CUSTOMER SITUATION:
In 2012, a major operator required an inline inspection of a gas pipeline located in the remote jungle of South Sumatra, Indonesia. The pipeline, which is 16 inches in diameter and five kilometres long, operates at a very high temperature (107°C / 225°F) and is buried in a coal bed. In the Suban field there are hot coal seams that cause “hot spots” – depressions in the soft soil where rainwater collects and is heated to dangerously high temperatures. Anyone who accidentally steps in these holes will suffer serious burns. Because of the very high temperature of the production gas, the company had to shut down the line to carry out the inspection. As this is a very high volume well, it was essential that the inspection be completed as quickly as possible.

TDW SOLUTION:
This was the second inline inspection carried out by TDW on this line. The previous one was completed in 2009, the first time that TDW had inspected a line operating at such a high temperature. In order to mitigate concerns regarding the temperature, the customer ran sales gas through the pipeline for three days prior to the run. This had little effect, however, since the coal bed seemed to have trapped heat in the pipeline. Prior to commencing the run, TDW ran a temperature profile tool which indicated high temperatures. After performing some thermal analysis with TDW operations management and design engineers, it was decided that the run duration was adequately short to proceed ahead with the high temperature conditions. TDW provided a full inline inspection, including pre-cleaning, deformation and Magnetic Flux Leakage (MFL) inspections. For the geometry and corrosion inspections, TDW utilized its deformation (DEF) and Gas Magnetic Flux Leakage (GMFL) tools. The speed of the operation conformed to the customer’s need to keep downtime to a minimum and also kept the temperature problem from becoming a serious issue. When the 2012 results were overlaid with the 2009 data, this showed very little corrosion growth between the two runs, thus demonstrating that the corrosion control program initiated in 2009 was effective. Despite the difficulties and dangers of the surrounding environment, all work was completed without accident or injury.

CUSTOMER BENEFIT:
Given the very difficult environmental conditions, the customer was faced with a highly challenging operation. Due to the high volume of this line, the operation needed to be completed quickly. TDW carried out an operation that took just 40 minutes, yet data accuracy was confirmed in subsequent dig verifications. The corrosion data gave the customer confidence that the corrosion control program initiated in 2009 was effective. The customer was impressed with this complex operation, which allowed the line to be brought back onstream quickly.