10058

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 Hydrographic

Field No. FA-10-8-82

Office No. H-10058

LOCALITY

State Hawaii

General Locality East Coast of Oahu

Locality Approcahes to Kaneohe Bay

1982

CHIEF OF PARTY
CDR W.F. Forster

LIBRARY & ARCHIVES

DATE August 7, 1984

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

Area 6
CHTS
19359
19357
19340
19010
19004
540
19007

to sign off see Record of Application

NOAA FORM 77-28 (11-72)

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

REGISTER NO.

H-10058

HYDROGRAPHIC TITLE SHEET

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

State Hawaii

General locality East Coast of Oahu

Locality Approaches to Kaneohe Bay

Scale 1:10,000 Date of survey October 13 to November 27, 1982

Instructions dated July 30, 1982 Project No. OPR-T126

Vessel 2023, 2024, 2025

Chief of party CDR W. F. Forster, NOAA

Surveyed by LT Ramsey, LTJG Tuell, ENS Francis, ENS Bailey, ENS, Migaiolo, ENS Koch

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

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verified by L. T. Deodato Automated plot by PMC Xynetics Plotter

Evaluated by G. E. Kay

Soundings in fathoms feet at MLW MLLW

REMARKS: Annotations in black were made by the Evaluator

STANDARDS CK'D 8-9-84.
C. Loy

AWOIS MSM 11/6/84

SURF MSM 11/6/84

4-22-97

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

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

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	81
HYDRO CONTROL STATIONS	10	1
TIDE GAGE INSTALLED	1	1

△ STATIONS ESTABLISHED

⊖ STATIONS RECOVERED

⊖ TIDE GAGE

⊕ NANSEN CAST

21 50

OAHU

FA-18-1-82

CHART 19007

1:1,650,000

FA-80-1-82 H-10068

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

H-10058
FA 10-8-82

TG

KANEOHE

H-10056
FA 10-7-82

MAKAPUU PT.

21 3

21 2

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 hydrographic survey was conducted in accordance with Project Instructions OPR-T126-FA-82, Hawaiian Islands, dated July 30, 1982; Change No. 1: Supplement to Instructions, dated September 7, 1982; Change No. 2: Supplement to Instructions, dated ~~July 30~~ November 17, 1982; Change No. 3: Supplement to Instructions, dated ~~February~~ January 20, 1983; the Data Requirements Letter, dated April 8, 1982; and the PMC OPORDER.

All references to the Hydrographic Manual refer to the 4th Edition, updated through Change No. 3, July 1, 1981.

B. Area Surveyed

The area covered by survey H-10058 lies on the northeast coast of the island of Oahu and ranges from Mokapu Point to the entrance of Kaneohe Bay. This survey junctions on the west and southwest with contemporary surveys H-9594 and H-9593. This survey is also bounded by three concurrent FAIRWEATHER surveys: H-10056 to the east, H-10059 to the northwest, and H-10068 at the 100 fathom curve to the northeast. Hydrography was run from JD 286 to JD 331.

C. Sounding Vessels

Hydrography on this survey was conducted by FAIRWEATHER launches FA-3 (2023), FA-4 (2024) and FA-5 (2025). Bottom samples were collected by FA-5 (2025). FAIRWEATHER (S-220) performed two Nansen casts on JD 291 and JD 332 (see Table II, Nansen Casts). No unusual sounding equipment configurations were used. No significant problems were encountered.

D. Sounding Equipment and Corrections to Echo Soundings

All survey launches were equipped with Ross Fineline 5000 narrow beam echo sounders. See Table I, Sounding Equipment. Belt tension and phase checks were performed every morning and when paper was changed.

Table I

Sounding Equipment

Vessel	Instrument	Model	Analog	Digitizer	Inverter	Transceiver
FA-3 (2023)	Ross Fineline	5000	1097	1054	1046	1047
FA-4 (2024)	Ross Fineline	5000	1054	1046	1054	1046
	(on JD 300 changed to:		1047	1046	1054	1046
FA-5 (2025)	Ross Fineline	5000	1036	1036	1052	1054

Fathometer initial was checked frequently during the day for correct paper alignment. All data was scanned at least twice to compare analog values to corresponding digitized values and to insert peaks and deeps between soundings. The effects of excessive wave and swell action were corrected at this time in accordance with Section 4.9.8.2 of the Hydrographic Manual. Depths on this survey range between 1.5 and 173 fathoms.

All malfunctions and equipment casualties were corrected in a timely manner resulting in no loss of data due to sounding equipment failure or malfunction. On JD 300 Ross fathometer s/n 1054, aboard survey launch 2024, failed to record properly during morning phase calibration and was replaced with Ross fathometer s/n 1047. This fathometer remained in launch 2024 through the end of the project.

Velocity correctors used on this survey were calculated from Nansen cast 002 taken on JD 291, and verified by cast 004 taken on JD 332. See Table II, Nansen Casts, for location of casts. Due to close agreement between the two Nansen casts, velocity of sound correctors from cast 002, as compiled in velocity Table II, Separate D, Abstracts of Corrections to Echo Soundings, are to be applied to all sounding data acquired on this survey. Reversing thermometers and Beckman salinometers used to determine water temperature and salinity were calibrated in March 1982 by Northwest Regional Calibration Center, Seattle, Washington.

Bar checks were used to provide data to compute TRA correctors. Bar checks were performed on a daily basis in sheltered waters adjacent to the working grounds, due to heavy sea conditions in the survey area.

Table II

Nansen Casts

Number	Date	Depth	Latitude	Longitude
002	JD 291	500 m	21°31'59"N	157°42'52"W
004	JD 332	3500 m	21°50'24"N	157°28'30"W

FAIRWEATHER hydrographic survey launches 2023, 2024 and 2025 were individually tested for settlement and squat on 10 and 23 March 1982 at Shilshole Bay Marina in Seattle, Washington. After installation of side scan sonar equipment in 2024, both 2023 and 2024 were retested on 30 July 1982 in Womans Bay, Kodiak, Alaska. Vessel 2023 was retested to resolve a difference between the 10 March 1982 settlement and squat curve historical data for that launch. The 10 March 1982 curve was confirmed and used for all settlement and squat corrector computations for the 1982 field season. Survey launch 2026 was acquired by FAIRWEATHER in September 1982 and tested on 9 October 1982 in Kaneohe Bay, Oahu, Hawaii.

Settlement and squat tests were conducted in accordance with Section 4.9.4.2 of the Hydrographic Manual. The survey launches were tested at speeds from idle to 2700 RPM, in 200 RPM increments. A Zeiss Ni 2 level was used to read a stadia rod held over the transducer when the launch speed was attained. A tide staff was read simultaneously with the stadia rod to correct for tidal influences. These test results were used to determine speeds by RPM at which settlement and squat correctors would be applicable. See Table III, Restricted Speeds by RPM, for these values.

These RPM ranges were not used to collect data during the project, eliminating the need to apply any settlement and squat correctors. For further information, see Corrections to Echo Soundings Report, OPR-T126-FA-82.

Table III

Restricted Speeds by RPM

Launch	Restricted RPM's
FA-3 (2023)	2250 - full
FA-4 (2024)	2450 - full
FA-5 (2025)	2300 - full

E. Hydrographic Sheets

All field sheets were plotted aboard the FAIRWEATHER using two PDP8/E computers (s/n 09524 and s/n 01021) and one Complot plotter (s/n 5557-5). All hydrographic data for this survey will be forwarded to the Pacific Marine Center in Seattle, Washington, for verification and smooth plotting. The final field sheet is plotted on a 21 by 52 inch sheet of mylar at a skew of 313° and a scale of 1:10,000. Development "A" is plotted on a 9 by 6 inch sheet at a skew of 0° and a scale of 1:5,000. ✓

F. Control Stations

Horizontal control operations, on this survey, were conducted by FAIRWEATHER personnel. Four stations were recovered and one new station was established for electronic control. See Table IV, Control Stations, for an explanation of how each station was utilized.

A satisfactory check angle could not be obtained at Pako 1932 using the published position. A new position for Pako was established using triangulation techniques from two existing stations: Paha 1910 and Mokolii Island 2 1976. For further details see Section F, Techniques, Horizontal Control Report, OPR-T126-FA-82. No other problems or anomalies in ties and closures were encountered, nor were any unconventional survey methods used during this survey. ✓

The Old Hawaiian Datum was used throughout this project. All positions meet or exceed Third Order Class I standards.

Table IV

Control Stations

Hydrographic Signal Number	Station Name
300	Mokapu 1872 1962; recovered as described;* used as electronic control station.
304	Castle 1932; recovered as described; used as visual check station for diver's investigation fix #4468.
310	Pako 1932; recovered as described; new position established by triangulation from Pahu 1910 and Mokolii Island 2 1976; used as electronic control station.
400	Mokolii Island 2 1976; recovered as described; used as electronic control station.
401	Kaneohe Bay Entrance Range Light (USCG Light List #3742.10); located as described; used as launch calibration point and theodolite initial.

* "as described" refers to the Horizontal Control Report, OPR-T126-FA-82.

G. Hydrographic Position Control

Hydrographic positioning was accomplished using Motorola Mini-Ranger LII in range-range and range-azimuth configurations. No data was lost due to electronic positioning equipment failure.

Baseline calibrations and systems checks were conducted in accordance with Appendix M and S of the PMC OPORDER. Details of the baseline calibrations in support of this survey are contained in the Electronic Control Report, OPR-T126-FA-82. Systems checks were conducted using calibration pole, theodolite intersection, multi-rate comparison and baseline crossing techniques.

Attempts to conduct systems checks on the working grounds were unsuccessful due to the rough seas and lack of suitable stationary calibration points. Baseline crossings were conducted in the survey area on calm days, confirming the BLC corrector values and providing general confirmation of the Signal List positions for those stations tested.

All critical and the remainder of non-critical systems checks were conducted in the sheltered waters of Kaneohe Bay. Kaneohe Bay Entrance Range Front Light was geodetically located and designated for use in calibration pole system checks. Table V, Electronic Control Equipment, summarizes the console and transponder combination utilized during this survey.

Table V

Electronic Control Equipment

Console	Transponder Code	5	6	7	8	9	A	B	C
701		X	X	X					
702		X	X	X				X	
703		X							
BO323		X	X	X	X				

Positional accuracy was not affected by unusual weather conditions, including Hurricane Iwa. No hydrography was conducted with weak control geometry or less than minimum signal strength values as determined by BLC data. Launch Mini-Ranger antennas are located over the transducers, eliminating ANDIST corrections to the data. For further details, see the Electronic Control Report, OPR-T126-FA-82, Island of Oahu.

H. Shoreline

Shoreline for this survey was obtained from Registered Shoreline Manuscript TP-00720. This manuscript was provided by C342 and C353 at a scale of 1:10,000. No aerial photos of this area were provided.

The shoreline was field verified and, with one exception, hydrography and shoreline from the manuscript compare very well. Hydrographic shoreline run between latitudes 21°27'44"N and 21°27'34"N and longitudes 157°45'42"W and 157°44'33"W indicate the existence of shoaling at 21°27'38"N and 157°45'11"W. The launch could not run in this shoaling area due to surf. This shoaling may be a continuation of the "foul area" shown on TP-00720 at 21°27'35"N and 157°45'22"W, a compilation error on the manuscript or a separate feature not identified during field edit. This discrepancy was not identified in the hydrographic record until FAIRWEATHER had departed the project area. The shoal was not readily apparent from seaward due to the high surf in the vicinity. No attempt was made to verify this feature from the shore.

A reinspection of this area on the aerial photographs is recommended to provide possible resolution of this problem. Because of the proximity to a documented foul area and the general surf conditions on this shoreline, this undeveloped foul area does not compromise the adequacy of this survey. There were no other shoreline manuscript discrepancies identified.

There were no hydrographic control stations located seaward of the shoreline.

I. Crosslines

A total of 165.0 nautical miles of hydrography was run on this survey, with 19.1 nautical miles of crosslines comprising 11.6% of the total hydrography. All crosslines are oriented normal to the mainscheme.

Ninety-eight percent of all crosslines meet the comparison criteria as specified in Section 1.1.2, Part B. 11.1 of the Hydrographic Manual. The crossline

soundings that did not meet the comparison criteria are either located in areas of steeply sloping contours and are valid representations of a rapidly changing bottom or are attributed to slight positional differences. No significant crossline/mainscheme discrepancies exist.

J. Junctions

This survey junctions with the contemporary surveys listed in Table VI, Junctional Surveys.

Table VI

Junctional Surveys

Survey	Scale	Year	Type	Location
H-10059	1:10,000	1982	Contemporary	Northwest
H-10068	1:80,000	1982	Contemporary	Northeast
H-10056	1:10,000	1982	Contemporary	East
H-9593	1:10,000	1976	Contemporary	Southwest
H-9594	1:10,000	1976	Contemporary	West

All junctions were adequate and soundings compare favorably, with the exception of five soundings on survey H-9593. See Table VII, Junctional Comparisons Between Surveys H-10058 and H-9593, for these discrepancies.

Table VII

Junctional Comparisons Between Surveys

H-10058 and H-9593 *See Evaluation Report Section S*

Latitude	Longitude	H-10058 (fm)	~~(fm)~~ ft	Fix #	H-9593 (ft)
21°28'04"N	157°45'54"W	~~5~~ 5.8	34.8 ~~33.6~~	One sounding out of Fix # 6187.	37
21°28'04"N	157°45'48"W	~~5~~ 5.7	34.2 ~~33.0~~	One sounding out of Fix # 6176	35
21°28'27"N	157°45'40"W	~~9~~ 9.9	59.6 ~~57.6~~	One sounding out of Fix # 6121	65
21°28'24"N	157°46'24"W	11 11.9	71.4 ~~66.0~~	Two soundings out of Fix # 6001	72
21°28'44"N	157°46'37"W	~~9~~ 9.6	57.6 ~~56.4~~	One sounding before Fix # 6368	65

Junction overlap between survey H-10058 and surveys H-9593 and H-9594 is excessive because copies of prior and junctional surveys for sheet layout and planning were not received until after hydrography had commenced.

Close inspection of the sounding discrepancies in Table VII, Junctional Comparison Between Surveys H-10058 and H-9593, reveals that the irregular and steeply sloping bottom in the vicinity of Pyramid Rock adequately explains these discrepancies. Contour agreement with junctional surveys is adequate and meets the requirements of Section 1.1.2 of the Hydrographic Manual.

K. Comparison with Prior Survey

There was one Pre-Survey Review (PSR) item within the boundaries of this survey. PSR item 50465 was reported to be a "dangerous wreck" submerged in 24 feet of water approximately 350 meters east of Pyramid Rock at 21°27'55"N, 157°45'45"W. Mainscheme hydrography and a position controlled diver's investigation found no signs of this charted wreck. Side scan sonar was not used due to steep bottom contours and turbulent surface conditions. Local divers and fishermen have no knowledge of this wreck. Official requests to the U.S. Army Corps of Engineers and U.S. Marine Corps resulted in no further information.

PSR item 50465 does not constitute a hazard to navigation since it is very near the surf zone and within the "Prohibited Area" around Mokapu Peninsula. Further field work will be required to locate or disprove this item.

Comparisons were made with prior surveys H-3252, Kahana Bay to Mokapu Point, 1910, scale 1:20,000 and H-5288, Northwest Coast of Mokapu Peninsula, May-November 1930, scale 1:5000.

In accordance with Section 6.5.3 of the Project Instructions, comparisons were made with prior surveys to determine changes in the extent or status of the Title 33 dumping grounds located within the survey limits. No evidence of dumping activity could be detected by sounding or contour comparison. For further discussion of dumping grounds see Section L, Chart Comparison, of this report.

All depth comparisons met Section 1.1.2 of the Hydrographic Manual. All soundings collected during this survey are accurate and adequate to superceed all prior surveys.

L. Comparison with the Chart

Comparisons were made with chart 19357, Island of Oahu, 16th Edition, dated December 1981, scale 1:80,000 and chart 19359, Kaneohe Bay, 7th Edition, dated August 1978, scale 1:15,000.

Ninety-five percent of all soundings met the comparison criteria outline in Section 1.1.2, Part B. 11.1 of the Hydrographic Manual. Table VIII, Chart Comparisons, details soundings not meeting the comparison criteria.

Table VIII

Chart Comparisons

Position	Charted Depth	H-10058 Depth	Fix #	Comments
21°27'44"N 157°45'44"W	1½	No soundings	--	Within surf zone. Use charted depth.
21°27'38"N 157°45'20"W	1½	2.2	4503	Use charted depth. See Section M, Adequacy of Survey.
21°29'51"N 157°46'27"W	47	42	4097	Chart shoalest depth.

Diver's Investigation

Two diver investigations were conducted on this survey. The first dive was a position controlled investigation of PSR item 50465. PSR item 50465 is a charted wreck in 24 feet of water. Divers positioned an anchored buoy at the charted position using range-azimuth techniques. A 50 meter circle search was performed using methods described in Section 7.1.1 of the NOAA Dive Manual. No evidence of the wreck was found and no positional fix was taken. See Section K, Comparison with Prior Surveys, for further details. The second dive was over a coral covered pinnicle at 21°27'47"N, 157°44'13"W. A least depth of ~~3.4~~ 2.3 fathoms was found. This ~~3.4~~ 2.3 fathom pinnicle is not considered a hazard to navigation because it is near the surf zone and within the "Prohibited Area" around Mokapu Peninsula. This least depth should be added to the next edition of the charts for this area.

Charted Danger Zones and Prohibited Areas

Two charted boundaries were investigated. The charted "Danger Zone" seaward of the Kaneohe Bay Marine Corps Air Station Weapons Training Range on Mokapu Point is correct and should be retained as presently charted. The charted "Prohibited Area" extending from Mokapu Peninsula to a point approximately 500 meters seaward of Pyramid Rock is a "Naval Defensive Sea Area" and should be retained as charted.

Dumping Ground

In accordance with Section 6.5.3 of the Project Instructions, that portion of the 10 nm by 4 nm dumping ground shown on chart 19357, coincident with H-10058, was investigated for removal. The 50 meter line spacing required in the referenced Project Instructions was amended based upon the bottom regularity shown by initial survey lines run at 100 and 200 meter intervals, and local knowledge cited in the following section. A radio message authorizing this change is included at the end of this portion of the report.

The history for the Title 33 dumping ground was obtained from Mr. David Kern, a marine engineer with the U.S. Army Corps of Engineers. This dump site is officially classified as discontinued and has not been used since the late 1960's. The dump site was used to dispose of dredge spoils from Kaneohe Bay.

A limited amount of military hardware was dumped by the Navy at the end of World War II. Detailed records on the dump site are incomplete, but do indicate that most dumping was conducted beyond the 100 fathom depth curve. No known hazards exist due to dumping, and the local presumption is that most material has been carried to deeper water by bottom transport mechanisms. ✓

No indication of shoaling or dangers to navigation due to dumping were found on H-10058 or during comparison with charts and prior surveys. The nature of bottom samples in the dump site area were not significantly different from samples taken outside the dumping grounds. Removal of the dump site designation from future charts is recommended.

Diver's Investigation also refer to paragraph L of this D.R.

Charted Wrecks

Two charted wrecks were investigated. The first, PSR number 50465, was diver investigated as previously discussed in Section K, Comparison with Prior Survey. The second, a charted wreck located in 55 fathoms of water at 21°30'41"N, 157°46'36"W, was investigated hydrographically. Hydrography at 50 meter line spacing was conducted over the charted position of the wreck and was plotted on Development A at a scale of 1:5000. No sign of this wreck was found on the fathograms. Local sources had no knowledge of this charted wreck. A diver's search was not conducted due to the depth of the water. Side scan sonar was not used due to the depth of the water, the rugged nature of the bottom and rough sea surface conditions. Further field work will be required to positively disprove this wreck. Based upon the depth of the water, lack of local information and the results of the search to date, continued efforts to disprove this item have a low probability of success.

Awois 11/6/84 MSM ✓

Rocks and Other Near Shore Features

The position of rocks on chart 19357 along the northern shore of Mokapu Peninsula appear to be charted 50 to 100 meters seaward of rocks shown on the shoreline manuscript. This positional discrepancy is explained in Paragraph 4, Change Number 1, Supplement to Instructions, OPR-T126-FA-82, Hawaiian Islands, dated July 30, 1982. Paragraph 4 states that charted rock locations have been generalized and in fact may represent several rocks or perhaps a foul area. What appears to be a discrepancy is explained as cartographic license. With the exception of the foul area located at 21°27'38"N, 157°45'11"W, discussed in greater detail in Section H, Shoreline, of this report, rocks and other shoreline features from TP-00720 compare favorably with chart 19357. ✓

Charted Buoys and Navigational Aids

The charted mooring buoy "NOSC 3" located at 21°28'23"N, 157°45'36"W was searched for but not found. There is no mention of this buoy in either the Coast Pilot or the USCG Light List. It is suggested that this buoy has been sunk or otherwise removed from this area. Local sources were unable to provide information on buoy "NOSC 3". This buoy should be removed from the chart. ✓

Charted buoys, lights and day shapes of Sampan Channel, Kaneohe Bay Utility Channel, and the Sampan Channel Range are within the boundaries of this survey, but not within the limits of hydrography. See Section N, Aids to Navigation, of this report for further details concerning location of fixed aids and verification of ranges.

No hazards to navigation were located on this survey.

M. Adequacy

This survey is accurate and adequate to superceed all prior surveys. There are a number of areas that warrant further investigation. PSR item number 50465 was investigated but was not located, as discussed in Section K, Comparison with Prior Survey, of this report. The requirement for "salvage documentation" in order to disprove this item should be modified to allow for disproval by diver investigation or side scan sonar coverage. Final disproval using these field techniques will require calmer wind and surf conditions than were experienced during this survey.

Shoreline hydrography between latitudes 21°27'44"N and 21°27'34"N and longitudes 157°45'42"W and 157°44'33"W and the mainscheme hydrography in that area will require additional field work during calmer weather to meet the line spacing requirements of Section 4.3.4 of the Hydrographic Manual. See Section H, Shoreline, for further discussion of this item. Prior surveys, chart 19357 and this survey indicate the existence of a shoal area at 21°27'35"N, 157°45'22"W. See Section H, Shoreline, for further information on this item. The shoreline manuscript identifies a small foul area to the southeast of this area, but does not indicate the above mentioned feature. Further field work during calm weather or reexamination of the aerial photos of this area will be required to accurately define this near shore feature. Concur

Hydrography in the vicinity of Pyramid Rock was conducted to the 500 meter arc, from station Pako. The area from the 500 meter arc to the surf zone is covered by survey H-9593, except for an area centered at 21°27'50"N, 157°45'50"W. Soundings shoaler than 3.4 fathoms were not obtained due to hazardous wind and surf conditions. Further field work is not recommended due to the proximity of the surf zone and because the area is within the "Prohibited Area" around Mokapu Peninsula. Adequacy of the survey is not compromised.

Hydrographic verification of the published position for Sampan Channel Day Beacon #4 and light 3749 was unsuccessful. Check position inverses failed to meet the requirements for a 1:10,000 scale survey. Project time limits and inclement weather kept these aids from being located geodetically. Further field work would be required to verify the position of these fixed aids to navigation.

N. Aids to Navigation

Fixed and floating aids to navigation as well as landmarks for charts were compared against the U.S. Coast Guard Light List, 1982 Edition; NOS charts 19359 and 19357; and the DIPFIL position listing. Table IX, Hydrographically Positioned Fixed and Floating Aids to Navigation, compares the published positions with those aids that were hydrographically located.

All floating aids except charted mooring buoy "NOSC 3" fell within the boundary limits of the survey, but outside the limits of hydrography.

Major damage from Hurricane Iwa to fixed and floating aids to navigation within the survey area was reported to the USCG by radio message on 29 November 1982, a copy of which is appended to this section. Three buoys with minor positional discrepancies were not reported and are listed in Table IX, Hydrographically Positioned Fixed and Floating Aids to Navigation. Mooring

Table IX

Hydrographically Positioned Fixed and Floating Aids to Navigation

Lt. List #	Lt. List Name	(DIPFIL) Published Position	Field Position	Inverse	Recommendation
Sampan Channel					don't concur, buoy is in
3746	Entrance Light Buoy 2	21°28'21.07"N 157°46'47.60"W	21°28'21.03"N 157°46'48.23"W	18.963	*Buoy out of position; further action required. corrected position
--	Daybeacon 4	21°27'55.5"N 157°47'10.4"W	21°27'55.03"N 157°47'10.02"W	18.128	Use published position. Checks on hydro position do not meet requirements for 1:10,000 survey.
3749	Light 5	21°27'35.8"N 157°47'18.8"W	21°27'35.36"N 157°47'18.65"W	14.205	Same as above
--	Daybeacon 7	21°27'24.8"N 157°47'29.2"W	21°27'24.72"N 157°47'29.21"W	2.477	Position verified
--	Daybeacon 8	21°27'11.9"N 157°47'44.2"W	21°27'11.83"N 157°47'44.27"W	2.949	Position verified
--	Daybeacon 9	21°27'10.3"N 157°47'42.1"W	21°27'10.28"N 157°47'42.13"W	1.060	Position verified
Kaneohe Bay Utility Channel					
--	Buoy 2	21°27'19.5"N 157°47'09.8"W	21°27'18.63"N 157°47'08.62"W	43.246	*Buoy out of position; further action required.
--	Daybeacon 3	21°27'21.2"N 157°47'06.8"W	21°27'21.00"N 157°47'06.91"W	4.415	Position verified
3751.05	Light 4	21°27'09.9"N 157°47'03.3"W	21°27'09.89"N 157°47'03.36"W	1.755	Position verified
--	Buoy 5	21°27'09.7"N 157°47'00.6"W	21°27'08.89"N 157°47'00.97"W	27.094	*Buoy out of position; further action required.

*Hydro positions taken on November 24 and 26 just after Hurricane Iwa (November 23, 1982). Recommend buoy location be checked.

buoy "NOSC 3" charted at 21°28'23"N, 157°45'36"W was not found and has either been removed or sunk. This buoy should be removed from the chart. ✓

One Nonfloating Aid to Navigation, Pyramid Rock Light, and one Landmark for Charts, NW Dome Aero Obst. Lt., were geodetically located. The published positions for both Pyramid Rock Light and NW Dome Aero Obst. Light were verified. Sampan Channel Front and Rear Lights and the range's azimuth were also verified. No bridges, overhead cables, submarine cables, pipelines or ferry routes were located in this survey area. For further information see NOAA Forms 76-40, Separate I, Landmarks for Charts, or the Horizontal Control Report for this survey. ✓

O. Statistics

	2023	2024	2025	Totals
Positions	~~156~~ 116	~~525~~ 490	~~652~~ 648	~~1,333~~ 1254
Nautical Miles	13.0	73.7	78.3	165.0
Square Miles	0.8	4.5	4.7	10.0
Bottom Samples	-	-	41	41
DP's	9	-	1	10

19.1 nm of crosslines were run comprising 11.6% of total hydrography. No magnetic or current stations were established within the limits of this survey. Tide stations 161-2340, Honolulu, Oahu, and 161-2480, Mokuolue, were used for tide control on this survey (see Field Tide Note following text). Two Nansen casts were performed for sound velocity determination (see Section D, Equipment and Corrections to Echo Soundings).

P. Miscellaneous

Tidal currents, longshore currents, undertow and rip currents are common to this area. One swimmer fatality was directly related to currents off Pyramid Rock during survey operations. No formal current studes were performed during this project. Field observations and local knowledge was compiled in accordance with Section 8.2.3 of the Project Instruction. For further information see memo to N/MOP, subject: Currents, OPR-T126-FA-82, Hawaiian Islands, dated January 21, 1983, appended to this section of the report.

Line spacing on this survey was reduced to one-half the requirements for surveys along an open coast as determined by Section 4.3.4.2 of the Hydrographic Manual. Reduced line spacing was employed to help deliniate contours around Mokapu Point, and to provide greater sounding density at the entrance to Sampan Channel in accordance with Section 4.3.5.4 of the Hydrographic Manual. To be consistent throughout the survey two additional splits could have been run in the area centered at 21°28'48"N, 157°44'44"W. The two additional lines mentioned above were not considered critical during the final days of the survey so resources were applied elsewhere. ✓

Line spacing centered at 21°28'48"N, 157°44'44"W is greater than is found over other comparable areas of this survey. Contour development was deemed

adequate, and line spacing was not reduced in this area. Line spacing in this area meets the requirements of Section 4.3.4 of the Hydrographic Manual.

The area centered at 21°30'32"N, 157°47'06"W was split to 50 meters to help develop contours, insure 100 meter line spacing, and to facilitate junction with concurrent hydrography. Two lines between positions 2089 and 2097 are slightly offset. This offset is not a result of control inaccuracy, but the result of a plotter origin slip during data collection. ✓

Bottom samples were obtained and preserved in accordance with Change No. 1: Supplement to Project Instructions, July 30, 1982. Samples were forwarded to the Smithsonian Institute.

Q. Recommendations

This survey should be used in conjunction with other contemporary surveys, to update the existing 1:15,000 scale chart (19359), the 1:80,000 scale chart (19359) and to produce new charts as required. Suggestions for further work discussed in Section M, Adequacy, do not compromise the overall adequacy of the survey and should not delay verification and compilation of this data. ✓

R. Automated Data Processing

The following list of Hydroplot programs were used for data acquisition and processing during this survey:

Number	Program Name	Version Date
RK 112	R/R Real Time Plot	09/11/80
RK 201	Grid, Signal and Lattice Plot	04/18/75
RK 211	R/R Non-Real Time Plot	01/30/76
RK 212	Visual Station Load and Plot	04/01/74
RK 407	Geodetic Inverse/Direct Computation	09/25/78 ✓
RK 409	Geodetic Utility Program	09/20/78
RK 300	Utility Package	10/21/81
RK 330	Data Reformated and Checked	05/04/76
RK 360	Electronic Corrector Abstract	02/02/76
AM 500	Predicted Tides	11/10/72
RK 530	Velocity Correctors	05/10/76
RK 561	Geodetic Calibration	02/19/75
AM 602	Elinore	05/20/75

List of Separates Following Text

A. Hydrographic Sheet Projection Parameter Printouts

B. Field Tide Note and Abstracts of Times of Hydrography

C. Geographic Names List

D. Abstracts of Corrections to Echo Soundings
Velocity Corrector Tape Printout
TC/TI Tape Printouts

E. Abstracts of Corrections to Electronic Position Control
Shore Station and Vessel Equipment

F. List of Stations

G. Abstracts of Positions

H. Bottom Sample Log Sheets

I. Landmarks for Charts

J. Approval Sheet

```
FA10-8-82
PARAMETERS
SKEW 313,21,52

FEST=86840
CLAT=2286000
CMED=157/50/00
GRID=30
PLSCL=10000
PLAT=21/31/45
PLON=157/50/00
VESNO=2020
YR=82
ANDIST=0.0
```

```
FA10-8-82
DEVELOPMENT ( SCALE= 1:5,000)
PARAMETERS
SKEW 0,9,6

FEST=86840
CLAT=2286000
CMED=157/50/00
GRID=15
PLSCL=5000
PLAT=21/30/24.30
PLON=157/46/49
VESNO=2023
YR=82
ANDIST=0.0
```

Field Tide Note

OPR-T126-FA-82

Island of Oahu, Hawaiian Islands

Field tide reduction of sounding was based on predicted tides from Honolulu, Oahu. Correctors were interpolated by the Hydroplot system using program AM 500. All times of both predicted and recorded tides were based on Universal Coordinated Time (UCT). Predicted tides were acceptable for hydrography with no discrepancies attributable to tide errors.

Honolulu Standard Gauge (161-2340)

The permanent tide station at Honolulu, Oahu (161-2340) was the primary controlling gauge for project OPR-T126-FA-82, Island of Oahu. Levels were run by FAIRWEATHER personnel at the beginning and end of the project. Opening levels run on 7 October 1982 (JD 280) to four existing benchmarks were closed to 4.3 mm over the entire run of .49 km. Closing levels, run on 23 November 1982 (JD 327) to the same four benchmarks were closed to 5.0 mm over the entire run of .50 km. No changes in elevation were observed during hydrographic operations. Tide marigrams from station 161-2340 (Honolulu) will be transmitted by the local tide observer in charge of this station.

Mokuoloe Island Subordinate Gauge (161-2480)

The permanent tide station located on Mokuoloe Island (161-2480) was used for controlling the entire survey area along the northeast coast of Oahu. Opening and closing levels were run by FAIRWEATHER personnel to three existing benchmarks at the beginning and end of the project. Opening levels run on 8 October 1982 (JD 281) were closed to 2.1 mm over a run of .49 km. Closing levels, run on 24 November 1982 (JD 328) were closed to 2.0 mm over a run of .50 km. No changes in elevation were observed during hydrographic operations. Tide marigrams will be transmitted by the local tide observer in charge of this station.

Laiemaloo Subordinate Gauge (161-2702)

Tide station Laiemaloo (161-2702) was used to control survey operations run between Kaoio Point and longitude 158°00.0'W along the northeast coast of Oahu. A 1-10 foot scale Metercraft bubbler tide gauge (#7601-7536-34) was installed on 25 October 1982 (JD 298). Two gauge problems developed (see Tide Gauge Problems section) which were field corrected. The gauge then functioned properly until removal on 22 November 1982 (JD 326). Opening and closing levels were run by FAIRWEATHER personnel to five existing benchmarks. Opening levels, run on 26 October 1982 (JD 299) closed to 7 mm over a run of 3.0 km. Closing levels, run on 22 November 1982 (JD 326) closed to 4 mm over the 3.0 km run. An apparent shift in the tide gauge orifice of 4 mm downward was discovered after the running of the closing levels. The orifice movement is a result of the heavy surf conditions in this area. The apparent orifice movement of 4 mm downward is not significant enough that correctors be applied to tide data from this station.

Waimanalo Subordinate Gauge (161-2396)

Tide station Waimanalo (161-2396) was used to control survey operations from the southern limit of hydrography northward to Makapu Point on the northeast coast of Oahu. Investigation of the historical tide station site proved that all the historical benchmarks had been destroyed by recent construction and renovations. A new tide station site, and five new benchmarks were established on the University of Hawaii pier located approximately one mile south of the historical site. Five benchmarks stamped 2376A - 2376E consecutively, were set in the northern cement curb along the length of the pier, running shoreward from the tide gauge location. State survey mark U-11, located at the western limit of the pier, was included in the leveling runs, opening levels, run on 12 October 1982 (JD 285) to all six marks, closed to 1.3 mm over a run of .65 km. Closing levels, run on 24 November 1982 (JD 328) to the same marks, closed to 1.8 mm over a .65 km run. No changes in elevation were seen during hydrographic operations. A 1-10 foot scale Metercraft bubbler gauge (#7601-7536-31) was installed on 11 October 1982 (JD 284) and ran well until removed on 29 November 1982 (JD 333).

Gauge Problems

Laiemaloo Tide Gauge (161-2702)

On 27 October 1982 (JD 300) tide gauge #7601-7536-34 located at tide station Laiemaloo (161-2702) began to malfunction. An interrupted pen trace, caused by corroded pen pivots on the recording mechanism of the gauge, was randomly seen between Julian dates 300 to 312. All periods of lost tidal trace were recoverable by interpolation of the marigram and no hydrography was lost as a result of this malfunction.

Table 1, Periods of Interrupted Tidal Trace, is a listing by Julian dates of periods in which no tidal trace was recorded on the marigram.

On 06 November 1982 (JD 310), gauge #7601-7536-34 located at station Laiemaloo (161-2702) was found to be jammed. No tidal record was gathered between 0100, 4 November 1982 (JD 308) to 0200, 6 November 1982 (JD 310). No hydrography, controlled by this gauge, was run during this period.

Table 1

Times of Lost Tidal Record

Laiemaloo Tide Station (161-2702)

Julian Day	Times (+10)
300	1928-1936
300	1939-2155
301	0945-0950
301	1533-1600
301	1945-2250
301	2315-2340
302	0650-0725
302	0825-0905
302/303	2110-0135
303	0720-1345
303/304	2025-0120
304	0225-0305

Table 1 continued

Julian Day	Times (+10)
304	0631-0708
304	0840-0850
304	0930-1450
304/305	2345-0000
305	1017-1235
307	1058-1735
307	2117-2143
307	2215-2232
312	2020-2035

Miscellaneous

All tidal records were based on a +10 time meridan corresponding to Universal Coordinated Time (UCT).

On 23 November 1982 (JD 327) Hurricane Iwa struck the islands of Oahu, Kauai, and Niihau. A tidal surge of 3-5 feet was predicted for the area on and around these islands. Although the gauge located at station Laiemaloo (161-2702) was removed prior to the hurricane and station Wiamanalo (161-2376) showed no sign of tidal surge, a close inspection of data from both permanent gauge sites should be made on this date to see if either location experienced a tidal surge.

Because the tidal records from the permanent gauge sites will not be transmitted until a later date by the local tide observers, a comparison between adjacent tide gauges could not be made, and should be performed at a later date when all tidal records are available. A recommendation for zoning and time correctors could not be made for the same reasons.

For station Laiemaloo gauge, zero was equivalent to 0.880 feet (0.268 meters) on the adjacent staff. Gauge zero for station Wiamanalo was equivalent to 1.420 feet (-0.433 meters) on the adjacent tide staff. Gauge to staff comparisons for both permenent sites should be taken from historical data because records from both sites were unavailable for determination.

The gauge at station Laiemaloo (161-2702) was only under operation for a period of 28 days. Its removal was necessitated by the approach of Hurricane Iwa.

Times of hydrography abstracts are appended to this field note.

Submitted by:

Arthur E. Francis

Arthur E. Francis
Ensign, NOAA

Approved by:

Walter F. Forster

Walter F. Forster
Commander, NOAA
Commanding Officer

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

ABSTRACT OF TIME OF HYDROGRAPHY AND/OR FIELD EDIT

Date 2 DEC. 82

Project No. OPR-T126-FA-82

Vessel 2025

Date of Survey 13 OCT 82 - 27 NOV 82

Field Sheet No. FA10-8-82

Registry No. H-10058

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
286	172120	-	286	210140
287	164600	-	287	235245
288	165640	-	288	231630
290	195230	-	290	225300
293	233449	-	294	011559
306	002557	-	306	003359
323	181720	-	324	004118
329	220659	-	—	—

J.D.	Time (Z)		J.D.	Time (Z)

✓ ACF

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

ABSTRACT OF TIME OF HYDROGRAPHY AND/OR FIELD EDIT

Date 2 DEC. 82

Project No. OPR-T126-FA-82

Vessel 2024

Date of Survey 13 OCT 82 – 27 NOV. 82

Field Sheet No. FA 10-8-82

Registry No. H-10058

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
286	173656	-	286	230154
287	171752	-	288	000405
288	172804	-	288	191554
291	194556	-	291	201413
294	192858	-	294	195601
304	225733	-	304	232256
306	002800	-	—	—
307	011100	-	307	021330

J.D.	Time (Z)		J.D.	Time (Z)

√AEF

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SURVEY

ABSTRACT OF TIME OF HYDROGRAPHY AND/OR FIELD EDIT

Date 2 DEC. 82

Project No. OPR-T126-FA-82 Vessel 2023

Date of Survey 13 OCT 82 – 27 NOV. 82

Field Sheet No. FA 10-8-82 Registry No. H-10058

Field Sheet is Complete/~~Incomplete~~

J.D.	Time (Z)		J.D.	Time (Z)
289	200536	–	290	012941
329	233811	–	330	000743
331	214557	–	331	215051

J.D.	Time (Z)		J.D.	Time (Z)

JAEF

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10058

HAWAII, EAST COAST OF OAHU

Name on Survey

Approaches to Kaneohe Bay

	A ON CHART NO. 1935, 1958	B ON PREVIOUS SURVEY NO. 1959	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 TP-00720		
HAWAII (Title)										1
OAHU	X		X		X			X		2
PUKAULUA POINT	X								X	3
PYRAMID ROCK	X				X				X	4
~~ULUPAU HEAD~~									X	5
KANEOHE BAY (Title)										6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
										17
										18
						Approved:				19
										20
						Charles E. Harrington				21
						Chief Geographer. WSCA2x5				22
						8 DEC. 1983				23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

OPR T126-FA-82

SOUNDING CORRECTION ABSTRACT

FIELD NO. FA 10-8-82

VESSEL 2025

REGISTRY NO. H- 10058

JULIAN DATE	From Time (UTC)	To Time (UTC)	Velocity Corr. Table No.	(Note: TRA Corr. is the algebraic sum of these columns) Draft Corr.	Instrument Error Corr.	Initial Corr.	S & S Corr.	TRA Corr. ft/fm	Remarks
286	172120	-------	II	0.2	-------	-------	------	0.2	
308	002557	-------	0	0.0	-----	------	-----	0.0	
323	181720	--------	II	0.2	------	------	-----	0.2	
329	220730	--------	0	0.0	-------	------	-----	0.0	

OPR T126-FA-82

SOUNDING CORRECTION ABSTRACT

FIELD NO. FA 10-8-82

REGISTRY NO. H-10058

VESSEL 2024

JULIAN DATE	From Time (UTC)	To Time (UTC)	Velocity Corr. Table No.	(Note: TRA Corr. is the algebraic sum of these columns) Draft Corr.	Instrument Error Corr.	Initial Corr.	S & S Corr.	TRA Corr. ft/fm	Remarks
286	173656	------	II	0.2	-----	-------	-----	0.2	
305	000000	------	0	0.0	-------	-------	-----	0.0	

OPR T-126-FA-82

SOUNDING CORRECTION ABSTRACT

FIELD NO. FA 10-8-82

VESSEL 2023

REGISTRY NO. H-10058

JULIAN DATE	From Time (UTC)	To Time (UTC)	Velocity Corr. Table No.	(Note: TRA Corr. is the algebraic sum of these columns) Draft Corr.	Instrument Error Corr.	Initial Corr.	S & S Corr.	TRA Corr. ft/fm	Remarks
289	200536	-----	II	0.2	--------	------	------	0.2	
331	232116	-----	0	0.0	------	------	-----	0.0	

VELOCITY TABLE II
OPR-T126-FA-82
OAHU IS., HAWAII
(USED FOR SHIPBOARD FINAL FIELD SHEET PLOT)

```
000012 0 0000 0002 001 000000 000000
000029 0 0001
000049 0 0002
000065 0 0003
000085 0 0004
000104 0 0005
000122 0 0006
000141 0 0007
000159 0 0008
000178 0 0009
000197 0 0010
000216 0 0012
000280 0 0014
000320 0 0016
000360 0 0018
000390 0 0020
000430 0 0022
000468 0 0024
000513 0 0026
000545 0 0028
000595 0 0030
000740 0 0035
000837 0 0040
000971 0 0045
001200 0 0050
001340 0 0055
001560 0 0060
001840 0 0065
002320 0 0070
999999 0 0075
```

VELOCITY TABLE II
OPR-T126-FA-82
OAHU IS., HAWAII
(USE FOR PMC SMOOTH PLOT OF ALL LAUNCH HYDRO)

```
000012 0 0000 0002 001 000000 000000
000029 0 0001
000049 0 0002
000065 0 0003
000085 0 0004
000104 0 0005
000122 0 0006
000141 0 0007
000159 0 0008
000178 0 0009
000197 0 0010
000202 0 0011
000216 0 0012
000248 0 0013
000280 0 0014
000300 0 0015
000320 0 0016
000340 0 0017
000360 0 0018
000375 0 0019
000390 0 0020
000410 0 0021
000430 0 0022
000468 0 0024
000513 0 0026
000545 0 0028
000595 0 0030
000640 0 0032
000690 0 0034
000725 0 0036
000770 0 0038
000837 0 0040
000860 0 0042
000900 0 0044
000950 0 0046
001000 0 0048
001040 0 0050
001090 0 0052
001120 0 0054
001190 0 0056
001250 0 0058
001310 0 0060
001360 0 0062
001410 0 0064
001480 0 0066
001530 0 0068
001560 0 0070
001660 0 0072
001730 0 0074
001820 0 0076
001900 0 0078
002000 0 0080
999999 0 0085
```

ELECTRONIC COLLECTOR ABSTRACT

VESSEL : 2023 R/R SHEET : FA10-8-82
M-10053

TIME	DAY	PATTERN 1	PATTERN 2
200536	269	-00003	-00005
211016		-00005	-00005
213756		-00003	-00005
000021	296	-00003	-00005
013041		+00002	+00002

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023 H/AZ DEV. A SHEET : FA10-6-82
H-10058

TIME	DAY	PATTERN 1	PATTERN 2
223400 232200	331	-0000~~2~~6 +00000	-88464 +00000

ELECTRONIC COLLECTOR ABSTRACT

VESSEL : 2024 R/V SHEET : FA15-8-82
H-10056

TIME	DAY	PATTERN 1	PATTERN 2
173356	286	-00002	-00002
171752	287	-00002	-00002
225214		+00002	-00002
000017	288	+00002	-00002
172834		-00002	-00002
194556	291	-00002	-00002
192058	294	-00002	-00002
225733		+00002	-00002
000000	305	+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2024 R/A2 SHEET : FA10-8-82
H-10058

TIME	DAY	PATTERN 1	PATTERN 2
002800	306	+00002	-60150
011100		+00002	-56221
021400		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025 I/R D.S. SHEET : FA10-8-82
H-10058

TIME	DAY	PATTERN 1	PATTERN 2
233449	293	-00004	-00001
000128	294	-00004	-00001
001509		-00001	-00004
101720	323	-00052	-00034
001548	324	-00052	-00034
004119		+00000	+00000

ELECTRONIC CONDUCTOR ABSTRACT

VESSEL : 2025 P/AZ SHEET : Falk-6-82

TIME	DAY	PATTERN 1	PATTERN 2
172120	286	-00002	-24245
164600	287	-00002	-25133
165646	288	-00002	-30048
181515		-00002	-40027
195236	296	-00002	-44459
200815		-00002	-49571
205545		-00002	-29292
002557	307	-00002	-04233
220659	329	-00005	-09361
220736		+00004	+20020

HYDROGRAPHIC CONTROL STATIONS
OPR-T126-FA-82
FA 10-8-82
OAHU, HAWAII

MOKAPU 1872 NGS QUAD 211573 1021
300 3 21 27 26776 157 44 04665 250 0202 000000

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

PAKO 1932 NGS QUAD 2111573 1336 (FIELD POSITION; FAIRWEATHER 1982)
310 3 21 27 50330 157 46 03951 250 0022 000000

MOKOLII ISLAND 2 1976 NGS QUAD 211574 1041
400 3 21 30 45907 157 49 56052 250 0063 000000

KANEOHE B F RNG LT (LT LST 3742.1) FAIRWEATHER 1982
401 3 21 29 55842 157 50 08093 139 0007 000000

NOTE: FOR INFORMATION ON TECHNIQUES UTILIZED IN POSITIONING ALL STATIONS LABLED FAIRWEATHER 1982, SEE HORIZONTAL CONTROL REPORT OPR-T126-FA-82, OAHU, HAWAII. FIELD VOLUME NUMBERS ARE LISTED ON THE INDIVIDUAL ABSTRACTS OF DIRECTIONS .

ABSTRACT OF POSITIONS

H- 1005B Console # 201 (or Mobile unit)

FA- 10-8-82

DAY	POSITIONS	CONTROL CODE*	CONTROL STATIONS and XPDR #			TYPE OF HYDRO						Sheets where Plotted		Rejected or Duplicated Positions
			S1/XPDR	M	S1/XPDR	MS	XL	MS SPLITS	PSR #	DEVEL. #	BS or DPs	Main Sheet	Enlargement #	
289	2000 - 2017	04	310/6	-	400/5	✓						✓		2016, 2017
289	2018 - 2025	04	300/7	-	400/5	✓						✓		
289	2026 - 2067	04	310/6	-	400/5	✓						✓		2026-34, 2036, 2045 - 62
289/290	2068 - 2080	04	310/6	-	400/5		✓					✓		
290	2081 - 2101	04	310/6	-	400/5	✓						✓		2081, 2088
329/330	2102 - 2108	03	400/5	-	-						7	✓		
331	2109 2110	03	400/5	-	—						2			
33	2111 - 2155	03	400/5	-	—					"A"			Dev "A"	

CONTROL CODES: 01 Visual; 03 Range/Az; 04 Range/Range; 05 Hyperbolic; 08 Hyper/Visual; 09 Range/Visual

ABSTRACT OF POSITIONS

H- 10058 Console # B0323 (or Mobile unit)

FA- 10-8-82

DAY	POSITIONS	CONTROL CODE*	CONTROL STATIONS and XPDR # S1/XPDR	M	S2/XPDR	TYPE OF HYDRO MS	XL	MS SPLITS	PSR #	DEVEL. #	BS or DPs	Sheets where Plotted Main Sheet	Enlargement #	Rejected or Duplicated Positions
286	4000 – 4169	04	300/7	–	400/5	✓						✓		4027-28 4168-69
287	4170 – 4277	04	300/7	–	400/5	✓						✓		4171-73, 4175-77 4179-81, 4188-86 4188-90, 4205, 07 09, 12, 14, 16, 18, 21, 23, 25, 27
287/284	4278 – 4309	04	310/6	–	00/5	✓						✓		
288	4309 – 4351	04	310/8	–	400/5		✓					✓		(4309 - DUPLICATE) 4325, 4326
288	4354 – 4422	04	310/8	–	400/5	✓						✓		4352, 4353
291	4423 – 4440	04	300/7	–	400/5	✓						✓		
291	4441 – 4461	04	300/7	–	400/5		✓					✓		
294	4462 – 4467	04	300/7	–	400/5	✓						✓		
304	4468 – 4465	04	310/6	–	400/5	✓						✓		4466-67 Not Used
306	4468 –	01		–	310 400						1	✓		2 angles No Check
307	4469 – 4525	03	310/6	–	–	✓						✓		

CONTROL CODES: 01 Visual; 03 Range/Az; 04 Range/Range; 05 Hyperbolic; 08 Hyper/Visual; 09 Range/Visual

ABSTRACT OF POSITIONS

H- 10058 FA- 10-8-82

Console # 202 (or Mobile unit)

DAY	POSITIONS	CONTROL CODE*	CONTROL STATIONS and XPDR # S1/XPDR	M	S2/XPDR	TYPE OF HYDRO MS	XL	MS SPLITS	PSR #	DEVEL. #	BS or DPs	Sheets where Plotted Main Sheet	Enlargement #	Rejected or Duplicated Positions
286	6000 - 6115	03	310/6	-	-	✓						✓		
287	6116 - 6341	03	310/6	-	-	✓						✓		
288	6342 - 6382	03	310/6	-	-		✓					✓		
288	6383 - 6540	03	310/6	-	-	✓						✓		
290	6542 - 6550	03	310/6	-	-	✓						✓		6541 UNUSED
290	6551 - 6564	03	310/6	-	-		✓					✓		
290	6565 - 6611	03	310/6	-	-	✓						✓		
293/294	6612 - 6614	04	300/7	-	310/8						3	✓		
294	6615 - 6620	04	310/5		400/5						6	✓		
307	6622 - 6623	03	310/6	-	-						2	✓		6621 UNUSED
323/324	6624 - 6652	04	310/6	-	400/5						29	✓		
329	6653	03	400/5								1	✓		

CONTROL CODES: 01-Visual; 03 Range/Az; 04 Range/Range; 05 Hyperbolic; 08 Hyper/Visual; 09 Range/V[illegible]

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
2025	OPR-T126-FA-82	82	FA 10-8-82	EPK	1/4/83

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE N	SAMPLE POSITION LONGITUDE 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.
6612	293 10/20/82	21/27/58	157/46/31	6.3				wh	fine S, Co		S.R.
6613	"	21/27/57	157/44/48	8.1				"	" " " wcl		"
6614	294 10/21/82	21/27/52	157/45/09	7.0				"	" " " "		"
6615	"	21/27/59	157/44/26	10.5					Co, wcl.		"
6616	"	21/28/34	157/44/27	27.2				gy	fine S		"
6617	"	21/28/18	157/44/16	17.1				wh	S		"
6618	"	21/28/14	157/44/37	18.6				"	fine S, Co		"
6619	"	21/28/36	157/46/14	28.2					Co, brk sh.		"
6620	"	21/28/11	157/46/21	16.9				wh	fine S, Co		"
6622	307 11/3/82	21/28/31	157/45/32	23.0					Co, crs. S.		C.B.
6624	323 11/19/82	21/28/18	157/46/13	7.7					Co		F.M.
6625	"	21/28/40	157/46/45	30.5					S, brk sh		"
6626	"	21/28/33	157/44/60	29.3					Co		"
6627	"	21/28/52	157/44/19	36.6				br	fine S		"
6628	"	21/29/31	157/44/06	61.1					Co.		"
6629	"	21/29/23	157/44/49	55.5					Co		"
6630	"	21/29/03	157/45/26	49.0				br	fine S		"

Use more than one line per sample if necessary.

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

NOAA FORM 75-44
(11-72)

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

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

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2025	OPR-T126-FA-82	"82"	FA 10-B-82	EPK	1/5/83

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE N	SAMPLE POSITION LONGITUDE 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.
6631	323 11/10/82	21/29/12	157/45/52	49.9				br	fine S		FAR
6632	"	21/28/50	157/46/18	18.3					Co.		"
6633	"	21/28/58	157/46/68	8.5					S, Co		"
6634	"	21/29/18	157/46/46	19.5					Co, wd		"
6635	"	21/29/22	157/46/26	33.0					Co		"
6636	"	21/29/45	157/45/57	49.4					Co.		"
6637	"	21/30/15	157/46/26	42.2				br	fine S		"
6638	"	21/29/56	157/46/31	38.9				br	fine S		"
6639	"	21/29/52	157/46/52	33.5					Co, brksh.		"
6640	"	21/29/29	157/47/22	8.7					Co, wd		"
6641	"	21/29/56	157/47/47	8.2				br	S, Co		"
6642	"	21/30/01	157/47/27	17.7				br	S, Co, wd		"
6643	"	21/30/24	157/47/17	36.3				br	S		"
6644	"	21/30/43	157/46/51	49.4				br	M, fine S		"
6645	"	21/31/27	157/47/30	56.6				br	M, fine S		"
6646	"	21/31/08	157/47/57	36.1				br	fine S, M		"
6647	"	21/30/43	157/48/26	14.5					S, Co.		"

Use more than one line per sample if necessary.

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

NOAA FORM 75-44
(11-72)

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

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL	PROJ. NO.	YEAR		CHECKED BY	DATE CHECKED
2025	OPR-T126-FA-82	"82"	FA 10-8-82	EMT	1/5/83

SERIAL NO.	DATE	SAMPLE POSITION LATITUDE N	SAMPLE POSITION LONGITUDE 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.
6648	323 11/18/82	21/30/15	157/47/54	8.8					Co, S		EMT
6649	"	21/30/23	157/48/13	7.0					Co		"
6651	324 11/19/82	21/28/16	157/45/43	10.1					Co, S		"
6652	"	21/30/24	157/46/45	41.2				br	S, M, brk sh.		"

Use more than one line per sample if necessary.

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

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS [illegible] FOR CHARTS

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

(See reverse for responsible personnel)

- [ ] TO BE CHARTED
- [X] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship FAIRWEATHER	Hawaii	Kaneohe Bay, Oahu	11-30-82

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-T126-FA-82			Old Hawaiian

Light List [illegible]	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE // D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE // D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Light 3747	Sampan Channel - Range Front Light (Sampan Chan F RNG LT) 1982	21 26′	16.571″	157 48′	28.059″	✓	F-2-6-L	19359
			509.64		807.987	✓	11-30-82	19357
Light 3748	Sampan Channel - Range Rear Light (Sampan Chan R RNG LT) 1982	21 26′	05.157″	157 48′	37.322″	✓	F-2-6-L	19359
			158.604		1074.762	✓	11-30-82	19357
	NC / L-93(83)							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	Ens. Craig L. Bailey, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Cdr. Walter F. Forster, NOAA	FIELD ACTIVITY REPRESENTATIVE ~~OFFICE ACTIVITY REPRESENTATIVE~~
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.

EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
V - Verified	
1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.

EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.

EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED

When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

NOAA FORM 76-40 (8-74)
Replaces C&GS Form 567.

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

NONFLOATING AIDS [illegible] FOR CHARTS

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

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
- [ ] TO BE DELETED

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship FAIRWEATHER	Hawaii	Kaneohe Bay, Oahu	11-30-82

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-T126-FA-82			Old Hawaiian

Light List [illegible]	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Light 3741	Pyramid Rock Light (Pyramid Rock Light 1976)	21 27′	55.536 1708.010	157 45′	58.567 1686.202	Published Position (NGS Listing)	F-2-6-V 11-30-82	19359 19357
	NC/L-93(83)							

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	Ens. Craig L. Bailey, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER (Specify)
POSITIONS DETERMINED AND/OR VERIFIED	Cdr. Walter F. Forster, NOAA	FIELD ACTIVITY REPRESENTATIVE ~~OFFICE ACTIVITY REPRESENTATIVE~~
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS
Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.
EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED
Enter the applicable data by symbols as follows:

F - Field	P - Photogrammetric
L - Located	Vis - Visually
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1 - Triangulation	5 - Field Identified
2 - Traverse	6 - Theodolite
3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.
EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED
When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
EXAMPLE: Triang. Rec.
8-12-75

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Enter 'V-Vis.' and date.
EXAMPLE: V-Vis.
8-12-75

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NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

[redacted] LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

- [X] TO BE CHARTED
- [ ] TO BE REVISED
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REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship FAIRWEATHER	Hawaii	Kaneohe Bay, Oahu	11-30-82

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
OPR-T126-FA-82			Old Hawaiian

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	POSITION LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Dome	NW Dome Aero Obst Lt	21 27	49.19 1297.553	157 46	00.11 3.167	(Published Position) (DIPFIL)	F-2-6-V 11-30-82	19359 19357

NC/L-93(83)

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	Ens. Craig L. Bailey, NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	Cdr. Walter F. Forster, NOAA	FIELD ACTIVITY REPRESENTATIVE ~~OFFICE ACTIVITY REPRESENTATIVE~~
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS
Enter the number and date (including month, day, and year) of the photograph used to identify and locate the object.
EXAMPLE: 75E(C)6042
8-12-75

FIELD

I. NEW POSITION DETERMINED OR VERIFIED
Enter the applicable data by symbols as follows:

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V - Verified	
1 - Triangulation	5 - Field identified
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3 - Intersection	7 - Planetable
4 - Resection	8 - Sextant

A. Field positions* require entry of method of location and date of field work.
EXAMPLE: F-2-6-L
8-12-75

*FIELD POSITIONS are determined by field observations based entirely upon ground survey methods.

FIELD (Cont'd)

B. Photogrammetric field positions** require entry of method of location or verification, date of field work and number of the photograph used to locate or identify the object.
EXAMPLE: P-8-V
8-12-75
74L(C)2982

II. TRIANGULATION STATION RECOVERED
When a landmark or aid which is also a triangulation station is recovered, enter 'Triang. Rec.' with date of recovery.
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8-12-75

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Enter 'V-Vis.' and date.
EXAMPLE: V-Vis.
8-12-75

**PHOTOGRAMMETRIC FIELD POSITIONS are dependent entirely, or in part, upon control established by photogrammetric methods.

★ U.S. GOVERNMENT PRINTING OFFICE: 1974-665-073/1030 Region 6

The Commanding Officer inspected all field sheets and field data on a daily basis. All survey sheets, reports and records are complete. This survey is adequate for charting purposes.

Submitted by:

Paul T. Steele
Ensign, NOAA
NOAA Ship FAIRWEATHER

Approved by:

Walter F. Forster
Commander, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER S220

HYDROGRAPHIC SURVEY STATISTICS

H-10058

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS.^{2}, ARC,^{2} EXCESS	4
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						
VOLUMES						
CAHIERS	1					
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	*EVALUATION*	*TOTALS*
POSITIONS ON SHEET			1254
POSITIONS REVISED	212	0	212
SOUNDINGS REVISED	554	0	554
CONTROL STATIONS REVISED	0	0	0
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE~~XXXXXXXXX~~verification EXAMINATION	2	0	2
VERIFICATION OF CONTROL	3	1	4
VERIFICATION OF POSITIONS	23	8	31
VERIFICATION OF SOUNDINGS	80	23	103
VERIFICATION OF JUNCTIONS	5	1	6
APPLICATION OF PHOTOBATHYMETRY	0	0	0
SHORELINE APPLICATION/VERIFICATION	9	0	9
COMPILATION OF SMOOTH SHEET	14	8	22
COMPARISON WITH PRIOR SURVEYS AND CHARTS	0	3	3
EVALUATION OF SIDESCAN SONAR RECORDS	0	0	0
EVALUATION OF WIRE DRAGS AND SWEEPS	0	0	0
EVALUATION REPORT	4	18	22
OTHER Inspection Update	0	16	16
Digitization	9	0	9
verification TOTALS	149	78	227

Pre~~XXXXXXXXX~~Examination by W. Wert, S. Otsubo	*Beginning Date* 3/28/83	*Ending Date* 3/28/83
Verification of Field Data by L. T. Deodato	*~~XXXXXXXXX~~Beginning* 6/17/83	*Ending Date* 1/25/84
~~XXXXXXXX~~ Checks by S. H. Otsubo, J. S. Green	*Time(Hours)* 28	*Ending Date* 6/21/84
Evaluation and Analysis by G. E. Kay	*~~XXXXXXXXX~~Beginning* 4/20/84	*Ending Date* 5/29/84
Inspection by	*Time(Hours)*	*Ending Date*

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10058 FIELD NO: FA-10-8-82

Hawaii, East Coast of Oahu, Approaches to Kaneohe Bay

SURVEYED: October 13 - November 27, 1982

SCALE: 1:10,000 PROJECT NO: OPR-T126

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

Chief of Party.....Cdr. W. F. Forster

Surveyed by.....Lt. A. Ramsey
Lt.(jg) G. Tuell
Ens. F. Migaiolo
Ens. A. Francis
Ens. P. Bailey
Ens. D. Koch

Automated Plot by.....PMC Xynetics Plotter

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

Evaluated by.....Gordon E. Kay

1. INTRODUCTION

H-10058 is a basic hydrographic survey conducted by the NOAA Ship FAIRWEATHER in accordance with the following:

Project Instructions (P.I.) for OPR-T126-FA-82, dated July 30, 1982
Change 1, dated September 7, 1982
Change 2, dated November 17, 1982
Change 3, dated January 20, 1983

The survey is situated along the east coast of Oahu, Hawaii, north of Mokapu Peninsula and the approaches to Kaneohe Bay.

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.

2. CONTROL AND SHORELINE

Horizontal control and hydrographic positioning are adequately discussed in Descriptive Report paragraphs F and G, and Horizontal and Electronic Control Report for OPR-T126-FA-82.

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

Shoreline comes from TP-00720 (Hawaii, Mokapu Point) 1:10,000.

Date of Photography	January 1975
Date of Field Edit	March 1976
Date of Final Review	April 1978

Two rocks have been added to the smooth sheet from the field sheet without supporting positional information, and are located in the vicinity of Pyramid Rock.

Feature	Latitude North	Longitude West
*	21°27'57"	157°45'56.5"
*	21°27'58"	157°45'58.0"

3. HYDROGRAPHY

Soundings at crosslines are in good agreement. The hydrography contained within this survey is adequate to determine the bottom configuration and least depths, except for a 10.1 fathom shoal indication at latitude 21°30'24.9"N, longitude 157°47'50.0"W.

Standard depth curves were adequately drawn and developed with the exception of the 0 and 1 fathom curves, where hydrography was terminated due to surf and wind conditions.

4. CONDITION OF SURVEY

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

a. A presurvey review item (#50465) was not investigated or disposed of in accordance with P.I. 6.11, 7.12.2, 7.12.2.1, 7.12.2.2, H.M. 4.8.3.10 paragraph 12 and the Automated Wreck and Obstruction Information System (AWOIS) file listing.

b. The least depth was not obtained on a 10.1 fathom peak that protruded up from a depth of 18 fathoms. Investigation is required by H.M. 1.4.3 paragraph 1, #1. See sections 3 and 9 of this report for exact location.

AWOIS MSM 11/6/84

5. JUNCTIONS

H-10058 junctions the following:

Survey	Year	Scale	Note	Color	Junctions on
H-9593	1976	1:10,000	Adjoins	Red	Southwest
H-9594	1976	1:10,000	Adjoins	Brown	South
H-10056	1982	1:10,000	Joins	Red	East
H-10059	1982	1:20,000	Joins	Orange	Northwest
H-10068	1982-83	1:80,000	Adjoins	Violet	Northeast

The junctions have been satisfactorily effected with the "Joins" survey. Soundings in the junctional area of the "Adjoins" survey are in agreement. Refer to H-10058 for depth curves in junctional area.

6. COMPARISON WITH PRIOR SURVEYS

H-3252 (1910) 1:20,000. Present survey data compares well with this prior survey. H-10058 survey data continues further inshore than the prior and delineates better the inshore features, including the two fathom curve. H-10058 is adequate to supersede H-3252 over their common areas.

H-5288 (1933) 1:5,000. Present survey data compares well with this prior survey. H-10058 survey data continues further inshore than the prior survey and delineates the two fathom curve. H-10058 is adequate to supersede H-5288 in areas of common coverage.

Note to Compiler: A comparison has not been made with the U.S. Army Corps of Engineers survey BP #20 1929, which is located inshore of the hydrographic limits of H-5288.

There is one presurvey review item within the limits of H-10058, #50465, a wreck as listed in the AWOIS file listing of September 8, 1982. According to the Descriptive Report paragraphs K and L, ship's personnel investigated an area at Latitude 21°27'55"N, Longitude 157°44'45"W. This location is 1,727 meters east of the location contained on Chart 19357 and the AWOIS file. The ship did not provide any supporting positioning documentation or descriptive information, to indicate that a search was made. With the data provided with this survey, PSR #50465 (AWOIS) has not been disproven or located, and warrants further investigation. The wreck should remain as charted.

Note to Compiler: FE-258 (1983) 1:5,000 was performed by the FAIRWEATHER to adequately dispose of item #50465 (AWOIS). Please refer to that report for disposition of said item.

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 soundings come from the aforementioned prior survey and unknown sources. In depths greater than 12 feet/2 fathoms, soundings compare well with slight differences noted in a few tenths of a fathom. Survey data inside the two fathom curve is incomplete and the charting sources have not been superseded. Charted rocks on 19537, all within 2 fathoms, were not located.

b. Controlling depths. There are no controlling depths located within the limits of H-10058.

c. Aids to navigation. There is one fixed aid and one floating aid to navigation located within the limits of H-10058. They are as follows:

Aids	Light List Number	Latitude (N)	Longitude (W)
Pyramid Rock Light	3741	21°27'55.54"	157°45'58.57"
Entrance Lighted Buoy 2	3746	21°28'21.03"	157°46'48.38"

Chart 19359 portrays two mooring buoys at approximately latitude 21°29'12" North, longitude 157°45'12" West. These buoys were not searched for and present survey data does not indicate their existence. Chart 19357 does not portray these buoys. If the removal of these buoys has not been previously documented, these buoys should continue to be charted.

There have been no dangers to navigation identified or reports submitted by the NOAA Ship FAIRWEATHER on H-10058. The Pacific Marine Center, Seattle, Washington, has identified one danger to navigation during preprocessing of H-10058. (A copy of the letter to the Coast Guard is attached.)

H-10058 is adequate to supersede the hydrography on Charts 19359 and 19357 over their common areas in depths greater than two fathoms. However, where shoaler soundings are identified on the present survey, they may be used to supplement charted data in areas of less than two fathoms. Charted information inshore of the present survey should continue to be charted from existing sources.

8. COMPLIANCE WITH INSTRUCTIONS

H-10058 complies with the instructions and changes listed in section 1 of this report except where noted in section 4.

9. ADDITIONAL FIELD WORK

H-10058 is a good hydrographic survey; additional field work is required in the following areas:

a. Extra work is needed to update hydrography charted inshore of the present survey.

b. Investigation and disposition of a charted wreck at latitude 21°30'41" North, longitude 157°46'36" West.

c. Obtain least depth on a 10.1 fathom sounding (Pos. # 4260/1) at latitude 21°30'24.9" North, longitude 157°47'50.0" West.

Respectfully,

Gordon E. Kay
Cartographer
May 29, 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

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

April 11, 1983

Commander (OAN)
Fourteenth Coast Guard District
Prince Kalanianaole Federal Building
300 Ala Moana Boulevard
Honolulu, Hawaii 96850

Dear Sir:

An uncharted coral pinnacle was noted during preliminary office review of the hydrographic survey of the East Coast of Oahu, Approaches to Kaneohe Bay. The pinnacle is covered by 9 fathoms at MLLW (based on predicted tides) at latitude 21°30'25.5"N, longitude 157°47'50"W, distance 3.05 nautical miles bearing 325° true from Pyramid Rock Light.

Questions regarding this item may be directed to Cdr. Ned C. Austin, Chief, Nautical Chart Branch, telephone (206) 442-4764.

Sincerely,

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

Enclosure

9/9/83

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): 161-2396 Waimanalo, HI
161-2480 Mokuoloe, HI
161-2702 Laiemaloo, HI

Period: October 13 - November 27, 1982

HYDROGRAPHIC SHEET: H-10058

OPR: T126

Locality: East Coast, Island of Oahu, Hawaii

Plane of reference (mean lower low water): 161-2396=2.22 feet
161-2480=2.80 feet
161-2702=9.95 feet

Height of Mean High Water above Plane of Reference is 161-2396=1.4 feet
161-2480=1.7 feet
161-2702=1.7 feet

REMARKS: Recommended Zoning:

1. North of latitude 21° 31.0' Zone direct on 161-2702 Laiemaloo, HI. For J day 286-299, tide gage at 161-2702 Laiemaloo was not installed zone direct on 161-2480 Mokuoloe, HI.
2. South of 21° 31.0' to 21° 27.5' zone direct on 161-2480 Mokuoloe, HI.
3. South of 21°27.5'
   a) East of longitude 157°45.5' zone direct on 161-2396 Wiamanalo, HI.
   b) West of 157°45.5' zone direct on 161-2480 Mokuoloe, HI.

*This supersedes form 712 dated August 4, 1983.

James R. Hubbard
Chief, Datums and Information Branch

ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10058

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

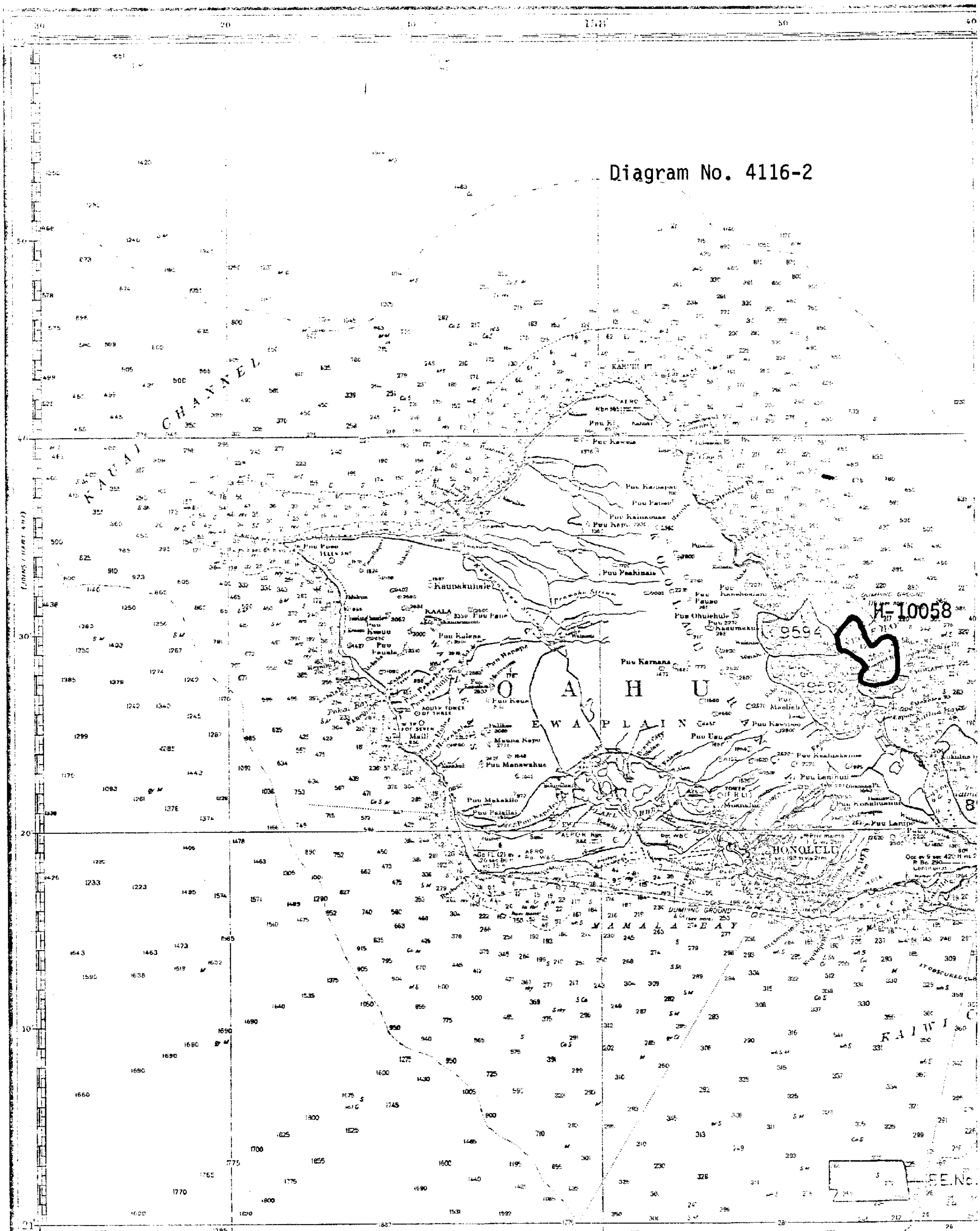
David W. Yeager 7/7/84
Chief, Nautical Chart Branch (Date)

CLEARANCE: SIGNATURE AND DATE:

N/MOP2:LWMordock Larry W. Mordock 7/10/84

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.

7/11/84
Director, Pacific Marine Center (Date)



Hydrographic Surveys

Number	Hydrographer	Scale	Date	Number	Hydrographer	Scale	Date
8578-9?	W.F. Porter	10,000	9-61				

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

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10058

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	9-24-84	B. Fernanders	~~Full~~ Part Before After Verification Review Inspection Signed Via
			Drawing No. 15 Exam for crit. Corr only; No Corr
			~~Full Part Before~~ Part After Verification Review Inspection Signed Via
			Drawing No. ~~#25~~ Part ~~Study~~ app'd prior to application to larger scales - re-examine when survey is appl to 19357 for accuracy & content
19359	11/13/89	S.H. Chubb	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. full application of Sndgs
19340	1/26/89	S.H. Chubb	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. full application of Sndgs thru 19359
19357	2/17/89	S.H. Chubb	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. full application of Sndgs thru 19359 and SS - In agreement with 19340
19010	3/6/89	S.H. Chubb	Full ~~Part Before~~ After ~~Verification Review Inspection~~ Signed Via
			Drawing No. full application of Sndgs thru 19340
19007	5/10/89	A SHIPLEY	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. NO CORRECTIONS APPLIED
540	5/11/89	A SHIPLEY	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. EXAM. NO CORRECTIONS APPLIED
19357	3-27-90	Ed Martin	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 28 restore "subm dangerous wreck" at 21°27'55" - 157°45'45"
19004	3-8-91	John Pierce	Full ~~Part Before~~ After Verification Review Inspection Signed Via
			Drawing No. 36 Hw 19357

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

USCOMM-DC 8558-P83