



**CROSS SECTION** - When Cayuga Rock salt began mining operations in July 1920, extraction took place at the 1400 foot level. By the time Cargill purchased the mine in 1969, all activity was at the 1900 foot No. 4 level salt seam. Cargill developed the No. 6 salt seam approximately 2300 feet beneath the surface where it mines and screens rock salt before sending it to the surface for bulk loading and packaging as Halite..

## City of Salt Beneath Cayuga Lake

(Continued from page 1)

"scales" loose due to changes in humidity, nothing will fall on the passing miners.

There are two primary passageways that run next to one another but are separated by framing and tarp-like material. The main passageway carries the fresh air supply while the secondary passageway carries the exhaust air.

As we drove along the main passageway, guests could observe the honeycombed subterranean architecture known as "Room and Pillar" construction. The tunnels are forged through solid salt leaving 15' x 15' pillars on 50 foot centers. These pillars, called "ribs," not only provide the ideal support for the roof but constitute the most efficient structural technique for safely extracting the maximum amount of salt.

A few minutes more and we reached the underground shop, plumb under the center of the lake. The shop consists of a number of niches carved out of the salt in which electrical, tool machining, diesel repair and even a tire changing shop are located.

From the shop, we went on to unit 25. Each unit, or "panel" is a working limb that mines 9 "faces" from the center of the lake toward the lakeshore. Working in two shifts, a panel can progress about 100 feet in a week. The Cayuga facility is actively mining three panels and is testing some new computer programmable German equipment

on a fourth panel.

As we walked to a face where salt extraction was set to resume the following work day, I asked several miners how they'd gotten into the business. Cargill is the ultimate paradox, you see. On the one hand, Cargill Salt is but one division in a tightly-held family company that has operations in 55 or so countries. On the other hand, working in the mine for Cargill tends to be an occupation followed by a closely knit, inter-generational group of family and friends.

Mining begins when a 14 foot long drill pierces 29 holes in a predetermined pattern from the centerline of the 29 foot-wide face. A machine that looks like a cross between an electric hedgecutter and a swordfish undercuts the face to a depth of 14 feet. Next, the holes are loaded with ammonium nitrate and timers are placed so the salt will collapse after blasting.

The blast, or "shoot," takes place at the end of a shift. Because the blast produces gas and dust, no one's allowed back in the area to begin removing the salt until the dust and fumes are evacuated and the fresh air is monitored to comply with safety standards.

Once salt is "shot," it's called muck. Each shot frees about 250 tons of muck. This muck is carted away by mammoth loaders to a Standler machine where the salt is crushed to football size or smaller and carried on a conveyor belt to the underground



**CHICKEN DELIGHT** - The weather may be capricious, but the weekly supply of BBQ chicken in support of one Lansing need or another is proof that summer's coming. The Lansing United Methodist Church was last Saturday's beneficiary.

screening plant where we'll rejoin the product momentarily.

As soon as the "muck" is carried from the mining face, workers approach the newly blasted area with a scaler. Seated at the rear of the scaler under previously bolted roof, the operator "trims" the roof of the newly blasted area to a relatively smooth, 10-foot high ceiling.

The roof bolter (see photo on page one) drills and sets five-foot long bolts in the ceiling in a predetermined pattern. These bolts secure the ceiling from "scaling" so miners who extend the face the next 14 feet can work without fear of salt falling from above.

Back at the multistory screen plant that was reassembled piece by piece in its own salt grotto, the pre-crushed "muck" salt is crushed, screened and separated at the rate

of 550 tons per hour to the size we're familiar with as road salt or bagged "Halite." During this process, 88 filters in the screening system remove about 100 tons of salt dust, called "fines," per hour. These are transported back to mined out panels for permanent storage.

As the tour ended and we took the "skip" for the four minute ride to the surface, miner Dale Muncey's brother-in-law Milan O'Brien shook his head in wonderment. "I fly around a lot with my work," he said. "I think I feel safer here than in a plane."

Judith Drake, of Berkshire, was glad she'd come. "Our husbands talked about their work and we didn't understand. Now we know what they do."



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