10057

Diagrams 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-10-8-82

Office No. H-10057

LOCALITY

State Alaska

General Locality Boca de Quadra

Locality Vixen Bay and Mink Bay

1982

CHIEF OF PARTY
CAPT R.J.Land

LIBRARY & ARCHIVES

DATE June 20, 1984

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

10057

Area 6
CHTS
17427
17424
17420

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

HYDROGRAPHIC TITLE SHEET

H-10057

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-10-8-82

State Alaska

General locality Boca de Quadra

Locality Vixen Bay and Mink Bay

Scale 1:10,000 Date of survey October 22 to November 6, 1982

Instructions dated June 2, 1982 (Changes 1, 2) Project No. OPR-0361-RA-82

Vessel NOAA Launches 2123, 2124, 2125, and 2126

Chief of party CAPT R. J. Land, NOAA

Surveyed by LT J. O'Clock, LT S. Ludwig, ENS J. Judson, ENS J. Logue

Soundings taken by echo sounder, ~~hand lead, pole~~ Ross Fineline Fathometer Systems

Graphic record scaled by RAINIER Personnel

Graphic record checked by RAINIER Personnel

Verification ~~Protracted~~ by R. A. Shipley, C. R. Davies Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by C. R. Davies

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

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

STANDARDS CK'D 6-25-84
C.Coy

AWOIS - 7/10/84 mgf

SURF - 7/10/84 mgf

SC 4-22-97

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

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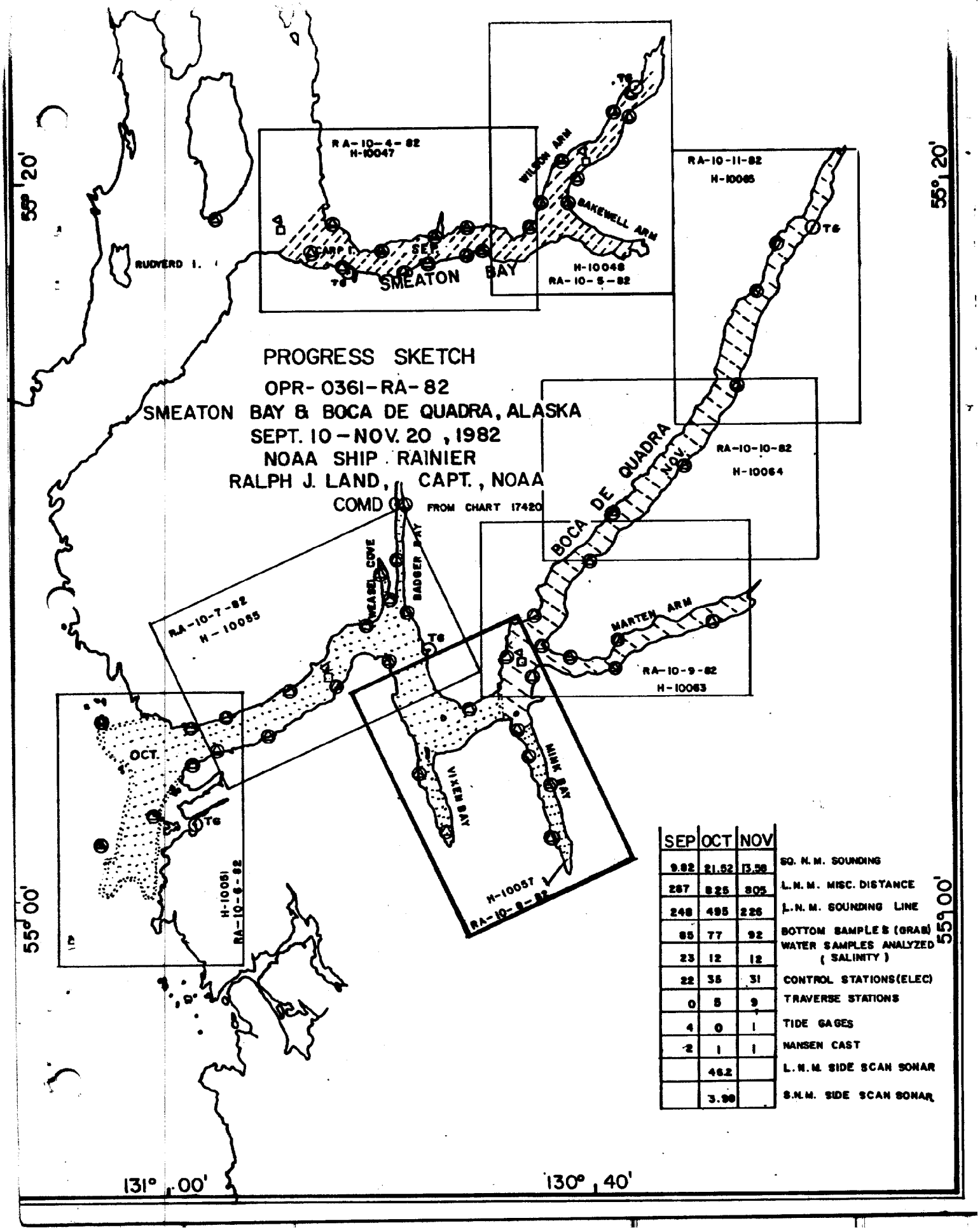

SEP	OCT	NOV	
9.82	21.62	13.58	SQ. N. M. SOUNDING
267	825	805	L.N.M. MISC. DISTANCE
248	495	226	L.N.M. SOUNDING LINE
85	77	92	BOTTOM SAMPLES (GRAB)
23	12	12	WATER SAMPLES ANALYZED (SALINITY)
22	35	31	CONTROL STATIONS (ELEC)
0	5	9	TRAVERSE STATIONS
4	0	1	TIDE GAGES
2	1	1	NANSEN CAST
	46.2		L.N.M. SIDE SCAN SONAR
	3.98		S.N.M. SIDE SCAN SONAR

A. PROJECT

Hydrographic Survey RA-10-8-82 (H-10057) was conducted in accordance with Project Instructions OPR-0361-RA-82, Smeaton Bay and Boca de Quadra, Alaska dated June 2, 1982, with the following changes: change no. 1, Supplement to Instructions, dated July 28, 1982, and change no. 2, Amendment to Instructions, dated August 23, 1982.

B. AREA SURVEYED

The central portion of Boca de Quadra was surveyed from approximately 55° 06.5'N to 55° 01.0'N and from 130° 49.5'W to 130° 41.0'W, including Vixen Bay and Mink Bay. This survey was conducted between JD295 and JD310, inclusive (October 22, 1982 to November 6, 1982).

C. SOUNDING VESSELS

All sounding data, developments, detached positions and bottom samples were obtained by RAINIER aluminum hydrographic survey launches RA-3 (2123), RA-4 (2124), RA-5 (2125), and RA-6 (2126). RA-5 collected all bottom samples.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All information contained in this section is applicable to survey H-10057. Sounding equipment is discussed as well as correctors, 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-10057 were taken by RAINIER launches RA-3, RA-4, RA-5, and RA-6. 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	2126
Transceiver	1041	1040	1042	1080
Analog	1071	1042	1070	1046
Digitizer	1041	1080	1042	1040

Sound Velocity Correctors

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 Oct. 1982	55° 06.5'N 130° 52.6'W	8
18 Nov. 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. ✓
The calibration data has been removed from the Descriptive Report and Filed with the Field records.

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 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 Correctors

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 Eval. 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. 4 See EVAL. Report, Section 1

Launch Settlement and Squat Correctors

Settlement and squat tests were conducted at Shilshole Bay Marina in Puget Sound, Washington on April 2 and 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 SideScan 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 was 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. (These correctors have been removed from the Descriptive Report and filed with the Field records)

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 schoes, some interpretaion discrepancies may still exist in areas where side echoes were prevalent.

E. HYDROGRAPHIC SHEETS

Two field sheets, RA-10-8W-82 and RA-10-8E-82, were used to cover the survey area. One expansion sheet is included for clarity of the highly developed PSR item #1 on RA-10-8W-82 All sheets were prepared on board the RAINIER using the PDP 8/e complot system. The sheets were based on modified transverse mercator projections. ✓

The smooth field sheets for this survey are plotted at a scale of 1:10,000, while the smooth expansion sheet is plotted at a 1:2500 scale. ✓ A list of parameters used to define the hydrographic sheets is provided in the separates following the text.

The maximum line spacing for this survey is 200 meters, as per project instruction. Spacing of 100 meters occurs in areas where depths of 50 fathoms, or less, were found. Areas indicating shoaling or possible anchorage sites were developed to 50 meter, or less, line spacing. Due to the extreme steepness of the inshore areas, depths of 10 fathoms or more often occurred 10-20 meters offshore. Launches began and ended lines as close to shore as possible.

See Eval. Report, Section 4

Soundings on the smooth field sheets and the expansion sheet have been corrected for predicted tides, launch draft, and preliminary velocity corrections. The shoalest sounding on the expansion sheet has been transferred to the corresponding smooth field sheet (RA-10-8W-82). No noticeable distortion of the mylar sheets was observed during plotting of hydrographic data on the smooth field sheets. ✓

All field records will be sent to the Pacific Marine Center, Seattle, Washington for verification. ✓

F. CONTROL STATIONS

No new horizontal control stations were established. All visual and electronic control utilized recovered existing Third Order, or higher stations on the North American 1927 datum. ✓

The following stations were recovered for this survey.

LUM *	BLACK *	JAGGED *	AND
BAGO *	SHINE	BOULDER *	SOAP
GANN	KEST *	SLIME	HAM
PULL	RAIN *	BRICK	EGG * ✓
LONE *	CEDAR *	MINK *	DRILL
VIXEN	CAL *	GRASSY *	DU *
RAVEN *	LOW	BEACH *	PONT *
HANG *	SON *	ORDER *	SPITS
LORD *	JOHN	BIG	BREAK
ROUND			

A copy of the Master Station List is provided in the separates following the text.

* Used on H-10057

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 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	1557/1660 *
2126	711	1646

TABLE II

CODE	TRANSPONDER S/N	STATION #
A	1645	Not used
B	4951	167,169,173,178,179,194
C	1628	159,161,180,183
D	1569	157,167,173,188,189,192,194
E	911721	154
F	911711	156,158,167,173,179
0**	911632	183
2	B1106	156,158,159,161,180

Ending calibrations for these codes occurred in Ketchikan, Alaska on October 29-30, 1982 and Seattle, Washington on November 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

Four calibration techniques were used when performing system checks. These included the launch-to-launch, static, and baseline crossing methods, along with observing horizontal sextant angles to visible Third Order, Class I, or higher, geodetic stations.

Miniranger baseline calibrations for the first portion of this survey (JD295-301) were performed on August 30-31, September 1, 1982, and October 29-30, 1982. These calibrations took place at Sand Point, Seattle, Washington and Ketchikan, Alaska, respectively. The Ketchikan

calibration acted as both an ending calibration for all survey work completed up to and including JD301 and a new initial calibration for survey work starting after JD301. 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 determined 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 as did all mobile equipment.

* Replaced faulty R/T unit (1557) with new R/T unit (1660) during baseline calibration in Ketchikan, Alaska. Performed ending calibration for R/T unit 1557 and initial calibration for R/T unit 1660.

** Code 0 found inoperative after Ketchikan calibration.

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 sheet it was necessary to adjust the shoreline (in certain areas) to conform with plotted sounding positions.

In addition, the U.S. Geological Quadrangle maps do not agree with the prior survey or the charted shoreline. (Plane table survey methods were most likely the source for this old shoreline). The current quadrangles are much closer to the actual shoreline and it is recommended that the shoreline be updated with photogrammetry in the near future. A good 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 also 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.

See Evaluation Report, Section 4

I. CROSSLINES

A total of 25.9 nautical miles of crosslines were run representing 17.6% of the mainscheme mileage. Agreement of the 49 comparisons between crossline and mainscheme soundings is as follows:

11-55 fathoms	4 comparisons within 0.2 fathoms 0 comparisons within 0.5 fathoms 4 comparisons within 1.5 fathoms 7 comparisons within 2.0 fathoms
55-110 fathoms	9 comparisons within 0.5 fathoms 5 comparisons within 1.5 fathoms 2 comparisons within 3% of depth 1 comparison greater than 3% of depth
greater than 110 fathoms	7 comparisons within 1.5 fathoms 8 comparisons within 3% of depth 2 comparisons greater than 3% of depth

Crossline agreement is good since 79.5% of the comparisons meet the criteria as stated in Section 1.1.2, part B.II.1 of the Hydrographic Manual. The discrepancies appear 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 profile of the area. 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. All four RAINIER launches 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 crossline comparisions (see section D of this report). This problem was especially exagerated when running a sounding line parallel to a steep gradient.

J. JUNCTIONS

The junctions of this survey were compared with contemporary surveys H-10055 and H-10063. The junction between the east and west sheets of this survey were also compared. Results of the comparisons are as follows:

✓ see Section 5 of Evac. Report

H-10055

Twelve comparisons were made between coincident or nearly coincident

soundings and found to be as follows:

55-110 fathoms	1 comparison within 1.5 fathoms 0 comparisons within 3% of depth 3 comparisons greater than 3% of depth
greater than 110 fathoms	8 comparisons within 1.5 fathoms 0 comparisons within 3% of depth 0 comparisons greater than 3% of depth

Junction agreement was fair since 75% of the comparisons meet the criteria as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual. Most soundings compared were not exactly coincident. The largest discrepancies occur where bottom slopes are very steep. Hence, a small difference in position would yield a relatively large difference in depth.

H-10057 (RA-10-8W-82/RA-10-8E-82)

No comparison of soundings could be made for the junction of these sheets due to the complete lack of coincident or nearly coincident soundings. However, inspection of the depth contours indicates a good junction between the two sheets of this survey.

H-10063

In the ~~area of junction~~ junction area between this survey and survey H-10063, there are only two coincident soundings, both well within the criteria for comparisons as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual. More complete junctioning between these sheets was not necessary since the same launch (RA-4), using the same control, obtained all the soundings in this area.

K. COMPARISONS WITH PRIOR SURVEYS

This survey was compared with three prior surverys: H-2149 at 1:20,000 (1892), H-5384 at 1:10,000 (1933) and H-5389 at 1:20,000 (1933). The 1:20,000 scale surveys were enlarged to a 1:10,000 scale for comparison purposed. The bathymetric surveys performed by Tetra Tech, Inc. (1982) are also addressed in this section.

H-2149

Survey H-2149 covers the entire area of the present survey. Agreement of the 89 comparisons is as follows:

0-5 fathoms	3 comparisons within 0.2 fathoms 1 comparison within 0.5 fathoms

See FOAL. Report Section 6

5-11 fathoms	4 comparisons within 0.5 fathoms 2 comparisons within 1.5 fathoms 5 comparisons greater than 1.5 fathoms
11-55 fathoms	13 comparisons within 0.5 fathoms 16 comparisons within 1.5 fathoms 12 comparisons greater than 1.5 fathoms
55-110 fathoms	2 comparisons within 0.5 fathoms 8 comparisons within 1.5 fathoms 2 comparisons within 3% of depth 4 comparisons greater than 3% of depth
greater than 110 fathoms	2 comparisons within 0.5 fathoms 4 comparisons within 1.5 fathoms 2 comparisons within 3% of depth 9 comparisons greater than 3% of depth

Agreement is generally poor since only 62.9% of the comparisons meet the criteria as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual. However, percent agreement is highly variable depending on the area of comparison. Agreement is 75.5% on RA-10-8W-82 while only 52.2% on RA-10-8E-82. The area having the lowest percent agreement is the main channel on RA-10-8E-82 where only 39.2% of the comparisons meet the criteria. The remaining area on this smooth sheet (Mink Bay) has a 75.0% agreement. In the mid-channel area, the noted soundings on the prior survey appear to be much further from shore than they should be. In addition, agreement of 23 comparisons made between this area on the present survey and H-5389(1933) yields an agreement of 82.6%.

The 1892 survey indicates shoaling with a sounding of 9 1/4 fathoms in the vicinity of 55° 06.0'N, 130° 45.0'W. The present survey, survey H-5389 and NOS chart no. 17427, 4th Edition (1979), indicate no such shoaling in this area.

H-5384

Survey H-5384 covers Vixen Bay and Mink Bay. Agreement of the 68 comparisons is as follows:

0-5 fathoms	3 comparisons within 0.2 fathoms
5-11 fathoms	2 comparisons within 0.2 fathoms 4 comparisons within 0.5 fathoms 2 comparisons within 1.5 fathoms

11-55 fathoms	20 comparisons within 0.2 fathoms 0 comparisons within 0.5 fathoms 16 comparisons within 1.5 fathoms 10 comparisons greater than 1.5 fathoms
55-110 fathoms	6 comparisons within 0.5 fathoms 3 comparisons within 1.5 fathoms 0 comparisons within 3% of depth 2 comparisons greater than 3% of depth

Agreement is good since 79.4% of the comparisons meet the criteria as stated in the Hydrographic Manual.

H-5389

Survey H-5389 covers the main channel area of both RA-10-8W-82 and RA-10-8E-82. Agreement of the 45 comparisons is as follows:

0-5 fathoms	0 comparisons within 0.2 fathoms 1 comparison within 0.5 fathoms
5-11 fathoms	1 comparison within 0.2 fathoms
11-55 fathoms	3 comparisons within 0.2 fathoms 0 comparisons within 0.5 fathoms 2 comparisons within 1.5 fathoms 2 comparisons greater than 1.5 fathoms
55-110 fathoms	5 comparisons within 0.5 fathoms 13 comparisons within 1.5 fathoms 1 comparison within 3% of depth 1 comparison greater than 3% of depth
greater than 110 fathoms	1 comparison within 0.5 fathoms 7 comparisons within 1.5 fathoms 7 comparisons within 3% of depth 1 comparison greater than 3% of depth

Agreement is excellent since 88.9% of the comparisons meet the criteria as stated in section 1.1.2, part B.II.1 of the Hydrographic Manual.

The discrepancies found while making the above comparisons appear to be a result of a small position difference which in turn reflects a relatively large discrepancy in depth due to the extremely steep bottom profile of the area. The amount of disagreement is not unusual considering the steepness of the bottom topography and the fact that many of the comparisons were not exactly coincident.

See Final Report, section 6

In 1982, Tetra Tech, Inc. completed bathymetric surveys for sections of Boca de Quadra. Surveys KI-1, KI-2, KI-3 (each at 1:6000) and KI-4 (1:20,000) apply to the present Hydrographic survey.

Generally, the soundings and contours agreed. However, line spacing does not meet the criteria as stated in section 4.3.4 of the Hydrographic Manual. The Tetra Tech, Inc. surveys do not meet NOS Hydrographic standards but are useful in obtaining a profile of the submarine topography.

Presurvey Review Item #1

One presurvey review item (PSR #1) is within the scope of this survey, located on smooth field sheet RA-10-8W-82 and expansion sheet no. 1. The expansion sheet has been prepared at a 1:2500 scale for clarity of this area.

This PSR item is the 14 fathom sounding located at 55° 05' 14"N and 130° 47' 28"W. Survey H-2149 is the original source of this sounding. Survey H-5389, by use of a lead line, found 16 fathoms to be the shoalest depth in this area. The 14 fathom sounding found in 1892 has been carried over to the present chart (NOS chart no. 17427, 4th Edition, 1979).

See FOAC Report Section 4

The investigation of this item consisted of sounding lines spaced at 10 meter intervals east/west and 20 meter intervals north/south. The shoalest depth found in this area was 16 fathoms (corrected for predicted tides, velocity and launch draft). A total of nine 16 fathom soundings were found and plotted on the smooth expansion sheet. A single 16 fathom sounding has been transferred to the final smooth field sheet. This sounding (17.1 uncorrected) was picked off the analog records between positions 4059 and 4060 (190946 GMT, JD296, VESNO 2124).

L. COMPARISON WITH THE CHART

This survey was compared with NOS Chart No. 17427, Fourth Edition, July 7, 1979, 1:80,000 scale enlarged to 1:10,000. Agreement of the 90 comparisons is as follows:

0-5 fathoms	2 comparisons within 0.2 fathoms 1 comparison greater than 1.5 fathoms
5-11 fathoms	2 comparisons within 0.2 fathoms 4 comparisons within 0.5 fathoms
11-55 fathoms	17 comparisons within 0.5 fathoms 17 comparisons within 1.5 fathoms
55-110 fathoms	8 comparisons within 0.5 fathoms 5 comparisons within 1.5 fathoms 6 comparisons within 3% of depth 2 comparisons greater than 3% of depth

greater than 110 fathoms	5 comparisons within 0.5 fathoms 4 comparisons within 1.5 fathoms 6 comparisons within 3% of depth 2 comparisons greater than 3% of depth

Agreement is good since 84.4% of the comparisons meet the criteria as stated in the Hydrographic Manual. Some discrepancies were observed. When enlarging a 1:80,000 scale chart to a scale of 1:10,000, position discrepancies will occur causing decreased accuracy. The noted chart soundings also appear 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 it is recommended that the present survey be used for charting purposes. ✓ Concur

A total of 12 rocks or shoal areas were located and positioned by means of detached positions. Nine of these 12 areas appear on the chart. The status (submerged rock rock awash, shoal area) and location of each are listed below.

LOCATION	POSITION NUMBER	SURVEY STATUS	CHARTED STATUS
55° 02.8' N ✓ 130° 47.1' W ✓	6406	submerged rock (2³) RK	rock awash ✓
55° 02.8' N ✓ 130° 47.1' W ✓	6345	~~submerged~~ rock AWASH (5)	rock awash ✓
55° 02.9' N ✓ 130° 46.8' W ✓	6409	~~submerged~~ rock AWASH (12)	rock awash ✓
55° 03.0' N ✓ 130° 47.2' W ✓	6415	shoal area (2²) RK	submerged rock ✓
55° 03.1' N ✓ 130° 47.2' W ✓	6416	shoal area (1³) RK	rock awash ✓
55° 03.2' N ✓ 130° 47.3' W ✓	6373,6374	rock awash (13)	rock awash
55° 01.8' N ✓ 130° 41.5' W	2175	rock awash (5)	rock awash
55° 03.6' N ✓ 130° 42.1' W ✓	2048	rock awash (NO HT.)	rock awash
55° 03.9' N ✓ 130° 42.3' W ✓	3805	rock awash (1)	foul area ✓

55° 03.9'N ✓ 130° 42.3'W ✓	3806	rock awash (7)	foul area ✓
55° 03.9'N ✓ 130° 42.3'W ✓	3807	Submerged rock ~~awash~~ (9) PK	foul area } SAME FEATURE AS 3805 ✓
55° 05.21'N ✓ 130° 43.52'W ✓	4741	rock awash (6)	rock awash

The status determined during this survey of the above rocks is at the time of investigation rather than at MLLW. This may explain the different statuses of the first 5 rocks listed. It is recommended that these 5 rocks be carried forward onto new charts as they appear on the existing chart (Refer to the smooth sheet for the charting disposition of these items).

Three rocks were located and positioned that do not appear on the chart as rocks. The chart indicates a foul area. It is recommended that a rock awash symbol be added to this area. At a 1:80,000 scale, one rock symbol may be sufficient to denote all 3 rocks. concur

Rocks denoted by brown symbols are those that appear on the manuscript but were not found or investigated. There are 11 such rocks on the smooth field sheets (9 awash, 2 submerged) and all have been previously charted. However, not all rocks appearing on the chart appear on the manuscript and smooth sheets. / See Evaluation Report Section 2+4

Two mooring buoys were located and positioned by detached positions. Their locations and position numbers are listed below.

LOCATION	POSITION NUMBER	COMMENTS
55° 05.1'N ✓ 130° 43.7'W ✓	2133	not charted
55° 02.06'N ✓ 130° 41.21'W ✓	3916	charted at 55° 02.1'N, 130° 41.3'W

The first buoy does not appear on the latest edition chart. The charted position of the second was obtained from the 1:80,000 scale chart. It is recommended that both mooring buoys be charted at the above locations. concur

The ruins charted at 55° 05.0'N, 130° 43.6'W were not investigated during the course of this survey. However, their existence was visually verified. It is recommended that these ruins be carried over on the next chart edition. concur

M. ADEQUACY OF SURVEY

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

N. AIDS TO NAVIGATION

No aids to navigation, floating or fixed, were located in the survey area.

O. STATISTICS

Survey Launch	NM of Hydro	Sq. NM of Hydro	No. of Positions
2123	32.6	----	~~376~~ 657
2124	100.5	----	~~761~~ 724
2125	10.0	----	86
2126	31.0	----	~~222~~ 218
Total	174.1	6.26	~~1445~~ 1685

Bottom samples: 49

One subordinate tide station was maintained at 55° 07.1'N, 130° 47.9'W near an abandoned cannery north of Kestrel Island.

This survey utilized data from two Nansen casts.

P. MISCELLANEOUS

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

Q. RECOMMENDATIONS

This survey is considered complete and adequate, and there are no recommendations except for the items previously mentioned in sections H,I,K, & L.

R. AUTOMATED DATA PROCESSING

Data acquisition and processing were accomplished per instructions in the Hydrographic Manual (Fourth Edition, 1976), 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 RK112 and range-azimuth program FA181. There are daily master tapes and corresponding corrector tapes which include the TRA for the launches, 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 aquisition or processing:

	PDP 8/e Programs	Version Date
FA181	Range-Azimuth Hydrolog	02/23/78
RK112	Hyperbolic R/R Hydroplot	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
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 calsulators were used to compute geographic positions of elctronic 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,

Joyce L. Judson

Joyce L. Judson
ENS,NOAA

INDEX TO SEPARATES FOLLOWING TEXT

HYDROGRAPHIC SHEET PROJECTION PARAMETERS
FIELD TIDE NOTE
MASTER STATION LIST
~~ASCII SIGNAL TAPE LISTING~~
VELOCITY CORRECTOR TAPE LISTING
~~ABSTRACTS OF TC/TI CORRECTOR COMPUTATION FORMS~~
TC/TI TAPE LISTING
~~SETTLEMENT AND SQUAT TEST~~
ABSTRACT OF POSITIONS
OCEANOGRAPHIC LOG SHEET-M
~~FINAL BASELINE CORRECTORS~~
ELECTRONIC CORRECTOR ABSTRACTS
~~ABTRACTS OF TIMES OF HYDROGRAPHY~~
GEOGRAPHIC NAMES
APPROVAL SHEET

PARAMETER TAPE LISTING
RA-10-8-82(H-10057)

```
RA-10-8E-82
SKEW:90,22,43
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/01/00
PLON=130/40/00
VESNO=2123
YR=82
ANDIST=0.0

RA-10-8W-82(
SHEET WITH OLD ORIGIN
SKEW:90,22,37
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/01/36
PLON=130/45/00
VESNO=2123
YR=82
ANDIST=0.0

RA-10-8W-82
SHEET WITH NEW ORIGIN
SKEW:90,22,37
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=30
PLSCL=10000
PLAT=55/01/36
PLON=130/44/30
VESNO=2123
YR=82
ANDIST=0.0

RA-10-8W-82 (EXPANSION SHEET) PSR ITEM
SKEW:90,8,10
FEST=30000
CLAT=6086000
CMER=130/50/0
GRID=10
PLSCL=2500
PLAT=55/05/02
PLON=130/47/14
VESNO=2123
YR=82
ANDIST=0.0
```

FIELD TIDE NOTE

Field tide reduction of soundings for survey H-10057 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 (945-0460), 55° ~~19.5~~ 20.8'N, 131° 37.5'W, was leveled on October 2 and November 12, 1982. These levels agreed with the historical records.

One subordinate tide station provided data for suvey H-10057. The Kestrel Tide Gage (945-0305), 55° 07.1'N, 130° 47.9'W was installed on September 28 and removed on November 20, 1982. Initial and final levels for this gage were run on September 28 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^{o}(UTC). The gage operated very well the entire period.

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER: H-10057

Name on Survey	A ON CHART NO. 17427 - 17434	B ON PREVIOUS SURVEY NO. 5389	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION KETCHIKAN	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (Title)										1
BOCA DE QUADRA	17427 17434			A-3						2
CYGNET ISLAND				A-3						3
GANNET ISLAND	17427 17434			A-3						4
GOSLING ISLAND	17427 17434			A-3						5
~~GROUSE ROCK~~ HUMPBACK CREEK		X		A-3						6
KESTREL ISLAND	17427 17434			A-3						7
KITE ISLAND	17427 17434			A-3						8
MINK BAY	17427			A-3						9
PORPOISE POINT	17427 17434			A-3						10
RAVEN ISLAND	17427 17434			A-3						11
SOCKEYE CREEK				A-3						12
VIXEN BAY	17427 17434			A-3						13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Charles E. Harrington					21
					Chief Geographer - N/CG2x5					22
					27 Sept. 1983					23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

VELOCITY CORRECTOR TAPE LISTING
OPR-0361-RA-82
BOCA DE QUADRA, ALASKA

ALL SHEETS

TABLE NO. 8
UNIT - FATHOMS

```
000045 0 0000 0008 001 000000 000000
000120 0 0001
000215 0 0002
000290 0 0003
000365 0 0004
000445 0 0005
000525 0 0006
000610 0 0007
000690 0 0008
000785 0 0009
000880 0 0010
000980 0 0011
001070 0 0012
001350 0 0014
001540 0 0016
001720 0 0018
001910 0 0020
002095 0 0022
002270 0 0024
999999 0 0026
```

TC/TI TAPE LISTING
RA-10-8-82 (H-10057)

VESSEL: 2123 (RA-3)
FATHØMETER: 1071

221200	0	0003	0008	297	212300	000000
214238	0	0000	0000	299	000000	000000
215053	0	0003	0008	299	000000	000000
225655	0	0000	0000	300	000000	000000
231208	0	0003	0008	300	000000	000000
200934	0	0000	0000	306	000000	000000
201534	0	0003	0008	306	000000	000000
182031	0	0000	0000	307	000000	000000
182542	0	0003	0008	307	000000	000000
180636	0	0000	0000	308	000000	000000
182835	0	0003	0008	308	000000	000000
192918	0	0003	0008	309	000000	000000

VESSEL: 2124 (RA-4)
FATHØMETER: 1042

232920	0	0003	0008	295	212400	000000
194022	0	0003	0008	308	000000	000000

VESSEL: 2125 (RA-5)
FATHØMETER: 1070

173129	0	0000	0000	298	212500	000000
185920	0	0003	0008	309	000000	000000
224424	0	0000	0000	309	000000	000000
173100	0	0003	0008	310	000000	000000
174246	0	0000	0000	310	000000	000000
232137	0	0000	0000	310	000000	000000

VESSEL: 2126 (RA-6)
FATHOMETER: 1046

184840	0	0003	0008	299	212600	000000
225059	0	0000	0000	299	000000	000000
225548	0	0003	0008	299	000000	000000
180349	0	0000	0000	300	000000	000000
182856	0	0003	0008	300	000000	000000
235800	0	0003	0008	305	000000	000000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2123 (RA-3) SHEET : RA-10-8-82

TIME	DAY	PATTERN 1	PATTERN 2
221200	297	-00002	+00000
000001	298	-00002	+00000
175319	298	+00000	-00002
000854	299	+00000	-00000
175628	299	+00000	+86278
223000		+00000	+00000
173938	300	+00000	+92339
220002		+00000	-37159
235900		+00000	+00000
173309	301	+00000	-17409
193900		+00000	+00000
230235	305	+00000	+85429
000229	306	+00000	-31287
010000		+00000	+00000
171125	306	+00000	+98090
235900		+00000	+00000
170628	307	+00000	-39593
205400		+00000	+00000
180636	308	+00000	-57199
215232		+00000	+00000
172343	309	+00000	-24000
191532		+00000	+95309
193000		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2124 (RA-4) SHEET : RA-10-8-82

TIME	DAY	PATTERN 1	PATTERN 2
232920	295	+00002	+00002
000049	296	+00002	+00002
173058	296	+00002	+00002
000004	297	+00002	+00002
172041	297	+00002	+00002
000451	298	+00002	+00002
183149	298	+00001	+00002
173130	299	+00001	+00002
180955		+00002	+00002
180708	300	+00002	+00002
181817		+00001	+00002
193033		+00002	+00002
200604		+00001	+00002
210316		+00002	+00001
223753	300	+00001	+00002
170750	301	+00001	+00002
182245		+00002	+00001
221855	305	+00002	-16537
000010	306	+00002	-67266
000050		+00000	+00000
171013	306	+00002	-57260
202600		+00000	+00000
174900	307	+00002	-83138
200052		+00000	+00000
180439	308	+00002	-10152
185619		+00002	-82054
194200		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT ✓

VESSEL : 2125 (RA-5) SHEET : RA-10-8-82

TIME	DAY	PATTERN 1	PATTERN 2
173129	298	+00000	+00000
221016		+00000	+00001
230549		+00001	+00001
165820	308	+00000	-64020
185525		+00000	-74548
202500		+00000	+00000
185920	309	+00004	-67046
214400		+00004	-77557
222400		+00000	+00000
224424	309	+00004	-74511
233400		+00000	+00000
173100	310	+00004	-20320
173800		+00000	+00000
174246	310	+00004	-28241
221055		+00004	-20257
232300		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT ✓

VESSEL : 2126 (RA-6) SHEET : RA-10-8-82

TIME	DAY	PATTERN 1	PATTERN 2
184840	299	+00001	-50188
235100		+00000	+00000
172000	300	+00001	-62303
222336		+00001	-75557
231000		+00000	+00000
214446	305	+00001	-66330
235800		+00000	+00000

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 49348 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 38163 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 07330 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

142 4 55 08 16985 130 48 48486 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 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
/CAL 1933 NGS COMPUTER LISTING

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

161 0 55 05 56467 130 44 50985 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 34486 130 42 01622 250 0000 000000
/EGG 1933 NGS COMPUTER LISTING

170 4 55 03 05483 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 56668 139 0000 000000
/BREAK 1933 NGS COMPUTER LISTING

173 5 55 02 52042 130 42 15852 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 38141 139 0000 00000
/BIG 1933 NGS COMPUTER LISTING

173 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 43465 250 0000 000000
/MINK 1933 NGS COMPUTER LISTING

~~181 7 55 05 18571 130 44 27023 139 0000 000000~~
/BRICK 1933 NGS COMPUTER LISTING

~~182 7 55 05 05736 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 55558 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 13494 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 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 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 41237 131 10 47875 139 0000 000000~~
/ROSEN 1932 HGS COMPUTER LISTING

196 3 55 09 42399 130 49 12231 250 0000 000300
/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 000300
/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 03001 250 0000 000300
/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 13498 250 0000 000300
/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

ABSTRACT OF POSITIONS

RA-10-8-82 (H-10057)

Vessel: 2123 Andist: 0

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
297/298	3616-3665	04	158-156	mainscheme hydro
298	3666-3673	04	156-158	mainscheme hydro
298	3674-3675	04	156-158	mainscheme hydro inside expan. #1
298	3676-3681	04	156-158	mainscheme hydro
298	3682-3684	04	156-158	mainscheme hydro inside expan. #1
298	3685-3706	04	156-158	mainscheme hydro
298	3707-3717	04	156-158	crossline inside expan. #1
298	3718-3723	04	156-158	crossline
299	3724-3736	04	183-194	mainscheme hydro
299	3737-3763	11	167 R/AZ	crossline
299	3764-3804	11	167 R/AZ	mainscheme hydro
299	3805-3807	11	167 R/AZ	detached positions
299	3808-3822	11	167 R/AZ	mainscheme hydro
300	3823-3891	11	167 R/AZ	mainscheme hydro
300	3892-3915	11	173 R/AZ	mainscheme hydro
300	3916	11	173 R/AZ	detached position
300	3917-3918	11	173 R/AZ	mainscheme hydro
300	3919-3932	11	173 R/AZ	crossline
301	3933-3991	11	179 R/AZ	mainscheme hydro
305	3992-3998	11	179 R/AZ	crossline
305/306	2000-2011	11	179 R/AZ	mainscheme hydro
306	2012-2015	11	179 R/AZ	crossline
306	2016-2029	11	179 R/AZ	mainscheme hydro
306	2030-2041	11	179 R/AZ	crossline
306	2042-2047	11	167 R/AZ	mainscheme hydro
306	2048	11	167 R/AZ	detached position

Vessel: RA-3 (cont.)

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
306	2049-2053	11	167 R/AZ	mainscheme hydro
306	2056-2065	11	167 R/AZ	crossline
306	2066-2076	11	169 R/AZ	crossline
306	2077-2095	11	169 R/AZ	shoreline
306	2096-2101	11	169 R/AZ	crossline
307	2102-2132	11	178 R/AZ	mainscheme hydro
307	2133	11	178 R/AZ	detached position
307	2134-2146	11	178 R/AZ	mainscheme hydro
307	2147-2148	11	178 R/AZ	crossline
307	2149-2174	11	173 R/AZ	shoreline
308	2175	11	173 R/AZ	detached position
308	2176-2248	11	173 R/AZ	mainscheme hydro
308	2249-2259	11	173 R/AZ	crossline
309	2260-2271	11	173 R/AZ	crossline
309	2272-2282	11	173 R/AZ	shoreline
309	2283-2288	11	167 R/AZ	mainscheme hydro

REJECTED POSITIONS: 3630,3631,3642,3726,3733,3788,3829,2051,2054, 2055,2117,2180,2181,2199

Vessel: RA-4 Andist: 0

295/296	4000-4024	04	194-154	mainscheme hydro
296	4025-4057	04	194-154	mainscheme hydro
296	4058-4060	04	194-154	mainscheme hydro inside expan. #1
296	4061-4065	04	194-154	mainscheme hydro
296	4066-4068	04	194-154	mainscheme hydro inside expan. #1
296	4069-4102	04	194-154	mainscheme hydro
296	4103-4105	04	194-154	mainscheme hydro inside expan. #1
296	4106-4132	04	194-154	mainscheme hydro

Vessel: RA-4 (cont.)

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
296	4133-4135	04	194-154	mainscheme hydro inside expan. #1
297	4136-4140	04	194-154	mainscheme hydro
297	4141-4143	04	194-154	mainscheme hydro inside expan. #1
297	4144-4196	04	194-154	mainscheme hydro
297	4197-4199	04	194-154	mainscheme hydro inside expan. #1
297	4200-4205	04	194-154	mainscheme hydro
297	4206-4278	04	194-154	development on expan. #1
297	4281-4282	04	194-154	mainscheme hydro
297	4283-4285	04	194-154	mainscheme hydro inside expan. #1
297	4286-4292	04	194-154	mainscheme hydro
297	4293-4295	04	195-154	mainscheme hydro inside expan. #1
297	4296-4298	04	194-154	mainscheme hydro
298	4301-4304	04	194-154	crossline
298	4305-4307	04	194-154	crossline inside expan. #1
298	4308-4368	04	161-158	mainscheme hydro
299	4369-4381	04	158-183	mainscheme hydro
299	4382-4387	04	194-154	mainscheme hydro
299	4388-4389	04	194-154	mainscheme hydro inside expan. #1
299	4390-4395	04	194-154	mainscheme hydro
299	4396-4397	04	194-154	mainscheme hydro inside expan. #1
299	4398-4399	04	194-154	mainscheme hydro
299	4400-4401	04	194-154	mainscheme hydro inside expan. #1
299	4402-4431	04	194-154	mainscheme hydro
299	4432-4488	04	157-183	mainscheme hydro
299	4489-4498	04	157-183	crossline
300	4499-4502	04	183-194	mainscheme hydro
300	4503-4529	04	159-183	mainscheme hydro

Vessel: RA-4 (cont.)

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
300	4530-4536	04	183-194	mainscheme hydro
300	4537-4538	04	159-183	mainscheme hydro
300	4539-4555	04	183-159	mainscheme hydro
300	4556-4575	04	180-183	mainscheme hydro
301	4576-4585	04	180-183	mainscheme hydro
301	4586-4615	04	159-161	mainscheme hydro
301	4616-4619	04	159-161	crossline
305/306	4620-4660	11	180 R/AZ	mainscheme hydro
306	4661-4705	11	180 R/AZ	mainscheme hydro
307	4707-4724	11	180 R/AZ	mainscheme hydro
307	4726-4740	11	180 R/AZ	crossline
308	4741	11	161 R/AZ	detached position
308	4742-4747	11	161 R/AZ	crossline
308	4748-4754	11	180 R/AZ	crossline
308	4755-4756	11	180 R/AZ	mainscheme hydro
308	4757-4760	11	180 R/AZ	crossline

REJECTED POSITIONS: 4017,4018,4019,4071,4072-4074,4081,4082,4093, 4094,4100,4128,4158,4159,4169,4170,4180,4245, 4246,4279,4280,4287,4288,4299,4300,4327,4342, 4359,4360,4435,4438,4514,4515,4541,4706,4725

DUPLICATE POSITION: 4624

Vessel: RA-5 Andist: 0

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
298	5000-5014	04	194-154	bottom samples
298	5015-5017	04	194-154	bottom samples
298	5018	04	156-158	bottom sample
308	5000-5004	11	161 R/AZ	bottom samples
308	5005-5010	11	180 R/AZ	bottom samples
309	5030-5037	11	192 R/AZ	mainscheme hydro
309	5038-5051	11	192 R/AZ	crossline
309	5052-5060	11	189 R/AZ	mainscheme hydro
309	5061-5062	11	189 R/AZ	crossline
309	5063-5068	11	189 R/AZ	bottom samples
310	5069-5072	11	157 R/AZ	crossline
310	5073-5077	11	157 R/AZ	bottom samples
310	5078-5079	11	167 R/AZ	bottom samples
310	5080-5085	11	173 R/AZ	bottom samples

DUPLICATE POSITIONS: 5000-5010 (inc.)

Vessel: RA-6 Andist: 0

299	6304-6344	11	189 R/AZ	mainscheme hydro
299	6345	11	189 R/AZ	detached position
299	6347-6372	11	189 R/AZ	mainscheme hydro
299	6373-6374	11	189 R/AZ	detached positions
299	6375-6395	11	189 R/AZ	mainscheme hydro
300	6396-6405	11	189 R/AZ	mainscheme hydro
300	6406	11	189 R/AZ	detached position
300	6407-6408	11	189 R/AZ	crossline
300	6409	11	189 R/AZ	detached position
300	6410-6412	11	189 R/AZ	crossline
300	6413-6414	11	189 R/AZ	mainscheme hydro
300	6415-6416	11	189 R/AZ	detached positions
300	6417-6467	11	189 R/AZ	mainscheme hydro

RA-6 (cont.)

DAY	POSITIONS	CNTRL	S_1MS_2	REMARKS
300	6468-6474	11	189 R/AZ	crossline
300	6475-6491	11	188 R/AZ	crossline
305	6500-6516	11	157 R/AZ	mainscheme hydro
305	6517-6522	11	194 R/AZ	mainscheme hydro
305	6523-6533	11	194 R/AZ	crossline

REJECTED POSITIONS: 6000-6303 (not used),6341,6346,6368,6492-6499

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-10-8-82 H-10057		

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.
5000	JD 298 10/25/82	06/19.16	48/04.31	78.8	45#			br	M		SJL
5001	"	05/58.88	48/06.92	100.9	"			br	M		
5002	"	06/04.28	47/33.93	25.4	"			br	f med S		
5003	"	05/44.12	47/38.60	75.4	"			br	M, Sf		
5004	"	05/47.26	47/01.89	34.9	"				Sf		
5005	"	05/23.46	47/27.36	54.2	"			br	crs S, M		
5006	"	05/30.09	46/47.03	72.1	"			br	M, Sf		
5007	"	05/07.54	47/01.31	15.4	"			br	crs S, brk Sh		
5008	"	04/53.27	47/34.52	48.5	"			br	crs S, Sf, M		
5009	"	04/49.90	46/54.06	56.6	"			br	med S		
5010	"	05/12.51	46/26.05	60.3	"			br	M, brk Sh		
5011	"	05/26.57	45/59.32	55.6	"			br	M, Co		
5012	"	05/09.49	45/12.95	87.0	"			br	M		
5013	"	04/58.12	45/45.54	76.4	"				crs br S, wh Co		
5014	"	04/46.90	46/05.47	64.6	"			br	fne S, Sf		
5015	"	04/35.11	46/28.62	47.5	"			br	fne S, Co		
5016	"	04/33.10	47/15.69	31.1	"			br	M		

Use more than one line per sample if necessary.

☆ U.S.GPO:1978-765-092/1190 Region No. 6

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-10-8-82 H-10057		

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 298 10/25/82	04/31.76	48/05.02	33.3	45#			br	crs S, St		SJL
5018	"	05/11.59	48/04.15	100.1	"			br	M, St		BJL
5000	JD 308 11/4/82	05/46.95	44/54.12	67.0	"	2"		gn	~~St~~ Silt RLH 12/24/82	possible small sample, rocky bottom	WL
5001	"	05/13.61	44/55.80	86.0	"	"		gn	M		
5002	"	05/21.95	44/26.17	38.8	"	"		gn	Silt RLH 12/30/82 ~~St~~, crs S, brk Sh	small sample	
5003	"	05/29.05	43/45.87	75.7	"	"		gn	M, ~~St~~ Silt RLH 12/30/82		
5004	"	05/27.02	43/14.92	60.2	"	"		gn	M, crs P, brk Sh		
5005	"	05/44.45	43/09.15	65.0	"	"		gn	fne S, medG, brk Sh		
5006	"	06/23.92	42/54.47	60.8	"	"		br	crs P	unknown crystal or fiber, mineral fiber	
5007	"	06/28.30	44/08.51	48.2	"	"			NO SAMPLE		
5008	"	06/02.59	44/22.25	61.3	"	"		gn	M, Sh		
5009	"	05/05.54	43/18.28	60.2	"	"		gn	crs S, crs P		
5010	"	04/43.56	43/02.92	61.0	"	"		gn	M, crs P, brk Sh		
5063	JD 309 11/5/82	04/12.58	48/01.39	40.2	"	"		gn	M, St		
5064	"	03/50.63	47/48.01	40.8	"	"		gn	M		
5065	"	03/32.96	47/37.95	39.5	"	"		gn	M		
5066	"	03/12.20	47/25.62	30.5	"	"		gn	M, brk Sh		WL

Use more than one line per sample if necessary.

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

NOAA FORM 75-44

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-10-8-82 H-10057		

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.
5067	JD 309 11/5/82	02/54.43	47/15.53	21.3	45#	2"		gn	crs G, St, P		WL
5068	"	02/34.81	47/05.50	14.4	"	"		gn	M		
5073	JD 310 11/6/82	04/24.51	47/41.57	8.8	"	"		gn	M, crs S, P, Sh, G		
5074	"	04/50.10	48/07.79	62.5	"	"		gn	M, crs P, St		
5075	"	05/24.77	48/38.22	40.0	"	"		gn	M, crs S, St		
5076	"	05/42.88	48/53.26	89.8	"	"		gn	M, Cl		
5077	"	05/31.26	48/07.29	93.3	"	"		gn	M, Cl		
5078	"	04/21.91	42/44.84	58.1	"	"		gn	M		
5079	"	03/58.71	42/37.91	58.5	"	"		gn	M		
5080	"	03/38.35	42/22.91	61.1	"	"		gn	M, brk Sh		
5081	"	03/16.38	42/13.69	56.2	"	"		gn	M		
5082	"	02/54.53	42/00.98	52.3	"	"		gn	M		
5083	"	02/28.08	41/48.02	42.2	"	"		gn	M		
5084	"	02/04.61	41/37.99	28.9	"	"		gn	M, fne S		
5085	"	01/36.55	41/24.01	16.7	"	"		gn	M, S, P		WL

More than one line per sample if necessary.

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

APPROVAL SHEET

DESCRIPTIVE REPORT TO ACCOMPANY

HYDROGRAPHIC SURVEY

RA-10-8-82 (H-10057)

In producing this sheet, standard procedures were observed in accordnace 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 | U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

H-10057

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	8
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	14

DESCRIPTION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR-GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS	
ACCORDIAN FILES				2		
ENVELOPES						
VOLUMES						
CAHIERS						
BOXES				1		

SHORELINE DATA

SHORELINE MAPS(List):

PHOTOBATHYMETRIC MAPS(List):

NOTES TO THE HYDROGRAPHER(List):

SPECIAL REPORTS(List):

NAUTICAL CHARTS(List):

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS VERIFICATION	AMOUNTS EVALUATION	AMOUNTS TOTALS
POSITIONS ON SHEET			1685
POSITIONS REVISED	277		277
SOUNDINGS REVISED	160		160
CONTROL STATIONS REVISED			

PROCESSING ACTIVITY	TIME-HOURS VERIFICATION	TIME-HOURS EVALUATION	TIME-HOURS TOTALS
PRE-PROCESSING EXAMINATION	1		1
VERIFICATION OF CONTROL	2	1	3
VERIFICATION OF POSITIONS	21	9	30
VERIFICATION OF SOUNDINGS	100	14	114
VERIFICATION OF JUNCTIONS	2	1	3
APPLICATION OF PHOTOBATHYMETRY	NA	NA	NA
SHORELINE APPLICATION/VERIFICATION	NA	NA	NA
COMPILATION OF SMOOTH SHEET	79	8	87
COMPARISON WITH PRIOR SURVEYS AND CHARTS		17	17
EVALUATION OF SIDESCAN SONAR RECORDS	NA	NA	NA
EVALUATION OF WIRE DRAGS AND SWEEPS	NA	NA	NA
EVALUATION REPORT	7	12	19
OTHER Familiarization			
Digitization			12
TOTALS	212	62	286

Pre-processing Examination by	Beginning Date	Ending Date
Verification of Field Data by R. A. Shipley, C. R. Davies	~~Time(Hours)~~ Beginning 4/4/83	Ending Date 11/15/83
Verification Check by J. L. Stringham Quality Control by B. A. Olmstead	Time(Hours) 44	Ending Date 5/2/84
Evaluation and Analysis by C. R. Davies	Time(Hours) 4/13/83	Ending Date 4/27/83
Inspection by	Time(Hours)	Ending Date

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10057 FIELD NO: RA-10-8-82

Alaska, Boca de Quadra, Vixen Bay to Mink Bay

SURVEYED: October 22 - November 6, 1982

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

SOUNDINGS: Ross Fineline Fathometer CONTROL: Range/Azimuth
Range/Range
Motorola Mini-
Ranger III/Wild T-2

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

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

Automated Plot by.....PMC Xynetics Plotter

Verified by.....R. A. Shipley
C. R. Davies

Evaluated by.....C. R. Davies

1. INTRODUCTION

H-10057 is a navigable area survey conducted in accordance with the following:

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

H-10057, a navigable area survey, is centered in the middle of six surveys in Boca de Quadra. Hydrography operations encompassed the main channel of Boca de Quadra and two bays, Vixen and Mink. Bottom characteristics are primarily brown and green mud.

One temporary bubbler tide gage, Kestrel Island, (945-0305) was installed and operated concurrently 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 on the basis of predicted tides from Ketchikan (945-0460). Further information is available in the Field Tide Note.

The electronic correctors were revised during verification to reflect the mean of baseline correctors. TC/TI correctors for vessel 2123 were changed to include a TRA of 0.4 fathoms. Also projection parameters were changed to

center the hydrography on the smooth sheet and to change the projection to polyconic. Numerous abstracts and supplements not relevant to the user of the processed data have been removed from the Descriptive Report and filed with the field records.

2 CONTROL AND SHORELINE

Position of the horizontal control stations used during survey operations are published geodetic positions based on the North American Datum of 1927. The smooth sheet was plotted using published NGS coordinates. Hydrographic positioning was conducted primarily using a Motorola Mini-Ranger III (range/range, range/azimuth) system.

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.

Shoreline in brown for orientation purposes was not shown on H-10057 because of a conflict between the USGS quadrangles and present survey information (in accordance with Hydrographic Survey Guideline Number 17, section 6). However, four rocks awash from the USGS quadrangles, plot within the survey limits. The evaluator recommends not considering these rocks for charting unless additional information is available to support their existence. The positions of these features are as follows:

Latitude	Longitude	Present Survey Depth
55°04'43"N ✓	130°47'47"W ✓	20 fathoms
55°04'55"N ✓	130°46'55"W ✓	30 fathoms
55°06'03"N ✓	130°44'21"W ✓	90 fathoms
55°03'03"N ✓	130°41'23"W ✓	47 fathoms

3. HYDROGRAPHY

Crossline soundings are in good agreement. Small discrepancies can be attributed to the irregular nature of the bottom. Hydrography within the limits of H-10057 was adequate to determine the bottom configuration and least depths with the following exceptions:

Sounding (fms)	Latitude	Longitude
0.7 Rk	55°03'04"N ✓	130°47'17"W ✓
2.2 Rk	55°03'01"N ✓	130°47'15"W ✓
2.8	55°02'45"N ✓	130°47'15"W ✓
1.0 Rk	55°02'41"N ✓	130°47'12"W ✓
2.3	55°04'23"N ✓	130°43'04"W ✓
4.4	55°05'15"N ✓	130°47'05"W ✓
5.8 (excessed for prior 4.3)	55°05'10"N ✓	130°47'00"W ✓
5.0	55°05'12"N ✓	130°46'55"W ✓
9.5	55°04'31"N ✓	130°47'39"W ✓
9.3	55°04'41.5"N ✓	130°47'51"W ✓

4. CONDITION OF SURVEY

The hydrographic records and report are adequate and conform to the requirements of the Hydrographic Manual with the exception of:

a. A significant discontinuity in soundings and depth curves, latitude 55°06'25"N and longitude 130°47'55"W at the west side of the junction with H-10055, revealed a 50 to 75 meter offset of H-10055 soundings relative to H-10057 soundings. Resolution of junction discrepancies by running additional sounding lines is required by section 4.3.2 of the Hydrographic Manual.

b. A significant number of rocks transferred from the USGS Quad maps, and also appearing on chart 17427, appeared to fall seaward of the inshore limits of hydrography. The hydrographer should have noted that these rocks originated from prior surveys H-5384 and H-5389, and were displaced for charting purposes. As these rocks fall outside the navigable area survey limits, there is no need for further investigation. The field should have recommended that these features be retained as charted.

c. Several soundings warranted further development to locate the least depths (See section 3, Hydrography). The investigation of these features was incomplete (Hydrographic Manual, 4.3.4).

d. The one presurvey review item (PSR #1) on the survey, a 14 fathom sounding at latitude 55°05'14"N, longitude 130°47'28"W was investigated and a depth of 16.1 fathoms was found. The ship's Descriptive Report did not state positively whether or not the feature developed should be charted from the present survey or retained as presently charted. The hydrographer shall make a definite recommendation as to the disposition or existence of each item for charting (Hydrographic Manual, sections 2.3.3 and 5.3.4).

5. JUNCTIONS

H-10057 is bordered by two contemporary surveys.

H-10055 (1892) - Joins
H-10063 (1982) - Joins

Adequate agreement was made with all standard depth curves and the junctional notes are inked accordingly. However, a lack of hydrographic data on H-10057 at latitude 55°06'25"N and longitude 130°47'48"W necessitated the transfer of numerous soundings from H-10055 to better delineate the 1-fathom, 5-fathom and 10-fathom depth curves

6. COMPARISON WITH PRIOR SURVEY

a. 2149 (1892) 1:20,000

This prior survey is superseded by H-5389 (1933) and H-5384 (1933). Further discussion is not merited.

b. H-5389 (1933) 1:20,000
H-5384 (1933) 1:10,000

Generally, differences in depths are small (±1 fathom). Generally, the standard depth curves compare very well. Any differences are attributed to data acquisition techniques. The following features were brought forward from H-5389 (1933).

Feature	Latitude	Longitude
14 fathom sdg.	55°05'14"N	130°47'28"W
4.3 fathom sdg.	55°05'10"N	130°47'00"W
Rock awash (2)	55°05'10"N	130°48'42"W

The present survey supersedes the prior survey information within the common area.

One presurvey review item (noted above and in sectin 4.d. of this report) is located within the survey limits. A 14 fathom sounding at latitude 55°05'14"N and longitude 130°47'28"W originated from H-2149 (1892) and was carried forward to H-5389 (1933). The present survey developed this area with 10 meter spacing and acquired a depth of 16.1 fathoms. This agrees with a depth of 16 fathoms, on H-5389 (1933). However, as the 14 fathom sounding is a leadline depth and the hydrographer does not discuss the adequacy of present development or make a recommendation, the 16.1 fathom depth is not considered sufficient to supersede this prior sounding. The 14 fathom sounding has been brought forward to the present survey as noted in the discussion with H-5389 (1933).

7. COMPARISON WITH CHART

17427, 4th Edition, July 7, 1979

a. Hydrography - Charted information originates with the prior surveys previously discussed in section 6. All charted features have been satisfactorily investigated and discussed except as noted in sections 2 and 4b.

The area covered by H-10057 was examined for unreported dangers to navigation. None were determined to exist.

H-10057 is adequate to supersede charted hydrography within the common area.

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

c. Aids to Navigation - There are no aids to navigation within the limits of the present survey.

8. COMPLIANCE WITH INSTRUCTIONS

H-10057 adequately complies with the project instructions and changes listed in section 1 of this report except as noted in section 4, Condition of Survey.

9. ADDITIONAL FIELD WORK

H-10057 is a good navigable area survey. Additional field work concerning the development of least depths (section 3, Hydrography) should be addressed in future project planning for Boca de Quadra.

Respectfully,

Charles R. Davies

Charles R. Davies
Cartographic Technician
April 27, 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 except as noted in the Evaluation Report. This survey is recommended for approval.

Bruce A. Olmstead

Bruce A. Olmstead
Senior 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 22 - Novmeber 6, 1982

HYDROGRAPHIC SHEET: H-10057

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

Chief, Tidal Datums Section, Tides & Water Levels Branch

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10057

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. Kroger 5/25/84
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 5/25/84

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.

Allen K. Thurgood 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

FORM C&GS-8352
(3-25-68)

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10057

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
17420	12/4/84	J. Baily	~~Full~~ Part ~~Before~~ After ~~Verification~~ EVALUATION Review Inspection Signed Via
			Drawing No. 32 Exam. for critical corrs. Revised 10 fm curve; deleted sndgs.(2); added LW area.
17434	3-6-89	B. Adams	(Full) Part Before After Verification Review Inspection Signed Via
			Drawing No. 18 & 18m
17427	10/24/89	ACMSCEN	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.

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