

DATE: March 8, 1984 U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: P146

Hydrographic Sheet: H-10039

Locality: Wide Bay, Alaska

Time Period: August 6-20, 1982

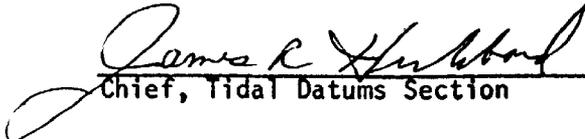
Tide Station Used: 945-8461 Wide Bay, Alaska

Plane of Reference (Mean Lower Low Water): 0.54 feet

Height of Mean High Water Above Plane of Reference: 11.0 feet

Remarks: Recommended Zoning:

Zone Direct


Chief, Tidal Datums Section

March 23, 1984

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

TIDE NOTE FOR HYDROGRAPHIC SHEET

Marine Center: Pacific

OPR: P146

HYDROGRAPHIC SHEET: H - 10039

Locality: Wide Bay, Alaska

Time Period: May 28 - August 10, 1983

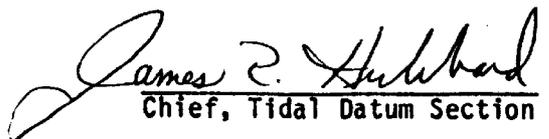
Tide Station Used: 9458461 Wide Bay, Alaska

Plane Of Reference (Mean Lower Low Water): 0.48 Ft.

Height Of Mean High Water Above Plane Of Reference: 11.0 Ft.

Remarks: Recommended Zoning:

Zone Direct


Chief, Tidal Datum Section

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FIELD TIDE NOTE

OPR-P146-FA-82

Wide Bay, Alaska

Tide Gage (945-5500) Seldovia, Alaska served as reference station for predicted tides for the entire Wide Bay project as stated in Project Instructions OPR-P146-FA-82. Because leveling was required at the beginning and end of project OPR-P114-RA-82, which was run concurrently with OPR-P146-FA-82, leveling of station (945-5500) Seldovia, Alaska was not conducted by FAIRWEATHER personnel. See Field Tide Note for P114-RA-82 for level data applicable to OPR-P146-FA-82.

Predicted tide correctors were interpolated by the hydroplot system using program AM 500. All times of both predicted and recorded tides were based on Universal Coordinated Time. All predicted tides were acceptable for hydrography with no discrepancies in data attributable to tides errors.

Tide station (945-8461) Wide Bay, Alaska (Mouth of Short Creek) located at latitude $57^{\circ} 21' 54''N$, longitude $156^{\circ} 24' 07''W$ was the primary gage during this project. Opening levels were run to four existing Temporary Bench Marks (TBM's) on 04 June 1982 (J.D. 155). Two additional Bench Marks stamped 8461E and 8461F were established and included in leveling observations. A closure of 7.14mm was obtained for the entire run of 0.6km. Closing levels were run on 20 August 1982 (J.D. 232) to the above-mentioned marks resulting in a 27.10mm closure. This closure is 6.1mm above the acceptable limits set forth by the Hydrographic Manual, Fourth Edition, Section A.8.4. A comparison of opening to closing levels shows no sign of any vertical movement in the marks or tide staff. This error is presumed to be located at set-up number one between the staff stop and TBM #1. This area is a sand bar which covers at high water and is very soft sand, making stable set-ups difficult.

OPERATIONAL PROBLEMS

ADR Gage 6402A4596M2 operated well until 4 July 1982 (J.D. 185) when it was discovered that the gage was skip and double punching. On 15 July 1982 (J.D. 196) the gage was removed and replaced with ADR Gage 7404A0407M3 at 165400 (GMT +9). A new staff to gage comparison was taken and the new gage functioned well until projects end on 20 August 1982 (J.D. 232). Gage 6402A4596M2 was found to have bad punch block pins, which were replaced in the field. The gage was tested for three days without malfunction, and then stored aboard. Table I, Gage Malfunctions, is a listing of skip and double punches found on tidal records for the period of time. ADR Gage 6402A4596M2 was operating.

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No hydrographic data was lost as a result of skipping or double punching by the ADR gage. Interpolation may be used to provide a tidal data record for the periods of gage malfunction.

MISCELLANEOUS

Overall, gage site (945-8461) proved to be a very convenient, useful location for a tide station. The ADR float well, and the tide staff, were both left at the station site to expedite gage installation for future work in the Wide Bay area.

TABLE I

Gage Malfunctions

<u>Date</u>	<u>Time</u>	<u>Comments</u>
29 June	183000	Restarted
30 June	183450	Guide roller was causing right edge of tape to fray. Adjusted and restarted at 184800.
01 July	230600-233600	Skipped punches.
02 July	004200-004800	Skipped punches.
03 July	003000	Double or more punches.
	003600-013000	Skipped punches.
	013600	Double or more punches.
	014200-023000	Skipped punches.
	045400-053000	Skipped punches.
	121800	Jammed and tore punch holes.
	150600-171200	Appears good.
	171900	Double punches.
	191200	Skipped.
	2012-2030	Skipped.
04 July	0024-0030	Skipped.
	0324-0348	Skipped.
	0400	Skipped.
	0454	Double punched and tore tape.
	0554	Good.
	0806	Double punched and tore tape.
	0830-0854	Good.
	0900	Skipped.
	1006	Double punched, then skipped.
	1100-1624	Good.
	1630-1654	Skipped.
	1730	Skipped.
	1754-1836	Skipped.
1948	Double punched and skipped.	

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Table I, Gage Malfunctions, Cont.

<u>Date</u>	<u>Time</u>	<u>Comments</u>
05 July	0106	Good.
	0112	Double punched, skipped.
	0130-0342	Good.
	0348	Double punched, skipped.
	0436-0512	Good.
06 July	0518	Double punched, skipped.
	2142	Good.
	2148	Double punched, skipped.
	2224	Good.
07 July	0624	Good
	0630	Double punched, jammed.
08 July	031800	Restarted.
09 July	1700	Double punched, skipped.
	1718-2142	Good.
	2148	Skipped.
	2154	Good.
	2312-18	Skipped.
	2324	Good
10 July	0442-54	Skipped.
	0500	Good.
	2342	Skipped.
	2354	Skipped.
11 July	0518-30	Skipped.
	0542-54	Skipped.
	1000	Skipped.
	1706-12	Skipped.
	1824-36	Skipped.
	2242	Skipped.

Submitted by:

Arthur E. Francis

Arthur E. Francis
Ensign, NOAA

Approved by:

Walter F. Forster

Walter F. Forster
Commander, NOAA
Commanding Officer

1983

Field Tide Note
OPR-P146-FA-83
Wide Bay, Alaska

The primary tide gauge (945-7283) Kodiak, Alaska served as reference station for the predicted tides for the entire Wide Bay project as stated in the Project Instructions, OPR-P146-FA-83. Leveling and periodic maintenance of this station are performed by the Pacific Tide Party.

Predicted tide correctors were interpolated aboard the FAIRWEATHER using the program AM 500 dated 10 Nov 72.

All times of both predicted and recorded tides are expressed in Universal Coordinated Time. All predicted tides were acceptable for hydrography with no discrepancies in data attributable to tide errors.

Tide station (945-8461) Wide Bay, Alaska located at Latitude $57^{\circ}21'54''N$, Longitude $156^{\circ}24'07''W$ was the field tide gauge in support of this project. Opening levels were run on 28 May 83 between the tide staff mounted on the pier ruins, and five bench marks established by FAIRWEATHER personnel (one of which was established on 27 May 83). A closure of four millimeters was obtained for the entire run of approximately 0.6 nautical miles.

A second tide staff was mounted on the pipe casing with the tide gauge on 27 May 83 (JD 147). The purpose of the additional staff was to allow gauge to staff comparisons during times when the pier staff was dry or in the surf zone. Gauge to pipe staff comparisons from 27 May 83 to 24 Aug 83 established a gauge reading of 11.02 feet for the zero elevation of this staff. A series of simultaneous staff comparisons made on 9 July 83 (JD 190) found a difference of 8.16 feet to exist between the staff mounted on the standpipe and the shallower staff mounted on the pier ruins. These comparisons established a gauge reading of 19.18 feet for the zero mark on the pier staff. Tide gauge records from 27 May 83 to 24 Aug 83 indicate that the gauge reading for the pier staff zero should be 19.34 feet. The reason for this is probably due to errors introduced by reading a staff in a surf zone as well as time delays associated with transiting from the gauge to the pier staff.

Closing levels were run on 24 Aug 83 (JD 236) to the same five bench marks with a closure of four millimeters. A comparison of opening to closing levels showed no sign of any vertical movement in the marks or tide staff.

Operational Problems

Fisher Porter ADR gauge 73C4A1380M17 operated without a problem from the date of installation until 4 Aug 83 (JD 216) when the punch block jammed while removing data. High winds and seas prevented the repairing of the gauge until 6 Aug 83 (JD 218). During this period of approximately 45 hours when tidal data was not collected, some hydrography was conducted. Interpolation can be used to provide a tidal record for the period of the gauge malfunction. No hydrographic data was lost due to this malfunction.

March 1, 1984

TO: N/MOP21 - Pacific Marine Center
FROM: N/OMS123 - *James R. Hubbard*
SUBJECT: Tide Correctors for Wide Bay, Alaska, 945-8461

The Wide Bay (945-8461), tide gage recorded flat high waters from July 16 to August 20, 1982. The missing hourly heights have been inferred by making adjustments to the predicted tides. The inferred values are estimated to be accurate to within ± 0.5 foot (95 percent confidence level).

The tide gage had severe malfunctions during the period 0400, July 8 to July 13, 1982, which required extensive hand processing of the tide roll. The hourly heights from 0000, July 7 through 0300, July 8, 1982, were inferred from predictions, but accuracy cannot be estimated due to the lack of observed data.

