10282

Diagram No. 8863-3

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area Hydrographic

Field No.: DA-5-1-88

Registery No.: H-10282

LOCALITY

State: Alaska

General Locality: Adak Island

Sublocality: Sweeper Cove

1988

CHIEF OF PARTY
CDR G.W. Jamerson

LIBRARY & ARCHIVES

DATE: September 19, 1989

☆U.S. GOV. PRINTING OFFICE: 1985—566-054

10282

"GP"

CHTS
16476 ✓ (1:10,000)
16475 ✓ (1:30,000)
16471 ✓ (1:120,000)
16460 ✓ (1:300,000)

NOAA FORM 77-28
(11-72)

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

HYDROGRAPHIC TITLE SHEET

REGISTER NO.

H-10282

FIELD NO.

DA 5-1-88

INSTRUCTIONS - The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State: Alaska

General locality: Adak Island

Locality: Sweeper Cove

Scale: 1:5,000 Date of survey: August 2-21, 1988

Instructions dated: June 21, 1988 Change No. 1, July 26, 1988 Project No.: S-Q929-DA-88

Vessel: NOAA Ship DAVIDSON Launch 3131, 3132 and Monark Skiff 3133

Chief of party: CDR George W. Jamerson , Commanding

Surveyed by: LCDR D. Hennick, LT S. Barnum, ENS J. Brown, ENS T. Duffy, ENS J. Ferguson, ENS R. Slagle and Ship's Personnel

Soundings taken by echo sounder, ~~hand lead, pole~~: DSF 6000, Steel tape, Fiberglass tape and Leadline

Graphic record scaled by: Ship's Personnel

Graphic record checked by: Ship's Personnel

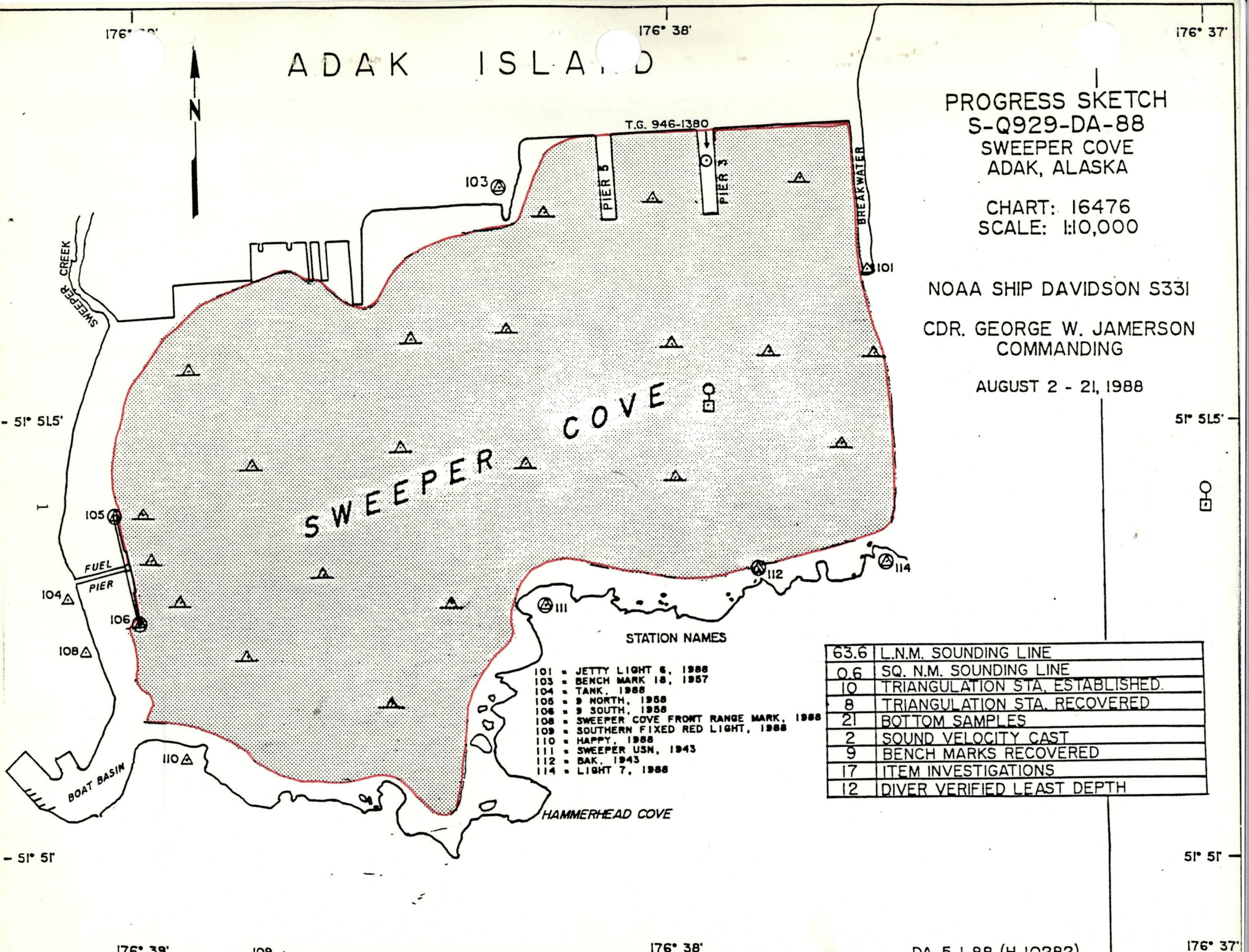
Verification by: ~~Protracted by~~: L. Deodato Automated plot by: PMC Xynetics Plotter

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

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

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

AWOIS/SURF ✓ 10/16/89 SJV


176° 38'
176° 37'
ADAK ISLAND
N
T.G. 946-1380
PIER 5
PIER 3
BREAKWATER
103
101
SWEEPER CREEK
51° 51.5'
SWEEPER COVE
105
FUEL PIER
104
106
108
110
111
112
114
BOAT BASIN
HAMMERHEAD COVE
51° 51'
PROGRESS SKETCH
S-Q929-DA-88
SWEEPER COVE
ADAK, ALASKA
CHART: 16476
SCALE: 1:10,000
NOAA SHIP DAVIDSON S331
CDR. GEORGE W. JAMERSON
COMMANDING
AUGUST 2 - 21, 1988
STATION NAMES
101 = JETTY LIGHT 6, 1988
103 = BENCH MARK 18, 1957
104 = TANK, 1988
105 = 9 NORTH, 1958
106 = 9 SOUTH, 1958
108 = SWEEPER COVE FRONT RANGE MARK, 1988
109 = SOUTHERN FIXED RED LIGHT, 1988
110 = HAPPY, 1988
111 = SWEEPER USN, 1943
112 = BAK, 1943
114 = LIGHT 7, 1988
63.6 L.N.M. SOUNDING LINE
0.6 SQ. N.M. SOUNDING LINE
10 TRIANGULATION STA. ESTABLISHED.
8 TRIANGULATION STA. RECOVERED
21 BOTTOM SAMPLES
2 SOUND VELOCITY CAST
9 BENCH MARKS RECOVERED
17 ITEM INVESTIGATIONS
12 DIVER VERIFIED LEAST DEPTH
176° 39'
176° 38'
176° 37'
DA-5-1-88 (H-10282)

DESCRIPTIVE REPORT
ALASKA, ADAK ISLAND, SWEEPER COVE
S-0929-DA-88
H-10282
DA-5-1-88

A. PROJECT

The purpose of this project was to conduct side scan sonar operations in support of a coastal defense exercise which was held in the vicinity of Adak Island and to provide contemporary hydrographic survey data for Sweeper Cove, Adak Island, Alaska. The first priority of Project Instructions S-0929-DA-88, dated June 21, 1988 and Change No. 1 dated July 26, 1988 was to conduct side scan operations for the Marine Defense Zone, Sector Aleutians exercise. Second priority was to run sounding lines along the faces of piers 3 and 5 and the fuel pier. Third priority was to complete Sheet A in Sweeper Cove using the navigable area hydrographic survey concept. All three aspects of the project were accomplished. See Final Report, sections 4, 6, 7, 9

Sheet letter A, field number DA-5-1-88, and registry number H-10282 have been assigned to this survey.

B. AREA SURVEYED

The area surveyed on H-10282 consists of the navigable area of Sweeper Cove, located on the east side of Adak Island in the Aleutian Islands, Alaska. Since a registered shoreline map was not available for this survey, charted features from the MHWL to seaward were positioned to hydrographic specifications in order to appear on the final field sheet. See Final Report, Section 2

Survey operations commenced August 2, 1988 (Day 215) and ended on August 21, 1988 (Day 234).

C. SOUNDING VESSEL

DAVIDSON's launches and skiff were the only vessels used to obtain soundings on this survey. The electronic data processing numbers are:

launch	DA-4	3131
launch	DA-5	3132
skiff	DA-1	3133

Launch DA-5 was the only vessel fitted with a HYDROPLOT system. Launch DA-4 was used as a diving platform and the

skiff for leadline soundings and shoreline feature investigations.

D. SOUNDING EQUIPMENT AND CORRECTIONS TO ECHO SOUNDINGS

EQUIPMENT

Launch DA-5 (3132) used a Raytheon DSF-6000N Digital Survey Echo Sounder, serial number A124N. The echo sounder was continuously monitored during survey operations and operated in accordance with PMC OPORDER 3.4. The graphic records were scanned and compared to the digitized depths. Digitizer errors, missed depths, and peaks/deeps were identified and noted on the analog trace and corrections were made to the raw data printout.

Diver least depths were obtained with a Keson fiberglass measuring tape. A leadline, calibrated on March 17, 1988 (DAY 077) was used for soundings along the pier faces.

CORRECTIONS TO ECHO SOUNDINGS

Corrections to echo soundings were determined for velocity of sound through water, draft, settlement and squat, and tides. Correctors apply both to the high and low frequency beams of the DSF-6000N used by launch DA-5. These correctors are discussed in detail in the Corrections To Echo Soundings Report.

Sound velocity correctors were determined by using a Plessey Grundy model 9040 sound velocity, depth, and temperature sensor (Serial Number 5632). The Plessey sensor was calibrated on May 20, 1988 by the Northwest Regional Calibration Center. The sensor was checked by Nansen cast on June 1, 1988 to a depth of 645 meters. The Plessey/Nansen cast showed good agreement. Refer to the Corrections To Echo Soundings Report for further details.

Dates and positions of sound velocity casts in the Sweeper Cove area were August 3, 1988 (DAY 216) at 51°51'31"N, 176°37'56"W and August 16, 1988 (DAY 228) at 51°51'24"N, 176°37'00"W.

The draft corrector was measured by reading the draft marks on the side of launch DA-5 directly above the transducer. The reading was made after putting the launch in the water with three people, a full suite of equipment, and about 3/4 fuel capacity aboard. A 0.3 fathom transducer depth was determined from the draft readings which agrees with DAVIDSON's historical records for launch DA-5. The draft marks were verified on September 30, 1988

(DAY 274) with the launch out of the water by placing a carpenters level on the face of the transducer set and measuring up to the draft marks. The draft marks agreed with the tape to within 0.25 inches.

A preliminary draft corrector of 0.2 fathom was used to prepare the final plot. The final TC/TI tape has the correct draft corrector of 0.3 fathom for launch DA-5.

The launch's transducers are mounted on the starboard side, midships, in a location such that all sounding corrections apply to both the low and high frequency echo sounder signals.

A settlement and squat correction was determined on June 17, 1988 (DAY 169) by observing levels to the launch at various rpm settings. The maximum correction was 0.03 fathom. Since the correction was negligible for the 0.1 fathom accuracy of soundings, no correction was applied to the plotted soundings for settlement and squat. For further details, refer to the Corrections To Echo Soundings Report.

The operating tide gage at Sweeper Cove, Adak, Alaska (946-1380) served as direct control for datum determination. Pacific Operations Group (N/OMA1214) serviced the gage prior to the commencement of survey operations and reported the tide station operational. The gage was monitored daily (before and after daily survey operations) and leveled out at the end of the survey by DAVIDSON personnel. No discrepancies were noted between the ADR and bubbler gauges. See ~~Appendix II~~ Field tide note for further details.

The source of the predicted tides was Tide Tables 1988, West Coast of North and South America; Sweeper Cove, Adak Island, Alaska entry. There were no time/height correctors applied to the predicted tides. Predicted tides were applied using program AM-500 (Predicted Tide Generator). Additional tide information can be found in the Field Tide Note.

PROBLEMS WITH SOUNDING EQUIPMENT

Several problems were noted with the DSF-6000N used during data acquisition, none of which affected the quality of the survey data. The problems were interference from the VHF house radio, interference on the low frequency trace from launch engine noise, and occasional delay of the sounding and fix marks on the analog trace. Concur

The launch engine and VHF radio induced spurious traces on the echo sounder. These problems were solved by operating

the launch at a lower rpm and by using a less powerful portable radio for communication. These problems affected the low frequency channel only. The ship's electronics technician determined that the transducer matching unit for the low frequency channel was missing, thus allowing the interference to occur. The cause of the problem was discovered on August 17, 1988 when survey operations were almost over. however, was not corrected because a replacement matching unit would have arrived after DAVIDSON's departure..

A problem which greatly increased scanning time was the occasional delay of the in-between fix and sounding event marks on the analog trace. The correct depth was digitized and recorded by the computer at the appropriate fix and sounding time, but the event mark on the trace was sometimes delayed for 2-5 seconds. This problem was finally traced on DAY 225 to the interface board (quadart card) for the DSF-6000N. The interface card was replaced and the problem disappeared. Prior to the correction of the problem, the echo sounder was monitored and the trace was manually annotated whether or not the event trace occurred when the fix-mark tone was sounded by the hydroplot controller. If the fix-mark tone and the event trace occurred simultaneously,then a check mark was placed next to the event mark. If the mark and the tone did not occur simultaneously an 'X' was placed next to the mark. These marks helped fathogram scanning by providing solid reference marks from which to scale the correct depths with ten point dividers. In all cases the fix and sounding interval was scaled and checked using ten points during the scanning of the fathogram. If an event mark was found to be in error an 'R' was placed on the mark and a new mark was placed at the correct interval. The soundings scaled from the corrected intervals, including those on steep slopes, showed excellent agreement with the digitized depths recorded on the data printout.

E. HYDROGRAPHIC SHEETS ✓

Field sheets were prepared at 1:5000-scale using the Digital PDP 8/E computer with the Houston Instruments DP/3 plotter. Along the pier faces, sounding line intervals were compressed such that individual soundings could not be distinguished; therefore, enlargement sheets of 1:2000 were used in the pier areas to clarify sounding data and leadline soundings. Positions of piers, AWOIS items, bottom samples, and other detached positions were plotted on a separate detached position sheet to relieve congestion on the sounding plot. *Three subplans appear on the smooth sheet.*

All field records will be sent to the Pacific Marine Center, Nautical Chart Branch (N/MOP21) for verification and final smooth plotting.

F. CONTROL STATIONS ✓

All established stations were at least Third-Order, Class I stations and are in the NGS Data Base system. A new station, HAPPY 1988, was established for control of range-azimuth hydrography. Station HAPPY 1988 and all fixed aids to navigation were established and will be submitted to N/MOP21 for forwarding to N/CG164. All position computations are based on the North American Datum 1927 (NAD 27). All control stations were recovered and verified by DAVIDSON personnel. A list of the control stations used during the survey follows:

Station	Order,Class	Date Established	Signal No.
BAK	3,I	1943	112
HAPPY	3,I	1988	110
LUCKY USN	3,I	1933	115 Off smooth sheet.
LIGHT NO 4	3,I	1988	118
LIGHT NO 5	3,I	1988	119 Off smooth sheet
LIGHT NO 6	3,I	1988	101
LIGHT NO 7	3,I	1988	114
NORTHERN FIXED RED LIGHT	3,I	1988	102
SOUTHERN FIXED RED LIGHT	3,I	1988	109
SWEEPER COVE FRONT RANGE MARK	3,I	1988	108
SWEEPER COVE BACK RANGE MARK	3,I	1988	107
SWEEPER USE	3,I	1943	111
TANK	3,I	1988	104
TIDAL BM 18	3,I	1986	103
9 NORTH	3,I	1958	105
9 SOUTH	3,I	1958	106

Station HAPPY 1988 was the only control station established during the project. The station is a standard NOS disk cemented in a drill hole in a concrete slab. HAPPY was established by running a third order, class I traverse from station TIDAL BM 18, 1986 to station SWEEPER, 1943. For a complete description and details of the positioning method used, see the Horizontal Control Report.

G. HYDROGRAPHIC POSITION CONTROL ✓

POSITIONING EQUIPMENT ✓

The sounding vessel was positioned by range-azimuth. The shore control consisted of a Mini-Ranger and a Wild T-2 theodolite located on a single control station. Sextant fixes with check angles were used to position AWOIS and charted features.

The following position control equipment was used: MR III console S/N 713166; RT E2849; Wild T2 theodolite S/N 252594 and 26423; and sextants T2997, T3851, T2979, T3744, T3849.

The following position control configuration was used during the survey:

STATION	MINI RANGER	THEODOLITE
TIDAL BMK 18 1986	B1215	252594
9 NORTH 1958	B1215	252594, 26423
HAPPY 1988	B1215	252594
SWEEPER USE 1943	B1413, B1215	252594
BAK 1943	B1215	252594, 26423
LUCKY USN 1933	911632 (CHECK RANGE)	

Leadline soundings along the pier faces were positioned by measuring along the pier face from sextant fixes taken at the corners of the piers.

BASELINE CALIBRATION ✓

Mini-Rangers were baseline calibrated in accordance with section 3.3.1.1 of the PMC Oporders. An opening baseline calibration was performed in Adak, Alaska from Pier 5 to the north end of the fuel pier in Sweeper Cove on DAY 213. A closing calibration was performed on the ship's return to Seattle, Washington from Pier A at the Pacific Marine Center to the Naval Reserve parking lot across Lake Union on Day 252. There was excellent agreement between the opening and closing baseline calibrations. A summary of the baseline correctors for each code with the MR III console 713166 and RT E2849 is a shown below:

Mini-Ranger	Code	Opening	Closing
911632	2	+1.9	+0.8
B1413	3	-2.6	-3.0
B1215	6	+1.8	+1.0

All data were plotted with the opening baseline correctors. The opening correctors are recommended for processing. See Electronic Control Report for further details.

SYSTEM CHECK PROCEDURES ✓

Critical system checks were conducted daily prior to and after survey operations. Two fixed point calibration sites were established on August 1, 1988 (DAY 214) at the end of pier five. Each site consisted of a selected piling which was located by sextant fix and marked for future reference. The sites are named CAL POINT 1 and CAL POINT 2 (pg 3-4, sounding volume 1).

System checks were within the required 3 meters for a 1:5000 scale survey. As an additional check on control, theodolite azimuths were taken at the calibration point and calculated using RK 300 option 9. The inverse distance between the vessel position and the calibration point position was computed and found to be within the required 3-meter limit.

ANTENNA OFFSET DISTANCES (ANDIST) ✓

ANDIST (antenna offset distance) was 0,0 in all cases; the launch's antenna is located over the depth transducer.

PROBLEMS WITH CONTROL EQUIPMENT ✓

Prior to data acquisition, Mini Ranger III developed a problem with display rates on channel A. The range displayed would jump from X40 to X80 without displaying intervening rates. The problem was solved by recording rates from channel B. The console was discovered to have a loose connection on channel A. The connection was fixed and the problem never recurred. Data were not affected by this problem. During survey operations the MR code in use was monitored on both MR III console channels. No discrepancy was found between the channels during survey operations. *concur*

H. SHORELINE *See Eval Report, section 2*

Shoreline details shown on the final field sheet were transferred from a hand tracing of cartographic revision print CRS 000988, B/P 134309 (enlargement scale 1:5000) provided to DAVIDSON in place of a regular shoreline map. This shoreline, shown in brown, is depicted for reference purposes only.

The revision print more accurately depicts the northern shoreline of Sweeper Cove than does Chart 16476, especially in the NW corner of the cove where the squared-off shore features have been eroded. The contour of the shoreline here was visually verified to follow the tracing. It is

recommended that the shoreline from 51°51'36"N, 176°39'06"W to 51°51'42"N. 176°37'36"W be revised from CRS 000988. concur

Buildings and inshore features shown on the revision print for deletion were visually verified. It is recommended that the items marked for deletion on the revision print be removed from the chart. Not shown on smooth sheet. Revision print submitted with the hydrographic data.

The fuel pier position was verified by sextant fixes. Position fixes 3024-3029 verified the position of the seaward face within 5 meters of the charted position. There did not appear to be any new construction or pier modifications since the original construction. DAVIDSON recommends that the fuel pier remain as charted. concur

Pier 3's position was verified by sextant fixes (positions 3000-3003). The pier, built with wood decking and supported by wood piles, did not appear to have been rebuilt. It is recommended that pier 3's position be updated with the fixes taken from this survey. Do not concur, fixes verify charted position of Pier 3, retain as charted.

A floating barge, which has been moored for several years, is located on the northwest side of pier 3 (see field sheet). The barge is shown on the final field sheet for reference only. Adak Port Services reports that there are plans to recondition the barge and put it back in service. Dates of the reconditioning are not known. It is recommended that the barge not be charted. concur

Pier 5 is now a concrete pier supported by concrete piles. This pier has been rebuilt on the same site as the wooden pier previously charted. It is recommended that sextant positions, 3008-3015 be used to chart the pier. Concur, Pier 5 is shown in red on the smooth sheet, chart according to smooth sheet

A rectangular barge ramp is located to the west of pier 5. The ramp was positioned by sextant (positions 3016,3018-3019). The southwest corner of the pier could not be positioned due to lack of visible control stations. It is recommended that the ramp be charted using the positions and measurements taken from this survey. Concur, chart according to smooth sheet

A short barge pier and associated steel ~~dolphins~~ piles (position nos. 3020-3023) are located between Pier No. 3 and the harbor breakwater. The barge pier consists of steel girders and wood planks on steel pilings. Four steel ~~dolphins~~ piles supported from the shore are situated E and W of the pier and in line with the pier face. From each ~~dolphin~~ pile, support cables run to the shore on either side of the ~~dolphin~~ pile (see field sheet). Chart according to smooth sheet

A steel platform immediately south of the fuel pier was positioned by sextant fixes (position nos. 3047-3048). The platform is composed of steel cylindrical pilings and

girders supporting wood planks. The platform has been shown as a "Structure" on the final field sheet. Chart steel platform at lat. 61/61/14.68 N, long. 176/39/02.20
The small boat basin, located at the southwest end of the cove, has many small finger piers which are not shown on the chart but are on the revision print. A large number of finger piers were noted in the small boat basin (see appendix XI for photographs). It is recommended that the finger piers in the small boat basin shown on the revision print be added to the chart. concur

Visual inspection of the western and southern shoreline did not indicate any noticeable changes, new construction, or erosion as compared to the chart. It is recommended that the southern shoreline be retained as shown on Chart 16476. concur

I. CROSSLINES ✓

A system of crosslines was run in accordance with Section 1.4.2 and 4.3.6 of the Hydrographic Manual. The crosslines total 11 percent of the mainscheme sounding lines.

There was excellent agreement between mainscheme and crossline soundings on the 1:5000 scale field sheet. Soundings less than 11 fathoms agreed to within 0.2 fathoms, except along the kelp line of the southern shoreline where the bottom dropped off sharply, yielding up to 1 fathom of deviation. Elsewhere, machine plotting rounded soundings to the nearest whole fathom, and almost all (99%) of these agreed exactly, the rest (1%) agreeing to within 1 fathom.

On the 1:2000 scale enlargement of the soundings around Piers No. 3 and No. 5, mainscheme and crossline soundings showed excellent agreement to within 0.2 fathom, except for soundings along the riprap lining the shoreline where the bottom rose sharply.

On the 1:2000 scale enlargement of the soundings surrounding the fuel pier, mainscheme and crossline soundings showed excellent agreement to within 0.2 fathom.

J. JUNCTIONS ✓

Survey H-10282 did not junction with any other surveys.

K. COMPARISON WITH PRIOR SURVEYS See Evaluation Report, section 6

All data collected in this survey was compared to the following prior surveys:

Registry Number	Scale	Year Surveyed
H-6915	1:5,000	1943
H-7084	1:10,000	1945
H-7825	1:2,500	1951
H-8454	1:480	1958

COMPARISON WITH SURVEY H-~~6195~~ 6915

When comparing survey H-10282 to H-6915 only those areas not superseded by H-7825 were compared. Comparison of soundings showed fair agreement. The area south of 51°51'23"N and east of 176°38'10"W to the survey limit, was found to be shoaler by up to two fathoms on H-6915. DAVIDSON recommends that the new soundings supersede the prior survey, except where shoaler soundings found on the prior survey were not developed. See Evaluation Report, section 6 ✓

COMPARISON WITH SURVEY H-7084

The 3 1/2 fathom shoal at 51°51'44"N 176°37'49.0"W was developed with 10 meter arcs. A shoal sounding of 4.02 fathoms was found by diver investigation (position number 4018). It is recommended that the shoal be charted with the position and depth from this survey. Chart submerged obstruction (subm. pile) covers 4.2 fathoms at lat. 51/51/44.17 N, long 176/37/48.85 W. ✓ D. not concur

COMPARISON WITH H-7825

Comparison with H-7825 showed good agreement. The area surrounding pier 5 is consistently deeper than the soundings in H-7825. Discussions with the Adak Port Engineer Tom McClellan, revealed instances of past dredging in this area. Specific dredging operations are not known. Soundings on the rest of the survey show good agreement.

The 7 1/2 fathom shoal charted at 51°51'34.~~5~~6"N 176°38'13.~~5~~6"W. was developed with 20 meter spacing (75% bottom coverage). Arcs were run north/south and east/west to develop the shoal. A least depth of 9.~~1~~0 fathoms was found. Because time constraints did not permit a complete development to disprove this shoal, it is recommended that this shoal remain as charted. A 7.7 fathom sounding was carried forward from survey H7825 at the position above. See Eval Report Section 6

The 8 1/2 fathom shoal at 51°51'36.~~0~~3"N 176°38'01.0"W was developed with 10 meter arcs (100% bottom coverage). A least depth of 9.67fathoms was found. It is recommended that the shoal be charted as shown on this survey with a least depth of 9.67fathoms. Concur

The 5 fathom shoal at 51°51'45.0"N 176°38'01.5"W was developed with 5 meter arcs (100% bottom coverage) in an east-west direction perpendicular to the pier survey lines.

The shoal was not found, but the area between the piers showed a general deepening as compared to the chart. It is recommended that the shoal be charted as shown on this survey with a least depth of 6.91 fathoms. chart according to smooth sheet.

The 10 fathom shoal at 51°51'40.0"N 176°37'52.0"W was developed with 10 meter arcs (100% bottom coverage) perpendicular to the 40 meter mainscheme arcs. A depth of 11.1 fathoms was found. It is recommended that the shoal be charted as shown on this survey with a least depth of 11.1 fathoms. concur

The 10 fathom shoal at 51°51'42.0"N 176°37'43.8"W was developed with 10 meter arcs (100% bottom coverage). The shoal lies between soundings of 10.4 and 12 fathoms from this survey. It is recommended that the shoal remain as charted. Do not concur *

The 5 fathom shoal at 51°51'43.0"N 176°38'14.0"W was developed with 10 meter arcs. The shoal lies between soundings of 5.9 and 4.9 fathoms from this survey. It is recommended that the shoal remain as charted. Do not concur *

DAVIDSON recommends that soundings of survey H-10282, in the area of comparison, supersede survey H-7825 in every instance except for the prior soundings noted above.

COMPARISON WITH H-8454

Comparison with H-8454 shows excellent agreement. DAVIDSON recommends that soundings of the present survey, in the area of comparison, supersede survey H-8454 in every instance. concur

AWOIS ITEMS

AWOIS items assigned from the Automated Wreck and Obstruction Information System (AWOIS) were investigated by DAVIDSON personnel. Despite time restrictions imposed by DAVIDSON's involvement in coastal defense exercise MARDEZEX, almost all of the AWOIS items were investigated. Investigations of AWOIS items were prioritized as to their relative danger to navigation. Emphasis was placed on the pier areas as directed by the project instructions. All dives were performed from DAVIDSON Survey Launch DA-4. Water clarity allowed 35 feet to 40 feet of visibility which enhanced search efforts. See Exec Report, Section 6, 7.

AWOIS item #51601 is a reported pier w/note "charted dry dock now removed" located at 51°51'03.40"N, 176°38'24.30"W. Because this item is far removed from present shipping areas it was a low priority feature, and there was insufficient time to do a complete investigation. The area surrounding the charted position was searched by divers for 15 minutes. A

* The hydrographer completely investigated these soundings with 100% bottom coverage. Chart soundings in area according to the 13 smooth sheet.

single piling was observed onshore. However, no evidence of an obstruction was found in the water. Due to time limitations an adequate search covering a 50 meter swath was not performed to disprove the obstruction. It is therefore recommended that AWOIS item 51601 remain as charted. Do not concur, revise to submerged pier

AWOIS item #51602 is a reported "pier in ruins" located at 51°51'03.40"N, 176°38'29.10"W. The divers reported finding one piling which was awash at MLLW. Because this item is far removed from present shipping areas it was a low priority feature, and there was insufficient time to do a complete investigation. Due to the position of the piling (no control stations visible) no position was obtained. It is recommended that AWOIS item #51602 remain as charted. Do not concur, chart submerged pile PA at latitude 51°51'03"N, longitude 176°38'29"W.

AWOIS items #51606 and #51607 are reported as obstructions located at 51°51'14.80"N, 176°39'02.90"W and 51°51'15.30"N, 176°39'03.90"W respectively. Because this item is far removed from present shipping areas it was a low priority feature, and there was insufficient time to do a complete investigation. The area surrounding the reported positions was searched visually by divers and by personnel aboard the survey launch when the tidal height was -0.1 fm. No evidence of the obstructions was found. While conducting the search for AWOIS items #51606 and #51607 divers found two obstructions. The first obstruction is an open metal frame 8ftx5ftx4ft of 2in. angle iron of which a 2.0 fathom least depth was obtained (position number 4020). The second obstruction is a concrete block 4ftx4ftx4ft of which a 1.8 fathom least depth was obtained (position number 4021). Both of these obstructions are covered with dense growths of kelp which is visible at the surface. It is recommended that these two new objects be charted as submerged obstructions at the positions mentioned and AWOIS items 51606 and 51607 remain as charted. Concur, chart according to smooth sheet.
position 4020 at Lat. 51°51'14.01"N, longitude 176°38'59.08"W
position 4021 at Lat. 51°51'14.17"N, longitude 176°38'59.47"W.

AWOIS item #51609 is reported as "pier in ruins" at location 51°51'10.8"N 176°38'59.2"W. This is a breakwater in ruins not a pier in ruins, and is visible at high water. The structure is made of corrugated steel and some sections are covered with marine growth. Divers swam the entire length on both sides of the structure and found no obstructions away from the breakwater. The seaward (east) end of the structure was found and the positioned (position 2364). It is recommended that AWOIS 51609 be charted as a breakwater in ruins (see smooth sheet). Concur, position 2364 at latitude 51°51'10.84"N, longitude 176°38'59.23"W.

AWOIS item #51610 is reported as "group of eight (8) visible piles" located at 51°51'17.7"N, 176°39'05.2"W in 2 feet to 3 feet of water. The area surrounding the charted position was visually searched and eight (8) pilings covered with marine life were found awash at low water. No fix was taken due to lack of visible control; however, because of the relative location to the fuel pier and the shore the

hydrographer is certain the group of eight pilings found are the same as those charted. It is recommended that AWOIS item #51610 be charted as a group of eight pilings awash at the current charted position. Concur

AWOIS item #51611 is reported as "group of six (6) pilings" located at 51°51′19.8"N, 176°39′06.6"W in 2 feet to 3 feet of water. The area surrounding the charted position was visually searched and six (6) piling covered with marine life were found awash at low water at the location shown on the chart. No fix was taken due to lack of visible control; however, because of the relative location to the fuel pier and the shore the hydrographer is certain the six pilings found are the same as those charted. It is recommended that AWOIS item #51611 be charted as group of six pilings awash at the current charted position. Concur

AWOIS item #51701 is reported as "set of eight (8) dolphins" located at 51°51′36.4"N, 176°38′39.0"W. There is no surface evidence of the reported dolphins. The area surrounding the reported position was searched by divers. Divers found groups of pilings cut-off at various depths above the bottom. The offshore pilings were approximately 30 feet above the bottom. Buoys were attached to the eastern-most and western-most offshore extent of the ruins and positioned (position numbers 4002 and 4003). It is recommended these pilings be part of an extensive submerged ruin area (see field sheet and Section Q; positions 4002 and 4003 define part of this extensive ruin area). Chart according to smooth sheet - foul with subm. piles, dolphins and beams and retain 8 piles as charted

pos # 4002 at lat. 51°51′36.31"N, long. 176°38′39.24"W. pos # 4003 at lat. 51°51′35.82"N, long. 176°38′40.06"W.

AWOIS #51704 is reported as " barge way" located at 51°51′39.50"N, 176°38′44.00"W. The area surrounding the charted position was searched by divers. The divers found rows of pilings at varying heights above the bottom. The pilings are covered with growths of kelp which is visible at the surface. Buoys were attached to the eastern-most and western-most seaward pilings and positioned (position numbers 4004 and 4005). It is recommended that these pilings positions' be included as part of the definition of a submerged ruin area (see field sheet and Section Q; positions 4004 and4005 define part of this extensive ruin area). Chart according to smooth sheet - foul with subm. piles, dolphins and beams. Pos # 4004 at lat. 51°51′37.15"N, long. 176°38′44.92"W, Pos # 4005 at lat. 51°51′39.29"N, long. 176°38′42.82"W. Submerged pier ruins carried forward from H-7825 (1951)

L. COMPARISON WITH THE CHART See Eval Report section 7

All data collected during the survey were compared to the following charts:

Chart Number	Edition	Edition Date
16471	8th	May 10, 1980
16475	7th	April 8, 1978
16476	8th	April 30, 1977

There were eight new dangers to navigation found during the course of the survey. The messages (270730Z AUG 88 and 151345Z OCT 88) reporting these dangers to the Coast Guard and Defense Mapping Agency for inclusion in the Notice to Mariners are ~~in Appendix X.~~ attached to this report.

All charted soundings originated from the prior surveys discussed in Section K. Refer to Section K for sounding comparisons.

Non sounding features are discussed in Section H.

The chart and this survey were evaluated together for existing scale and coverage and were found to show adequate detail and are effective for current marine traffic's requirements.

AWOIS ITEMS assigned from the Automated Wreck and Obstruction Information System (AWOIS) were investigated by DAVIDSON personnel. Despite time restrictions imposed by DAVIDSON's involvement in coastal defense exercise MARDEZEX, almost all of the AWOIS items were investigated. Investigations of AWOIS items were prioritized as to their relative danger to navigation. Emphasis was placed on the pier areas as directed by the project instructions. All dives were performed from DAVIDSON Survey Launch DA-4. Water clarity allowed 35 feet to 40 feet of visibility which enhanced search efforts.

AWOIS items #51603 and #51604 are obstructions located at 51°51'04.9"N, 176°39'10.0"W and 51°51'05.5"N, 176°39'11.4"W respectively. Because this item is far removed from present shipping areas it was a low priority feature, and there was insufficient time for a more thorough investigation. Both of these obstructions are located in the small boat harbor where water depth is 6 feet. A visual search of the bottom was conducted from the survey launch. No evidence of the obstructions was found. However, because no positioning was available to control the search, it is recommended that the AWOIS items #51603 and #51604 remain as presently charted.
Do not concur, revise to submerged obstruction.

AWOIS item #51605 is reported as "eight (8) pilings noted as being in ruins" located at 51°51'09.90"N, 176°38'27.80"W. Because this item is far removed from present shipping areas it was a low priority feature, and there was insufficient time for a more through investigation. The pilings were reported ranging in height from 3 feet to submerged forming two parallel lines of four each leading to shoreline. There is no visible evidence of the pilings from the surface. The area surrounding the reported position was searched by divers. Water clarity allowed 35 feet to 40 feet of visibility which enhanced the search for the obstruction.

Divers found no evidence of the pilings. However, divers did find pieces of wood on the bottom. A search covering a 100 meter swath was not performed to disprove the obstruction due to time limitations. It is recommended that AWOIS #51605 remain as charted. chart as subm. piles at the above position. Do not concur

AWOIS item #51608 is not within the survey limits and was not investigated. ✓

AWOIS item 51702 is reported as a breakwater in ruins at 51°51'38.0'N, 176°38'34.2"W. The ruins of a breakwater were found in a rectangular shape and is defined by* positions 4011, 4013-4015. This item is part of AWIOS item 51710 (see Section L). It is recommended that AWOIS item 51702 be charted as a breakwater in ruins with the position taken from this survey. ~~Retain as charted~~ Chart as shown on smooth sheet 10/12/89 SJ ✓

AWOIS item #51703 is reported as a "crane dock" at 51°51'39.5'N, 176°38'40.2"W. The area was visually searched from the shore but no evidence of a dock was visible. No diver search was conducted because this item is within the submerged ruin area defined in Section Q. Revised charted features to submerged. Submerged pier ruins carried forward from H-7825 (1957).

AWOIS item #51705 is reported as "pier in ruins" at location 51°51'44.20"N, 176°37'49.00"W. No pilings were visible at low water from the surface. The area surrounding the charted position was searched by divers. Upon swimming the length of the ruins, divers reported finding pilings broken-off at various heights above the bottom for approximately 3/4 the charted ruin length. Some of these pilings extended 20 feet above the bottom both vertically and leaning at various angles. The seaward-most 1/4 of the charted length of the ruins has pilings cut-off at the mud-line. Buoys were placed at the eastern-most and western-most seaward corners of the ruins and positioned (position numbers 4017 and 4018). It is recommended that AWOIS #51705 be charted as submerged pier in ruins using these positions for the seaward corners. Revise charted pier to submerged pier ruins. pos #4017 at lat. 51°51'44.15"N, long. 176°37'50.35"W, Position #4018 at lat. 51°51'44.17"N, long. 176°37'48.85"W.

AWOIS item #51706 is reported as "pier in ruins" at location 51°51'44.5"N, 176°37'43.6"W. No pilings were visible at low water from the surface. The area was searched by divers. Upon swimming the length of the ruins, divers, reported finding pilings cut-off at various heights above the bottom. Approximately 60% of the pilings were cut-off four to five inches off the bottom, 39% of the pilings were cut-off one to two feet off the bottom, and approximately five pilings were cut-off five to seven feet off the bottom. The eastern-most and western-most seaward corners were marked by buoys and positioned (position numbers 4019 and 4022). It is recommended that AWOIS #51706 be charted as submerged pier in ruins using these positions for the seaward most corners. Revise charted pier to submerged pier ruins. Pos# 4019 at lat. 51°51'44.31"N, long. 176°37'43.38"W.

* pos # 4011- lat. 51°51'37.94"N, Long. 176°38'34.46"W
pos # 4013-lat. 51°51'38.58"N, long 176°38'35.08"W
pos# 4014-lat. 51°51'38.82"N, long. 176°38'34.30"W
pos# 4015-lat. 51°51'40.50"N, long. 176°38'36.05"W

AWOIS item #51707 is reported as a "crane dock" at position 51°51'39.6"N, 176°38'38.5"W. A wooden pier was found in disrepair but solid enough to walk on. Recommend charting as a pier in ruins (position numbers 4000-4001). concur

AWOIS item #51708 is reported as "T-pier in ruins" at location 51°51'41.0"N, 176°38'18.0"W. The area was searched by divers. Upon swimming the length of the ruins, divers reported finding pilings cut-off approximately two feet off the bottom. Heavy growth of kelp was attached to the pilings which is visible at the surface as a t-shape. Buoys were attached to the western-most and eastern-most seaward corners of the ruins and positioned (position numbers 4008 and 4009). It is recommended that AWOIS #51708 be charted as part of an extensive submerged ruin (see field sheet and Section Q; positions 4008 and 4009 define part of this ruin area). Submerged pier ruins carried forward from H7825 (1951). Retain as charted

AWOIS item #51709 is reported as "possible submerged obstruction" with 6 1/4 fathoms least depth located at 51°51'44.4"N, 176°38'08.50"W. The area surrounding the charted position was searched by divers. The divers reported finding a minor obstruction with a 6.0 fathom least depth (position number 4007). The positions of the AWOIS item and the obstruction were not the same. Due to the priority of MARDEZEX, further investigation was limited to a remote operated vehicle (ROV) with a video camera. A Navy ROV detachment was assigned to DAVIDSON during the exercise and during one of the ROV checkouts the ROV was used to investigate obstructions. The points at which the obstructions would lie perpendicular to pier 5 were scaled from the field sheet. These points were then marked on pier 5 by measuring from the seaward end of the pier. The ROV was put in the water where the obstruction would be directly off the pier. The ROV submerged and swam directly off the pier to the obstruction. The ROV was then moved north to the position where the AWOIS item would lie directly off the pier. The ROV submerged and swam about 10 meters off the pier directly to a pair of waterlogged pilings, approximately 1 foot in diameter, which were lying horizontal on the bottom. The ROV searched for additional obstructions around the area but found nothing. These two pilings are believed to be the AWOIS item. A detached position and least depth was not obtained on the pilings because of a vessel moored at the site. However, previously the sounding lines in this slip were split to 5 meters and the dual beam echo sounder recorded a least depth of 6.4 fathoms over this area. A 6.25 fathom least depth is currently charted for this obstruction. It is recommended that AWOIS #51709 remain as presently charted and the obstruction be charted using cartographic code 27~~8~~ (position number 4007) at lat. 51/51/43.33 N, long. 176/38/07.76 W. The 6.25 Fathom depth was not charted, chart depths in area according to this survey. Do not concur

AWOIS item #51710 is reported as "rock awash" at location 51°51'37.00"N, 176°38'34.00"W. A search of the area surrounding the charted position revealed a rock exposed 0.9 fathom above MLLW (position number 4012). This rock is part of the seaward extension of AWOIS item 51702 (see Section K). It is recommended that position 4012 be used for the charted position of this rock. Chart according to the smooth sheet. ~~Position #4012 - latitude 51°51'38.25"N, longitude 176°38'34.69"W, rock uncovers 5 feet at MLLW.~~ Chart seaward extension of breakwater ruins. Chart * (2) at lat 51°51'37.94", long 176°38'34.46" (Pos. 4011) SJV

Concur Do not concur

M. ADEQUACY OF SURVEY ✓

This survey is complete and adequate to supersede prior surveys. Do not concur 2/12/90 See Exec Report, section 9

The three-fathom curve was developed everywhere in Sweeper Cove except where it is foul with kelp along the shore and breakwater (see photos in Appendix XI). Sounding lines were run at the seaward edge of the kelp line and define the foul limits.

N. AIDS TO NAVIGATION ✓ See Exec Report, section 7

All fixed aids to navigation were positioned to Third Order Class I accuracy. For further details on the positions of the aids, refer to the Horizontal Control Report. There were no floating aids to navigation in the survey area.

Four aids to navigation listed in the light list were positioned by DAVIDSON. The aids, Sweeper Cove lights 4, 5, 6, and 7, were located using third order intersection methods. There was good agreement between the computed positions and the positions published in the 1988 Light List, Vol VI.

LL#	AID	OBSERVED	LIGHT LIST	INVERSE	
27525	Gannet Rocks Light 4	51/52/05.898N 176/36/23.470W	51/52.1N 176/36.4W	0.7M	Outside survey limits
27530	Entrance Light 5	51/51/32.630N 176/35/22.106W	51/51.5N 176/35.3W	90.7	Outside survey limits
27535	Jetty Light 6	51/51/40.384N 176/37/37.840W	51/51.7N 176/37.6W	33.9	
27540	Light 7	51/51/20.198N 176/37/36.073W	51/51.3N 176/37.6W	11.2	

All lights were in good condition and served as excellent landmarks. Each light was mounted on square skeleton towers, with day shapes placed on the seaward sides. The day shapes on lights 4 and 6 consisted of the light number written within an orange triangle. The day shapes on lights 5 and 7 consisted of the light number written within a green

square. These descriptions agree with the light list descriptions. For complete descriptions and photos of the lights see the Horizontal Control Report.

Aids to navigation not listed in the Light List included a set of range markers which were built southwest of the fuel pier in June of 1988. The range is used to lead ships into Sweeper Cove. The range marks consist of a vertical white strip bordered on both sides by orange stripes. The range markers were positioned to third order specifications by the method of intersection. The MTEN program was used to compute an inverse between the two positions to determine the azimuth of the range. The azimuth was computed to be 253° true. These range marks should be added to future editions of the chart. concur

Object	Position
Front Range	51/51/14.139N 176/39/06.118W
Back Range	51/51/09.834N 176/39/28.860W

Landmarks which were conspicuous from seaward included a tank and two aircraft warning lights. These landmarks were positioned to Third Order Class I accuracy. A fixed red light atop a black tank located onshore near the fuel pier was positioned by the method of intersection. Two fixed red lights atop hills surrounding Sweeper Cove were also positioned by the method of intersection. The computed positions and the positions as listed in the Dipfile follow:

Object	Observed	Publ. in Dipfile	Inverse
Tank	51/51/17.302N 176/39/08.036W	51/51/17.9N 176/39/07.55W	20.7M
Peak 412 lt	51/50/53.232N 176/38/44.261W	51/50/54.0N 176/38/45.7W	36.4M
North F R lt	51/52/09.549N 176/37/42.201W	51/52/14.5N 176/37/34.0W	219.2M

See the horizontal control report for complete descriptions and position computations.

A corrected Dipfile has been sent to N/CG243 for forwarding to N/CG222. Completed 76-40 forms have been sent to N/MOP211 for forwarding to N/CG243. A corrected Dipfile and forms 76-40 are included in ~~Appendix VIII~~ this report.

O. STATISTICS ✓

Survey Statistics

Fix numbers

3131 23

3132	1189
3133	48
Total fix numbers:	1260
Nautical miles of sounding lines:	57.36
Nautical miles of crosslines:	6.26
Square miles of hydrography:	0.62
CTD casts:	2
Days of production:	19
Tide Stations	1
Bottom Samples	21

P. MISCELLANEOUS

CURRENTS

No anomalous currents were noted in the survey area. A negative report will be filed with N/MOP21 for forwarding to N/CG243.

BOTTOM SAMPLES

Bottom samples were forwarded to the Smithsonian Institution on September 1, 1988.

TEST OF AML SOUND VELOCIMETER

On August 6-7, 1988 in accordance with Change No. 1, a series of seven casts utilizing an AML sound velocimeter and a Nansen bottle were performed to provide data for evaluating the AML unit (S/N 3009). Lieutenant Art Francis was aboard from the Hydrographic Technology Laboratory to conduct the tests. The cast depths ranged from 300 to 700 meters. Data collected using the Nansen bottle with two protected and one unprotected thermometers, was processed by DAVIDSON personnel for comparison purposes. An in-line meter wheel was utilized to insure the unit would not exceed the maximum operating depth of 700 meters.

Deployment was performed by attaching the AML unit to the ships oceanographic winch cable. The Nansen bottle was attached on the same cable less then two meters above the

AML unit, allowing it to be tripped. No problems were noted in this deployment method.

Casts were performed beginning from longitude 179°59'30"E proceeding eastward at intervals of 30 minutes of longitude, until a total of seven casts were taken.

All data was transferred to Lt. Francis at the end of the project for analysis by the Hydrographic Technology Laboratory.

O. RECOMMENDATIONS

Field work on this survey is complete and adequate to supersede prior surveys. See Exec Report Section 6,9

The hydrographer recommends that a foul limit line be drawn around AWOIS items 51701, 51702, 51703, 51704, 51707, 51708, and 51710 (see field sheet). The positions to mark this ruin area are taken from the fixes used to locate the seaward extent of the above items. This is an extremely hazardous area, unfit for navigation. concur

Soundings have been shown on the final field sheet in the foul and submerged ruin areas for reference only and it is recommended that no soundings appear within these areas when charted. concur

R. AUTOMATED DATA PROCESSING

The following PDP 8/E programs were used to collect and process data for this survey.

PROGRAM NUMBER	PROGRAM NAME	VERSION DATE
RK-116	RANGE-AZIMUTH REALTIME SURVEY	01 MAR 86
RK-201	GRID, SIGNAL AND LATTICE PLOT	18 APR 75
RK-212	VISUAL STATION TABLE LOAD AND PLOT	01 APR 74
RK-215	VISUAL NON-REAL TIME PLOT	11 FEB 81
RK-216	RANGE-AZIMUTH NON-REAL TIME PLOT	24 FEB 84
RK-300	UTILITY COMPUTATION	21 OCT 80

RK-330	REFORMAT AND DATA CHECK	04 MAY 76
RK-407	GEODETIC INVERSE/ DIRECT COMPUTATIONS	25 SEP 78
RK-602	LINE ORIENTATED EDITOR	08 DEC 82
AM-500	PREDICTED TIDE GENERATOR	10 NOV 72
----	MTEN3	01 SEP 86
BS^3 Program	CALIB	01 JAN 88

5. REFERRAL TO REPORTS

Additional information is in the appendices and following reports:

Report	Date Sent
Coast Pilot Report	September, 1988
Electronic Control Report	October, 1988
Horizontal Control Report	October, 1988
Marine Mammal Report	September, 1988

Very respectfully submitted,

Jeffrey Brown ENS, NOAA

S-Q929-DA-88

DA-5-1-88(H-10282)

SIGNAL TAPE PRINTOUT

101	1	51	51	40384	176	37	37840	139	0013	000000	Light No.6, 1988
~~102~~	~~6~~	~~51~~	~~52~~	~~09549~~	~~176~~	~~37~~	~~42201~~	~~139~~	~~0064~~	~~000000~~	~~Northern Fixed R Light, 1988~~
103	3	51	51	46114	176	38	19253	250	0005	000000	Tidal BM 18, 1957,1986
104	3	51	51	17302	176	39	08036	139	0018	000000	Tank, 1988
105	1	51	51	23313	176	39	02619	250	0002	000000	9 North 1958
106	6	51	51	16119	176	38	59801	139	0002	000000	9 South 1958
107	6	51	51	09834	176	39	28860	139	0030	000000	Sweeper Cove B R Mark,1988
~~108~~	~~3~~	~~51~~	~~51~~	~~14139~~	~~176~~	~~39~~	~~06118~~	~~139~~	~~0011~~	~~000000~~	~~Sweeper Cove F R Mark,1988~~
109	6	51	50	53232	176	38	44261	139	0130	000000	Southern Fixed R Light,1988
110	5	51	51	06819	176	38	55107	250	0015	000000	Happy, 1988
111	7	51	51	17248	176	38	14343	250	0030	000000	Sweeper USE 1943
112	6	51	51	19801	176	37	50453	250	0002	000000	Bak 1943
114	6	51	51	20198	176	37	36073	139	0026	000000	Light No. 7, 1988
115	3	51	51	27124	176	35	11558	250	0091	000000	Lucky USN 1933 Off smooth sheet
116	4	51	51	42626	176	38	05712	252	0000	000000	Cal Point 1, 1988
117	3	51	51	42544	176	38	07128	252	0000	000000	Cal Point 2, 1988
~~118~~	~~1~~	~~51~~	~~52~~	~~05898~~	~~176~~	~~36~~	~~23470~~	~~139~~	~~0012~~	~~000000~~	~~Light No. 4, 1988~~
119	6	51	51	32630	176	35	22106	139	0022	000000	Light No. 5, 1988 Off smooth sheet.

FIELD TIDE NOTE

For survey H-10282, field tide reduction of soundings was based on predicted tides for Sweeper Cove, Adak Island, Alaska. The predicted tides were interpolated by PDP 8/e computer at intervals of 0.1 fathoms using program AM 500 (version 11/10/72). Times of predicted tides are UTC.

GAGES

Sweeper Cove (946-1380)	51°51.8'N 176°37.9'W	Time Mer. 150°W

The survey used the existing primary tide station at Sweeper Cove (946-1380) for tide control. Pacific Operations Group performed annual maintenance of the ADR and gas-purge gages on July 29-30, 1988 (DAYS 211-212) while instructing DAVIDSON personnel in gage operation. During the course of the project, correct functioning of the gages was verified before and after survey operations each day. All digital paper tapes and marigrams were forwarded to N/OMA12 by the Adak contract tide observer. Times of recorded tides are Hawaiian-Aleutian Standard Time (HAST).

On August 7, 1988 (DAY 220), the electric tape gage (ETG) weight broke off at the point where it connected to the steel tape. LT. Michael Johnson, Chief, Pacific Operations Group, was notified of the failure the next day, and promised to ship a new ETG to Adak immediately. LT. Johnson requested that DAVIDSON personnel dive on the tide station to ensure that the fallen ETG weight had not plugged the stilling well, and level out the existing ETG to one benchmark before installing the new ETG. Without ETG reference, comparisons between the ADR and gas-purge gages indicated that both gages continued to function properly throughout subsequent hydrography. On August 10, 1988 (DAY 223) DAVIDSON personnel conducted a dive on the tide station and found the ETG stilling well clear of obstructions. On August 17, 1988 (DAY 230) the tide observer received a replacement ETG from Pacific Operations Group and installed it in the tide station. DAVIDSON personnel were not notified of this installation, and were unable to perform a level run immediately before the existing ETG was removed and after the new ETG was installed as LT. Johnson had requested.

LEVELS

Pacific Operations Group, with assistance from DAVIDSON personnel, performed the opening level for this survey on July 29-30 (DAYS 211-212) connecting 9 benchmarks including the primary benchmark (PBM). Closing levels performed by DAVIDSON personnel on August 20, 1988 (DAY 233) connected 5 benchmarks including the PBM. Project instructions required opening and closing levels to a minimum of three benchmarks only. All levels were observed by three-wire method to third-order precision.

Although the new ETG had been installed without a separate level run, it was bolted to the exact location of the broken ETG with minimal change in elevation. Between the ETG and the nearest benchmark (BM 24 1968), opening and closing levels indicated an increase in the ETG elevation of only +0.0022 meters.

ZONING

Correctors from the Sweeper Cove tide station apply to all soundings for survey H-10282.

SHIP'S COPY

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

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

[ ] TO BE CHARTED [ ] TO BE REVISED [X] TO BE DELETED	REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
	NOAA Ship DAVIDSON	Alaska	Adak Island	23SEP88

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
S-Q929-DA-88	N/A	N/A	NAD 27

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
PIT USN Marker	Investigations have shown that the object has been removed. Outside survey limits	51 51	39.113 1208.9	176 34	43.886 839.8	None.	Vis	16476
Marker	Investigations have shown that the object has been removed. Outside survey limits	51 51	30.35 938.0	176 35	20.4 390.4	None.	Vis	16476

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	**NAME**	**ORIGINATOR**
OBJECTS INSPECTED FROM SEAWARD	J. A. Ferguson, LTJG NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	J. A. Ferguson, LTJG NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

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

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

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

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

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

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

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

FIELD (Cont'd)

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

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

II. TRIANGULATION STATION RECOVERED

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

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

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

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

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

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship DAVIDSON	Alaska	Adak Island	23SEP88

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
S-Q929-DA-88	N/A	N/A	NAD 27

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
LT 6	Sweeper CV Jetty LT 6 moved.	51 ~~52~~ 51	~~05.898~~ 40.384	176 ~~36~~ 37	~~23.470~~ 37.840	None.	F-3-6-L AUG 1988	16476
			1248.1		724.1			
Light-F R	Aircraft warning light on hill north Sweeper Cove has been moved.	51 52	09.549	176 37	42.201	None.	F-3-6-L AUG 1988	16476
			295.1		807.5			
Light-F R	Peak 412 light, position off by 36M ~~Outside Survey Limits~~	51 50	53.232	176 38	44.261	None.	F-3-6-L AUG 1988	16476
			1645.2		847.3			
Tank	F R Lt on top of tank, position off by 20.7 meters.	51 51	17.302	176 39	08.036	None.	F-3-6-L AUG 1988	16476
			534.8		153.8			
LT 7	Sweeper Cove LT 7, position off by 11.2 meters.	51 51	20.198	176 37	36.073	None.	F-3-6-L AUG 1988	16476
			624.3		690.4			

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	J. A. Ferguson, LTJG NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	J. A. Ferguson, LTJG NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

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

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

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

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

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

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

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

FIELD (Cont'd)

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

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

II. TRIANGULATION STATION RECOVERED

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

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

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

NOAA FORM 76-40
(8-74)

Replaces C&GS Form 567.

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

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

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

(See reverse for responsible personnel)

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

REPORTING UNIT (Field Party, Ship or Office)	STATE	LOCALITY	DATE
NOAA Ship DAVIDSON	Alaska	Adak Island	23SEP88

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

OPR PROJECT NO.	JOB NUMBER	SURVEY NUMBER	DATUM
S-Q929-DA-88	N/A	N/A	NAD 27

CHARTING NAME	DESCRIPTION (Record reason for deletion of landmark or aid to navigation. Show triangulation station names, where applicable, in parentheses)	POSITION LATITUDE ° ′	LATITUDE ″ D.M. Meters	LONGITUDE ° ′	LONGITUDE ″ D.P. Meters	METHOD AND DATE OF LOCATION (See instructions on reverse side) OFFICE	FIELD	CHARTS AFFECTED
Range Marker	Sweeper Cove front range marker. Built in June 1988.	51 51	14.139 437.0	176 39	06.118 117.1	None.	F-3-6-L AUG 1988	16476
Range Marker	Sweeper Cove back range marker. Built in June 1988.	51 51	09.834 303.9	176 39	28.860 552.4	None.	F-3-6-L AUG 1988	16476
LT No 5	Light number 5 located near Lucky Pt. Outside survey limits	51 51	32.630 1008.5	176 35	22.106 423.1	None.	F-3-6-L AUG 1988	16476
LT 4	GANNET ROCKS LIGHT 4 Outside Survey limits	51 52	05.898	176 36	23.470			

RESPONSIBLE PERSONNEL		
TYPE OF ACTION	NAME	ORIGINATOR
OBJECTS INSPECTED FROM SEAWARD	J. A. Ferguson, LTJG NOAA	☐ PHOTO FIELD PARTY ☒ HYDROGRAPHIC PARTY ☐ GEODETIC PARTY ☐ OTHER *(Specify)*
POSITIONS DETERMINED AND/OR VERIFIED	J. A. Ferguson, LTJG NOAA	FIELD ACTIVITY REPRESENTATIVE
		OFFICE ACTIVITY REPRESENTATIVE
FORMS ORIGINATED BY QUALITY CONTROL AND REVIEW GROUP AND FINAL REVIEW ACTIVITIES		☐ REVIEWER ☐ QUALITY CONTROL AND REVIEW GROUP REPRESENTATIVE

INSTRUCTIONS FOR ENTRIES UNDER 'METHOD AND DATE OF LOCATION'

(Consult Photogrammetric Instructions No. 64,

OFFICE

I. OFFICE IDENTIFIED AND LOCATED OBJECTS

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

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

FIELD

I. NEW POSITION DETERMINED OR VERIFIED

Enter the applicable data by symbols as follows:

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

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

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

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

FIELD (Cont'd)

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

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

II. TRIANGULATION STATION RECOVERED

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

EXAMPLE: Triang. Rec.
8-12-75

III. POSITION VERIFIED VISUALLY ON PHOTOGRAPH

Enter 'V-Vis.' and date.

EXAMPLE: V-Vis.
8-12-75

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

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

¢ 83

GWO

P 270730Z AUG 88
FM NOAAS DAVIDSON
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC WASHINGTON DC//NVS//
NAS ADAK AK
NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS
SUBJECT DANGER TO NAVIGATION REPORT FOR SWEEPER COVE, ADAK, AK.
THE FOLLOWING ITEMS WERE FOUND TO BE DANGERS TO NAVIGATION WHILE CONDUCTING SURVEY H-10282, ADAK, ALASKA. REFER ANY QUESTIONS OR COMMENTS TO PACIFIC MARINE CENTER (NOAAMOP, 206-442-4714).
1. "CONCRETE BLOCK, 4FT×4FT×4FT" COVERED BY 1.8 FMS MLLW (PREDICTED TIDES); CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/14.209N, LONGITUDE 176/38/59.481W (HORIZONTAL DATUM NAD27); DISTANCE 55 METERS, BEARING 175 DEGREES TRUE FROM THE SOUTHEAST CORNER OF T-PIER.
2. "METAL FRAME, 8FT×5FT×4FT, 2IN. ANGLE IRON" COVERED BY 2.0 FMS MLLW (PREDICTED TIDES); CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/14.023N, LONGITUDE 176/38/59.115W (HORIZONTAL DATUM NAD27); DISTANCE 60 METERS, BEARING 171 DEGREES TRUE FROM THE SOUTHEAST CORNER OF T-PIER.
3. "METAL FRAME, 6FT×6FT×4FT, 2IN. ANGLE IRON" COVERED BY 6.0 FMS MLLW (PREDICTED TIDES); CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/43.324N, LONGITUDE 176/38/07.840W (HORIZONTAL DATUM NAD 27); DISTANCE 30 METERS, BEARING 341 DEGREES TRUE FROM THE SOUTHWEST CORNER OF PIER 5.

1357Z

NMG DE WTEK (New Orleans)

T

PTTUZYUW RUWNTEK0038 2891755-UUUU--RUWNSUU.
ZNR UUUUU
P 151345Z OCT 88
FM NOAAS DAVIDSON
TO CCGDSEVENTEEN JUNEAU AK
DMAHTC WASHINGTON DC//NVS//
NAS ADAK AK
NOAAMOP SEATTLE WA
ACCT CM-VCAA
BT
UNCLAS
SUBJECT DANGER TO NAVIGATION REPORT FOR SWEEPER COVE, ADAK AK.
THE FOLLOWING ITEMS WERE FOUND TO BE DANGERS TO NAVIGATION WHILE CONDUCTING SURVEY H-10282, ADAK, ALASKA. REFER AN QUESTIONS OR COMMENTS TO PACIFIC MARINE CENTER (NOAAMOP, 206-442-4714).
1. A SHOAL COVERED BY 9.8 FMS MLLW (PREDICTED TIDES): CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/22.5N, LONGITUDE 176/37/47.0W (HORIZONTAL DATUM NAD 27); DISTANCE 230 METERS, BEARING 288 DEGREES TRUE FROM LIGHT NUMBER 7.
2. A SHOAL COVERED BY 5.2 FMS MLLW (PREDICTED TIDES): CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/21.0N, LONGITUDE 176/38/10.0W (HORIZONTAL DATUM NAD 27); DISTANCE 650 METERS, BEARING 270 DEGREES TRUE FROM LIGHT NUMBER 7.
3. A SHOAL COVERED BY 8.1 FMS MLLW (PREDICTED TIDES): CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/38.5N, LONGITUDE 176/38/28.0W (HORIZONTAL DATUM NAD 27); DISTANCE 960 METERS, BEARING 266 DEGREES TRUE FROM LIGHT NUMBER 6.
4. A SHOAL COVERED BY 8.2 FMS MLLW (PREDICTED TIDES): CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/25.5N, LONGITUDE 176/38/58.5W (HORIZONTAL DATUM NAD 27); DISTANCE 280 METERS, BEARING 036 DEGREES TRUE FROM THE TANK AT THE FUEL PIER.
5. A 11.0 METER BY 3.1 METER PLATFORM EXPOSED 2.2 METERS MLLW (PREDICTED TIDES): CHART NO. 16476, 8TH ED., APR. 30/77; LATITUDE 51/51/14.6N 176/39/02.0W; DISTANCE 145 METERS, BEARING 126 DEGREES TRUE FROM THE TANK AT THE FUEL PIER.
BT
#0038

NNNN
TOD 151400Z OCT 88 DEB 134840Z

DIPFILE CORRECTIONS
NOAA SHIP DAVIDSON
S-Q929-DA-88

Investigations have found that POS 2. and POS 3 should be removed from the Dipfile (Pit USN Marker, and Marker). Two range markers and Light 5 should be added. A complete list of the items positioned by DAVIDSON to third order, class I specifications by the method of intersection follow, with the elevation computed by zenith distances observed from two or more known stations. The inverse between the DAVIDSON position and the position listed on the Dipfile is also listed.

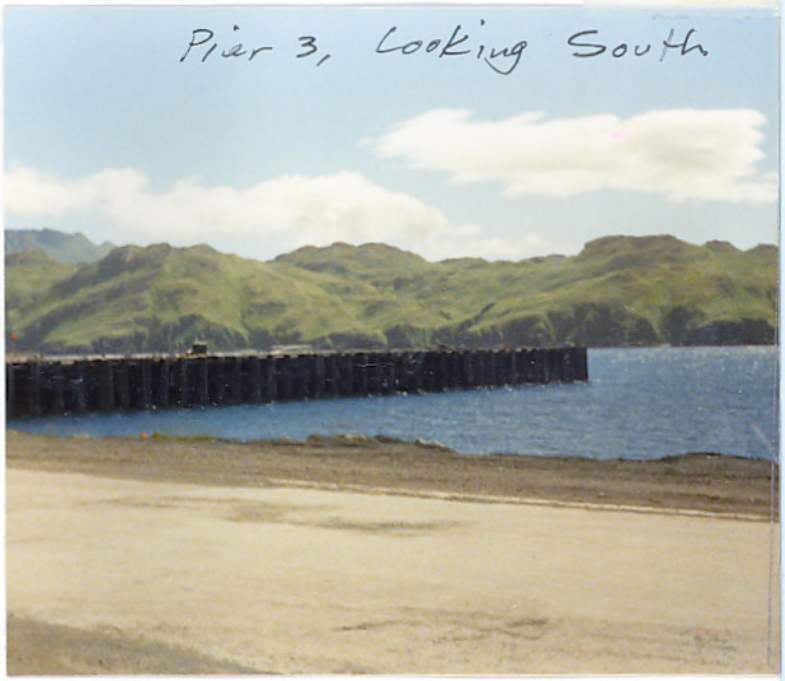
FEATURE	POSITION		ELEV	INVERSE
GANNET ROCKS LT 4	51/52/05.898N	176/36/23.470W	11.92M	0.7M
SWEEPER CV JETTY LT6	51/51/40.384N	176/37/37.840W	13.46M	33.9M
SWEEPER COVE LT 7	51/51/20.198N	176/37/36.073W	26.41M	11.2M
TANK	51/51/17.302N	176/39/08.036W	17.71M	20.7M
PEAK 412/LIGHT-F R	51/50/53.232N	176/38/44.261W	130.23M	36.4M
LIGHT-F R	51/52/09.549N	176/37/42.201W	64.32M	219.2M
FRONT RANGE MARK	51/51/14.139N	176/39/06.118W	10.86M	--
BACK RANGE MARK	51/51/09.834N	176/39/28.860W	30.32M	--
LIGHT NO 5	51/51/32.630N	176/35/22.106W	21.65M	--

TR	PEN	CHART	FEATURE NAME	LATITUDE	LONGITUDE	SOURCE	DOC #	DATE	CAPTO	ELEV	AC/AG	POS
1		16476	FINGER SHOAL BUOY 3	51/51/49.	176/33/30.	LNM DISTRICT 17	3085	JUL 24 1985	0480		63/ -	1
6		16476	PIT USH (MARKER)	51/51/39.113	176/34/45.006	TRIANGULATION	1112	1945	0080		33/ -	2
1		16476	MARKER	51/51/30.35	176/35/20.4	C&GS NAUTICAL CHART	16476	2000	0086		83/ -	3
6		16476	GARNET ROCKS LT 4	51/52/05.92	176/36/25.47	TRIANGULATION	1067	1946	0200	45	33/0 -	4
SECTOR			FL		PERIOD= 4	SEC	# 4	VIS = 5				
1		16476	SWEEPER COVE BY 4A	51/51/56.8	176/36/27.8	LNM DISTRICT 17	2387	JUN 10 1987	0258		63/ -	5
1		16476	LIGHT-F R	51/52/14.5	176/37/34.	CL/US NAVY	41865	MAR 17 1965	0087		53/ -	6
1		16476	SWEEPER COVE LT 7	51/51/20.5	176/37/30.4	LNM DISTRICT 17	1884	MAY 2 1984	0200		53/0 -	7
			FL G		PERIOD= 4	SEC	# 7					
6		16476	SWEEPER CV JETTY LT6	51/51/40.369	176/37/35.067	TRIANGULATION	1159	1959	0200	16	33/ -	8
ORDINARY			OR FL R				# 5	VIS = 1				
1		16476	PEAK 412/LIGHT-F R	51/52/54.	176/38/45.7	CL/US NAVY	41865	MAR 17 1965	0087		53/ -	9
1		16476	LIGHT-F R	51/51/19.93	176/39/11.25	CL/US NAVY	41865	MAR 17 1965	0087		31/ -	10
1		16476	TANK	51/51/17.9	176/39/37.55	DP/US NAVY	74477	FEB 1 1965	0086		71/ -	11

**END PLOT/LIST

PIER NO. 3, LOOKING NW
ID 224 1988
H-10282

PIER NO. 5, LOOKING NE,
ID 224 1988
H-10282



FUEL PIER, LOOKING NW.
ID 224 1988
H-10282


Pier 3, Looking South
Tide Gage
946-1380


Pier 5, Looking South


Sweeper Cove
FRONT Range Mark
TANK, 1988

BARGE PIER, LOOKING NW
ID 224

STEEL DOLPHIN (1 of 4) BESIDE
BARGE PIER, LOOKING NW
ID 224

PLATFORM RUIN, LOOKING NW.
ID 224 1988

SEA-WALL RUIN, LOOKING W.
ID 224 1988

H-10282

Fuel Pier, Looking NW FROM STATION HAPPY, 1988


ADAK SMALL BOAT HARBOR


Sweeper Cove
Back Range Mark

BREAKWATER KELP, WEST SIDE,
1988 LOOKING NORTH ID 234
H-10282

TYPICAL KELP 1988 ID 234
W. SIDE OF PIER BASIN, LOOKING N.
H-10282

TYPICAL KELP ID 234
1988
LOOKING E. FROM STATION BAK
H-10282

APPROVAL SHEET

This survey is complete and adequate to supersede prior surveys for charting and mapping. The field work for survey H-10282 was conducted under my direct supervision.

Forwarded,

Geo. W. Jamerson

G.W. Jamerson, CDR, NOAA
Commanding Officer
NOAA Ship DAVIDSON

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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: September 26, 1988

MARINE CENTER: Pacific

OPR: Q929

HYDROGRAPHIC SHEET: H-10282

LOCALITY: Sweeper Cove, Adak, Alaska

TIME PERIOD: August 8 - 20, 1988

TIDE STATION(S) USED: 946-1380 Adak, AK

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 3.01 ft.

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 3.6 ft.

REMARKS: RECOMMENDED ZONING

1. Zone direct

James R. Hubbard

CHIEF, TIDAL DATUM QUALITY
ASSURANCE SECTION

NOAA FORM 76-155
(11-72)

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

GEOGRAPHIC NAMES

SURVEY NUMBER

H-10282

Name on Survey	A ON CHART NO. 16476	B ON PREVIOUS SURVEY NO.	C ON U.S. QUADRANGLE MAPS	D FROM LOCAL INFORMATION	E ON LOCAL MAPS	F P.O. GUIDE OR MAP	G RAND MCNALLY ATLAS	H U.S. LIGHT LIST	K	
ALASKA, ADAK ISLAND SWEEPER COVE										
ADAK ISLAND	X									1
ALASKA (title)	X									2
HAMMERHEAD	X									3
HAMMERHEAD COVE	X									4
SWEEPER COVE	X									5
SWEEPER CREEK	X									6
										7
										8
										9
										10
										11
										12
										13
										14
										15
										16
				Approved:						17
										18
				Charles E. Harrington						19
				Chief Geographer - N/CG2x3						20
				APR 17 1989						21
										22
										23
										24
										25

NOAA FORM 76-155 SUPERSEDES C&GS 197

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

U.S. DEPARTMENT OF COMMERCE

HYDROGRAPHIC SURVEY STATISTICS

REGISTRY NUMBER
H-10282

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

RECORD DESCRIPTION	AMOUNT	RECORD DESCRIPTION	AMOUNT
SMOOTH SHEET	1	SMOOTH OVERLAYS: POS., ARC, EXCESS	8
DESCRIPTIVE REPORT	1	FIELD SHEETS AND OTHER OVERLAYS	6

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

SHORELINE DATA

SHORELINE MAPS (List):

PHOTOBATHYMETRIC MAPS (List):

NOTES TO THE HYDROGRAPHER (List):

SPECIAL REPORTS (List):

NAUTICAL CHARTS (List): Revision print CRS 000988 B/P 134309 - Chart 16476

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			1051
POSITIONS REVISED			
SOUNDINGS REVISED			
CONTROL STATIONS REVISED			
	TIME-HOURS		
	VERIFICATION	*EVALUATION*	*TOTALS*
PRE-PROCESSING EXAMINATION			
VERIFICATION OF CONTROL			
VERIFICATION OF POSITIONS	51		51
VERIFICATION OF SOUNDINGS	94		94
VERIFICATION OF JUNCTIONS			
APPLICATION OF PHOTOBATHYMETRY			
SHORELINE APPLICATION/VERIFICATION			
COMPILATION OF SMOOTH SHEET	48		48
COMPARISON WITH PRIOR SURVEYS AND CHARTS		8	8
EVALUATION OF SIDE SCAN SONAR RECORDS			
EVALUATION OF WIRE DRAGS AND SWEEPS			
EVALUATION REPORT		35	35
GEOGRAPHIC NAMES			
OTHER*			
*USE OTHER SIDE OF FORM FOR REMARKS — TOTALS	193	43	236

Pre-processing Examination by S. Otsubo	*Beginning Date* 10/21/88	*Ending Date* 11/23/88
Verification of Field Data by L. Deodato	*Time (Hours)* 193	*Ending Date* 6/1/89
Verification Check by B. Olmstead	*Time (Hours)* 56	*Ending Date* 6/2/89
Evaluation and Analysis by C.R. Davies	*Time (Hours)* 43	*Ending Date* 7/20/89
Inspection by D. Hill	*Time (Hours)* 4	*Ending Date* 8/14/89

PACIFIC MARINE CENTER
EVALUATION REPORT
H-10282

1. INTRODUCTION

Survey H-10282 is a navigable area survey accomplished by the NOAA Ship DAVIDSON under the following Project Instructions.

S-Q929-DA, dated June 21, 1988
CHANGE NO. 1, dated July 26, 1988

This survey occurred in Alaska and covers the navigable area of Sweeper Cove, Adak Island. The surveyed area extends from latitude 51°51'03"N to latitude 51°51'49"N, longitude 176°37'34"W to longitude 176°39'03"W. Three subplans are included on the smooth sheet, piers 3, 5 and the fuel pier. Dimensions of the piers and leadline soundings which surround these features are included. The northern and western shoreline of the cove consists of numerous man-made features; i.e., piers, breakwaters and piles. The southern shoreline is characterized by rocks, ledges and off-lying reefs. Kelp is apparent throughout the area. The bottom consists of sand. Depths range from 0.4 to 22 fathoms.

Predicted tides for Sweeper Cove, Adak, Alaska were used for the reduction of soundings during field processing. Approved hourly heights zoned from Sweeper Cove, Adak, Alaska, gage 946-1380, were used during office processing.

The field sheet parameters have been revised to center the hydrography on the smooth sheet and to change the projection to polyconic. The TRA, velocity and electronic correctors are adequate. An accompanying computer printout contains the parameters and the correctors.

A digital file, generated for this survey, includes categories of information required to comply with CG2 Hydrographic Survey Guideline No. 23, Completion of Digital Hydrographic Surveys, September 7, 1983. Certain descriptive information, however, may not be in the digital record due to the restrictions of the presently available cartographic codes. The user should refer to the smooth sheet for complete information.

2. CONTROL AND SHORELINE

Sections F and G of the hydrographer's report and the Horizontal and Electronic Control Reports for S-Q929-DA contain adequate discussions of horizontal control and hydrographic positioning.

Positions of horizontal control stations used during hydrography are 1986 and 1988 field and published values based on NAD 27. These values were used during office processing for the computation of positions. The smooth sheet and accompanying overlays are annotated with NAD 83 adjustment ticks based on values determined by CG121. Geographic positions based on NAD 83 may be plotted on the smooth sheet utilizing the NAD 27 projection by applying the following corrections:

Latitude: 4.959 seconds (153.3 meters)
Longitude: -8.907 seconds (-170.4 meters).

The year of establishment of control stations shown on the smooth sheet originates with the hydrographer's signal list.

There are 17 weak fixes (angles of intersection less than 30 degrees or more than 150 degree) noted in this survey. All 17 fixes were obtained by sextant. Each position has a check angle which confirms the position. All of these fixes are considered acceptable.

There are no shoreline maps applicable to this survey. Shoreline depicted on the smooth sheet in brown ink originates with Chart Revision Survey No. 000988 (BP-134309) and is to be used for orientation only.

The following shoreline changes, depicted in red on the smooth sheet, are adequate to supersede the charted shoreline.

Feature	Latitude(N)	Longitude(W)
Ramp	51°51'49"	176°38'08"
Pier 5	51°51'46"	176°38'07"
Pier	51°51'50"	176°37'48"
Pier face	51°51'40"	176°38'38"

3. HYDROGRAPHY

With the exceptions noted in this report, hydrography is adequate to:

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

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

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

Soundings plotted along Pier 3, Pier 5 and the Fuel Pier have been offset two millimeters from the pier faces to improve legibility. Additional offset soundings are listed in Table 1, which is attached to this report.

4. CONDITION OF SURVEY

The hydrographic records and reports received for processing are adequate and conform to the requirements of the Hydrographic Manual, 4th Edition, revised through CHANGE NO. 3; the Hydrographic Survey Guidelines; and the PMC OPORDER, except as noted.

While all AWOIS items were investigated to a degree, many were not completely resolved. The quality of the survey would have been improved if fewer items were completely investigated and resolved, especially those falling within the limits of the navigable area.

Many charted features shown in brown for orientation only were transferred to the final field sheet despite the statement in the hydrographer's report that charted features from the MHWL to seaward were positioned to hydrographic specifications. Features that have been hydrographically positioned should be drawn in black.

5. JUNCTIONS

Survey H-10282 does not junction with any contemporary surveys. A comparison with charted depths reveals good agreement.

6. COMPARISON WITH PRIOR SURVEYS

H-6915(1943) 1:5,000
H-7084(1945) 1:5,000

Surveys H-6915 and H-7084 cover the entire area of the present survey. North of latitude 51°51'23"N, these prior surveys have been superseded by survey H-7825. The area south of latitude 51°51'23"N, which has not been superseded, compares satisfactorily with survey H-10282; soundings differ between 1-2 fathoms. This can be attributed to natural and made-made changes and the relative accuracy of the data acquisition.

H-7825(1951) 1:2,500

Survey H-7825 covers the area north of latitude 51°51'23"N on the present survey. In the area between latitude 51°51'41"N and 51°51'50"N, longitude 176°37'39"W and 176°38'16"W dredging has occurred. Soundings differ between 1-2 fathoms. Generally over the rest of the common area the soundings differ by one fathom. One shoal sounding, a 7.7 fathom depth at latitude 51°51'34.6"N and longitude 176°38'13.6"W, has been carried forward to survey H-10282 because of an incomplete investigation. In addition to the sounding, the following submerged features were carried forward to survey H-10282.

Feature	Latitude(N)	Longitude(W)
Subm. pier ruins	51°51'39.5"	176°38'44.0
Subm. pier ruins	51°51'39.5"	176°38'40.2"
Subm. pier ruins	51°51'41.0"	176°38'18.0"

H-8454(1958) 1:480

Survey H-8454 covers the western side of Sweeper Cove which surrounds the fuel pier. Taking into consideration the differences in the scales of the surveys and the methods of surveying, comparison with this prior survey is satisfactory.

AWOIS Item 51708 originates with prior survey H-6915. This item is adequately discussed by the hydrographer in section L.

With the transfer of the sounding noted above, survey H-10282 is adequate to supersede the prior surveys within the common area.

7. COMPARISON WITH CHART

Chart 16471, 8th Edition, dated May 10, 1980; scale 1:120,000
Chart 16475, 7th Edition, dated April 8, 1978; scale 1:30,000
Chart 16476, 8th Edition, dated April 30, 1977; scale 1:10,000

a. Hydrography

Charted hydrography originates with the prior surveys listed in section 6 and miscellaneous sources and requires no further discussion.

Survey H-10282 is adequate to supersede charted hydrography within the limits of this survey, except for the the one sounding carried forward from survey H-7825 and the AWOIS items listed in section 9 of this report.

b. AWOIS

The following AWOIS Items originate from miscellaneous sources: 51601, 51602, 51603, 51604, 51605, 51606, 51607, 51608, 51609, 51610, 51611, 51701, 51702, 51703, 51704, 51705, 51706, 51707, 51709 and 51710.

Each AWOIS Item is adequately discussed in section K and L of the hydrographer's report.

c. Controlling Depths

There are no charted channels with controlling depths within the area of this survey.

d. Aids to Navigation

All fixed aids were located and serve their intended purpose. There are no floating aids within the survey area.

e. Geographic Names

Names appearing on the smooth sheet and in the survey title have been approved by the Chief Geographer.

f. Dangers to Navigation

The hydrographer reported eight dangers, shoals and obstructions, to the USCG and DMAHTC. Copies of the messages/reports are attached. No additional dangers were discovered during office processing.

8. COMPLIANCE WITH INSTRUCTIONS

Except where noted in section 4, 6 and 7 of this report, survey H-10282 complies with the Project Instructions.

9. ADDITIONAL FIELD WORK

This is an adequate navigable area survey except for resolution of the following AWOIS Items. Additional field work is recommended to verify or disprove AWOIS Items 51601, 51602, 51603, 51604, 51605, 51606, 51607, 51610, 51611 and obtain a least depth on the shoal discussed in section 6.

Charles R. Davies

C.R. Davies
Cartographer

This survey has been examined and it meets Charting and Geodetic Services' standards and requirements for use in nautical charting. Approval is recommended.

Dennis Hill

Dennis Hill
Chief, Hydrographic Unit

TABLE 1-Displaced Soundings

SOUNDING	LATITUDE(N)	LONGITUDE(W)
6.2	51°51'18.99"	176°39'00.37"
6.3	51°51'19.67"	176°39'00.60"
6.3	51°51'20.36"	176°39'00.91"
6.1	51°51'21.06"	176°39'01.20"
5.9	51°51'21.41"	176°39'01.76"
5.2	51°51'22.02"	176°39'01.98"
5.8	51°51'22.64"	176°39'02.23"
5.3	51°51'23.27"	176°39'02.41"
4.9	51°51'39.75"	176°38'38.84"
5.8	51°51'48.42"	176°38'07.80"
5.7	51°51'45.56"	176°38'07.62"
5.2	51°51'44.54"	176°38'07.50"
6.1	51°51'42.52"	176°38'07.03"
6.3	51°51'44.71"	176°38'05.81"
6.4	51°51'45.42"	176°38'05.88"
6.1	51°51'46.11"	176°38'06.02"
6.1	51°51'46.77"	176°38'06.15"
5.8	51°51'47.57"	176°38'06.09"
5.8	51°51'47.95"	176°37'56.66"
5.8	51°51'47.46"	176°37'56.60"
6.1	51°51'46.84"	176°37'56.60"
6.2	51°51'45.82"	176°37'56.55"
5.8	51°51'45.02"	176°37'56.53"
6.5	51°51'44.29"	176°37'56.70"
6.0	51°51'43.90"	176°37'56.21"
5.8	51°51'43.92"	176°37'55.67"
5.5	51°51'44.03"	176°37'54.53"
5.7	51°51'45.10"	176°37'54.64"
5.9	51°51'45.84"	176°37'54.71"
5.8	51°51'46.91"	176°37'54.80"
6.1	51°51'47.95"	176°37'54.91"
5.8	51°51'48.40"	176°37'54.96"
3.5	51°51'49.53"	176°37'55.07"
3.4	51°51'49.78"	176°37'48.98"
4.3	51°51'49.66"	176°37'48.03"
1.4	51°51'47.77"	176°37'39.84"
1.8	51°51'11.19"	176°38'24.04"
1.9	51°51'49.10"	176°38'08.08"
3.9	51°51'41.56"	176°38'17.71"

APPROVALS

I have reviewed the smooth sheet, accompanying data, and reports associated with hydrographic survey H-10282. This survey meets or exceeds Charting and Geodetic Services' standards for products in support of nautical charting.

8/16/89

Chief, Pacific Hydrographic Section (Date)

After review of the smooth sheet and accompanying reports, I hereby certify this survey is accurate, complete, and meets appropriate standards.

Sigmund R. Petersen 8-24-89

Director, Pacific Marine Center (Date)

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF CHARTING AND GEODETIC SERVICES
ROCKVILLE, MARYLAND 20852

FEB 13 1990

MEMORANDUM FOR: Commander Russell C. Arnold, NOAA
Chief, Hydrographic Surveys Branch

FROM: George K. Myers, Jr.
Chief, Standards Section

SUBJECT: Examination of Navigable Area Survey H-10282 (1988) Alaska, Adak Island, Sweeper Cove

Chief of Party ..... G. W. Jamerson
Field Unit ..... NOAA Ship DAVIDSON
Processed by ..... Pacific Marine Center
Examined by ..... G. K. Myers

An examination of navigable area survey H-10282 (1988) was accomplished to monitor the survey with respect to data acquisition, conformance to applicable project instructions, delineation of the bottom, determination of least depths, navigational hazards, sounding line crossings, smooth plotting, shoreline transfer, decisions and actions taken by the evaluator, and the cartographic presentation of data.

Cartographic deficiencies and constructive comments are noted on a 1/2-scale copy of the survey smooth sheet which will be forwarded to the marine center.

In general, the survey at the time of examination was found to conform to National Ocean Service standards and requirements except as stated in the Evaluation Report.


Diagram No. 8863-3
ANDREANOF ISLANDS
KANAGA ISLAND
ADAK ISLAND
ADAK STRAIT
Kanaga Volcano
Bobrof I.
Cape Sudak
Cape Moffett
Mt. Moffett
Andrew Bay
Andrew Lagoon
Kuluk Bay
Bay of Islands
Three Arm Bay
Bay of Waterfalls
Cape Kagigikak
Cape Yakak
Turret Pt
Cape Tunik
Kanaga Bay
Nagai Pt
Argonne Pt
Sharp Pt
Cape Kanaga
Cape Chuma
Kagalaska
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NOAA FORM 75-96
(10-83)

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

MARINE CHART BRANCH

RECORD OF APPLICATION TO CHARTS

16476

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-10282 9/21

EXAMINED FOR NM
GOBU
3-8-90

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
16476	8/28/89	ALMACEN	Full ~~Part Before~~ After Marine Center Approval Signed Via full application of
			Drawing No. soundings from SS.
16475	9/14/90	[illegible]	Full ~~Part Before~~ After Marine Center Approval Signed Via Full application of
			Drawing No. Soundings from SS thru 16476.
16471	9/18/90	[illegible]	Full ~~Part Before~~ After Marine Center Approval Signed Via Full application of
			Drawing No. Soundings from SS thru 16476.
16460	9/19/90	[illegible]	Full ~~Part Before~~ After Marine Center Approval Signed Via Full application
			Drawing No. Soundings from SS thru 16476, 16471
			Full Part Before After Marine Center Approval Signed Via
			Drawing No.
			Full Part Before After Marine Center Approval Signed Via
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SUPERSEDES C&GS FORM 8352 WHICH MAY BE USED.