

Settlement and Squat ✓

Correctors were computed in accordance with Hydrographic Manual Section 4.9.4.2., using FPM Fig. 2.3, and are included with project data for OPR-O136-RA. The data for 2123-2129 was collected in Shilshole Bay, Washington in the Spring of 1995, and for 2122 in Windham Bay, Alaska in April 1995.

Offset Tables ✓

Offset tables* contain offsets for the GPS antenna, as well as static draft measurements, and settlement and squat data. Offset tables 2-9 correspond to the number of the vessel. The offset tables were compiled with new measurements in the spring of 1995 and are contained in the "Separates to be Included with Survey Data"*. Offset and layback were applied for RA-2 and RA-9 for hydrography, but not for shoreline verification. Corrections were applied on-line based on CMG. Horizontal corrections were not applied for the HDAPS launches.

Heave ✓

The launches are not equipped with heave, pitch and roll sensors.

Bar Check ✓

Bar check lines were calibrated by RAINIER personnel during the winter inport 1994-1995. Calibration forms are included with project and data for OPR-O136-RA. Bar checks were performed weekly and served as a functional check of the DSF-6000N.

Tide Correctors ✓

Predicted tides for the project were provided on diskette by N/CG241 for the Juneau, Alaska reference station (945-2210).

Tidal correctors as provided in the project instructions for this sheet are:

	<u>Time Correction</u>	<u>Height Correction</u>
High Water	-0 03	-1.4 ft
Low Water	+0 04	-0.1 ft

HDAPS listings of the data used in generating tide corrector tables are included in Appendix V of this report.

* Filed with the hydrographic data

RAINIER personnel installed 8200 digital gages at Good Island (945-1909) and Cannery Wharf (945-1906) on April 10, 1995 and at The Brothers (945-1785) on April 11, 1995. The staff was connected to five benchmarks at each station during all level runs. Opening levels were completed on April 12, 1995 at Good Island and The Brothers and on April 13, 1995 at Cannery Wharf. On April 13, 1995, it was discovered that the tide gage at Cannery Wharf had not been recording the data and the gage was immediately replaced. Except for the period mentioned above, all tide gages operated continuously during data acquisition. Closing levels were completed at Cannery Wharf and Good Island on May 13, 1995 and May 14, 1995, respectively. Elevations of all bench marks above the zero of the staff agreed within 0.002m of those determined during opening levels.

The station descriptions, field tide records, and Preliminary Field Tide Notes (Appendix V) have been forwarded to N/OES212 in accordance with HSG 50 and FPM 4.3. The final tide package will be forwarded to N/OES212 at the end of the project. A request for approved tides was forwarded to N/OES2 in accordance with FPM 4.2.3. *Approved Tide Note dated September 13, 1995 is attached.*