

10032

Diagram No. 8556-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey ... Navigable Area Hydrographic ...
Field No. ... FA-5-1-82 ...
Office No. ... H-10032 ...

LOCALITY

State ... Alaska ...
General Locality ... Kodiak Island ...
Locality ... St. Paul Harbor and Approaches ...

1982-83

CHIEF OF PARTY
CDR W. F. Forster, CDR C. Andreasen

LIBRARY & ARCHIVES

DATE ... July 30, 1984 ...

10032

See 6
CATS:

- 16593
- 16594
- 16595
- +INSET
- 16596
- 16580

*A sign off on
Record of Application*

HYDROGRAPHIC TITLE SHEET

H-10032

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-5-1-82

State ALASKA

General locality Kodiak Island

Locality St. Paul Harbor and Approaches

Scale 1:5000

Date of survey Jul 20-30, 1982; Jul 18, 30, 1983

Instructions dated 14 July 1982

Project No. S-P304-FA-82

Vessel NOAA Ship FAIRWEATHER launches 2023, 2024, 2025, 2027

Chief of party CDR W. F. Forster, CDR C. Andreasen

Surveyed by ENS P. Steele, ENS A. Francis, ENS F. Migainlo, ENS C. Bailey

Soundings taken by echo sounder, hand lead, ~~and~~ Ross Finline 5000

Graphic record scaled by Ship's Personnel

Graphic record checked by Ship's Personnel

Verified ~~XXXXXXXXXX~~ by C. R. Davies

Automated plot by PMC Xynetics Plotter

Evaluated ~~XXXXXXXXXX~~ by K. M. Scott

Soundings in ~~XXXXXX~~ feet at ~~XXXXXX~~ MLLW

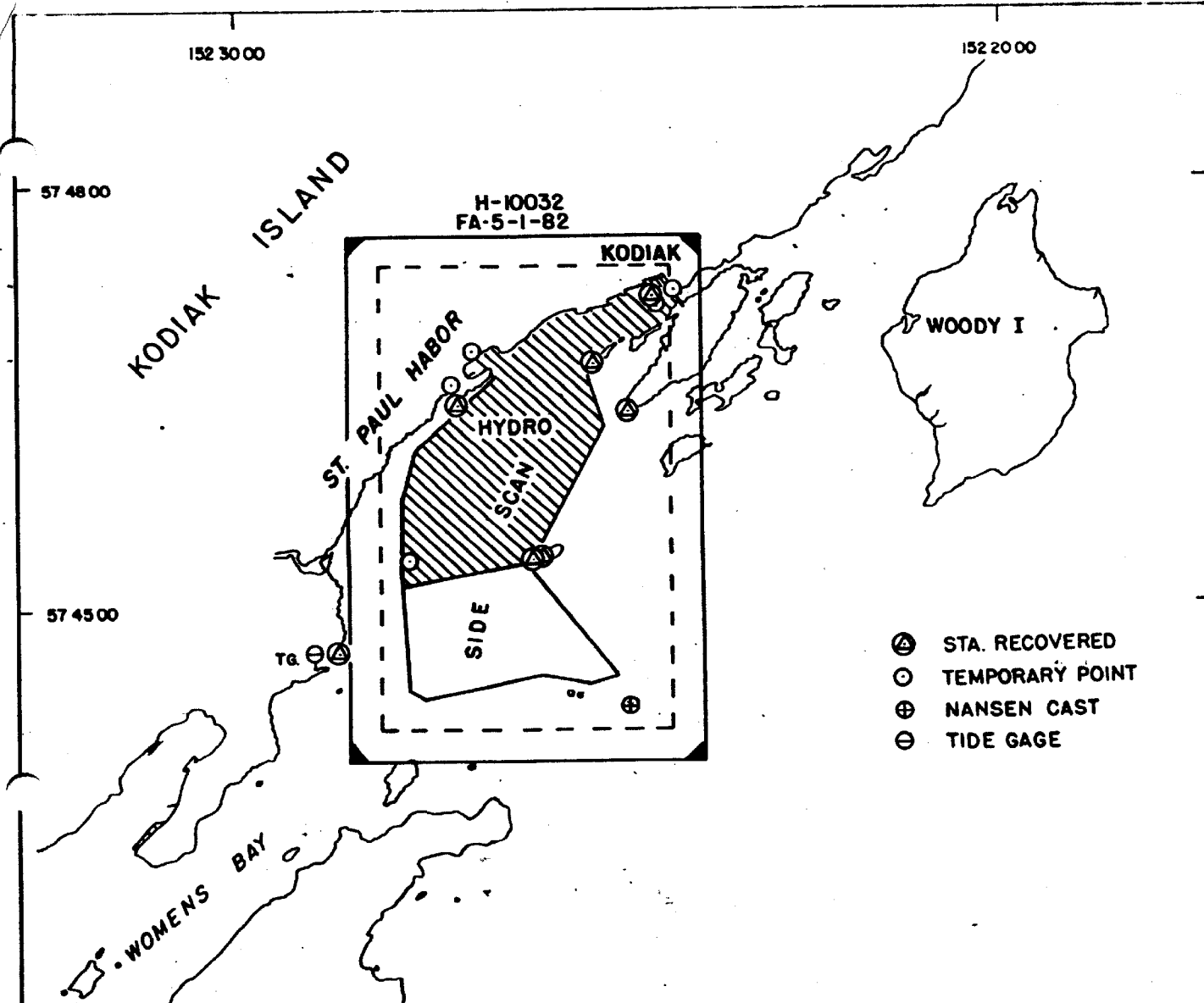
REMARKS: Revisions and marginal notes in black by evaluator.

STANDARDS CK'D 8-9-84

C. W.

Notes checked 9/20/84 SW

Spec checked 9/20/84 SW



Project Area Minimum Of 100% Side Scan Coverage
 Channel Area 200% Side Scan Coverage
 PSR Items 400% Side Scan Coverage

MONTHLY PROGRESS SKETCH
S-P304-FA-82
ST. PAUL HARBOR, KODIAK, ALASKA
NOAA SHIP FAIRWEATHER (S-220)
CDR. WALTER F. FORSTER, CMDG
 SCALE OF NOS CHART 16594
 JULY 19 - 30, 1982

	JULY
50 NM SOUNDING LINE	1.6
LNM SOUNDING LINE	78.9
BOTTOM SAMPLES	60
NANSEN CAST	2
HYDRO CONTROL STATIONS	7
WATER SAMPLES ANALYZED	7
HYDROGRAPHY	
50 NM SIDE SCAN SONAR	3.5
LNM SIDE SCAN SONAR	68.2

HYDROGRAPHIC DESCRIPTIVE REPORT TO ACCOMPANY

SURVEY H-10032, FA-5-1-82

S-P304-FA-82

St. Paul Harbor, Alaska

NOAA Ship FAIRWEATHER S220

A. PROJECT

This survey was conducted in accordance with Project Instructions S-P304-FA-82, St. Paul Harbor, Alaska dated July 14, 1982, unamended. ✓
The PMC OPORDER, Hydrographic Manual, 4th Edition, the Data Requirements letter are also applicable.

B. AREA SURVEYED

The area encompassed by this survey includes the main harbor of Kodiak, St. Paul Harbor, and the navigable waters leading from St. Paul Harbor entrance channel lighted bell buoy 2 into the harbor. Inshore limits ✓
of hydrography extend to the 4 fathom curve in outer St. Paul Harbor, and close to the 2 fathom curve in inner St. Paul Harbor, north of 57° 46.5'N.

Portions south of 57° 45.1'N were adequately surveyed as part of H-9673 (1978). The FAIRWEATHER accomplished check crosslines and total side scan coverage was run in the area as part of this survey. Hydrographic ✓
data was collected on 19-30 July 1982. *Supplemental work was conducted on 18, 30 July 1983.*

C. SOUNDING VESSELS

Hydrographic data was collected from Jensen Survey launches FA-3 (2023), FA-4 (2024), FA-5 (2025) and Boston Whaler 2 (2027). Survey launch 2025 ✓
was used for bottom samples and for both oceanographic casts.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

All survey launches were equipped with Ross Fineline 5000 narrow beam echo sounders, operated in the feet mode (see Table I, Sounding Equipment). Phase checks were taken daily before and after hydrography by the Electronics Department, and occasionally during the day by the operators. ✓
Belt tension was adjusted or inspected at the morning phase check. The initial was checked frequently during operation.

TABLE I ✓

Sounding Equipment

<u>Vessel</u>	<u>Date</u>	<u>Transceiver</u>	<u>Digitizer</u>	<u>Analog</u>	<u>Inverter</u>
FA-3 (2023)	203 - 204 ✓ (Pos. #2257)	1047	1054	1047	1046
	204 - 205 ✓ (Pos. #2258)	1047	1047	1047	1046
FA-4 (2024)	201 - 208 ✓	1046	1046	1097	1054
FA-5 (2025)	202 - 208 ✓	1054	1036	1036	1053
Whaler 1 (2027)	207 - 209 ✓	--	--	6261	--

TABLE II ✓

Location of Nansen Casts

<u>Cast</u>	<u>Date</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Vicinity</u>
001	20 July	57°44'18"N	152°24'42"W	Entrance, St. Paul Channel
002	30 July	57°44'16"N	152°24'40"W	Entrance, St. Paul Channel

Bar checks were taken twice daily, weather permitting, to establish the TRA corrector and confirm overall systems operation. All data was multiply scanned to ensure analog-digital consistency, and to insert peaks and deeps. ✓

Survey launch 2024 was equipped with a new Klein side scan sonar, model 520T, S/N 248, a hydraulic cable takeup spool and independent diesel power generator shortly before the beginning of this project. ✓
Aside from normal problems associated with any new piece of equipment, the Klein system performed without malfunction and as designed.

Depths encountered on this survey range from 0 to ~~89~~⁹⁰ feet. ✓

The sounding skiff (2027) was equipped with a portable Raytheon DE719B, S/N 6162, which was operated in accordance with Appendix T of the PMC OORDER. The TRA for this skiff was determined by leadline comparison. ✓

No equipment faults or failures occurred which caused data to be rejected.

Velocity of sound through water was determined by two Nansen casts (see Table II, Location of Nansen Casts) taken on 20 July and 30 July 1982. Bar check data was used to adjust the Nansen cast values in the surface water layers. Velocity correctors for each vessel apply to all areas and at all depths on the survey. Settlement and squat was conducted at the beginning of the field season in Shilshole Bay, Seattle, Washington on 10 and 23 March 1982, and on 30 July in Kodiak, Alaska for 2023 and 2024. This second settlement and squat test was to determine the effect of added weight from the Klein side scan sonar system in 2024 and to confirm the previous values for 2023. Speeds which exceeded the 0.2 foot accuracy requirement in Section 4.9.4.2 of the Hydrographic Manual were not used during this survey in order to avoid application of a settlement and squat corrector. ✓

The Corrections to Echo Soundings Report for this project contains more detailed information on these subjects, and should be consulted for final verification. ✓

E. HYDROGRAPHIC SHEETS

All field sheets were prepared and plotted aboard the FAIRWEATHER using standard programming (see Section R, Automated Data Processing), PDP8/e computers and Complot Plotter S/N 5557-5 and 5557-9. Three modified transverse mercator projection computer sheets were used to depict the survey area, conforming to total survey limits and border requirements, Section 2.4.1 of the Hydrographic Manual. ✓

Two supplement 1:1,000 blowup sheets were used to clarify dense soundings in Gibson Cove and at the mouth of the small boat basin in Kodiak. These sounding patterns are associated with the investigation of PSR items in these general locations. ✓

Side scan data was automatically position plotted, then sweeps, width and contact positions were plotted manually. A wide variety of colors were used in detailing the dimensions of each survey area to ensure adequate bottom coverage in compliance with Section 7.12.1 of the Project Instructions. ✓

Items of possible interest located by side scan were scaled into approximate positions from the analog trace and plotted on the side scan overlay sheet. Efforts were made to correlate the appearance of individual contacts on more than one sweep, and to flag items of suspected significance for further investigation. ✓

All field records will be sent to PMC for verification and processing. ✓

F. CONTROL STATIONS

Horizontal control for this survey was performed by FAIRWEATHER personnel. All NOS/NGS control was recovered in good condition, as described. Control set by the Army Corps of Engineers (these stations designated by TDB plus a three digit number) was converted from Alaskan state coordinate system, section 5, to geodetic latitude/longitude by Mr. Bob Melby at PMC. All control was based on the North American Datum of 1927. ✓

See Eval Rpt
Sec 2

Two temporary points (TP's) were established expressly to control hydrography in Gibson's Cove, and two navigational aids were located for use in the tagline survey at the boat basin entrance. Location of all fixed aids to navigation and landmarks for charts was accomplished using Third Order, Class I methods and standards. ✓

All accuracy requirements were met and no unconventional survey methods were used. ✓

Additional survey effort was expended by leveling the Kodiak Tide Gage (945-7283) bench marks to station ABBERT, 1923. This new verticle adjustment was carried through the control stations in the project area during observation and computations in response to section 5.9 of the Project Instructions. ✓

For further details see the Horizontal Control Report for this project.

G. HYDROGRAPHIC POSITION CONTROL

Sounding position control was accomplished using Motorola Mini-Ranger III and Wild T-1 theodolites in standard range-azimuth configurations. On board plotting was accomplished manually to ensure line and sounding spacing in accordance with section 4.3.4 of the Hydrographic Manual. Final field sheets were plotted using hydroplot equipment and non-real time plotting routines (see Section R, Automated Data Processing). ✓

Side scan sonar control utilized the same Mini-Ranger III systems in a range-range mode, with onboard plotting and data logging by hydroplot and RK 112 programming (see Section E of this report for further plotting details).

Mini-Ranger equipment was baseline calibrated on 19-21 July 1982 and on 30 July 1982. A 100 meter baseline was measured on a secluded portion of the US Coast Guard Support Center, Kodiak, Alaska using an HP 3808 EDM. All baseline calibrations were conducted in accordance with Appendix M of the PMC OORDER, and adjustments were made during the BLC process to bring all correctors as close to zero as was possible.

Daily critical systems checks were taken using a calibration pole, T-2 intersection and checked sextant fix methods. All but one critical system check fell inside the absolute accuracy requirement of 5 meters (that is one millimeter at survey scale). Efforts were made to obtain systems checks inside 2.5 meters whenever possible in order to maintain a close order of accuracy in critical areas. A certain degree of difficulty was experienced in obtaining consistent systems checks with BLC agreements less than 5 meters due to such perturbing factors as wind drift, control geometry, wave action and human error in launch positioning or estimation of launch distance to calibration pole.

No systematic errors were observed between the beginning and ending baseline calibrations, and the final positional correctors used for final plotting are the average of the two baseline values for each console-R/T and transponder combination.

No unusual operating or calibrating methods were used and no malfunctions were detected during operations. Substandard signal strengths, poor control geometry and associated systematic errors were avoided. No unusual atmospheric conditions were encountered.

A detachment of the U.S. Army Corps of Engineers were found to be using Motorola Mini-Ranger IV, codes 1-4 in the project area, however, no signal interference was noticed or attributed to this source.

Further information and details are contained in the Electronic Control Report for this project.

H. SHORELINE

Shoreline for this survey was taken from 1:5,000 scale photographic enlargement of chart 16595, 9th Edition, dated October 14, 1978. As a navigable area survey no requirement exists to specifically delineate shoreline, however, shoreline areas were inspected and attempts made to delineate areas suspected of disagreement with the chart. No field edit was attempted, and no photographs or other shoreline manuscripts were provided.

See Eval Rpt Sec 2

The section of the shoreline shown on chart 16595 as approximate, at 57° 47.0'N, 152° 25.6'W, was not delineated due to planned construction in this area by the U.S. Army Corps of Engineers. ✓

Pier faces and berthing facilities were located by detached positions, and measured for overall dimensions by steel tape. ✓

The existing shoreline is deemed adequate at this time, but will warrant updating by photogrammetric methods as planned harbor expansion projects change the shoreline areas. ✓

I. CROSSLINES

Crosslines comprised 8% of the hydrography run and show excellent agreement with coincidentally placed mainscheme soundings on flat bottom. Crossline soundings that are not coincident with mainscheme soundings, or that fell on sloping bottoms agree with the general contours in the area. This comparison meets section 1.1.2 of the Hydrographic Manual. ✓

J. JUNCTIONS

This survey junctions with one contemporary survey, H-9763 a 1:5,000 scale survey conducted from June to July 1978 by the RAINIER. Comparison of junctional soundings reveals good agreement, meeting the requirements of section 1.1.2 of the Hydrographic Manual. ✓

K. COMPARISON WITH PRIOR SURVEYS

Pre-Survey Review (PSR) item information came from the Automated Wreck and Obstruction Information System (AWOIS) computer printout, as supplied by C351. A detailed brief of each item, the investigation conducted and a recommendation for action follows by PSR number. ✓

Pre Survey Review Item Investigations
S-P304-FA-82

PSR #411

The indicated position was investigated by Klein side scan sonar, revealing one contact on the bottom. Divers investigation located two steel structures 10 feet by 5 feet, protruding 3 1/2 feet above the bottom at 57° 45' 36.8"N, 152° 26' 25.4"W. Least depth confirmed by divers at ~~47.1~~ 47.1 feet. Conversations with local residents indicate that these items may be pontoons which were lost in the early 1950's by a local ship repair facility. Recommend charting as a sunken wreck. (Hydro position #5103).

See
Eval Rpt
Sec 6
1983
Report ✓

PSR #413

The indicated position was investigated by Klein side scan sonar, conventional hydrography and a divers circle search. No indication or evidence of the wreck as described was located. Local sources questioned on the existence or possible salvage of this wreck could not provide any information. Recommend removal of wreck from chart at indicated position based upon divers circle search and negative findings.

See
Eval Rpt
Sec 6 ✓
1983
Report

PSR #419

The charted wreck of a floating dry dock located at 57° 46' 47.2"N, 152° 24' 26.6"W was removed October 1981 by Western Marine Construction Company, 250 NW 39th Street, Seattle, Washington. The Project Manager, Mr. Stan Boice was interviewed at the site by FAIRWEATHER personnel. He confirmed the general description and location as listed in the PSR printout; a 200 ton 70 foot long dry dock with 4 side tanks. The salvage and demolition divers confirmed the complete removal of the obstruction, and the area has since been dredged as part of the Dog Bay Marina Project, funded by the State of Alaska. Removal of this item from all charts and survey records is recommended. *concur*

Beyond limits of H-10032

NOT PORTAGED ON 16595

PSR #420

Reported as a section of iron rail protruding from the bottom at 57° 47' 01.6"N, 152° 24' 15.6"W in a small bight on the east side of Near Island. Personnel from the FAIRWEATHER located this item by visual inspection at -0.6 feet of tide. The section of iron rail is now partially buried in the mud laying flat on the bottom. The remains of an old wreck are located 15 feet to the SE and consist mainly of a marine diesel engine block and some small assorted items of hardware. It is very possible that the iron rail was attached by bolts to the wreck.

These items were discussed with Mr. Stan Boice, Project Manager of the Dog Bay Marina, which is currently under construction. Both the wreck remains and the iron rail are in no position to be considered as obstructions or hazards to navigation. In addition this area is scheduled to be filled in with dredge spoils as construction of the marina progresses. Removal of this obstruction from all charts and survey records is recommended.

See
Eval Rpt
Sec 6 ✓

Do not concur

PSR #421

A possible obstruction at 57° 46' 41.1"N, 152° 26' 16.9"W was investigated with Klein side scan sonar, 400% coverage. No indication of an obstruction was found anywhere in the general area. An attempted dive on the site was inconsequential due to currents and high turbidity. Recommend removal from chart.

See
Eval Rpt
Sec 6 ✓
1983
Report

NOT CHANGED

PSR #422

Visual inspection of the indicated section of Gibson's Cove at low water yielded no sightings of submerged piling. A lone multiple member wooden dolphin is located at 57° 46' 46.05"N, 152° 26' 42.2"W. Klein side scan of the area revealed no indication of submerged piles or other obstructions. Conversations with workers at the Gibson Cove Fish Terminal indicated that the inner shore line of the cove was extended by fill and road construction in the early 1970's, possibly covering the obstruction in question. No diving operations were conducted in Gibson Cove due to the polluted condition of the water. Recommend removal from chart based upon side scan investigation.

See
Eval Rpt
Sec 6 ✓

Do not concur

PSR #423

Visual inspection of the shoreline in the indicated area at low water resulted in the location of what appears to be a portion of a marine barge at 57° 46' 58.2"N, 152° 24' 34.9"W. The section of heavily beamed and planked hull, approximately 25 feet long and 10 feet wide, is resting on the steep rock beach 2 feet above the high water line.

No records to support NOT shown on survey

Side scan sonar located a contact in the vicinity of the charted wreck symbol on NOS 16595. Divers investigation revealed remnants of a vessel 15 feet by 10 feet protruding 6 1/2 feet above the bottom at 57° 46' 58.5"N, 152° 24' 35.1"W. (Hydro position #5103).⁴

58.58

35.06

*35' WK is plotted on smooth sheet
Chart from present survey.*

PSR #424

Klein side scan sonar search, conventional hydrography and visual search at low water failed to locate any obstruction at reported position. Hydrography reveals a least depth of 12 feet in the vicinity of 57° 47' 07.2"N, 152° 24' 29.1"W. Local residents have no knowledge of a wreck at this position, though it was mentioned by the Harbor-master's assistant that several small wrecks were removed from the basin outside the breakwater in 1974. Vessel traffic did not permit diving in this location. Recommend removal based upon side scan sonar findings.

Considered disproven by 10m conventional hydrography and side scan data supplementing that information. Chart from present survey

PSR #425

Klein side scan sonar, conventional hydrography and visual inspection at low water failed to locate the reported submerged rock at 57° 47' 10.0"N, 152° 24' 25.0"W. The Harbormaster was uncertain when questioned about the existence and position of this item. A rocky shoal extends to Red Nun Buoy #16 from the south western end of the breakwater, as evidenced by visual observation and hydrography (see 1:1,000 scale blowup, Kodiak Harbor Entrance). Vessels passing close to buoy #16 may come quite close to the edge of this shoal.

No dives were attempted due to vessel traffic hazards. Recommend removal of PSR from listings and repositioning of buoy #16 further to the southwest to better define the limits of the shoal area previously mentioned. Concur. Chart from present survey

*See Eval
Rpt.
- Sec 7.c*

PSR #426

The remains of wooden hull and assorted marine hardware were located at 57° 47' 02.0"N, 152° 24' 22.0"W as described in the PSR documentation during a visual search of the area at low water. *15 feet deep at that latitude and longitude Shoreline is at 57°47'02.0"N 152°24'18.7"W.*

The remains of the wreck are scattered over 100 feet of beach and extend from the high tide storm surge line to no deeper than 1.0 feet above MLLW. The longest section of the wreck measures 5x12 feet and consists of 4x8 inch hull planking and a section of 6x8 inch keel beam laying broken and extensively decomposed projecting 8 inches above the rocks on a generally rocky beach. Conversation with several local fishermen indicates that this wreck has been in the present position since the early 1950's and that the majority of the vessel was washed up onto Near Island by the tidal wave of 1964.

This wreck cannot be considered as a hazard to navigation, and is in fact hardly in existence. Recommend removal from the charts and survey records. *not currently charted concur*

PSR #427

The remains of a wooden deck house were located during visual inspection of the indicated area at low tide, in conjunction with PSR #426. The deck house is not from the same vessel as discussed in PSR #426, but is located 150 feet to the NW of the wreck at PSR #426. The deck house is approximately 30 feet above the high tide line on a grassy slope on Near Island. Local fishermen speculate that some local individual arranged to drag the deck house off the shoreline in order to remove the hardware. Inspection of the deck house confirms this supposition, it shows signs of having been pulled upslope and all usable hardware is missing.

This item is no hazard to navigation and should be removed from the charts and survey records. *concur not presently charted*

PSR #428

Visual inspection of the indicated area of Gibson's Cove does not reveal any evidence of such a wreck. Klein side scan sonar and conventional hydrography by skiff failed to locate any evidence of such a wreck. Diving was not attempted due to the polluted nature of the water. Recommend removal from charts based on side scan search.

*See
Eval Rpt
Sec 6*

PSR #429

Visual inspection of the indicated area of Gibson's Cove does not reveal any evidence of such a wreck. Klein side scan sonar search and conventional skiff hydrography in the indicated area show no trace of the wreck. Recommend removal from chart based upon side scan sonar search results.

*See Eval Rpt
Sec 6*

PSR #430

Klein side scan sonar search revealed no contacts in the general area between buoys #6 and #7. Conventional hydrography located two 31.5 feet soundings at 57° 45' 17.5"N, 152° 26' 56.0"W and 57° 45' 17.5"N, 152° 26' 59.0"W. Diver investigation of this area revealed a sandy bottom with numerous sand "mounds" 1 - 1 1/2 feet higher than the surrounding bottom. Recommend charting of these least depths as positioned and recorded by hydrography on H-10032.

*See Eval Rpt
Sec 7*

Two 33' soundings plotted on smooth sheet for related information see letter appended to Descriptive PSR #431 Report item 1

Klein side scan coverage to 400% and conventional hydrography show no indication of any substantial submarine bottom features. Divers investigation shows a sandy, rolling bottom, with no indication of stone or other obstructions. Recommend that soundings from H-10032 supercede previous soundings in this area. See 1983

report, Item 4.

✓

Comparison with H-9003, a 1:5,000 scale survey conducted by the PATHFINDER in 1968, reveals overall excellent agreement. Survey H-10032 shows shoaler water inside the 10 foot contour than H-9003 in the area bounded by 57° 46' 45"N to 57° 47' 00"N and 152° 24' 45"W to 152° 25' 30"W. The general trend of shoaling in this alongshore area is on the order of 1 to 1 1/2 feet, and may be related to geological events which are thought to have occurred between these two surveys.

See
Eval Rpt
Sec 6

Comparison with H-2863a, a 1:5,000 scale survey from 1907 shows numerous discrepancies. No discernible pattern or tendency exists, and individual points of disagreement are too numerous to enumerate. Given the time span between H-2863a and H-10032, the amount of geological activity which is known to have occurred in this area, and the number of obvious man made changes, any systematic attempt at comparison would be fruitless. Survey H-10032 should supercede all data from H-2863a.

See
Eval Rpt
Sec 6

Comparison with H-2863, a 1:10,000 scale survey from 1906, shows marginal agreement with H-10032. These two surveys only overlay in the harbor area of Kodiak. As was the case with H-2863a, the numerous natural and man made changes to the harbor area make meaningful comparison impossible.

See
Eval Rpt
Sec 6

Comparison with H-6481, a 1:10,000 scale survey from 1939 shows good agreement with H-10032. The one exception occurs in the vicinity of buoy #7, at 57° 45' 20"N and 152° 26' 52"W, where a 28 foot shoal is shown on H-6481, but is not verified by H-10032. Soundings in this general area show a partial subsidance of over two feet based on comparison between the current and previous surveys. Based upon the overall good agreement between these surveys and their accuracy, the bottom subsidance could easily be attributed to localized geological activity.

See
Eval Rpt
Sec 6

Comparison between H-6758, a 10,000 scale wire drag from 1942 and H-10032 offers generally acceptable agreement. Survey H-6758 shows a 25 foot depth at 57° 46' 54.7"N, 152° 25' 12.9"W, whereas H-10032 shows a least depth of 31 feet. In all other instances the wire drag depth is shoaler than actual survey depths, from both prior surveys and H-10032.

See
Eval Rpt
Sec 6

This survey is adequate to supercede all prior surveys, and should be used for charting purposes. Efforts were made to clarify discrepancies by investigation with conventional hydrography, side scan sonar and divers' investigations. Both geological activity and man made projects continue to cause changes in this area. See PSR items in this section, and the hazards to navigation letter appended in Section L of this report for specific changes to charted features.

L. COMPARISON WITH CHART

Comparison of H-10032 with chart 16595, 9th Edition, October 14, 1978 at a scale of 1:20,000 is generally good. Some discrepancies do exist and may be the result of non-coincident sounding comparison, areas of steep bottom slope, conversion of charted depths from fathoms to feet and suspected geological subsidence in the area.

The following Table III, Discrepancies with Chart 16595, details these discrepancies and makes recommendations for charting resolution.

TABLE III

<u>Position</u>	<u>H-10032</u>	<u>16595</u>	<u>Recommendations</u>
57° 47' 03"N ✓ 152° 24' 42"W	46	48	Superseded the chart with shoaler sounding.
57° 46' 57"N ✓ 152° 25' 51"W	57	72	Steeply sloping area - superseded the charted sounding.
57° 46' 15"N ✓ to 57° 46' 30"N 152° 25' 00"W ✓ to 152° 25' 30"W			Chart shows all sounding 6-8 feet shoaler than H-10032. Soundings from H-10032 should supersede chart.
57° 45' 43"N ✓ 152° 25' 48"W	54	38	Current soundings superseded charted depth.
57° 45' 17.5"N ✓ 152° 26' 59.0"N	31.5	33	Superseded by H-10032.

*See
Eval Rpt
Sec 7
for charting recommendations*

Positions for fixed and floating aids to navigation were determined during the course of this survey. A list of positions determined on H-10032, and discrepancies with charted or published positions is contained in Section N, Aids to Navigation in this report. Wrecks and obstructions within the project limits were investigated. The results of these investigations and recommendations are included in the PSR item, Section K of this report.

M. ADEQUACY OF SURVEY

This survey is accurate, complete and entirely adequate to supersede all prior surveys. There are no incomplete sections or substandard portions on this survey.

N. AIDS TO NAVIGATION

Fixed and floating aids to navigation were compared against the U.S. Coast Guard light list, 1982 edition, NOS chart 16595 and DIPFIL position listing. Uncharted aids were located during the course of this survey. Table IV, Fixed Aids to Navigation, lists all published fixed aids. Published and field check positions are shown, as well as recommendations for charting. See Table IV for details.

Table V, Floating Aids to Navigation, lists all published floating aids. Published and field check positions, with recommendations for charting are included. See Table V for details.

Table VI, Location of Landmarks, lists new positions for three significant landmarks and contrasts this position against the published position.

TABLE VI

Location of Landmarks

<u>Landmark</u>	<u>Published Position</u>	<u>Field Position</u>	<u>Recommendations</u>
Union Oil Tank #3571	57° 47' 09.70"N 152° 25' 19.36"W	57° 47' 09.749"N 152° 25' 19.279"W	Publish New Position (See Fig 9)
Union Oil Tank #3575	Not Published	57° 47' 08.819"N 152° 25' 18.882"W	See Figures
Parabolic Antenna	57° 47' 19.84"N 152° 26' 09.12"W	57° 47' 19.768"N 152° 26' 08.993"W	Publish New Position (See Fig 10)

Further information on the positioning of fixed aids, landmarks and navigational ranges is located in the Horizontal Control Report for this project.

A letter to Commander, 17th Coast Guard District, lists significant hazards to navigation and positional changes to charted items is appended to this section for reference with attached Chartlets of affected areas.

A copy of NOAA Form 76-40, non-floating and fixed aids to navigation is appended to this report in separate following J. The original 76-40 forms are included in the Geodetic Control Report for this project.

No bridges or overhead cables were located in this survey.

An attempt was made to locate and verify a submarine cable shown on chart 16595 using the Klein side scan sonar. A trace believed to be a submarine cable was seen on the sonargram. Subsequent divers' investigation found an open trench on the bottom which contained no sign of a cable. The trench is the result of a tugboat, Kodiak King, dragging a section of salvaged anchor chain along the bottom.

TABLE IV

FIXED AIDS TO NAVIGATION

<u>Lt. List #</u>	<u>Lt. List Name</u>	<u>(DIPFIL) Published Position</u>	<u>Field Position</u>	<u>Recommendations</u>
3539	St. Paul Harbor Entrance Light	57° 44' 22.116"N 152° 25' 40.486"W	57° 44' 22.110"N 152° 25' 40.485"W	Published Position Verified (See Fig 3)
3545	Container Terminal Pier 3 Outer West Light	57° 46' 54"N 152° 26' 07"W	57° 46' 54.083"N 152° 26' 07.355"W	Publish New Position (See Fig 5)
3545.1	Container Terminal Pier 3 Inner West Light	57° 46' 54"N 152° 26' 04"W	57° 46' 54.652"N 152° 26' 04.043"W	Publish New Position (See Fig 5)
3545.2	Container Terminal Pier 3 Inner East Light	57° 46' 56"N 152° 25' 58"W	57° 46' 56.195"N 152° 25' 58.170"W	Publish New Position (See Fig 5)
3545.3	Container Terminal Pier 3 Outer West Light	57° 46' 56.5"N 152° 25' 56"W	57° 46' 57.015"N 152° 25' 56.401"W	Publish New Position (See Fig 5)
3546	Kodiak City Dock Pier 2 West Light	57° 47' 04"N 152° 25' 30"W	57° 47' 04.068"N 152° 25' 30.632"W	Publish New Position (See Fig 6)
3546.1	Kodiak City Dock Pier 2 East Light	57° 47' 04"N 152° 25' 24"W	57° 47' 04.346"N 152° 25' 24.035"W	Publish New Position (See Fig 6)
3547	Union Oil Company Pier West Light	57° 47' 05.08"N 152° 25' 19.18"W	57° 47' 04.971"N 152° 25' 19.900"W	Publish New Position (See Fig 7)

Table IV Cont.

<u>Lt. List #</u>	<u>Lt. List Name</u>	<u>(DIPFIL) Published Position</u>	<u>Field Position</u>	<u>Recommendations</u>
3548	Union Oil Company Pier East Light	57° 47' 05.40"N 152° 25' 18.03"W	57° 47' 05.519"N 152° 25' 17.807"W	Publish New Position (See Fig 7)
3551.1	Womans Bay Front Range Light	57° 43' 26.729"N 152° 28' 42.766"W	57° 43' 26.720"N 152° 28' 42.758"W	Publish New Position (See Fig 8)
3551.2	Womans Bay Rear Range Light	57° 43' 10.009"N 152° 29' 01.625"W	57° 43' 10.000"N 152° 29' 01.621"W	Publish New Position (See Fig 8)
3536	Kodiak Boat Harbor Light 2	57° 47' 10.63"N 152° 24' 24.51"W	57° 47' 10.661"N 152° 24' 24.553"W	Publish New Position (See Fig 2)
3536.1	Kodiak Boat Harbor Light 1	57° 47' 08.02"N 152° 24' 27.78"W	57° 47' 08.017"N 152° 24' 27.785"W	Publish New Position (See Fig 2)
3544.4	Dog Bay South Entrance Light*	57° 46' 44"N 152° 24' 46"W	57° 46' 43.983"N 152° 24' 50.288"W	Publish New Position (See Fig 4)

*Position taken from Notice to Mariners

TABLE V

Floating Aids to Navigation

<u>Lt. List #</u>	<u>Lt. List Name</u>	<u>(DIPFIL) Published Position</u>	<u>Field Position</u>	<u>Recommendation</u>
3535.50	Kodiak Harbor Entrance Channel Buoy 16	57° 47' 09.13"N ✓ 152° 24' 21.43"W	57° 47' 09.4"N ✓ 152° 24' 22.1"W	Publish New Position
3539.20	St. Paul Harbor Entrance Channel Lighted Bell Buoy 2	57° 44' 31"N ✓ 152° 25' 02"W	57° 44' 31.8"N ✓ 152° 25' 03.0"W	Publish New Position
3540	Entrance Lighted Whistle Buoy 3	57° 44' 26"N ✓ 152° 25' 24"W	57° 44' 26.6"N ✓ 152° 25' 24.0"W	Published Position Verified
3540.5	Entrance Channel Buoy 5	57° 44' 31.20"N ✓ 152° 25' 57.64"W	57° 44' 31.5"N ✓ 152° 25' 58.7"W	Publish New Position
3541	Entrance Channel Lighted Bell Buoy 6	57° 45' 10.59"N ✓ 152° 26' 46.05"W	57° 44' 10.4"N ✓ 152° 26' 43.6"W	Publish New Position
3542	Entrance Channel Lighted Buoy 7	57° 45' 18.17"N ✓ 152° 26' 50.77"W	57° 45' 18.31"N ✓ 152° 26' 52.00"W	Publish New Position
3543	Gull Island Rocks Lighted Buoy 8	57° 46' 36.0"N ✓ 152° 25' 48.0"W	57° 46' 35.9"N ✓ 152° 25' 47.7"W	Publish New Position
3544	<i>LAM 33/74</i> <i>17th Dist.</i> Gull Island Lighted Obstruction Buoy G1	57° 46' 46"N ✓ 152° 25' 51"W	57° 46' 46.60"N ✓ 152° 25' 49.65"W	Publish New Position
3551	Gull Island Lighted Buoy 10	57° 46' 59.30"N ✓ 152° 25' 04.78"W	57° 46' 59.7"N ✓ 152° 25' 06.3"W	Publish New Position
3551.1	Gull Island Buoy 11	57° 47' 03.86"N ✓ 152° 24' 35.58"W	57° 47' 02.7"N ✓ 152° 24' 37.4"W	Publish New Position

Table V Cont.

<u>Lt. List #</u>	<u>Lt. List Name</u>	<u>(DIPFIL) Published Position</u>	<u>Field Position</u>	<u>Recommendations</u>
3552	Womand Bay Entrance Channel Lighted Bell Buoy 1	57° 44' 31.81"N 152° 27' 06.70"W	57° 44' 32.01"N 152° 27' 06.90"W	Publish New Position
3552.5	Entrance Channel Buoy 2	57° 44' 20.16"N 152° 27' 36.18"W	57° 44' 23.90"N 152° 27' 45.52"W	Publish New Position
3553	Entrance Channel Lighted Bell Buoy 3	57° 44' 23.25"N 152° 27' 45.75"W	57° 44' 19.80"N 152° 27' 36.51"W	Publish New Position

No pipelines fell within the area of this survey. The Alaskan State Ferry transits the survey area into Kodiak on a regular schedule, keeping within the normal traffic lanes.

O. STATISTICS

	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2027</u>	<u>TOTAL</u>
Number of Positions	313	1104	1389	363	3169
Nautical Miles of Soundings	10.7		66.1	2.1	78.9
Square Miles of Soundings	0.3		1.2	.1	1.6
Nautical Miles of Side Scan		68.2			68.2
Square Miles of Side Scan		3.5			3.5
Bottom Samples			60		60
Tide Stations					1
Velocity Casts			2		2

P. MISCELLANEOUS

This survey is the first operational application of the Klein side scan sonar system by a NOS hydrographic ship. A memo addressing the operational aspects of this new system is attached to this section to aid the verifier in reviewing the results of the side scan data collection system.

No unusual tidal currents were observed or reported by local residents during this survey.

Local comments on the use and acceptance of NOS products indicate general satisfaction on the part of the public in the Kodiak area. The local economy is heavily marine oriented and most local contacts were happy to assist our efforts by providing information.

Contacts were made with the City Manager Harbormaster, Commanding Officer of U.S. Coast Guard Support Center, Kodiak, a U.S. Army Corps of Engineers detached survey team and the U.S. Coast Guard Auxiliary. This last group was especially helpful in specifically identifying certain objects and features that were seen by the side scan sonar system, saving the FAIRWEATHER valuable divers' search and reconnaissance time during diving verification.

Q. RECOMMENDATIONS

This survey contains no inadequacies. No further field work is needed to meet the present navigational needs of this area. *See Evaluation report Sec 2.*

Construction is currently underway on a small boat basin known locally as Dog Bay Marina, located between Uski and Near Islands. A position for Dog Bay Entrance Light #4 was established and is located in the Horizontal Control Report for this project. The floating breakwater at the entrance to the marina was also located and tape dimensions taken.

Construction is also planned in Gibson Cove and along the open shoreline between the Sealand Cargo pier and the Kodiak City Pier. The controlling depth between buoy #6 and buoy #7 should be revised based upon this survey.

R. AUTOMATED DATA PROCESSING

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

<u>Number</u>	<u>Program Name</u>	<u>Version Date</u>
RK 112	R/R Real Time Plot	3/19/81
RK 201	Grid, Signal and Lattice Plot	4/18/75
RK 211	R/R Non-real Time Plot	2/2/81
RK 300	Utility Package	10/21/80
RK 330	Data Reformat and Check	5/4/76
PM 360	Electronic Corrector Abstract	2/2/76
AM 500	Predicted Tide Generator	11/10/72
RK 530	Velocity Correctors	5/10/76
RK 561	Geodetic Calibration	2/19/75
AM 602	Elinore	5/21/75
RK 212	Visual Station Load and Plot	4/1/74

S. REFERRAL TO REPORTS

The following separate reports covering the 1982 season in St. Paul Harbor can be referred to for further detail on specific items.

P-S304-FA-82

Horizontal Control Report
Electronic Control Report
Corrections to Echo Soundings Report
Geographic Names Report
Field Tide Note

APPROVAL SHEET


The Commanding Officer directed this project and inspected field data on a daily basis.

Submitted by:



Todd A. Baxter
Lieutenant, NOAA

Approved by:



Walter F. Forster
Commander, NOAA
Commanding Officer

FIELD TIDE NOTE

S-P304-FA-82

St. Paul Harbor, Alaska

Kodiak Alaska Tide Gage (945-7283) served as reference station for predicted tides for the St. Paul Harbor project. This gage also provided for direct control for datum determination for the entire survey area, as stated by Project Instructions S-P304-FA-82 dated 14 July 1982.

Predicted tide 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 (UTC). The predicted tides were acceptable for hydrography with no discrepancies in data attributable to tides errors.

The tide station in Kodiak, Alaska, Coast Guard small boat basin, located at 57° 44.7'N latitude and 152° 28.7'W longitude was the primary gage for this project. Opening levels were run to this gage on 20 July 1982 (J.D. 201). Four Bench Marks and Horizontal Control Station ABBERT (1939) were leveled with a closure of 6.2 mm attained over the entire run. Bench Marks 14, 19, 20 and 21 were leveled in, and closing levels will be performed by Pacific Tides Party at the end of this project.

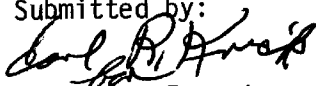
OPERATIONAL PROBLEMS

The Kodiak Tide Gage marigram exhibited an erroneous trace which only appeared on the higher of the two high tides during a tidal cycle. The effect on the marigram trace was minimal and can be easily interpolated resulting in no loss of tidal records. The gage otherwise worked well with no other problems.


MISCELLANEOUS

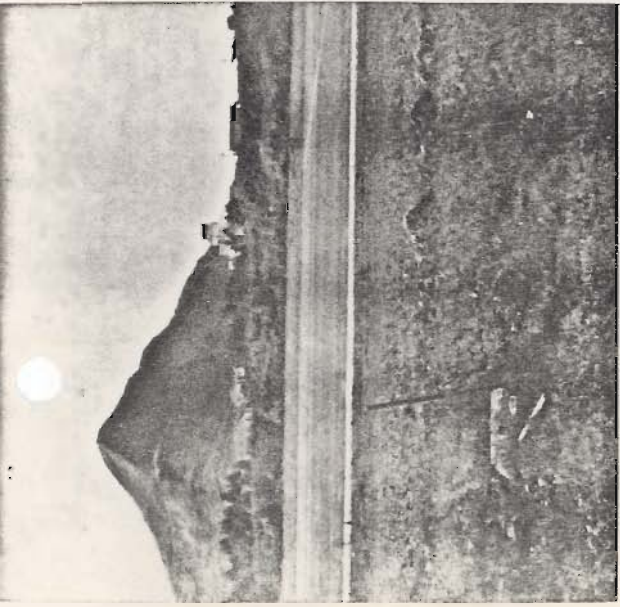
The erroneous trace of gage no. 67A16200 has been reported to Pacific Tides Party and plans have been made to replace the gage at this projects end. At this time, levels will also be run which will be used as closing levels for this project. These levels may be obtained from Pacific Tides Party upon request. Post-project comparison with historic level data reveals that levels run on 820720 utilized the top of staff, rather than the staff stop. This error gives the impression of staff movement, when no such movement has occurred. Pacific Tides has supplied a corrector for the difference between staff stop and top of staff which rectifies this field error.

Submitted by:

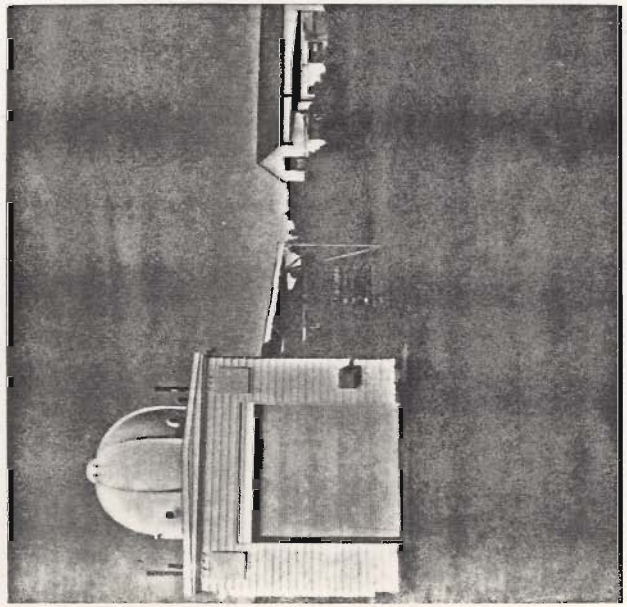

Arthur E. Francis
Ensign, NOAA

Approved by:

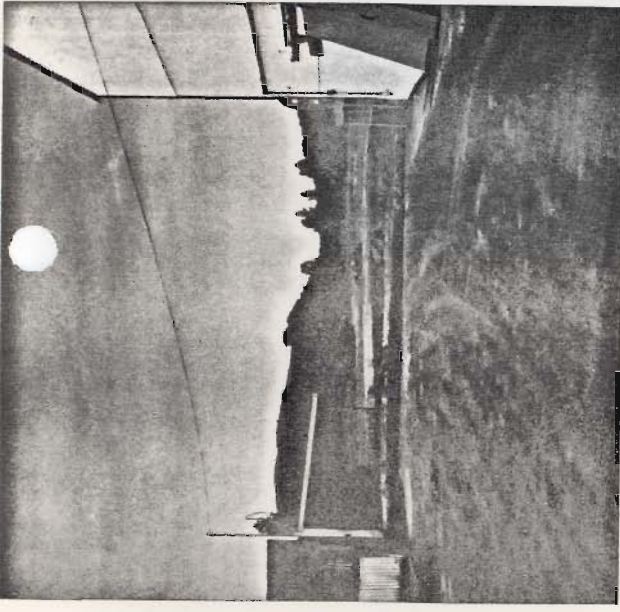

Walter F. Forster
Commander, NOAA
Commanding Officer



KODIAK TIDE STATION
Bm 21 visible in concrete slab in foreground
note Barometer Mt and control tower in background.



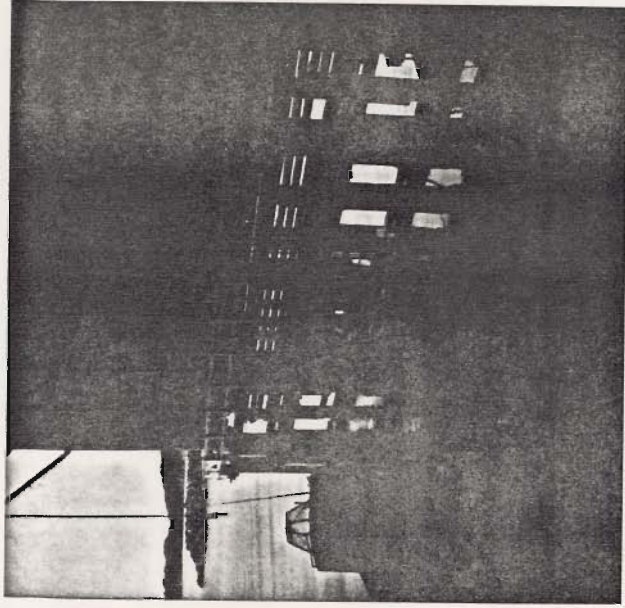
KODIAK TIDE STATION
Bm 14 lower left base of structure foreground
Bm 21 note the weatherhouse in background



KODIAK TIDE STATION
Bm 20 1972 base of building at night
Bm 19 1971 base of quonset hut at left.



KODIAK TIDE STATION
STAFF + GAUGE INSIDE BATHHOUSE
Bm 20 1972 foreground center of building
Bm 19 1971 base of quonset hut at left



KODIAK TIDE STATION
Center: ADR GUAGE
Center right: TIDE STAFF
INSIDE BATHHOUSE

GEOGRAPHIC NAMES

H-10032

Name on Survey	Source of Information											Serial Number
	A	B	C	D	E	F	G	H	K			
	ON CHART NO.	ON PREVIOUS SURVEY NO.	ON U.S. QUADRANGLE MAPS	FROM LOCAL INFORMATION	ON LOCAL MAPS	P.O. GUIDE OR MAP	GRAND McNALLY ATLAS	U.S. LIGHT LIST				
ALASKA(state-title block)												1
DOG BAY												2
GIBSON COVE												3
GULL ISLAND												4
INNER ANCHORAGE												5
KODIAK												6
KODIAK HARBOR												7
KODIAK ISLAND												8
NEAR ISLAND												9
PUFFIN ISLAND												10
ROUND ISLAND												11
ST. PAUL HARBOR												12
USKI ISLAND												13
												14
												15
												16
												17
												18
												19
												20
												21
												22
												23
												24
												25

Approved:

Charles E. Harrington

Chief Geographer - NCG245

30 JUNE 1983

VELOCITY CORRECTION TABLES

TABLE#	01	YR	M2	FT	TABLE#	02	YR	M2	FT
DEPTH	5.00	VEL	COR	DEPTH	99999.99	VEL	COR	DEPTH	99999.99
	12.80	.00				.00			.00
	22.00	.10				.00			.00
	30.80	.20				.99			
	39.50	.30							
	50.00	.40							
	60.50	.50							
	71.00	.60							
	81.00	.70							
	91.00	.80							
	99999.99	.90							

VELOCITY-TRANSDUCER FILE: V10032

LISTING MADE: 05-30-84

20:53:37

TRANSDUCER CORRECTION TABLES

VESSEL: 2023 YR: 82 FT				VESSEL: 2024 YR: 82 FT				VESSEL: 2025 YR: 82 FT			
DAY	TIME	TRA COR	VEL TABLE	DAY	TIME	TRA COR	VEL TABLE	DAY	TIME	TRA COR	VEL TABLE
203	185300	1.30	1	201	190247	1.50	1	201	210515	1.40	1
204	00400	.00	2	210	194400	.00	2	211	005600	.00	2
204	010300	1.30	1	210	235959	.00	2	211	235959	.00	2
204	220400	.00	2								
204	235959	.00	2								

VESSEL: 2027 YR: 82 FT

DAY	TIME	TRA COR	VEL TABLE
207	190500	1.70	1
208	190532	.00	2
209	184800	1.70	1
210	005200	.00	2
210	235959	.00	2

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2023 R/AZ

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	AZIMUTH PATTERN 2
185300	203	+00000	-34089
000330	204	+00000	-56162
004400		+00000	-06412
010300		+00000	-78306
183830		+00000	-59289
220400		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2024

R/R

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	PATTERN 2
190247	201	00002	00001
000002	202	-00002	-00001
222907	203	00001	00001
000007	203	+00002	+00001
184808	204	00002	00001
001704	204	-00002	-00001
190217	205	00002	00001
792155	206	+00002	+00001
000545	208	00001	00002
183840	208	-00001	-00002
194228	209	+00002	+00001
000510	210	00002	00001
010800		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VFSEL : 2024 R/AZ

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	AZIMUTH PATTERN 2
191937	207	-00001	69581
231648		-00001	-47071
162358	208	+00001	-16580
180000	210	+00002	-52362
164700		+00000	-64520
212800		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025 R/AZ

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	AZIMUTH PATTERN 2
210515	201	+00001	-00446
000400	202	+00001	-45242
182000		+00001	-01218
000000	203	+00001	-79109
181900		+00001	+98170
000715	204	+00001	-14100
200145		+00001	-72078
000915	205	+00001	-44352
181830		+00001	-00050
202154		+00001	-22000
000015	206	+00001	-92299
002145		+00001	-00233
180627		+00001	-80000
230322		+00001	-84000
001630	207	+00002	-76459
004540		-00001	-49116
181500		+00001	-80484
195315		+00001	-90082
203900		+00001	-06030
213516		+00001	-00000
180845	208	+00002	-44386
220933		+00002	-72022
223104		+00002	-71093
225400	210	-00001	-62133
235600		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2025 R/R B.S

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	PATTERN 2
180800	210	+0000 2	+0000 0 ¹
210930		+0000 0 ¹	+0000 2
003200	211	-0000 0 ¹⁰	+0000 0 ¹⁰
005600		+00000	+00000

ELECTRONIC CORRECTOR ABSTRACT

VESSEL : 2027 R/AZ

SHEET : FA5-1-82

TIME	DAY	PATTERN 1	AZIMUTH PATTERN 2
190500	207	+0000x0	-11372
225030		+0000x0	-06059
235500		+0000x0	-45262
001000	208	+0000x0	-40479
190532		+0000x2	-05000
215837		+0000x2	-37298
000012	209	+0000x2	-71470
184800		+00000	-61527
203300		+0000x0	-18392
005127	210	+00001	-49161
005200		+00000	+00000

F. List of Signals

ST. PAUL HARBOR SIGNAL LISTING S-P304-FA-82 FA-5-1-82 (H10032)

GIB 1933		571521	1034	✓
500 3 57 46 24037	152 27 06021	250 0014	000000	
PUFFIN ISLAND ^{JBA} 1967	RESET 1978	571521	NOAA SHIP RAINER;UNPUBLISHED	✓
520 3 57 45 21977	152 25 50734	250 0027	000000	
ABBERT 1939		571521	1001	✓
540 3 57 44 42207	152 28 43849	250 0008	000000	
NONAME 1978		571521	NOAA SHIP RAINER;UNPUBLISHED	
560 3 57 45 19170	152 26 07193	250 0015	000000	
NONAME RM-1 1978		571521	NOAA SHIP RAINER;UNPUBLISHED	
561 3 57 45 19332	152 26 06955	250 0015	000000	
TDB 109 1980		571521	U.S. ARMY CORPS OF ENG.	✓
600 3 57 46 40901	152 25 19965	250 0010	000000	
TDB 104 1980		571521	U.S. ARMY CORPS OF ENG.	✓
610 3 57 47 00366	152 24 21717	250 0015	000000	
TDE-110 1980		571521	U.S. ARMY CORPS OF ENG.	✓
620 3 57 46 21289	152 24 52533	250 0009	000000	
TDB-125 1980		571521	U.S. ARMY CORPS OF ENG.	✓
640 3 57 47 08313	152 24 28179	250 0011	000000	
TF-1 1982		571521	FAIRWEATHER	
650 3 57 46 31689	152 27 11176	254 0056	000000	
TF-2 1982		571521	FAIRWEATHER	
660 3 57 46 466 ⁴⁰ 38	152 26 540 ² 4	254 0061	000000	
KODIAK BOAT HARBOR LT. 1 (3536.1)		571521	FAIRWEATHER	
670 3 57 47 08017	152 24 27785	254 0006	000000	
KODIAK BOAT HARBOR LT. 2 (3536)		571521	FAIRWEATHER	
680 3 57 47 10661	152 24 24554	254 0006	000000	
DOLPHIN CAL		571521	FAIRWEATHER	
700 3 57 45 19897	152 27 44748	243 0000	000000	

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL		PROJ. NO.		YEAR					CHECKED BY	DATE CHECKED	
2025 FA-5		S-P304-FA		1982	FA 5-1C-82 H-1003Z				B.W.	13 Aug 82	
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FEET (Fathoms)	WEIGHT OF SAM- PLER	AP- PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
7207	26 July	57-45.5	152-26.1	49					S brk Sh		FM
7208	"	57-45.7	152-26.0	54					S		"
7209	"	57-45.5	152-26.0	46					Gr S brk Sh St		"
7210	"	57-45.7	152-25.8	53					brk Sh P		"
7211	"	57-45.9	152-25.6	57				gn	gn S brk Sh St		"
7212	"	57-46.1	152-25.4	58				gn	gn S brk Sh		"
7213	"	57-46.2	152-25.3	60				gn	gn S brk Sh		UAK
7391	29 July	57-45.2	152-27.6	26				br	br S X		"
7392	"	57-45.3	152-27.6	25				br	br G X		"
7393	"	57-45.4	152-27.7	24				bK	bK G S		"
7394	"	57-45.7	152-27.7	26				bK	bK G		"
7395	"	57-45.9	152-27.8	23				br	br S		"
7396	"	57-46.1	152-27.6	27				br	br S		"
7397	"	57-46.0	152-27.2	39				br	br S		"
7398	"	57-45.9	152-26.9	40				br	br S		"
7399	"	57-45.8	152-27.1	36				br	br S		"
7400	"	57-45.6	152-27.2	32				br	br S		"

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL		PROJ. NO.		YEAR	CHECKED BY				DATE CHECKED		
2025 FA-5		S-P304-FA		1982	FA 5-1C-82 H-10032				B.W. 13 Aug 1982		
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FEET (Fathoms)	WEIGHT OF SAM- PLER	AP- PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
7401	29 July	57-45.5	152-27.4	27				bk	bk P X		UAK
7402	"	57-45.2	152-27.3	32				br	br S		"
7403	"	57-45.2	152-26.9	36				wh	wh Sh X		"
7404	"	57-45.3	152-26.8	33				br	br S		"
7405	"	57-45.5	152-26.8	38				br	br S		"
7406	"	57-46.4	152-26.4	50				gn	gn M Sh		"
7407	"	57-46.4	152-25.7	56				gn	gn M		"
7408	"	57-46.4	152-25.4	55				gn	gn M		"
7409	"	57-46.2	152-25.6	57				gn	gn M		"
7410	"	57-46.3	152-25.9	55				gn	gn M Sh		"
7411	"	57-46.3	152-26.4	49				gn	gn M Sh		"
7412	"	57-46.1	152-26.4	49				gn	gn M Sh		"
7413	"	57-46.0	152-26.3	50				gn	gn M		"
7414	"	57-45.8	152-26.2	52				gn	gn M		"
7415	"	57-45.9	152-25.9	55				gn	gn M		"
7416	"	57-46.0	152-26.0	53				gn	gn M S		"
7417	"	57-46.1	152-26.1	51				gn	gn M		"

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL		PROJ. NO.		YEAR	FA 5-1N-82 H-10032				CHECKED BY	DATE CHECKED	
2025 FA-5		S-P304-FA		1982					B.L.	17 Aug 1982	
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FEET (Fathoms)	WEIGHT OF SAM- PLER	AP- PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
7419	29 July	57-46.5	152-25.3	60				gn	gn M		UAK
7420	"	57-46.5	152-25.6	57				"	gn M		"
7421	"	57-46.6	152-25.9	58				"	gn M		"
7422	"	57-46.5	152-26.1	54				"	gn M		"
7423	"	57-46.4	152-26.9	30				br	br S		"
7424	"	57-46.6	152-26.5	50				gn	gn M		"
7425	"	57-46.7	152-26.2	53				"	gn M		"
7426	"	57-46.8	152-26.3	50				"	gn M		"
7427	"	57-46.8	152-25.6	59				"	gn M Sh		"
7428	"	57-46.9	152-25.9	65				bK	bK M		"
7429	"	57-46.0	152-25.5	73				bK	bK M		"
7430	"	57-46.8	152-25.3	40				gn	gn M Sh		"
7431	"	57-46.9	152-25.0	5				br	br K NO SAMPLE		"
7432	"	57-47.1	152-25.2	65				bK	bK M		"
7433	"	57-47.1	152-24.9	40				bK	bK M		"
7434	"	57-47.0	152-24.6	41				br	br S Sh		"
7435	"	57-47.2	152-24.6	30				bK	bK M		"

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL FA-5 2025		PROJ. NO. S-P304-FA		YEAR 1982	FA 5-1C-82 H-10032			CHECKED BY B.L.	DATE CHECKED 13 Aug 1982		
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FEET (Fathoms)	WEIGHT OF SAM- PLER	AP- PROX. PENE- TRA- TION	LENGTH OF CORE	COLOR OF SEDI- MENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
7418	29 July	57-46.1	152-25.7	54				gn	gn M		UAK
7437	30 July	57-45.3	152-26.5	33				wh	wh Sh		"
7438	"	57-45.4	152-26.3	46				wh	wh Sh		"
7439	"	57-45.7	152-26.2	51				br	br S		"
7440	"	57-45.8	152-26.6	45				br	br S		"
7441	"	57-46.1	152-26.9	43				br	br S		"
7442	"	57-46.3	152-27.0	40				br	br S gn M		"
7443	"	57-45.4	152-26.5	42				br	br S		"

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

VESSEL		PROJ. NO.	YEAR	FA 5-IN-82		H-1003Z		CHECKED BY	DATE CHECKED		
2025	FA-5	S-P304-FA	1982					R.L.W.	17 Aug 1982		
SERIAL NO.	DATE	SAMPLE POSITION		DEPTH FEET <small>(Fathoms)</small>	WEIGHT OF SAMPLER	AP-PROX. PENE-TRA-TION	LENGTH OF CORE	COLOR OF SEDI-MENT	FIELD DESCRIPTION	REMARKS <small>(Unusual conditions, cohesiveness, dented cutter, stat. no., type of bottom relief i.e., slope, plain, disposition, etc.)</small>	OBS. INIT.
		LATITUDE	LONGITUDE								
7436	29 July	57-47.1	152-24.3	7					Sh		4AK

Use more than one line per sample if necessary.

Replaces C&GS Form 567.

LANDMARKS FOR CHARTS

- HYDROGRAPHIC PARTY
 - GEODETIC PARTY
 - PHOTO FIELD PARTY
 - COMPILATION ACTIVITY
 - FINAL REVIEWER
 - QUALITY CONTROL & REVIEW GRP.
 - COAST PILOT BRANCH
- (See reverse for responsible personnel)*

<input checked="" type="checkbox"/> TO BE CHARTED <input type="checkbox"/> TO BE REVISED <input type="checkbox"/> TO BE DELETED	REPORTING UNIT <i>(Field Party, Ship or Office)</i> FAIRWEATHER	STATE Alaska	LOCALITY St. Paul Harbor	DATE 7/30/82
---	--	------------------------	------------------------------------	------------------------

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM				METHOD AND DATE OF LOCATION		CHARTS AFFECTED
S-P304-FA-82			N.A. 1927				<i>(See instructions on reverse side)</i>		
			POSITION						
			CHARTING NAME	DESCRIPTION <i>(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)</i>	LATITUDE		LONGITUDE		OFFICE
		° /	// D.M. Meters	° /	// D.P. Meters				
TOWER ✓	White Rectangular Structure (Kodiak Airport Control Tower) (Field Position)	57 44 ✓	51.23 ✓ 1584.90	152 29 ✓	28.13 ✓ 465.50		F-3-6-V ✓ 7-30-82 ✓	16595 ✓	
CROSS ✓	Baptist Church with Green Roof (Kodiak Baptist Church Cross) (Field Position)	57 47 ✓	25.968 ✓ 803.40	152 24 ✓	01.626 ✓ 26.87		F-3-6-V ✓ 7-30-82 ✓	16595 ✓	
TANK ✓	Chart as (RW TANK) to distinguish between other tanks that are green. (Kodiak USCG Base R.W. Tank)	57 44 ✓	39.190 ✓ 1212.42	152 30 ✓	11.375 ✓ 188.23		F-3-6-V ✓ 7-30-82 ✓	16595 ✓	

*NC per dip file
L-11(83)*

WJA

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
LANDMARKS FOR CHARTS

ORIGINATING ACTIVITY

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

<input type="checkbox"/> TO BE CHARTED	REPORTING UNIT <i>(Field Party, Ship or Office)</i>	STATE	LOCALITY	DATE
<input checked="" type="checkbox"/> TO BE REVISED	FAIRWEATHER	Alaska	St. Paul Harbor	7/30/82
<input type="checkbox"/> TO BE DELETED				

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

(See reverse for responsible personnel)

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM				METHOD AND DATE OF LOCATION <i>(See instructions on reverse side)</i>		CHARTS AFFECTED
S-P-304-FA-82			N.A. 1927						
CHARTING NAME	DESCRIPTION <i>(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)</i>	LATITUDE		LONGITUDE		OFFICE	FIELD		
		° /	//	° /	//				
			D.M. Meters		D.P. Meters				
OIL TANK	Tank is white with 76 logo and numbered Chart as (UNION 76 #3571) (Field Position) (Kodiak Union 76 #3571 Oil Tank)	57° 47'	09.749	152° 25'	19.279		F-3-6-L 7/30/82	16595	
OIL TANK	Tank is white with 76 logo and numbered Chart as (UNION 76 #3575) (Field Position) (Kodiak Union 76 #3575 Oil Tank)	57° 47'	08.819	152° 25'	18.882		F-3-6-L 7/30/82	16595	
MICRO TR	Eastern of two white dishes (Kodiak Parabolic Antenna) (Field Position)	57° 47'	19.768	152° 26'	08.993		F-3-6-L 7/30/82	16595	

NC 11(83) 1/8

WFF

NONFLOATING AIDS

FOR CHARTS

Replaces C&GS Form 567.

- TO BE CHARTED
 TO BE REVISED
 TO BE DELETED

REPORTING UNIT
(Field Party, Ship or Office)

FAIRWEATHER

STATE

Alaska

LOCALITY

St. Paul Harbor

DATE

7/30/82

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

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

(See reverse for responsible personnel)

OPR PROJECT NO.		JOB NUMBER		SURVEY NUMBER		DATUM		METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED
S-P304-82						N.A. 1927				
CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	LATITUDE		LONGITUDE		OFFICE	FIELD			
		° /	// D.M. Meters	° /	// D.P. Meters					
LIGHT 3539	St. Paul Harbor - Entrance Light (St. Paul Harbor Entrance Light, 1967)	57 44	22.110 684.02	152 25	40.485 669.94		Triang Rec 7-24-82	16595 16596		
LIGHT *3544.40	(Dog Bay South Entrance Light 4.) (Field Position) ht. (4.7 ft. above water surface)	57 46	43.983 1360.75	152 24	50.288 831.41		F-2 & 3,6-L 7-24-82	16595		
	Dog Bay South Entrance Light 4 is located on a floating dock that is fixed horizontally. Light is fixed at 4.7 feet above water surface.									
*3544.40	Light List No. as corrected by L.N.M. No. 21/82 15									

L-11(83)

10/82

NONFLOATING AIDS FOR CHARTS

Replaces C&GS Form 567.

<input type="checkbox"/> TO BE CHARTED	REPORTING UNIT <i>(Field Party, Ship or Office)</i>	STATE	LOCALITY	DATE
<input checked="" type="checkbox"/> TO BE REVISED	FAIRWEATHER	Alaska	Womans Bay	7/30/82
<input type="checkbox"/> TO BE DELETED				

- HYDROGRAPHIC PARTY
 - GEODETIC PARTY
 - PHOTO FIELD PARTY
 - COMPILATION ACTIVITY
 - FINAL REVIEWER
 - QUALITY CONTROL & REVIEW GRP.
 - COAST PILOT BRANCH
- (See reverse for responsible personnel)*

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM				METHOD AND DATE OF LOCATION <i>(See instructions on reverse side)</i>		CHARTS AFFECTED
S-P304-82			N.A. 1927				OFFICE	FIELD	
			POSITION						
			LATITUDE		LONGITUDE				
CHARTING NAME	DESCRIPTION <i>(Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)</i>		° / ' // " D.M. Meters	° / ' // " D.P. Meters	° / ' // " D.P. Meters				
LIGHT 3551.10 ✓	Womans Bay Front Range Light (Womans Bay Front Range)(Field Pos.)		57 43	26.720 826.64	152 28	42.758 707.90		F-3-6-L 7-24-82	16595 ✓ 16596 ✓
LIGHT 3551.20 ✓	Womans Bay Rear Range Light (Womans Bay Rear Range) (Field Pos.)		57 43	10.000 309.370	152 29	01.621 26.837		F-3-6-L 7-24-82	16595 ✓ 16596 ✓
	Note: Lights 3551.10 and 3551.20 have new G.P.'s assigned								
	New Inbound Range: 211°07'True								
	New Outbound Range: 031°07'True								

L-11(83)

Replaces C&GS Form 567.

<input type="checkbox"/> TO BE CHARTED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
<input checked="" type="checkbox"/> TO BE REVISED	FAIRWEATHER	Alaska	St. Paul Harbor	7/30/82
<input type="checkbox"/> TO BE DELETED				

<input checked="" type="checkbox"/> HYDROGRAPHIC PARTY
<input type="checkbox"/> GEODETIC PARTY
<input type="checkbox"/> PHOTO FIELD PARTY
<input type="checkbox"/> COMPILATION ACTIVITY
<input type="checkbox"/> FINAL REVIEWER
<input type="checkbox"/> QUALITY CONTROL & REVIEW GRP.
<input type="checkbox"/> COAST PILOT BRANCH

(See reverse for responsible personnel)

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

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION				METHOD AND DATE OF LOCATION (See instructions on reverse side)		CHARTS AFFECTED
		LATITUDE		LONGITUDE		OFFICE	FIELD	
		° / ' "	D.M. Meters	° / ' "	D.P. Meters			
LIGHT 3536	(Kodiak Boat Harbor Light 2) (Field Position) ht. (18.6)	57 47	10.661 329.83	152 24	24.553 405.74		F-2-6-L 7-24-82	16595
LIGHT 3536.10	(Kodiak Boat Harbor Light 1) (Field Position) ht. (19.4)	57 47	08.017 248.03	152 24	27.785 459.15		F-2-6-L 7-24-82	16595
LIGHT 3545	(Container Terminal Pier 3 Outer West Light) (Field Position) ht. (13.6)	57 46	54.083 1673.22	152 26	07.355 121.60		F-3-6-L 7-24-82	16595
LIGHT 3545.10	(Container Terminal Pier 3 Inner West Light) (Field Position) ht. (12.5)	57 46	54.652 1690.82	152 26	04.043 66.84		F-3-6-L 7-24-82	16595
LIGHT 3545.20	(Container Terminal Pier 3 Inner East Light) (Field Position) ht. (12.0)	57 46	56.195 1738.56	152 25	58.148 961.36		F-3-6-L 7-24-82	16595
LIGHT 3545.30	(Container Terminal Pier 3 Outer East Light) (Field Position) ht. (13.7)	57 46	57.015 1763.93	152 25	56.401 932.48		F-3-6-L 7-24-82	16595
LIGHT 3546	(Kodiak City Dock Pier 2 West Light) (Field Position) ht. (9.6)	57 47	04.068 125.86	152 25	30.632 506.19		F-3-6-L 7-24-82	16595
LIGHT 3546.1	(Kodiak City Dock Pier 2 East Light) (Field Position) ht. (10.9)	57 47	04.346 134.46	152 25	24.035 397.18		F-3-6-L 7-24-82	16595
LIGHT 3547	(Union Oil Company Pier West Light) (Field Position) ht. (16.5)	57 47	04.971 153.79	152 25	19.900 328.85		F-2-6-L 7-24-82	16595
LIGHT 3548	(Union Oil Company Pier East Light) (Field Position) ht. (15.8)	57 47	05.519 170.75	152 25	17.807 294.26		F-2-6-L 7-24-82	16595

L-11(83)



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship FAIRWEATHER S220

CPM220/TAB:rmw/A-16

13 August 1982

Commander
17th Coast Guard District
P.O. Box 3-5000
Juneau, Alaska 99802

Dear Sir:

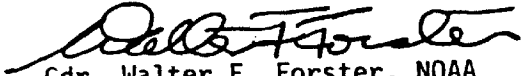
Following are hazards to navigation and significant changes to charted items located during July 1982 survey operations in St. Paul Harbor, Kodiak, Alaska:

1. Two 31.5 ft soundings in an area of 34.5 ft soundings at:
 - A. 57°45'17.5"N, 152°26'56.0"W ✓
 - B. 57°45'17.5"N, 152°26'59.0"W ✓
- ✓ 2. Two rectangular metal containers 5 ft by 10 ft by 3.5 ft, resting on the bottom at:
57°45'36.7"N, 152°26'25.5"W. ✓
Least depth confirmed by divers as 47.1 ft. 4364
- ✓ 3. Uncharted partially submerged wreck on the ^{western} ~~eastern~~ side of Crooked Island located at 57°46'33.6"N, 152°23'55.3"W. ✓
- ✓ 4. An uncharted obstruction awash, consisting of an abandoned metal shipping container located at 57°46'55.5"N, 152°24'36.8"W. ✓
- ✓ 5. An uncharted wreck, reported by LNM dated Feb. 12, 1980, USCG Dist. 17 located at 57°46'47.5"N, 152°24'27.0"W has been removed by salvage operations.
6. New positions for:
 - A. St. Paul Harbor Entrance Channel Lighted Bell Buoy No. 6, QK. FL.R., at 57°45'10.4"N, 152°26'43.6"W. ✓
 - B. Kodiak Harbor Mooring Buoy at 57°47'09.1"N, 152°24'42.1"W. ✓
 - C. Gull Island Lighted Buoy No. 11 at 57°47'02.7"N, 152°24'37.4"W. ✓
 - D. Womens Bay Entrance Channel Buoy No. 2 at 57°44'19.8"N, 152°27'36.5"W. ✓
 - E. Womens Bay Entrance Channel Lighted Bell Buoy No. 3 at 57°44'19.8"N, 152°27'36.5"W. ✓
 - F. Union Oil Tank at 57°47'09.75"N, 152°25'19.28"W. ✓
- ✓ 7. Uncharted mooring buoy located at 57°46'43.5"N, 152°25'00.4"W. ✓
- ✓ 8. Mooring buoy charted at 57°46'56"N, 152°25'11"W, not located, presumed removed.
- ✓ 9. Womens Bay Entrance recalculated to be 211°07'09.9"T. ✓
- ✓ 10. Uncharted fixed lights located:
 - A. Kodiak City Dock Pier 2 West Light at 57°47'04.068"N, 152°25'30.632"W. ✓



- B. Kodiak City Dock Pier 2 East Light at
57°47'04.346"N, 152°25'24.035"W.
- C. Dog Bay South Entrance Light at
57°46'43.983"N, 152°24'50.288"W.

Sincerely,



Cdr. Walter F. Forster, NOAA
Commanding Officer
NOAA Ship FAIRWEATHER

cc: Director, Pacific Marine Center
C351, Chief, Requirements Branch

Affected Chart is 16595



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

June 3, 1983

N/MOP2x4/RM

TO: Commanding Officer
NOAA Ship FAIRWEATHER

FROM: *K.W. Jeffers*
for N/MOP - Charles K. Townsend

SUBJECT: Request for Additional Field Work, H-10032, St. Paul Harbor,
Kodiak, Alaska

The attached memo lists the unresolved discrepancies on the subject survey referred to in Section 1.6 of Project Instructions, OPR-P146-FA-83, Shelikof Strait, Alaska, and discusses the additional work requested on each item. These items are to be resolved before departing the Kodiak area this summer.

For background information on these items or related field data from last year's survey of St. Paul Harbor, please contact N/MOP2x1.

Attachment

cc: N/MOP21 ✓
N/MOP22
N/MOP2x1

COPY

RECEIVED
MAY 20 1983



National Ocean Service
 Pacific Marine Center
 1801 Fairview Avenue East
 Seattle, Washington 98102-3767

N/MOP211:1604-17WAW

MAY 31 1982

TO: N/MOP22 - Alan D. Anderson

ORIGINAL SIGNED BY

FROM: N/MOP21 - Ned C. Austin

COPY

SUBJECT: Request for Additional Field Work H-10032, St. Paul Harbor,
 Kodiak, Alaska

REF: Project Instructions OPR-P146-FA-83, Shelikof Strait, Alaska,
 dated March 11, 1982

In accordance with section 1.6 of the referenced project instructions, additional field work is requested on the following unresolved items noted during the preprocessing examination and preliminary verification of survey H-10032:

Item 1: PSR #430 - Sounding at latitude 57°45'15.00"N, longitude 152°26'50.00"W - Southwest Alaska Pilots Association; SS PRESIDENT CLEVELAND reported 31 ft. depth between Buoys 6 and 7 on 3/3/82. Vessel has 35½ ft. draft and passed the area at a 5.3 ft. high tide.

1982 field data consisting of Klein Side Scan Sonar coverage to 400% and 25 meter spaced sounding lines showed no indication of the reported shoaling between Buoys 6 and 7. Preliminary verification and scanning of the Ross echograms that were operated concurrently during side scan sonar operations and the subsequent preliminary sounding sheet plot of this data revealed the following shoal indications between Buoys 6 and 7:

32 ft. (MLLW) at latitude 57°45'16.63"N, longitude 152°26'51.91"W

33 ft. (MLLW) at latitude 57°45'17.08"N, longitude 152°26'53.42"W

34 ft. (MLLW) at latitude 57°45'13.39"N, longitude 152°26'52.68"W

Additionally, the following shoal indication was plotted approximately 20 meters west of Buoy 7:

30 ft. (MLLW) at latitude 57°45'19.10"N, longitude 152°26'53.38"W

These shoal indications should be further investigated to determine least depths and characteristics or disproved. (Refer to Attachments A-C.)

Item 2: PSR #411 - Obstruction at latitude 57°45'30.38"N, longitude 152°26'29.90"W - H6758/42WD hang at 36 feet, no clearance. Soundings in area

CODE	SURNAME	DATE	CODE	SURNAME	DATE
MOP211	Wert (AW)	5/57			
	N. Austin	5/82			

FILE COPY

COPY

45 ft. Hydrographer states hang may be a deadhead or grounding. CL30/68-PMC-SP-6-67; investigation by NOAA Ship SURVEYOR of shoal off Puffin Island. Also sounded across this obstruction several times at 20 meter line spacing with no evidence of obstruction.

1982 field data consisting of Klein Side Scan Sonar coverage to 400% revealed several contacts in the near vicinity of this obstruction. Further investigation by ship divers on two contacts located two steel structures 10 feet by 5 feet protruding 3½ feet above the bottom at latitude 57°45'36.7"N, longitude 152°26'25.4"W. Preprocessing examination noted conflicting least depth information. These steel structures should be further investigated to determine a least depth. (Refer to Attachment D.)

Additional contacts were noted on the sonargrams during the preprocessing examination that plot in the vicinity of PSR #411 but were not further investigated. These contacts are located at latitude 57°45'32.1"N, longitude 152°26'35.9"W and latitude 57°45'32.3"N, longitude 152°26'22.6"W.

These contacts should be further investigated to determine least depth and characteristics or disproved.

Item 3: PSR #413 - Sounding at latitude 57°47'06.8"N, longitude 152°24'48.7"W - H6758/42WD 25 ft. hang; no clearance. 29 ft. sounding in area. H-9003/68-PMC-SP-1-68, HDEG category 1; hydro states that 4½m wreck (H-9003 descriptive report indicates item is a rock, also presently charted as Rk sounding) thoroughly investigated and least depth found to be 29 ft. (predicted).

1982 field data consisting of Klein Side Scan Sonar coverage, conventional hydrography and divers circle search did not confirm the existence of the wreck and hydrographer recommended removal of wreck symbol from chart. A 32 ft. (MLLW) sounding originating from the Ross fathogram is plotted on the field sheet at latitude 57°47'06.8"N, longitude 152°24'49.4"W approximately 10 meters west of the charted rock sounding. Additionally, a contact was identified on the sonargram during preliminary verification located at 57°47'08"N, 152°24'48"W.

This area should be further investigated to determine least depth and characteristic. (Refer to Attachment E).

Item 4: PSR #421 - Obstruction at latitude 57°46'41.1"N, longitude 152°26'16.9"W - H9003/68-PMC-SP-1-68, HDEG category 1; possible obstruction note on smooth sheet. No mention in descriptive report. Sextant position scaled from sheet.

1982 field data consisting of Klein Side Scan Sonar coverage to 400% showed no indication of the obstruction. Two possible contacts were identified on the sonargrams during preliminary verification that plot in the vicinity of PSR #421. These contacts are located at latitude 57°46'42.1"N, longitude 152°26'10.5"W.

This area should be further investigated to determine least depth and characteristic or disproved.

Attachments - 5 (not included)



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
NOAA Ship FAIRWEATHER S220

August 8, 1983

TO: N/MOP 21 - Ned Austin
FROM: S220 - Commanding Officer *Christian Andreasen*
NOAA Ship FAIRWEATHER
SUBJECT: Additional Field Work on H-10032, St. Paul Harbor, Kodiak, Alaska
REF: Project Instructions OPR-P146-FA-83 and Subject Letter From
N/MOP21, dated 31 May 1983

Additional field work was accomplished on the St. Paul Harbor Survey, H-10032, as per Project Instructions, OPR-P146-FA-83. The following items and/or locations were investigated during the period of 18 July (JD 199) through 30 July (JD 211) 1983:

1. PSR #430 - Sounding at latitude $57^{\circ}45'15.00''N$, longitude $152^{\circ}26'50.00''W$ (Source: Southwest Alaska Pilots' Association. 1982 field data showed no indication of the reported shoal.)

Divers completed a 100 foot radius circle search from latitude $57^{\circ}45'14.99''N$, longitude $152^{\circ}26'50.19''W$ (position number 9013). The only object found in this area was an old crab pot (p/n 9014) which rises 14 inches off the harbor bottom at latitude $57^{\circ}45'15.06''N$, longitude $152^{\circ}26'48.37''W$. A least depth of 35 ft. at MLLW (as per predicted tides) was obtained via a lead line.

It is recommended that the depth over the crab pot be charted. *concur*

2. 32 ft. sounding at latitude $57^{\circ}45'16.63''N$, longitude $152^{\circ}26'51.91''W$.
33 ft. sounding at latitude $57^{\circ}45'17.08''N$, longitude $152^{\circ}26'53.42''W$.
(Source: Echograms operated concurrently with side scan sonar operations, 1982).

Divers completed a 100 foot radius circle search from latitude $57^{\circ}45'16.83''N$, longitude $152^{\circ}26'52.32''W$ (p/n 9003). The circle search covered both areas during the sweep of the harbor bottom in which nothing was found.

It is recommended that the soundings from the echograms not be charted. Local fishermen have set out numerous crab pots throughout this entire harbor area. Most likely the traces on last year's data are results of these crab pots and notes to that effect were not annotated on the raw data. *1982 data not disproven. 32 and 33 plotted on smooth sheet. Chart from this survey.*

3. 34 ft. sounding at latitude $57^{\circ}45'13.39''N$, longitude $152^{\circ}26'52.68''W$ (Source: Echograms operated concurrently with side scan sonar operations, 1982).



Divers completed a 100 foot radius circle search from latitude 57°45'13.45"N, longitude 152°26'52.68"W (p/n 9004). Nothing was found during the sweep of the harbor bottom.

It is recommended that the 34 ft. sounding not be charted. *do not concur*
34 ft sounding is plotted on the smooth sheet chart from this survey

- 4. 30 ft. sounding at latitude 57°45'19.10"N, longitude 152°26'53.38"W. (Source: Shoal indication plotted approximately 20 meters west of Buoy 7, 1982 data).

Two divers circle searches were performed in this area. The first dive was centered at latitude 57°45'18.74"W, longitude 152°26'52.10"W (p/n 9000) in which a six-by-six foot square concrete block was discovered during a 70 foot radius circle search. This block rises four feet off the harbor bottom and was measured by a lead line to have a least depth of 29.8 ft. at MLLW (predicted tides applied).

DO NOT CONCUR
(SEE ATTACHED LETTER OF 11/6/84)

The second 100 ft. radius divers circle search centered at latitude 57°45'19.07"N, longitude 152°26'53.2"W (p/n 9005). During this bottom sweep nothing was located.

It is recommended that the concrete block, least depth of ^{30.0}~~29.8~~ ft. (MLLW) be charted. *concur* (This is PSR 431)

- 5. PSR #411 - Obstruction at latitude 57°45'30.38"N, longitude 152°26'29.90"W. (Source: H6758/42WD hang at 36 ft., no clearance. Soundings obtained by NOAA Ship SURVEYOR found no evidence using 20 meter line spacing).

Divers performed two dives in this vicinity, p/n 9006 and p/n 9015. After checking the coverage of the 100 ft. radius circle search of p/n 9006 centered at latitude 57°45'29.36"N, longitude 152°26'30.51"W, it was discovered that the reported location of the obstruction was just outside the sweep area.

See Eval Rpt
Sec. 6

The search area was relocated to position number 9015, in which a 98 foot radius circle search was accomplished, centering at latitude 57°45'30.44"N, longitude 152°26'29.96"W. As with the position 9006 sweep of the harbor bottom nothing was located.

It is recommended that this reported obstruction not be charted. *concur* Chart from present survey.

- 6. Two steel structures 10 feet by 5 feet located at latitude 57°45'36.7"N, longitude 152°26'25.4"W. (Source: 1982 field data, investigated by divers.)

An 85 foot radius circle search of the harbor bottom was performed by divers, centering at latitude 57°45'36.54"N, longitude 152°26'25.06"W (p/n 9009). Divers were unable to confirm least depths on the steel structures as nothing was located during this year's bottom sweep.

See Eval Rpt
Sec 6,
PSR 411

For conservative measures, it is recommended that the least depth obtained during the 1982 field work be retained and charted. FAIRWEATHER methods for least depths involving diver verification use lead lines for all measurements from the object to the water surface. With this in mind, the least depth of 47.1 ft. should be used. TIDAL DATA NEEDS TO BE APPLIED TO THIS DEPTH.

43 *concur* *47.1 reduces to 43 feet with application of tides*

7. Sonagram contact located at latitude 57°45'32.1"N, longitude 152°26'35.9"W. (Source: 1982 field data).

A 100 foot radius circle search performed by divers at this location discovered two 55 gallon steel drums lying on their sides, partially buried in the sand, rising only two feet off the harbor bottom. The drums were located at latitude 57°45'32.27"N, longitude 152°26'35.43"W (p/n 9008). A depth of 49.0 feet was measured via lead line, however, due to water current an error of one foot must be subtracted from the measured depth for the bowing in the line. After predicted tides are applied, a least depth of 42.0 feet at MLLW was obtained for these obstructions.

✓ See Eval Rpt
Sec 6,
PSR 411

43 It is recommended that the drums be charted with a least depth of ~~42.0~~⁴³ ft. *concur*

8. Sonagram contact located at latitude 57°45'32.3"N, longitude 152°26'22.6"W. (Source: 1982 field data)

Two circle searches were completed by divers, position numbers 9010 and 9016. After checking the coverage of the 100 foot radius search of position 9010 at latitude 57°45'31.87"N, longitude 152°26'20.11"W, the reported contact location was outside the sweep area.

As a result, the search center was relocated to latitude 57°45'32.36"N, longitude 152°26'22.84"W (p/n 9016), where another sweep was accomplished and discovering the following items: At the location of position 9016, was a six-by-six foot square crab pot, rising 2.3 ft. above the harbor bottom. Also, at a distance of 56 feet, bearing 150° magnetic, a coil of 3/4" steel cable (still hooked up to the crab pot), rising 1.0 ft. off the harbor bottom was found.

✓ See Eval Rpt
Sec 6,
PSR 411

It is recommended that the crab pot, being the shoalest item found, be charted with a least depth of ~~44.6~~⁴⁵ ft. at MLLW (predicted tides applied). *concur*

9. PSR #413 - Sounding at latitude 57°47'06.8"N, longitude 152°24'48.7"W (Source: H6758/42WD 25 ft. hang, no clearance. H-9003/68 - hydro indicates a rock with least depth found to be 29 ft.). 32 foot sounding at latitude 57°47'06.8"N, longitude 152°24'49.4"W. (Source: 1982 field data)

Divers searched this area discovering a large rock shoal located at latitude 57°47'06.81"N, longitude 152°24'48.73"W (p/n 9017). Two shoal depths were found on the rock mound with the first located at position 9017 with a least depth of ~~27.6~~ ft. at MLLW (predicted tides applied). The second peak was located at a distance of 16 feet, bearing 050° magnetic from position 9017, least depth of 28.1 ft. at MLLW (predicted tides applied).

✓ See Eval Rpt
Rpt,
Sec 6,

It is recommended that this rock shoal be charted at position 9017 with a least depth of ~~27.6~~²⁸ ft. *concur*

10. Sonargram contact located at latitude 57°47'08"N, longitude 152°24'48"W. (Source: 1982 field data)

Divers performed a 100 foot radius circle search centering at latitude 57°47'07.64"N, longitude 152°24'48.03"W (p/n 9018). During the bottom sweep, two items were located. A rock rising 3.0 ft. above the harbor bottom was discovered 56 ft. bearing 090° magnetic from position 9018 (least depth 33 ~~32.8~~ ft. at MLLW, predicted tides applied). An old freezer was also located during this investigation at a distance of 77 feet, bearing 235° magnetic from position 9018, rising 1.9 ft. above the harbor bottom (least depth 33.9 ft. at MLLW, predicted tides applied).

It is recommended that the rock be charted at a ³³~~32.8~~ ft. sounding least depth. *concur*

See Eval Rpt
Sec 6,
PSR 413

11. PSR #421 - Obstruction at latitude 57°46'41.1"N, longitude 152°26'16.9"W. (Source: H9003/68 - possible obstruction note on smooth sheet)

A 100 foot radius circle search was completed by divers centering at latitude 57°46'41.17"N, longitude 152°26'16.34"W (p/n 9007). The sweep of the harbor bottom could not find anything in this area.

It is recommended that this reported possible obstruction not be charted. *concur Chart from H-10032*

See Eval Rpt
Sec 6

12. Sonargram contacts located at latitude 57°46'42.1"N, longitude 152°26'10.5"W. (Source: 1982 field data)

Divers completed a 100 foot radius circle search centered at latitude 57°46'42.04"N, longitude 152°26'10.78"W (p/n 9011). The sweep of the harbor bottom found nothing in this vicinity.

It is recommended that the sonargram contacts not be charted. *concur*

See
Eval Rpt
Sec 6

13. A four-by-four foot steel box was also discovered by divers during the 1983 field operations. The box located at latitude 57°45'30.33"N, longitude 152°26'36.87"W (p/n 9001) rises two feet above the harbor bottom. Least depth by lead line was found to be 40.6 ft. at MLLW (predicted tides applied).

It is recommended that this obstruction be charted. *concur*

See Eval
Rpt, Sec 6
PSR 411

In addition to the items mentioned in the letter requesting additional field work from N/MOP21 dated 31 May 1983, the orientation for the Dog Bay breakwater and corrections to the descriptions for Bouys #6 & #7 were obtained along with errors that were noted on the new 10th edition of Chart 16595, dated September 25, 1982.

The orientation of the floating breakwater at the southern end of Dog Bay was determined by three-point sextant fixes. Position numbers 8300 and 8301 were taken while standing on the centerline at each end of the breakwater. (Refer to Sounding Volume #1 for diagrams and raw data.) Length was determined to be 965 ft., width found to be 26.5 ft. and the orientation is 145°/325°. Construction of the breakwater is the same as reported in the 1982 data.

A section of Chart 16595 is included with the raw data as an aid showing which objects and angles were obtained in positioning the breakwater. ✓

The characteristics of St. Paul Harbor channel bouys numbers 6 and 7 were found to be as follows: ✓

#7 - Black lighted bouy with a radar reflector and a 2.5 second flashing green light. ✓

#6 - Red lighted bell bouy with a radar reflector and a quick flashing red light. ✓

All raw data for the 1983 additional work will be transmitted with this letter along with the construction plans for the Kodiak-Near Island Bridge which were also obtained. ✓

The only new additions to the 1982 horizontal control stations were Woman's Bay Rear Range Light (#702), Woman's Bay Front Range Light (#704), St. Paul Harbor Entrance Light (#706), Union Oil Tank #3571 (#708), and the Kodiak Airport Tower (#710). Geodetic positions of these stations except #710 were obtained during the 1982 project. Refer to S-P304-FA-82 Horizontal Control Report for further information. The position for the Kodiak Airport Tower (#710) was taken from the DIPFIL listing. ✓

Beginning Mini-Ranger baseline calibrations were performed just prior to the commencement of the 1983 field work (JD 196 & 199). Ending baseline calibrations were performed in Seattle on JD 251 & 252. (Refer to OPR-P146-FA-83, Electronic Control Report for baseline data). Critical calibrations were performed daily using a cal pole (#700). All calibrations confirmed baseline correctors. ✓

Since field work was performed by divers using lead lines for least depth, fathometers were not used to obtain data. Thus corrections to echo soundings are not necessary. ✓

While performing the additional field work, the following corrections to the 1982 edition of Chart 16595 were noted: ✓

(1) The finger pier shown on Puffin Island at latitude $57^{\circ}45'21''N$, longitude $152^{\circ}26'10''W$ does not exist and should be removed from the chart. ✓

(2) Pier ruins consisting of only four pilings were located at latitude $57^{\circ}45'20.487''N$, longitude $152^{\circ}26'09.403''W$ which is just south of the above reported finger pier on Puffin Island. A visual search of the area at low water showed no other pilings in the vicinity. In addition to the pilings, the remains of a corrugated seawall lies along the southern edge of the four pilings. Refer to position numbers 8302-8304 in Sounding Volume #1 for positions and raw data. *Concur* ✓

(3) The Coast Guard has taken over the Navy Base in Woman's Bay several years ago. All references to the U.S. Naval Reservation should be revised to that of the Coast Guard. ✓

Concur. Chart as pier ruins.



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

N.O.A.A. SHIP FAIRWEATHER
February 28, 1984

DH
3/6/74

TO: N/MOP - David Yeager

FROM: S220 - Commanding Officer *Christian Anderson*
NOAA Ship FAIRWEATHER

SUBJECT: Supplemental Information for 1983 Field Work, St.
Paul Harbor, Kodiak, Alaska

REF: Preprocessing Examination of H-10032 (Supplemental
Work)

As per the request of the preprocessing examination of the 1983 supplemental field work of H-10032, the following information is provided:

Item 1 under "Survey Acceptance" requires the submission of echograms, and other supporting data. As stated in the 8 August 1983 report on the 1983 field work for this survey (page 5, paragraph 6) all the supplemental field work was accomplished by divers using leadlines. Echo sounders were not used hence there are no supporting echograms. All supporting data was submitted with the Supplemental Report on 28 September 1983, transmittal number FA-35-83.

Item number two asks for underwater visibility which was not recorded in the sounding volume with the information for each dive. The diver circle search is normally a 100% sweep of the bottom area as the tethered line in which the divers guide the search from the center weight is kept at approximately six inches from the bottom. For this reason, visibility was deemed insignificant and only recorded on dive logs. As per the request, the following lists the water visibility on each dive.

<u>Position Number</u>	<u>Visibiliy</u>
9000-9001	20 feet
9002-9006	25 feet
9007	18 feet
9008-9010	25 feet
9011	20 feet
9012-9016	25 feet
9017-9018	20 feet

The amount of bottom that was actually observed at each dive location is equal to the water visibility.



The diver circle search technique which was employed at each location (position numbers 9000-9018) is standard for the FAIRWEATHER and basically described therein in NOAA Dive Manual referenced in all Project Instructions.

In preparation for an investigation, the reported and/or obtained position for each item is used to calculate two or more ranges from control stations equipped with positioning control. In the case of St. Paul Harbor, all the geographic positions given for the items listed on the 31 May 1983 Request Letter from N/MOP22 were used to calculate ranges from stations Abbert (#540), No Name (#560), Gib (500) and/or TDB 125 (#640). The ranges were computed using RK 300, Utility Computations program.

Upon arrival in the vicinity of the computed position, the coxswain steered one of the computed ranges and upon reaching the intersection of the other range, a weight was dropped from the 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 in place, the launch would return to check if it was positioned correctly. This was accomplished by positioning the Mini-Ranger antenna side of the launch beside the float, removing all the slack out of the float line and comparing the observed ranges to the computer ranges.

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.

After visibility was determined, the divers would position themselves along the tape at the visibility distance (if the visibility was 25 feet, one diver would be stationed at 25 feet from the weight with the second diver at 50 feet from the weight). After the harbor bottom was marked, the divers would then swim a 360 degree circle holding the tape approximately six inches off the bottom. In this way, not only was the bottom swept with the tape but also visually inspected.

After the first circle, the divers would then move out farther from the weight using the determined visibility for the next set of distances. Using the example of 25 feet visibility again, in this case, the divers would move out to the 75 foot mark and the 100 foot mark. Once again the 360 degree search would be performed. This procedure continued until the maximum distance from the weight was obtained. Normally, this is 100 feet unless stated otherwise (refer to the Supplemental Report).

After the investigations were completed, the divers pulled all the slack out of the bouy line at the weight and returned to the launch. At this time, a detached postion would be taken at the bouy, thus providing control data and checking if the weight moved.

If an object was located, either the weight would be moved to the object so that a position of the item could be obtained directly, or a distance and a direction using a magnetic compass by the divers from the weight to the object would be used. The latter was used at times when several items were located within the search area.

All depths obtained were by leadlines with one diver located at the object and the other directly over the item at the surface.

Item four of the preprocessing examination requires Mini-Ranger baseline calibration data. As stated in the original Supplemental Report, this information is included in the Electronic Control Report, OPR-P146-FA-83. Please refer to this report for the necessary data.

This should complete all the additional information that was requested in the Preprocessing Examination of H-10032, Supplemental Work.

HYDROGRAPHIC SURVEY STATISTICS

H-10032

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT		
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	11		
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	5		
DESCRIPT- TION	DEPTH/POS RECORDS	HORIZ. CONT. RECORDS	SONAR- GRAMS	PRINTOUTS	ABSTRACTS/ SOURCE DOCUMENTS
ACCORDIAN FILES				2	
ENVELOPES				/ / / / /	
VOLUMES					
CAHIERS					
BOXES				3	

SHORELINE DATA / / / / /

- SHORELINE MAPS(List):
- PHOTOBATHYMETRIC MAPS(List):
- NOTES TO THE HYDROGRAPHER(List):
- SPECIAL REPORTS(List): Corrections to Echo Soundings, Electronic Control Report
- 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	/ / / / /	/ / / / /	2077
POSITIONS REVISED	2074	3	2077
SOUNDINGS REVISED	111	16	127
CONTROL STATIONS REVISED			
/ / / / /	TIME - HOURS		
	VERIFICATION	EVALUATION	TOTALS
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL	20	2	22
VERIFICATION OF POSITIONS	54	27	81
VERIFICATION OF SOUNDINGS	227	42	269
VERIFICATION OF JUNCTIONS	2	1	3
APPLICATION OF PHOTOBATHYMETRY	0	0	0
SHORELINE APPLICATION/VERIFICATION	2	1	3
COMPILATION OF SMOOTH SHEET	31	5	36
COMPARISON WITH PRIOR SURVEYS AND CHARTS	0	33	33
EVALUATION OF SIDESCAN SONAR RECORDS	0	7	7
EVALUATION OF WIRE DRAGS AND SWEEPS	0	0	0
EVALUATION REPORT	10	33	43
OTHER Rework	0	18	18
Digitization	21	0	21
TOTALS	367	169	539
<i>Pre-processing Examination by</i>	<i>Beginning Date</i>		<i>Ending Date</i>
<i>Verification of Field Data by</i> C. R. Davies	/ / / / / Beginning		8/8/83
XXXXXXXXXXXX Checks by J. L. Stringham, J. S. Green	51		6/21/84
<i>Evaluation and Analysis by</i> K. M. Scott	4/13/84 Beginning		6/14/84
<i>Inspection by</i>	<i>Time(Hours)</i>		<i>Ending Date</i>

PACIFIC MARINE CENTER
EVALUATION REPORT

REGISTRY NO: H-10032

FIELD NO: FA-5-1-82

Alaska, Kodiak Island, St. Paul Harbor and Approaches

SURVEYED: July 20-30, 1982; July 18, 20, 1983

SCALE: 1:5,000

PROJECT NO: S-P304-FA-82

SOUNDINGS: Ross Fineline Fathometer

CONTROL: Mini-Ranger
Range/Range
Range/Azimuth

Chief of Party.....CDR W. F. Forster
CDR C. Andreasen

Surveyed by.....ENS P. Steele
ENS A. Francis
ENS F. Migaiolo
ENS C. Bailey

Automated Plot by.....PMC Xynetics Plotter

Verified by.....C. R. Davies

Evaluated by.....K. M. Scott

1. INTRODUCTION

H-10032 is a navigable area survey with field work accomplished by NOAA Ship FAIRWEATHER in accordance with Project Instructions S-P304-FA-82, St. Paul Harbor, Alaska, dated July 14, 1982; OPR-P146-FA-83, Shelikof Strait, Alaska dated March 11, 1983, Change No. 1 dated April 16, 1983; and Request for Additional Field Work, H-10032, St. Paul Harbor, Alaska dated May 31, 1983.

St. Paul Harbor affords a south passage to Kodiak, Alaska and is regularly transited by the Alaska State Ferries and fishing vessels.

The additional field work conducted in 1983 was in response to the preprocessing critique. No Descriptive Report for this work was submitted by the FAIRWEATHER. Instead, a letter dated August 8, 1983 was written to N/MOP21 addressing the specific items investigated. That letter is appended to the Descriptive Report.

Side scan sonar was employed during survey operations and used for location of possible obstructions. This system was operated using Hands Off Tuning, an automatic mode that does not record the detail necessary to identify the contacts. Sidescan records were not used for disapproval but considered as supplemental information only. Those sonargrams and overlays have been transmitted to N/CG241, as directed, for use in developing a reference file.

Tide correctors used for reduction of final soundings reflect approved hourly heights from the Kodiak, Alaska (945-7283) gage. (See appended Tide Notes.)

The TRA correctors and velocity tables were revised during verification to apply the appropriate transducer depths to detached positions. Copies of the final corrector tables are appended to the Descriptive Report.

Electronic correctors have been changed to reflect the appropriate average baseline correctors. Annotated electronic corrector abstracts are appended to the Descriptive Report.

Projection parameters used to plot the field sheets have been changed to meet smooth sheet specifications and center the hydrography.

2. CONTROL AND SHORELINE

Horizontal control is adequately discussed in section F of the Descriptive Report and the Horizontal Control Report for S-P304-FA-82.

Shoreline was transferred in brown for orientation only, from a 1:5000 scale enlargement of Chart 16595. No rocks or foreshore detail were transferred. Cultural changes to the high water line were transferred in red from the final field sheet.

3. HYDROGRAPHY

Soundings at line crossings are in good agreement.

The bottom configuration, development of shoal soundings, and determination of least depths are adequate except as noted in section 4 of this report. Standard depth curves have been drawn and supplemented by brown curves for further delineation of shoals.

4. CONDITION OF SURVEY

The hydrographic records and reports are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through Change 3 with the following exception:

Survey techniques to be employed in navigable area surveys with regard to shoals specify that when shoals are surrounded by navigable water, they shall be investigated, developed, or area delimited as required by basic hydrographic techniques. According to the project instructions, the limit of hydrography for the area north of latitude $57^{\circ}46.5'N$ is two fathoms. There are two shoals southwest of Gull Island, latitude $57^{\circ}46'35.7''N$, longitude $152^{\circ}25'41.3''W$ and latitude $57^{\circ}46'37.0''N$, longitude $152^{\circ}25'36''W$ that have minimum depths less than two fathoms and meet the above criteria which were not developed. In order to supersede the prior survey of the area, soundings have been carried forward from H-9003.

5. JUNCTIONS

H-10032 adjoins H-9763 (1978). This junction could not be effected because H-9763 has been previously forwarded to headquarters. Agreement between

surveys is good. Soundings have been transferred and junction curves inked in agreement.

6. COMPARISON WITH PRIOR SURVEYS

H-9003 (1968) 1:5000	H-2863a (1907) 1:5000
H-6481 (1939) 1:10,000	H-2863 (1906) 1:10,000
H-2929 (1907) 1:20,000	

All prior surveys of this area, listed above, indicate a very stable bottom. Most change has come about through cultural development. Geological events have changed features little; however, the pre-1964 earthquake surveys indicate subsidence in the area of up to 5 feet.

H-6758WD (1942) 1:10,000

Considering the differences in datum (H-6758WD is on the Valdez Datum), wire drag depths are consistent with present survey soundings. One 25 foot hang was encountered during that survey at latitude 57°47'06.8"N, longitude 152°24'48.7"W. That feature is addressed in more detail as PSR 413. Another hang of 36 feet at latitude 57°45'30.38"N, longitude 152°26'29.90"W is addressed as PSR 411.

There were 15 presurvey review items for investigation during field operations. Those originating with prior surveys and not adequately addressed in the Descriptive Report are supplemented below.

PSR 411 is an obstruction originating with H-6758WD with a hang depth at 36 feet and no cleared depth. A dive investigation in 1983 in the area of the charted obstruction found no evidence of the obstruction. Dive investigations in 1982 and 1983 of side scan sonar contacts in the vicinity of the charted obstruction resulted in the location of the following items:

a. Two steel structures protruding 3½ feet above the bottom at latitude 57°45'36.76"N, longitude 152°26'25.38"W (position number 5103, shown on the smooth sheet as a 43 foot obstruction). ✓

b. Two 55 gallon steel drums rising 2 feet above the bottom at latitude 57°45'32.25"W, longitude 152°26'35.42"W (position number 9008, shown on the smooth sheet as a 43 foot obstruction). ✓

c. A 6 x 6 foot square crab pot rising 2.3 feet above the bottom at latitude 57°45'32.34"N, longitude 152°26'22.84"W (position number 9016, shown on the smooth sheet as a 45 foot obstruction). ✓

d. A 4 x 4 foot steel box rising 2 feet above the bottom at latitude 57°45'30.28"N, longitude 152°26'36.77"W (position number 9001, shown on the smooth sheet as a 41 foot obstruction). ✓

PSR 411 is disproven at its charted position. The four obstructions found in the vicinity of PSR 411 should be charted as located by this survey. ✓

PSR 413 is listed as a wreck originating with H-6758WD, 1942, and confirmed by H-9003, 1968. After referring to the Descriptive Report for H-9003, the wreck in question was found to be a rock with a depth of 4½ fathoms. The ✓

investigation conducted at the time of the survey noted a shoal ten meters west of the scaled shoal position, but the hydrographer did not develop it. Additional work was accomplished in 1983. A diye investigation confirmed a 28 foot rock outcrop at latitude 57°47'06.78"N, longitude 152°24'48.73"W and a 33 foot rock at latitude 57°47'07.62"N, longitude 152°24'48.04"W. The rock is considered verified and should be charted from the present survey.

PSR 420 is an obstruction originating with shoreline manuscript T-13214 shown on H-9003 and verified by a dive investigation, as noted in CL1593/78. No hydrographic investigation was conducted. Instead, the hydrographer interviewed a contractor familiar with the area. It is reported that this area is to be filled during construction of a marina. This area, therefore, should continue to be charted as it is presently until a revision notice is submitted through appropriate channels.

PSR 421 is a reported possible obstruction originating with H-9003. During the 1982 field operations, side scan coverage of 400% was accomplished. No contacts were indicated. During the 1983 field season, two dive investigations were conducted in the vicinity of the possible obstruction. No obstructions were found. The obstruction is considered disproven and it is recommended that this area be charted from H-10032.

PSR 422 is a submerged obstruction charted at latitude 57°46'46.1"N, longitude 152°26'42.2"W and a second similar feature 20 meters shoreward. These features originate from H-9003. They were searched for visually and except for a wooden dolphin shown on the smooth sheet at latitude 57°46'46"N, longitude 152°26'42"W, nothing was found. No dive investigation or wire drags were accomplished. As these submerged features have not been disproven, a submerged obstruction and a submerged dolphin have been carried forward to the smooth sheet from H-9003. These features should be charted as shown on H-10032.

PSR's 428 and 429 are wrecks originating with prior survey H-9003, 1968. The west end of Gibson Cove has been filled and new piers constructed. These wrecks were not found during survey operations. Both wrecks are considered disproven. Chart these areas according to the present survey.

H-10032 is adequate to supersede all prior survey data within the common area.

7. COMPARISON WITH CHART

16595 (9th Ed., October 14, 1978)
16596 (8th Ed., July 15, 1978)

a. Hydrography - Charted information originates with prior survey data (see section 6 of this report) supplemented by blueprints reporting cultural changes.

Presurvey review item 430 originates with CL488/82. Side scan sonar coverage during the 1982 season was in excess of 400%. A dive investigation at that time revealed sand mounds. Additional work was done in 1983. That dive investigation uncovered an old crab pot. Its least depth of 35 feet is plotted. The reported 31-foot depth was not found on this survey. A minimum depth of 32 feet at latitude 57°45'16.5"N, longitude 152°26'52"W is shown on

the smooth sheet. This area should be charted according to the present survey. ✓

Project instructions requested the dimensions of the breakwater at the south entrance to Dog Bay, charted on 1955, 10th Ed., September 25, 1982. That breakwater extends NNW from latitude $57^{\circ}46'36.18''N$, longitude $152^{\circ}24'40.07''W$ to Dog Bay South Entrance Light 4, a distance of approximately 317.5 meters.

H-10032 is adequate to supersede charted hydrography within the common area.

A letter of hazards to navigation was submitted to the 17th Coast Guard District August 13, 1982 (letter appended). No additional hazards were encountered during verification and evaluation.

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

c. Aids to Navigation - Charted aids to navigation have been located and adequately serve their intended purpose, except as recommended in the 1982 Descriptive Report, section K, PSR 425.

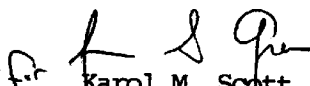
8. COMPLIANCE WITH PROJECT INSTRUCTIONS

H-10032 adequately complies with the project instructions as amended and noted in section 1 of this report except as noted under the Condition of Survey, section 4.

9. ADDITIONAL FIELD WORK

This is an adequate navigable area survey. No additional field work is recommended.

Respectfully submitted,


Karol M. Scott
May 24, 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. This survey is recommended for approval.


James S. Green
Supervisory Cartographer

DATE: October 28, 1982

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Processing Division: Pacific Marine Center:

Hourly heights are approved for

Tide Station Used (NOAA Form 77-12): 945-7283 Kodiak, Alaska

Period: July 20-29, 1982

HYDROGRAPHIC SHEET: H-10032

OPR: P-304

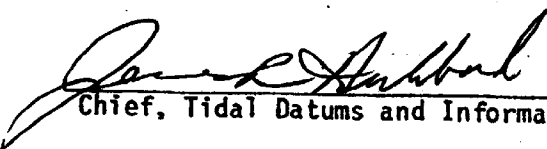
Locality: St. Paul Harbor, Kodiak, Alaska

Plane of reference (mean lower low water): 3.77 ft.

Height of Mean High Water above Plane of Reference is 7.8 ft.

REMARKS: Recommended Zoning

Zone Direct


Chief, Tidal Datums and Information Branch



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY

Pacific Marine Center
1801 Fairview Avenue East
Seattle, Washington 98102

November 2, 1982

Commanding Officer
Seventeenth Coast Guard District
P. O. Box 3-5000
Juneau, Alaska 99803

Dear Sir:

A preliminary office review of survey data revises information about dangers to navigation on NOAA Chart 16595, Kodiak and St. Paul Harbors, Alaska, submitted by the NOAA Ship FAIRWEATHER (radio message R131745Z Aug 82 and letter dated August 13, 1982) as follows:

(Item 2) Two rectangular metal containers 5 ft. by 10 ft. by 3.5 ft. resting on the bottom at:

57°45'36.7"N, 152°26'25.5"W.

Least depth confirmed by divers as 41.8 ft. reduced to MLLW based on predicted tides.

(Item 6.D) New position for:

Womens Bay Entrance Channel Buoy 2 at 57°44'23.9"N,
152°27'45.5"W.

(Item 10.C) New position for uncharted fixed aid to navigation:

Dog Bay South Entrance Light 4 at 57°46'43.983"N,
152°24'50.288"W.

Any questions regarding the above items may be directed to Cdr. Ned C. Austin, Chief, Marine Surveys Division, telephone (206) 442-4764.

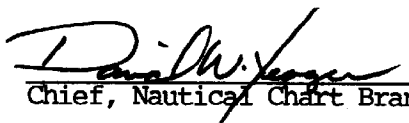
Sincerely,

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



ATTACHMENT TO DESCRIPTIVE REPORT FOR H-10032

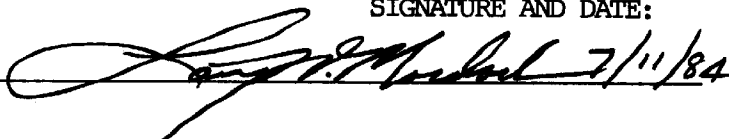
I have reviewed the smooth sheet, accompanying data, and reports of this hydrographic survey. Except as noted in the Evaluation Report, the hydrographic survey meets or exceeds Charting and Geodetic Services (C&GS) standards, complies with instructions, and is accurately and completely represented by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

 7/5/84
Chief, Nautical Chart Branch (Date)

CLEARANCE:

N/MOP2:LWMordock

SIGNATURE AND DATE:

 7/11/84

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)

NOV 6 1984

N/CG241:AAA

TO: N/CG2 - C. William Hayes
FROM: N/CG24 - Roy K. Matsushige /s/ Roy K. Matsushige
SUBJECT: AWOIS Check of Hydrographic Survey H-10032--Obstruction in St. Paul Harbor, Alaska

The preprocessing examination of hydrographic survey H-10032 (supplemental work of 1983) noted that a 6- by 6-foot cement block rising 4 feet off the bottom (PSR item #431, AWOIS item #50431) at latitude 57°45'18.74"N, longitude 152°26'52.10"W was identified in the field records as the "active" anchor for St. Paul Harbor Entrance Lighted Buoy 7 (LLNR 3542). The preprocessing examination further noted that FAIRWEATHER's recommendation to chart the block is not supported in light of standard practice.

Neither the smooth sheet nor the Descriptive Report acknowledges the status of the block as an active buoy anchor. The block is shown on the smooth sheet as an obstruction, and both the hydrographer and the evaluator recommend charting it as such.

The Hydrographic Surveys Branch concurs with the preprocessing examination comment and recommends that the active buoy anchor not be charted as an obstruction.

CC:
Descriptive Report H-10032 ✓

N/CG241:AAArmstrong:443-8752:rc:11/5/84

NAUTICAL CHART DIVISION

RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10032

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
16593	11-23-85	R. Fuchs EXAM, N.C.	Full Part Before After Verification Review Inspection Signed Via Drawing No. 13
16594	12-23-85	R. Fuchs	Full Part Before After Verification Review Inspection Signed Via Drawing No. 15
16595 +INSET	12-18-85	R. Fuchs	Full Part Before After Verification Review Inspection Signed Via Drawing No. 16
16596	12-23-85	R. Fuchs	Full Part Before After Verification Review Inspection Signed Via Drawing No. 17
16580	11-23-85	R. Fuchs	Full Part Before After Verification Review Inspection Signed Via Drawing No. 20
16596 ⁵	7/27/87	Re-opp'd N.F. Bonnard	Full Part Before After Verification Review Inspection Signed Via Drawing No. *16 <i>fully app'd to inset - Fully app'd to base thru 16596 and inset in common areas and directly to base thru-out remainder of survey</i>
16594	9/18/87	Re-opp'd N.F. Bonnard	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>Fully app'd thru chrt 16595</i>
			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.