Contribution ID: **98** Type: **Poster**

P37 - A 17th century glass collection from Monastery of Santa Clara-a-Velha in Coimbra, Portugal: Exploratory results using PIXE

Friday, 11 July 2014 13:00 (1 hour)

During the archaeological excavations carried out at the Monastery of Santa Clara-a-Velha in Coimbra (Portugal), an enormous set of glass fragments (including millefiori and filigrana glasses) were found and dated from 16th to 17th century. This Monastery was occupied by the Order of Poor Clares from 1317 until 1677, when it was abandoned due to the repeated flooding, a consequence of its proximity to the Mondego river.
The analyzed glass set comprises fragments with several colours (green, blue, red, brown, yellow and uncolored glass), shapes (bowls, gourds, bottles, cuppingglasses, inkpots and flasks) and decoration techniques (mould blown patterns, filligrana, gilding and engraving). With the aim of studying and characterizing this collection, thirty-six glass fragments were analyzed by means of micro Particle Induced X-ray Emission (PIXE). The glass fragments were first embedded in a resin mold and then polished in order to ascertain that a smooth and corrosion free surface could be analyzed. All the glasses were found to be of soda-lime-silica type. The relatively high amounts of K2O, MgO, P2O5 and the presence of chlorine suggest the use of coastal plants as the source of alkali. μPIXE analysis also allowed to distinguish three groups regarding the alumina contents where it was possible to identify a group with low alumina contents (Al2O3 < 2 wt%), a group with high alumina contents (3< Al2O3 <6wt%) and a group with very high alumina contents (Al2O3 > 6 wt%). This alumina content clustering suggests the use of three different silica sources which can be related to the existence of different production centers.
Results will be further compared with glass compositions dating to the same period from Portugal and from several European centers, highlighting differences and similarities, and discussing the possible origin of the finds.

Primary author: COUTINHO, Inês (Research Unit VICARTE and Requimte, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Campus de Caparica, Quinta da Torre, Caparica, Portugal)

Co-authors: Dr ALVES, Luis (Campus Tecnológico e Nuclear, IST, Portugal); VILARIGUES, Márcia (Research Unit VICARTE and Requimte, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Campus de Caparica, Quinta da Torre, Caparica, Portugal); MEDICI, Teresa (Research Unit VICARTE and Requimte, Faculdade de Ciencias e Tecnologia, Universidade Nova de Lisboa, Campus de Caparica, Quinta da Torre, Caparica, Portugal)

Presenter: Dr ALVES, Luis (Campus Tecnológico e Nuclear, IST, Portugal)

Session Classification: Poster Session with Cheese and Wine