

# Gatún Contract Secures Continuity

Belgium's DEME Group subsidiary Dredging International has been involved in the Panama Canal expansion project for the past three years – and that's now set to continue for the rest of 2011

In fact, three-quarters of the deepening and widening works that were publicly tendered by the Panama Canal Authority (ACP) were assigned to, and executed by, Dredging International (DI).

From the first Atlantic to the last Pacific Ocean buoy, the Panama Canal spans a distance of 84km – around 40km of it traditionally maintained by ACP itself. The remaining 44km has been assigned in two sections to DI: 14km at the Pacific entrance and 19km in Gatún Lake.

Even though the latter's contracted for completion by April 2012, "in reality, it will be done before the end of this year," a DI spokesman told DPC.

"Widening and deepening works in Gatún Lake's navigation channel were assigned in June 2010, after which paperwork, site preparation and surveying started almost immediately. Our 9,000m<sup>3</sup> trailing suction hopper dredger [TSHD] *Breydel* arrived in October and we're confident we'll have wrapped up the project in 2011."

But, as the spokesman admitted, not everything has run smoothly. Given the tough working conditions the canal imposes, unexpected challenges were bound to occur...

## THE X FACTOR

"For one thing, the bottom of the 425km<sup>2</sup> artificial lake's covered with tropical trees, still standing strong after all these years. Dredging amidst a former tropical forest is at the least something quite strange; keeping hard wood from blocking the TSHD's draghead is a serious challenge in this unusual operation," Dredging International's spokesman observed.

There were other surprises. In the depths of Gatún Lake's navigation channel lurked old railway equipment – "some 40 wagons, plus stretches of rail, were discovered and had to be removed," the spokesman continued. "They probably dated to the French construction period [1882–1889] or perhaps the very first years of the US-led project [1904–1914]."

Of course, there was no way the

canal was going to shut down during dredging. DI had to operate amid heavy international maritime traffic – including 40 or so Panamax ships sailing by daily – which took priority.

DI's no stranger to that, having worked in the Pacific entrance (see below), but, as the spokesman pointed out, "it involved a lot of interaction with pilots and the ACP".

## MIGHTY SAMSON

The Gatún dredging calls for around 4M m<sup>3</sup> to be removed – the required design depth is 16.76m at mean lake level. The width of the upgraded channel varies from location to location,



Samson dredging on the Pacific side

but the lion's share of the work consists mainly of cutting the navigation channel's corners and excavating its curves, so that the post-expansion generation of Panamax vessels can comfortably negotiate the bends.

Essentially, that means cutting off and levelling several former islands.

In early January this year, DI reached its first milestone when *Breydel* finished the initial dredging campaign. Drilling and blasting then took place through to March, with ACP blasting in the dry on the islands and DI blasting below the water line. DPC readers will remember (Nov 2009) that for the Pacific entrance campaign DI assigned the innovative *Yuan Dong 007* drill-and-blast vessel, but by contrast all drilling and blasting in Gatún Lake was from an ACP-provided platform.

Since March, DI's 3,854kW Backacter backhoe *Samson* – one of the world's most powerful – was redeployed to remove blasted rock in Gatún Lake on completion of her part of the Pacific entrance contract. Later, probably in September, she'll be joined by DI's self-propelled, ocean-going cutter suction dredger *d'Artagnan*, once the 28,200kW CSD's completed the Pacific entrance deepening and widening.

## PACIFIC CHANNEL

As DPC reported in 2009, *Yuan Dong 007* was something of a secret weapon when it came to winning the

\$177.6M Pacific entrance widening and deepening, which is also contracted for completion in 2012 and includes upgrading the existing navigation channel and creating a new approach channel to the new locks.

Not only is she the world's first ocean-going drill-and-blast vessel, but *Yuan Dong 007* is also the largest, boasting 10 drill units and the ability to use the liquid explosive *Rioflex*. The latter is easy and fast to load into drilled holes, which enables the vessel to drill and blast up to 60,000m<sup>3</sup> in a week – that's three times the rate achievable by conventional methods.

The self-propelled, ocean-going 11,728kW CSD *Vlaanderen XIX* got the dredging show on the road, followed in June last year by *Samson*, which removed basalt rock and other hard material left after the blasting. And in January this year, DI deployed what you might think of as its second secret weapon – *d'Artagnan*.

What's the secret? Quite apart from her renowned ability to dredge rock that would normally need drilling and blasting, she's been trialling the latest generation of VOSTA LMG-developed *Duracore* teeth. Not only are they said to last far longer than conventional teeth, but they're also said to increase productivity dramatically. So, I asked, has that really proved to be the case?

"I can confirm that we've been testing the *Duracore* teeth, but we cannot give

you any comments at this stage," the DI spokesman replied.

Anyway, as we went to press Dredging International had completed more than 70% of the project and was confident enough to predict that it would round off the Pacific entrance dredging contract a full year ahead of the original schedule.

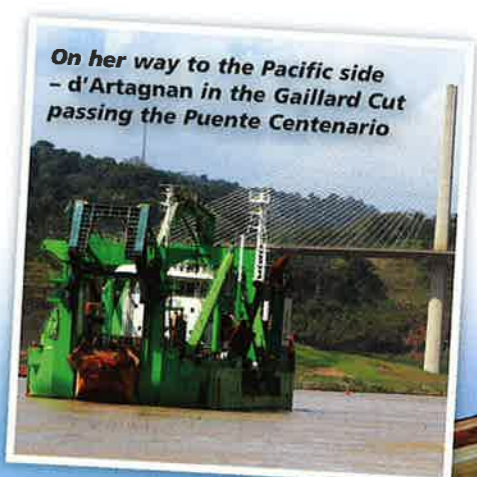
## FINALLY...

DI's Pacific headquarters was next to the old Rodman US Navy base where in 2008 Singapore's PSA International began construction of the \$150M, 500,000teu Panama Pacific Terminal.

You guessed, DI won the dredging contract, including deepening the access channel and basin, to give the terminal 14.5m alongside depth at MLWS. That project was completed in July last year and the terminal – Panama's first new port in 15 years – opened earlier this year (see DPC Mar 2011).

Needless to say, even after three years of winning major contracts in and around the Panama Canal, Dredging International is already looking for new opportunities on the isthmus.

More info at [www.deme.be](http://www.deme.be)



On her way to the Pacific side – d'Artagnan in the Gaillard Cut passing the Puente Centenario



Breydel in Gatún Lake



Photos: DEME

Through the locks – d'Artagnan arrives in Panama