



SDI Review Form 1.6

Journal Name:	International Research Journal of Pure and Applied Chemistry
Manuscript Number:	2014_IRJPAC_12248
Title of the Manuscript:	Chemical analysis of iron slags and metallic artefacts from Early Iron Age
Type of the Article	Original Research Article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	1. In the introduction the report on archaeometallurgy, bronze age, archaeointensity is irrelevant. Thus references to 2, 3, 4 as well as text should be removed. 2. <i>"In that case Co, Cu and Ni can be used for the study of the metallic objects provenance, because these elements cannot become a great part of metallic artefacts by contaminating [8]"</i>:> First should be grammatically corrected. Secondly the provenance is not based upon these but on Cu or Pb isotopes as well as trace element analysis. 3. <i>"P and C are good indicators of thermodynamic conditions under which these metals originate"</i>: > not necessarily, they are indicatives of smelting conditions and kiln type. Please correct accordingly. 4. For provenance and fractionation they should mention and explain the difference in elemental composition between slag and metal phases. Paul Craddock elaborates on this. 5. In Table 3 and elsewhere errors in measurements of oxides are missing. They should be quoted especially when comparisons are made. Errors should be quoted in each case of presenting results as % or ppm. 6. Figures 4 and 5 are not addressed in the text!	• Reference 2 has been removed, but the references 3 and 4 (now 2 and 3) have not been removed since they describe the relationship of processes in the system: ore → smelting → final product/waste product and it is very important for the understanding of the following text. • References 7 and 8 have been removed and the citation is given in reference 6: The behaviour of siderophile elements (C, P, Co, Ni, Cu, As) plays an important role due to their partitioning into slag and metal. While highly siderophile elements like Co, Ni, Cu and As enter quantitatively the metal, the partition coefficient between P in the silicic melt and the metal is variable. Hence Cu, Ni, Co can be used in metal artefacts for provenance studies, while P, and C are good indicators for the thermodynamic conditions under which these metals were formed or modified. • See comment 2. • Since we had a short period for correction we have not been able to purchase the publication of Paul Craddock. • Figures 4 and 5 have been addressed in the text line 282-283. But since one of the reviewers suggested to remove them we accepted this suggestion and deleted them



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		from the revised manuscript.
<u>Minor</u> REVISION comments		
<u>Optional/General</u> comments	It is an application and the originality simply lies in the use of ores by two settlements i.e. of archaeological value. Except the archaeological permit should be quoted	Ok.