

## **A NEW OCCURRENCE OF AN UPPER CRETACEOUS PHOSPHORITE BELT IN THE SOUTHEASTERN DESERT OF JORDAN**

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Cretaceous phosphorite deposits are well represented in the geological column of Jordan. They have been known since the turn of the twentieth century and mined since the 1950s in north, central, and south Jordan. These deposits belong to the Al-Hasa Formation, which overlies the main chert facies of the Amman Formation (Upper Campanian-Lower Maastrichtian). Recent work by the authors in the SE desert of Jordan revealed the presence of a new phosphorite belt trending SE-NW and extending for about 200 km. This new belt is slightly older than Al-Hasa Formation phosphorite (Coniacian-Campanian) and underlies the main chert facies of the Amman Formation. These newly discovered phosphorite deposits are sandy with  $P_2O_5$  ranging from less than 1% to more than 33%. The equivalent strata in western Jordan consist fully of limestone, marl, and dolomite with no phosphorite. This new belt was possibly deposited in a restricted nearshore environment by local upwelling around the Sirhan Arch, a mid Cretaceous positive feature in the study area. The NE segment of this belt has a rather thick overburden, thus restricting exploitation. The southern segment (about 80km) may have as much as 4 billion tons of phosphorite containing more than 20%  $P_2O_5$ .