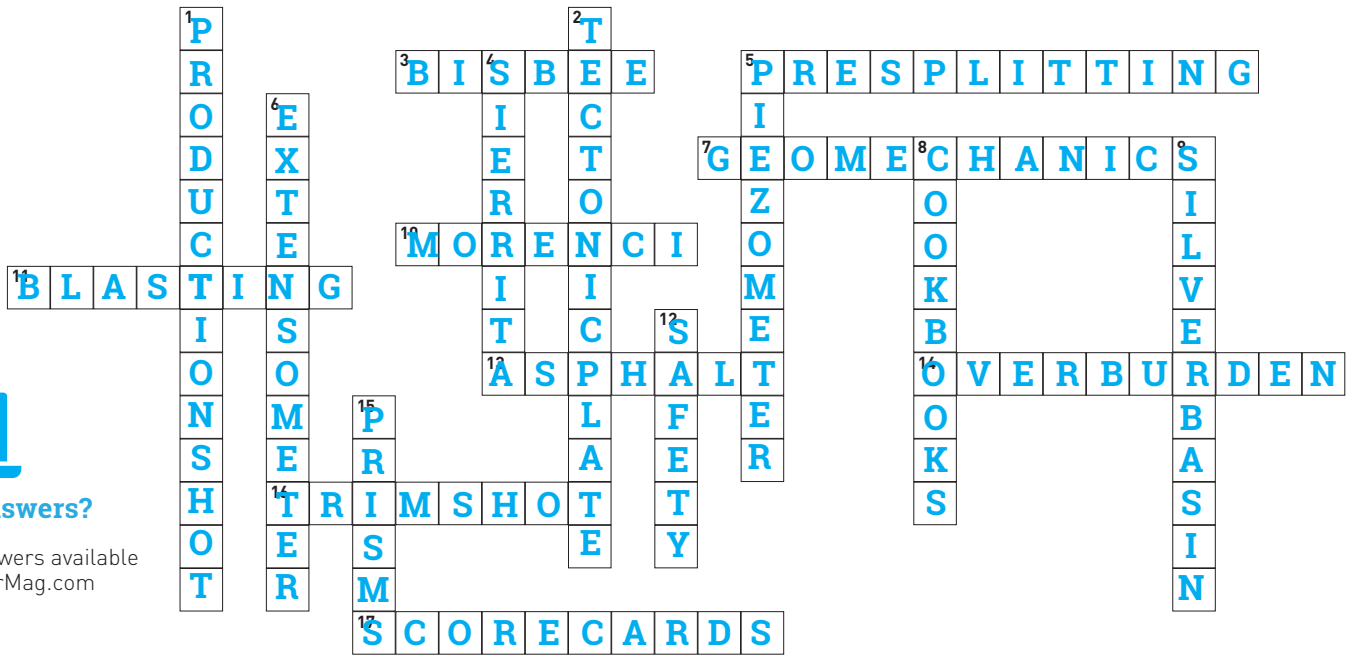


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ACROSS

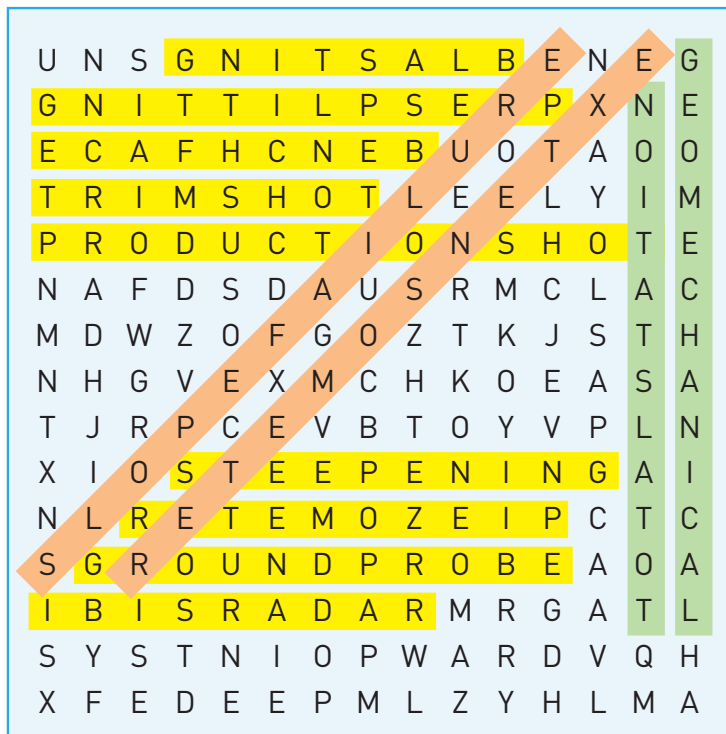
- Reclamation efforts at this discontinued operation won the 2018 National Mine Reclamation Award in the Non-Coal category
- Blasting holes just 6 inches in diameter drilled along a desired crest line to induce a break along the holes
- The study of how soils and rocks deform, sometimes to failure, in response to changes of stress, pressure, temperature and other factors
- The mineral system at Lone Star may well be consistent with the company's mine here
- All the company's North American open-pit mines use drones to video these operations
- Rather than clay, this material will make up the core of the reservoir relocated at Morenci operations
- Crews are stripping away 700 feet of this at Safford's Lone Star project
- Smaller, more precise blasts of varying patterns done to sculpt the pit wall
- An extension of the cookbooks developed at mills to evaluate how equipment is operating and how well employees are operating that equipment

DOWN

- The matrix of 50-foot holes blasted to break up the ore that shovels then load into haul trucks
- One of the parts of the earth's surface that move in relation to each other

DOWN (CONT.)

- This site produced a record 52.4 million pounds of moly leach in 2017
- A method of sub-surface measurement that measures changes in water pressure
- A simple, reliable way to measure ground movement invented in 1879
- Metallurgists at the company's mills develop these for best practices and consistency between crews
- This 40-year-old reservoir at Morenci operations is being relocated
- The overwhelming factor that determines whether a slope can be steepened
- These are attached to metal posts hammered in at hundreds of locations in an open pit to track movement



WORD SEARCH:

Slope Optimization

- BENCH FACE
- BLASTING
- EXTENSOMETER
- GEOMECHANICAL
- GROUND PROBE
- IBIS RADAR
- PRE-SPLITTING
- PIEZOMETER
- PRODUCTION SHOT
- TOTAL STATION
- SLOPE FAILURE
- STEEPENING
- TRIM SHOT