

## Tucson firm gets contract

# Computer to direct Chino mining

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If copper prices won't go up, production costs have to come down. That's the goal of the Chino Mines Co. which has announced the addition of more state-of-the-art equipment at its property.

Chino divulged Friday that it has signed a contract with Modular Mining Systems of Tucson, Ariz., for installation of a computerized truck dispatching system at the Santa Rita open pit.

A similar Modular Mining package is in use at the Tyrone Branch of Phelps Dodge where production increased an average of 11 percent since equipment was installed.

Friday's disclosure came from Kennecott Vice President and General Manager David Kinneberg, who ended years of speculation that the mine would someday computerize its mining operations.

Modular Mining System's software/hardware package, dubbed "Dispatch," should be in operation at Santa Rita by the end of the second quarter next year. Specialized two-way radios and microprocessors will be installed on all trucks and shovels, which in turn will be linked by radio to a central mainframe computer (the Digital Equipment VAX 11/750).

Each truck driver will operate a dash-mounted computer terminal which will dispatch her or him to shovels, the waste and leach dumps, or to the primary crusher.

The mainframe computer will receive information regarding truck locations, shovel loading time and equipment status on a continuous basis, partially from "roadside sign posts" which relay the information to the computer.

Dispatch increases efficiency of a mine by improving haulage route selection, cutting down delays and providing better utilization of equipment. Management is provided with timely reports on mining statistics and operations.



## MODULAR MINING SYSTEMS

Modular Mining has installed their system at six other mines throughout the world. The first went into operation at the Tyrone Branch in 1980; the second was at Quintelle Coal Ltd. in Tumbler Ridge, B.C., Canada; the third at the Morenci (Ariz.) Branch of Phelps Dodge; the fourth at Bougainville Copper Ltd. in Papua, New Guinea; the fifth at Iron Ore Co. of Canada at Labrador; and the sixth at Pala Bora, South Africa, a copper

Modular Mining had been competing for several years for the Chino contract, as had been Motorola Communications and Electronics which developed "Data Ranger." Motorola was apparently the chief competitor for the Chino project.

But Data Ranger has only one operating system at present.

Moreover, the system planned for Chino will be an updated version of the package serving the Tyrone Branch. Improved software and vehicle terminals with higher-speed microprocessors will be installed.

Modular Mining is a privately-held company founded in 1979. The firm has about 25 employees and has developed its "Dispatch" through a technology exchange with Phelps Dodge, which bought the first system.

The Chino contract is reportedly for about \$1 million.



## 'Dispatch' at mining show

Modular Mining Systems President Mike Arnold, facing camera, is shown in this 1982 photograph of the company's booth at the American Mining Congress international mining show in Las Vegas, Nev. The company has redesigned the appearance of its consoles since this photograph was taken.