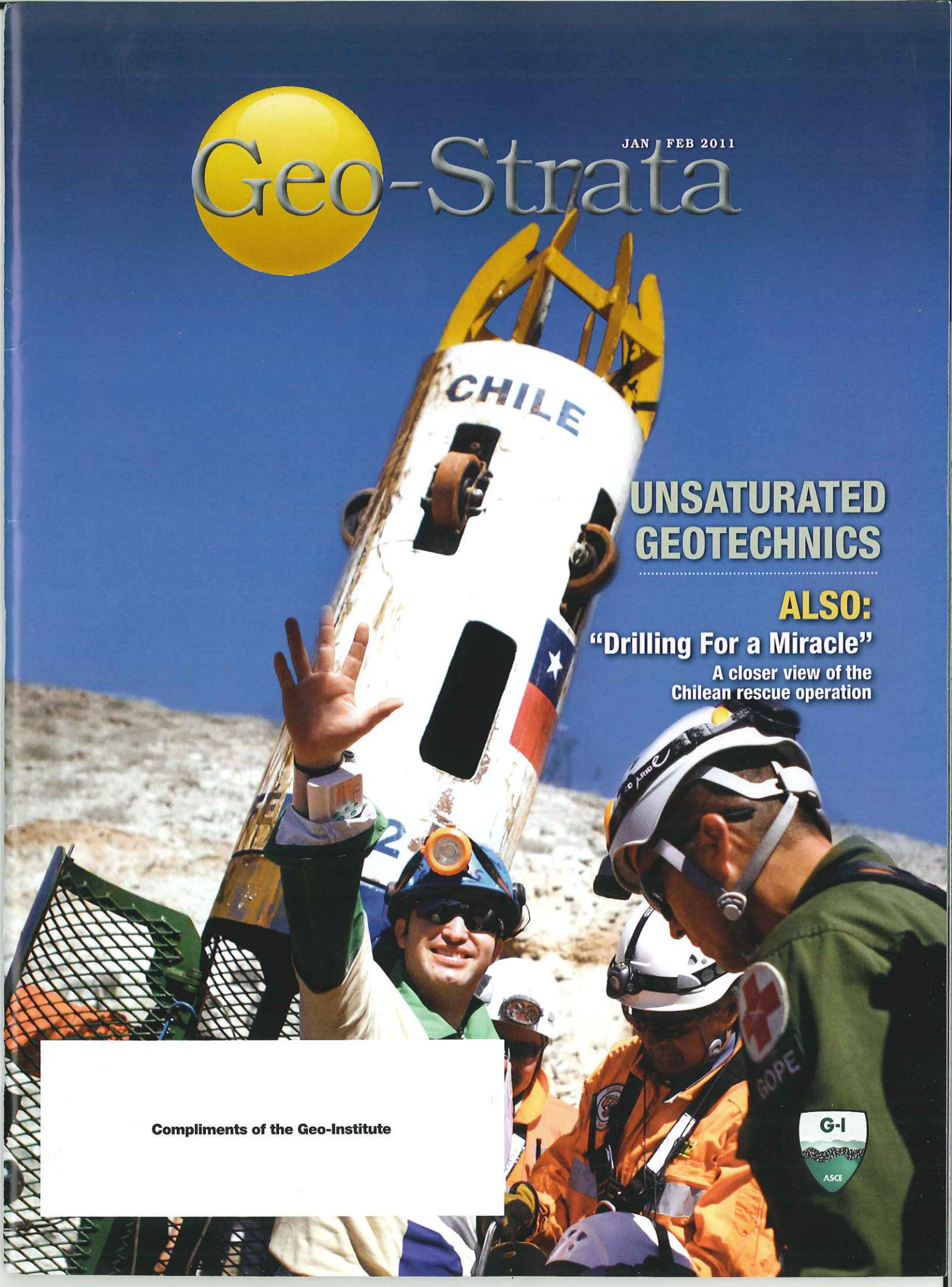
Geo-Strata

JAN | FEB 2011



UNSATURATED GEOTECHNICS

ALSO:

"Drilling For a Miracle"

A closer view of the Chilean rescue operation

"Jane has extensive public service and private sector housing and development experience that will make her an invaluable asset to HUD and the communities we support along the eastern seaboard," said Donovan. "Her expertise includes the analysis of issues related to supply and demand of affordable housing, residential development potential in urban downtown districts, and transit-oriented development projects, all of which are priorities in HUD's efforts to revitalize communities."

TDA in use for Interstate at Dixon Landing.

TDA and Its Lightweight Characteristics

Tire-Derived Aggregate (TDA) provides a cost-effective alternative to conventional aggregate for use in lightweight backfill projects. It is also good for the environment because it reduces the need for mined aggregates such as gravel, and keeps thousands of tires out of landfills and stockpiles with every application.

TDA is an excellent lightweight fill alternative when constructing highway embankments on weak soils because it weighs 50 percent less than conventional soil fills. As a result, these embankments have greater stability with less settlement.

TDA has been used to construct large embankments in two major projects in California. The first was in 2000 at the Interstate 880 interchange at Dixon Landing in Milpitas. The project used 660,000 waste tires and saved California taxpayers nearly $240,000. The second project, completed in 2009, was at Confusion Hill along U.S. 101 near Garberville where 270,000 waste tires were used and saved the state an estimated $320,000.

For more information: *www.PavingGreenRoads.com*

Restoration Experts Put Finishing Touches on Leaning Tower of Pisa

The Tower of Pisa was declared a World Heritage Site by the United Nation's cultural organization UNESCO in 1987, but was closed to public in 1990 as experts feared it would topple over.

"The tower was on the verge of collapse, but we managed to stop the tilt and secure it," said Giuseppe Bentivoglio of the Opera Primaziale organization that preserves the structure. The tower, which weighs some 14,500 metric tons and is over 183 ft. on its highest side, was reopened in 2001 after undergoing an 11-year restoration from 1990 to 2001. The restoration stabilized the building's lean, reducing it from 5.5 degrees to 3.99 degrees. Experts are not sure of the reason behind Pisa's famous lean, but is said to have been caused due to a flawed design which had set a three-meter foundation in weak, unstable subsoil.

The tower is also being cleaned of sea salt, pigeon droppings, and tourist graffiti, giving it a shiny glamour. Restorers used lasers, chisels, and syringes to clean the tower's 24,424 blocks of stone before the scaffolding comes down early this year.

To submit information for *Geo-Strata* magazine, or possible posting on the Geo-Institute web site at *www.geoinstitute.org*, send us brief news about your recent honors, awards, special appointments, promotions, etc. High-resolution photos must be sent as separate files. Send to *geo-strata@asce.org*. Sales-oriented content should be directed to Dianne Vance, Director of Advertising at (703) 295-6234.