Abstract: In this talk I will present direct observations of carbon dioxide (CO$_2$) concentrations in ice cores drilled in Allan Hills Blue Ice Areas, East Antarctica. Based on the isotopic composition of argon ($^{40}$Ar$_{atm}$) in the trapped air, ice as old as 2 million years (Ma) was discovered, with a single unreplicated sample dating back to 2.7±0.3 Ma. The oldest pristine CO$_2$ samples date back to 1.5 Ma and range between 217 to 256 ppm ($N=15$). The similarity between the Early- and Late-Pleistocene interglacial CO$_2$ argues against the notion that a long-term decline in atmospheric CO$_2$ initiated the 100 kyr glacial cycles. Older CO$_2$ samples are affected by the in situ production of CO$_2$ due to respiration. Alternative approaches for reconstruct paleo-atmospheric CO$_2$ from ice cores ($\Delta^{17}$O of O$_2$) will be discussed.