F0425

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. RA-5-1-96

Registry No. FE-425

LOCALITY

State Alaska

General Locality Northern Stephens Passage

Sublocality Poundstone Rock and Vicinity

1996

CHIEF OF PARTY
CAPT Dean R. Seidel, NOAA

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-425

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-5-1-96*

State: Alaska

General locality: Northern Stephens Passage

Locality: Poundstone Rock and Vicinity

Scale: 1:10,000 Date of survey: May 7, to May 22, 1996

Instructions dated: March 23, 1996 Project No.: OPR-0328-RA

Vessel: NOAA Ship RAINIER, Launches (2123), (2126)

Chief of party: CAPT Dean R. Seidel, NOAA

Surveyed by: CAPT D. Seidel, LT M. Larsen, LT S. Lemke

Soundings taken by echo sounder, ~~hand lead, pole~~ Dives: DSF-6000N, MOD III Diver Least Depth Gauge

Graphic record scaled by: RAINIER Personnel

Graphic record checked by: RAINIER Personnel

Evaluation by: R. Davies ~~Protracted by~~ Automated plot by: H.P. 650C Design Jet

Verification by: R. Davies

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

REMARKS: Time in UTC, revisions and marginal notes in black were generated during office processing. All separates are filed with the hydrographic data, as a result page numbering may be interrupted or non-sequential.

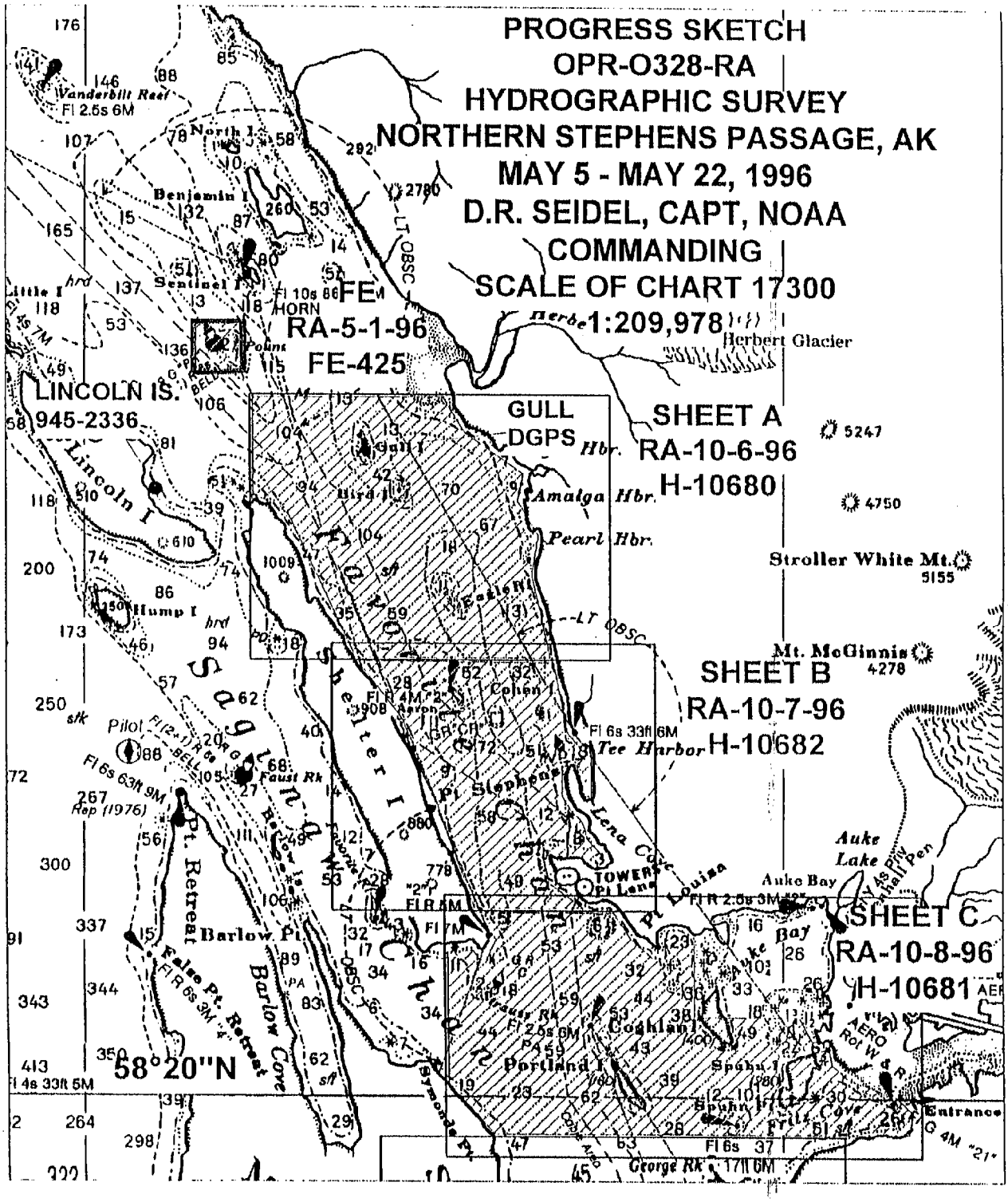
All depths listed in this report are referenced to mean lower low water unless otherwise noted.

* See Hydrographer's Report, page 4.

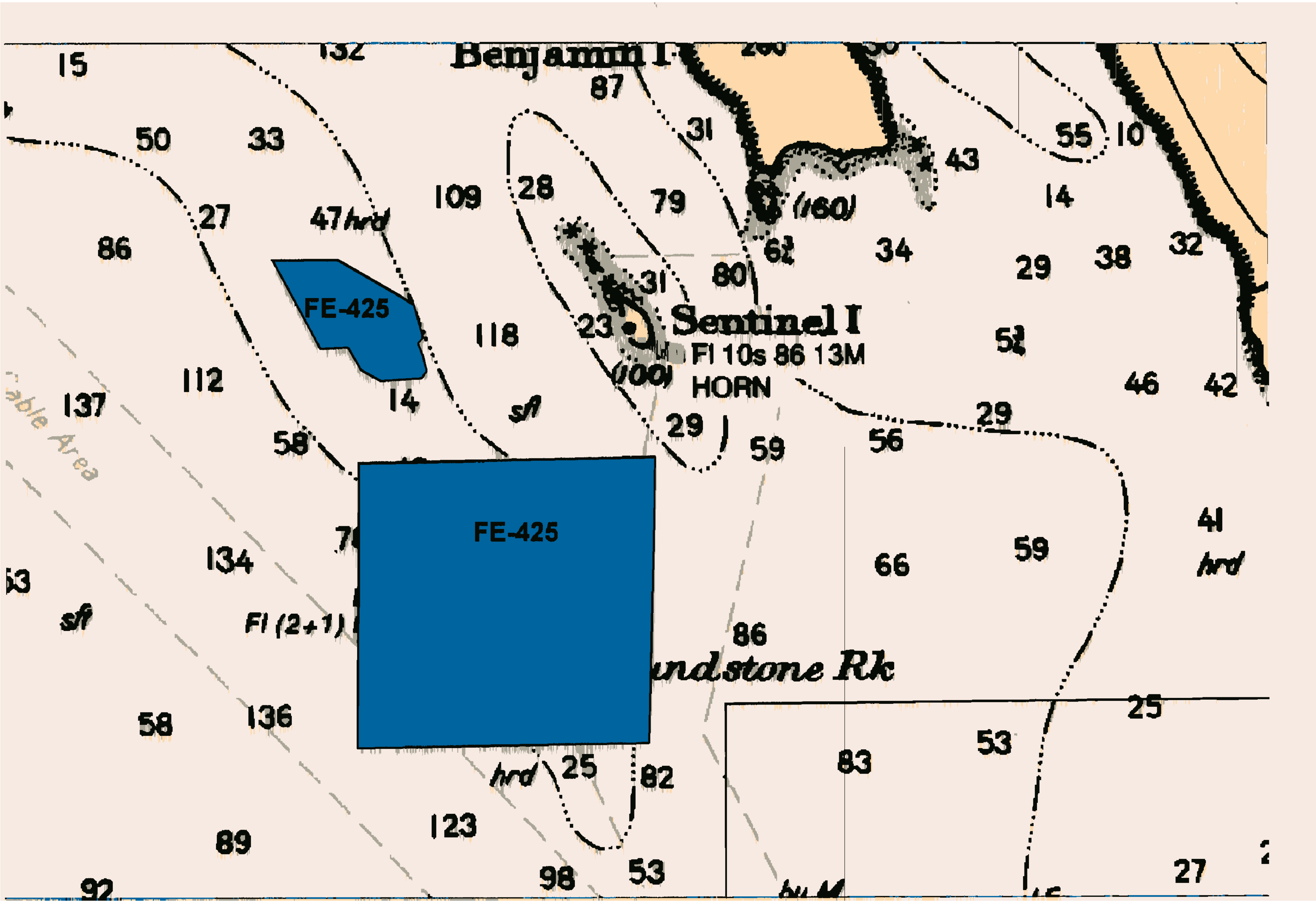
SC 1-14-97 AWOIS and SURF ✓ 1/13/97 RWD

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

U.S. GOVERNMENT PRINTING OFFICE: 1986 - 652-007/41215



	MAY		MAY
SQ. NM SOUNDINGS	39.6	C.T.D. CASTS	6
L.N.M. SOUNDINGS	1080	GEODETIC CONTROL STATIONS	2
L.N.M. SIDE SCAN SONAR	0	TIDE GAGES	1
BOTTOM SAMPLES (GRAB)	111	AWOIS ITEMS INVESTIGATED	12
ELECT. CONTROL STATIONS	1		


Benjamin I
Sentinel I
Fl 10s 86 13M
HORN
FE-425
FE-425
Fl (2+1)
ndstone Rk
Cable Area
47 hrd
hrd
hrd
sft
sft

Descriptive Report to Accompany Hydrographic Field Examination FE-425

Field Number RA-5-1-96
Scale 1:10,000
May 1996
NOAA Ship RAINIER
Chief of Party: Captain Dean R. Seidel, NOAA

A. PROJECT ✓

This basic hydrographic field examination was completed in Northern Stephens Passage, Alaska, as specified by Project Instructions OPR-O328-RA dated March 22, 1996. Examination FE-425 corresponds to sheet FE as defined in the sheet layout included in the Project Instructions.

This examination will provide contemporary hydrographic survey data for updating existing nautical charts in Southeast Alaska.

B. AREA SURVEYED ✓ See Eval Rpt, Section B

The examination area is in North Stephens Passage, in the vicinity of Poundstone Rock, Alaska. The examination's eastern limit is 134° 55' 15" W and its western limit is 134° 57' 00" W. Its southern limit is 58° 31' 20" N and the northern limit is 58° 32' 15" N. Additionally, data were collected outside of the area defined by the project to develop the rock ridge extending northwest of Poundstone Rock and is included in this examination. The additional examination area limits are 134° 56' 40" W to the east, 134° 57' 30" W to the west, 58° 32' 30" N to the south, and 58° 32' 55" N to the north. Data acquisition was conducted from May 7, 1996 (DN 128) to May 22, 1996 (DN 143).

C. SURVEY VESSELS ✓

Data were acquired by RAINIER survey launches as noted below:

Vessel	EDP #	Operation
RA-3	2123	Hydrography
RA-5	2125	Sound Velocity Cast
RA-6	2126	Hydrography

D. AUTOMATED DATA ACQUISITION AND PROCESSING

All data were acquired and processed with HDAPS. A complete listing of software for HDAPS is included in Appendix VI. ✳

Filed with the hydrographic data

E. SONAR EQUIPMENT ✓

Sonar equipment was not used on FE-425. Concur

F. SOUNDING EQUIPMENT ✓

The Raytheon DSF-6000N is a dual frequency (100 kHz, 24 kHz), paper trace echo sounder. Serial numbers are included on the headers of the daily Raw Master Printouts.* No problems which affect survey data were encountered. All DSF-6000N soundings were acquired using the High + Low, high frequency digitized setting.

G. CORRECTIONS TO ECHO SOUNDINGS ✓

Correctors for the velocity of sound through water were determined from the cast listed below:

Velocity Table #	Cast #	DN	Cast Position	Deepest Depth (m)	Applicable DN
1	1	128	58° 29' 08" N, 134° 52' 08" W**	251	128-132

** outside survey area.

The sound velocity cast was acquired with SBE SEACAT Profiler (S/N 219), calibrated January 16, 1996. Velocity correctors were computed using the PC programs SEACAT and VELOCITY, version 2.11 (1995), in accordance with Hydrographic Survey Guideline (HSG) No. 69.

A printout of the Sound Velocity Corrector Table used in the HDAPS Post Survey program is included in the "Separates to be Included with Survey Data, IV. Sounding Equipment Calibrations and Corrections".*

Static Draft ✓

A transducer depth was determined using FPM Fig 2.2 for vessels 2123-2126 in the spring of 1996.* These values were entered into the offset tables for each survey platform.

Settlement and Squat ✓

Correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.3, and are included with project data for OPR-O328-RA. The data for vessels 2123 and 2126 were collected in Shilshole Bay, Washington in the Spring of 1996.

* Filed with the hydrographic data.

Offset Tables ✓

Offset tables contain offsets for the GPS antenna, as well as static draft measurements, and settlement and squat data. Offset tables 3-6 correspond to the last digit of the vessel number. The offset tables are contained in the "Separates to be Included with Survey Data". *

Heave ✓

The launches are not equipped with heave, roll and pitch sensors.

Bar Check and Lead Lines ✓

Bar check lines were calibrated by RAINIER personnel during Spring 1996. Calibration forms are included with project data for OPR-O328-RA. Bar checks were performed weekly and served as a functional check of the DSF-6000N.

Tide Correctors ✓

Predicted tides for the project were provided on diskette by N/OES334 through N/CG241 for the Juneau, Alaska reference station (945-2210). As per the Project Instructions provided by N/OES231 for FE-425 dated March 26, 1996, the tidal time and heights for this project were as observed by the Juneau, Alaska reference station (945-2210).

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V* of this report.

Juneau, Alaska (945-2210) was used as the primary control station for datum determination at all subordinate stations.

RAINIER personnel installed an 8200 digital gage for this examination at Lincoln Island (945-2336) on May 6, 1996. The gage was removed on May 22, 1996. The tide staff was connected to five bench marks during opening and closing level runs. The tide gage functioned without problems during data acquisition.

The station descriptions, field tide records, preliminary field tide notes, and data (Appendix V)* have been forwarded to N/OES212 in accordance with HSG 50 and FPM 4.3. A request for approved tides was forwarded to N/OES23 in accordance with FPM 4.2.3. See Approved Tide Note dated September 12, 1996 (attached)

H. CONTROL STATIONS See Eval Rpt, section H.

The horizontal datum for this project is NAD 83. First Order station GULL on Gull Island was the basis for control for this project. Reference mark measurements at GULL confirmed that it had not been disturbed since its last recovery. A static GPS vector from GPS order A station 2210 A TIDAL was used to check station GULL on DN 139 to 1:123,400. The control stations are listed in ~~Appendix III~~ this report. See the OPR-O328-RA-96 Horizontal Control Report for more information.

* Filed with the hydrographic data

I. HYDROGRAPHIC POSITION CONTROL ✓ See Eval Rpt., Section I.

Method of Position Control

All soundings and features were positioned using differential GPS. Serial numbers for vessel GPS equipment are annotated on the raw data printouts.* A VHF differential reference station was established at GULL. The differences between the computed locations and the published positions were recorded by the MONITOR 3.0 program on DN 127 with approximately a 1 meter offset between the Ashtech sensor and the reference GPS station. No multi-path or other systemic error was indicated. The United States Coast Guard Differential GPS reference station GUSTAVUS was also checked from station GULL on DN 141. A sensor was set up 0.2 meter east of GULL due to simultaneous use of GULL as a VHF "fly away" setup. Most error was north and south of the station due to trees and the VHF tower but the error budget was not exceeded. The MONITOR 3.0 results for GULL and GUSTAVUS are in the OPR-O328-RA-96 Horizontal Control Report.

All soundings for this FE were collected at 1:5,000 scale for field evaluation purposes using 1:10,000 scale positioning criteria. The final smooth sheet was plotted at 1:10,000 per project instructions.

Calibrations & Systems Check Methods ✓

Launch-to-launch DGPS performance checks were performed in accordance with Section 3.4.4 of the FPM. Six observations of position were made from two DGPS base stations (GULL and GUSTAVUS) while the launches were rafted together with their GPS antennae within 2 meters of each other. RAINIER used SHIPDIM, version 2.2R for periodic performance checks between station GULL and station GUSTAVUS. Some outliers were noted, but none indicated systematic or continuous errors in the GUSTAVUS beacon. Performance checks were performed periodically using SHIPDIM while the beacon was in use. The SHIPDIM OUTLIER.SUM results are included in the project data for OPR-O328-RA.

J. SHORELINE ✓ See Eval Rpt, Section J

This examination contained no shoreline. Concur

Charted Features ✓

None.

K. CROSSLINES ✓

Crosslines agreed within 1 meter with mainscheme hydrography. Total mileage was 6.5 nautical miles or 12.1% of total mainscheme hydrography.

L. JUNCTIONS ✓

This examination has no junctions with contemporary surveys. Concur

* Filed with the survey records.

M. COMPARISON WITH PRIOR SURVEYS See Evac Report, section M

~~Three~~ Two prior surveys cover this examination: ~~H-1898 (1:10,000, 1888)~~, H-2056 (1:40,000, 1890), and H-~~3986~~ 5WD (1:20,000, 1917). Though the scale and age of the prior surveys made comparisons somewhat inexact, the soundings from these prior surveys were generally in good agreement with the present examination. Differences in soundings were probably due to modern sounding and positioning equipment. Final comparisons will be done at PHB after reduction to final sounding datum using tidal information collected concurrently with this examination.

N. ITEM INVESTIGATIONS ✓

Summary of the AWOIS Item Assigned to this examination:

Number	Short Description	Search Used	Results	Day/FixNo
52290	Sounding	Echo Sounder, Dive Investigation	Verified	131/60000

Detailed Investigation Reports:

ITEM NO.: 52290

CHART NO.: 17316 (1:80,000)
EDITION: 16th Edition
CHART DATE: January 5, 1991

DESCRIPTION AND SOURCE OF ITEM: Sounding at 2.75 fathoms, Scaled from Chart.

SOURCE POSITION: 58° 31' 39" N, 134° 55' 54" W, (NAD 83) ✓

SURVEY REQUIREMENTS: Echo Sounder Development, Dive Investigation.

METHOD OF INVESTIGATION: Echo Sounder Development, Dive Investigation.

RESULTS OF INVESTIGATION: Verified.

COMPARISON WITH PRIOR SURVEYS:

This feature was compared with prior survey H-2056 (1890,1:40:000). The location of the feature is in good agreement with the prior survey. Do not concur Least depth (2Rk) as found by the present survey plots approximately 75 meters north of prior survey depth.

COMPARISON WITH THE CHART AND CHARTING RECOMMENDATIONS:

The feature constitutes a danger to navigation (see ~~Appendix I of~~ Danger Letter attached to this report). The following charting disposition of AWOIS Item # 52290 is recommended:

~~Revise~~ Remove the charted sounding ~~from~~ 2 3/4 fathoms ~~to 1 1/2~~ fathoms And chart 2 Rk at lat. 58/31/43.425N, long 134/55/52.8618W and continue to maintain Poundstone Rock Buoy at current location; see also Section Q, Descriptive Report Insert, ~~Appendix H.~~ Concur

O. COMPARISON WITH THE CHART ✓ See Evel Rpt., Section O.

This examination was compared in the field to NOS Chart 17316, 16th Edition, January 5, 1991, 1:80,000 scale, (NAD 83) and Chart 17300, 2nd Edition, August 14, 1993. In addition, scaled positions from Chart 17316 were used to place features and soundings (converted to meters) on the boat sheet.

In general, charted soundings were found to be in good agreement with those from the current examination.

Dangers to Navigation ✓

Three dangers to navigation within the limits of FE-425 were reported to the Seventeenth Coast Guard District, May 30, 1996. Copies of the correspondence can be found in ~~Appendix I of~~ this report.

P. ADEQUACY OF SURVEY ✓

Field examination FE-425 is complete and adequate to supersede prior soundings and features in their common areas. Concur

Q. AIDS TO NAVIGATION ✓

One aid to navigation exists within the examination area, Poundstone Rock Lighted Bell Buoy, which serves as warning at Poundstone Rock. See Section Q, Descriptive Report Insert, ~~Appendix II.~~

R. STATISTICS ✓

NM Hydrography	68.5
Velocity Casts	1
Detached Positions	2
Selected Soundings	4,726
Bottom Samples	0
Tide Stations	1
NM^2 Hydrography	0.5
Dives	1

S. MISCELLANEOUS ✓

No unusual tidal currents were found during the time of this examination.

T. RECOMMENDATIONS ✓

None

U. REFERRAL TO REPORTS ✓

The following supplemental reports contain additional information relevant to this examination:

Title	Date Sent	Office
Spring 1996 Horizontal Control Report for OPR-O328-RA.	June, 1996	N/CS34
Spring 1996 Coast Pilot Report for OPR-O328-RA.	June, 1996	N/CS26
Project related data for OPR-O328-RA.	Incremental	N/CS34

Respectfully Submitted,

Steven A. Lemke
Lieutenant, NOAA

Approved and Forwarded,

Dean R. Seidel
Captain, NOAA
Commanding Officer

DIVE INVESTIGATION FORM

DATE : 5-10-96

PROJECT : OPR - 0328

DAY # : 131 DIVE # : 1 LOCATION : Poundstone Buoy

OBJECT INVESTIGATED : Poundstone Rock least depth [Y] [N] AWOIS ITEM : 52290

GPS POSITION LATITUDE : 58 ° 31 · 43 " N LONGITUDE : 134 ° 55 · 53 " W

SHEET # : RA - 5-1 - 96 DGPS STATION : Gull VHF CHANNEL : 4

POSITION #	EASTING	NORTHING	EPE	SATS	HDOP
60000	4870.7	51545.5	2.5	8	1

LEAST DEPTH

PNEUMATIC GAGE READINGS (m) :
1) _____
2) _____
3) _____

MEAN RAW DEPTH (m) : _____
CALIBRATION CORRECTION (m) : _____
TIDE CORRECTION (m) : _____
TIME (GMT) : _____

LEAST DEPTH (m) : 6.95 TOTAL 7.0
(1 fathom = 6 ft. = 1.8288 m)
LEAST DEPTH (in chart units) : _____

S/N _____

SEARCH INFORMATION

WATER VISIBILITY (m) : 6 VISUAL SEARCH RADIUS (m) : 50 DURATION OF SEARCH (min.) : 10

[Y] [N] CIRCLE SEARCH RADIUS (m) : _____ OTHER SEARCH : _____

BOTTOM DESCRIPTION

GENERAL TERRAIN : 1) FLAT 2) SLOPING 3) IRREGULAR

DESCRIPTION : Bedrock Ridge E-W running

SPECIFIC FEATURE : 1) RIDGE 2) BOULDER 3) PILE 4) OTHER

DESCRIPTION : _____

BOTTOM MATERIAL : 1) SAND (2) BEDROCK 3) BOULDERS 4) SILT/ MUD 5) KELP

DESCRIPTION : High point of rock ridge

SKETCH (include dimensions in meters) :

Sun #1 1482

Depth 2497

Sun #2 1482

revised 4/17/94

LEAST DEPTH USING SMLGAUGE PROGRAM, VERSION 2.2

NOAA UNIT: RAINIER YEAR 1996
AWOIS NUMBER: 52290 CONTACT NUMBER: 1
DAY-OF-THE-YEAR 128 LATITUDE 58/31/43 N
START TIME 23:36 LONGITUDE 134/55/53 W

CAST MEASUREMENT INSTRUMENT SEACAT S/N:219 CD:01/16/96
LEAST DEPTH DIVER GAUGE, SERIAL NUMBER 68333

DIVER'S PREDIVE GAUGE PRESSURE 14.82 psia
DIVER'S GAUGE PRESSURE AT DESIGNATED LEAST DEPTH 24.97 psia

COMPUTED PRESSURE AT DESIGNATED LEAST DEPTH ~~6.95~~ decibars
COMPUTED LEAST DEPTH 6.98 meters

Time of LD Measurement (UTC): _____

LD Measurement (m): _____

Tide Corrector (m): _____

Corrected Least Depth (m): _____

Comments: _____

_____

_____

_____

_____

_____

Recommendation: _____

_____

_____

_____

_____

_____

Section Q: Descriptive Report Insert ✓

Name of Aid: Poundstone Rock Lighted Bell Buoy
Light List #: 23845

Method of Positioning GPS: [ ] DGPS: [X] Other: _____

Positioning Information

	Latitude (N)	Longitude (W)
Charted Pos.	58/31/39.0	~~134/11/54.0~~ 134/56.0
Survey Pos.	58/31/42.9	134/56/03.7
Light List Pos.	58/31.7	134/56.0

	Easting	Northing
Charted Pos.	4754.9	51502.2
Survey Pos.	4696.6	51529.2

Difference between Charted and Surveyed Position: Distance: 64 meters
(Bearing from Surveyed to Charted Position) Bearing: 115 deg T

Characteristics
Do characteristics match Light List? Yes [X] No [ ]
If no, what are the characteristics? _____

Does the aid adequately serve its apparent purpose? Yes [X] No [ ]
If no, why not? _____

New/Uncharted Aids (if information is known or easily obtained)
Date Est: _____
Maintained By: _____ Private? Yes [ ] No [ ]
Is aid seasonally maintained? Yes [ ] No [ ]
Frequency of Maintenance: _____

Apparent Purpose: _____

Other Information:

S/N

CONTROL STATIONS as of 2 Dec 1999 ✓

No	Type	Latitude	Longitude	H	Cart	Freq	Vel Code	MM/DD/YY	Station Name
~~1~~	~~F~~	~~058:31:42.000~~	~~134:56:00.000~~	~~0~~	~~0~~	~~0.0~~	~~0.0~~	~~03/01/92~~	~~POUNDSTONE LIGHTLIST~~
~~2~~	~~F~~	~~058:31:42.060~~	~~134:56:03.600~~	~~0~~	~~0~~	~~0.0~~	~~0.0~~	~~03/01/92~~	~~POUNDSTONE HDARS~~
3	F	058:30:16.042	134:52:09.349	2	250	0.0	0.0	03/20/96	GULL

P 302035Z MAY 96
FM NOAAS RAINIER
TO CCGDSEVENTEEN JUNEAU AK
DMAHTCCNAVWARN WASHINGTON DC//MCNM//
INFO NOAAMOP SEATTLE WA
BT
UNCLAS

ADVANCE INFORMATION

NOAA SHIP RAINIER HAS LOCATED 3 DANGERS TO NAVIGATION IN NORTHERN STEPHENS PASSAGE (PROJECT:OPR-0328-RA).

WITHIN THE LIMITS OF HYDROGRAPHIC FIELD EXAMINATION FE-425.

THE FOLLOWING INFORMATION IS PROVIDED FOR PUBLICATION IN LOCAL NOTICE
TO MARINERS:

DEPTHS ARE REDUCED TO MLLW BASED ON PREDICTED TIDES.

AFFECTED CHARTS:

NUMBER	EDITION	DATE	SCALE
17300	27TH ED.	93/08	1:209,978
17316	16TH ED.	91/01	1:80,000

ALL CHART DATUM ARE NAD83.

ITEM	DANGER	DEPTH	LATITUDE(N)	LONGITUDE(W)
A	SHOAL *(Rock)	1 1/2 FM *(2FM)	058:31:43.425	134:55:52.861
B	SHOAL	4 FM *(4¼FM)	058:32:43.199	134:56:46.808
C	SHOAL	4 1/4 FM *(4½FM)	058:32:48.739	134:57:15.356

THIS IS ADVANCE INFORMATION SUBJECT TO OFFICE REVIEW. QUESTIONS CONCERNING THIS MESSAGE SHOULD BE DIRECTED TO THE CHIEF, PACIFIC HYDROGRAPHIC BRANCH AT (206) 526-6835. A LETTER WITH ATTACHED CHARTLET WILL BE MAILED TO CONFIRM THIS MESSAGE.
BT
NNNN

* Items corrected for Approved Tides during office processing.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of NOAA Corps Operations
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102-3767

NOAA Ship RAINIER

May 30, 1996

ADVANCE INFORMATION

Commander
Seventeenth Coast Guard District
Post Office Box 3-5000
Juneau, Alaska 99802

Dear Sir:

During the processing of field examination FE-425, in Northern Stephens Passage three dangers to navigation have been discovered. These dangers affect the following charts:

Number	Edition	Date	Scale	Datum
17300	27TH ED.	93/08	1:209,978	NAD 83
17316	16TH ED.	91/01	1:80,000	NAD 83

It is recommended that these dangers to navigation be included in the Local Notice to Mariners.

Questions concerning this report should be directed to the Pacific Hydrographic Branch at (206) 526-6835.

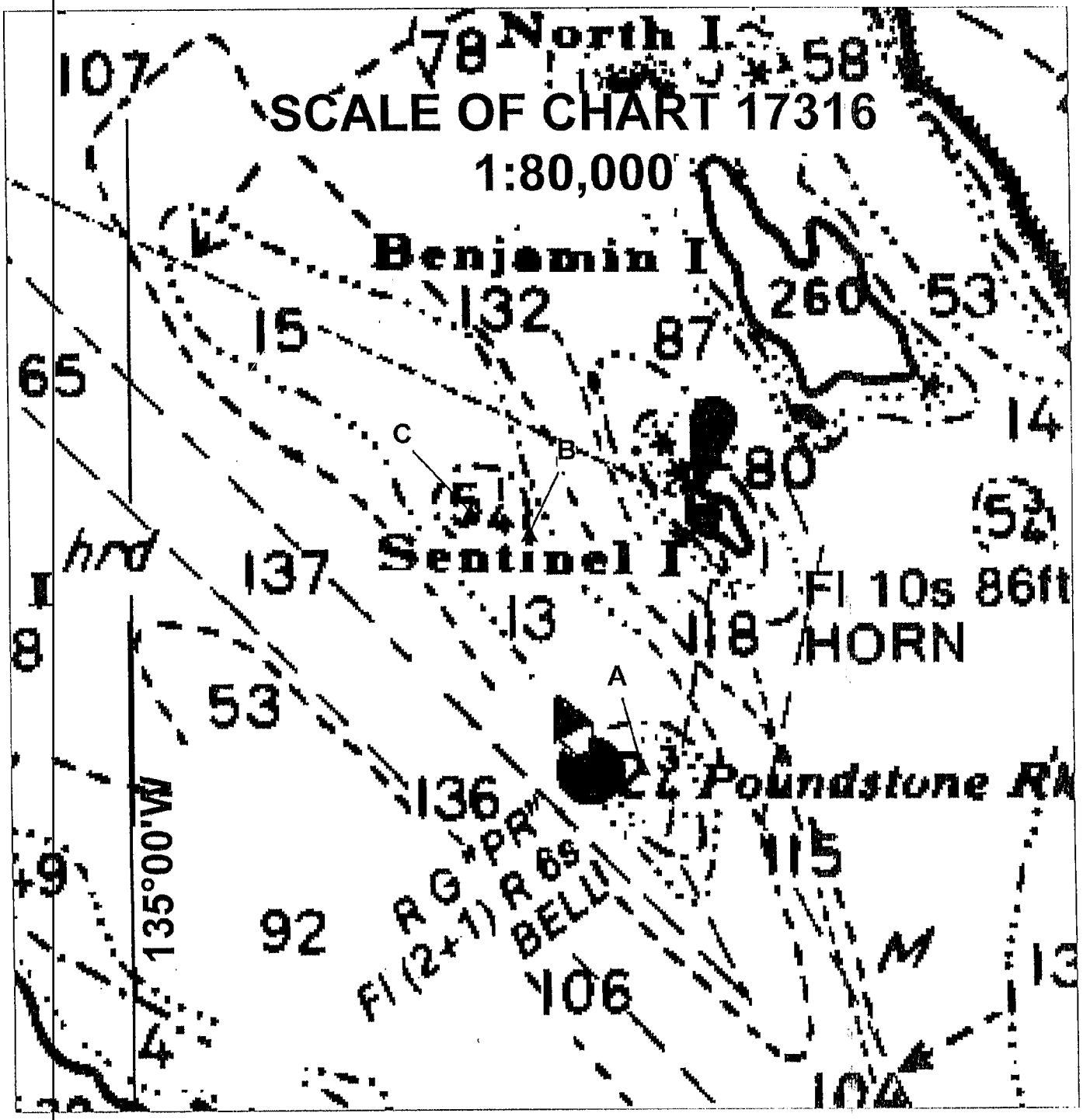
Sincerely,

Dean R. Seidel
Captain, NOAA
Commanding Officer
NOAA Ship RAINIER

Enclosure

cc: DMA/HTC
PMC
N/CS262

ADVANCE
INFORMATION



ADVANCE
INFORMATION

DANGERS TO NAVIGATION

OPR-O328-RA NORTHERN STEPHENS PASSAGE

REGISTRY NUMBER: FE-425

AFFECTED CHARTS:	Number	Edition	Date	Scale	Datum
	17300	27 TH ED	93/08	1:209,978	NAD 83
	17316	16 TH ED	91/01	1:80,000	NAD 83

ITEM	FIX #	DANGER	CHART DEPTH	DEPTH (M)	LATITUDE (N)	LONGITUDE (W)
A	60000+0	SHOAL (Rock)	1 1/2 FM* (2FM)	3.1* (3.7)	058:31:43.425	134:55:52.861
B	60029+3	SHOAL	4 FM* (4¼FM)	7.5* (7.8)	058:32:43.199	134:56:46.808
C	60053+5	SHOAL	4 1/4 FM* (4¼FM)	8.1* (8.4)	058:32:48.739	134:57:15.356

* Items corrected for Approved Tides during office processing

APPROVAL SHEET

for

Field Examination FE-425

Standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition; the Hydrographic Survey Guidelines; and the Field Procedures Manual, as updated for 1994. The data were reviewed daily during acquisition and processing.

The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

Approved and Forwarded,

DATE: May 30, 1996

Dean R. Seidel
Captain, NOAA
Commanding Officer, NOAA Ship RAINIER

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Ocean and Earth Sciences
Rockville, Maryland 20852

ORIGINAL

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 12, 1996

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: OPR-0328-RA

HYDROGRAPHIC SHEET: FE-425

LOCALITY: Poundstone Rock and Vicinity, Northern Stephens Passage, Alaska

TIME PERIOD: May 7 - 22, 1996

TIDE STATION USED: 945-2336 Lincoln Island, AK
Lat. 58° 29.9'N Lon. 134° 57.9'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.595 meters

TIDE STATION USED: 945-2210 Juneau, AK
Lat. 58° 17.9'N Lon. 134° 24.7'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 4.675 meters

REMARKS: RECOMMENDED ZONING

Zone SEA3 - bounded by the polygon points:

LONGITUDE (W)	LATITUDE (N)
-135.270539	58.649457
-134.858495	58.655566
-134.710781	58.382241
-134.673853	58.297194
-134.269583	58.196589
-134.215162	58.212147
-134.164629	58.213184
-134.234985	58.121934
-134.651985	58.110941
-134.770999	58.224961
-134.891071	58.314673
-134.942379	58.387689
-135.133243	58.426392
-135.270539	58.649457

Times and ranges are direct using Lincoln Island, AK (945-2336).

Where data are not available for Lincoln Island, AK, times are direct, and apply a X0.98 range ratio to heights using Juneau, AK (945-2210).

Note: Times are tabulated in Greenwich Mean Time.

William M. Hobson

CHIEF, DATUMS SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

FE-425

Name on Survey	A ON CHART NO. 17316, 17300	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA (title)	X		X							1
FAVORITE CHANNEL	X		X							2
POUNDSTONE ROCK	X		X							3
STEPHENS PASSAGE	X		X							4
										5
										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
					Approved:					19
										20
					Chief Geographer					21
					AUG 12 1996					22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

NOAA FORM 77-27(H) (9-83)

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER: FE-425

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

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

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

SHORELINE DATA

SHORELINE MAPS (List): NA

PHOTOBATHYMETRIC MAPS (List): NA

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Chart 17316 16th Ed., 17300 27th Ed

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS		
	VERIFICATION	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			4726
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS			
VERIFICATION OF SOUNDINGS			
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	35		35
COMPARISON WITH PRIOR SURVEYS AND CHARTS			
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		9	9
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	35	9	44

Pre-processing Examination by: J. Stringham	*Beginning Date*: 6/5/96	*Ending Date*: 6/6/96
Verification of Field Data by: D. Doles, R. Davies	*Time (Hours)*: 35	*Ending Date*: 9/24/96
Verification Check by: B. Olmstead	*Time (Hours)*: 2	*Ending Date*: 10/1/96
Evaluation and Analysis by: R. Davies	*Time (Hours)*: 9	*Ending Date*: 10/1/96
Inspection by: B. Olmstead	*Time (Hours)*: 6	*Ending Date*: 10/7/96

EVALUATION REPORT
FE-425

A. PROJECT

The hydrographer's report contains a complete discussion of the Project information.

B. AREA SURVEYED

This survey was conducted in Northern Stephens Passage, Alaska. Specifically, the area is centered in the vicinity of Poundstone Rock.

Depths range from 2 to 136 fathoms. There were no bottom samples taken within the survey area.

C. SURVEY VESSELS

The hydrographer's report contains information relating to survey vessels.

D. AUTOMATED DATA ACQUISITION AND PROCESSING

Survey data were processed using the same Hydrographic Data Acquisition/Processing System (HDAPS) software used by the hydrographer; the Hydrographic Processing System (HPS) and AutoCad, Versions 12 and 13.

At the time of the survey certification the format for the transmission of digital data had not been finally approved. In the interim, digital data for this survey exists in the standard HPS format which is a database format using the .dbf extension. In addition, the sounding plot, created with the .dbf data and enhanced using the AutoCad system, is filed both in the AutoCad drawing format, i.e., .dwg; and in the more universally recognized graphics transfer format, .dxf. Copies of these data files will be retained at PHS until data transfer protocols are developed and approved.

The drawing files necessarily contain information which is not part of the HPS data set such as geographic name text, line-type, and minor symbolization. In addition, those soundings deleted from the drawing for clarity purposes, remain unrevised in the HPS digital files to preserve the integrity of the original hydrographic data set. Cartographic codes used to describe the digital data are those authorized by Hydrographic Survey Guideline No. 75.

The field sheet parameters have been revised to center the hydrography on the office plot. Data is plotted using a Modified Transverse Mercator projection and are depicted on a single sheet.

E. SONAR EQUIPMENT

Side scan sonar was not used on survey FE-425.

F. SOUNDING EQUIPMENT

Sounding equipment is discussed in the hydrographer's report.

G. CORRECTIONS TO SOUNDINGS

Predicted tides for Juneau, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned direct from Lincoln Island and Juneau, Alaska, gages 945-2336 and 945-2210, were used during office processing. Soundings have been corrected for dynamic draft, actual tides and sound velocity. These reducers have been reviewed and are consistent with NOS specifications.

H. CONTROL STATIONS

Sections H and I of the hydrographer's report contain adequate discussions of horizontal control and hydrographic positioning.

The positions of the horizontal control stations used during hydrography are published values based on NAD 83. The smooth sheet is annotated with a NAD 27 adjustment tick based on values determined with NGS program NADCON. Geographic positions based on NAD 27 may be plotted on the smooth sheet utilizing the NAD 83 projection by applying the following corrections.

Latitude: -1.181 seconds (-36.539 meters)
Longitude: 6.475 seconds (104.765 meters)

The year of establishment of control stations originate with the horizontal control records for this survey.

I. HYDROGRAPHIC POSITION CONTROL

Differential GPS(DGPS) was used to control this survey. A horizontal dilution of precision (HDOP) not to exceed 3.75 was computed for survey operations. No positions exceeded the limits in terms of horizontal dilution of precision (HDOP). NAD 83 is used as the horizontal datum for plotting and position computations.

J. SHORELINE

There is no shoreline within the survey area.

K. CROSSLINES

Crosslines are adequately discussed in the hydrographer's report.

L. JUNCTIONS

Survey FE-425 does not junction any contemporary surveys.

M. COMPARISON WITH PRIOR SURVEYS

H-2056(1890) 1:40,000

Survey H-2056 covers the entire area of the present survey. Comparison with the present survey generally reveals differences of 0.5 to 2 fathoms between survey depths. There appears to be no consistent pattern of shoaling or an increase of depths. These differences can be attributed to greater sounding coverage and relative accuracy of the data acquisition techniques. All critical depths originating from the prior survey were adequately addressed during survey operations.

Survey FE-425 is adequate to supersede the prior survey within the common area.

H-3985WD(1917) 1:20,000

Wire-drag survey H-3985 covers the entire area of the present survey. There are three charted depths which originate from the prior wire-drag survey and are listed below:

Depths(fms)	Latitude (N)	Longitude (W)
8	58/31/33	134/55/42
6 1/4	58/31/51	134/56/00
5 1/4	58/32/51	134/57/15

The present survey found shoaler depths in the vicinity of those items listed above. These differences can be attributed to more complete bottom coverage and relative accuracy of the data acquisition techniques.

Survey FE-425 is adequate to supersede the prior survey with the common area.

N. ITEM INVESTIGATIONS

There were one AWOIS item within the survey area. It is adequately addressed in the hydrographer's report, section N and requires no further discussion.

O. COMPARISON WITH CHART

Survey FE-425 was compared with the following charts.

Chart	Edition	Date	Scale	Datum
17316	16th	January 5, 1991	1:80,000	NAD 83
17300	27th	August 14, 1993	1:209,978	NAD 83

a. Hydrography

Charted hydrography originates with the prior surveys mentioned in section M. The prior surveys are discussed in section M and require no further discussion.

Survey FE-425 is adequate to supersede charted hydrography within the common area.

b. Dangers to Navigation

Three dangers to navigation were reported to the USCG, DMAHTC, and N/CS 261 on May 30, 1996. A copy of the report is attached. No additional dangers to navigation were found during office processing.

P. ADEQUACY OF SURVEY

Hydrography is adequate:

a. delineate the bottom configuration, determine least depth, and draw the standard curves;

b. reveal there are no significant discrepancies or anomalies requiring further investigations; and

c. show the survey was properly controlled and soundings are correctly plotted.

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change No. 3, the Hydrographic Survey Guidelines, and the Field Procedures Manual, April 1994 Edition.

Q. AIDS TO NAVIGATION

There is one floating aid to navigation located within the survey area. It was located and serves its intended purpose. There are no fixed aids to navigation within the surveys area.

There are no charted landmarks or features that would be of landmark value within the survey area.

R. STATISTICS

Statistics are itemized in the hydrographer's report.

S. MISCELLANEOUS

Miscellaneous information is found in the hydrographer's report. There were no additional miscellaneous items noted during office processing.

T. RECOMMENDATIONS

This is a good hydrographic survey. No additional field work is recommended.

U. REFERRAL TO REPORTS

Referral to reports is discussed in the hydrographer's report.

Charles R. Davies

C.R. Davies
Cartographer

APPROVAL SHEET
FE-425

Initial Approvals:

The completed survey has been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, comparison with prior surveys and verification or disproval of charted data. The survey records and digital data comply with NOS requirements except where noted in the Evaluation Report.

Bruce A. Olmstead Date: 10/7/96
Bruce A. Olmstead
Senior Cartographer, Cartographic Section
Pacific Hydrographic Branch

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Evaluation Report.

Kathy Timmons Date: 10/14/96
Kathy Timmons
Commander, NOAA
Chief, Pacific Hydrographic Branch

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Final Approval

Approved:

Andrew A. Armstrong III Date: Jan 13, 1997
Andrew A. Armstrong III
Captain, NOAA
Chief Hydrographic Surveys Division

NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-425

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
17316	9-4-96	Russ Davies	Full ~~Part~~ ~~Before~~ After Marine Center Approval Signed Via Full Application
			Drawing No. of sndgs from smooth sheet.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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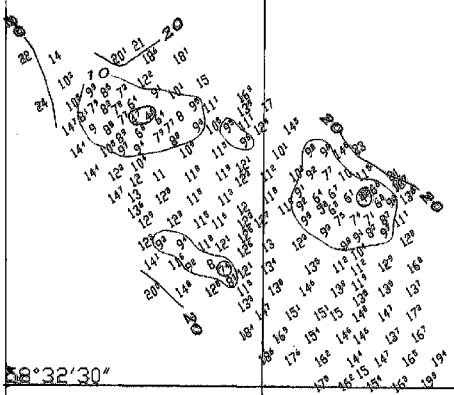
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.

SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.

134°57′00″ 134°56′30″ 134°56′00″ 134°55′30″

STEPHENS PASSAGE

58°33′00″ 58°33′00″



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

FE-425
ALASKA NORTHERN STEPHENS PASSAGE
POUNDSTONE ROCK AND VICINITY
FIELD SHEET: RA-6-I-96
DATE OF SURVEY: MAY 1996
SOUNDINGS IN FATHOMS AND TENTHS AT MLLW
DATUM: NAD 83
PROJECTION: MTM
CENTRAL MERIDIAN: 134/30/00W
SCALE FACTOR: 0.99998

AWOIS ITEM: 52290

SHEET I OF I

58°32′30″ 58°32′30″

134°55′30″
NAD 27 58°32′30″

FAVORITE CHANNEL

POUNDSTONE ROCK

58°32′00″ 58°32′00″

58°31′30″ 58°31′30″

134°57′00″ 134°56′30″ 134°56′00″ 134°55′30″