MERCIAN NEWS

Update on the Deeping Elephant

The last issue of *Mercian Geologist* (Volume 14 Part 2) reported how members of the Stamford Geological Society had found and excavated part of a well-preserved example of a straight-tusked elephant, *Palaeoloxodon antiquus*, in the Deeping Bank gravel pit, north of Peterborough. This all took place in the summer of 1996, but excavation is only the start of the job. What has happened since?

Two years of work by a team of volunteers has restored most of the bones, many requiring re-assembly and gluing. The tusks were most difficult, as they were badly crushed and broken. Steve Coles has restored the smaller one, though the large tusk, some ten feet long, is still in its plaster jacket. Both tusks have been modelled from styrafoam which, with a coat of Plaster of Paris and a final covering of fibreglass, paint and varnish, look like the real thing. Replication of all the other bones has commenced. A mould is made of silicone rubber, supported by Plaster of Paris to protect the shape. Casting is in fibreglass. The process is slow and will take another couple of years to complete. Cost is also a problem; the estimate for the total replication is about £7,000, of which £1,200 has been raised already through donations. Unless the remainder can be found the job will grind to a halt.

The Deeping elephant will form the centrepiece of a major exhibition in Peterborough Museum from May to November 1999. A life-sized cut out of the beast and illustrations of Ipswichian, Devensian and Flandrian environments have been prepared. Fossil bones of the fauna from each period will be also on show, including elephant and hippopotamus from the Ipswichian, woolly mammoth, woolly rhinoceros, horse, bison and deer from the Devensian, and an auroch from the Flandrian peats of some 4,000 years BP. It is anticipated that the exhibition will attract a very large attendance.

Those Magnificent Men . . .

During August and September 1998, East Midlands residents may have been startled by a rather squat-looking, twin-engined aeroplane flying at remarkably low altitudes over their houses. The plane, a Shorts Skyvan for the enthusiasts, was in fact a flying 'platform' for a geophysical project entitled 'High-Resolution Airborne Resource and Environmental Survey' (Hi-Res-1), a collaborative venture by the British Geological Survey and World Geoscience (UK) Ltd. Based at Tollerton, near Nottingham, the first phase of the survey covered an area of around 14,000 square km. of central England, extending from Shropshire and Cheshire in the west to Lincolnshire in the east. The plane flew as low as 90m over rural areas, increasing to a minimum of 240m over built-up areas.

The instrument package on the aircraft consisted of a spectrometer to measure gamma radiation, a magnetometer to measure the magnetisation of the underlying rocks and an electromagnetic receiver to map electronically conductive zones. When processed, the resulting data will have a wide range of applications, including geological interpretation, exploration for coal, gas, oil and minerals, delineation of areas of radioactive waste contamination and radon-prone areas, and estimates of natural or 'background' radiation. Preliminary results show a greatly increased resolution of magnetic data compared with earlier surveys, as well as confirming the distribution of outcropping, uranium-enriched strata. Further information can be found on the BGS Website (http://WWW.bgs.ac.uk/bgs/w3/rgg/rgw3/html).

Asfordby Colliery closes

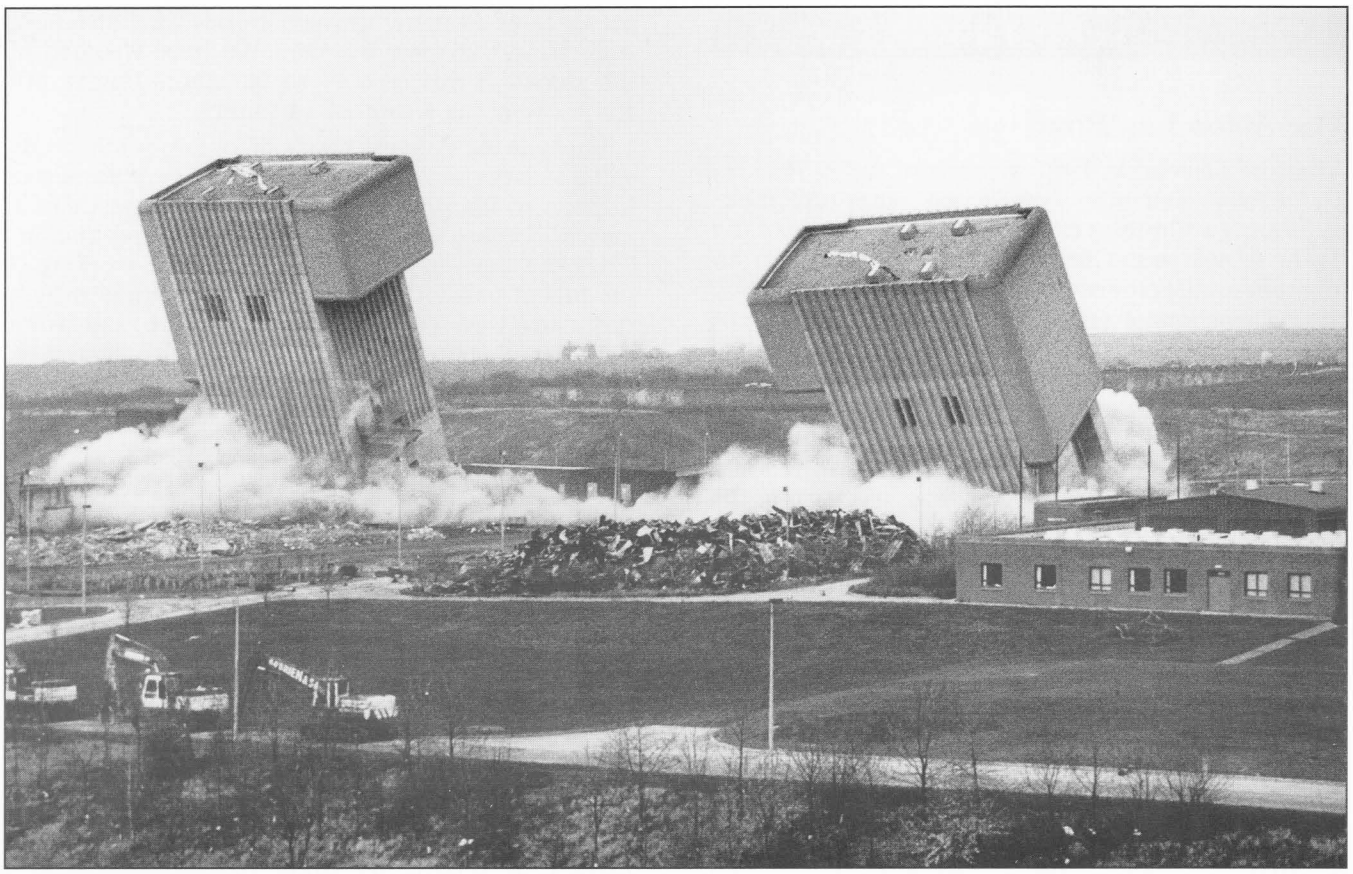
Tony Buck writes: On the 18th August 1997, RJB Mining (UK) Ltd announced the closure of Asfordby Mine, which is located near Melton Mowbray, Leicestershire. Asfordby was the biggest new mine project to be approved by the then National Coal Board for the Midlands coalfields. The original concept was to develop a mine employing 1,100 miners, mainly from the Leicestershire coalfields, producing over three million tonnes of coal a year.

Development of the mine, which employed approximately 490 people, started in 1984, with full production on the first longwall face in the Deep Main seam commencing in April 1995. The mine was equipped with the most modern machinery, but by the Autumn of 1995 the face was encountering severe difficulties due to the effects of geological conditions not encountered elsewhere in the United Kingdom. A series of intrusive sills, which lie above the operating seams, created unusual rock fracturing patterns, resulting in heavy weighting of the face, severe damage to the face equipment and ingress of water.

Several alternative mining systems were considered and in February 1996 the lowest risk option of narrow faces was tried. It was known that this was not a viable long-term option, so a slightly wider, 120 metre face was developed. It soon became apparent that conditions similar to those encountered on the initial face were developing and severe weighting problems were occurring. On the 12th August 1996 there was an ingress of water, which with the existing geological problems made the face unsafe.

The face equipment was abandoned, and RJB stated that 'We now have to accept that we cannot sustain economic mining operations while providing a safe working environment for our workforce. We have therefore, with some considerable regret, had to conclude that there is no sensible alternative but to cease mining at Asfordby'.

At the time of closure, Asfordby had produced 1.5



Demolition of Asfordby Colliery winding towers on 28 March 1998 (photo courtesy of Tony Waltham).

million tonnes of coal. Although initially sustaining operating losses, success with the revised mining plan prior to the latest geological setbacks resulted in a small operating profit in the first six months of 1997. Following closure some underground and surface plant was recovered and transferred to other mines, and as of late 1998 the two shafts have been filled and capped for safety.