

FIELD TIDE NOTE
OPR-0177-DA-84
WALKER COVE, ALASKA
April-May 1984

Field tide reductions are based on Ketchikan predicted tides, corrected to Walker Cove, AK as per project instructions dated 14 FEB 1984 and Change #1 dated 21 FEB 1984. They were interpolated using the PDP 8/e computer and the AM 500 program, version date 11/10/72. All times of both predicted and recorded tides are Universal Time Coordinated(UTC).

Two Bristol bubbler tide gages have been installed in the project area. Location and operational periods are as follows:

<u>SITE</u>	<u>STATION NUMBER</u>	<u>LOCATION</u>	<u>PERIOD</u>
Hut Point	945-0695	55 42'52"N 130 54'07"W	27 APR- 30 MAY
FIN	945-0811	55 43'09"N 130 47'39"W	28 APR- 31 MAY

Hut Point

Gage 62A92 was installed on 17 APR (JD 108) as well as a 25-ft tide staff. The station became officially operational on 27 APR 1984 by virtue of successful levels and a 3-hour acceptance test. Gage 62A92 was removed on 13 MAY (JD 134) and replaced by two gages (67A16209 and 64A11032) in effort to resolve an uncorrectable ripple in the marigram trace. Gage 67A16209 was connected to the same orifice tube and nitrogen bottle as the previous gage. Gage 64A11032 was attached to a separate orifice located on the same anchor as the other gage (67A16209). Both gages were issued into official operation with simultaneous successful acceptance tests. It is recommended that data from gage 62A92 be used as control until 13 MAY (JD 134) from whence gage 64A11032 should be the control gage. Tidal information from gage 67A16209 should be used as a back-up. The marigrams for gages 67A16209 and 64A11032 read 4.15 ft and 4.55 ft greater than the staff respectively. Gage 62A92 had a staff-to-gage difference of 4.2 ft. The station was removed on 30 MAY (JD 151).

FIN

Gage 63A2920 was installed on 26 APR (JD 117) and began officially obtaining data on 29 APR (JD 120) after successful leveling and a 3-hour acceptance test. Staff was emplaced on 28 APR (JD 119). An error in adjustment of feed pressure on 17 MAY (JD 138) caused a loss of data between that date and 1700 UTC of 22 MAY (JD 143). Hydrography scheduled for 22 MAY (JD 143) was delayed 4 hours until 2100 UTC in accordance with project instructions. A one hour acceptance test was performed on the morning of that date to ensure that the gage was restored to proper functioning order. The marigram reads 4.25 ft greater than the staff. Station was removed on 31 MAY (JD 152).

LEVELING

Hut Point tide station was leveled to five newly established permanent bench marks, as well as to, horizontal control station HUT 1931. Beginning and ending levels were accomplished to third order class one accuracy and differed at most by 2 mm, denoting that no significant shift in staff nor benchmarks occurred (see Level Records dated 27 APR 1984 and 30 MAY 1984).

FIN tide station was leveled to four newly-established permanent benchmarks and horizontal control station FIN 1931. Beginning and ending levels were accomplished to third order class one accuracy with the maximum difference between them being 2 mm, confirming that no significant shift in tide staff nor benchmarks occurred (see Level Records dated 29 APR 1984 and 31 MAY 1984).

The Ketchikan tide station, control for this project, was leveled to 5 historical benchmarks. Leveling information agreed with historical records proving no significant shift in marks or staff had occurred. A table of comparisons follows:

BM	<u>June 1983 Elevations</u>	<u>Elevations 23 Apr/1 June 1984</u>
36	37.905ft(11.5537m)	37.913ft(11.556m)/ 37.907ft(11.554m)
24	36.836ft(11.2279m)	36.843ft(11.230m)/ 36.843ft(11.230m)
37	48.804ft(14.8756m)	48.812ft(14.878m)/ 48.825ft(14.882m)

<u>Differences in Elevations(m)</u>		
<u>Historical</u>		<u>23 Apr/1 June 1984</u>
	{3.652	
	{3.650	
BM 24-37	{3.649	3.648/3.652
	{3.646	
	{3.648	
	{4.340	
BM 37-34	{4.336	4.337/4.334
	{4.332	
	{4.335	
	{1.454	
BM 34-32	{1.456	1.453/1.457
	{1.454	
	{1.454	

(Historical data recieved via telephone from Micky Moss-PTP)

TIDE AND CURRENT OBSERVATIONS

Current meter observations were made by the DAVIDSON while at anchorage in the mouth of Rudyerd Bay and in Walker Cove. A seperate report is appended.

The bar across the mouth of Walker Cove between Ledge Point and Hut Point was noticed to cause the sea state in that area to be choppiier than elsewhere during ebb and flood currents.

RECOMMENDATIONS

It is recommended that data from the Hut Point tide station be used to reduce depths and heights west of the bar between Hut Point and Ledge Point. Reductions eastward of the bar should be made using tide station FIN as control.

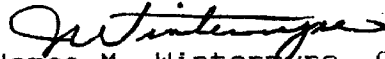
It is also recommended that, based on accessibility and stability, BM 0695B and Horizontal Control Station FIN 1931 be used as primary benchmarks for tide stations Hut Point and FIN respectively.

Respectfully submitted,



Andrew J. Allen, ENS NOAA

Approved and Forwarded,



James M. Wintermyre, CDR NOAA

DATE: 11/15/84

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: 0177

Hydrographic Sheet: H-10133

Locality: Walker Cove, Alaska

Time Period: April 30 - May 29, 1984

Tide Station Used: 945-0695 Hut Point, AK
945-0811 Fin, AK

Plane of Reference (Mean Lower Low Water): 945-0695 = 3.62 ft.
945-0811 = 1.46 ft..

Height of Mean High Water Above Plane of Reference: 945-0695 = 14.9 ft.
945-0811 = 15.1 ft. .

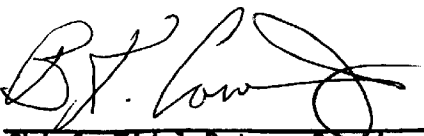
Remarks: Recommended Zoning:

1. East of a line formed by 2 points located at,

latitude $55^{\circ}42.9'$ and $55^{\circ}42.4'$
longitude $130^{\circ}53.8'$ $130^{\circ}53.4'$

Zone Direct on 945-0811 Fin.

2. West of the Previous Line Zone Direct on 945-0695 Hut Point.

for 
Chief, Tidal Datums Section

HOW TO REACH STATEMENT
Hut Point Tide Station
945-0695

Station is located at the entrance to Walker Cove from Behm Canal (Chart 17424). Installation site is on the northeastern extent of the northernmost islet of the two which lie off Hut Point. Tide staff was mounted to a vertical portion of the rock shore and gage was placed inshore on a moss and scrub covered area. Benchmarks are located about the two islets as described in the station's historical data.

HOW TO REACH STATEMENT
FIN Tide Station
945-0811

Station is located on the south shore of Walker Cove about 3.7 miles from the Cove's entrance from Behm Canal (Chart 17424). Installation site is about 200 yards east of a prominent water cascade. Tide staff was mounted to a vertical, offlying rock and the gage was beneath a large spruce tree. Benchmarks are located eastward about the shore as described in the station's historical data.