

FIELD TIDE NOTE (H10157)

Field tide reduction of soundings were based on daily high and low water levels from the ADR gauge at Winterport, Maine (Station No. 841-4781). The values were reduced to mean low water using the bench mark elevations for the Winterport tide station. All times for the gauges installed by the field party are UTC.

The operating tide station at Rockland, Maine (841-5490) and Bar Harbor, Maine (841-3320) will serve as control for datum determination at all subordinate tide stations. The Rockland gauge was leveled by the NOAA Ship Mt. Mitchell at the beginning of OPR-A166 in 1984 and leveled out by HFP-3 on 8 October 1984.

Standard Fischer/Porter ADR tide gauges with tide staffs were installed, operated and observed by HFP-3 for the period indicated:

SITE	LOCATION	PERIOD
Winterport, Maine #841-4781	LAT 44°38!2N LON 68°50!5W	IN 18 Jun 84 OUT 9 Oct 84
Bucksport, Maine #841-4684	LAT 44°34!3N LON 68°48!1W	IN 24 Aug 84 OUT 8 Oct 84

Levels were run at the Winterport and Bucksport tide stations when the stations were installed and removed. There was no change in the tide staffs at Winterport or Bucksport from the level data.

ZONING

There are no recommendations for zoning by the field party. Zoning should be provided by the Tides and Water Levels Branch (N/OMS12).

FIELD TIDE NOTE
A166-PE-85
PENOBSCOT BAY, MAINE

Field tide reduction of soundings was based on predicted tides from Portland, Maine, interpolated on a pdp8/e computer using AM500 and corrected according to the preliminary zoning chart as follows:

H-10173, PE-10-1-85

-12 min HW
-4 min LW
X 1.08 Height

H-10177, PE-10-2-85

-12 min HW
-4 min LW
X 1.08 Height

H-10178, PE-10-3-85

-12 min HW
-4 min LW
X 1.08 Height

H-10157, Bucksport
From Lat. 44°30'N to 44°35'N

-36 min HW
-16 min LW
X 1.18 Height

Above Lat. 44°35'N

-36 min HW
-16 min LW
X 1.25 Height

The times of all gauges were set on Eastern Standard Time. The control station was Rockland, Maine (841-5490) and was leveled at the beginning of the project.

Five recording tide gauges were installed during this project as follows

<u>Sta. #</u>	<u>Location</u>	<u>Type</u>	<u>Position</u>	<u>Survey</u>
841-4684	Bucksport	ADR	44°34'21" 68°48'40"	H10157
841-4692	Sandy Point	ADR	44°30'21" 68°48'19"	H10157

841-4821	North Haven	ADR	44°07'30" 68°51'25"	H10178
841-4888	Pulpit Harbor	Bubbler	44°09'22" 68°53'08"	H10173
841-5191	Belfast	ADR	44°25'45" 69°00'16"	H10177 & H10178

In addition, a tide staff was installed in the North Branch of the Marsh River at Treat Point to provide data for one day of hydrography in the Marsh River. No recommendations for zoning or time correctors could be made in the field. The times of hourly heights, recorded for the bubbler gauge are corrected for clock errors. No clock errors were observed during staff observations in the Marsh River.

An ADR tide gauge was installed at Bucksport, Maine, 841-4684, on 15 May 1985 (Day 135) and leveled the same day. The gauge functioned properly throughout the period of hydrography. The closing level loop was run on 17 June, the day after the last day of hydrography. The gauge was removed on 7 July 1985 (Day 188). A gauge was again installed on 23 July 1985 (Day 204) to provide tide data for one line of hydrography and bottom samples. This gauge was leveled and removed the following day without incident.

On 15 May 1985 (Day 135) an ADR gauge was installed at Sandy Point, Maine, 841-4692, and leveled the same day. This gauge was installed on an existing 6" floatwell which appeared to be in good condition. During the last week of May during routine tide gauge inspections a change in the staff to gauge differential was noticed. Therefore, the gauge was reset and checked every day until 30 May when it was removed. Apparently, the intake was partially clogged restricting the flow of water into and out of the floatwell. The Tidal Requirements Branch in Rockville was contacted to inquire about the necessity of a gauge at Sandy Point. The PEIRCE was told that this station could be discontinued. Change No. 5 the project instructions, dated 17 June 1985, was issued to allow the discontinuation of the Sandy Point tide station.

A tide gauge could not be easily installed at Iron Point, 841-4821. Permission was granted by the Tidal Requirements Branch in Rockville to install a gauge at the North Haven Ferry Terminal, at a previously established NOS tide gauge site 1/2 mile west of Iron Point. An ADR gauge was installed on the ferry pier on 11 May 1985 (Day 131) and removed on 25 July 1985 (Day 206). There are no known problems with the data.

An ADR gauge was installed and leveled at Belfast, Maine, 841-5191, on 18 April 1985 (Day 108). This particular site provided continuous problems during the project. The first gauge was inoperable from 25 May to 1 June (Days 145-152). The float wire "jumped" off the flywheel. The floatwell was replumbed and another gauge installed. The wire repeatedly came off the flywheel causing the site to be inoperable from 5-7 July (Days 186-188). When a different gauge was installed on 9 July, the residing gauge was

rewound; again on 17 July (Day 198) the wire was rewound onto the flywheel. This time the gauge operated without further trouble until it was leveled and removed on 24 July 1985 (Day 205).

A Metercraft Gas Purged Graphic Recording Tide Gauge was installed and leveled at the Pulpit Harbor Bridge on 18 April 1985 (Day 108). On 2 May (Day 122) the gauge was checked and the orifice was uncovering at low tide. The orifice was promptly moved. The staff was not moved and this gauge operated without serious problems for the rest of the project. The staff was releveled on 22 July and the gauge was removed on 25 July 1985 (Day 206). The staff value equivalent to zero on the gauge from 18 July (Day 108) through 2 May (Day 122) is 3.41 ft. The staff value equivalent to zero on the gauge from 3 May (Day 123) through 25 July (Day 206) is -1.92 ft.

SIGNAL LIST

PENOBSCOT RIVER.ME

OPR A166

H-10157 (1984)

HFP 10-4-84

117	3	44	37	327 37	068	51	051 17	254	0000	000000	Winter, 1982
118	4	44	37	28465	068	50	33196	243	0000	000000	Win, 1983
119	4	44	36	17796	068	49	24792	254	0000	000000	Rebar, 1984
120	5	44	35	50469	068	49	57469	243	0000	000000	Old, 12, 1982
121	7	44	34	16463	068	47	43555	243	0000	000000	Rosen, 1982
122	3	44	35	28803	068	51	54309	254	0000	000000	Quarry, 1982
123	5	44	34	22804	068	48	57772	243	0000	000000	Stubbs, 1984
124	6	44	34	06583	068	47	22278	243	0000	000000	PK Lamp, 1984
127	7	44	36	04323	068	51	04827	254	0000	000000	Bowden, 1982

Note: All stations set in 1982 are aero-triangulation control.
 Job CM-8101. Stations set in 1983 and 1984 are supplemental
 stations established from the aero-triangulation. using
 Third Order Class ONE methods.