

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

DATE: March 16, 1987

Marine Center: Pacific

OPR: 0179

Hydrographic Sheet: H-10230

Locality: South Portion King Salmon Bay, Seymour Canal, Alaska

Time Period: October 18 - November 4, 1986

Tide Station Used: 945-2162 South End, Fool Inlet, AK

~~945-2164 North End, Tiedman Island, AK *~~

945-2169 South Point, AK

Plane of Reference (Mean Lower Low Water): 945-2162 = 6.27 Ft.

~~945-2164 = 18.43 Ft.~~

945-2169 = 18.50 Ft.

Height of Mean High Water Above Plane of Reference:

945-2162 = 15.2 Ft.

~~945-2164 = 14.6 Ft.~~

Remarks: Recommended Zoning:

945-2169 = 14.4 Ft.

* ~~1. West of a line formed by 2 points located at $57^{\circ}58.0'$ $57^{\circ}56.8'$
zone direct on 945-2164. $134^{\circ}14.0'$ $134^{\circ}13.8'$~~

2. East and North of the previous line to latitude $58^{\circ}01.0'$
zone direct on 945-2169.

3. North of latitude $58^{\circ}01.0'$ to $58^{\circ}02.3'$ zone on 945-2169 and apply
a X1.03 range ratio to all heights.

for Britt K. Low
Chief, Tidal Datum Quality
Assurance Section

4. In Fool Inlet zone direct on 945-2162.

* = FROM PHONE CONV. W/JOE MULLIN 3-23-87.

FIELD TIDE NOTE
RA-10-2-86
H-10230

Correctors were derived using program AM 500, Predicted Tide Generator, applying the following correctors to the Juneau reference station:

Time Correctors		Height
<u>High Water</u>	<u>Low Water</u>	<u>Ratio</u>
-0hr 11 min	-0hr 14 min	x 0.92

The Juneau, Alaska tide station (945-2210) served as the control station for this project.

Three tide stations were installed in the project area. Bristol Bubbler tide gages were used at these locations. During the project, two gages failed and were replaced with spare gages. Two chart drives also failed and had to be replaced.

Tide station information follows:

NORTH END, TIEDEMAN ISLAND (945-2164)

Geographic Locale - Tiedeman Island, Seymour Canal, Alaska
57° 53.7' N
134° 12.3' W

Installation date - October 5, 1986

Removal date - November 4, 1986

Gage type - Bristol Bubbler s/n 64A 11028, after failing on 10/20, gage was replaced with Bristol Bubbler s/n 67A 235. The gage was located 15 yards behind the treeline on the island. The orifice was bolted to a rocky ledge. A length of 120 feet of tubing was required to reach the gage.

Staff - The staff was a 16 foot 2x4 with vitrified staffing attached. The staff was secured to the same ledge as the orifice.

Staff-Gage - 64A 11028 - 10.0
67A 235 - 9.8

- Levels - Installation levels were run on 10/5/86 connecting 3 existing bench marks. The closure was to 0.001 m. Two additional bench marks were set on 10/20 and levels were run connecting the 5 bench marks (closure = 0.003 m). Final levels were run on 11/4 connecting 5 bench marks (closure = 0.003 m). Elevations agreed to 0.005 m of previous bench mark elevations. Due to the large tide range, the base of the staff was installed above the zero of marigram. The staff stop was located at the 30.05 ft mark on the staff.
- Bench Marks - Three marks were recovered in good condition: 2164 A 1985, 2164 B 1985, and 2164 C 1985. Two marks were set: 2164 D 1986 and 2164 E 1986.
- Gage Time - Coordinated Universal Time
- Marigram Records - Records were continuous with the following exceptions: 1. 1820 Z (10/6) to 0006 Z (10/8) due to a malfunctioning pen. No hydrography was run during this period. 2. 2000 Z 10/18 to 2350 Z 10/19 due to a malfunctioning gage. During this period, this gage was not required for hydrography and 2 other gages were in operation.
- Station Problems - Gage 64A 11028 failed on 10/20 when it could not hold pressure. It was replaced with 67A 235.

SOUTH POINT, KING SALMON BAY (945-2169)

- Geographic Locale - King Salmom Bay, Seymour Canal, Alaska
58° 00.3'N
134° 13.7'W
- Installation date - October 5, 1986
- Removal date - November 5, 1986
- Gage type - Bristol Bubbler s/n 67A 16205, after failing on 10/8, gage was replaced with Bristol Bubbler s/n 68A 14940. The gage was located at the top of a small islet, under a tree. The orifice was secured to an anchor plate. A length of 200 feet of tubing was required to reach the gage.
- Staff - The staff was a 16 foot 2x4 with vitrified staffing attached. The staff was secured to a ledge, north of the orifice.
- Staff-Gage - 68A 14940 - 13.1

- Levels - Installation levels were run on 10/7/86 connecting 5 newly set bench marks. The closure was to 0.001 m. Final levels were run on 11/4 connecting 5 bench marks (closure = 0.002 m). Elevations agreed well (0.005 m) with previous bench mark elevations. Due to the large tide range, the base of the staff was installed above the zero of marigram. The staff stop was located at the 26.52 ft mark on the staff.
- Bench Marks - Five bench marks were established on 10/6: 2169 A 1986, 2169 B 1986, 2169 C 1986, 2169 D 1986 and 2169 E 1986.
- Gage Time - Coordinated Universal Time
- Marigram Records - Upon replacing gage 67A 16205 with gage 68A 14940, records were continuous with the following exception: 1706 Z (10/17) to 1724 Z (10/17) while the chart drive was replaced.
- Station Problems - 1. Gage 67A 16205 failed and was replaced with 68A 14940 on 10/8. No hydrography was acquired with gage 67A 16205. 2. Time errors in excess of 12 minutes occurred on several occasions with chart drive 502306. The clock could not be adjusted correctly. On 10/17, the chart drive was replaced with 21009 and time errors were eliminated.

SOUTH END, FOOL INLET (945-2162)

- Geographic Locale - Fool Inlet, Seymour Canal, Alaska
58° 00.9' N
134° 11.8' W
- Installation date - October 17, 1986
- Removal date - November 5, 1986
- Gage type - Bristol Bubbler s/n 68A 9333. The gage was located at the treeline on a peninsula in Fool Inlet. The orifice was attached to an anchor plate. A length of 225 feet of tubing were required to reach the gage.
- Staff - The staff was a 16 foot 2x4 with vitrified staffing attached. The staff was secured to a boulder.
- Staff-Gage Levels - 68A 9333 - 2.6
- Levels - Installation levels were run on 10/17/86 connecting 5 newly established bench marks. The closure was to 0.000 m. Final levels were run on 11/5 (closure = 0.001 m). Elevations agreed to 0.005 m of previous bench mark elevations. Due to the large tide range, the base of the staff was installed above the zero of marigram. The staff stop was located at the 18.00 ft mark on the staff.

- Bench Marks - Five bench marks were set on 10/15: 2162 A 1986, 2162 B 1986, 2162 C 1986, 2162 D 1986 and 2162 E 1986.
- Gage Time - Coordinated Universal Time
- Marigram Records - Records were continuous with the following exceptions: 1. 1712 Z (10/30) to 1730 Z (10/30) while the chart drive was replaced. 2. 0340 Z 11/3 to 0500 Z 11/3; 0420 Z 11/4 to 0550 Z 11/4; and 0505 Z 11/5 to 0630 11/5 due the orifice going dry. No hydrography was run during these periods.
- Station Problems - Time errors in excess of 12 minutes occurred on several occasions with chart drive 521413. The clock could not be adjusted correctly. On 10/30, the chart drive was replaced with 507799 and time errors problems were eliminated.

JUNEAU CONTROL STATION

The control station at Juneau was leveled and serviced by the NOAA Ship MT MITCHELL on September 15 and November 7.

ZONING RECOMMENDATIONS

Preliminary Tidal Zoning as supplied by Project Instructions OPR-RA-0179-86, Change No 5 (September 10, 1986) appears to be adequate. The RAINIER recommends that the zoning correctors as provided in the project instructions be maintained for next year's work.