

Going for the Good Stuff

Two big Hitachi excavators remove overburden for limestone quarry



If you want to pump out 15,000 tons (13,608 metric tons) of earth per 10-hour shift, you'd better bring some high-production equipment and set it up to rock and roll. That's just what Walsh Construction is doing at the McCook Reservoir Project in southwest suburban Chicago. Under a \$58-million contract with the area's Metropolitan Water Reclamation District, Walsh is excavating 7 million cubic yards (5.35 million cubic meters) of overburden from a series of old sludge lagoons located along Interstate 55.

Under the overburden, which ranges from 25 to 45 feet (7.6 to 13.7 meters)

deep, lies about 100 million tons (90,718,474 metric tons) of valuable limestone needed for construction purposes. In fact, Vulcan Materials Co., the big Birmingham, Alabama, aggregates company, has an existing quarry and crushing plant nearby and owns the right to mine the limestone.

To strip the overburden, Walsh selected a pair of high-production Hitachi workhorses: an EX1200 and an EX1100. "We chose those machines for their high horsepower and production capacity, and we've been very pleased with them," says Ricardo Vazquez, Walsh's project manager. "Our production is very good."

Fitted with a 9.5-cubic-yard (7.26-cubic-meter) bucket, the EX1200 loads a 40-ton articulated truck with three passes when working in soft ground near the surface. The EX1100 sports a 7.0-cubic-yard (5.35-cubic-meter) bucket and can load a truck with four passes in the same ground. Walsh runs five articulated trucks with the two machines. This is an unusual earthmoving project, because it's really set up like a factory. The articulated trucks feed earth and rocks into a trap loader, which in turn sends the material to a conveyor belt that begins in the sludge lagoon. In five legs stretching for more than 10,000 feet

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Mass Excavation

(3048 meters), the conveyor carries the material under Interstate 55, onto a bridge over the Des Plaines River, and into the nearby Vulcan quarry. There, the material is deposited into a disposal pit.

The challenge of the project, says Vazquez, is the variable nature of the earth, rocks, and construction debris that the big excavators must dig out and load. “The problem is that the gradation of the material is not homogenous,” says Vazquez. “We’ve got everything here, from silt and sand to boulders ranging up to 5 feet in size. Sometimes you dig into dirt and suddenly it turns into peat.”

The big excavators can handle the top 10 to 15 feet (3 to 4.6 meters) of excavation with no help. For the remaining 25 to 30 feet (7.6 to 9.1 meters) of digging, Walsh brings in a large bulldozer fitted with a ripper to loosen the hard-packed soil and rocks. Boulders are common, yet the

conveyor can’t handle them. So a large grizzly, which is a screen deck composed of iron bars spaced like a grizzly bear’s claws, scalps the boulders from the material before it hits the conveyor.

For the deeper hard-packed ground, Walsh took off the 9.5-cubic-yard (7.26-cubic-meter) bucket and mounted a 6.0-cubic-yard (4.6-cubic-meter) bucket on the EX1200. “It’s probably the hardest ground I’ve ever dug in,” says Mike Menolascino, who operates the EX1200. “We’ve got everything from one-foot (0.3-meter) rocks to 8-foot (2.4-meter) boulders. With the 6.0-cubic-yard (4.6-cubic-meter) bucket, it digs a lot better, and it’s a lot less abusive to the equipment.”

With the 6-cubic-yard bucket, Menolascino says it takes the EX1200 five buckets to load a truck. “The hydraulics are strong, and the machine has good power,” he says. “All around it’s a good machine. We’ve only had minor problems with it.”

Vazquez is pleased with the uptime and fuel usage of the two big excavators. Uptime for both machines averages about 80 to 85 percent. Diesel fuel costs about \$140 per hour for the EX1200, and slightly less for the EX1100. “We’re happy with the fuel consumption rates that we get from those Hitachi machines,” says Vazquez. Excavation began in September 2004, and will continue through 2007. As of late summer 2006, Walsh had excavated 3.1 million cubic yards (2.37 million cubic meters). “We’re close to the halfway mark, and going full blast — two shifts a day, five days a week,” says Vazquez.

Walsh Construction is serviced by Howell Tractor & Equipment, Elk Grove Village, Illinois.



Ricardo Vazquez, Project Manager and John Kehle, Equipment Manager

