

# UK Dredging expands technical capabilities

**UK Dredging**, Associated British Ports, Cardiff, UK

UK Dredging (UKD), Associated British Ports' (ABP) dredging arm, has moved from strength to strength since its establishment in 1996. Established to meet ABP's maintenance-dredging requirements and undertake third-party works, UKD, based at ABP's Port of Cardiff, is supported by a flotilla of six dedicated vessels – three trailing-suction dredgers, 'UKD Bluefin,' 'UKD Marlin' and 'UKD Dolphin,' two dredging-support and buoy-handling vessels, 'UKD Seahorse,' and UKD 'Sealion,' and one self-propelled hopper dredger, 'Cherry Sand.' In addition to dredging services, the subsidiary operates a hydrographic surveying department, specialising in port, coastal and inland surveys across the UK.

UKD has seen solid growth over the past 18 months, winning more than 30 contracts since the beginning of 2004. At present, the division is heavily involved in ABP's Immingham Outer Harbour project. The project – a £35 m riverside terminal being built on the back of a 25-year agreement with DFDS Tor Line and opening in 2006 – required the dredging of alluvium, sand and gravels, and the underlying inter-bedded glacial clays before construction could begin. The first phase of the dredging operation was completed in June 2005, with the removal of over two million cu m of sand and gravels. The second phase will see UKD removing an estimated 550,000 cu m of glacial clays by October 2005. UKD's six vessels have played a prominent role in the dredging process and have been supported by two third-party dredgers, 'Seine,' a cutter-suction dredger and 'Ajax R,' a bucket-ladder dredger, and two split-hopper barges, 'Trud R' and 'Magni R.'

The recent purchase of a Real Time Kinematic – Global Positioning Satellite (RTK-GPS) system, designed to provide highly accurate three-dimensional positioning, has meant that UKD's involvement with the Immingham Outer Harbour project is not only limited to water-borne operations. The portable RTK-GPS system was used to accurately map the extensive mudflats on which the terminal will stand. Such an analysis has previously proved to be extremely difficult, given the obvious danger posed by the mudflats. Yet a novel approach was adopted by Gareth Stevens, one of UKD's hydrographic surveyors, to overcome this problem; Gareth secured the RTK-GPS equipment to a hovercraft, which was able to skim across the mud to accurately gauge the depth of the flats.

Following UKD's judicious use of the RTK-GPS system, initial estimates of the total volume of material to be dredged were reduced by approximately 10,000 cu m. The team has also utilised quad bikes and RTK-GPS technology to map an area of reclaimed land at the Cardiff Sports Village, a £700 m leisure, residential and commercial complex, situated at Cardiff Bay. Steve Johns, UKD's Hydrographic Survey Manager, explained the unorthodox measures adopted by UKD's hydrographic survey department:

"The RTK-GPS system has expanded the scope of UKD's hydrographic surveying service enormously. Whereas conventional GPS systems could accurately produce two-dimensional maps, RTK-GPS systems can produce incredibly detailed three-dimensional charts. The chief benefit of such a system is that it is able to carefully predict the volume of material to be dredged – with obvious cost benefits for UKD. The unusual modes of obtaining results indicate the team's ability to operate under difficult circumstances, and different types of vehicle!"



UKD Dolphin and UKD Seahorse at Jersey Harbour.



UKD Marlin and UKD Seahorse dredging at ABP's Port of Immingham.

While UKD remains committed to ABP's developments on the Humber, growth in other regions remains strong, with a number of third-party contracts being awarded to UKD, including a three-year term contract with the Port of Bristol. The contract, signed in early 2005, has tasked UKD with the maintenance dredging of the port's dock entrances at Portbury and Avonmouth, and was secured following the completion of trial dredges at the port by UKD Dolphin and UKD Bluefin. Following the dredging trials at Bristol, UKD Bluefin spent five weeks in early 2005 on charter to the Danish dredging contractor Rohde Nielsen, conducting maintenance dredging for the Portuguese Ports of Setubal, south of Lisbon, and Leixoes, northern Portugal's largest port. Not to be outdone by her younger sibling, the first half of the year saw UKD Marlin carrying out maintenance dredging at the Port of Poole, and undertaking remedial works at the Tetney Monobuoy, in the Humber Estuary.

Following the introduction of new maritime security laws in 2004, UKD's fleet became one of the first companies with UK-flagged vessels to receive International Ship and Port Facility Security (ISPS) certification. Four of UKD's fleet – UKD Bluefin, UKD Dolphin, UKD Marlin and Cherry Sand – were required to comply with the legislation, which was achieved three months ahead of the 1 July 2004 deadline.

## ENQUIRIES

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