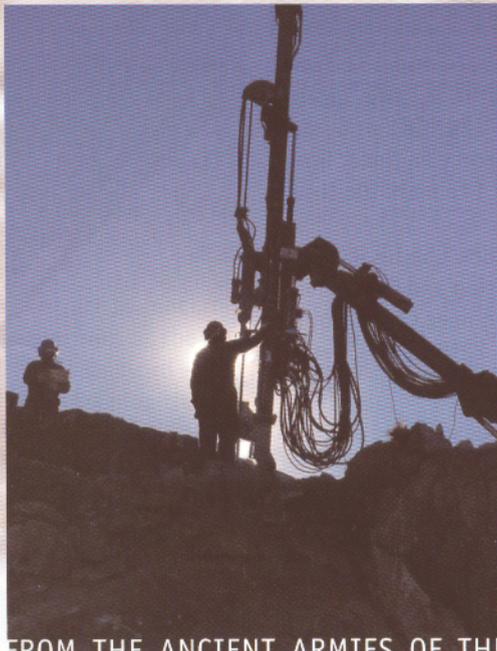


This School is a Blast

There are wild extremes of weather, from picture-postcard lakeside idylls to cold mountain vistas. But students learn a lot about one of the most specialized jobs in the Navy.

And then they get to blow stuff up.

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FROM THE ANCIENT ARMIES OF THE Great Byzantine Empire and Roman Legions to modern military forces in the Middle East, there are a couple of elements that make many armies in history successful — water, and rock.

Water, because huge combat forces require water to sustain them, and rock, so that roads, highways, airfields, port facilities and foundations for camps can be built to support fighting forces. The mission of the Naval Construction Force takes Seabees all over the world. Oftentimes, Civil Engineer officers and the Seabees must rely on acquiring building materials from the local area to complete mission tasking.

See what we mean? Water and rock.

In the high desert hills above the Naval Air Warfare Center (NAWS) in China Lake, Calif., a group of Seabees train the Navy combat engineers in the fields of Water Well Drilling and Blasting and Quarry Operations. NAWS China Lake is home for the Naval Construction Training Unit and the military professionals dedicated to providing a world-class education in how to get water out of the ground, and “making little rocks out of big rocks.” Senior Chief Equipment Operator (SCW) Douglas Hunt is the officer in charge of the unique Navy school unit.

For those who have never been to the high desert, China Lake can be a study in contrasts, especially in the summer months when the temperatures often exceed 115 degrees and everyone carries water to avoid dehydration and heat stress.

During the few winter months, China Lake gets cold, often hitting temperatures down to 10 degrees. Winds come off the nearby Sierra Nevada Mountains and whip through the area, adding wind chill to an already frosty environment. And when you consider the desert is home to a variety of unsavory creatures, such as rattlesnakes and scorpions, it’s no place for the timid or tender of foot.

Water Well Drilling training is ideally suited to the high desert because of the varied geologic formations. Water Well classes drill between two and three wells in a six-week course. One well may be in an ancient lakebed at a depth of

300 feet and the next well may be in a confining layer of granite or volcanic basalt where the depth could go as deep as 1500 feet. Drillers are challenged with learning how to bore through various strata to different depths.

Water Well drilling is a remarkably refined art that requires an ability to interpret geologic data and identify water-bearing formations through surface indications. Using the latest technology



and equipment to drill the water well, Chief Equipment Operator (SCW) James Jones, Equipment Operator 1st Class (SCW) John Romero and Construction Mechanic 2nd Class (SCW) Caleb Painter lead the NCTU Water Well Team.

You say you need several tons of granite blown out of the side of a mountain? “Can do, sir!” This is where the Blasting and Quarry crew, led by Chief Equipment Operator (SCW) Timothy “DZ” Dziergas steps in to teach Seabees.

As lead blasting and quarry instructor, EOC Dziergas and a select few experts, such as Equipment Operator 1st Class

(SCW) Phil Cuzzetto and Construction Mechanic 1st Class (SCW) Lewis Lovos, provide classroom training, teaching the basic theories of soil mechanics, rock drilling and explosives. Once the students have passed a strict series of examinations, it’s off to the quarry site for hands-on operations.

When an area of rock is chosen for demolition, an exacting process takes place. The weight and composition

of the soil is calculated and the blasters decide where they may want to “move” it. Holes are drilled to a specific depth and placement into the rock. It’s quite an operation to watch as the drillers gracefully operate heavy equipment up on a rock ledge.

As the holes are drilled, they are capped to prevent any debris from entering and interfering with the explosion. Then all the charges are set in place.

Some blasts, called “shots,” are done with plastic explosives. At other times, the shot might call for an Ammonium Nitrate and Fuel Oil (ANFO)

mixture. Each method and related tasks is a precise and rigorous process, with each hole containing a precisely pre-determined amount of the correct explosive.

Safety is the top priority with this training. Rigid Operational Risk Management (ORM) is performed at every level of the operation with no room for short cuts. Safety procedures and pre-mishap plans are briefed, and the use of appropriate personnel protective equipment is strictly enforced. Only authorized personnel are allowed in the blasting area and every conceivable precaution is taken. When every safety requirement is checked and double-checked, the blasters are ready to fire.

Non-essential personnel are mustered at a safe distance away from the blast zone. Only a select few personnel are allowed in the bunker, a steel container covered with sandbags.

The lead blaster for the shot makes one final check of the area and proceeds to the bunker. A siren wails and a countdown begins.

“Fifteen, fourteen ... three, two, one — *fire the shot.*”

In a moment, several tons of rock and soil erupt into the air. When the dust clears, there is a neat, clean pile of debris in the exact location the blasters wanted.

Once the area is given a final clearance, the front-end loaders can move in and haul off the rock. It is a truly awesome demonstration and, for many observers, one of the most motivating experiences going. 🌐