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SPACE TECHNOLOGY, ANCIENT FRANKINCENSE TRADE ROUTES, AND THE DISCOVERY OF THE LOST CITY OF UBAR

BLOM, Ronald G., Mail Stop 300-233, Jet Propulsion Laboratory, Pasadena CA 91109, ronald.blom@jpl.nasa.gov; CRIPPEN, Robert E., Mail Stop 300-233, Jet Propulsion Laboratory, Pasadena CA 91109.

The remains of the legendary city of Ubar have likely been found on the edge of the Empty Quarter in Oman, in the southern Arabian Peninsula. Legend was that the city perished in a sandstorm as divine punishment. Actually, the fortress collapsed into a sinkhole, perhaps undermined by ground water withdrawal. The site was located by a unusual combination of historical research and application of space technologies such as remote sensing and GPS navigation, all in support of traditional archaeology. Ubar existed to support the frankincense trade which flourished from about 20(K) BC to 300 AD. Frankincense is the resin of the *Boswellia Sacra* tree which grows almost exclusively in the southern Arabian peninsula. In ancient times frankincense was used for religious ceremonies, medicine, and cremations. Demand was such that it was as valued as gold in the ancient world. Ubar was a desert outpost where frankincense cargo was gathered and caravans outfitted for the long desert trek. To help locate potential sites where Ubar might have existed, remote sensing data from the Shuttle Imaging Radar, Landsat and SPOT satellites were enhanced and analyzed. The image. data enabled us to eliminate large areas of desert from consideration, and indicated precisely where to look in the field for significant sites. Most useful were Landsat images which revealed a network of tracks converging on the modern day village of Shisr. Archaeological investigation of the ruins at Shisr indicate that it is likely the legendary Ubar site. Current work indicates that additional sites to the west in Yemen arc on the ancient frankincense trade route, confirmed by an expedition in January 1997.