

## ملخص البحث رقم (٥)

نوع البحث	سنة النشر	مكان النشر	عنوان البحث	اسم الباحث
مشترك	2016	American International Journal of Research in Formal, Applied and Natural Sciences (AIJRFANS)	<b>Analytical and Characterisation Study of Corroded Billon Coin, from Tell Basta, Egypt</b>	Saleh Mohamed Saleh Mohamed M. Megahed

### **Analytical and Characterisation Study of Corroded Billon Coin, from Tell Basta, Egypt**

#### **Abstract**

Some coins have been excavated since 1998 by the Supreme Council of Antiquities Mission in Tell Basta, El- Sharqyia governorate, Egypt. The coins were found in a salty soil suffering from large quantity of corrosion products which were mixed with salts and soil deposits. This work aims to evaluate and identify the influence of alloy compositions and corrosion processes in the burial environment on the corrosion rate. Stereo microscope, scanning electron microscope (SEM) with energy dispersive spectrometry (EDS) and X-ray diffraction (XRD) were used to characterize coinage technology, surface morphology, corrosion products, and chloride ion diffusion rate. The results signify that billon coins contain silver in metallic case in the core with a small quantity of silver corrosion products on the surface. In contrast, copper was less in the core, and the majority of it has totally turned the core into corrosion products.