156 - Melbourne and Rittmann Volcanoes: Results from ICE-VOLC Project
Presenter: Del Carlo, Paola, Italy

598 - Holocene Volcanic Activity of Mt. Melbourne Recorded in Talos Dome Ice Core
Presenter: Lee, Mi Jung, Korea, Republic of

Holocene Volcanic Activity of Mt. Melbourne Recorded in Talos Dome Ice Core

Mi Jung Lee[1] (mjlee@kopri.re.kr), Philip R Kyle[2], Jong Ik Lee[1]
[1]Korea Polar Research Institute (KOPRI), Incheon, Korea, Republic of, [2]New Mexico Institute of Mining and Technology, Socorro, United States

Tephra layers in Antarctic ice cores are valuable time planes and are useful for reconstructing the eruptive history of young volcanic centers. An ice core drilled at Talos Dome in northern Victoria Land contains many tephra layers and some have been attributed to eruptions from Mt. Melbourne. Three young englacial tephra layers are exposed on the flanks of Melbourne volcano. The youngest tephra is inferred from snow accumulation rates to be between 100 and 300 years old. The other two tephra are over 1 m thick and closely spaced to each other and probably represent two significant eruptions from the same vent. We geochemically analyzed the two older tephra and young lavas from the summit area of Melbourne to try and identify the source vent for the tephra. The tephra have a strong geochemical correlation with the Talos Dome tephra layer TD85, which suggests they are the same. This is an important finding as it indicates that significant eruptions of Melbourne occurred at 1280 CE. The youngest tephra on Melbourne is not found in the Talos Dome ice core, suggesting the eruption was smaller than that for the 1280 CE tephra or the wind direction did not disperse the tephra towards Talos Dome.