



Magnetic Prospection at the Archaeological Site of Jebel Barkal, Sudan

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One of most important archaeological sites in northern Sudan is Jebel Barkal, an isolated sandstone butte, which became the chief cult center of the ancient Sudanese kingdom of Kush (ca. 800 BC-400 AD). Located on the western edge of the modern town of Karima, just downstream from the Nile's fourth cataract, Jebel Barkal is the site of numerous ruined palaces, temples, and pyramids.

In 2006 and 2007, we carried out a magnetic survey of about 3.5 hectares of the temple area using an Overhauser magnetometer GSM 19. Our objective was to prospect some of the unexcavated areas of the site to try to image the sub-soil remains, and our resulting map clearly shows a number of magnetic anomalies of mud-brick, fired brick and stone-block walls belonging to different ancient buildings.

Our initial magnetic results successfully revealed one corner of the wall of the early Meroitic palace B 100, which had been "lost" after its excavation in 1916, since it buried by later excavation debris before it had been precisely located on any site map. Prospection in the same area also revealed other (earlier?) massive mud walls of unknown function and character. A second area we chose for examination was that in front of the Great Amun Temple (B 500). Here we found two or three small rectangular anomalies that suggested a series of small chapels built at right angles to the paved way leading into the Great Temple; the layout was identical to chapels in front of the Great Amun Temple at Meroe. Another magnetic anomaly in front of B 500 seemed to be a predictable type of stepped podium, well-known from other Kushite temples. A third area we chose to examine was that northeast of B 500. Here we found the clear outline of a multi-chambered building (B 1700) parallel to the Great Temple, which appeared to have all the characteristics of a smaller temple fronted by a pylon. Far less clear were the complex magnetic anomalies we found northeast of B 1700. These appeared to belong to a series of adjacent or overlapping structures, but why their plans were so incoherent was puzzling.

All the features revealed by the magnetic survey are partially excavated and will be fully exposed within the next five years, this should shortly offer us the opportunity to correlate our magnetic images with actuality.