

ABSTRACT

There are a number of important craters in the deep grounds of the lake Geneva (Léman). These craters have been discovered thanks to a multi-beam bathymetric map in 2014. Unfortunately, there are no studies which have been made to try and understand their origins, nor to evaluate the extent of their influence on surrounding sedimentary deposits. Which is the reason for this exploratory study. In order to have a better understanding of the creation phenomenon, two craters have been chosen for this study, "Bob" and "Marley". Many processes were used to try and understand the origin of their creation. A seismic data analysis in correlation to the sedimentary coring showed that each craters were demonstrating unique characteristics from one another. The first one, Bob, was reactivated recently whereas the second, Marley has been inactive since the end of the glacial deposits. The Physico-chemical analysis which were done in proximity of the Bob crater have not permitted us to detect any signs of activity during the exploration campaign. Finally, the bathymetric data has allowed us to do a morphological description of the two different craters and a correlation with previous studies which were done in the "Grand-Lac" zone. This analysis have enabled us to determine the formation of these craters which have occurred due to several geogenic gas expulsions. The geogenic gas is circulating through the fractured networks caused by the Paudeze subalpine thrust. This study being exploratory does not allow us to confirm or deny any of the assumptions. This investigation provides a solid foundation and a strong background for future researches.

Keywords: Craters, Lake Geneva, Gas, Faults, Bob & Marley