Abstract
In the Southern Caucasus (Fig. 1) prehistoric characterization and archaeological obsidian sourcing studies have gained momentum in the last decades and have significantly advanced our understanding of how human groups interacted with the landscape and utilized obsidian resources through time. The southern Caucasus is well-known for its obsidian sources. Several major sources (about 20 flows) have been identified throughout Armenia and southern Georgia. Armenia is one of the most obsidian-rich regions in the world, and the prehistoric cultural landscape is adorned with lithic assemblages predominantly composed of obsidian.

This study reports on research undertaken in Armenia in 2012-2014 and presents preliminary results obtained with a portable X-ray fluorescence (pXRF) spectrometer on the chemical characterization and provenance of 206 obsidian artifacts from the pre-pottery Neolithic settlement of Masis Blur. This assemblage was used to assess the prevailing belief that the raw material for the majority of the artifacts was primarily coming from one of the two Arteni sources in Northwestern Armenia. This is one being nearest to the settlement (65 km NW).

Geological samples were systematically documented and hundreds of samples collected. These samples were analyzed along with the archaeological samples in order to explore regional patterns of obsidian procurement and distribution in the Araratic Peninsula of Armenia.

Results
Among all the quantifiable elements Nb, Rb, Sr, and Zr proved to be excellent discriminators between all analyzed obsidian sources. The analysis of the geological samples revealed that the Akunq source of Hatis volcanic mountain, contains previously undescribed (or unprecedented) two distinct compositional types, clearly differentiated from one another by iron oxides, Strontium (Sr) and Zirconium (Zr) concentrations (Fig. 16).

The results show that the inhabitants of Masis Blur had a wide-reaching obsidian source exploitation pattern with a preference for sources located to the north of the settlement, while those in the south are completely absent from the assemblage. This difference in the source characteristics (e.g. color and internal structure) nothing else the essential parameter in the process of obsidian exploitation. Other factors such as opportunistic exploitation (e.g. sources located near summer pastures), the importance of contacts and exchange between neighboring groups, and the evolution of core circulation among such groups as more significant determinants in the choice of deposits.

It is very likely that a large group of the unassigned artifacts from Masis Blur belong to still uncharacterized sub-sources within the Geghama system. Some 9 major sources (about 26 flows) have been identified throughout Armenia. The southern Caucasus has an abundance of sources that advanced our understanding of how human groups interacted with the landscape and utilized obsidian resources through time. The southern Caucasus is well-known for its obsidian sources. Several major sources (about 20 flows) have been identified throughout Armenia and southern Georgia. Armenia is one of the most obsidian-rich regions in the world, and the prehistoric cultural landscape is adorned with lithic assemblages predominantly composed of obsidian.

Some of the sources, such as Arteni and Gutanares are only an hour drive from the Masis Blur settlement and even before the construction of modern roads would have been easily accessible; while others, such as those located in northern and southern Armenia required several hours of off-road driving and arduous hiking. Additionally, some of the flows of the Vartanis and Vosnyants volcanic ranges are under-snow cover for the majority of the year (Fig. 11).

In August of 2013 I worked out all one (Khorep) of the obsidian sources in Armenia and collected hundreds geo-referenced geological samples (Fig. 12), which were chosen for pXRF analysis and exported to the US.

Discussion
The results showed that the inhabitants of Masis Blur had a wide-reaching obsidian source exploitation pattern with a preference for sources located to the north of the settlement, while those in the south are completely absent from the assemblage. This difference in the source characteristics (e.g. color and internal structure) nothing else the essential parameter in the process of obsidian exploitation. Other factors such as opportunistic exploitation (e.g. sources located near summer pastures), the importance of contacts and exchange between neighboring groups, and the evolution of core circulation among such groups as more significant determinants in the choice of deposits.

It is very likely that a large group of the unassigned artifacts from Masis Blur belong to still uncharacterized sub-sources within the Geghama volcanic range. However, we do not exclude the possibility that this is number of these could also belong to obsidian sources of Eastern Armenia.

Acknowledgments
I analyzed 206 artifactual samples from the Masis Blur Neolithic settlement and 80 geological samples from 11 sources analyzed. The analysis of the geological samples revealed that the Akunq source of Hatis volcanic mountain, contains previously undescribed (or unprecedented) two distinct compositional types, clearly differentiated from one another by iron oxides, Strontium (Sr) and Zirconium (Zr) concentrations (Fig. 16).

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