

THE NEWS & OBSERVER

Pure boon for refugees

The News & Observer, Saturday, May 22, 1999

By RAH BICKLEY, Staff Writer

Dr. Roddy Tempest of Durham was sunburned and exhausted as he jolted along Albania's rutted roads last week, racing the sunset toward a refugee camp in the town of Fier. His tractor-trailer, flanked by armed military guards, was hauling a big water purification machine -- a lifeline of clean water for the hundreds of dirty, parched refugees soon to pour into the camp. He had to get there before they did.

His company, Tempest Environmental Systems Inc., is supplying a prototype water purification system for Camp Hope, which the U.S. military is building for up to 20,000 refugees. Tension crackled in his voice in a brief satellite phone conversation on the ride to Fier. "The sun's setting. We're rumbling through the country here," he told his Durham staff. "We've got to get the water purification system [there] before dark, and I don't know how we're going to do that."

He barely beat the first group of 490 refugees who streamed through the gates that first night, followed by 600 the next day. For the refugees who pour into Camp Hope each day, pure running water is a drop of normalcy in a swirl of chaos.



A young Kosovar boy washes his socks at Camp Hope

"Think of yourself. You're used to having a shower in the morning every day before you go to work," Tempest said in a telephone interview from his hotel in Fier. "They haven't bathed or washed their clothes or had good drinking water in more than a month."

"There are tents as far as you can see in every direction," he said. "We're building roads every day; we're laying pipe. We're building a city in three weeks, a city of 20,000 people."

The air is clouded with dust from the earth-moving machines, he said, but there is beauty in the mountain ridge beyond the flat fields of rich black soil.

Tempest's machine is taking water that is trucked in from Fier, 15 kilometers away, and purifying it. Fier's water is the color of weak tea and tastes salty, perhaps because the Adriatic Sea is only 10 to 15 kilometers away and the town is just 6 feet above sea level. The water is too full of sediment and microbes to meet the World Health Organization standards that the camp is using,



Early view of Camp Hope

said Keith Gibbs, an environmental specialist with Tempest Environmental Systems. Tempest also is having teams dig wells to provide another water source.

Albania's water quality is generally poor, Tempest said. The country does not have even one sewage treatment plant. All sewage is dumped into the Adriatic. The machine will serve the first 2,500 people to arrive at the camp. It produces 30,000 gallons of water each day. That's about 12 gallons per person per day for each of the first 2,500 refugees.

It's a lot more than the small amount of water that will be rationed to the thirsty refugees in other camps, such as the one

run by North Carolina group Samaritan's Purse in Hamallij, several hours north of Fier. Refugees there will have to take sponge baths and wash clothes in the nearby canal, if it is clean enough. But the Camp Hope residents will still have much less than the average American uses -- 50 to 100 gallons a day, Gibbs said. The clean water will help ward off disease.

"Eighty percent of all disease is water-borne," Tempest said, adding that cholera is the biggest threat to the camp. The disease is carried by water contaminated by human waste and can kill within 24 hours. For proper sanitation, the camp has set up the latrines far from the tents, where one spigot is set up for every 15 tents.

Bert Maggart, a program director at Research Triangle Institute who worked with Tempest on a different military project last year, understands how critical water purification is in refugee camps. Before Maggart joined RTI, he was an Army commander in the gulf war. In one Iraqi town where war had destroyed the water supply, he said, the townspeople were desperate.



Tempest Environmental Systems drills wells at Camp Hope

"They were fishing water out of potholes in the street and putting it in bottles for their kids," he said. "You can get by for days without food, but you couldn't get by but for a day or two without water."

Bringing water to Camp Hope has been a logistical nightmare, especially considering the roads. "You can't travel more than 15 or 20 miles per hour," Tempest said. "There's been no road or infrastructure work done in Albania for 13 years. [They are] single-lane, small, gravel roads with potholes the size of small Volkswagens."



An Army Jeep overturned in a pothole outside Camp Hope

That's why the 30-kilometer drive from the airport in Tirana to Fier takes five hours, he said. The roadsides are littered with abandoned cars, some overturned. To make matters worse, Albania's highways are plagued with bandits. The official in charge of water for refugees for the United Nations High Commissioner for Refugees was held up at night and shot in the head the day before Tempest got to Albania, he said. Tempest's work at Camp Hope amounts to his own personal trade mission. The Albania project could translate into a big break for the Durham firm.

Fuqua School of Business, hopes to follow up his order for one purification machine with many others. When the camp is fully built and holding all 20,000 refugees, it will need about seven more machines, Tempest said. Two more camps, Camps Hope II and III, are also planned. That would bring the total to about 60,000 refugees and up to 24 machines, he said. For now, Tempest is focused on making water flow so the refugees at Camp Hope can drink their fill, wash up and start feeling human again.

"The joy for me is just seeing the smiles on their faces. They are so grateful. It's just so rewarding to be here," he said.



A young girl strolls with her sister near Camp Hope