

charge from the jaw crusher. This material is moved to a 800-ft. x 42-in. Rohr Series II floating conveyor system to the shore.

A Peerless vertical 4,000-gpm turbine pump supplies fresh water to the dredge.

To drive the dredging operation, Rohr specified two drive and motor-control stations powered by two 2,000 kVA 12 kV-480 volt transformers and two 480 volt switchboards.

So far, according to Rohr, Vulcan is very pleased with the performance of the dredge. Rohr originally anticipated production of 1,800 tph, and currently it is providing in excess of 2,000 tph. Since the machine was put into service, there has been no significant changes made to the system.

"For a project like this, the customer has to be an integral part, not just a bystander," said Rohr. "We give great credit to Vulcan Vice President of Aggregate Operations David Pasley. We spent a lot of time together to make sure everything went right."

## 7-CU. YD. MODULAR DREDGE

Supreme Mfg. Inc., based in Stoneboro, Pa., is introducing a 7-cu. yd. modular dredge. The dredge uses modular components that can be shipped on 11 legal highway-weight truckloads, and can be assembled, according to the company, in one week. (AGGMAN, June 2001, Success in the Field, p. 28, which features a Rohr modular 6-cu. yd. luffing jib dredge.)

The dredge is capable of digging 160 ft. below the water level. One operator runs the automated machine and attached conveyor systems. It can be run via portable generators or commercial power.

Floating conveyors can be arranged in combinations from 100 ft. to 400 ft. individual lengths and total lengths to 1,000 ft. or more, according to Supreme.

Standard equipment includes:

- U.S.-built components;
- 7-cu. yd. spade nose bucket powered by a 70- to 100-hp motor;
- Deister 6-ft. x 6-ft., two-deck primary dewatering screen;
- Deister 4-ft. x 8-ft. dewatering fines recovery screen;
- Krebs cyclone;
- Galigher rubber-lined pump;
- Rockwell Automation/Allen-Bradley PLC; and

- Operator cab and control room in one enclosure.

Supreme Manufacturing also designs and builds conveyor components. The company is an out-branch of H&H Materials, a Pennsylvania aggregate producer with two sites, which use plant components designed and built by Supreme. H&H operates two 10-cu. yd. clamshell dredges designed and fabricated by Supreme.

President David Hoobler described the niche the modular dredge is targeting, "There are a lot of pits in Ohio, Pennsylvania and Michigan, where in the past, a company has dug with a small dragline or with excavators. When the pit floods, they're done, even though there still is more material.

"These pits don't merit setting up a \$2 million dredge that takes six weeks to assemble and six more to disassemble. It is just not there. It is too expensive of a machine. The production of these machines is probably too much to handle for the portable plants these operations run anyway."

The Supreme 7-cu. yd. dredge will be prewired in the shop and use bolt up connections. All components will break down

on-shore is pushed into the water.

According to Hoobler, Supreme can also build a floating crushing unit that would bolt up to the dredge if required.

"Production rate is proportional to digging depth and material, but should be able to do 300-tph plus, consistently," said Hoobler, adding, "A clamshell dredge is real dependent on material. If you have a nice gradation—usually the coarser, the better—you can dewater a lot faster, and go faster."

The design of the dredge uses a tilting boom rather than a gantry to raise and lower the bucket. The tilting boom is easier to assemble, disassemble and move, according to Hoobler. For remote areas, the dredge can be run with a 500-kW generator.

Supreme made a conscious decision to use parts that are either built in the United States or readily available.

"We would like to sell two to three of this particular size dredge each year," said Hoobler.

Another attractive feature of the dredge is that electrical components and operator controls are in one unit.

"We don't have to wire from one to the other," said Hoobler. "Also, if you have to do a repair or adjustment, it is right there in the operator's cab."

Upon sale of a Supreme dredge, the company plans to offer a two-week training period, using the operators who have run the Supreme units at the H&H site.

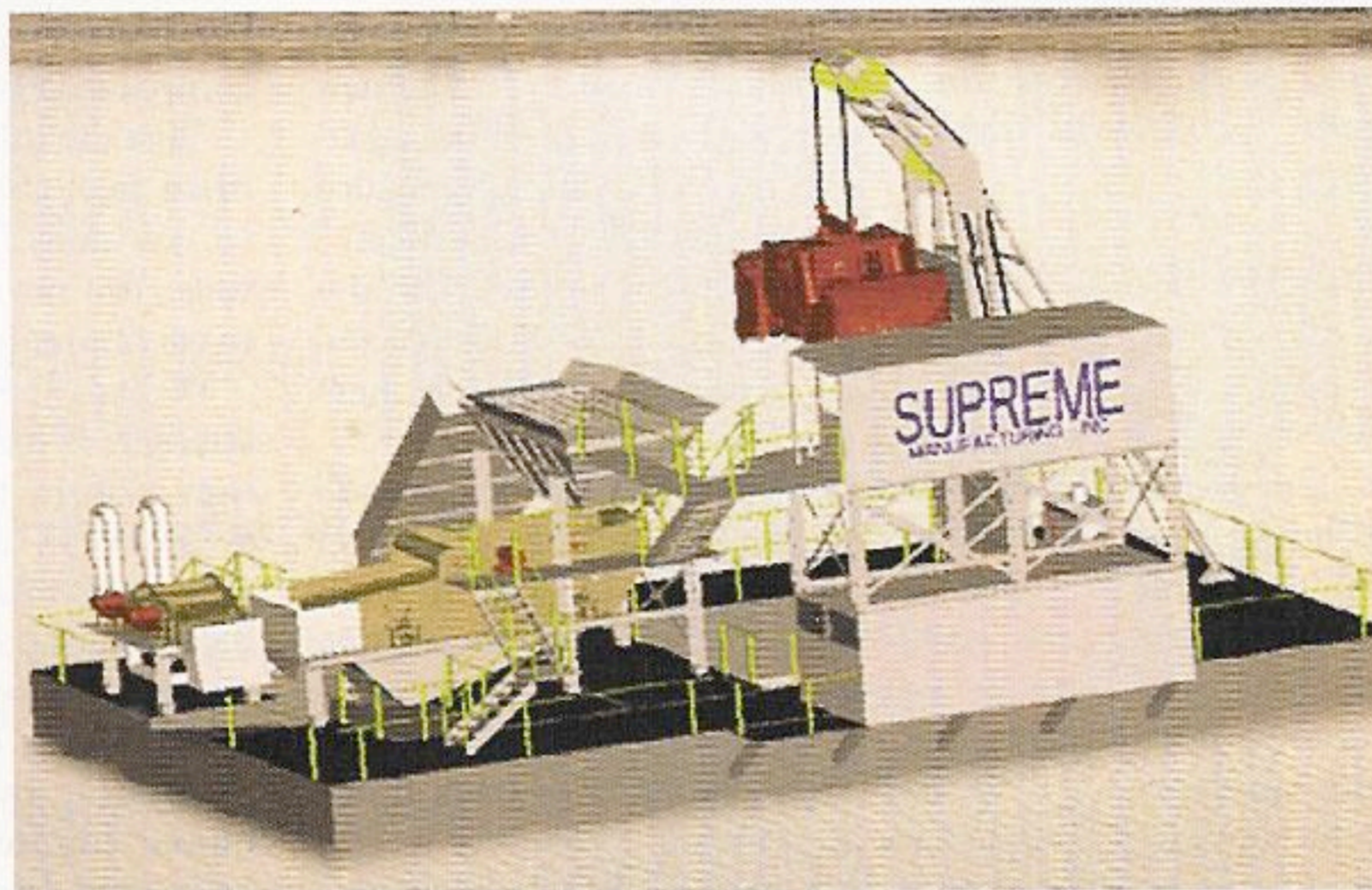
## 20-CU. YD. SKYLINE DRAGLINE

Rainier Rigging has designed two 15-cu. yd. skyline draglines that are operating in the Washington State area. Now the company says it has the engineering done

to supply a skyline dragline equipped with a 20-cu. yd. bucket—a machine that will operate using just under 1,000 hp.

"The design of the 20-cu. yd. system will be very similar to the 10- to 15-cu. yd. systems, just much bigger. It will get up in the neighborhood of 400,000 to 450,000 lbs. working weight," said Rainier President Mike Walch.

Rainier started building prototype skyline draglines as early as in the 1970s. From the time when the company mainly operated as a logging company, using cable logging techniques, to near present, Rainier had built its skyline draglines for



**This three-dimensional computer-generated image depicts Supreme Manufacturing's 7-cu. yd. tilting-boom modular dredge.**

into road portable units. For instance, the hoisting unit and boom base are fabricated in two pieces so it can bolt together on-site.

With these design features, Hoobler estimates the dredge will be able to be set up in a week.

"With the prewired and bolt-up connections inside the pontoons, we will be able to set the pontoons one at a time onto the water. We will be able to set up the pontoons in a day and assemble the rest of the dredge on the water," said Hoobler.

Another advantage of building the dredge on water is eliminating the possibility of damage when a dredge assembled