FE258

Diagram No. 4116-2

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey Field Examination

Field No. FA-10-8-82

Office No. FE-258

LOCALITY

State Hawaii

General Locality Island of Oahu

Locality East of Mokapu Point

1983

CHIEF OF PARTY
CAPT. C.Andreasen

LIBRARY & ARCHIVES

DATE November 5, 1984

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

Area 6

CHTS
19359
19357
19340
19004
19010
19013

} Applied PD to charted Wreck 20'c 6/14/85
to sign off as
Record of Application

19340
19004
19010
19013

} Scale to small
Wreck not charted
20'c 6-14-85

NOAA FORM 77-28 (11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

FE-258

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.

FA-10-8-82 (Supplemental Work)

State Hawaii

General locality Island of Oahu

Locality East of Mokapu Point

Scale 1:5,000 Date of survey November 29-30, 1983

Instructions dated August 19, 1983 Project No. OPR-T126-FA-83

Vessel 2023

Chief of party Capt. Christian Andreasen

Surveyed by Lt. K. Andreen, Lt. S. Ramsey, Ens. B. Koch, CST E. Krick

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

Graphic record scaled by FAIRWEATHER Personnel

Graphic record checked by FAIRWEATHER Personnel

Verification ~~Protracted~~ by L. T. Deodato Automated plot by PMC Xynetics Plotter

Evaluation ~~Verification~~ by Gordon E. Kay

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

REMARKS: This field work is an investigation for the charted wreck, AWOIS Item #50465. Notations in black were made during evaluation of FE-258 at the Pacific Marine Center, Seattle, Washington.

STANDARDS CK'D 11-8-84
C.LOY

SURF checked 1/25/84
AWOIS checked 1/24/84

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

☆ U. S. GOVERNMENT PRINTING OFFICE: 1976—665-661/1222 REGION NO. 6

158 00 157 50 157 40

	OCT	NOV
SQ NM SOUNDING LINE	19	579
LNM SOUNDING LINE	651.3	1364.4
BOTTOM SAMPLES	58	140
NANSEN CAST	1	2
WATER SAMPLES ANALYZED	11	31
HYDRO CONTROL STATIONS	10	1
TIDE GAGE INSTALLED	1	1

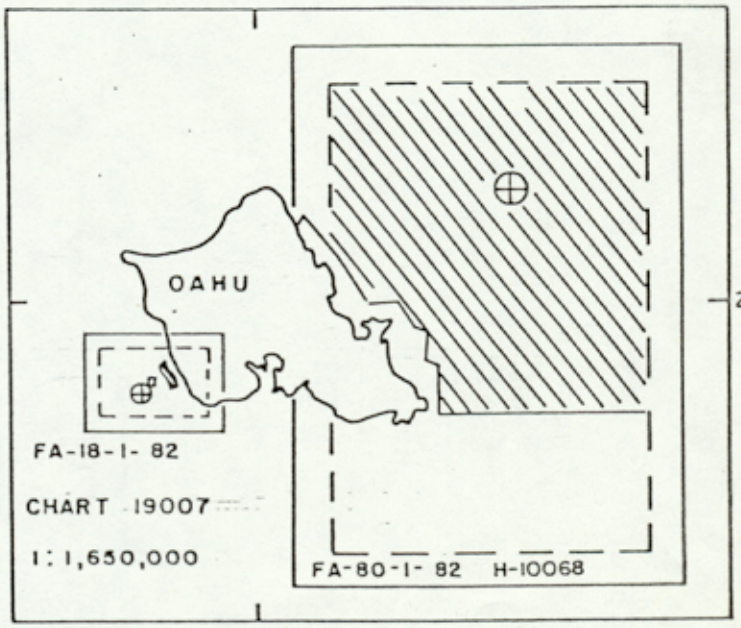
△ STATIONS ESTABLISHED

⊘ STATIONS RECOVERED

⊖ TIDE GAGE

⊕ NANSEN CAST

21 50



21 30

21 40

158 00

KAHUKU PT.

LAIE PT.

TG

H-10061
FA 20-3-82

KAHANA BAY

H-10059
FA 10-9-82

KANEOHE BAY

FE-258

H-10058
FA 10-8-82

TG

KANEOHE

H-10056
FA 10-7-82

MAKAPUU PT.

21 30

21 20

MONTHLY PROGRESS SKETCH

OPR-T126-FA-82

ISLAND OF OAHU, HAWAII

NOAA SHIP FAIRWEATHER (S-220)

CDR. WALTER F. FORSTER, CMDG.

CHART 19340 1:80,000

A. Project

This additional field work is an investigation of the charted wreck, AWOIS item #50465. The work was accomplished as per Project Instructions, OPR-T126-FA-83, Hawaiian Islands, dated 19 August 1983; with Change No. 1, dated 20 September 1983. The PMC OPORDER, Hydrographic Manual (4th Edition), and the Data Requirements Letter dated 14 April 1983 are also applicable. ✓

B. Area Surveyed

This investigation is located just east of Pyramid Rock Light on the east coast of Oahu Island, Hawaii, centering around latitude 21/27/55.0 N, longitude 157/45/45.5 W.

Hydrography was conducted over a period of two days. On 29 November (JD 333), 1983 FAIRWEATHER personnel performed a dive investigation and on 30 November (JD 334) a hydrographic development was completed over the same area. ✓

C. Sounding Vessel

All hydrographic data was obtained by the Jensen launch FA-3 (2023). No unusual sounding vessel configurations were used for this investigation. ✓

D. Sounding Equipment and Corrections to Echo Soundings

Launch FA-3 was equipped with the Ross Fineline 5000 narrow beam echo sounder. The following equipment was utilized for this work: Ross recorder s/n 1046; digitizer s/n 1047; transceiver s/n 1047; and inverter s/n 1046. Depths on this work ranged from 2.4 to 6.6 fathoms. ✓

The echo sounding equipment was monitored closely and the initial adjusted to zero whenever necessary. Phase calibration and belt tension was checked prior to hydrography. All data was scanned twice to compare analog values to corresponding digital depths and to insert peaks and deeps between soundings. No problems were experienced with any of the sounding equipment. ✓

Settlement and squat was determined for this launch on 7 April 1983 in Shilshole Bay, Seattle, Washington. Settlement and squat measurements were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. The launch was tested at speeds from idle to 2700 RPMs, in 200 RPM increments. A Zeiss Ni 2 level was used to read a stadia rod held over the transducer when launch speed was attained. A tide staff was read simultaneously with the stadia level to correct for tidal influences. The test results were used to plot a settlement and squat curve for the launch. ✓

Restrictive speeds for launch FA-3 were determined using 0.1 fathom as a corrector, as per Section 4.9.2 of the Hydrographic Manual. Using this criteria, no restrictive speed values were necessary for FA-3. ✓

Change so-per Corrections to Echo Sounders Report OPR-T126-FA-83

A bar check was performed prior to the acquisition of hydrographic data to verify that the echo sounding equipment was operating properly. The 0.7 fathom TRA corrector for this launch was confirmed from the 1983 OPR-T126-FA-83 project data. Supporting data for this information can be found in the Corrections to Echo Soundings Report, OPR-T126-FA-83.

Velocity correctors were determined from two SV/D casts and one Nansen cast in accordance with Section 4.9.5.2 of the Hydrographic Manual. The two SV/D casts were taken during the project using a Plessy 9040 Profiling System (s/n 5638), calibrated by the Northwest Regional Calibration Center (NRCC), Seattle, Washington, in April 1983. An onboard PDP8/e FOCAL computer program was used to convert the frequency readings of the SV/D system into engineering units for determination of the sound velocity profiles. The unit suffered a data communication failure prior to the last cast. The Nansen cast used the reversing thermometers calibrated by NRCC in March 1983. Salinity content was determined by use of a Beckman Salinometer (s/n 59435), also calibrated by NRCC in April 1983. An onboard PDP8/e computer program was used to calculate corrected temperatures and the bathymetric depths. Table I, SV/D and Nansen Casts, lists the date and geographic position of each cast taken. ✓

Table I
SV/D and Nansen Casts

Cast #	Date	Latitude	Longitude	
1 (SV/D)	JD 271	21/44/00 N	157/49/30 W	NOT used on this survey
2 (SV/D)	JD 307	21/12/00 N	157/33/00 W	NOT used on this survey
4	JD 336	22/02/06 N	157/34/24 W	used on FE-258

For more information, refer to the Corrections to Echo Soundings Report, OPR-T126-FA-83.

E. Hydrographic Sheets

The field sheets were plotted onboard FAIRWEATHER using PDP8/e computers and Complot plotters. All hydrographic data from this survey will be sent to the Pacific Marine Center, N/MOP21, Seattle, Washington, for verification and smooth plotting. ✓

The final field sheet was plotted on mylar at a scale 1:5,000. The skew is 0 degrees with the dimensions 10x10 inches. ✓

F. Control Stations

All control stations for this investigation were recovered or established by FAIRWEATHER personnel using conventional traverse and triangulation methods. All positions meet or exceed Third Order, Class I accuracies and are adequate for hydrographic purposes. All geographic positions are based on the Old Hawaiian Datum.

The following stations were used in support of this field work:

Station Name	Signal Number
CASTLE 1932 r.m.	304
PAKO 1932, 1982 r.m.	310
KANEOHE BAY CHANNEL LT #16 d.n.m.	320

r=recovered m=monumented d=described n=not

For additional information, refer to the Horizontal Control Reports, OPR-T126-FA-82 and OPR-T126-FA-83.

G. Hydrographic Position Control

The Motorola Mini-Ranger III electronic positioning system was used in the range-azimuth mode for control on this investigation. For this work, the Mini-Ranger console #B0323 with the R/T unit #1046 was used along with the transponders Codes 9 and C. No problems were encountered with this equipment during these operations.

Mini-Ranger baseline calibrations (BLC's) were conducted in accordance with Appendices M and S of the PMC OPORDER on 25 November (JD 329) 1983. The calibration was completed at a distance of 2784.6 meters between geodetic stations PAKO (#310) and CASTLE (#304).

A critical calibration to verify BLC data was performed on JD 336 using the Cal Pole method at the KANEOHE BAY CHANNEL LT. #16 (#320).

Refer to the Electronic Control Report, OPR-T126-FA-83, for additional information.

H. Shoreline

There is no shoreline within the limits of this investigation. For orientation purporse, shoreline from Chart 19357 was drawn onto the final field sheet.

I. Crosslines

Approximately 0.75 nautical miles of crosslines were run comprising 32 per cent of the development hydrography. Agreement between the mainscheme and crossline soundings is excellent, meeting the requirements of Section 1.1.2 part B of the Hydrographic Manual. ✓

J. Junctions

Not applicable to this investigation. ✓

K. Comparison with Prior Surveys

The purpose of this field examination was to verify or disprove the existence of the AWOIS item #50465, a submerged wreck located just east of Pyramid Rock Light on the east coast of Oahu Island. The area was searched by divers and the wreck was not found, however, a reef was located in the immediate vicinity. The dive investigation for AWOIS item #50465 performed on 29 November (JD 333) was conducted as follows: ✓

In preparation for the investigation, the reported position of the wreck was used to calculate a range and azimuth from station PAKO (310) and a range from station CASTLE (304). The position used for the calculation was taken from the AWOIS computer printout with the ranges and azimuth computed using the PDP8/3 computer program RK 300, Utility Computations. Mini-Ranger transponder Code 9 was set up at station CASTLE; transponder Code C and the theodolite were located on PAKO with the theodolite initial at 270/00/00 on CASTLE. ✓

Upon arrival in the vicinity of the computed position, the coxswain steered one of the computed ranges and the azimuth observer radioed the launch when it crossed the computed azimuth. At that time a weight was dropped from the starboard side of the launch adjacent to the Mini-Ranger antenna. The weight was 47 pounds and had a line and float attached to it. ✓

After the weight was positioned, the launch returned to the float, the float was retrieved, the slack taken out of the line, the launch maneuvered to position the Mini-Ranger antenna directly over the weight, and a detached position taken (position number 8997); then the float and slack line were returned to the water. ✓

When the position of the weight was confirmed to be correct, dive preparations were made. Two divers entered the water at the float and descended to the weight. They attached the end of a fiberglass tape to the weight and swam away from the weight with the tape reel in hand until they could no longer see the weight. ✓

They then swam back along the tape until the weight became visible, and noted the distance. In this manner, visibility was determined to be 45 feet.

Once visibility was determined, the divers positioned themselves at intervals of 25 feet from the weight. One diver was at 25 feet, the second was at 50 feet from the weight and held the tape reel. After marking the bottom, the divers swam a 360 degree circle holding tightly to the tape, keeping the tape taught, looking to both sides, and staying close to the bottom.

When the divers completed the circle and returned to the starting marks on the bottom, they moved 50 feet farther away from the weight so one diver was 75 feet from the weight and the other was 100 feet. They marked the bottom again, and swam another 360 degree search. This procedure continued until the diver furthest from the weight was 150 feet from the weight.

Using this procedure, the entire bottom inside the 45.7 meter radius was covered visually 200 per cent, and the bottom from 44 meter radius to the 60 meter radius was covered visually 100 per cent. In addition, the 50 feet closest to the weight was swept with the tape three times, the area between the 50 and 100 feet radius was swept twice, and the area between 100 and 150 feet was swept once. This search took divers 37 minutes to complete and they swam over six tenths of a mile.

After the investigation was completed, the divers pulled all the slack out of the bouy line at the weight and returned to the launch. Two more detached positions (#8998 and #8999) were taken at the float above the weight to confirm the position of the weight and determined if the weight might have moved during the search. The weight had not moved.

The bottom was sand and there was no indication of a wreck. The divers did, however, find a reef which extended to the east from the base of Pyramid Rock Light.

On 30 November (JD 334), a hydrographic development was run over the reef found by the divers. This development was conducted as close to Pyramid Rock Light and the beach south of the light as safe procedures would allow. The line spacing for the development was 25 meters and position numbers 9000 to 9043 were used. This development was performed to supplement the hydrographic data completed on H-10058 in 1982.

A second dive was conducted to determine if there were any pinnacles on this reef. The second dive proceeded from the eastern end of the reef to well within the surf zone near the base of Pyramid Rock Light to approximately 37 meters west of the weight used to control the circle search (position #8997). The reef rose approximately six feet above the sand bottom. A divers least depth was not obtained on this reef since the hydrographic data was found to be correct.

It is recommended that the wreck symbol located at latitude 21/27/55.0 N, longitude 157/45/45.5 W be removed from charts 19357 and 19359. See Evaluation Report Section 4, 7 and 9.

L. Comparison with the Chart

Comparisons were made with Chart 19357, 16th Ed., dated 5 December 1981, scale 1:80,000. Excellent agreement was obtained between the soundings of the Chart and those of this development. See Evaluation Report Section 7a.

M. Adequacy of Survey

The hydrographic data from this field investigation is complete and adequate for all charting purposes. ✓

N. Aids to Navigation

There are no aids to navigation located within the limits of this development. For information concerning aids established on the adjacent shoreline, refer to the Descriptive Report H-10058. ✓

O. Statistics

Vessel	FA-3 (2023)
Positions	~~31~~ 47
Nautical Miles	2.3
Square Miles	0.19

P. Miscellaneous

No anomalous currents were observed within the limits of this field investigation. ✓

Q. Recommendations

The wreck symbol charted at latitude 21/27/55.0 N, longitude 157/45/45.5 W should be removed from charts 19357 and 19359. See Evaluation Report Section 9

R. Automated Data Processing

The following is a list of the Hydroplot programs used for data acquisition and processing during this investigation. ✓

Number	Program Name	Version Date
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 212	Visual Station Load and Plot	04/01/74
RK 216	R/Az Non-Real Time Plot	02/09/81
RK 300	Utility Computations	10/21/81
RK 330	Data Reformat and Check	05/04/76
PM 360	Electronic Corrector Abstract	02/02/76
AM 602	Elinore	12/08/82

5. Referral to Reports

The following separate reports contain additional information for this investigation.

Horizontal Control Report	OPR-T126-FA-82
Descriptive Report H-10058	OPR-T126-FA-82
Horizontal Control Report	OPR-T126-FA-83
Electronic Control Report	OPR-T126-FA-83
Corrections to Echo Soundings Report	OPR-T126-FA-83

Field Tide Note
OPR-T126-FA-83
Oahu Island, Hawaii

The primary tide gauge (161-2340) at Honolulu, Hawaii, served as reference station for the predicted tides used on the Oahu Island project as stated in the Project Instructions, OPR-T126-FA-83.

Predicted tide correctors for the field sheets were interpolated aboard the FAIRWEATHER using the program AM 500 dated 10 NOV 72. Zone correctors from Project Instructions were applied to the reference station for hydrography on the inshore sheet FA-20-3-83 (H-10061) only. Due to the surveyed depths (between 100 & 2000 fathoms) of the offshore sheet FA-80-1-82 (H-10068), tide correctors were not applied to this survey. Since Project Instructions did not specify zoning correctors for the Penguin Bank area, correctors for the closest subordinate tide station (Hanauma Bay) were used to obtain the predicted tidal data used on the final field sheet of the offshore survey FA-40-1-83 (H-10117).

All times of both predicted and recorded tides are expressed in Universal Coordinated Time (UTC or Z). All predicted tides were acceptable for hydrography with no discrepancies in data attributable to tide errors.

Four tide gauges were used to support hydrographic operations of the Hawaiian Islands project, OPR-T126-FA-83. These gauges consisted of the primary reference gauge at Honolulu (161-2340); the primary gauge at Mokuoloe Island in Kaneohe Bay (161-2480); and the two field gauges established by FAIRWEATHER personnel; Laiemaloo (161-2702) and Haleiwa (161-2668). Installed at Laiemaloo was a Metercraft analog tide gauge, S/N 7602-705-101. The Haleiwa gauge was also a Metercraft analog recorder, S/N 7601-7536-29.

Levels

Third order levels were performed at all four tide stations before the beginning of hydrographic operations and again before departing the working grounds in accordance with Project Instructions, OPR-T126-FA-83, dated 31 AUG 83.

Levels were performed at the primary reference gauge in Honolulu, Hawaii (161-2340) on 29 SEP 83 (JD 272) and again on 22 NOV 83 (JD 236) between the reference mark of the electric tape gauge and three bench marks. Comparison of opening and closing levels to historic data showed no indication of any vertical movement in the marks or the tape gauge reference mark. The maximum deviation between present and historic levels was 2 mm.

Levels were performed at the primary tide station on Moluoloe Island, Kaneohe Bay, Hawaii, (161-2480) on 28 SEP 83 (JD 271) and again on 21 NOV 83 (JD 325) between the tide staff and three bench marks. Comparison of opening and closing levels showed no indication of any vertical movement in the marks or the staff. Present levels agreed to historic levels to within 1 mm.

Levels at the Laiemaloo field tide gauge were conducted on 3/4 OCT 83 (JD 276/277) and again on 22 NOV 83 (JD 326) to the five existing bench marks from the staff. Closing levels agreed within 4 mm to opening levels indicating no vertical movement in the marks or the staff. The maximum deviation between present and historic levels was 2 mm.

Levels for the Haleiwa tide gauge were conducted on five separate occasions during survey operations: 13 OCT (JD 286), 21 NOV (JD 325), 25 NOV (JD 329), 28 NOV (JD 332), and 1 DEC (JD 335), 1983. Opening levels were conducted on 13 OCT 83 to establish initial elevations for the five bench marks used.

The first set of closing levels were conducted on 21 NOV 83. Two problems were encountered during these levels. First, the onset of darkness precipitated the loss of the rod level bubble in the water near the staff thus preventing the closure of the level loop to the staff. The second problem was the discovery of a 0.802 meter discrepancy in the elevation of bench mark "2668 D 1983".

On 25 NOV 83, two level loops were run from bench mark "C&GS No. 5 1969" to "2668 D 1983" in an effort to resolve the 0.802 meter discrepancy. These levels confirmed that an error was made during the 13 OCT 83 opening levels.

On 28 NOV 83, one level loop was run from the staff stop to BM "2668 A 1983" in an effort to close out the levels begun on 21 NOV 83. These levels failed to confirm the opening elevation for BM A.

After piecemealing the levels to agree, the complete level run from the staff to all five bench marks were releveled on 1 DEC 83. These final closing levels agreed with the 13 OCT 83 opening levels for bench marks A, B, C, and No. 5 with a maximum variance of 3 mm. They also confirmed the run from C&GS No. 5 to BM D obtained from levels conducted on 21 and 25 NOV 83.

Operational Problems

The bubbler gauge at Laiemaloo only experienced two problems during the course of survey operations. The first problem detected was a minor inconsistency with the speed of the chart drive. This required only that the clock mechanism be reset several times during survey operations. The second problem occurred on 18 OCT 83 at Ø135Z when high surf conditions tore the bubbler tubing apart at the surf zone. The bubbler tubing was replaced and the gauge was restarted at Ø121Z on 26 OCT 83. No hydrographic data was lost due to this problem as ship survey operations were being conducted in water depths that ranged from approximately 100 to 2000 fathoms during the time of the gauge failure.

The Haleiwa bubbler gauge failed to collect tidal data on two occasions as a result of a dry pen. The first gap is from Ø11ØZ on 9 OCT 83 to 22ØØZ on 13 OCT 83. The second gap is on 17 OCT 83 from 113ØZ to 19Ø2Z.

No hydrographic data was lost as a result of the 117 hour gap between 9 OCT and 13 OCT since only deep water ship hydrography was being conducted during this period of time. Interpolation can be used to provide tidal information for the 9.5 hour gap in tidal data on 17 OCT 83.

One additional problem was encountered with the Haleiwa tide record. The printed time on the chart paper was centered between time lines in such a way as to cause confusion for different observers as to the actual gauge time of observations. This problem was corrected during the final scan of the marigram.

No other problems were encountered with this or the other tide gauges.

For processing information the 0.24 foot mark of the staff at Haleiwa (161-2668) was found to be equal to the zero foot mark on the gauge. At Laiemaloo (161-2702), the 6.9 foot mark on the staff was equal to the zero foot mark on the gauge.

Master Signal Listing

OPR-T126-FA-83

Additional Field Work - AWOIS Item #50465

FA-10-8-82 H-10058

Castle 1932 NGS QUAD 211573 1248
304 3 21 27 31003 157 44 29468 250 0010 000000

Pako 1932 NGS QUAD 211573 1336 (Field Position: FA 1982)
310 3 21 27 50345 157 46 03948 250 0022 000000

Kaneohe Bay Ch. LT. 16 FAIRWEATHER 1982
320 1 21 26 56234 157 47 48054 243 0000 000000

Approval Sheet

During field operations, all field sheets and data were inspected on a daily basis. All survey sheets, reports and records have been examined by me and are considered complete and adequate for charting purposes.

Submitted by,

Kathy Andreen

Kathy Andreen
LT NOAA

Approved by,

Christian Andreasen

Christian Andreasen
CAPT NOAA
Commanding Officer

DATE: 8/14/84

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: T126

Hydrographic Sheet: FE-258

Locality: Offshore Mokapu Peninsula, Oahu, HI

Time Period: November 29-30, 1983

Tide Station Used: 161-2480 Mokuoloe Is, Oahu, HI

Plane of Reference (Mean Lower Low Water): 2.80 ft.

Height of Mean High Water Above Plane of Reference: 1.7 ft.

Remarks: Recommended Zoning:

For FE-258, Centered at 21° 27.9'N and 157° 45.8'W, Zone Direct.

James R. Hubbard
Chief, Tidal Datums Section

U.S. DEPARTMENT OF COMMERCE | REGISTRY NUMBER

HYDROGRAPHIC SURVEY STATISTICS

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	2
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	1

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

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	EVALUATION	TOTALS
POSITIONS ON SHEET			47
POSITIONS REVISED	4		4
SOUNDINGS REVISED	9		9
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL	1	1	2
VERIFICATION OF POSITIONS	1	2	3
VERIFICATION OF SOUNDINGS	6	4	10
VERIFICATION OF JUNCTIONS	3	1	4
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	2		2
COMPARISON WITH PRIOR SURVEYS AND CHARTS		2	2
EVALUATION OF SIDESCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT	1	8	9
OTHER Digitization			
Rework			
TOTALS	14	18	32

Pre-processing Examination by	*Beginning Date*	*Ending Date*
Verification of Field Data by L.T. Deodato	6/6/84	9/25/84
Chect. by S. Otsubo, J.S. Green	*Time (Hours)* 7	10/15/84
Evaluation and Analysis by G.E. Kay	10/2/84	10/9/84
Inspection by D. Hill	*Time (Hours)* 1	10/17/84

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: FE-258

FIELD NO: FA-10-8-82
(Supplemental Work)

Hawaii, Island of Oahu, East of Mokapu Point

SURVEYED: November 29-30, 1983

SCALE: 1:5000

PROJECT NO: OPR-T126-FA-83

SOUNDINGS: Ross Fineline Model 5000

CONTROL: Range/Azimuth
Mini Ranger III/T-2

Chief of Party.....Capt. C. Andreasen

Surveyed by.....Lt. K. Andreen
Lt. S. Ramsey
Ens. B. Koch
CST E. Krick

Automated Plot by.....PMC Xynetics Plotter

Verified by.....L. T. Deodato

Evaluated by.....G. E. Kay

1. INTRODUCTION

FE-258 is a field examination conducted by the NOAA Ship FAIRWEATHER in accordance with the following:

Project Instructions, OPR-T126-FA-83 dated August 19, 1983
Change 1, dated September 20, 1983.

The survey is situated along the east coast of Oahu, Hawaii, north of the Mokapu Peninsula and west of Pyramid Rock.

The purpose of this field investigation was to locate or disprove the existence of a charted submerged wreck at latitude 21°57'55.0"N, longitude 157°45'45.5"W, AWOIS File number 50465.

The following was changed during verification.

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

b. Tide level values are from observed tides, see form 712.

c. Velocity correctors were changed to a set of correctors more representative of the geographic/time locations of FE-258.

2. CONTROL AND SHORELINE

Horizontal control and hydrographic positioning are adequately discussed in Descriptive Report paragraphs F and G and in the Horizontal and Electronic control reports for OPR-T126-FA-83.

The smooth sheet was plotted using geographic positions from the published geodetic control station listing of National Geodetic Service, on the Old Hawaiian Datum.

There is no shoreline within the limits of FE-258.

3. HYDROGRAPHY

Soundings at crosslines are in good agreement. The hydrography contained within the limits of this survey is adequate to determine the bottom configuration and least depths, with the exception of the 3.3 fathom sounding, noted in sections 4 and 9 of this report. Depth curves could be adequately drawn.

4. CONDITION OF SURVEY

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

A shoal indication on the echogram (3.3 fathom sounding) located at latitude 21°25'50.21" North, longitude 157°45'44.91" West, position #9015/3, was not considered by the ship as a possible peak or the location of the sunken wreck. This peak is located 171 meters (or 2.1 MM's at chart scale) southeast of the charted position, and should have been investigated as per H.M. 4.5.9.2 and 4.9.8.2 (see section 7 of this report).

5. JUNCTIONS

Not applicable to this survey

6. COMPARISON WITH PRIOR SURVEYS

H-10058 (1982) 1:10,000 Present survey data compared well with H-10058. FE-258 survey data continued further inshore than H-10058 and includes parts of the three fathom curve. The 5-fathom curve also is depicted in greater detail, where FE-258 adjoins H-10058. FE-258 is adequate to supplement H-10058 over their areas of common coverage.

7. COMPARISON WITH CHART

Chart 19359, 1:15,000, 7th Edition, August 5, 1978, depths in feet.
Chart 19357, 1:80,000, 16th Edition, December 5, 1981, depths in fathoms.

a. Hydrography -- Charted common area soundings come from H-3252 which has since the publication date been superseded by H-10058. There are no charted rocks within the limits of FE-258.

The purpose of this field investigation was to prove or disprove the charted wreck (AWOIS file #50465) at latitude 21°27'55.0" North, longitude 157°45'45.5"West. A thorough 45 meter dive circle search was performed at the AWOIS location with negative results. A hydrographic search was then performed over the AWOIS area with negative results. During preprocessing and during verification a review of the echograms revealed indication of a possible obstruction at position #9015/3 located at latitude 21°27'50.21" North, longitude 157°45'44.91" West. This location is 171 meters southeast of the charted location. Due to the possibility of either an inaccurate position on the charted wreck or the possible shifting of the wreck, the charted wreck has not been disproven and should remain as charted (see section 9 of this report).

b. Controlling depths -- There are no controlling depths located within the limits of FE-258.

c. Aids to navigation -- There are no fixed or floating aids to navigations located within the limits of FE-258.

There have been no dangers to navigation identified or reports submitted by the NOAA Ship FAIRWEATHER or the Pacific Marine Center, Seattle, Washington on FE-258.

FE-258 is adequate to supersede the hydrography on Chart 19359 and Chart 19357 over their common areas.

8. COMPLIANCE WITH INSTRUCTIONS

FE-258 complies with the instructions and change listed in section 1 of this report.

9. ADDITIONAL FIELD WORK

Additional field work is required to investigate a 3.3. fathom peak at

latitude 21°27'50.21" North, longitude 157°45'44.91" West

Respectfully submitted,

Gordon E. Kay
Cartographer
October 9, 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.

James S. Green
Supervisory Cartographer

ATTACHMENT TO DESCRIPTIVE REPORT FOR FE 258

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.

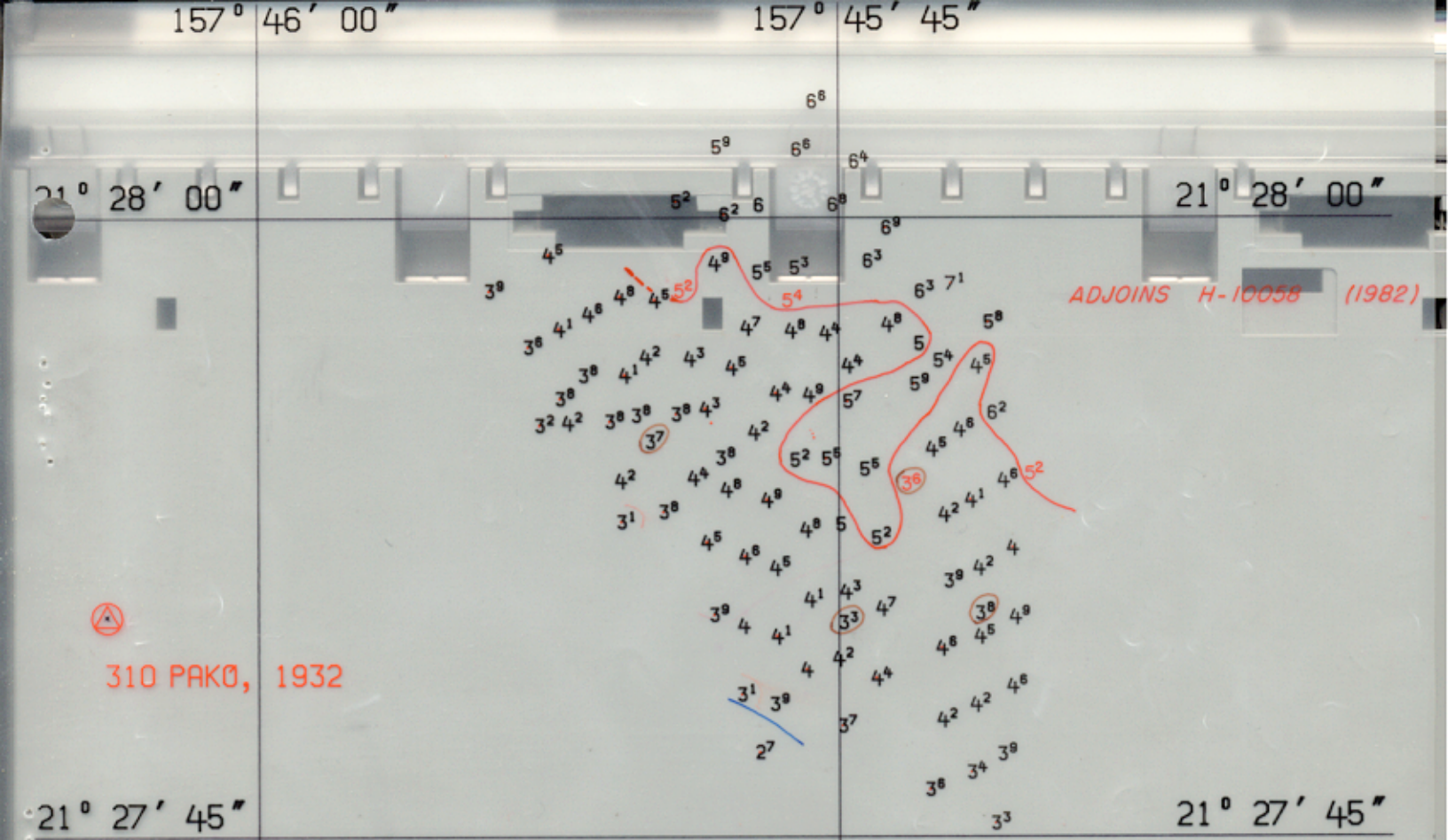
David W. Kagan 10/17/84
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 10/23/84

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

Robert L. Faulkner 10/23/84
Director, Pacific Marine Center (Date)



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
CHARTING AND GEODETIC SERVICES — RADM JOHN D. BOSSLER, DIRECTOR

HYDROGRAPHIC SURVEY FE-258
HAWAII, ISLAND OF OAHU
EAST OF MOKAPU POINT

FIELD SHEET: FA-10-8-82 (supplem. work)		PROJECT: OPR-T126	
DATUM: HOR.	OLD HAWAIIAN DATUM		
SNDG.	MEAN LOWER LOW WATER		
PROJECTION	POLYCONIC	CENTRAL LONGITUDE 157° 45′ 45″ W	
SCALE	1:5000	SOUNDINGS IN FATHOMS AND TENTHS	
SURVEYED BY	NOAA SHIP FAIRWEATHER CAPT C. ANDREASEN CMDG.		NOV 1983
PROCESSED BY	NAUTICAL CHART BRANCH, PACIFIC MARINE CENTER		
APPROVED BY	RADM R. L. SANDQUIST Robt L. Sandquist DIRECTOR, PACIFIC MARINE CENTER		October 23, 1984

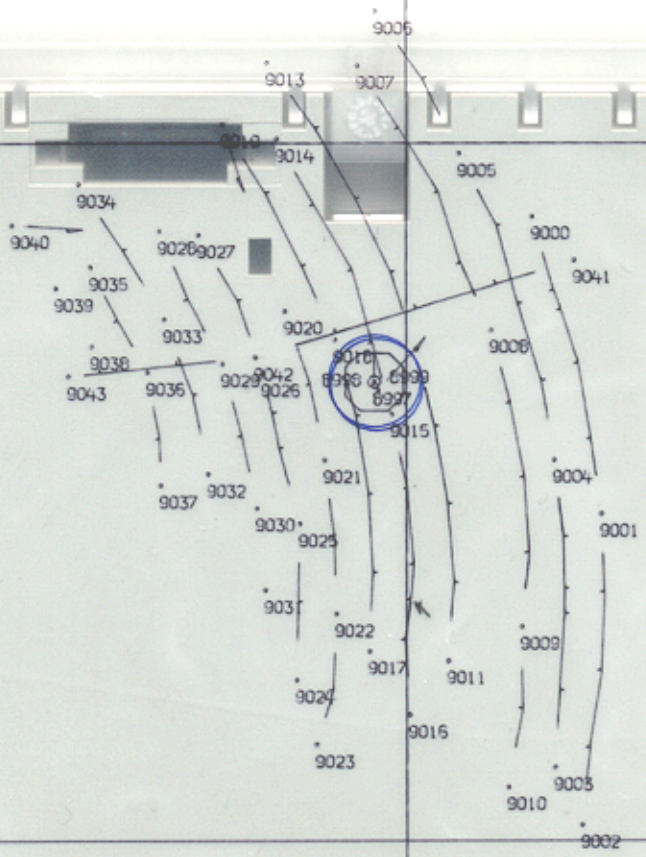
21° 27′ 30″

157° 46′ 00″ 157° 45′ 45″

H00258 SSSPL 09-17-84

157° 46′ 00″ 157° 45′ 45″

21° 28′ 00″ 21° 28′ 00″



310 PAKO, 1932

21° 27′ 45″ 21° 27′ 45″

21° 27′ 30″ 21° 27′ 30″

POSITION OVERLAY A
TO ACCOMPANY
HYDROGRAPHIC SURVEY FE-258

PROJECTION	POLYCONIC	
SCALE	1:5000	(1 OF 1)

157° 46′ 00″ 157° 45′ 45″

H00258 SPOPL A 09-17-84

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. FE-258

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
19010	6-14-85	J.M.O'Connor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 15 No Corr - Wreck wasn't charted [redacted] Due to scale.
19359	6-14-85	J.M.O'Connor	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 9 Applied PD to Wreck.
19357	6-14-85	J.M.O'Connor	Full Part Before After Verification Review Inspection Signed Via
			Drawing No. 28 Applied PD to Wreck.
19340	9/13/85	J.J. Brennan Jr	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. Exam'd, no corr's at this scale
19004	3-11-91	John Pierce	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 36 Exam, NC; ~~Wreck not scale previously applied~~
19013	4-25-91	*K.R. Foster	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 18 Exam - N/C thru Chart 19004.
			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.

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

USCOMM-DC 8558-P63