



**British
Geological Survey**
NATURAL ENVIRONMENT RESEARCH COUNCIL

INTERNATIONAL DEVELOPMENT

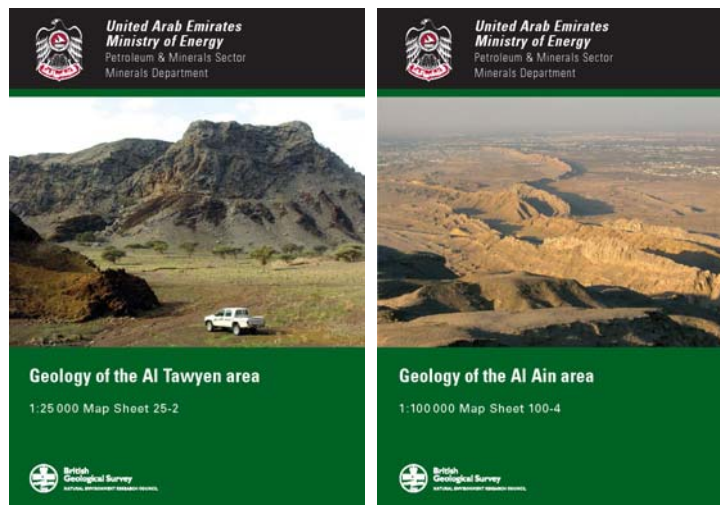
New high-quality geological maps of north-eastern United Arab Emirates : mapping the world's largest and best preserved ophiolite thrust sheet

In 2002 the BGS was contracted by the government of the United Arab Emirates to undertake a detailed geological mapping programme in the mountainous north-eastern region of the country. The project officially ended in March 2006, and over the following months BGS has published 13 high-quality geological maps at a variety of scales covering an area of 13 000 km², together with accompanying explanatory booklets. Other products include a geohazards map of the entire country at a scale of 1: 500 000 and a project report in five volumes describing the regional geology, mineral and groundwater resources, geological hazards, and environmental geology. All outputs are available from the UAE Ministry of Energy (Minerals Department) at Abu Dhabi (www.moenr.gov.ae) in hard copy and digital formats.

The project area includes a portion of the world's largest and best preserved ophiolite thrust sheet (a rarely exposed fragment of oceanic crust and mantle) which extends into neighbouring Oman. The UAE section of this ophiolite had not previously been well studied. However, the new mapping and geochemistry results, combined with data derived from seismic and airborne geophysical surveys (undertaken by commercial contractors on behalf of BGS) have given us a much greater understanding of the evolutionary history of the UAE–Oman ophiolite. We can now essentially confirm that it was initially formed at a mid-ocean ridge, was then moved sideways by powerful earth movements until it came to occupy a position above an oceanic subduction zone, and was finally thrust up onto the continental surface where it now rests.

July 2006

(Project title and duration: *Geological mapping, mineral reconnaissance, groundwater studies and geohazard assessment – United Arab Emirates, 2002–06*)



Examples of two sheet explanations deriving from BGS mapping in the UAE