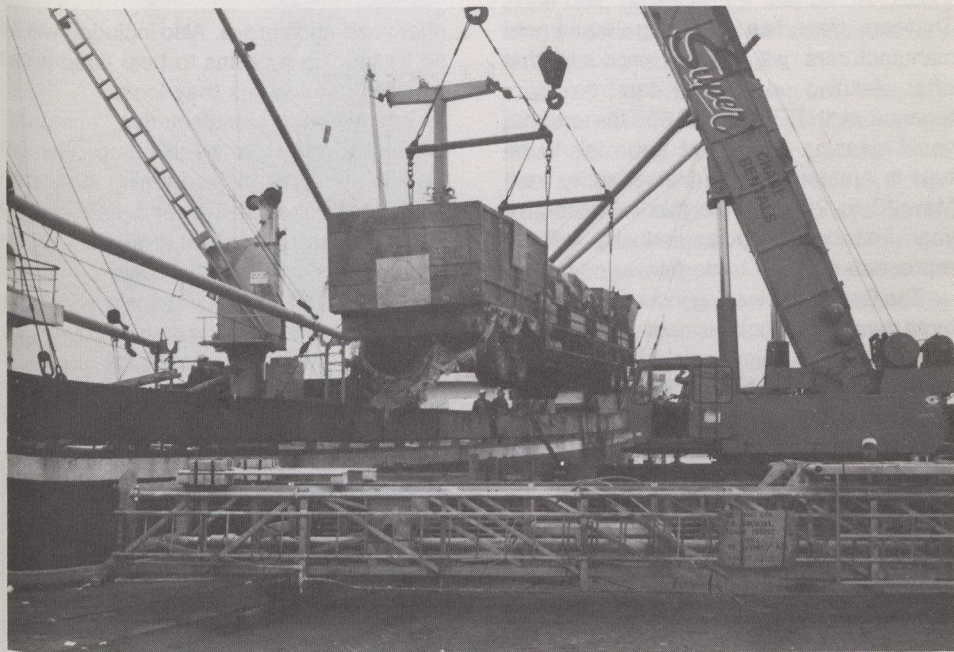


Oil rig company with right slant on the Indian market



A Cardwell oil rig is loaded aboard for transport to India.

Cardwell Manufacturing Limited of Edmonton, Alberta exported \$7 million worth of oil rigs to India in 1984, bringing its total sales to the country over the past three years to \$16 million. These 1984 exports were in addition to domestic sales of \$3 million.

Persistence has been the reason for the company's success in India, said Cardwell's president Jim Help, who has made numerous trips there since 1980. He said that export deals for the products he is marketing take up to two years to materialize and, because of that, some Canadian companies become discouraged.

Canadian expertise

Jim Help added that Canada was also known for the high quality of its oil rigs and its expertise in some areas of drilling. "Handling the sour gas of Alberta has given us expertise with hydrogen sulphide. Some wells around Edson have around 90 per cent hydrogen sulphide content. Then there is our cold weather know-how — possibly the best in the world," he said.

Cardwell Manufacturing, which was founded in 1980, was until recently called IPS Oilfield Equipment Manufacturing Limited. Among the products designed and manufactured by the company are complete rig packages including substructures, vehicle ramps, drilling fluid systems, mud tanks with solids control equipment, hydrogen sulphide control equipment, control manifolds, mud pump packages, buildings, boiler houses, catwalks and pipe racks. The company also supplies a com-

plete line of auxiliary equipment and specialized equipment for Arctic and tropical conditions, helicopter rigs, slant well service rigs, and combination conventional and continuous sucker rod rigs.

Sale of large rig

Cardwell's most recent contract in India, valued at some \$2 million, was signed with Oil India Limited, based in Duliajan. It involves the sale of one of the company's largest service rigs, a 60-tonne, six-axled vehicle with a 600-horsepower generator to power the rig. The chassis is built of sheet steel and angle iron.

One of Cardwell's largest deals, the sale of 12 rigs to the Oil and Natural Gas Commission (ONGC) in Delradun, India,

completed in May 1984, was valued at more than \$12 million.

An important development resulting from the business in India was the transfer of technology between Cardwell and the Indian companies. ONGC purchased the technology to build one of Cardwell's service rigs and the company is assisting in starting production in India.

Joint ventures

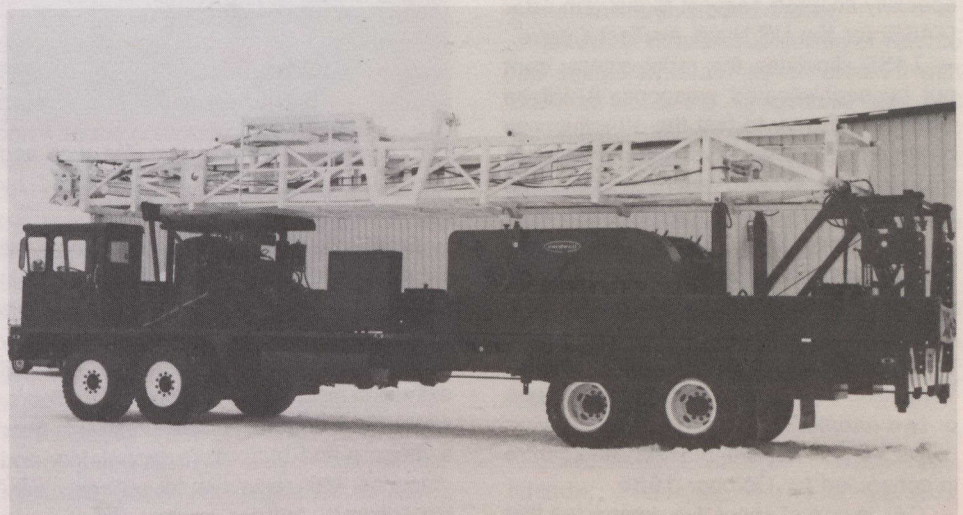
In addition, Cardwell is currently negotiating a joint venture arrangement with Bharat Heavy Electricals Limited (BHEL) to bid on projects by either quoting directly to the buyer and having some of the equipment manufactured and supplied by BHEL, or by having BHEL submit its quote to the buyer, based on buying components from Cardwell and manufacturing the finished product in India.

This arrangement is being negotiated not only for Indian end users, but also for export markets such as Pakistan and Indonesia. Cardwell is also exploring new markets in the Union of Soviet Socialist Republics, Trinidad, Bangladesh and China.

Slanted drill

In the domestic market, Cardwell has a contract for its fourth slant-service oil rig. Slant-hole drilling is a relatively new concept in the oil industry, and Cardwell manufactured the first slant-hole service rig in Canada in 1982.

In slant-hole drilling, the rig can bore a number of wells from one spot by angling the drill from the vertical position. Operating in this manner requires fewer wellheads and greater access to difficult or out-of-reach formations. It is also considered extremely accurate being able to hit a target only 3 metres wide that is up to 700 to 800 metres down and up to 800 metres away.



One of a number of oil rigs available from Cardwell.