

Field Tide Note
Hagemeister Island, Alaska
Station Number 946-5089
June to August, 1988

Field tide reduction of sounding data for survey H-10277 was based on predicted tides from Hagemeister Island, Alaska (946-5089), and corrected to the survey area. Tide correctors were interpolated by PDP/8e computer using AM 500.

The calculated correctors shown below were based on preliminary zone correctors specified by project instructions.

<u>Survey</u>	<u>Time Correction</u>		<u>Height Correction</u>
	<u>High Water</u>	<u>Low Water</u>	<u>Range Ratio</u>
H-10277	-0h 40m	-0h 30m	x 1.03

All times of predicted and reported tides are expressed in Coordinated Universal Time. Predicted tides were inadequate for hydrography due to discrepancies in the raw data attributed to tidal errors.

Two Bristol Gas-Purged Pressure Recording Tide Gages, Model 15 (gage A s/n 67A10294, gage B s/n 64A11028), range 0 to 30 feet, were installed in support of survey H-10277. Location and dates of operation are as follows:

<u>Site</u>	<u>Location</u>	<u>Dates of Operation</u>
Hagemeister Island, Alaska	58°33.4'N 161°00.2'W	June 19 to August 18

Hagemeister Island

The tide gages, staff and orifices were installed at Hagemeister Island, Alaska, on June 19. A three-hour observation on June 20 confirmed consistent gage-to-staff differences. Data collection began on June 20 at 1820 and continued until August 18 at 2341, when both gages were removed. The staff and orifices were left due to time and weather constraints.

Due to the gap in the tidal record from August 12 to August 13 at Hagemeister Island (while relocating the orifices), it is recommended that High Island (946-5173) be used as the control station for hydrography run during this period.

Gage A was consistently slow, as much as 1 hour 25 minutes on July 8. On August 9 the stylus was found to be out of adjustment; from August 3 at 1800 to August 9 at 1825 subtract 0.6 ft from the tidal record for accurate tides.

Gaps in the tidal record of approximately three days or more occurred on Gage B during the following periods:

July 17 at 1955 to July 20 at 1810 (paper jammed)

July 23 at 0655 to August 3 at 1800 (paper jammed)

August 9 at 1915 to August 14 at 0058 (chart drive stopped)

Both traces show the effects of a severe storm from August 4 at 0000 to August 6 at 2000. Storm surge moved the orifices on August 10 at approximately 0300. Divers secured the orifices on August 13 and new records begin on August 14 at 0058. A three-hour observation was started on August 13 at 2200 but was not finished due to the divers inspection and relocation of the orifices. Subsequent weather conditions precluded any further three-hour comparisons. The final gage-to-staff difference is determined from one comparison on August 14 at 0125.

Due to the storm surge that moved the orifices on August 10 and time taken to relocate the orifices and determine new gage-to-staff differences, gaps occur in both tidal records from August 10 at 0300 to August 14 at 0058.

The area surrounding the tide staff filled with sand to the point where it was necessary to level to the water's edge for gage-to-staff comparisons. Levels to the water's edge agreed to within 0.5 feet from July 20 to August 9, which is acceptable considering the surge and surf conditions at the gage site. From June 19 to August 10 at 0300 the zero mark on the tide staff corresponds to 14.7 feet on gage A, 14.4 feet on gage B; from August 14 at 0058 to the end of record, 15.2 feet on gage A, 15.0 feet on gage B.

Levels

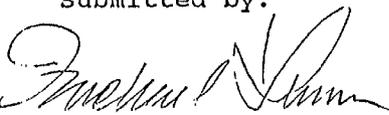
Only four benchmarks were established due to steep terrain and unstable rock, and only three marks were connected on the closing run due to a landslide that covered benchmark "F." The comparison between opening and closing level runs of the remaining three benchmarks indicates no significant staff movement.

Zoning Recommendations

Tidal zoning was inaccurate for the survey area and should be revised. Due to the complexity of the tides in this area, however, an accurate analysis is beyond the scope of this report, and no recommendations are offered.

Approval

Submitted by:



Michael Lemon
Ensign, NOAA

Reviewed by:



Paul J. Ruiz
Lieutenant, NOAA
Field Operations Officer (Acting)

Date:

6 SEP 88

Field Tide Note
 Larger of Twin Islands, Alaska
 Station Number 946-5116
 July to August, 1988

Field tide reduction of sounding data for survey H-10277 was based on predicted tides from Hagemeister Island, Alaska (946-5089), and corrected to the survey area. Tide correctors were interpolated by PDP/8e computer using AM 500.

The calculated correctors shown below were based on preliminary zone correctors specified by project instructions.

<u>Survey</u>	<u>Time Correction</u>		<u>Height Correction</u> <u>Range Ratio</u>
	<u>High Water</u>	<u>Low Water</u>	
H-10277	-0h 40m	-0h 30m	x 1.03

All times of predicted and reported tides are expressed in Coordinated Universal Time. Predicted tides were inadequate for hydrography due to discrepancies in the raw data attributed to tidal errors.

A Bristol Gas-Purged Pressure Recording Tide Gage, Model 15 (gage s/n 73A229), range 0 to 30 feet, was installed as a supplemental gage in support of survey H-10277. Location and dates of operation are as follows:

<u>Site</u>	<u>Location</u>	<u>Dates of Operation</u>
Larger of Twin Islands, Alaska	58°35'55"N 160°18'21"W	July 30 to August 18

Larger of Twin Islands

The tide gage, staff and orifice were installed at the larger of Twin Islands, Alaska, on July 30. A three-hour observation on August 03 confirmed consistent gage-to-staff differences. Data collection began on July 30 at 1948 and continued until August 19 at 0026, when the gage was removed. The staff and orifice were left due to time and weather constraints.

The gage ran well throughout the project. The only event of note concerned a storm surge displayed on the trace from August 10 at 0345 to 0355.

The zero mark on the tide staff corresponds to 7.3 feet on the trace.

Levels

Beginning levels were run to three temporary benchmarks (eyebolts) anchored in boulders, on July 30 and August 3. Final levels on August 18 include benchmark 5116 D 1988 and horizontal control station Twins. These were included in the event the gage site is used in future operations.

The comparison between opening and closing level runs indicates no significant staff movement.

Zoning Recommendations

Tidal zoning was inaccurate for the survey area and should be revised. Due to the complexity of the tides in this area, however, an accurate analysis is beyond the scope of this report and no recommendations are offered.

Approval

Submitted by:



Michael Lemon
Ensign, NOAA

Reviewed by:



Paul J. Ruiz
Lieutenant, NOAA
Field Operations Officer (Acting)

Date:

6 SEP 88