10051

Diagram No. 8002-2 & 8102-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Navigable Area Hydrographic

Field No. RA-10-6-82

Office No. H-10051

LOCALITY

State Alaska

General Locality Revillagigedo Channel

Locality Approaches to Boca de Quadra

1982

CHIEF OF PARTY
CDR R.J. Land

LIBRARY & ARCHIVES

DATE June 22, 1984

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

10051

Area 6
CHTS:
17434 } to sign off see
17420 } Record of Application

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10051

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-10-6-82

State Alaska

General locality Revillagigedo Channel

Locality Approaches to Boca de Quadra

Scale 1:10,000 Date of survey September 28- October 22, 1982

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

Vessel NOAA Ship RAINIER S221, 2123, 2124, and 2125

Chief of party R. J. Land, CAPT, NOAA, Commanding Officer

Surveyed by LT J. O'Clock, LT S. Ludwig, ENS B. Postle, ENS J. Judson, ENS W. Logue, SST R. Hastings

Soundings taken by echo sounder, hand lead, pole Ross Fineline Fathometer and associated equip.

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification ~~Protracted~~ by T. O. Jones, R. A. Shipley Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by B. A. Olmstead

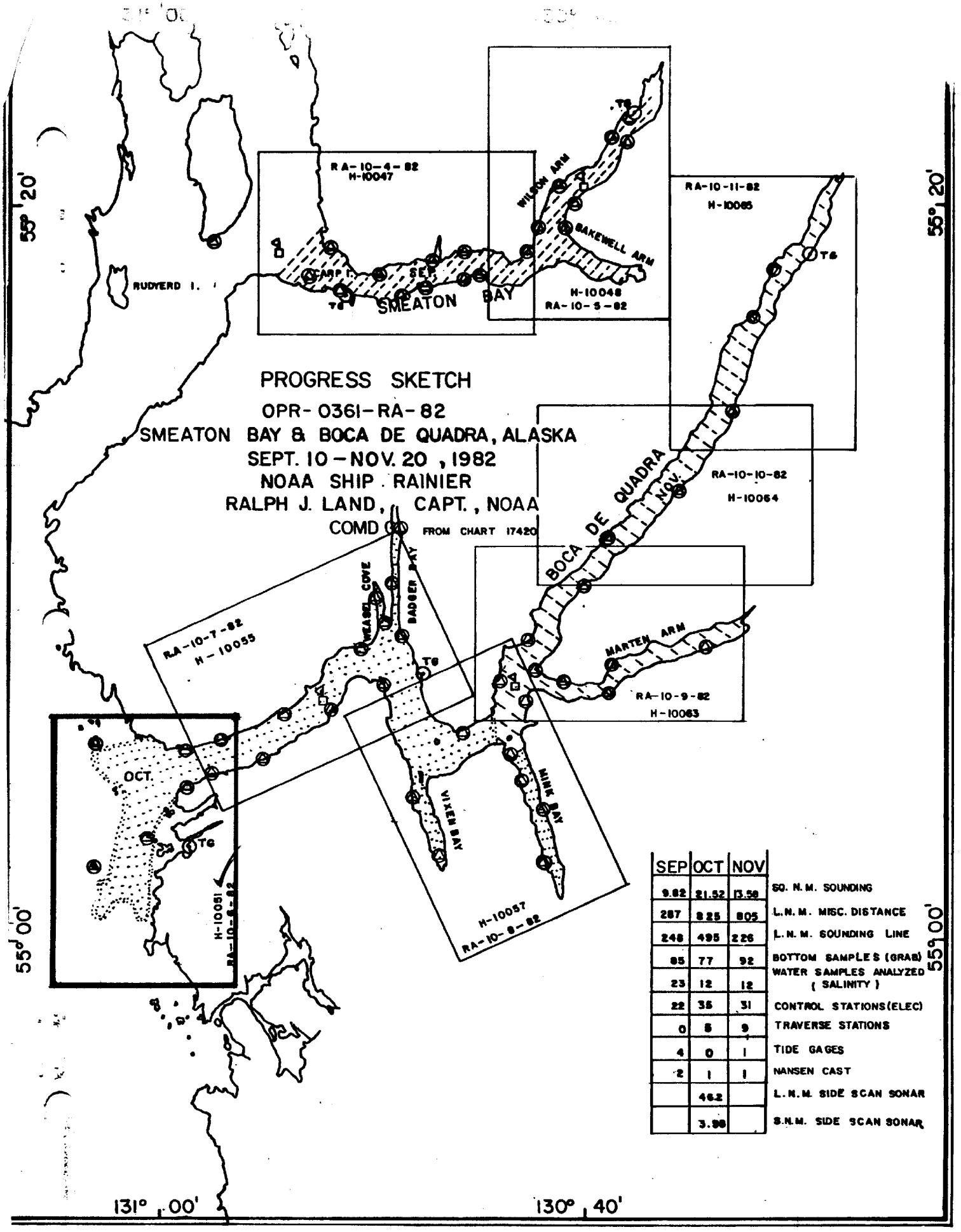
Soundings in fathoms ~~feet~~ at ~~XXXX~~ MLLW and tenths of fathoms

REMARKS: Revisions and marginal notes in black were added during Evaluation

STANDARDS CK'D 6-26-84
C.Loy
AWOIS CMSM 9/19/84
SURF CMSM 9/19/84

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

☆ U.S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222



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-10051 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-10051 was conducted in Revillagigedo Channel at the approaches to Boca de Quadra. The project area included the navigable waters east of Long. 131° 04' W (approximately the 50 fathom curve), excluding the White Reef and Snail Rock area, south of Lat. 55° 05.5' N, west of Long. 130° 57' W in Boca de Quadra, west of Long. 131° 00.5' W (adjacent to Kah Shakes Cove), and north of Lat. 55° 00.5' N.

Reference Evaluation Report Section I

In Boca de Quadra, the inshore limit was defined by the one fathom curve where possible. Because of the very steep inshore bottom gradient, the one fathom curve was not possible on several 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 September 28 to October 22, 1982.

C. SOUNDING VESSEL

All soundings were obtained using the following hydrographic launches: RA-3 (2123), RA-4 (2124), and RA-5 (2125). 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-10051. 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-10051 were taken by RAINIER launches (RA-3 (2123), RA-4 (2124), and RA-5 (2125). 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. The serial numbers of these components are summarized in Table I.

TABLE I

Echo Sounding Component Serial Numbers

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

RA-5 (2125) used three analog recorders during this survey due to electronic problems with this launch's usual recorder (S/N 1070). Analog recorder 1071 was used on September 27 and September 28, 1982 (JD's 271 and 272), while recorder 1042 was used on October 17, 1982 (JD 291). Analog recorder 1070 was used on all other occasions during this survey.

RA-3 (2123) was equipped with a Klein Side Scan Sonar System (S/N 254). The side scan sonar investigation is described in section (P) of this report.

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 obtained 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 correction 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.

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. RA-3 (2123) soundings were plotted using a launch TRA value of 0.45 fathoms.

Reference Evaluation Report Section 1

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 (2123), after the installation of the side 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 (2124), 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. ✓

Manual Sounding Correctors

Manual soundings were obtained by use of hand-held lead lines where required. Depth markings on these lines were compared with a steel measuring tape prior to survey operations and were found to be accurate. ✓

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 inside Boca de Quadra, side echoes were prevalent. 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-10-6N-82 and RA-10-6S-82 were prepared on board the 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 is attached. All field records will be sent to Marine Operations Pacific, Seattle, Washington for verification. The smooth field sheet for this survey is plotted at a 1:10,000 scale. ✓

F. CONTROL STATIONS

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

SNAIL	1895*	MOUTH	1933*
SHAK	1915*	NOON	1933*
ROSEN	1932	DOME	1933
REEF	1933*	COHO	1933*
CUSH	1933*	GUS	1933*
START	1933*.		

* Denotes used For Control

G. HYDROGRAPHIC POSITION CONTROL

The electronic range/range method was used for hydrographic position control. Motorola Miniranger III positioning systems were used. The Tables below summarize 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, 130, 132
C	1628	Not used.
D	1569	126
E	911721	128, 129, 143, 202
F	911711	Not used.
0	911632	126, 202
1	C1680	Not used.
2	B1106	Not used.

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 30, 31 and September 1, 1982 and on October 29 and 30, 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 determines 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. ✓

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 Pacific Marine Center. 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. Annotations in the data printouts indicate the distance from shore of the beginning and end of many lines (inside the mouth of Boca de Quadra).

Reference Evaluation Report Section 2

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

A total of 19.7 miles of crosslines were run, representing 13.3% of the mainscheme mileage. Crossline agreement is excellent; 100% of the comparisons meet the criteria as stated in section 1.1.2, Part B.II.1 of the Hydrographic Manual. ✓

J. JUNCTION

The junction of this survey was compared with present survey H-10055. The junction between the north and south sheets of this survey was also compared. Junction agreement is excellent in all cases. One hundred per cent of the comparisons meet the criteria as stated in section 1.1.2., Part B.II.1 of the Hydrographic Manual.

Reference Evaluation Report Section 5

K. COMPARISON WITH PRIOR SURVEYS

This survey was compared with prior surveys H-5236 (1932) 1:20,000 enlarged to 1:10,000, and H-5389 (1933) 1:20,000. Ninety per cent of the comparisons meet the criteria as stated in section 1.1.2., Part B.II.1 of the Hydrographic Manual. The observed discrepancies are distributed randomly. The amount of disagreement found here is not unusual considering that a small difference in position yields a large difference in depth due to the steep bottom gradient. Discrepancies in comparison are likely to occur when the compared soundings are not exactly coincident. This survey was also compared to wire drag surveys H-3789 (1915) and H-3790 (1915). No depths shoaler than those indicated on the wire drag surveys were found.

Reference Evaluation Report Section 6

L. COMPARISON WITH THE CHART

This survey was compared with chart 17434, 9th Edition, February 14, 1981, 1:80,000 enlarged to 1:10,000. The results of this survey show excellent agreement with the published chart 17434. Ninety per cent of the comparisons meet the criteria as stated in section 1.1.2., Part B.II.1 of the Hydrographic Manual. The expansion of the 1:80,000 scale chart to 1:10,000 makes comparison difficult since few soundings from the survey are coincident with the enlarged charted soundings. In addition, discrepancies can be attributed to small differences in position yielding large differences in depth due to bottom profile irregularities.

Reference Evaluation Report Section 7

The submerged rock charted at 55° 05' 16" N, 131° 00' 42" W, was not searched for. This charted position should be retained on future chart editions.

Reference Evaluation Report Section 7

The charted rocks between Bullhead Cove and Kah Shakes Cove were not searched for or verified because they were all inshore of the stated limits for the navigable area survey.

Evaluator Concurs

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

The fixed aids to navigation in the survey area are Slate Island Light (Light List #2958) and Black Rock Light (Light List #2957). Positions for both lights were established by Third Order, Class I methods. For details, refer to the Horizontal Control Report, OPR-0361-RA-82.

Reference Section 7 Evaluation Report

O. STATISTICS

Survey Launch	Linear Nautical Miles of Hydro	Square Nautical Miles of Hydro	Number of Positions
RA-4 (2124)	148.8	----	1075
RA-5 (2125)	37.7	----	274 ✓
TOTAL	186.5	8.16	1349
RA-3 (2123) (side scan sonar)	46.2	3.98	376

Bottom Samples: 41

Two tide stations were maintained for this survey: 945-0305, North of Kestrel Island, and 945-0254, Kah Shakes Cove. Two Nansen casts were taken in the survey area. ✓

P. MISCELLANEOUS

Side Scan Sonar Operations

A side scan sonar investigation was run in Revillagigedo Channel at the entrance to Boca de Quadra on JD 280, 281, 283, 284, and 285. The purpose of this operation was to investigate the presence of large boulders resting on glacially deposited material at the mouth of Boca de Quadra. ✓ The areas of side scan investigation were two deep water passages characterized by a predominantly featureless sand and gravel bottom with occasional rock outcrops.

All side scan sonar lines were run to fulfill the 200% bottom coverage requirement as outlined in the Project Instructions and Presurvey Review. At depths greater than 20 fathoms, lines were run using the 300 meter range scale with a line spacing of 200 meters. At depths between 10-20 fathoms, lines were run using the 150 meter range scale with a line spacing of 100 meters. ✓

For the entire project, the towfish was deployed from the stern of the launch. A 40° beam width and 20° down angle was used to obtain the best sonar return. The launch used range/range positioning method, employing ✓

computer program RK112. Although sounding data was not collected for hydrographic purposes, the Ross fathometer was used to determine the appropriate depth to lower the towfish. The fathometer was valuable as an early warning device for peaks in the underwater topography that the towfish might strike.

The launch towing speed varied between two knots (700 RPM or idle) and four knots (1000 RPM). At speeds greater than four knots, the towfish tended to stay near the surface. Towing against a current also caused the towfish to rise to a shallower depth. To compensate for this it was necessary to use a slower towing speed and greater cable length. At times the speed over ground was nearly zero when fighting a strong current. This caused a smearing or blurring of contacts on the sonargram because of the greater signal return from each object. When towing with the current, the speed over ground increased and the cable was brought in to avoid having the towfish sink too deep.

Much of the side scan operation was in water deeper than 20 fathoms. This necessitated using a maximum amount of towing cable (600 feet) at a minimum speed (idle) in order to reach the appropriate towing depth.

A position plot for this investigation is included in the hydrographic field sheets submitted for this survey. Contact areas are outlined and numbered on the position plot to indicate the location of significant sonar returns. Each numbered area is described in the Side Scan Sonar Contact Record which is included in this section of the descriptive report.

The interpretation of sonargram features was based on information from the addendum to Professional Paper No. 24, "Dual Channel Side Scan Sonar, The Gathering of Seabed Texture Information, 1979" published by the Hydrographic Department of the Royal Navy, Taunton, England. These contacts were compared with the fathometer trace obtained during the side scan operation, and with the present hydrographic survey run in the same area (H-10051).

Inspection of the sonargrams indicates that the significant features in the side scan area are occasional rock outcrops and small boulders on an otherwise featureless sand and gravel bottom. No large glacial boulders were found.

All features considered to be of hydrographic significance on the sonargrams (rock outcrops, for example) coincided with distinct rises in bottom topography. In all cases, these peaks were already developed by the current hydrographic survey.

For charting purposes, the conventional hydrography run in the side scan area was sufficient. The side scan provided no new information for developing a picture of the bottom topography.

SIDE SCAN SONAR CONTACT RECORD

Note: All sonargrams were recorded at the 300 meter range setting unless noted otherwize.

CONTACT NUMBER	FIX NUMBER	PORT/ STBD	SLOPE DISTANCE (m)	DESCRIPTION	COMMENTS
1	3016-3019 JD 280	P/S	30-175	Rock outcrop and small boulders	Fathometer trace shows small isolated rises 2-4 fathoms high resembling side echos.
2	3020-3022 JD 280	P/S	45-120	Rock outcrop and small boulders	Fathometer trace shows small isolated rises 2-4 fathoms high resembling side echos.
3	3026-3030 JD 280	P/S	40-150	Rock outcrop and small boulders	Fathometer trace shows small isolated rises 2-4 fathoms high resembling side echos. Near peak (28 fm)- developed by hydrography.
4	3045-3051 JD 280	P/S	20-180	Rock outcrop and small boulders Sand waves	Directly over peak (28 fm) described for contact 3.
5	3069-3072 JD 280	P/S	40-150	Rock outcrop Sand waves	Near peak (28 fm) describe for contact 3.
6	3074-3076 JD 280	P/S	45-135	Rock outcrop Sand waves	Directly over peak (29 fm) developed by hydrography.
7	3124-3125 JD 281	P/S	90	Unidentified bottom feature (ledge?)	Fathometer trace shows a large distinct side echo.

SIDE SCAN SONAR CONTACT RECORD

CONTACT NUMBER	FIX NUMBER	PORT/ STBD	SLOPE DISTANCE (m)	DESCRIPTION	COMMENTS
8	3173 JD 283	P	40	Unidentified return from the water column	Fathometer trace shows a contact in the water column 6 fathoms off of the bottom.
9	3205-3206 JD 283	P/S	15-105	Small boulders	Fathometer trace shows a small peak (14 fm)- developed by hydrography.
10	3207-3208 JD 283	S	30-120	Rock outcrop and small boulders	Near peak (11 fm)- developed by hydrography.
11	3212-3214 JD 283	P/S	15-175	Rock outcrop and small boulders	Near shoal developed by hydrography.
12	3226-3227 JD 283	P/S	30-165	Small boulders	Near same shoal described for contact 11.
13	3249-3251 JD 284	P/S	15-30	Unidentified return from the water column	Fathometer trace shows a contact in the water column 4 fathoms off of the bottom.
14	3272 JD 284	P/S	30-135	Small boulders	Near peak (10 fm)- developed by hydrography.

SIDE SCAN SONAR CONTACT RECORD

CONTACT NUMBER	FIX NUMBER	PORT/ STBD	SLOPE DISTANCE (m)	DESCRIPTION	COMMENTS
15	3292-3294 JD 284	P/S	30-150	Small boulders	Near peak (13 fm)- developed by hydrography.
16	3320-3321 JD 284	P/S	30-150	Small boulders	Near peak (13 fm) described for contact 15. 150 meter range setting
17	3323 JD 284	P/S	30-150	Rock outcrop and small boulders	Near peak (12 fm)- developed by hydrography. 150 meter range setting
18	3325-3327 JD 284	P/S	30-150	Rock outcrop and small boulders	Near small rocky islet. 150 meter range setting
19	3353-3354 JD 285	P/S	30-150	Small boulders	Near peak (13 fm) described for contact 15 and 16. 150 meter range setting
20	3356 JD 285	S	30	Unidentified return from the water column	Fathometer trace shows a faint return rising from the bottom. 150 meter range setting
21	3361 JD 285	P/S	30-150	Rock outcrop and small boulders	Near peak (10 fm) described for contact 14. 150 meter range setting
22	3374-3375 JD 285	P/S	30-150	Rock outcrop and small boulders	Near shoal described for contact 11. 150 meter range setting

U.S. Borax and Chemical Company, P.O. Box 5320, Ketchikan, Alaska, 99901, Attention:W.R. Hervey, has requested that MOP forward copies of surveys H-10051, H-10055, H-10057, H-10063, H-10064, and H-10065.

There are no reported dangers to navigation in the survey area. Reference the Danger to Navigation letter generated during a preliminary office review dated May 19, 1983.

Q. RECOMMENDATIONS

This survey is considered complete and adequate to supersede prior ✓ surveys.

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 ASl Logger and a Hydroplot system using range-range program RK122 and range-azimuth program FA181. 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 computed programs and version dates used for data acquistion or processing:

	PDP 8/e Programs	Version Date
RK112	Range/Range and Hyperbolic Real-Time Plot	08/04/81
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
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;

Brian S. Postle

Brian S. Postle
ENS, NOAA

INDEX TO SEPARATES FOLLOWING THE TEXT

PARAMETER TAPE LISTING
RA-10-6-82(H-10051)

```
RA-10-6N-82
SKEW:0,22,35
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/02/48
PLON=131/04/42
VESNO=2123
YR=82
ANDIST=0.0

RA-10-6S-82
SKEW:0,22,27
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/00/00
PLON=131/04/42
VESNO=2123
YR=82
ANDIST=0.0

RA-10-6-82
SIDE SCAN SHEET
SKEW:90,22,36
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/00/30
PLON=130/59/24
VESNO=2123
YR=82
ANDIST=0.0
```

✓

FIELD TIDE NOTE

Field tide reduction of soundings for survey H-10051 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-10051. 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.

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10051

Name on Survey	A ON CHART NO. 17434	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS Ketchikan	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
BLACK ROCK	X		A-4							2
BOCA DE QUADRA	X		A-3					correct form		3
BULL HEAD COVE	X		A-3	Note: Bull Head is one word on Quadrangle Ketchikan (A-3)						4
KAH SHAKES COVE	X		A-3							5
KAH SHAKES POINT	X		A-3							6
QUADRA POINT	X		A-3							7
REVILLAGIGEDO CHANNEL	X		A-4							8
SLATE ISLANDS	X		A-4							9
SNAIL ROCK	X		A-4							10
WHITE REEF	X		A-4							11
										12
										13
										14
										15
										16
										17
					Approved:					18
										19
					Charles E. Harding					20
					Chief Cartographer - N/CG2x5					21
					29 Nov. 1983					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

✓

TC/TI TAPE LISTING
RA-10-6-82 (H-10051)

LAUNCH - 2124(RA-4)
FATHØ S/N: 1042

180411 0 0003 0008 281 212400 000000
215000 0 0003 0008 295 000000 000000

LAUNCH - 2125(RA-5)
FATHØ S/N: 1070. 1071

215132 0 0000 0000 271 212500 000000
203548 0 0003 0008 277 000000 000000
203735 0 0000 0000 291 000000 000000
225000 0 0000

LAUNCH - 2123 (RA-3)*
FATHO S/N 1071

170000 0 0004 0008 280 212300 00000
235959 0 0004 0008 285 000000 00000

* Added during Verification. Ship did not provide a listing.

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 SHEET : RA-10-6-82(SIDE SCAN)

TIME	DAY	PATTERN 1	PATTERN 2
170537	280	+00000	+00000
203453	281	+00000	+00000
165327	283	+00000	+00000
182109	284	+00000	+00000
172240	285	+00000	+00000

✓

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : RA-10-6N-32

TIME	DAY	PATTERN 1	PATTERN 2	
180411	281	+00002	+00002	
165705	283	+00002	+00002	
175813	284	+00002	+00001	
165158	285	+00002	+00002	
193249	286	+00002	+00001	
202520	286	+00002	+00002	← Inserted from next page
184458	293	+00002	+00002	
174501	294	+00002	+00002	
182552	295	+00002	+00002	

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 SHEET : RA-10-6S-82

TIME	DAY	PATTERN 1	PATTERN 2
202520	286	+00002	+00002 ← Added to preceding page
213316	291	+00002	+00002
000001	292	+00002	+00002
185050	292	+00002	+00002

Redundant data

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-10-6N-82

TIME	DAY	PATTERN 1	PATTERN 2
215132	271	+00000	+00000
173148	272	+00000	+00002

ABOVE CORRECTORS FOR BOTTOM SAMPLES ONLY.

✓

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2125 SHEET : RA-10-6S-82

TIME	DAY	PATTERN 1	PATTERN 2
213817	272	+00000	+00002
203548	277	+00000	+00002
172636	280	+00000	+00002
000000	281	+00000	+00002
203735	291	+0000l	+0000l

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~~
~~/GORKY 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 01003 250 0000 000000~~
~~/MAY 1933 NGS COMPUTER LISTING~~

* Used for control

~~142 4 55 08 16905 130 48 42436 139 0000 000000~~
~~/NO 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 13545 250 0000 000000~~
~~/ROCK 1933 NGS COMPUTER LISTING~~

~~147 4 55 07 50013 130 48 20565 139 0000 000000~~
~~/SEEUM 1933 NGS COMPUTER LISTING~~

~~148 1 55 05 48236 130 55 24372 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 30364 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 57139 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 38307 130 45 48878 250 0000 000000~~
~~/CAL 1933 NGS COMPUTER LISTING~~

* Used for control

160 1 55 05 47431 130 45 19644 139 0000 000000
/LOW 1933 NGS COMPUTER LISTING

161 0 55 05 56467 130 44 50935 250 0000 000000
/JAGGED 1933 NGS COMPUTER LISTING

162 3 55 06 23386 130 44 15756 250 0000 000000
/BOULDER 1933 NGS COMPUTER LISTING

163 1 55 07 02352 130 44 02064 139 0000 000000
/ALDER 1933 NGS COMPUTER LISTING

164 3 55 08 10018 130 42 45628 250 0000 000000
/FACE 1933 NGS COMPUTER LISTING

165 4 55 07 20042 130 42 26153 250 0000 000000
/SPLIT 1933 NGS COMPUTER LISTING

166 4 55 06 31330 130 42 51666 139 0000 000000
/SLIME 1933 NGS COMPUTER LISTING

167 4 55 04 56348 130 42 55496 250 0000 000000
/ORDER 1933 NGS COMPUTER LISTING

168 4 55 03 54575 130 42 17941 139 0000 000000
/HAM 1933 NGS COMPUTER LISTING

169 4 50 03 34436 130 42 01622 250 0000 000000
/EGG 1933 NGS COMPUTER LISTING

170 4 55 03 05403 130 41 42922 139 0000 000000
/PONT 1933 NGS COMPUTER LISTING

171 2 55 02 39504 130 41 36367 139 0000 000000
/SPITS 1933 NGS COMPUTER LISTING

172 5 55 02 07253 130 41 56660 139 0000 000000
/BREAK 1933 NGS COMPUTER LISTING

173 5 55 02 52042 130 42 15352 250 0000 000000
/DU 1933 NGS COMPUTER LISTING

174 5 5003 06118 130 42 24353 139 0000 000000
/DRILL 1933 NGS COMPUTER LISTING

175 3 55 03 54216 130 42 52362 139 0000 000000
/SOAP 1933 NGS COMPUTER LISTING

176 0 55 04 20711 130 43 01719 139 0000 000000
/AND 1933 NGS COMPUTER LISTING

177 3 55 04 32506 130 43 03141 139 0000 00000
/BIG 1933 NGS COMPUTER LISTING

173 3 55 04 44313 130 43 26725 250 0000 000000
/JEAGH 1933 NGS COMPUTER LISTING

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

130 0 55 05 21613 130 43 43465 250 0000 000000
/MINK 1933 NGS COMPUTER LISTING

131 7 55 05 18571 130 44 27023 139 0000 000000
/BRICK 1933 NGS COMPUTER LISTING

182 7 55 05 05703 130 45 11001 139 0000 000000
/JOIN 1933 NGS COMPUTER LISTING

183 7 55 04 53927 133 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

135 4 55 04 20474 130 47 55434 139 0000 000000
/SHINE 1933 NGS COMPUTER LISTING

186 2 55 03 53773 130 47 34420 139 0000 000000
/BLACK 1933 NGS COMPUTER LISTING

187 2 55 03 22077 130 47 13494 139 0000 000000
/ROUND 1933 NGS COMPUTER LISTING

188 2 55 02 59231 130 47 04273 250 0000 000000
/RAVEN 1933 NGS COMPUTER LISTING

139 3 55 02 18322 130 46 55763 250 0000 000000
/LORD 1933 NGS COMPUTER LISTING

190 3 55 02 47707 130 47 23599 139 0000 000000
/HANG 1933 GS COMPUTER LISTING

191 3 55 03 21774 130 47 43039 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 43 13255 139 0000 000000
/PULL 1933 NGS COMPUTER LISTING

194 3 55 04 42171 130 43 19477 250 0000 000000
/BAGO 1933 NGS COMPUTER LISTING

195 3 55 04 41237 131 10 47375 139 0000 000000
/ROSEN 1932 NGS COMPUTER LISTING

~~196 3 55 09 42399 130 49 12231 250 0000 000000~~
~~/BADGER~~

~~197 4 55 11 13972 130 48 59779 250 0000 000000~~
~~/KAY~~

~~198 3 55 09 19260 130 49 50353 250 0000 000000~~
~~/PEGLEG~~

~~199 1 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 18314 250 0000 000000~~
~~/BOCA~~

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

~~210 4 55 14 28140 130 33 12493 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~~

* Used For Control

ABSTRACT OF POSITIONS

RA-10-6-82 (H-10051)

VESSEL: 2124 (RA-4) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
281	4000-4128	04	128-130	Mainscheme Lines
281	4129-4134	04	128-130	Crosslines
281	4135-4158	04	128-130	Mainscheme Lines
283	4159-4223	04	128-130	Mainscheme Lines
283	4224-4239	04	128-130	Crosslines
283	4240-4293	04	128-130	Mainscheme Lines
284	4294-4430	04	130-202	Mainscheme Lines
284	4431-4449	04	130-202	Crosslines
285	4450-4543	04	128-130	Mainscheme Lines
285	4544-4584	04	128-130	Crosslines
285	4585-4605	04	128-130	Mainshceme Lines
285	4606-4623	04	130-202	Mainscheme Lines
286	4624-4649	04	130-202	Mainscheme Lines
286	4650-4719	04	130-202	Mainscheme Lines
286	4720-4726	04	130-202	Crosslines
286	4727-4728	04	130-202	Mainscheme Lines
291	4732-4765	04	130-129	Mainscheme Lines
291	4766-4777	04	130-129	Crosslines
291	4778-4816	04	130-129	Mainscheme Lines
292	4817-4831	04	130-202	Mainscheme Lines
292	4835-	04	130-202	Detached Position
292	4836-4877	04	130-202	Mainscheme Lines
292	4878-4897	04	130-129	Mainscheme Lines
293	4898-4940	04	127-143	Mainscheme Lines
294	4941-4982	04	127-143	Mainscheme Lines
294	4983-4999	04	127-143	Crosslines
294	7000-7019	04	127-143	Mainscheme Lines
295	7020-7074	04	132-128	Mainscheme Lines

REJECTED POSITIONS: 4236; 4474-4476; 4512-4514; 4536-4537; 4677; 4729-4731; 4780-4783; 4832-4834; 7040.

ABSTRACT OF POSITIONS
RA-10-6-82 (H-10051)

VESSEL: 2125 (RA-5) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
271	5000-5007	04	128-130	Bottom Samples
272	5008-5021	04	130-126	Bottom Samples
272	5022-5034	04	130-126	Bottom Samples. Posisition Nos. 5026-5031 Duplicate same on J.D. 291.
277	5035-5110	04	130-126	Mainscheme Lines
280	5111-5288	04	130-126	Mainscheme Lines
281	5295-5307	04	130-126	Crosslines
291	5026-5031	04	143-137	Bottom Samples

REJECTED POSITIONS: 5267-5268; 5272-5273; 5277-5286; 5289-5294;

ABSTRACT OF POSITIONS
RA-10-6-82 (H-10051)
SIDE SCAN

VESSEL: 2123 (RA-3) ANDIST: 0.0

DAY	POSITIONS	CTRL	S1 M S2	REMARKS
280	3000-3079	04	128-130	Mainscheme Lines
281	3080-3159	04	128-130	Mainscheme Lines
283	3160-3199	04	128-130	Mainscheme Lines
283	3200-3244	04	130-126	Mainscheme Lines
284	3245-3334	04	130-202	Mainscheme Lines
285	3338-3376	04	130-202	Mainscheme Lines

REJECTED POSITIONS: 3037-3038; 3042; 3046; 3059; 3067; 3100; 3101; 3103; 3109; 3126; 3219; 3312; 3335-3337;

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-10-6-82 H-10051		

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.
5000	JD 271 9/28/82	05/10.83	02/12.17	49.7	45#			bk	crs S, crs P, Sh		
5001	"	04/55.23	02/50.49	43.1	"			bk	med G, St, Sh		
5002	"	04/34.79	03/14.82	48.1	"			bk	crs S, crs P, Sh		
5003	"	04/31.62	02/32.64	56.1	"			bk	med G, crs P		
5004	"	04/47.85	01/58.33	55.4	"			bk	med S, crs P		
5005	"	05/06.90	01/26.81	44.8	"			bk	med S, crs P, Sh	wood fragment	
5006	"	05/13.30	00/41.74	9.9	"			br	brk Sh		
5007	"	04/50.06	00/53.24	53.7	"			bk	crs S, crs P		
5008	JD 272 9/29/82	04/32.53	01/25.48	57.4	"			gn	St, crs G, crs P, med S		JWO
5009	"	04/15.51	02/02.21	32.7	"			gn	Sh, brk Sh, crs P, spk med S		JWO
5010	"	03/58.76	01/26.20	35.6	"			gn	M, fne S		JWO
5011	"	04/16.14	00/48.36	64.9	"			-	med P, crs P, Co		JWO
5012	"	04/34.18	00/19.71	87.9	"			gn	crs P, M, med S, Co		JWO
5013	"	04/59.41	00/11.07	39.2	"			gn	crs P, med P, M, fne S, crs G, med G		JWO
5014	"	04/47.28	130°/59 26.91	104.5	"			gn	M		JWO
5015	"	04/18.28	130°/59 57.02	90.5	"			-	Co, med P, crs P		JWO
5016	"	04/04.14	00/11.87	40.6	"			gn	Sh, brk Sh, med P, crs G, crs P, med S		JWO

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—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-10-6-82 H-10051		

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.
		55°N	131°W								
5017	JD 272 9/29/82	03/47.66	00/47.31	34.4	45#			gn	med S, Co, St, crs P, crs G, Sh, med P		JWO
5018	"	03/33.10	01/18.58	25.5	"			br	med P, crs G, Co, brk Sh,	med S, crs P	JWO
5019	"	03/09.05	01/35.60	23.5	"			gn	fne S, brk Sh, spk med S		JWO
5020	"	03/08.01	00/51.97	23.1	"			gn	Co, crs P, med P, spk med S, fne S, brk Sh		JWO
5021	"	03/29.68	00/33.30	22.7	"			gn	fne S, med S, crs P, med P, brk Sh		JWO
5022	"	02/51.89	01/45.08	20.3	"			gn	fne S, St, Co		JWO
5023	"	02/51.00	01/07.81	21.8	"			br	brk Sh, crs G, crs P		JWO
5024	"	02/30.46	01/08.13	21.6	"			br	brk Sh, crs P, med P,	med S	JWO
5025	"	02/33.17	01/59.36	19.6	"			gn	fne S, med S, brk Sh,	crs P	JWO
5026	"	02/05.63	02/17.00	14.7	"			br	Sh, brk Sh, St, crs P, med P, crs S, med G		JWO
5027	"	02/11.85	01/27.59	24.9	"			gn	fne S, spk med S, Sh,	med P	JWO
5028	"	02/01.34	00/51.54	19.9	"			gn	fne S		JWO
5029	"	01/47.83	01/30.20	26.3	"			gn	brk Sh, fne S, med G, med S		JWO
5030	"	01/41.65	02/17.19	30.0	"			gn	M, fne S, med P		JWO
5031	"	01/28.68	00/55.79	36.4	"			gn	M, fne S		JWO
5032	"	01/22.42	01/41.34	49.4	"			gn	St, fne S, crs P		JWO
5033	"	01/00.01	01/15.83	32.6	"			gn	M, fne S		JWO

Use more than one line per sample if necessary.

* U.S. GOVERNMENT PRINTING OFFICE: 1978—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-10-6-82 H-10051		

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.
5034	JD 272 9/29/82	01/25.05	02/35.17	49.3	45#			gn	fne S, crs G, crs P, med P		
		55°N	130°W								
5026	JD 291 10/18/82	04/28.19	58/59.21	82.3	"	2"		br	Silt, Sh (probably rocky)	very small sample	
5027	"	04/31.81	58/17.84	56.2	"	"		br	Silt (probably rocky)	very small sample	
5028	"	04/42.17	57/36.26	85.7	"	"		gn	M, fne P	white fiber (like hair)	
5029	"	05/02.75	59/01.64	63.3	"	"		gn	M, crs G, St		
5030	"	05/06.64	58/17.62	78.5	"	"		gn	M		
5031	"	05/12.15	57/54.25	92.5	"	"		gn	M, fne S, med P		

Use more than one line per sample if necessary.

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

NOAA FORM 76-40
(3-74)

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

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

Replaces C&GS Form 567.

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

(See reverse for responsible personnel)

[X] TO BE CHARTED [ ] TO BE REVISED [ ] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA Ship RAINIER	Alaska	Revillagigedo Channel	12/10/82

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-0361-RA-82	N.A.	H-10051	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	(SLATE ISLANDS LIGHT, 1982)		18.432		04.294		F-3-6-L	17434
	FIELD POSITION	55 05	570.0	131 03	76.2		9/28/82	
	SLATE ISLANDS LIGHT 8 - 1982 LIGHT LIST #2958							
	LIGHT LIST POSITIONAL ERROR							
	NC-L-302(83)							

(
(
(

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Susan J. Ludwig, Lt. NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Michael R. Mathwig, Ens. NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ 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. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

DAA FORM 76-40
(-74)

replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

[ ] TO BE CHARTED
[ ] TO BE REVISED
[ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship RAINIER	Alaska	Revillagigedo Channel	12/10/82

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

PR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
PR-0361-RA-82	N.A.	H-10051	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	(BLACK ROCK LIGHT, 1982)		26.576		29.334		F-3-6-L	17434
	FIELD POSITION	55 01	821.8	131 03	521.4		9/28/82	
	BLACK ROCK LIGHT 6 - 1982 LIGHT LIST #2957							
	LIGHT LIST POSITIONAL ERROR							
	NC-L-302(83)							

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

H-10051

RA-10-6-82

In producing this sheet, standard procedures were observed in accordance with the Hydrographic Manual, PMC OPORDER, Hydrographic Survey Guidelines, 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-10051

HYDROGRAPHIC SURVEY STATISTICS

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

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

DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/ SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	3					
VOLUMES						
BOXES			1			

T-SHEET PRINTS (List) Chart enlargement 17434, 9th Ed.

SPECIAL REPORTS (List) Enlargement of Ketchikan Quadrangle Map (5 of 9 and 3 of 5)

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS PRE-VERIFICATION	VERIFICATION	TOTALS
POSITIONS ON SHEET			1716
POSITIONS CHECKED		1716	
POSITIONS REVISED		13	
SOUNDINGS REVISED		186	
SOUNDINGS ERRONEOUSLY SPACED			
SIGNALS (CONTROL) ERRONEOUSLY PLOTTED			

	TIME – HOURS			
CRITIQUE OF FIELD DATA PACKAGE (PRE-VERIFICATION)	1	VERIF	EVAL	1
VERIFICATION OF CONTROL		2		2
VERIFICATION OF POSITIONS		55	1	56
VERIFICATION OF SOUNDINGS		77	10	87
COMPILATION OF SMOOTH SHEET		61	14	75
APPLICATION OF TOPOGRAPHY		1		1
APPLICATION OF PHOTOBATHYMETRY		NA	NA	NA
JUNCTIONS		2	1	3
COMPARISON WITH PRIOR SURVEYS & CHARTS			16	16
VERIFIER'S REPORT		6	24	30
OTHER Familiarization			4	4
Digitization	13			13
TOTALS	14	204	70	288

Pre-Verification by James L. Stringham	*Beginning Date* 4-1-83	*Ending Date* 4-1-83
Verification by R. A. Shipley, T. O. Jones	*Beginning Date* 5-5-83, 3-26-84	*Ending Date* 1-18-84, 4-19-84
Evaluation by B. A. Olmstead		
Verification Check by James Stringham, James S. Green	*Time (Hours)* 26	*Date* 1-18-84, 5-4-84
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-10051 FIELD NO: RA-10-6-82

Alaska, Revillagigedo Channel, Approaches to Boca de Quadra

SURVEYED: September 28 - October 22, 1982

SCALE: 1:10,000 PROJECT NO: OPR-0361-RA-82

SOUNDINGS: Ross Fineline 5000
Fathoms and tenths of fathoms

CONTROL: Motorola Mini-Ranger III
Range-Range

Chief of Party.....CAPT R. J. Land

Surveyed by.....LT J. O'Clock
LT S. Ludwig
ENS B. Postle
ENS J. Judson
ENS W. Logue

Automated Plot by.....PMC Xynetics Plotter

Verified by.....T. O. Jones
R. A. Shipley

Evaluated by.....B. A. Olmstead

1. INTRODUCTION

H-10051 is a navigable area survey conducted in accordance with the following:

Project Instructions OPR-0361-RA-82
Change 1 dated July 28, 1982
Change 2 dated August 23, 1982

H-10051, a 1:10,000 scale survey, encompasses portions of Revillagigedo Channel and the approaches to Boca de Quadra. Specifically, hydrographic operations range from 1 mile north of Kirk Point and follows the shoreline some 5 miles to Quadra Point. Offshore limits extend approximately two miles and include navigable waters around Slate Island, White Reef, and Snail Rock. Bottom characteristics are primarily sand, gravel and pebbles.

Two subordinate tide gages, Kah Shakes Cove and North Kestrel Island were installed and operating concurrent with field operations. The North Kestrel Island tide gage was utilized to zone the survey for reduction of sounding data on the smooth sheet. Soundings on the Final Field Sheet were reduced using predicted tides from Ketchikan, Alaska. Further information is available in the Field Tide Note.

The projection parameters, signal list and TC/TI tape listing were amended during office processing. Additionally, the field computed draft of 0.5 fathoms for launch 2123 (Klein Side Scan Sonar equipped) was changed to 0.4

fathoms. Numerous abstracts and supplements not relevant to the final approval process were removed from the Descriptive Report and filed with the field records.

2. CONTROL AND SHORELINE

All horizontal control stations used for controlling hydrography were established in accordance with Third Order Class I standards. The smooth sheet was plotted primarily using published NGS coordinates although two navigational lights, Black Rock Light, 1929 and Slate Islands Light, 1982, are field positions.

Hydrographic positioning was conducted using the Motorola Mini-Ranger III (range-range). Baseline calibrations were performed before and after completion of the field work. Daily systems checks to confirm the baseline values were conducted using several methods (sextant angles to visible stations, launch to launch, baseline crossing, static calibration).

All remaining information affecting the positioning and station control of this survey is listed in paragraphs F and G of the Descriptive Report, the Horizontal Control Report and the Electronic Control Report for OPR-0361-RA-82.

The mean high water line and other photogrammetrically determined features were shown in brown for "orientation only" from U.S. Geological Survey Quadrangle Maps at 1:63,360 scale updated by 1981 NOS photography. Brown shoreline was not shown where discrepancies existed with the hydrographic data. The following two rocks awash as shown on the USGS quad maps conflict with hydrography. The evaluator recommends not charting these features unless the compiler has additional information.

Feature	Latitude	Longitude
Rock awash	55°04'01"N ✓	131°00'1.5"W ✓
Rock awash	55°05'15"N ✓	131°00'59"W ✓

3. HYDROGRAPHY

Depths at crossings are in good agreement.

Development of the bottom configuration was adequate. Generally, all standard depth curves are complete and satisfactorily defined. With the following exceptions, least depths were adequately determined.

Depth	Latitude (N)	Longitude (W)
9.2	55°01'32" ✓	131°03'09" ✓
2.2	55°02'45" ✓	131°00'45" ✓
4.7	55°02'53" ✓	131°00'43" ✓
3.1 (excessed for prior 2 Rk)	55°03'15.5" ✓	131°00'28" ✓
4.5	55°03'25.5" ✓	131°00'24" ✓
2.2	55°03'40" ✓	131°01'39.5" ✓
6.4	55°05'13.5" ✓	131°00'48" ✓
1.5	55°05'18" ✓	131°00'20" ✓

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual with the following exceptions:

a. The least depth of 2.6 fathoms plotted on the Final Field Sheet at latitude 55°01'50.72"N, longitude 131°02'21.34"W was not reduced for TRA or predicted tides. This depth reduced to 1.7 fathoms on the smooth sheet. Soundings shall be reduced to the tidal datum adopted for the area using either predicted or observed tide levels. (Hydrographic Manual, section 4.5.7) Additionally, a bottom sample was not taken. Bottom characteristics should be determined on these features (Hydrographic Manual, Section 4.5.9.2).

b. A number of charted and or prior survey rocks occurring within the sounding area should have been investigated. The development of all shoals and dangers to navigation within the sounding area of navigable area surveys is a requirement. (Hydrographic Manual 4.2.1 and Project Instructions OPR-0361-RA-82, section F.2.2.2). Examples are as follows:

Feature	Latitude (N)	Longitude (W)
Rock awash	55°03'41"	130°59'53"
Submerged rock	55°05'15.5"	131°00'42"
Submerged rock	55°03'25.5"	131°01'50"
Rock awash	55°05'19.5"	131°00'33"

c. The Descriptive Report did not furnish the TC/TI tape listing or TC/TI abstract for launch 2123. Electronic correctors for launch 2125, day 291 were not included in the abstract. A copy of each Abstract of Corrections (Echo Soundings, Electronic Position Control) shall be inserted at the end of the Descriptive Report. (Hydrographic Manual, section 5.3.4, paragraphs D and G)

5. JUNCTIONS

H-9952 is bordered by one contemporary survey.

H-10055 (1982) - joins

There were no contemporary junctional sheets to the north, south and west. A comparison of the charted depth curves with the present survey information reveals good agreement.

6. COMPARISON WITH PRIOR SURVEYS

There were two PSR items within the limits of the present survey. Items 50438 and 50439 were identified for full investigation from the Automated Wreck and Obstruction Information System. These investigations utilized Side Scan Sonar. No new information that should be charted was found.

a. H-5389 (1933) 1:20,000
H-5236 (1932) 1:20,000

Generally, the depths since 1932-33 have remained within ±1 fathom. The standard depth curves reveal good agreement. Several shoaler soundings and rocks were transferred to the present survey. These items are described and located as follows:

Feature	Latitude (N)	Longitude (W)
2.7 fm sdg.	55°05'15" ✓	131°00'39" ✓
2.8 fm sdg.	55°05'09" ✓	130°59'50" ✓
2.0 fm sdg.	55°05'16" ✓	131°00'42" ✓
2.5 fm sdg.	55°03'24" ✓	131°00'15" ✓
2.5 fm sdg.	55°03'16" ✓	131°00'24" ✓
2.2 fm sdg.	55°03'17" ✓	131°00'27" ✓
Rock awash	55°05'23" ✓	131°00'52" ✓
Rock awash	55°05'24.5" ✓	131°00'35" ✓
Rock awash	55°04'07" ✓	130°59'18" ✓
Rock awash	55°03'41" ✓	130°59'53" ✓
Rock awash	55°05'19.5" ✓	133°00'33" ✓

Additionally, the following two charted soundings from H-5236 (1932) should be revised as follows. Information for these items originates with the hydrographers findings documented in the Descriptive Report for H-5236. These items have been brought forward on the present survey.

1.7 Rk	latitude 55°03'22.5"N ✓	longitude 131°00'15"W ✓
2.0 Rk	latitude 55°03'15.5"N ✓	longitude 131°00'28"W ✓

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

b. H-3789 (1915) WD
H-3790 (1915) WD

Least depths from these wire drag surveys were confirmed by prior survey H-5236 and were transferred in green to supplement the 1932 survey. Additionally, the present survey confirmed the wire drag information. There are no conflicts between present depths and effective depths of the wire drag surveys.

7. COMPARISON WITH CHART

17434, 9th Edition, February 14, 1981

a. Hydrography - A chart comparison indicates that most offshore/inshore hydrography originates with the prior surveys. The sources of charted features have been indicated on a copy of the chart section and filed with the field records. All charted features were satisfactorily disposed of and discussed in the Descriptive Report with the following exceptions:

The submerged rock (depth unknown) charted at latitude 55°03'25.5"N, ✓ longitude 131°01'50"W ✓ originates from an unknown source on the USGS quads. This feature falls within the navigable area and was not investigated. The evaluator recommends retaining this charted submerged rock.

The submerged rock (depth unknown) charted at latitude 55°05'15.5"N, longitude 131°00'42"W originates from an unknown source and plots near a 2 fathom sounding from H-5236 (1932). The submerged rock was not investigated by the field and should be retained on the chart.

The area covered by H-10051 was examined for unreported dangers to navigation. One item was submitted during preliminary office review (copy attached).

The present survey is adequate to supersede the charted hydrography within the common area ~~with the note~~ except as noted herein.

b. Controlling Depths - There are no controlling depths within the survey limits.

c. Aids to Navigation - There are two fixed aids to navigation within the survey limits. These structures were compared to the charted positions and adequately serve the purpose intended.

8. COMPLIANCE WITH INSTRUCTIONS

H-10051 adequately complies with the project instructions except as noted in section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

H-9952 is a good navigable area survey. Additional work concerning those items listed in section 3, Hydrography, should be considered in future project planning for Boca de Quadra.

Respectfully submitted,

Bruce A. Olmstead

Bruce A. Olmstead
Senior Cartographer
April 19, 1984

This survey has been verified and evaluated. I have examined the survey and it meets Charting and Geodetic Services survey standards and requirements for use in nautical charting except as noted in the Evaluation Report. The survey is recommended for approval.

James S. Green
Supervisory Cartographer

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

May 19, 1983

Commander (OAN)
Seventeenth Coast Guard District
P. O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

An uncharted shoal east of Slate Islands Light 8 was noted during preliminary office review of Hydrographic Survey H-10051, Approaches to Boca de Quadra, Revillagigedo Channel, Alaska, and is considered a danger to navigation. Questions concerning this survey may be directed to Cdr. Ned C. Austin, Chief, Nautical Chart Branch, telephone (206) 442-4764.

The following statement is recommended for the Local Notice to Mariners:

"An uncharted shoal covered by 1.5 fathoms (MLLW) is at latitude 55°05'18"N, longitude 131°00'20"W, bearing 091 degrees true, 1.55 nautical miles from Slate Islands Light 8 (Chart 17434)."

Sincerely,

Charles K. Townsend
Rear Admiral, NOAA
Director, Pacific Marine Center

Enclosure

bc: N/CG222 w/encl.

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 Kestrel Island, Boca De Quadra, Alaska

Period: September 28-October 22, 1982

HYDROGRAPHIC SHEET: H-10051

OPR: 0361

Locality: Entrance to 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

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10051

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.

David W. Yeager 5/15/84
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock L.W. Mordock 5/21/84

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.

Robert Townsend 5/30/84
Director, Pacific Marine Center (Date)

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

Hydrographic Index No. 110K

No.	Date	Scale
H 8623	1962-63	5000
H 8685	1962-65	10000
H 8770	1963	10000
H 8771	1963	10000
H-8861	1965	10000
H-8906	1966	10000
H-8945	1967-71	10000
H 8946	1967-71	10000
H 8947	1967	10000
H 8948	1967-68	10000
H 8960	1967-70	10000
H-8961	1967-70	10000
H-9000	1965-70	10000
H-9039	1969	10000
H 9040	1968	10000
H 9041	1968	10000
H 9062	1968	20000
H-9066	1969	10000
H-9069	1969	10000
H-9070	1969	10000
H 9073	1969	5000
H 9079	1969	5000
H 9080	1969	5000
H-9081	1969	5000
H-9082	1969	10000
H-9083	1969	10000
H-9084	1969	10000
H-9085	1969	10000
H-9091	1969	20000
H-9092	1969	20000
H-9101	1965-70	10000
H-9146	1972-73	10000
H-9157	1970	10000
H 9158	1970	10000

A-5324

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10051

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~~ EVALUATION
17420	12/3/84	J. Baily	~~Full~~ Part ~~Before~~ After Verification Review Inspection Signed Via
			Drawing No. 32 Exam. for critical corrs. Revised
			position of sndg. "2" and labeled "Rk"
17434	3-7-89	Barry Adams	(Full) Part Before After Verification Review Inspection Signed Via
			Drawing No. 18 + 18m
			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.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.
			Full Part Before After Verification Review Inspection Signed Via
			Drawing No.