

9070

3274-111-02

Diag. Cht. No. 8102-3.

FORM C&GS-504

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY

DESCRIPTIVE REPORT

Type of Survey Hydrographic

Field No. MA 10-3-69 Office No. H-9070

LOCALITY

State Alaska

General locality Southeast Alaska

Locality Nichols Passage

19 69

CHIEF OF PARTY

Donald R. Tibbit CDR, USESSA

LIBRARY & ARCHIVES

DATE JAN 8 1973

USCOMM-DC 37022-P66

0706

602/13

HYDROGRAPHIC TITLE SHEET

H-9070

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.

MA 10-3-69

State Alaska

General locality Southeast Alaska

Locality Nichols Passage

Scale 1:10,000 Date of survey 9 Sept-25 Oct 1969

Instructions dated 8 May 1969 Project No. OPR-424

Vessel USC&GSS McARTHUR

Chief of party Donald R. Tibbit, CDR, USESSA

Surveyed by E.M. Gelb, J.C. Albright, T.C. Howell, R.C. Husted, D.M. Spillman
M.E. Wagner

Soundings taken by echo sounder, hand lead, pole DE 723's nos. 931, 918, 920

Graphic record scaled by Ship Personnel

Graphic record checked by Ship Personnel

Verified Matthew G. Sanders

PMC

Projected by _____ Automated plot by _____

Verified

Soundings penciled by Matthew G. Sanders

Soundings in fathoms ~~XXXX~~ at ~~MLLW~~ MLLW

REMARKS: This survey was accomplished using Launch AR-1, Launch
AR-2, Skiff #1, and the McARTHUR.

Chart

8102

8080

8086

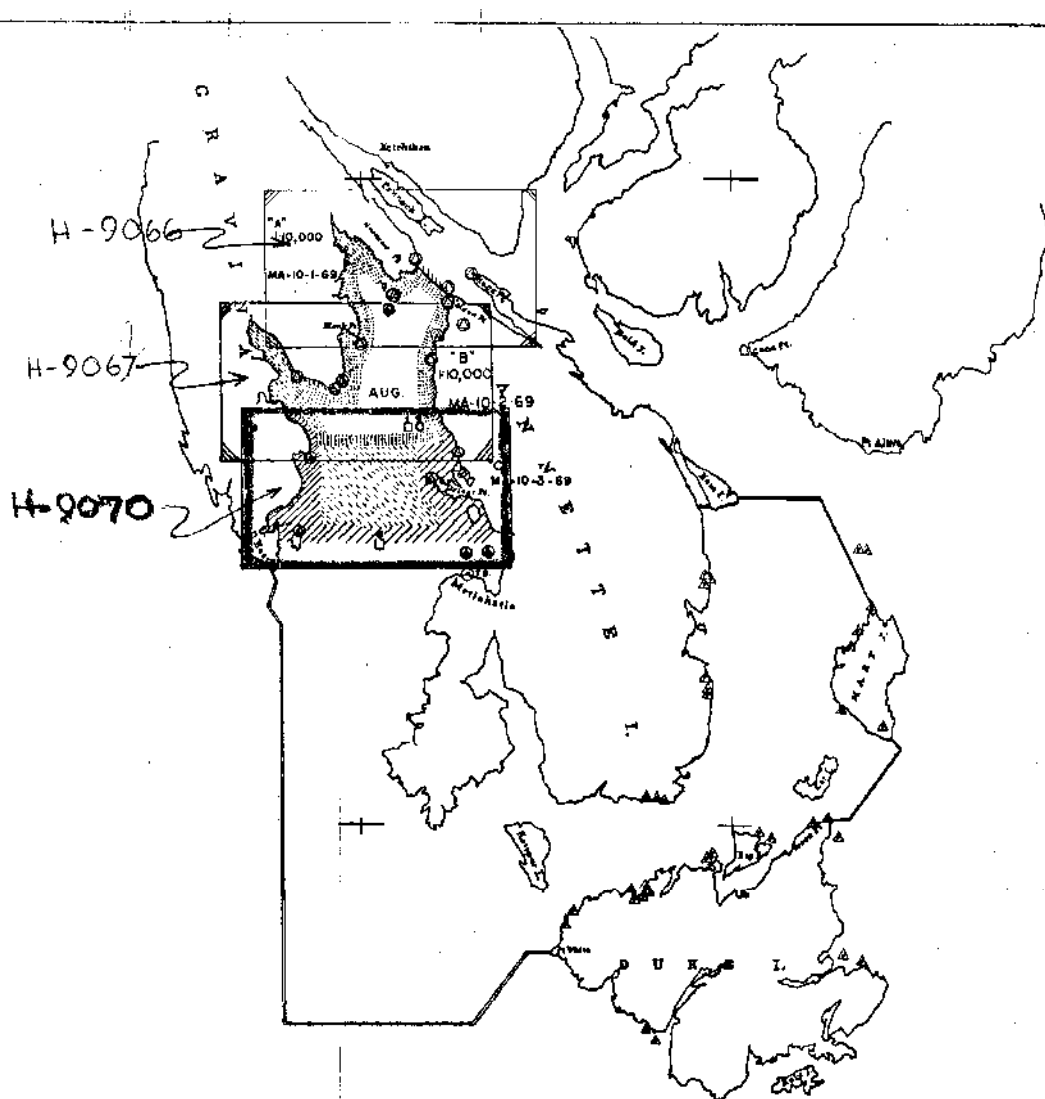
8075

8074

Applied to stds 1-16-73

MS

Examined for NM 2/27/73



PROGRESS SKETCH
 SOUTHEAST, ALASKA
 PROJECT OPR-424
 HYDROGRAPHY
 NICHOLS PASSAGE & FELICE STRAIT
 1969
 USCBGS Ship MC ARTHUR
 DONALD R. TIBBIT CDR, USESSA, COMD'G.
 SCALE OF CHART 8102

- | | | | |
|-------|--------------------------------------|---|-----------|
| □ | NANSEN CAST | □ | AUG 1969 |
| ○ | TIDE GAGE | ▨ | SEPT 1969 |
| ⊙ | RECOVERED TRIANGULATION STATIONS | ▧ | OCT 1969 |
| △ | PREMARKING PHOTO CONTROL TRI-STATION | | |
| — | PROJECT LIMITS | | |
| ~~~~~ | SHORELINE INSPECTION | | |

Descriptive Report
To Accompany
Hydrographic Survey H-9070 (MA-10-3-69)

USC&GSS McARTHUR
Donald R. Tibbit, CDR, USESSA

1969
Scale 1:10,000

A. PROJECT

Hydrography on this boatsheet was accomplished in accordance with project instructions OPR-424, Nichols Passage and Felice Strait, Southeast Alaska, dated 8 May 1969.

B. AREA SURVEYED

The area surveyed is located in Nichols Passage, Southeast Alaska, and includes portions of the western shoreline of Annette Island, and the eastern shoreline of Gravina Island. It is bounded, north and south by latitudes $55^{\circ} 12.0' N$ and $55^{\circ} 08.7' N$ respectively; east and west by longitudes $131^{\circ} 32.8' W$ and $131^{\circ} 45.5' W$ respectively, and covers an area of 18.2 square miles. This survey was conducted between 9 September 1969 and 25 October 1969.

This survey overlaps the following prior surveys of the area:

<u>Registry No.</u>	<u>Scale</u>	<u>Date</u>
H-3718	1:20,000	1914
H-3685WD	1:10,000	1914
H-3710	1:10,000	1914

This survey junctions with the following contemporary survey of the area: H-9069 (MA-10-2-69).

C. SOUNDING VESSELS

This survey was accomplished using four sounding vessels.

<u>Vessel</u>	<u>Ink Color</u>	<u>Pos. Nos.</u>
Skiff #1	Green	1 - 148
Launch AR-1	Blue	1000-1999; 5000-5963
Launch AR-2	Purple	2000-2999; 4000-4999; 6000-6217
Ship McARTHUR	Red	3000-3782

D. SOUNDING EQUIPMENT

Soundings were obtained as follows:

<u>Vessel</u>	<u>Depths (FM)</u>	<u>Instrument</u>
Skiff #1	0-6	handpole and/or leadline
Launch AR-1	0-120	DE-723 S/N 931

<u>Vessel</u>	<u>Depths (FM)</u>	<u>Instrument</u>
Launch AR-2	0-128	DE-723 S/N 920
Ship McARTHUR	11-85	DE-723 S/N 918

Bar checks were taken at least daily (seas permitting) in both launches to depths of seven fathoms to calculate transducer draft and provide corrections for instrument and velocity error. Velocity corrections below seven fathoms were obtained from Nansen Casts taken to 82 fathoms on 12 August 1969, 10 September 1969, and 13 October 1969. Fathometer initials were set at 2.0 fathoms on the ship and 0.0 fathoms on the launches. Transducer draft and instrument corrections were determined for the ship by vertical cast comparisons. No phase corrections were necessary. Settlement and squat corrections were not determined since the sounding vessels, the launches in particular, were run at a variety of speeds.

Tide reducers were obtained from actual 1969 tide records of a bubbler tide gage at Metlakatla, Alaska.

E. SMOOTH SHEET

The smooth sheet is to be plotted at the Electronic Data Processing Division, Pacific Marine Center, using a Gerber plotter. Field data has been logged into the following punched tapes: ✓

<u>DATA</u>	<u>FORMAT</u>
Signal Locations	Signal Tape
Velocity Correctors	Velocity Tape
Tide Correctors	Tide Tape
Position-Soundings	Combined Tape
Transducer-Instrument Corrections	TC/TI Tape

F. CONTROL

Visual methods (three-point sextant fixes) were used throughout this survey for control purposes. Horizontal control was furnished by five (5) triangulation stations, located at their listed geographic positions, three (3) topographic stations, forty-three (43) photo-hydro signals, nine (9) signals located by theodolite cuts, five (5) signals located by theodolite cut and stadia distance, six (6) hydro signals located sextant cuts, and twenty-four (24) stations located by stadia-azimuth traverse. All signals are located on 1:10,000 scale incomplete manuscripts T-10620, T-10621, T-10627, T-10628, T-12443, and T-12444. ✓

The McARTHUR was advised that no photographs were available for manuscripts T-10627 and T-10628. Thus it was necessary to establish hydrographic control in this area by ground methods. For this purpose three separate stadia-azimuth traverses were run with a one-second theodolite and Philadelphia rod. Two of these traverses were closed with good accuracy; the third was of necessity an open traverse. The angle at each station was measured once with the instrument direct and once reversed, and the distances were measured in both directions.

The first traverse began at triangulation station ARM, 1914 and closed on topographic station HILL, 1964. It extended across the reef at the entrance to Seal Cove. Signals BAT, RIP, and JON were built on stations of this traverse, and signal SUE was located by a theodolite cut and a stadia distance from BAT. Signals LIZ, HUB, EAR, THY, YOR, and ZOT were located by theodolite cuts from BAT and RIP.

The second traverse began at HILL, 1964 and closed on triangulation station BRON, 1914. It followed the shoreline of Dall Bay. Signals LOG, YEL, STA, DUM, ANT, ICE, OFF, MOO, DIF, DUD, EVA, GET, HEX, JUG, KID, KEY, LAD, and MAR were built on stations of this traverse. Signals EDD, PIL, and CAR were located by theodolite cuts from traverse stations. Signals COP and OAK were each located by a theodolite cut and a stadia distance from a traverse station.

The third traverse began at BRON, 1914 and, for lack of time, was not closed. Signals MET, MUG, and NIX were built on stations of this traverse. Signals BIG and IRK were each located by a theodolite cut and a stadia distance from a traverse station.

The stadia-azimuth traverses showed good accuracy and are adequate to control hydrography of the area. However, the shoreline features on these two manuscripts, near the head of Dall Bay, appear to be consistently displaced approximately ten meters southeast with respect to the stations of the second traverse. This discrepancy was not resolved. The traverse was checked for compensating errors and none were found. It was not possible to check the field identification of the triangulation used to control the original photography, since no photographs were available.

Due to the irregular nature of the rocky and wooded shoreline, the establishment of the above ground control required considerable field time. This type of area is ideal for rapid and accurate photogrammetric

location of signals, and had photography been available, a great deal of time could have been saved. It is regrettable that the Photogrammetry Division did not undertake a more thorough search, particularly since the "lost" Photographs were found and furnished the McARTHUR after the close of the field season.

G. SHORELINE

Shoreline for this survey was transferred from a blue line copy of the above mentioned T-Sheets. All shoreline and topographical detail on this boatsheet has been verified. There is a logging camp and booming grounds on Annette Island just north of Hemlock Island. The location of piles and probable maximum extent of the log boom is shown on the field ozalid. The shoreline has been altered to some extent in this area as shown on the field edit ozalid, and further changes are to be expected. Shoreline changes were determined by sextant fixes and are shown in red on the boatsheet. The low water line was not completely defined by the hydrographer due to irregular, rocky, and steep shoreline. Three rock ledges shown on the manuscript off Driest Point were not found.

H. CROSSLINES

562.5 miles of hydrography were run on this boatsheet, of which 28 nautical miles were crosslines. This corresponds to approximately 6% of the regular system of sounding lines. This percentage is considered adequate due to the highly irregular bottom and extensive 50 meter line spacing required. There were no significant discrepancies at line crossings.

I. JUNCTIONS

Good agreement between this boatsheet and H-9069 was indicated by comparison. No adjustments were necessary.

J. COMPARISON WITH PRIOR SURVEYS

Comparisons with all referenced prior surveys were made. Agreement was in general very good considering the highly irregular bottom contour.

All presurvey review items located on MA-10-3-69 were investigated. Results are as follows:

Item 23 (dolphin, Lat 55° 09.14'N, Long. 131° 45.23'W). The dolphin no longer exists and should be deleted from the chart.

Item 24 (sunken rock, Lat. 55° 09.00'N, Long. 131° 43.70'W). No evidence of this rock was found, average depths in the charted position being six to seven fathoms. The shoalest point in the vicinity lies approximately 100 meters SSW of item 24 and is a sounding of 3.7 fathoms in general depths of eight to nine fathoms. The feature should be deleted from the chart. ✓

Item 26 (14 fm sounding, Lat. 55° 09.54'N, Long. 131° 36.62') No sounding shoaler than 20 fms was discovered. Bottom profile between positions 5,102 and 5,103 is linearly sloping with no irregularities to suggest an isolated shoaler sounding in the charted position, and the feature should be deleted from the chart. ✓

Item 27 (rock awash, Lat. 55° 09.19', Long. 131° 34.12') Morse rock was verified in the charted position, and is awash at MLLW. ✓

Item 30 (mooring buoy, Lat. 55° 11.31', Long. 131° 43.28') This buoy no longer exists and should be deleted from chart 8085. ✓

Item 31 (wharf, Lat. 55° 11.21', Long. 131° 43.62') No ruins below datum were located. However ruins are present and submerged at high water in the charted position. ✓

Item 32 (wharf, Lat. 55° 11.14', Long. 131° 43.50') No ruins or piling exists in the indicated area. ✓

Item 33 (rock awash) no rock, or rocky ledge was located after a twenty minute search. ✓

Item 34 (rock awash and sunken rock, Lat. 55° 11.07', Long. 131° 43.00') Item 34 is a rocky ledge instead of two rocks, which uncovers 6 ft. at MLLW in the charted position. ✓

Item 35 (rock awash, Lat. 55° 11.14', Long. 131° 42.77') A half-hour search failed to locate any such rock in the charted position. It should be deleted from chart 8085. ✓

Item 36 (8 ft. sounding Lat. 55° 11.14', Long. 131° 42.70') No sounding approaching 8 ft. was located, depths average 8 fathoms in its charted position. This sounding should be deleted from chart 8085. ✓

Item 37 (119 ft. sounding, Lat. 55° 10.31', Long. 131° 42.37'). The 119 ft. sounding is erroneous, depths at the charted position are 24 fathoms. This sounding should be deleted from chart 8085. ✓

K. COMPARISON WITH THE CHART

This survey was compared with the following charts:
 8074, 1:20,000, 10th Ed. May 1/67; 8085, 1:5,000
 3rd Ed. May 31/65; 8086, 1:40,000, 2nd Ed. Aug 9/69,
 and 8080, 1:40,000 1st Ed. Apr 28/69. Agreement
 with charts 8080, 8085, and 8086 is good. ✓

Frequent discrepancies occurred when compared to chart
 8074, probably due to irregularity of the bottom con-
 tour. Recommended changes to charts and newly found
 dangers to navigation are as follows. The rock chart-
 ed at Lat. 55° 10.84', Long. 131° 34.63' on chart
 8074 is mislocated and should be moved closer to Lat.
 55° 10.86', Long. 131° 34.63' (pos. #1, vol. 1). ✓

New Rocks Awash:

<u>Latitude N</u>	<u>Longitude W</u>	<u>Position #, Vol. #</u>	<u>Least Depth(fm)</u>
55° 09.26'	131° 43.25'	132	1 0.4 ✓
55° 10.68'	131° 31.30'	1571, 1572	4 uncov 2' MLLW 0 ³
55° 09.93'	131° 34.75'	1608, 1609	4 awash MLLW 0 ¹
55° 10.71'	131° 43.12'	62	1 uncov 6' MLLW ✓
55° 08.60'	131° 39.13'	129	1 uncov 6' MLLW ✓

New Rock Ledges and/or Reefs:

55° 09.18'	131° 44.36'	116	1 uncov 4' MLLW ✓
55° 09.17'	131° 44.81'	46	1 uncov 6' MLLW ✓
55° 10.72'	131° 43.12'	61	1 uncov 11' MLLW ✓
55° 08.75'	131° 39.41'	130	1 uncov 5' MLLW ✓
55° 08.30'	131° 35.28'	4213	15 uncov 4' MLLW ✓
55° 08.30'	131° 35.80'	4296	16 subm 4' MLLW ✓
55° 08.38'	131° 35.96'	4183	15 awash MLLW ✓

Buoy N "6", plotted at Lat. 55° 10.19' Long. 131° 43.14' on
 MA-10-3-69, position #72, vol. 1 does not agree with the
 position shown on charts 8080 and 8085. It was located
 with a very weak fix and the boatsheet location is not re-
 liable. ✓

L. ADEQUACY OF SURVEY

This survey is complete and adequate to supersede prior
 surveys for charting. The position of buoy N "6" (see
 section K) is not adequately determined. The location
 of this buoy should be checked during the 1970 field
 season of the McARTHUR. ✓

M. AIDS TO NAVIGATION

A comparison of the navigational aids on MA-10-3-69 with the Light List and the largest scale charts of the area showed all aids were present and operative as indicated with the exception of the mooring buoy in Seal Cove (Pre-Survey Review Item 30). See sections K and L in regard to buoy N"6".

N. STATISTICS

McARTHUR	
Nautical miles sounding lines	110.1
number of positions	779
bottom samples	84
Nansen casts	3
Launch AR-1	
Nautical miles sounding line	194.9
number of positions	1953
bottom samples	9
Launch AR-2	
Nautical miles sounding lines	257.5
number of positions	2207
bottom samples	64
Skiff	
number of positions	147
Totals	
Nautical miles sounding	562.5
number of positions	5086
bottom samples	157
nansen casts	3
square miles	18.2

O. MISCELLANEOUS

Several shoaler soundings at Lat 55°08.8'N, Long 131°39.8'W, plotted on boatsheet MA-10-3-69 appear between lines of deeper soundings. These shoaler soundings are the result of two separate sounding lines which agreed well with each other. The plotting was checked and is correct. The fathograms were inspected and confirmed the steep slopes shown. The representation of this area on the boatsheet is accurate. ✓

Position numbers 1 through 148 are skiff soundings made by leadline and/or pole methods. They require no sounding corrections other than tide reduction. These position-sounding tapes must be processed separately from those of other vessels

Q. REFERENCES TO REPORTS

Fathometer correction report, OPR-424, 1969; Pre-survey review, OPR-424, Nichols Passage & Felice Strait, SE Alaska; Geographic Names Report, OPR-424, 1969; ✓
Field Edit Report for manuscripts listed in section F.

R. ELECTRONIC DATA PROCESSING INFORMATION

Data was recorded via a hand logger used with a Friden Flexowriter.
Tapes are in BCD dual indicator format. ✓

Submitted by,

Michael E. Wagner

Michael E. Wagner
ENS, USESSA

APPROVED AND FORWARDED

Donald R. Tibbit

Donald R. Tibbit, CDR, USESSA
Commanding Officer, USC&GSS McARTHUR

Enclosures: Tide Note
Abstract of Corrections to Echo Soundings
(velocity, transducer draft and instrument)
List of Signals
Abstract of Position Numbers
List of Basic Field Records
Approval Sheet

TIDE NOTE
TO ACCOMPANY
H-9070 (MA-10-3-69)

Tide Station Metlakatla Harbor
Annette Island, Alaska
Lat. 55° 07.7'
Long. 131° 34.0'

Plane of Reference - MLLW = 9.7 ft. on 1969 staff

Time Meridian	105°W
Time Correction	None
Height Correction	None
Time of Coverage	Entire Survey
Area of Coverage	Entire Survey



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Rockville, Md. 20852

Date: February 25, 1971
Reply to
Attn of: C331W-60-NOAAS
Subject: OPR 424-1970 Metlakatla Harbor and Tamgas Harbor (SE Alaska)
Marigrams
To: Commanding Officer
NOAA Ship McARTHUR

In reply to your memorandum of February 16, 1971, the hourly heights requested are enclosed. The plane of reference at Metlakatla, Alaska, corresponds to 9.7 feet on the tide staff.

The printout of hourly heights which you submitted are also being returned. Since we are responsible for the verification of the tide reducers, the additional verification of hourly heights would mean a duplication of our work.

L. C. Wharton
L. C. Wharton
Tides & Currents Branch
Oceanography Division
National Ocean Survey

Enclosures

RECEIVED
MAR 1 1971

NOAA Ship McARTHUR

By

TIDE NOTE FOR HYDROGRAPHIC SHEET

February 2, 1970

~~Nautical Chart Division:~~ Pacific Marine Center

Plane of reference approved in
~~volume of sounding records for~~ Tide tape Printout

HYDROGRAPHIC SHEETS 9066, 9069, and 9070

Locality: Metlakatla Harbor, Annette Island, Alaska

~~Year:~~ Year: 1969

Plane of reference is mean lower low water

Tide Station Used (Form C&GS-681):

Metlakatla

Height of Mean High Water above Plane of Reference is as follows:

13.7 feet

Remarks

M. Simpson

ABSTRACT OF VELOCITY CORRECTIONS
TO ECHO SOUNDINGS

H-9070 (MA 10-3-69)

All depths and corrections are in fathoms and tenths. Corrections of table 0001 apply to all Ship soundings of the survey. Corrections of table 0002 apply to all Launch AR-1 and Launch AR-2 soundings of the survey. For more information see the Fathometer Correction Report OPR 424. The 0 in the first column of the velocity correction table indicates positive corrections.

DEPTH	VEL	VEL						
	CORR	TAB						
000035	00	0000	0001	000	0	000000	000000	SHIP
000108	00	0001						
000204	00	0002						
000306	00	0003						
000440	00	0004						
000570	00	0005						
000694	00	0006						
000808	00	0007						
000920	00	0008						
001022	00	0009						
001118	00	0010						
001210	00	0011						
001293	00	0012						
000018	00	0000	0002	000	0	000000	000000	LAUNCHES
000082	00	0001						
000171	00	0002						
000280	00	0003						
000408	00	0004						
000540	00	0005						
000668	00	0006						
000784	00	0007						
000893	00	0008						
000997	00	0009						
001094	00	0010						
001188	00	0011						
001270	00	0012						

APPROVAL SHEET

The smooth sheet has been inspected, is complete, and meets the requirements of the General Instructions for automated surveys and the Hydrographic Manual. (Note: All exceptions are listed in the Verifier's Report.)

Examined and approved,

for: *Cornelius A. J. Pauw*
William M. Martin
Supervisory Carto. Tech.

Approved and Forwarded,

Walter L. Bradley
Walter L. Bradley, CDR, NOAA
Chief, Processing Division
Pacific Marine Center

GEOGRAPHIC NAMES
Survey No. H-9070

Name on Survey	Source										
	A	B	C	D	E	F	G	H	K		
ANNETTE ISLAND											1
DALL BAY											2
DRIEST POINT											3
FILLMORE ROCK											4
GRAVINA ISLAND											5
GREEN POINT											6
HEMLOCK BAY											7
HEMLOCK ISLAND											8
INLET POINT											9
KELP ROCKS											10
LIVELY ROCK											11
MORSE ROCK											12
MURDO ISLAND											13
NICHOLS PASSAGE											14
PILOT POINT											15
PORT CHESTER											16
SEAL COVE											17
SYLBURN HARBOR											18
											19
											20
											21
											22
											23
											24
											25
											26
											27

PREPARED BY CARTOGRAPHER

Chas. E. Harrington

STAFF GEOGRAPHER (ACTING)

13 Aug. 1973

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, cor- rosiveness, dented cutter, free fall, stat. no., trigger cor- date extended, disposition, etc.)	QSS INIT.
		Latitude	Longitude								
5937	12/24/69	13° 43.25'	55° 09.20'	6	516				wh S, gn M		
5938		13° 44.13'	55° 09.16'	12					fine gy S, gn M		
5939	11	13° 44.41'	55° 09.70'	3					hd Bottom P		
5940	11	13° 43.70'	55° 09.68'	7					P hd Bottom		
5941	11	13° 44.12'	55° 09.37'	11					gn M, wh S P		
5960	11	13° 43.14'	55° 09.77'	11					brk sh, G, P		
5961	11	13° 43.16'	55° 09.41'	15					brk sh, P.		
5962	11	13° 43.81'	55° 09.17'	4					brk sh, S, G.		
5963	11	13° 43.81'	08.87	10					brk. Sh, Co. Crs. G. S.		

Use more than one line per sample if necessary.

GEOGRAPHIC NAMES LIST

ANNETTE ISLAND
DALL BAY
DRIEST POINT
FILLMORE ROCK
GRAVINE ISLAND
GREEN POINT
HEMLOCK ISLAND
INLET POINT
LIVELY ROCK
MORSE ROCK
MURDO ROCK
NICHOLS PASSAGE
PORT CHESTER
PILOT POINT
SEAL COVE
SYLBURN HARBOR

VERIFIER'S REPORT
H-9070

E. SMOOTH SHEET

The smooth sheet and position number overlay were plotted by the digital plotter with all finished work being done by the Verification Branch at the Pacific Marine Center.

I. JUNCTIONS

The junction with H-9069 has been made and is complete. The depth curves east of Longitude 131°37'00" should be checked for accuracy. The junctions with H-9182 is incomplete.

K. COMPARISON WITH CHART

<u>Chart Sndg</u>	<u>S S Sndg</u>	<u>Lat</u>	<u>Long</u>
31	24	55°11.7'	131°35.0'
19	11	55°11.45'	131°37.55'
None	4	55°10.75'	131°36.5'
19	14	55°10.05'	131°36.75'
None	16	55°11.55'	131°37.95'
None	20	55°11.67'	131°38.02'
None	25	55°11.28'	131°38.3'
None	19	55°11.74'	131°38.5'
None	13	55°11.58'	131°38.53'
None	13	55°11.74'	131°39.35'
23	27	55°11.9'	131°39.9'
None	36	55°10.93'	131°39.4'
None	20	55°11.38'	131°40.67'
18	10 ⁸	55°11.36'	131°42.5'
34	30	55°10.7'	131°42.0'
None	10 ¹	55°10.61'	131°42.43'
Rk Awash	7 ⁸	55°10.39'	131°43.1'
12	5 ⁴	55°10.83'	131°43.45'

Above Chart comparison for Chart #8080, 1st Ed. Apr 28 '69.

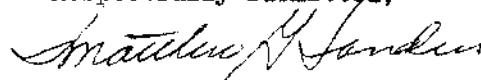
Chart #8086, 2nd Ed., Aug 9, 1969 as follows:

24	10 ⁵	55°09.9'	131°39.05'
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Chart #8075, 5th Ed., May 13, 1972 is in agreement.

L. This survey is considered complete and adequate for charting.

Respectfully submitted,



Matthew G. Sanders
Cartographic Technician

ABSTRACT OF TRANSDUCER DRAFT AND
INSTRUMENT CORRECTIONS TO ECHO SOUNDINGS

H-9070 (MA 10-3-69)

USC&GSS McARTHUR

Transducer Draft and Instrument corrections are
in fathoms and tenths and apply to all Ship
soundings of the survey. For more information
see the Fathometer Correction Report OPR 424.
The 1 in the first column of the TRA & INST CORR
indicates a negative correction

TIME TRA & VEL DAY
 INST TAB
 CORR

000000 00 1006 0001 259 0 000000 000000
200000 00 1006 0001 298 0 000000 000000

ABSTRACT OF TRANSDUCER DRAFT AND
INSTRUMENT CORRECTIONS TO ECHO SOUNDINGS

H-9070 (MA 10-3-69)

LAUNCHES AR-1 and AR-2

Transducer Draft and Instrument corrections are in fathoms and tenths and apply to all Launch soundings of the survey. For more information see the Fathometer Correction Report OPR 424. The 0 in the first column of the TRA & INST CORR table indicates a positive correction.

TIME	TRA & VEL DAY
	INST TAB
	CORR

000000	00	0002	0002	273	0	000000	000000
200000	00	0002	0002	297	0	000000	000000

LIST OF SIGNALS ON H-9070 (MA 10-3-69)

<u>Number</u>	<u>Name</u>	<u>Origin of Signal</u>
072	ANN	T-12443
026	ANT	Form 251 Vol. 1*
094	ARM	ARM 1914
060	BAD	T-12444
044	BAG	T-10620
036	BAT	Form 251 Vol. 1*
005	BIG	T-10628
051	BOX	T-10620
007	BRO	BRON 1914
056	BUL	T-10621
049	BUK	Vol. 11 p. 17
066	BUT	T-12444
001	CAR	T-10628
015	COM	Vol. 1 p. 25
073	CON	T-12443
017	COP	Form 251 Vol. 1*
050	COW	T-10620
082	CRE	T-12444
021	DIF	Form 251 Vol. 1*
091	DOE	T-12443
077	DRI	DRIEST 1914
020	DUD	Form 251 Vol. 1*
028	DUM	Form 251 Vol. 1*
042	DUN	T-10620
038	EAR	T-10628
027	EDD	T-10628
054	EGO	T-10621
019	EVA	Form 251 Vol. 1*
089	FAL	T-12444
064	FAR	T-12444
080	FOG	T-12444
059	FOX	T-12444
079	GAS	T-12443
018	GET	Form 251 Vol. 1*
058	GIN	T-12444
048	GON	T-10620
016	HEX	Form 251 Vol. 1*
032	HIL	HILL 1964
037	HUB	T-10628
057	HUR	HURT 1964
025	ICE	Form 251 Vol. 1*
003	IRK	T-10628
069	JAP	T-12444
074	JAY	T-12443
034	JON	Form 251 Vol. 1*
014	JUG	Form 251 Vol. 1*
011	KEY	Form 251 Vol. 1*
012	KID	Form 251 Vol. 1*
052	KLY	H-9069
010	LAD	Form 251 Vol. 1*
090	LAY	T-12444
062	LEE	T-12444

<u>Number</u>	<u>Name</u>	<u>Origin of Signal</u>
086	LEM	LOCK 1964
033	LIZ	T-10628
031	LOG	Form 251 Vol. 1*
084	LUM	T-12444
047	LUV	T-10620
008	MAR	Form 251 Vol. 1*
071	MAX	T-12443
006	MET	Form 251 Vol. 1*
022	MOO	Form 251 Vol. 1*
004	MUG	Form 251 Vol. 1*
002	NIX	Form 251 Vol. 1*
009	OAK	T-10628
024	OFF	Form 251 Vol. 1*
055	PEK	H-9069
023	PIL	T-10628
092	PIN	SPIN 1914
068	PUP	T-12444
085	RED	T-12444
065	REK	T-12444
081	RIO	T-12444
035	RIP	Form 251 Vol. 1*
093	ROC	ROCK 1913
053	ROT	T-10621
075	RUN	T-12443
083	SAC	T-12444
061	SAN	T-12444
070	SEE	T-12443
043	SIC	T-10620
076	SIT	T-12443
078	SKE	T-12443
063	SOW	T-12444
088	SOX	T-12444
029	STA	Form 251 Vol. 1*
045	SUE	T-10628
067	TEL	T-12444
039	THY	T-10628
095	VIP	Vol. 1 p. 4
046	WAG	T-10620
087	WEE	T-12444
013	YAL	Vol. 1 p. 25
030	YEL	Form 251 Vol. 1*
040	YOR	T-10628
041	ZOT	T-10628

*Signals located by stadia-azimuth traverse or by cuts and/or distances from it. See form 251 Vol. 1 and computations mailed with boatsheet records. H9070 (MA 10-3-69)

ABSTRACT OF POSITION NUMBERS
on H-9070 (MA-10-3-69)

<u>Vessel</u>	<u>Day</u>	<u>Date</u>	<u>Julian Day</u>	<u>Positions</u>
Skiff	a	9/30/69	273	1-3
	b	10/6	279	4-7
	c	10/7	280	8-26
	d	10/8	281	27-28
	e	10/9	282	29-35
	f	10/20	293	36-49
	g	10/21	294	50-72
	h	10/22	295	73-88
	j	10/23	296	89-117
	k	10/24	297	118-124
	l	10/25	298	128-148
				Total 148
Launch AR-1	a	9/30	273	1000-1090
	b	10/1	274	1091-1247
	c	10/2	275	1248-1266
	d	10/5	278	1267-1324
	e	10/6	279	1325-1387
	f	10/7	280	1388-1487
	g	10/8	281	1488-1581
	h	10/9	282	1582-1779
	j	10/10	283	1780-1894
	k	10/16	289	1895-1902
	l	10/18	291	1906-1999
				5000-5078
	m	10/19	292	5079-5197
	n	10/20	293	5198-5347
	p	10/21	294	5348-5467
	q	10/22	295	5472-5623
	r	10/23	296	5624-5850
s	10/24	297	5851-5950	
			1997	
			4	
			907	
			1944	
Launch AR-2	a	10/7	280	2000-2129
	b	10/8	281	2130-2177
	c	10/9	282	2178-2462
	d	10/10	283	2462-2666
	e	10/13	286	2666-2741
	f	10/14	287	2742-2897
	g	10/15	288	2898-2972
	h	10/16	289	2973-4242
	j	10/17	290	4243-4392
	k	10/18	291	4393-4490
	l	10/19	292	4491-4627
	m	10/20	293	4635-4652
	n	10/21	294	4653-4726
	o	10/22	295	4727-4837
	p	10/23	296	(4838-4939)
	q	10/24	297	6000-6155
				6159-6217
			993	
			216	
			2208	

ABSTRACT OF POSITION NUMBERS
on H-9070 (MA-10-3-69)

<u>Vessel</u>	<u>Day</u>	<u>Date</u>	<u>Julian Day</u>	<u>Positions</u>
McARTHUR	A	9/16	259	3000-3134
	B	9/18	261	3135-3204
	C	9/20	263	3205-3557
	D	9/26	269	3558-3567
	E	10/10	283	3568-3584
	F	10/13	286	3585-3589
	G	10/14	287	3590-3723
	H	10/17	290	3724-3745
	J	10/21	294	3746-3773
	K	10/25	298	3774-3782

Total pos for sheet 5083

LIST OF BASIC FIELD RECORDS
TO ACCOMPANY
H-9070 (MA-10-3-69)

- 1 Boatsheet
- 1 Hydrographic signal overlay
- 23 Form # 275 sounding volumes
- 43 Envelopes of DE 723 fathograms
 - 2 Incomplete manuscript # T-10620, scale 1:10,000
 - 3 Incomplete manuscript # T-10621, scale 1:10,000
 - 2 Incomplete manuscript # T-10627, scale 1:10,000
 - 3 Incomplete manuscript # T-10628, scale 1:10,000
 - 2 Incomplete manuscript # T-12443, scale 1:10,000
 - 2 Incomplete manuscript # T-12444, scale 1:10,000
(manuscripts T-10627, T-10628, T-12443, and T-12444
were retained onboard for use during 1970 field season)
- 11 C&GS Form 733-M bottom sample log sheets
 - 1 Tide tape (1969) and 48 pages printout
 - 1 Form#1, parameters for digital computing Polyconic Projection
 - 1 Form # 251, Observation of Horizontal Directions
 - ~~32 Form # 116 Graph for tide reducers (fathoms), predicted tides~~
 - ~~36 Form # 116 Graph for tide reducers (fathoms), observed tides~~
 - 1 Revised signal tape & 2 pages printout
 - 1 Velocity tape & 1 page printout (sent with MA 10-2-69 H-9069)
 - 2 TC/TI tape & 2 pages printout
 - 3 Computation Sheets for Stadia-Azimuth Traverse
 - 1 Development overlay on tracing cloth
 - 4 Form # 25 Computation of Triangles

APPROVAL SHEET FOR
H 9070 MA 10-3-69

Field work on this survey was accomplished under my general supervision. Frequent inspections of the field data and boatsheet were made by me as the survey progressed. The sounding records have been inspected by me and are approved. This survey is complete and adequate and is hereby approved.

27 March 1970



Donald R. Tibbit
CDR, USESSA
Commanding Officer,
USC&GSS McARTHUR

- TRIANGULATION PLOTTER CARDS

H-NO.-		LATITUDE	LONGITUDE	X	Y	
09070	001	69 55082884	131435905	02623	00777	001
09070	002	69 55083091	131431620	03420	00844	002
09070	003	69 55083874	131431897	03369	01098	003
09070	004	69 55084644	131430920	03550	01348	004
09070	005	69 55085526	131431157	03506	01634	005
09070	006	69 55085879	131430751	03582	01749	006
09070	007	69 55090333	131431005	03535	01896	007
09070	008	69 55085872	131433218	03123	01747	008
09070	009	69 55084964	131434415	02900	01452	009
09070	010	69 55090055	131442055	02224	01808	010
09070	011	69 55090944	131442970	02054	02096	011
09070	012	69 55091879	131442440	02153	02400	012
09070	013	69 55092623	131442863	02075	02641	013
09070	014	69 55091701	131443998	01864	02342	014
09070	015	69 55090640	131444777	01718	01998	015
09070	016	69 55091125	131445404	01602	02156	016
09070	017	69 55083847	131452772	00975	01741	017
09070	018	69 55090611	131452168	01088	01990	018
09070	019	69 55091394	131450898	01324	02243	019
09070	020	69 55091908	131450232	01448	02410	020
09070	021	69 55092548	131445054	01668	02618	021
09070	022	69 55093670	131445970	01498	02982	022
09070	023	69 55093664	131443716	01917	02979	023
09070	024	69 55094715	131442079	02222	03321	024
09070	025	69 55094430	131441288	02369	03228	025
09070	026	69 55094754	131435292	02740	03332	026
09070	027	69 55094194	131435287	02741	03151	027
09070	028	69 55095216	131434027	02975	03482	028
09070	029	69 55100967	131431966	03359	04050	029
09070	030	69 55101834	131431333	03476	04332	030
09070	031	69 55102112	131431305	03482	04422	031
09070	032	69 55103040	131431136	03514	04723	032
09070	033	69 55104294	131431356	03473	05130	033
09070	034	69 55104311	131430446	03642	05135	034
09070	035	69 55105061	131430277	03674	05379	035
09070	036	69 55110023	131425284	03859	05691	036
09070	037	69 55111032	131433300	03113	06019	037
09070	038	69 55112477	131434177	02951	06489	038
09070	039	69 55112794	131433448	03086	06591	039
09070	040	69 55112561	131432001	03355	06516	040
09070	041	69 55112956	131431413	03464	06643	041
09070	042	69 55113175	131430554	03624	06715	042
09070	043	69 55112464	131430051	03717	06484	043
09070	044	69 55112477	131425663	03789	06488	044

09070	045	69	55111235	131425115	03890	06085	045
09070	046	69	55113518	131424347	04034	06826	046
09070	047	69	55114239	131423748	04145	07060	047
09070	048	69	55114977	131424743	03961	07299	048
09070	049	69	55115054	131424997	03913	07325	049
09070	050	69	55120763	131425891	03748	07880	050
09070	051	69	55121536	131431306	03485	08130	051
09070	052	69	55125125	131360973	11345	09295	052
09070	053	69	55124495	131354756	11757	09090	053
09070	054	69	55121989	131353172	12052	08277	054
09070	055	69	55120873	131352075	12256	07915	055
09070	056	69	55114624	131345466	12741	07185	056
09070	057	69	55113056	131344878	12851	06676	057
09070	058	69	55110918	131344566	12909	05982	058
09070	059	69	55105623	131342238	13342	05563	059
09070	060	69	55104906	131342396	13313	05329	060
09070	061	69	55104543	131341610	13459	05212	061
09070	062	69	55103942	131340542	13658	05017	062
09070	063	69	55103428	131340028	13753	04850	063
09070	064	69	55103159	131340893	13593	04763	064
09070	065	69	55103473	131341667	13449	04864	065
09070	066	69	55104139	131342933	13214	05080	066
09070	067	69	55104171	131343746	13062	05091	067
09070	068	69	55104365	131345012	12827	05153	068
09070	069	69	55105827	131345532	12730	05628	069
09070	070	69	55104711	131351599	12346	05265	070
09070	071	69	55104252	131351927	12286	05116	071
09070	072	69	55103699	131351435	12377	04936	072
09070	073	69	55103602	131352266	12223	04905	073
09070	074	69	55103932	131354464	11814	05012	074
09070	075	69	55105779	131361305	11286	05611	075
09070	076	69	55104042	131361407	11267	05047	076
09070	077	69	55103683	131361712	11211	04930	077
09070	078	69	55102610	131355170	11683	04582	078
09070	079	69	55100802	131351056	12448	03996	079
09070	080	69	55100964	131344683	12889	04049	080
09070	081	69	55100656	131341186	13539	03950	081
09070	082	69	55100013	131333248	14271	03742	082
09070	083	69	55095510	131334615	14018	03578	083
09070	084	69	55095588	131340158	13731	03603	084
09070	085	69	55094492	131342163	13358	03247	085
09070	086	69	55093117	131341790	13428	02801	086
09070	087	69	55091876	131334055	14123	02398	087
09070	088	69	55093082	131332688	14377	02790	088
09070	089	69	55094621	131331887	14525	03290	089
09070	090	69	55092277	131330712	14745	02529	090
09070	091	69	55085814	131350192	12611	01728	091
09070	092	69	55082264	131360519	11435	00574	092
09070	093	69	55082134	131330040	14872	00536	093

09070 094
09070 095
000095

69 55112267 131424228 04056 06419 094
69 55105096 131344046 13006 05391 095

OPR-424

"C" 03069

R.L. Newsom

McARTHUR

20 June 1969

5.480 ✓
7792.5

6,112,013.011 ✓

131 39 00

10,000

55 08 05 ✓
131 46 20

(10) Greatest Latitude	55	12	30
(11) Lowest Latitude	55	08	30
(12) Difference		4	00

(13) Greatest Longitude	131	46	00
(14) Lowest Longitude	131	32	30
(15) Difference		13	30

	0	30
	8	
	0	30
	27	

H
Field No. GRS 4241C
Date _____

PARAMETER CARD II AND III

03069

Semi major axis of the earth		6,378,206.4			
Y Constant - Distance from central meridian to origin of plotter SP 5					
Y Constant - Distance from equator to origin of plotter SP 241					
Central Meridian of Projection		13 1 3 7 0 0 0			
Plotter Scale/Survey Scale		1:6298.6876			
North/south axis of sheet - to correspond to (Y axis - 1) of plotter		1:12000			
Feet/Fathom Indicator		0 - feet 1 - fathom			
H Identification No.					
RDA	1 2 3 4 5 6 7 8 9 10				
YR	11 12 13 14 15 16 17 18 19 20				
YR	21 22 23 24 25 26 27 28 29 30				
YR	31 32 33 34 35 36 37 38 39 40				
YR	41 42 43 44 45 46 47 48 49 50				
YR	51 52 53 54 55 56 57 58 59 60				
YR	61 62 63 64 65 66 67 68 69 70				
YR	71 72 73 74 75 76 77 78 79 80				
YR	81 82 83 84 85 86 87 88 89 90				
YR	91 92 93 94 95 96 97 98 99 100				

POP - 1

PARAMETER CARD III

Lowest Lat. Intersection		5 5 0 5 3 0 0 0										YST		1 2 3 4 5 6 7 8 9 10	
Lowest Long. Intersection		1 3 1 3 2 3 0 0 0										YST		11 12 13 14 15 16 17 18 19 20	
Difference between Grid		3 0 0 0										DIX		21 22 23 24 25 26 27 28 29 30	
Interval (Long)												XSN		31 32 33 34 35 36 37 38 39 40	
Interval (Lat)												YSN		41 42 43 44 45 46 47 48 49 50	

Computed
Punched
Checked
Date

2/10/69

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, coarseness, dented cutter, free fall, stat. no., trigger core no., date extracted, disposition, etc.)	OBS. INIT.
		LATITUDE N	LONGITUDE W								
VESSEL <i>McARTHUR</i> CRUISE <i>OPR-424</i> NA <i>10-3-69</i> CHECKED BY DATE CHECKED											
3558	9/26/69	55° 12.05'	131° 41.9'	55 ⁹	75 lb	Surface	NA	NA	St cvs brs		
3559	"	55° 11.6'	131° 41.9'	42 ⁸	"	"	"	"	P gn M brk sh		
3560	"	55° 11.2'	131° 41.9'	32 ⁸	"	"	"	"	cvs brs St		
3561	"	55° 10.8'	131° 41.9'	32 ⁴	"	"	"	"	St gn M brk sh		
3562	"	55° 10.55'	131° 41.9'	42 ⁸	"	"	"	"	cvs brs P gn M brk sh		
3563	"	55° 10.2'	131° 42.05'	30 ²	"	"	"	"	gn M brk sh cvs brs P		
3564	"	55° 09.9'	131° 42.1'	24 ⁸	"	"	"	"	brk sh P gn M brk sh		
3565	"	55° 09.95'	131° 41.6'	58 ⁵	"	"	"	"	gn M fine gy s fine brs		
3566	"	55° 10.35'	131° 41.4'	87 ⁸	"	"	"	"	gn M fine gn s cvs brs brk sh		
3567	"	55° 10.7'	131° 41.2'	90 ⁶	"	"	"	"	Co brk sh		
3568	10/10/69	55° 10.87'	131° 41.19'		"	"	"	"	gn M brk sh		
3569	"	55° 11.16'	131° 41.16'		"	"	"	"	brk sh P brk sh P		
3570	"	55° 11.52'	131° 41.10'		"	"	"	"	Co gn RK gn M brk sh		
3571	"	55° 11.87'	131° 41.29'		"	"	"	"	gn M brs P cvs brs brk sh		
3572	"	55° 11.88'	131° 40.47'		"	"	"	"	gn M brk sh cvs brs brk sh		
3573	"	55° 11.55'	131° 40.6'		"	"	"	"	gn M brk sh cvs brs P		
3574	"	55° 11.22'	131° 40.65'		"	"	"	"	gn M brk sh cvs brs gn s		

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, core description, depth cutter, free fall, stat. no., trigger core no., date extruded, disposition, etc.)	OBS. INIT.
		LATITUDE N	LONGITUDE W								
3575	10/10/69	55° 10.78'	131° 40.85'	61	75 lb	Surface	NA	NA	gn M P crs gy S		
3576	"	55° 10.25'	131° 40.7'		"	"	"	"	gn M brk sh		
3577	"	55° 09.89'	131° 40.67'		"	"	"	"	gn M brk sh co		
3578	"	55° 09.83'	131° 39.9'		"	"	"	"	gn M co		
3579	"	55° 10.07'	131° 40.01'		"	"	"	"	gn M co		
3580	"	55° 10.47'	131° 40.09'		"	"	"	"	gn M brk sh		
3581	"	55° 10.92'	131° 39.82'		"	"	"	"	gn M brk sh		
3582	"	55° 11.22'	131° 39.81'		"	"	"	"	gn M fine gy S brk sh		
3583	"	55° 11.57'	131° 39.74'		"	"	"	"	gn M crs gy S		
3584	"	55° 11.84'	131° 40.16'		"	"	"	"	gn M rk G		
3586	10/13/69	55° 09.6'	131° 41.7'	103	"	"	"	"	crs gy S brk sh		
3587	"	55° 09.6'	131° 40.5'	59	"	"	"	"	gn M, brk sh co		
3588	"	55° 09.6'	131° 40.0'	81	"	"	"	"	gn M, brk sh brk sh co		
3589	"	55° 09.5'	131° 39.4'	84.2	"	"	"	"	gn M, brk sh brk sh co		

Use more than one line per sample if necessary.

SM 233M
2600

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE- TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, co- herency, dated cutter, free fall, silt, no., trigger core no., date extruded, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
AcArthur		092 029									
24	10-17 th	5511.50	13139.20	25-	75lbs	Storage	NA	NA	gmM, crs, qvs, S, Sh P, Co		
75	10-25			25-28							
3725	10-17	5511.55	13139.47	25.8	75lbs				gmM, crs, qvs, P, Co, g		
3726	10-17	5511.17	13139.54	44.0	75lbs				gmM, fine qvs, Sh		
3727	10-17	5510.43	13139.43	43.0	75lbs				gmM, fine qvs, P, Rk, Sh, M ABIME LIFE		
3728	10-17	5510.23	13139.51	56.9	75lbs				fine qvs, gmM, P, Sh, M, ABIME LIFE, Rk		
3729	10-17	5510.40	13139.50	85.-	75lbs				Rk, gmM, fine qvs, M, ABIME LIFE		
3730	10-17	5512.01	13139.37	76.7	75lbs				fine qvs, gmM, Co, M, ABIME LIFE		
3731	10-17	5509.83	13139.40	69.5	75lbs				gmM, fine qvs, Rk, Sh, G, gyM		
3732	10-17	5509.41	13138.93	37.5	75lbs				gmM, fine qvs, Rk, Sh, G, gyM		
3733	10-17	5509.73	13139.86	49.2	75lbs				gmM, fine qvs, S, brk Sh, G, Rk		
3734	10-17	5510.02	13138.76	56.5	75lbs				Co, gmM, fine qvs, G, M, ABIME LIFE, Sh		
3735	10-17	5510.39	13138.75	81.-	75lbs				gmM, fine qvs, Sh, G, M, ABIME LIFE, Co		
3736	10-17	5510.83	13138.69	66.1	75lbs				gmM, fine qvs, Rk, Sh, crs, qvs		
3737	10-17	5511.27	13138.70	34.5	75lbs				gmM, crs, qvs, G, Sh, crs, qvs		
3738	10-17	5511.44	13138.74		75lbs				gmM, crs, qvs, G, crs, qvs		
3739	10-17		131		75lbs						

Fill more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, coarseness, dented cutter, free fall, stat. no., trigger core no., date extended, disposition, etc.)	OBS. INIT.
		LATITUDE N	LONGITUDE W								
<p>McARTHUR OPR-424 Boat sheet MA 10-3-69</p>											
3746	10/21/69	55° 09.50'	131° 38.24'	28 2	75 lb	Surface	NA	NA	RK P gn M crs S brk Sh		
3747	"	09.70	38.31	34 5	"	"	"	"	gn M fine gy S Sh		
3748	"	10.04	37.93	60 5	"	"	"	"	RK P G Sh gn M crs gy S		
3749	"	10.49	38.09	55 5	"	"	"	"	gn M crs gy S crs gy S Sh		
3750	"	10.74	37.97	71 4	"	"	"	"	fine gy S gn M brk Sh		
3751	"	11.07	38.08	60 6	"	"	"	"	gn M gy S Sh RK P		
3752	"	11.34	38.12	29 5	"	"	"	"	RK P G gn M S Sh		
3753	"	11.60	38.28	28 4	"	"	"	"	S gn M brk Sh G P		
3754	"	11.84	37.98	34 2	"	"	"	"	RK P G brk Sh gn M fine S		
3755	"	12.15	38.28	47 2	"	"	"	"	P G gy gn M fine gy S brk Sh		
3756	"	12.13	37.67	51 4	"	"	"	"	M Co RK P G Sh		
3757	"	11.66	37.48	35 2	"	"	"	"	gn M S P RK G Sh		
3758	"	11.23	37.70	43 1	"	"	"	"	RK P gn M S Sh Co		
3759	"	10.81	37.63	76 2	"	"	"	"	Stk gn M brk Sh		
3760	"	10.21	37.61	70 2	"	"	"	"	gn M P RK G brk Sh		
3761	"	09.87	37.72	46 2	"	"	"	"	gn M crs gy S P G		
3762	"	09.67	37.25	35 3	"	"	"	"			

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	AP- PROX. FATHOM POSITION	LENGTH OF CORE	COLOR OF SEDIMENT	FIELD DESCRIPTION	REMARKS (Unusual conditions, cohesion, lamination, etc., cutler, dist. no., type of bottom, relief, etc.)
		LATITUDE N	LONGITUDE W							
3763	10/21/69	55° 09.90'	131° 37.03'	50.5	75 lb	Surface	NA	NA	gn M P gy S G	
3764	"	10.14	86.98	59.1	"	"	"	"	stl gn M RK P G brk sh Bids	
3765	"	10.48	37.03	59.4	"	"	"	"	gn M brk sh sh	
3766	"	10.67	37.08	48.2	"	"	"	"	stl gn M P RK	
3767	"	10.96	37.11	51.8	"	"	"	"	Co gn M S P RK sh	
3768	"	11.33	37.09	78.3	"	"	"	"	gn M S sh Co RK P G	
3769	"	11.53	36.65	84.2	"	"	"	"	gn M S RK P G brk sh	
3770	"	11.58	36.11	58.2	"	"	"	"	stl gn M Co S brk sh	
3771	"	11.84	35.77	71.4	"	"	"	"	brk sh sh stl gy M	
3772	"	11.93	36.33	66.1	"	"	"	"	stl gn M P brk sh	
3773	"	11.82	36.92	60.2	"	"	"	"	G gn M S RK	
3774	10/25/69	10.06	36.44	56.8	"	"	"	"	gn M RK sh fine gy S	
3775	"	09.56	41.11	87.3	"	"	"	"	gn M sh fine gy S brk sh	
3776	"	09.57	42.63	26.2	"	"	"	"	gn M brk sh fine gy S wd P st	
3777	"	09.09	42.03	74.5	"	"	"	"	gn M G st Bids gy S	
3778	"	09.21	41.02	81.2	"	"	"	"	gn M Co fine gy S brk sh	
3779	"	09.20	40.34	89.2	"	"	"	"	gn M Co gy S	

See more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

U.S. DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE- TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, co- hesiveness, dried cutter, free fall, silt, no. of trigger corrs, etc., date extruded, disposition, etc.)	OBS. INIT.
		LATITUDE N	LONGITUDE W								
3780	10/25/69	55° 08.63'	131° 46.31'	118.7	75 lbs	Surface	NA	NA	gn M Co. P crs brk S		
3781	"	08.93	41.06	72.9	"	"	"	"	gn M Co. P crs brk S		
3782	"	08.27	42.11	81.1	"	"	"	"	gn M Co. P crs brk S		

Use more than one line per sample if necessary.

McNESTRE

CRP-424

Boat Sheet

MA 10-3-69

CHECKED BY

DATE CHECKED

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE- TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, co- hesiveness, deated cutter, free fall, strat. no., trigger core no., date extended, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
4635	200679	55° 08' 21" N	131° 36' 25" W	24.2	7 lb	N/A	N/A	N/A	P. brk sh		
4636	"	55° 08' 33" N	131° 36' 30" W	30.9	"	"	"	"	CRY Bottom	def. rework of box	
4637	"	55° 08' 20" N	131° 35' 20" W	9.6	"	"	"	"	CRY Bottom	" " " "	
4638	"	55° 08' 22" N	131° 35' 03" W	8.7	"	"	"	"	brk. Sh. P.	" " " "	
4639	"	55° 08' 23" N	131° 33' 93" W	7.5	"	"	"	"	Wd. nrd Bottom	" " " "	
4640	"	55° 08' 01" N	131° 33' 37" W	24.3	"	"	"	"	br. M. brk Sh	" " " "	
4641	"	55° 09' 15" N	131° 33' 90" W	5.0	"	"	"	"	Wd. brk Sh. P.	" " " "	
4642	"	55° 08' 39" N	131° 34' 55" W	8.1	"	"	"	"	P. brk Sh	" " " "	
4643	"	55° 09' 37" N	131° 35' 105" W	1	"	"	"	"	CRY Bottom brk Sh	" " " "	
4644	"	55° 09' 48" N	131° 35' 24" W	9.8	"	"	"	"	P. brk Sh	" " " "	
4645	"	55° 09' 47" N	131° 36' 33" W	10.5	"	"	"	"	P. brk Sh	" " " "	
4646	"	55° 09' 41" N	131° 36' 19" W	29.3	"	"	"	"	P	" " " "	
4647	"	55° 09' 06" N	131° 36' 53" W	23.1	"	"	"	"	P. brk Sh Co	" " " "	
4648	"	55° 09' 05" N	131° 36' 35" W	11.0	"	"	"	"	brk. had Bottom	" " " "	
4649	"	55° 09' 07" N	131° 35' 57" W	16.5	"	"	"	"	P. brk Sh	" " " "	
4650	"	55° 09' 36" N	131° 34' 44" W	5.2	"	"	"	"	P. Wd Shrimps	" " " "	
4651	"	55° 09' 45" N	131° 33' 24" W	17.8	"	"	"	"	br. m. P.	" " " "	

Use more than one line per sample if necessary.

CRUISE: APR-72 4 m DAY
 CHECKED BY: USC & CGS McKeeney OPR-424 MA 10-3-69
 DATE CHECKED:

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENETRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, re-assignment, dented cutter, free fall, stat. no., trigger core no., date extruded, disposition, etc.)	OBS. UNIT
		LATITUDE	LONGITUDE								
4652	30 OCT 68	55° 09' 27"	131° 33' 45"	13.5	7 lbs	N/A	N/A	N/A	gy. m. fine gy. S		
H700	31 OCT 68	55° 11' 23"	131° 35' 28"	33.8	"	"	"	"	gn. m. fine gy. S - P		
4701	"	55° 11' 55"	131° 35' 04"	24.7	"	"	"	"	gn. m. W. & P.		
4702	"	55° 11' 29"	131° 34' 33"	13.7	"	"	"	"	fine gy. S brk sh. gn. m. P		
4703	"	55° 11' 28"	131° 35' 58"	9.2	"	"	"	"	W. brk sh. P.		
4704	"	55° 11' 55"	131° 35' 55"	30.5	"	"	"	"	brk bottom	NOT ENOUGH TO KED	
4705	"	55° 11' 26"	131° 36' 59"	25.5	"	"	"	"	3 cks. gn. m. fine gy. S		
4706	"	55° 11' 00"	131° 35' 77"	20.6	"	"	"	"	P. brk sh. W. & D.		
4707	"	55° 10' 49"	131° 35' 39"	8.3	"	"	"	"	brk sh. fine gy. S. Co. P.		
4808	"	55° 10' 28"	131° 35' 17"	10.9	"	"	"	"	brk sh. P.		
4709	"	55° 10' 46"	131° 35' 58"	11.6	"	"	"	"	gn. m. fine gy. S. W. & D.		
4710	"	55° 11' 04"	131° 34' 49"	9.2	"	"	"	"	fine gy. S. - gn. m. brk sh.		
4711	"	55° 10' 43"	131° 34' 55"	18.2	"	"	"	"	brk sh. P.		
4712	"	55° 10' 38"	131° 34' 69"	7.0	"	"	"	"	brk sh. P. - fine gy. S. W. & D.		
4713	"	55° 10' 62"	131° 34' 14"	2.3	"	"	"	"	W. & D. - brk sh. - gn. m.		
4714	"	55° 10' 3"	131° 34' 17"	4.4	"	"	"	"	P.		
4715	"	55° 10' 21"	131° 34' 6"	11.9	"	"	"	"	brk sh. W. & D.		

Use more than one line per sample if necessary.

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE- TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, cor- ness, bent, distorted, cutter, free fell, start, no., trigger code, no., date extended, disposition, etc.)	OBS. INIT.
		LATITUDE	LONGITUDE								
4716	21 OCT 61	55° 10.7'	131° 36.52'	31.0	7.48	N/A	N/A	N/A	brk. Sh. RRS		
4717	"	55° 10.48'	131° 34.77'	35.0	"	"	"	"	P. wd.		
4718	"	55° 10.36'	131° 09.4'	6.7	"	"	"	"	brk. Sh. RRY		
4719	"	55° 10.11'	131° 03.60'	10.9	"	"	"	"	gn. m. energy S. P		
4720	"	55° 10.02'	131° 35.20'	4.0	4.1	"	"	"	RRY		
4721	"	55° 10.07'	131° 34.66'	8.8	"	"	"	"	energy S. gn. m.		
4722	"	55° 10.0'	131° 34.22'	9.3	1.1	"	"	"	energy S - gn. m.		
4723	"	55° 09.72'	131° 34.60'	12.0	"	"	"	"	P. RRY.		
4724	"	55° 09.65'	131° 35.79'		"	"	"	"	P. brk. Sh.		
4725	"	55° 09.83'	131° 35.75'	83.0	"	"	"	"	hd. Bottom		
4726	"	55° 09.05'	131° 35.19'	1.6	"	"	"	"	Sh. S. WD.		
6199	24 OCT 61	55° 09.40'	131° 52.82'	16.6	1.1	"	"	"	fine gy. S brk. Sh. gn. m.		
6200	24 OCT 61	55° 09.61'	131° 32.45'	23.5	1.1	"	"	"	fine gy. S, brk. Sh., WD gn. m. P		
6201	"	55° 09.91'	131° 32.75'	32.0	"	"	"	"	gn. m. P		
6202	"	55° 09.17'	131° 32.40'	5.9	"	"	"	"	fine gy. S, brk. Sh., P		
6203	"	55° 09.11'	131° 39.15'	23.2	"	"	"	"	P		
6204	"	55° 09.75'	131° 38.87'		"	"	"	"	P 1 worm		

Use more than one line per sample if necessary.

APR 1964

OCEANOGRAPHIC LOG SHEET - M
BOTTOM SEDIMENT DATA

SERIAL NO.	DATE	SAMPLE POSITION		DEPTH (Fathoms)	WEIGHT OF SAMPLER	APPROX. PENE- TRATION	LENGTH OF TUBE	LENGTH OF CORE	FIELD DESCRIPTION	REMARKS (Unusual conditions, co- astiveness, dented cutter, free fall, stat. no., trigger code, no., date extended, disposition, etc.)	OBS. INIT
		LATITUDE	LONGITUDE								
6205	240619	55°05.5'	131°35.4'	25.5	7.52	N/A	N/A	N/A	brk sh. wd		
6206	"	55°08.24'	131°42.86'	19.3	"	"	"	"	sh. brk sh		
6207	"	55°08.03'	131°42.80'	18.8	"	"	"	"	gn M, brk sh, fine g S		
6218	"	55°10.26'	131°43.32'	3.0	"	"	"	"	gn M, brk sh, P, + G		
6219	"	55°10.90'	131°43.14'	5.8	"	"	"	"	P, brk sh, + wd.		
6211	"	55°10.50'	131°42.29'	13.5	"	"	"	"	gn. M, fine g S, brk sh		
6212	"	55°11.38'	131°42.42'	13.5	"	"	"	"	Reg		
6213	"	55°10.94'	131°42.48'	17.7	"	"	"	"	Pr, + wd.		
6214	"	55°10.66'	131°42.35'	14.0	"	"	"	"	gn. M, fine g S, brk sh		
6215	"	55°10.28'	131°42.42'	23.6	"	"	"	"	brk sh, + wd.		
6216	"	55°10.10'	131°43.02'	12.3	"	"	"	"	brk.		
6217	"	55°09.97'	131°42.56'	27.2	"	"	"	"	gn. M, brk sh, fine g S, P		

Use more than one line per sample if necessary.

FORM C&GS-946
(REV. 11-66)
(PREC. BY
HYDROGRAPHIC
MANUAL 20-2,
6-64, 7-13)

U.S. DEPARTMENT OF COMMERCE
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION
COAST AND GEODETIC SURVEY
NAUTICAL CHART DIVISION

HYDROGRAPHIC SURVEY STATISTICS
HYDROGRAPHIC SURVEY NO. H-9070

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

RECORD DESCRIPTION		AMOUNT	RECORD DESCRIPTION		AMOUNT	
SMOOTH SHEET BOAT SHEET		/	BOAT SHEETS		POINT SHEET	
DESCRIPTIVE REPORT		/	OVERLAYS		2	
DESCRIPTION	DEPTH RECORDS	HORIZ. CONT. RECORDS	PRINTOUTS	TAPE ROLLS	PUNCHED CARDS	ABSTRACTS/SOURCE DOCUMENTS
ENVELOPES						
CAHIERS	1					
VOLUMES	23					
BOXES						
T-SHEET PRINTS (List)						
T-10620 T-10621 T-10622 T-10628 T-12443 T-12444						
SPECIAL REPORTS (List)						

OFFICE PROCESSING ACTIVITIES

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

PROCESSING ACTIVITY	AMOUNTS			
	PRE-VERIFICATION	VERIFICATION	REVIEW	TOTALS
POSITIONS ON SHEET				4989
POSITIONS CHECKED		4989		
POSITIONS REVISED		397		
DEPTH SOUNDINGS REVISED		276		
DEPTH SOUNDINGS ERRONEOUSLY SPACED		169		
SIGNALS ERRONEOUSLY PLOTTED OR TRANSFERRED				
	TIME (MANHOURS)			
TOPOGRAPHIC DETAILS		73		
JUNCTIONS		69		
VERIFICATION OF SOUNDINGS FROM GRAPHIC RECORDS		511		
SPECIAL ADJUSTMENTS				
ALL OTHER WORK		220		
TOTALS		873		
PRE-VERIFICATION BY		BEGINNING DATE	ENDING DATE	
VERIFICATION BY <i>Meredith H. Sanders</i>		BEGINNING DATE	ENDING DATE	
REVIEW BY		BEGINNING DATE	ENDING DATE	
		11-16-70	12-4-72	

VERIFIER'S REPORT
HYDROGRAPHIC SURVEY, H 9070

INSTRUCTIONS - This form serves to identify items of a check list in verification together with items which are separately reported to the Reviewer. The form is not to be forwarded to the Reviewer. A report, which is prepared for the Reviewer, should identify items by number and letter and will be filed in the Descriptive Report until the survey is reviewed.

CL - Check List Items: should be checked as having been completed during the verification processes.

R - Report Item: This column refers to those items reported to the reviewer and is used to indicate the items discussed.

Part I - DESCRIPTIVE REPORT	CL	R	Part III - JUNCTIONS (Continued)	CL	R
<p>Note: The verifier should first read the Descriptive Report for general information and problems.</p> <p>1. The Descriptive Report was consulted, paragraphs checked if found satisfactory, and notations were made in soft black pencil regarding action taken. Remarks Required: -- None</p>	✓		<p>10. Junctions with contemporary surveys were satisfactory except as follows: Remarks Required: -- Consider conditions after adjustments have been made; note adjustments made. Make special notes of Butt junctions and areas which are SUPERSEDED.</p>	✓	
<p>2. Soundings originating with the survey and mentioned in the Descriptive Report have been verified and checked in soft black pencil, including latitude and longitude, together with position identification. Remarks Required: -- None</p>	✓		<p>Part IV - VOLUMES</p> <p>11. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken and exceptions noted in the volumes. Remarks Required: -- None</p>	✓	
<p>3. All reference to survey sheets mentioned in the Descriptive Report should include registry number and year. Remarks Required: -- None</p>	✓		<p>12. Condition of sounding records was satisfactory except as follows: Remarks Required: -- Mention deficiencies in completeness of notes or actions for the following: (a) rocks (b) line turns (c) position values of beginning and ending of lines (d) bar check or velocity correctors (e) time recording (f) notes or markings on fathograms (g) was reduction of soundings accurately done? (h) was scanning accurate? (i) were peaks at uneven intervals missed? (j) were stamps completed? (k) references to adjacent features</p>	✓	
<p>Part II - SHORELINE AND SIGNALS</p> <p>4. Source of shoreline signals Remarks Required: -- List all surveys a. Give earliest and latest dates of photographs b. Field inspection date c. Field Edit date d. Reviewed-Unreviewed</p>	✓				
<p>5. The transfer of contemporary topographic information was carefully examined and reconciled with the hydrography. Remarks Required: -- Discuss remaining differences.</p>	✓				
<p>6. The plotting of all triangulation stations, topographic stations and hydrographic signals has been checked and noted in processing stamp No. 42 on the smooth sheet. Remarks Required: -- None</p>	✓				
<p>7. Objects on which signals are located and which fall outside of the high-water line have been described on the sheet. Remarks Required: -- List those signals still unidentified.</p>	✓		<p>Part V - PROTRACTING</p> <p>13. All positions verified instrumentally were check marked in color in the sounding records, and verifier initialed the processing stamp. Remarks Required: -- None</p>	✓	
<p>Part III - JUNCTIONS</p> <p>Note: Make a cursory comparison preliminary to inking soundings in area of overlap.</p>	✓		<p>14. The protracting and plotting of all unsatisfactory crossings were verified. Remarks Required: -- None</p>	✓	
<p>8. All junctions of contemporary or overlapping sheets were transferred in colored ink and overlapping curves were made identical. Remarks Required: -- None</p>	✓		<p>15. All detached positions locating critical soundings, rocks, buoys, breakers, obstructions, kelp, etc., were verified and the position numbers are legible. Remarks Required: -- None</p>	✓	
<p>9. The notation in slanted lettering "JOINS H--- (19)" was added in colored ink for all verified contemporary adjoining or overlapping sheets. Those not verified are shown in pencil. Remarks Required: -- None</p>	✓				

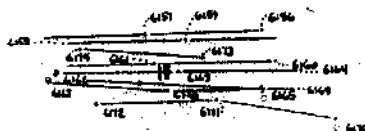
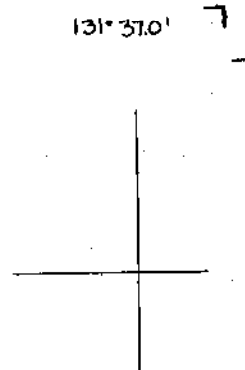
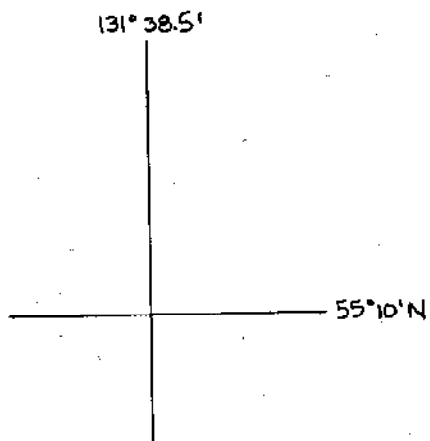
Part V - PROTRACTING (Continued)	CL	R	Part VIII - AIDS TO NAVIGATION	CL	R
16. The protracting was satisfactory except as follows: Remarks Required: -- Refers to protracting in general except for specific faults repeated often, or faults in control information, which required considerable replotting or adjustments.	✓		26. All fixed aids located together with those on the contemporary topographic sheets, have been shown on the survey. Remarks Required: -- Conflicts of any nature listed.	✓	
17. The protractor has been checked within the last three months. Remarks Required: -- Date of check, type of protractor and number.	✓		27. All floating aids listed in the Descriptive Report should be verified and checked in soft black pencil, including latitude and longitude and position identification. Remarks Required: -- None	✓	
Part VI - SOUNDINGS 18. All soundings are clear and legible, and critical soundings are a little larger than adjacent soundings. Remarks Required: -- None	✓		Part IX - BOATSHEET 28. The boat sheet was constantly compared with the smooth sheet with reference to notes, position of sounding lines and supplemental information. Remarks Required: -- None	✓	
19. Sounding line crossings were satisfactory except as follows: Remarks Required: -- Discuss adjustments.	✓		29. Heights of rocks awash were correctly reduced and compared with topographic information. Remarks Required: -- Note excessive conflicts with topographic information.	✓	
20. The spacing of soundings as recorded in the records was closely followed; Remarks Required: -- None	✓		Part X - GENERAL 30. All information on the sheet is shown in accordance with figures 82 and 83 in the Hydrographic Manual (Pub. 20-2). Remarks Required: -- None	✓	
21. The scanning, reduction, spacing, plotting of questionable soundings have been verified. Remarks Required: -- None	✓		31. Unnecessary pencil notes have been removed from the sheet. Remarks Required: -- None	✓	
22. The smooth plotting of soundings was satisfactory except as follows: Remarks Required: -- Refer to legibility, errors in spacing, and errors in numbers - but not to errors in scanning.	✓		32. Degree, minute values and symbols have been checked; also electronic distance arcs have been properly identified and checked on the smooth sheet. Remarks Required: -- None	✓	
Part VII - CURVES 23. The depth curves have been inspected before inking. Remarks Required: -- By whom was the penciled curves inspected.	✓		33. The bottom characteristics are adequately shown. Remarks Required: -- None	✓	
24. The low-water line and delineation of shoal areas have been properly shown in accordance with the following: a. From T-Sheet in dotted black lines b. From soundings in orange c. Approximate position of sketched curve is dashed orange d. Approximate position of shoal area not sounded in black dashed Remarks Required: -- None	✓		Part XI - NOTES TO THE REVIEWER 34. Unresolved discrepancies and questionable soundings.	✓	
25. Depth curves were satisfactory except as follows: (This statement should not refer to the manner in which the curves were drawn). Remarks Required: -- Indicate areas where curves could not be drawn completely because of lack of soundings. For some inshore areas a general statement is sufficient.	✓		35. Notation of discrepancies with photogrammetric survey inserted in report of unreviewed photogrammetric survey or on copy.	✓	
36. Supplemental information.	✓			✓	

Verified by

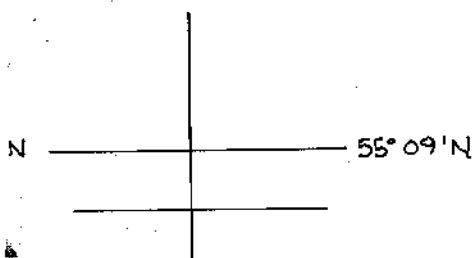
Matthew R. Sanders

Date

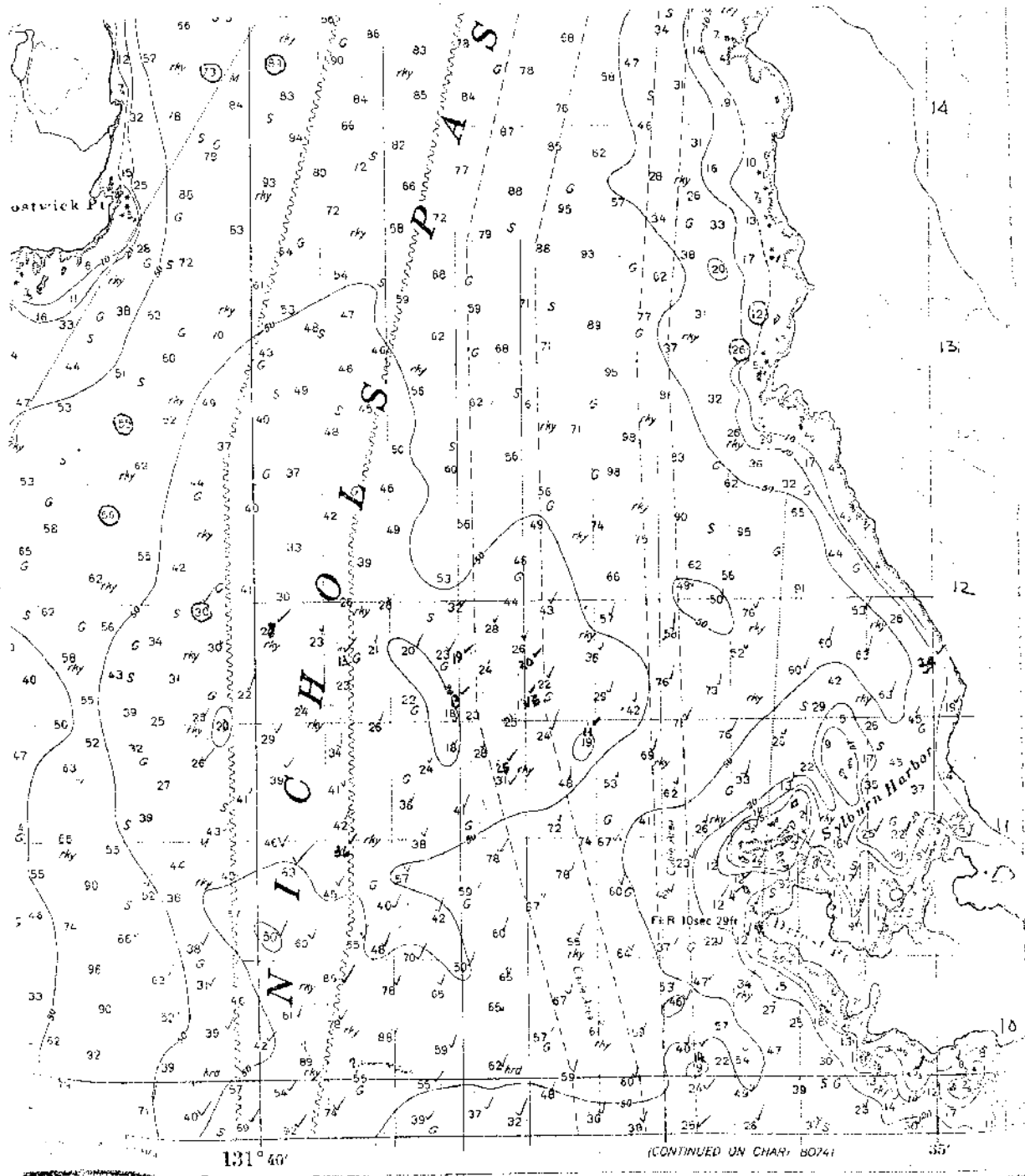
4 December 1972



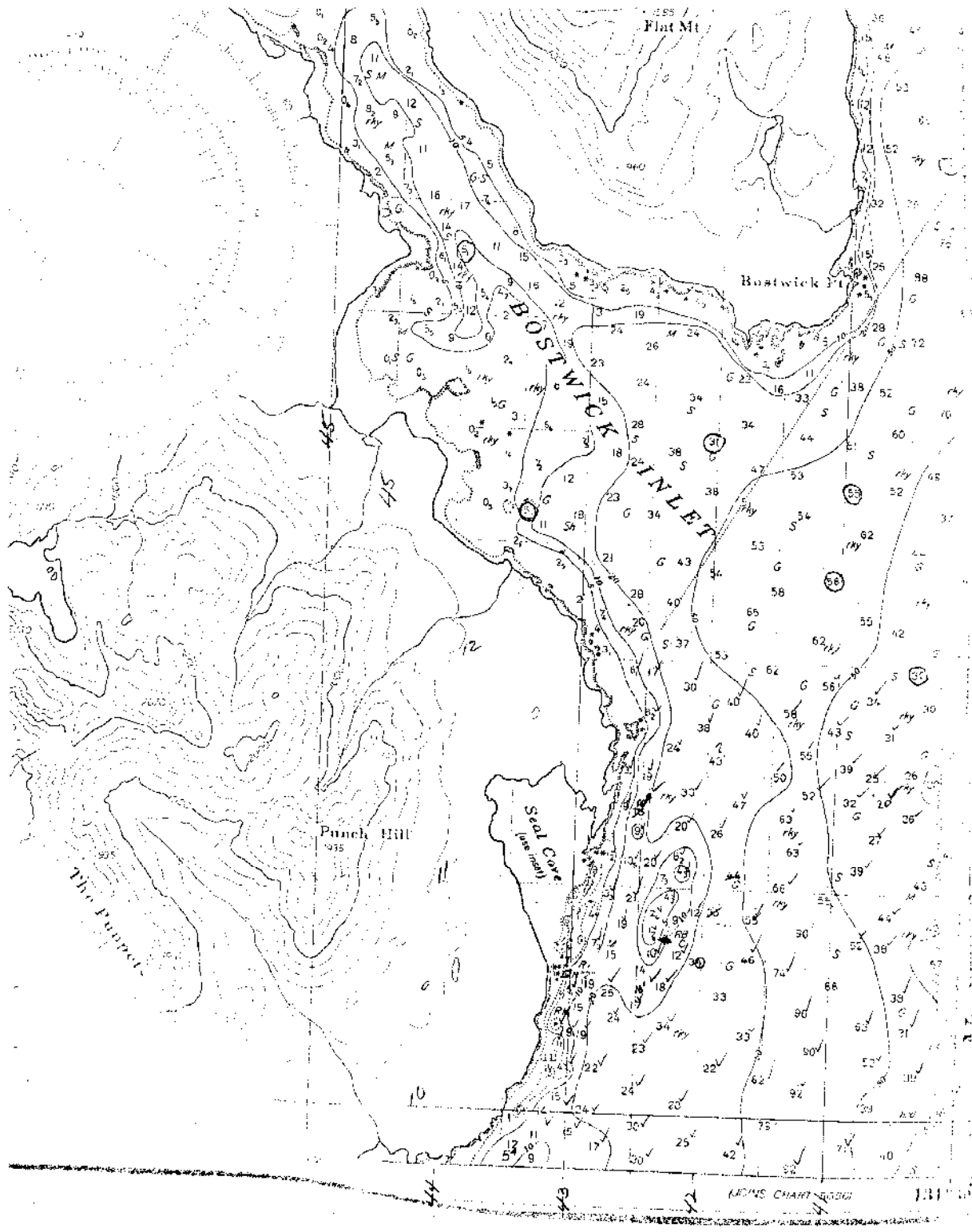
30 min search with fathometer
 for shallowest depth on 24 Oct. 1969
 - shallowest depth 18 fm*, between
 pos * 6162 & 6163
 page 36, Vol. *
 MA 10-3-69

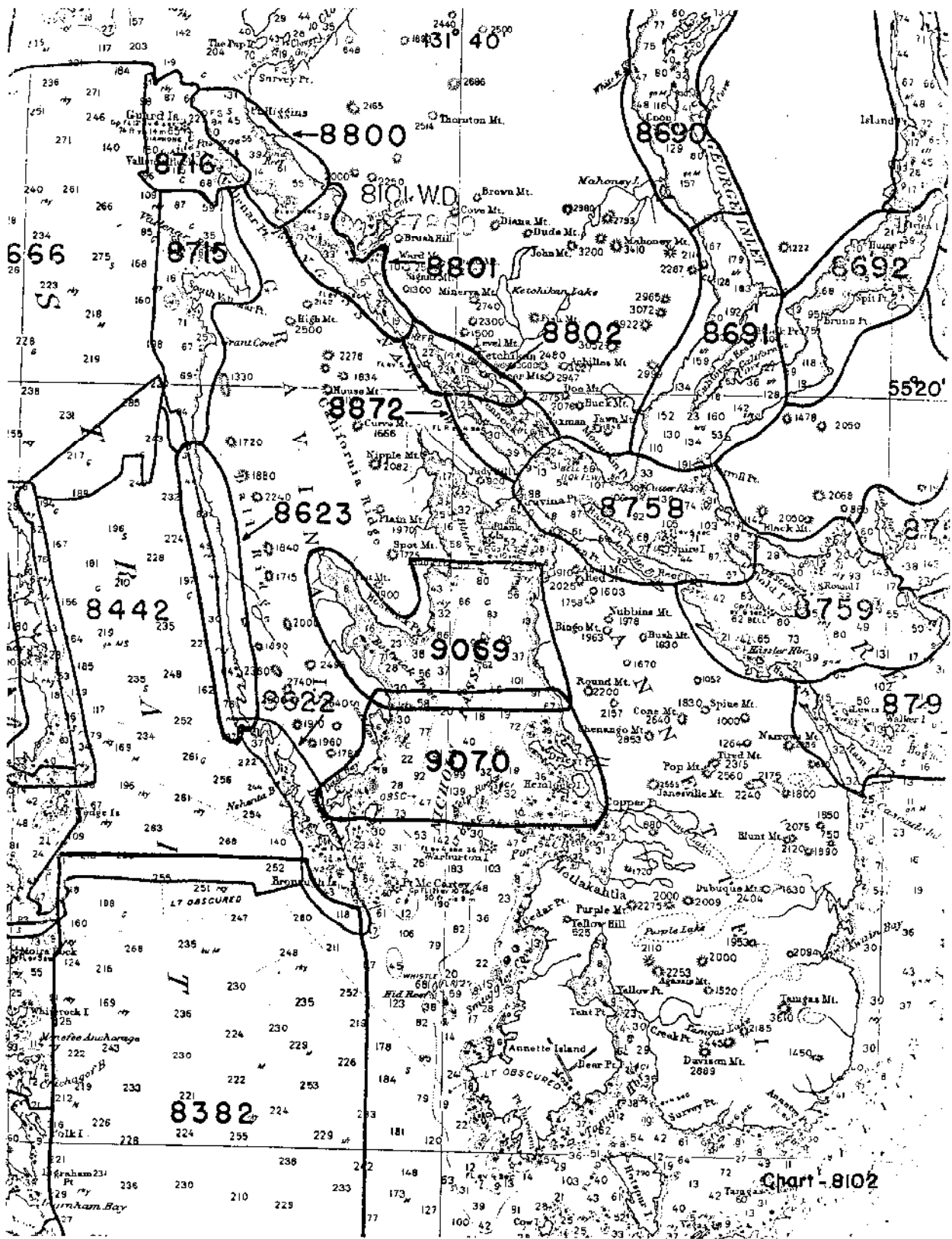


* This depth does not include
 additional -2 fm depth to
 compensate for transducer
 draft as indicated by bar
 check results.



15
 CHART
 THE





RECORD OF APPLICATION TO CHARTS

FILE WITH DESCRIPTIVE REPORT OF SURVEY NO. H-9070

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
8074	2/22/73	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. ² <i>App'd critical corrections only</i>
8080	2/23/73	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. ³ <i>App'd critical corrections only (in part via cht 8074)</i>
8086	2/23/73	E. Frey	Full Part Before After Verification Review Inspection Signed Via Drawing No. ⁴ <i>App'd critical corrections only</i>
8075	4/4/73	James Grzham	Full Part Before After Verification Review Inspection Signed Via Drawing No. ¹⁴ <i>Applied misc corr. thru chts. 8074 dup #8, 8080 dup #3, and 8086 dup #4</i>
8102	6/16/73	E. FREY	Full Part Before After Verification Review Inspection Signed Via Drawing No. <i>App'd misc corrections thru cht 8075 dno # 14</i>
8075	7/6/78	R. S. Hoese	Full Part Before After Verification Review Inspection Signed Via Drawing No. ¹⁶ <i>Final application of category I, no corr. Final apply as time permits</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.
			Full Part Before After Verification Review Inspection Signed Via Drawing No.