

The TREPANNING TECHNIQUE

by Debbie Dalton

Several factors, including the downturn of the oil industry, the closing of several large U.S. tubing manufacturers and competition from foreign manufacturers, have resulted in an increased need for oil industry services to be consolidated into specialized service companies. Companies specializing in trepanning, the method of boring a hole in a solid bar and removing a solid core, are becoming more of a necessity as tool manufacturers cut back on this particular machining technique.

"It is more economical for us to go to a trepanner than to keep staff on the payroll to run our machines," says Rickey Burch, sales manager for Itag Products, Inc., a manufacturer of oil field drilling equipment in Houston which distributes to North and South America.

Many oil tool manufacturing companies have been forced to cut back due to the downturn of the industry. An individual company providing trepanning services only for its own customers cannot create the volume necessary to make trepanning cost-efficient because the machinery is never working at a productive capacity.

Hughes Drilling Equipment, also in Houston, sold their trepanning machinery in 1986 because the volume of work did not warrant the additional staff needed to run the machinery, according to E.A. Prochaska, manager of business development for Hughes Tool Company, Tool Joints and Associated Products.

"There's a real need for services such as trepanning to be concentrated in one area," Prochaska said. "By using a service company for trepanning, we can get quality products at a competitive price; therefore, we are able to pass this savings along to our customers."

Service companies which focus on selected services, such as trepanning or spiraling for a broad customer base benefit not only their own customers, they benefit the entire industry.

Boring Specialties, Inc., based in Houston, is one such company. They have one facility which only does trepanning. By drawing customers from the entire marketplace, as well as from other industries, they are consistently working at efficient production levels. This allows them to provide quick turnaround of quality product at a competitive price.

"I first realized this need for specialized service companies in the early eighties," says Charlie Elder, president of Boring Specialties, Inc. "Manufacturers that try to keep every department at full-capacity are the first to succumb to the market; when one department suffers, the entire company suffers. By concentrating on one thing—trepanning—and making it available to anyone who needs it, we are able to survive in a roller coaster market."

In the past few years, several large tubing manufacturers in the United States have gone out of business, making it harder to get tubing. Foreign competition using the latest production equipment can provide quality tubing, however it is not uncommon to wait 16-21 weeks for delivery. Because most tool manufacturers and contractors cannot afford to wait that long, an artificial shortage of tubing is created. By purchasing bar stock, or drill collar blank material and having a service company trepan it, tool companies are able to have finished tubing, drill collars and kellys in a matter of days at a competitive cost.

Trepanning is a unique boring method used by a variety of industries

including aerospace, petrochemical, oil and gas, and steel.

Because high-priced, non-magnetic metals must be used in drilling to ensure proper readings from the instrumentation passing through, trepanning takes on special importance. Trepanning is not only cost-efficient for non-magnetic metals such as stainless steel, it is also more effective. Because a solid core is removed, (see sidebar) there is little waste of this expensive metal; the core can be used again or it may be sold for scrap. In addition, exotic metals are usually more difficult to machine; in some cases the only way to produce a hole in these materials is by trepanning.

A service company such as Boring Specialties can also serve as a kind of warehouse for their customers. John Hacker, president of Hacker Industries in Henderson, Texas, says that most of the time he never sees the raw materials he purchases until they become finished products.

"We have drill collar blank material shipped directly from the steel mill to Boring Specialties in Houston; Charlie inventories and stores it with his stock and other companies' stock," Hacker explained. "When we need drill collars trepanned or spiraled, he pulls them from our stock, does the work and ships the finished product to us here in Henderson (east of Dallas)."

This service is convenient for the customer as well as for the service company. "Keeping the inventory here is quicker and cheaper than trucking it back and forth," Elder said.

In these slow economic times, it is not wise to tie up a lot of cash in inventory.

"Purchasing solid bars allows us to maintain less inventory," said Prochaska. "By having Boring Specialties trepan different sizes of I.D., we can