Here we present the lithic assemblage, particularly the chert characterization through macroscopic, PIXE and pXRF analysis. Results suggest as possible provenance regions the nearby coastal bluffs and stream deposits draining across the Jurassic bedrock toward the Óbidos valley. Little is still known about the chert sources from Portugal and how they fit into the archaeological sites. With Columbeira being a reference to the Portuguese Mousterian, this study allows us to deepen the study of human population dynamics and the relationship with regional resources and landscape in the Late Pleistocene.

2 QUARTZITE CHARACTERIZATION AND PROVENANCE ANALYSIS PROTOCOL: A CASE STUDY OF LITHIC RAW MATERIALS AVAILABLE IN THE CÔA VALLEY (NORTHEAST PORTUGAL)

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Abstract format: **Oral**

Characterization and provenance determination of lithic raw material allows us to infer multiple aspects about mobility and land use by hunter-gatherers. It also allows us to understand their technological adaptation to lithic resource availability. Prehistoric knapped lithic assemblages in the Iberian Peninsula are mainly composed of three main categories of siliceous rocks: fine-grained sedimentary rock composed of microcrystalline or cryptocrystalline quartz (e.g., chert, flint, silcrete), quartzite and quartz veins. Studies and methodological approaches for the characterization of fine-grained siliceous rocks, using macroscopic/mesoscopic observations, petrography, and geochemical analysis, have been developed during the last 30 years. However, data regarding quartzite and quartz veins are scarce and detailed characterization and provenance studies remain underdeveloped. In the framework of research at El Sotillo (project CEN154P20) and CLIMATE@COA (project COA/CAC/0031/2019), we propose a protocol to identify and characterize the quartzites that are available in the lower Côa river valley (northeast Portugal), with potential for exploitation by human groups (Neanderthal and Homo sapiens) during the Late Pleistocene. In the study areas, Ordovician quartzites are present as resistant reliefs in the landscape and as pebbles and cobbles (secondary sedimentary position) in the Plio-Quaternary siliciclastic covers. Geological samples were described considering macroscopic, petrographic, and geochemical parameters. Petrographic-mineralogical characterization of the samples and geochemical analyses were performed with destructive and non-destructive methods - whereas in archaeology preference is usually given to non-destructive methods. The data collected will result in a robust database with comparable results. These "identity cards" of regional siliceous rocks with potential for exploitation during prehistoric times will be the basis for future comparisons with archaeological lithic assemblages of the Côa Valley and other sites in the surrounding.

3 THE USE OF SCHIST OUTCROPS FOR SYMBOLIC PURPOSES: THE EXAMPLE OF OCREZA

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In 2021, a new palaeolithic panel with rock art engravings on a schist outcrop was unearthed in Ocreza river. At the vertical surface of the panel appear the outlines of at least three zoomorphic figures. The use of metamorphic rocks as surfaces for artistic representations is a common phenomenon at open air sites situated near rivers in Portugal. Considering whether this fact is a cultural tendency or a random behaviour, evidence suggest that there is an adaptation on the geological context of Western Iberia. While the exploitation of schist for lithic tools is a rare phenomenon, rivers can be seen as areas adequate for hunting and highways for human mobility. Taking as a starting point the case of Ocreza and testing relevant sites of similar dating situated on schist surfaces, there will be an attempt to understand further the relationship of hunter-gatherers' mobility and schist procurement during Upper Palaeolithic times in Western Iberia.