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PROJECT REPORT

Wheatstone LNG, Australia

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Wheatstone LNG is a liquefied natural gas plant under construction in the Ashburton North Strategic Industrial Area, which is located 12 kilometres (7.5 mi) west of Onslow, Western Australia. The project is expected to cost A\$29 billion (US\$29.7 billion). The LNG liquefaction and export plant will have an annual capacity of 15 million tonnes of LNG. Bechtel Oil & Gas Chemicals Inc. is undertaking the design of the onshore gas plant, and awarded the design and construction of the LNG storage and condensate tanks to EVT, a joint venture

between Entrepouse Contracting, VINCI Construction Grand Projects, and Thiess.

EVT contracted the deep foundation works for the two LNG storage tanks to Menard Bachy Pty. Ltd., while MBPL sought out Birmingham's expertise in pile driving equipment and construction. Birmingham provided three systems of 33m L23 VTL with a B64 Diesel hammer mounted on three different cranes. Along with renting the three pile driving systems, Birmingham provided key personnel to help start the job, train MBPL employees, and service the systems.

One challenge MBPL and Birmingham overcame was to install 1.0m diameter sleeves around the 0.61m diameter driven pile. A chaser was developed that sat between the sleeve and the pile, and was driven with the B64. This voided the area between the pile and the sleeve, and left the sleeve in the ground. A second challenge was to develop system that could chase 5.0m piles 11.0m below ground and extract the chaser. Birmingham developed the idea to use a ring-vibrator, mounted to the leads just below the hammer, hanging from a Birmingham custom head sheave. It allowed the B64 to drive the chaser to depth, while the ring-vibrator would readily extract it.

Although neither party had worked with each other before, Birmingham and Menard Bachy Australia were a logical pairing for this challenging project. Birmingham for its innovative piling solutions developed from years of construction experience and Menard Bachy with its strong organizational project planning team.

"Menard Bachy Australia has been looking to the Birmingham capabilities in order to provide suitable and reliable equipment for the driving of its piles and inclusions. Three B64 hammers have been mounted on special leads fitted on three 100 to 150 tons cranes. In order to train the local staff, Birmingham have supplied some experienced staff, including site and QA engineer, piling supervisors and specialized fitter. Due to the high level of exigence of the client, these qualified personnel has been seconded to Menard Bachy for the whole duration of the project. Their skills and knowledge have allowed the project to run efficiently and to provide proper support." – Vincent Douet, Technical Manager - Geotechnical, March Construction Ltd.

