130°55'53"	3046/6
62.0	55°05'40"	130°54'48"	3203/0

4. CONDITION OF SURVEY

The hydrographic records and final reports adequately conform to the requirements of the Hydrographic Manual, 4th Edition, revised through change 3 with the following exceptions:

a. Addressing crosslines, junctions and comparison with prior surveys only by numerical percentages and tabluations does not meet the requirements set forth by the Hydrographic Manual as referenced below:

Crosslines - Hydrographic Manual 5.3.4.I
Junctions - Hydrographic Manual 5.3.4.J
Prior Surveys - Hydrographic Manual 5.3.4.K

The Ship's Descriptive Report references Hydrographic Manual, Section 1.1.2, Part B.II.1, as complying with the requirements needed for the above comparisons. This cited reference by the ship pertains only to the allowable error in specifications and does not address significance, changes, trends, nor provide recommendations which are required for the above Descriptive Report paragraphs.

b. The Ship's Descriptive Report, paragraph D, discussed a problem dealing with the interpretation of fathograms, and further stated that many problems still have not been resolved. Such discrepancies are best resolved where personnel and equipment are available to investigate a given area.

5. JUNCTIONS

H-10055 junctions the following contemporary surveys:

H-10051 (1982) 1:10,000 junctions to the west. Depth curves are in coincidence and the junctional note has been inked in red.

H-10057 (1982) 1:10,000 junctions to the entire south. Depth curves are in coincidence and the junctional note has been inked in orange.

6. COMPARISON WITH PRIOR SURVEY

H-10055 was compared with the following prior surveys:

H-5389 (1931) 1:20,000 compares well to H-10055. Differences are of slight magnitude, ±1 fathom. These differences are attributed to data acquisition techniques on the prior survey.

Two rocks uncovered at:

Elevation	Latitude North	Longitude West
uncovers 9 feet	55°07'06.28"	130°50'00.44"
uncovers 14 feet	55°07'04.20"	130°50'03.54"

were carried forward from H-5389. The present survey indicates soundings 1.5 RK (fathoms) and 0.9 RK (fathoms) at these positions, which are now in excess.

The present survey should supersede H-5389 over the area of common coverage.

Note: The shoreline on H-5389 is more consistent with the hydrography on this survey than the charted shoreline or the USGS quads.

There are no Presurvey Review Items within the limits of H-10055.

7. COMPARISON WITH CHART

H-10055 was compared to the following:

Chart Number	Scale	Edition	Date
17427	1:80,000	4th	July 7, 1979
17434	1:80,000	9th	February 14, 1981

The areas covered by H-10055 on both of these charts are identical, so for the sake of brevity, the following comparison applies to both charts.

a. Hydrography. Present charted soundings came from the before mentioned prior survey (see enclosed chartlet). Present survey depths compare very well to the chart with the 50 fathom depth contour falling in coincidence with the present survey.

Kestrel Island, located at latitude 55°06'26.8" north and longitude 130°47'54.7" west, though not shown on H-10050 (due to limits of the navigable area survey), should be retained from its source and continued to be charted.

There have been no dangers to navigation identified or reports submitted by the ship or PMC processing on this survey.

All charted rocks can be accounted for on the present survey.

H-10055 is adequate to supersede chart 17427 and chart 17434 over their common areas.

b. Controlling Depths- There are no controlling depths within the limits of H-10055.

c. Aids-to-Navigation- There are no fixed aids or floating aids to navigation contained within the limits of H-10055.

8. COMPLIANCE WITH INSTRUCTIONS

H-10055 complies with the project instructions and changes listed in section 1 of this report.

9. ADDITIONAL FIELD WORK

H-10055 is a good Navigable Area Survey. Additional field work is not recommended.

Gordon E. Kay
Cartographer - Evaluation
February 10, 1984

This survey has been verified and evaluated. I have examined this survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting. This survey is recommended for approval.

James S. Green
Supervisory Cartographer

DATE: February 8, 1983

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-0305 North of Kestrel Island, Boca De Quadra, Alaska

Period: October 8-26, 1982

HYDROGRAPHIC SHEET: H-10055

OPR: 0361

Locality: Boca De Quadra, Alaska

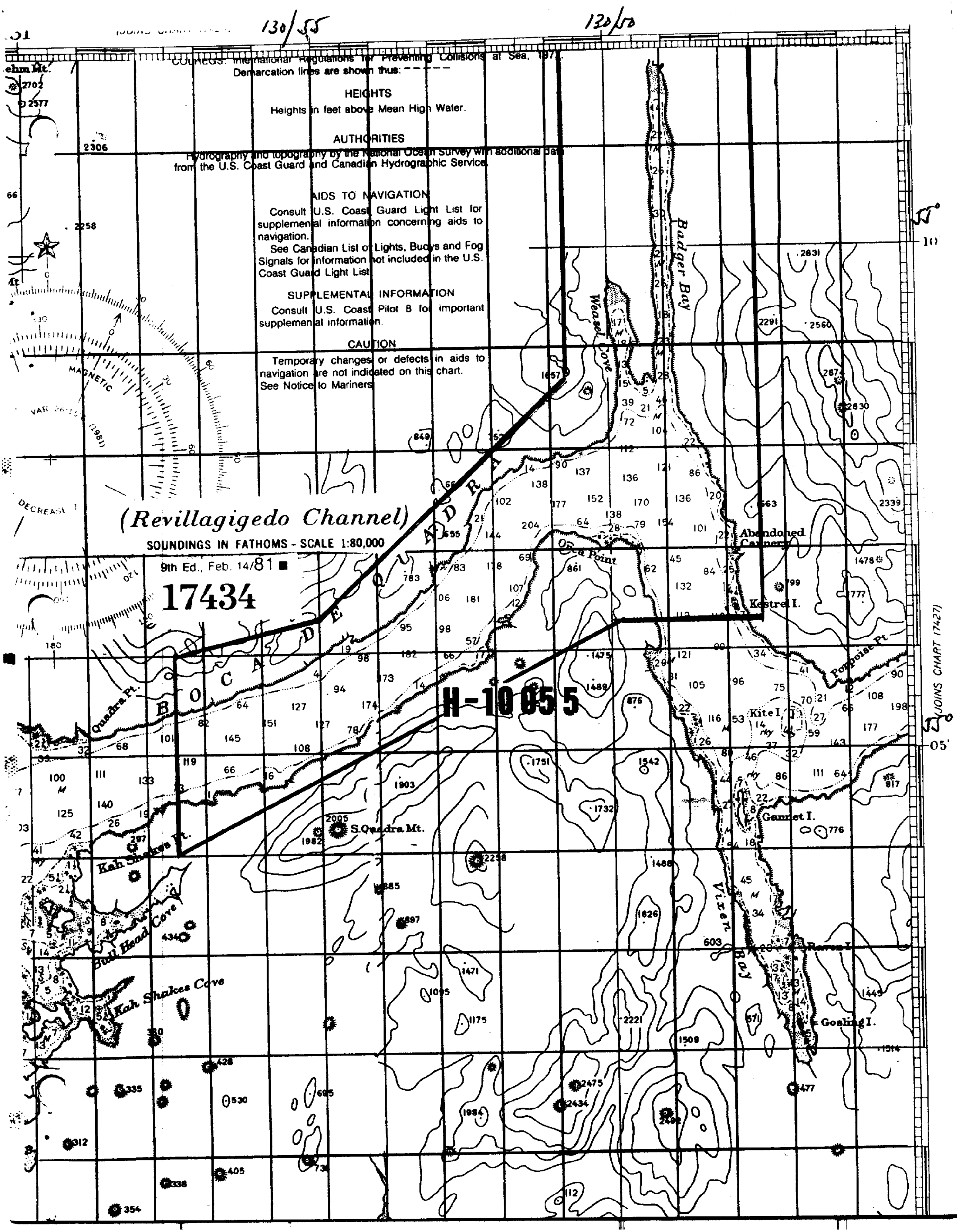
Plane of reference (mean lower low water): 8.5 ft.

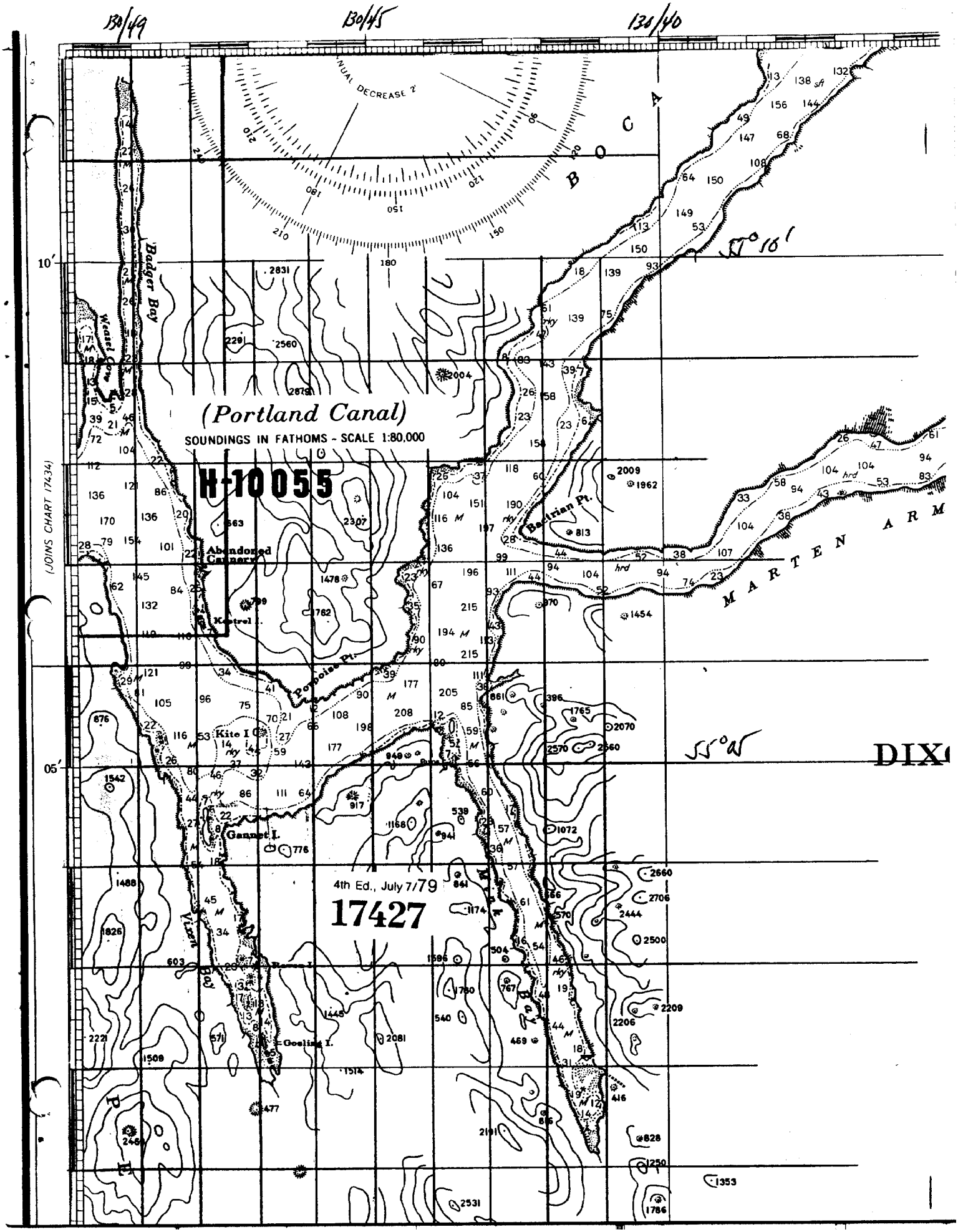
Height of Mean High Water above Plane of Reference is 14.3 ft.

REMARKS: Recommended Zoning:

Zone Direct.

James R. Hubbard
Chief, Tidal Datums Section, Tides & Water Levels Branch


130/55
130/50
COLREGS: International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus: - - - - -
HEIGHTS
Heights in feet above Mean High Water.
AUTHORITIES
Hydrography and topography by the National Ocean Survey with additional data from the U.S. Coast Guard and Canadian Hydrographic Service.
AIDS TO NAVIGATION
Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.
See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.
SUPPLEMENTAL INFORMATION
Consult U.S. Coast Pilot 8 for important supplemental information.
CAUTION
Temporary changes or defects in aids to navigation are not indicated on this chart.
See Notice to Mariners.
(Revillagigedo Channel)
SOUNDINGS IN FATHOMS - SCALE 1:80,000
9th Ed., Feb. 14/81
17434
BOCA DE QUADRA
H-10055
Badger Bay
Weasel Cove
Orca Point
Abandoned Cannery
Kestrel I.
Porpoise Pt.
Kite I.
Gannet I.
Quadra Pt.
Kah Shakes Pt.
Bull Head Cove
Kah Shakes Cove
S. Quadra Mt.
Vixen Bay
Raven I.
Gosling I.
MAGNETIC
VAR 26°15' (1981)
DECREASE
(JOINS CHART 17427)
10'
05'


130/49
130/45
130/40
(Portland Canal)
SOUNDINGS IN FATHOMS - SCALE 1:80,000
H-10055
4th Ed., July 7/79
17427
(JOINS CHART 17434)
Badger Bay
Weasel Cove
Abandoned Cannery
Kestrel
Kite I.
Gannet I.
Goeling I.
Vixen Bay
Porpoise Pt.
Bedrian Pt.
MARTEN ARM
DIX
10'
05'

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10055

I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by the smooth sheet and digital data file for use in nautical charting.

Daniel W. Hagan 3/20/84
Chief, Nautical Chart Branch (Date)

CLEARANCE:

SIGNATURE AND DATE:

N/MOP2:LWMordock

3/22/84

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards with only the exceptions as noted above. The above recommendations are forwarded with my concurrence.

Captain K. Howard 3/27/84
Director, Pacific Marine Center (Date)

DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Survey
Washington, D.C.

Hydrographic Index No. 110K

FORM C&GS-8352
(3-25-63)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10055

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
17427	6/14/84	H.J. Borowski	~~Full~~ Part ~~Before~~ After Evaluation Verification Review Inspection Signed Via
			Drawing No. 12 ~~Added so~~ Revised several rks,
			soundings & curves to reflect shoaler conditions only
17420	12/3/84	J. Baily	~~Full~~ Part ~~Before~~ After ~~Verification~~ Examination Review Inspection Signed Via
			Drawing No. 32 Exam. for critical corrs. partly thru
			Drgs. 17427 #12 and partly direct from smooth sheet. No corr.
17434	3-7-89	Barry Adams	(Full) Part Before After Verification Review Inspection Signed Via
			Drawing No. 18 + 18 M
17427	10/20/89	Almacen	Full ~~Part~~ ~~Before~~ After Verification Evaluation ~~Review~~ Inspection Signed Via
			Drawing No. full application of sndgs. from SS.
			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.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.