6. Review of Data

All of the waveforms in this information product were segmented by a network triggering algorithm in the field data acquisition system. The total number of waveform segments contained in the information product is 8061. In table 2 is a breakdown of total numbers of triggers per station.

Table 2. Station trigger statistics for CNET January1, 1992 - November49 1992

station	total no. of triggers	start time	end time
GUM	627	92/01/10	92/11/06
KIV	764	92/01/10	92/11/09
KUB	518	92/01/22	92/11/09
MIC	200	92/02/15	92/06/11
NAG	578	92/01/15	92/11/09

A histogram plot showing numbers of triggers per day for each station is given in figure 12.

The largest problem found in the 1992 data are continued telemetry dropouts, which appear as gaps in seismograms one second or more. These dropouts are apparently caused by noise bursts in the radio transmission bands used for telemetry. The Nanometrics RD3 digitizer transmits data in one second packets, so a noise burst sufficient to degrade any part of the packet will cause loss of the entire packet. Station KUB, where these dropouts are most common, is located 1-2 km from a radar/communications facility, and the telemetry link transmits directly through antennas at the major communications center that shares Borgostan hill with the KIV seismic station. Tests have detected wideband and intermod noise in the Borgostan region as well as apparently unauthorized transmissions close to our assigned frequencies. A second form of noise are regular dropouts every 20 seconds, often seen on all telemetered stations simultaneously, thought to be from a radar source. In 1993 we successfully reduced dropouts by installing RF cavity filters.

A second major problem has been station failures. Most were caused by batteries running out of power before they could be replaced. Availability of vehicles and gasoline has been a major problem for the Kislovodsk operators, and has limited their ability to service stations in a timely fashion, particularly during winter months. Solar panels could not be used at most sites because of vandalism concerns. The digitizer at MIC was stolen from the vault on or about June 12, and was not replaced until the next visit by a Lamont field crew in November.

An error in setting the pre-event window parameters resulted in occasional loss of first arrivals on some channels. In these cases, P arrivals were picked from the other components. The problem was fixed in November 1992.

High frequency noise is seen at sites at low elevations in the north (NAG, MIC). A peak is visible in power spectra for these two stations near 12 Hz. These vaults are not obviously resting on bedrock, and vault resonances are suspected. Intermittent large amplitude step responses are seen in the NAG data. The problem, faulty connections in the cable connecting sensors to the digitizer, was identified and fixed in mid-1993. A high frequency pulse at regular one second intervals is seen for some data at GUM. The pulse resembles the FIR filter response. The seismometer cable at GUM is very long and was coiled in 1992, so may have acted as an antenna and picked up the regular one second packet transmissions.