Civil & Marine **Pipelines** Tunnel Mechanical

DIGGING DEEP

MACDOW

McConnell Dowell Constructors (Aust) Pty Ltd

Melbourne Head Office
Level 3, 109 Burwood Road Hawthorn Vic 3121
P +61 3 9816 2400 F +61 3 9818 3553

Sydney
Level 7, Tower B, 799 Pacific Highway Chatswood NSW 2067
P +61 2 8440 6300 F +61 2 9904 7768

Brisbane
Building 10, Level 1, Technology Office Park
107 Miles Platting Road, Eight Mile Plains QLD 4113
P +61 7 3219 0456 F +61 7 3219 7244

Western Australia
56 Kishorn Road, Mt Pleasant WA 6153
P +61 8 9315 4440 F +61 8 9315 4441

www.mcconnelldowell.com

MACDOW

McCONNELL DOWELL
CREATIVE CONSTRUCTION™

Our innovative approach to challenging projects ensures we are a supplier of choice for our clients.

We pride ourselves on being a local specialist with international expertise in delivering technically challenging HDD, micro tunnelling and pipeline projects. Our in house design capability, flexible project delivery and intuitive relationship management ensure we deliver value to every client, regardless of the challenge. Our multi-discipline capability also means we offer our clients an integrated project approach.

River Severn 1,500 m HDD Crossing, United Kingdom

McConnell Dowell successfully completed a 1,500 m, 12” diameter drill through the hard rock encountered under the River Severn in the United Kingdom. The crossing employed a single bore without drilled mud return line. MacDow’s 100 t rig was attached to pipe side of the drill string to assist with the lateral motion and the 250 t rig push reamed rock hole openers. The pipeline string was welded, radiographed and pre-tested by McConnell Dowell with the entire process completed in only 27 days.

Newbury Reinforcement Pipeline Project, United Kingdom

MacDow completed three (3) horizontal directional drills ranging from 350 m to 570 m in length on this 36” gas pipeline project for Transco in the UK. The longest and most challenging of the three drills combined a crossing under the River Thames and the high speed Great Western Railway line. The drill path encountered hard chalk and was reamed up to 48” in diameter in preparation for the pullback. A 600 mm diameter HDPE pipe, filled with water for buoyancy control, was inserted into the pipeline. The other two drills were under the M4 motorway and River Pang, each 350 m in length.

Baku-Tbilisi-Ceyan (BTC) and South Caucus Pipeline (SCP) Projects, Azerbaijan

McConnell Dowell successfully executed seven (7) horizontal directional drilled crossings on the 1,900 km long BTC and SCP Oil and Gas Pipelines project in Azerbaijan, Central Asia. The 42”h diameter pipeline crossings ranged from 500 m to 1,002 m in length and included a DN150 steel pipe for a fibre optic cable. The pilot bore was drilled with a 9 7/ 8” jetting assembly and utilised a Para Track 2 survey magnetic guidance system. This process ensured an extremely high level of accuracy in the drill profiles with MacDow’s rig operators frequently knocking the exit peg out of the ground. The bores were pre-reamed up to 54” diameter using a combination of flycutters and barrel reamers to combat the silty clay ground conditions. To control buoyancy, the team inserted 500 mm diameter and 150 mm HDPE pipelines into the strings prior to pullback and filled the anulus of the pipeline with water during the pullback process. The project set new benchmarks in health, safety and environmental management for onshore pipeline construction in this developing part of Central Asia.

Tunu Phase 8 Development, East Kalimantan, Indonesia

Completing seven horizontal directional drills in the difficult swampy environments of the Mahakham Delta in Indonesia was a challenge McConnell Dowell met with resounding success. The drills ranged from 550 m to 1,250 m in length and were for the 20” and 24” diameter high pressure gas pipelines of Total Fina Elf Tunu Phase 8 Development. The drills were undertaken in East Kalimantan’s crocodile infested swamps and McConnell Dowell’s new 250 t maxi rig spread was set up on a 50 m x 20 m flat top barge with spud legs and a ballasting arrangement. This barge borne approach allowed the drilling spread to be rigged up in position and towed into the work areas along the rivers and swamps adjacent to the live gas processing platforms. The very soft formations of clays and silts required a specialized swamp bit to be used for pilot operations and flycutters and barrel reamers were used for prereaming to the required 36” diameter. The ground conditions encountered on the project were ideal for horizontal directional drilling and barge mounting the drill rig enabled a fast construction program. The rig could be moved, set up and ready for drilling in a very short period of time. The final drill of 1,250 m of 24” pipeline was successfully installed in only 10 days.

Mozambique to South Africa Natural Gas Pipeline Project

McConnell Dowell’s first project in Sub Saharan Africa included 26” diameter, 855 km long Mozambique to South Africa Natural Gas pipeline for Sasol Petroleum International. McConnell Dowell successfully performed two major river crossings on the project including a 750 m long drill under the Sabie River and a 1,000 m long drill under the Limpopo River. The Limpopo River crossing involved drilling over 30 m below the riverbed to ensure maximum cover for the gas pipeline. This profile depth was required as the river is constantly moving within its wide flood plain.