## Vertical Control

All sounding data were reduced to MLLW initially using observed tidal data from two John Oswald and Associates (JOA) tide stations located in Akun Bay and Tigalda Bay, AK and one NOAA COOPS tide station located in King Cove, AK. Tidal data for a twenty-four hour period UTC, (Alaska Daylight Time to UTC was +8 hours) was assembled by JOA and e-mailed to the F/V Pacific Star at the end of every Julian Day. A cumulative file for the gauges was updated each day by appending the new data. It should be noted that these unverified tides were used in



the field for preliminary processing only. The NOAA supplied tidal zoning was modified by JOA, providing a more elaborate zoning scheme than those zones issued in the Statement of Work.

On March 29, 2011, JOA issued verified tidal data and final zoning for H12260, H12261, H12262, H12263, & H12264 of OPR-Q191-KR-10. All sounding data was then re-merged using CARIS HIPS and SIPS tide routine. Verified tidal data were used for all final Navigation BASE surfaces and S57 Feature files.

For additional information, refer OPR-Q191-KR-10 Horizontal and Vertical Control Report.

**Table 2 Tide Gauge** 

Gauge	Location	Latitude	Longitude
946-2719	Akun Island, AK	54° 14' 20" N	165° 32' 28" W
946-2782	Tigalda Bay, AK	54° 07' 05" N	164° 58' 35" W
945-9881	King Cove, AK	55° 03' 42" N	162° 19' 36" W