We propose that the energy spectrum and charge spectrum of $\mu$'s coming out of the back of the shield and passing through the bubble chamber should provide the possibility of testing lepton conservation at high-momentum transfer. In order for this to be a meaningful test, it is essential that the parent hadron beam ($\pi$ or $K$) be of one charge, thus, producing $\nu_\mu$ or $\nu_\mu$ predominantly. Experimentally, the spectrum of $\mu$'s coming from the shield wall is measured in the bubble chamber, using the spark chamber behind the bubble chamber to prove that the charged particles are indeed $\mu$'s. Since on average $\sim (20-80)$ $\mu$'s will come out of the shield for a reasonable $\nu$ beam, the accumulation of 100,000 pulses of the bubble chamber is equivalent to the observation of $(2-8) \times 10^6 \nu-\mu$ interactions. A sizable fraction of these events will come from relatively high momentum transfer. Breakdown at high momentum transfers of lepton conservation would presumably result in the occurrence of the process

$$\nu_\mu + Z \rightarrow \mu^+ + (Z - 1),$$

as compared to the ordinary process

$$\nu_\mu + Z \rightarrow \mu^- (Z + 1).$$
One background for these processes would come from

$$\nu_\mu + Z \rightarrow \mu^+ \mu^- \nu_\mu Z,$$

(3)

with the $\mu^+$ penetrating the shield and the $\mu^-$ being stopped. Since the cross section for Eq. (3) is $\sim 10^{-40} \text{ cm}^2/\text{nucleus}$ for iron with $E_\nu > 10$ BeV/c, compared to $\sigma > 10^{-38} \text{ /nucleus}$ for Eq. (2), the background from such processes should be small. At any rate, the background from Eq. (3) is probably calculable. By knowing the spectrum of $\nu_\mu$ and the shield density any breakdown of lepton conservation can be traced as to the general momentum transfer at which the breakdown occurs.