The goal of this study is to extract useful high-frequency seismic waveforms recorded by the Cascadia Initiative (CI) Amphibious Array from two active-source seismic experiments, MGL 1211 and MGL 1212, during June 13th to July 24th, 2012. We choose 25 broadband ocean bottom seismometers (OBSs) and 15 inland stations that are located around the experiment region. We first remove the instrument response and cut the continuous data into a daily length. We then filter the daily data at multiple frequency bands, ranging from 1-3 Hz, 2-4 Hz, 3-5 Hz, 4-7 Hz, to 5-10 Hz, respectively. Our preliminary results show that (1) We observe clear air-gun shot recordings by the CI OBSs at frequencies higher than 3 Hz up to 370 km away from the source. (2) In general, the signal-to-noise ratio of the air-gun shot recordings increases at higher frequency bands, with decreasing source-to-receiver distance, and from shallow to deep water. And (3) the seismic recordings by stations located landward and at shallow water appear very noisy at all frequencies.