# Versatility delivered

## A tracked crusher gives a contractor the ability to process material in its own yard or on Arizona mountainsides.

BY TOM KUENNEN

A new Mobicat jaw crusher is producing aggregate in Arizona from demolition concrete, reclaimed asphalt pavement and virgin stone brought to a yard from housing sites in the mountains above Phoenix and its surrounding suburbs.

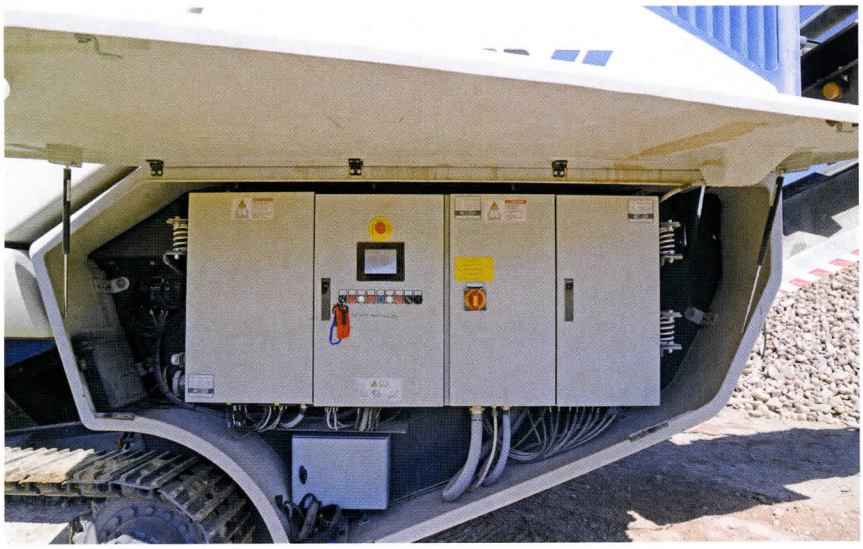
This specific Mobicat – the Mobicat MC 110 Zi EVO – belongs to Domres Grading Inc. Domres specializes in preparing sites for mountainside residences. Eventually, the company will take advantage of the Mobicat's tracked mobility and put it to use on mountainside construction sites, where it will crush excavated stone for reuse on the same site.

"We needed a machine that would produce for us in our yard but also have the mobility to get into small, tight areas, like our hillside excavation work on the sides of mountains," says Tom Domres, company president. "We do custom homes and need to be able to climb up a mountain, get on a small site and crush."

According to Domres, the MC 110 Zi EVO is easily maneuverable and features a big jaw in a small body.

"We can get onto a small, postage stamp-sized site and produce a lot of material," he

**Domres Grading ultimately plans to take advantage of the Mobicat MC 110 Zi EVO jaw crusher's tracked mobility and put it to use on mountainside construction sites.**



**The Mobicat control panel. High-pressure air is used in the control-panel chamber to keep out dust, dirt and other contaminants.**

says. "We will take the rock out of the ground, drop it in the hopper, and it will come out the other end at minus 3 in., ready to lay down."

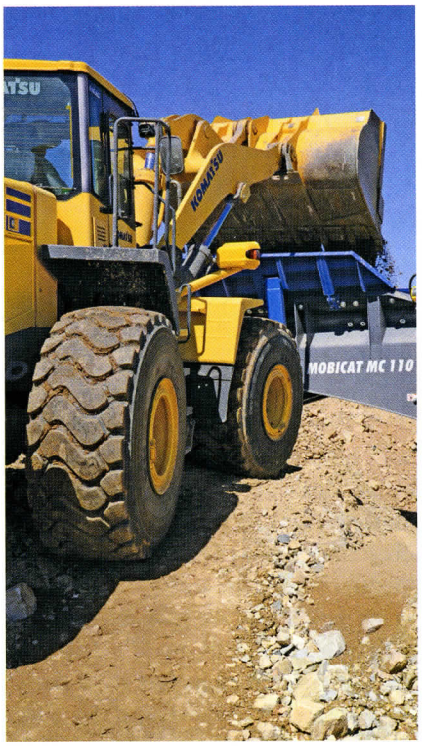
The MC 110 Zi EVO's compact size and powerful tracks make work on mountainside home sites a possibility, Domres adds.

"That's where this crusher will shine, because until track-mounted crushers came out, we had to haul the excavated rock out and crush it down below – at considerable expense," he says.

Ryan Domres, the manager of Resource Recycling of Arizona LLC, an affiliated firm that shares the MC 110 Zi EVO with Domres Grading, says use of the machine cuts costs in a number of ways.

"We eliminate the trucking costs, plus [there's] no dump fees for bad material, no fees for purchasing new material to replace the bad, and no fees for hauling new material back in," Ryan says.

Exhaust emissions and airborne particulate matter from haul trucks are also eliminated, he adds. In addition, reuse of excavation material on site makes a residential project eligible for Leadership in Environmental and Energy Design (LEED) certification. LEED Materials & Resources credits are awarded based on diversion of construction waste from landfills, resource reuse, recycled content, and use of regional materials.




**A Komatsu wheel loader charges the Mobicat MC 110 Zi EVO.**

"Our nation is moving toward recycling and reuse, and we want to be a part of that," Tom says.

## About Mobicat

The new Mobicat MC 110 Ri EVO and MC 110 Zi EVO mobile jaw crushers from Kleemann were introduced to the North American market at ConExpo-Con/Agg 2014, and the same MC 110 Zi EVO on the Las Vegas show floor is now at work with multiple applications for Domres Grading Inc., an Arizona contractor, and its recycling subsidiary.

Both models are Tier 4 Final compliant. The new MC 110 Ri EVO has a vibratory feeder with integrated grizzly, while the MC 110 Zi EVO incorporates a vibrating feeder with an independent, double-deck, heavy-duty prescreen. Both feature a crusher inlet of 28 in. x 44 in.

Both machines have been completely redesigned with a lighter transport weight to ease portability, with the MC 110 Ri EVO weighing 85,000 lbs., and the MC 110 Zi EVO weighing 87,100 lbs. The new design includes hopper walls integrated in the chassis, and a fully hydraulic crushing gap adjustment via touch panel.

### Prescreen boosts throughput

One feature the Mobicat MC 110 Zi EVO offers that stands out to Ryan is an independent prescreen.

"The prescreen is a real big deal for us," Ryan says. "With the grizzly in our old machine, mud would build up and blind over to where it could not be side-discharged. It would pack up with mud all the way to the grizzly, and all the fines would be forced through the jaw."

The way this prescreen shakes, all the mud and wet material falls through, Ryan adds. With the old machine, mud and wet material would be compacted into a blob that rides across the grizzly feeder and into the jaw. It would then lock up in the jaw and the machine would be crushing wet, sticky mud, sand and dirt.

**Domres Grading's Tom Domres credits the substantial fuel savings of the Mobicat to the plant's diesel-electric drive system.**

"The prescreen provides a totally different motion from the vibrating grizzly," Tom says. "The grizzly has a linear motion, while the prescreen has an elliptical motion – just like a standalone screen would have. It separates the material instantly, and that's big for us."

According to Kleemann, it offers both vibrating grizzly and independent prescreen models in its 2014 configurations.

"We want to offer a machine with the same features as competing manufacturers while presenting a different model that may cost a little more, but provides the enhanced productivity of the independent prescreen," says Kelly Graves, Kleemann technical service manager.

## Other benefits

Users of the MC 110 Zi and the MC 110 Ri benefit from a newly designed crusher unit with an extra-long, articulated crusher jaw, according to Kleemann. Like the EVO Mobirex mobile impact crushers, the Mobicat EVO mobile jaw crushers use direct-drive crushers and electric drives for the vibrating conveyors, belts and the prescreen. This leads to an efficient operation, Kleemann says, with low fuel consumption. This also allows for optimal crusher loading.

## Did you know?

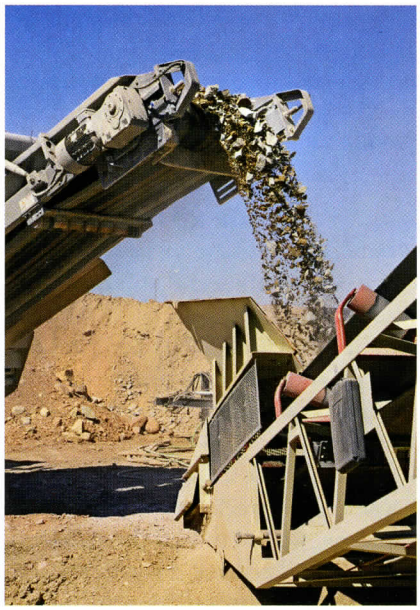
Domres Grading and Resource Recycling of Arizona share the Mobicat MC 110 Zi EVO across the family companies.

Tom says he noticed substantial fuel savings at the 100-hour mark of the Mobicat's use. He attributes the fuel savings to the machine's diesel-electric drive system.

"Today, fuel consumption is a big deal," Tom says. "We don't have the exact numbers this early, but not only is the Mobicat 'crushing' our other crushers, but [it's crushing] all our other equipment in fuel consumption. We can't believe the amount of fuel that we are not using. We had not been familiar with the diesel-electric drive but now are believers in its fuel economy."

According to Kleemann, its continuous feed system manages a more equal loading of the crushing area, in which the conveying frequencies of the feeder trough and the prescreen are adapted independently of each other to the level of the crusher. This boosts performance, the company says.

The new Mobicat crushers incorporate a newly designed longer swing jaw, which prevents coarse material blocking while moving all mounting elements of the crusher jaw from the wear area.



**With Kleemann's Continuous Feed System, each step the material goes through in the plant is wider than the diameter of the one before it, eliminating choke or wear points.**

In addition, the transfer from the prescreen or the feeder trough is designed so material simply tilts into the crushing jaw, providing an even material flow. With this property and other features, the Mobicat MC 110 Ri and MC 110 Zi achieve outputs of up to 300 tph. PP&E

Tom Kuennen is a freelance writer specializing in the construction, energy and mining fields. Visit his website at www.expresswaysonline.com.