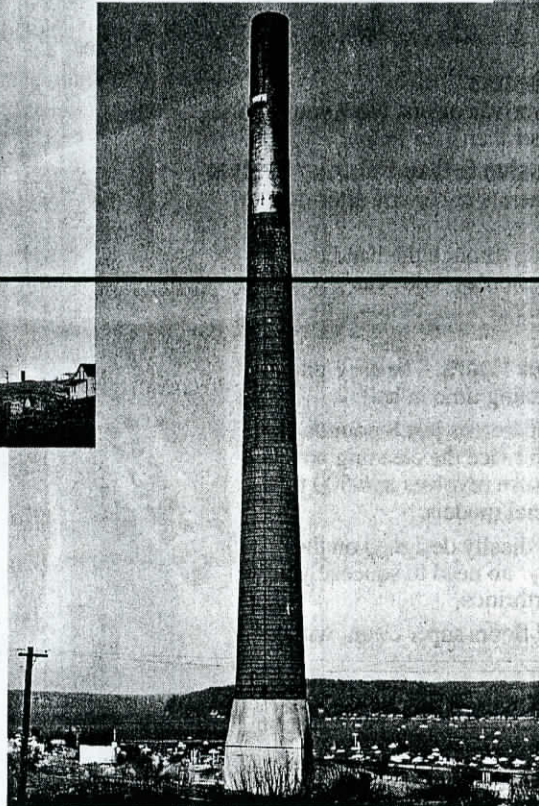
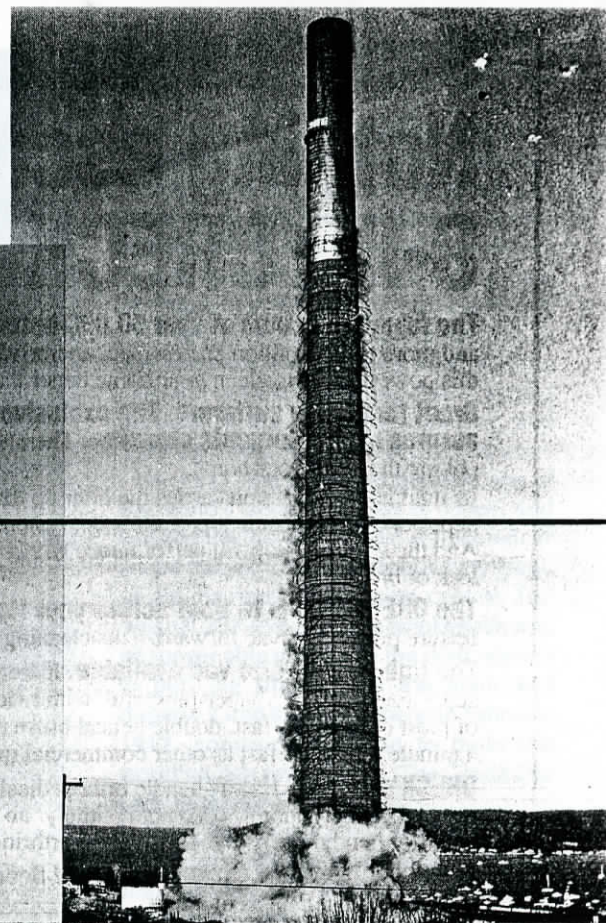


▲ The 571' ASARCO smokestack, towering above its predecessor, a 307' concrete stack. To the far right is the boyhood home of Frank Puz.



▲ The ASARCO stack, now 562', only minutes before its demise.



▲ The base of the brick chimney crumbles, and explosive charges blast her steel bands free.

# THE GRAND OLD LADY OF RUSTON

BY JULIE AGUIRRE

■ FOR 75 YEARS SHE STOOD WATCH over Puget Sound's Commencement Bay, guarding the shores of Washington State. Rising 571 feet toward the sky, she was once the world's tallest smokestack.

A symbol of industrial growth and prosperity, the Grand Old Lady of Ruston presided over the tiny town that she gave birth to. Flanked by two mountain ranges and a major shipping port, she helped to put the bordering city of Tacoma on the map.

She was a landmark for ships from distant

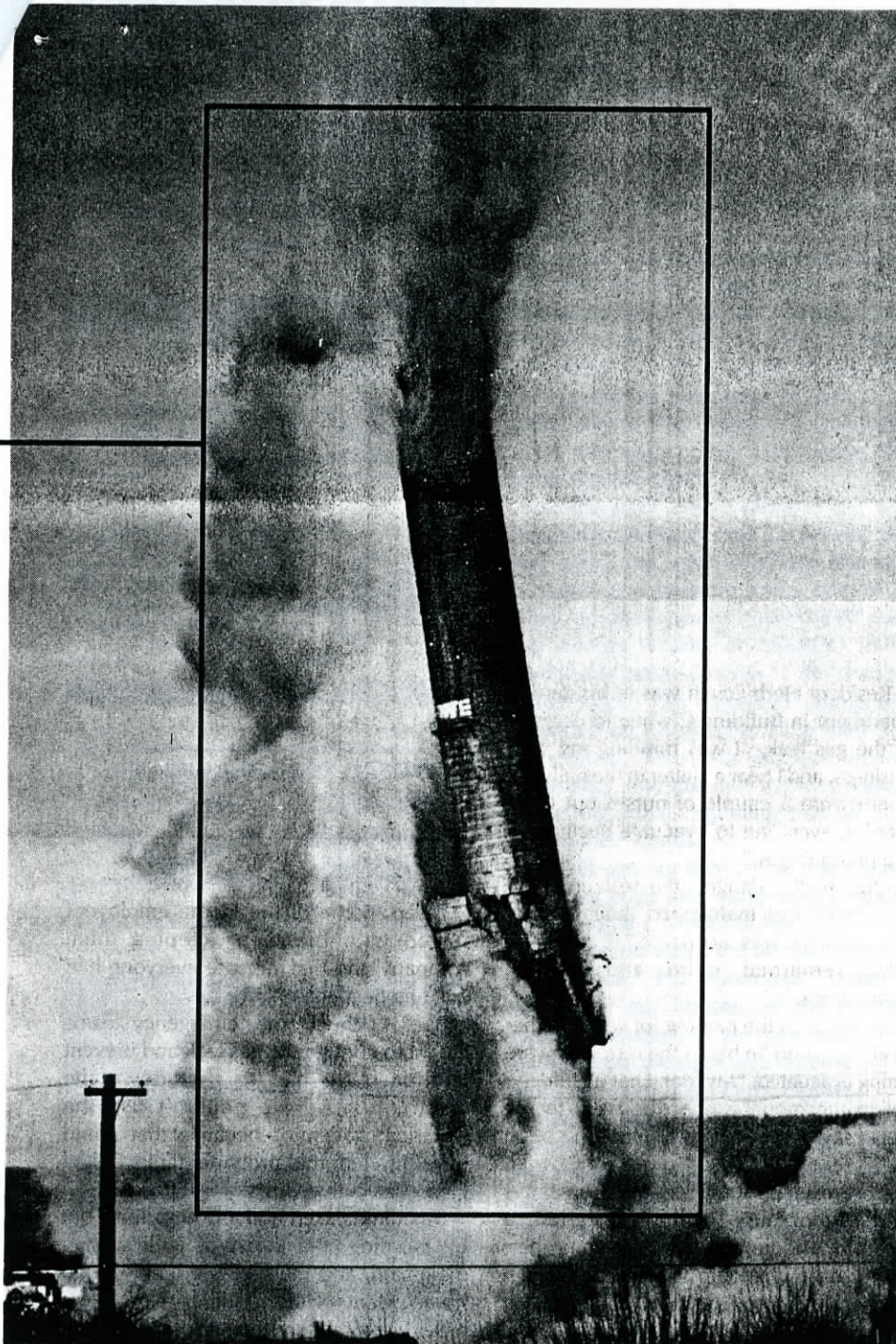
ports, often helping them to navigate as she peered over the top of the region's frequent ground fog. Airplanes used her to chart their journeys by the height of her red clay bricks.

She grew up with the city, and watched its children grow. Stately and sturdy, she was as much a part of the region as the ships and planes that she guided to safety. But she was full of dangerous heavy metal contaminants, arsenic and lead. She had withstood three major earthquakes, and it was feared she could not stand much longer.

So, on January 17, 1993, the brick smokestack became just another pile of rubble when she imploded with the help of over 450 pounds of nitroglycerin. Over 2.5 million bricks lay in a heap, 12,400 tons of clay, mortar and sand. Only the very top remained intact, perhaps refusing to let go of history.

Her past is as colorful and exciting as the newly settled West she helped to tame. In the late 1800s, dense forest pushed up to the edge of Commencement Bay. Deer and elk roamed the site.

The smelter was born during the bustling



▲ The stack implodes and falls on itself, leaving behind arsenic-laden dust. The top 120' remains intact.

days of the Alaskan Gold Rush, when wealth and power often came from the lucky strike of a pick axe. Dennis Ryan founded the Ryan Smelter in 1887, originally to refine lead. The struggling plant was sold in 1890 for a reported \$30,000 to W.R. Rust, a mining expert from Colorado.

Rust, for whom the town of Ruston is named, managed the plant well. The newly formed Tacoma Smelting and Refining

Company began to thrive and attracted the attention of several New York investors.

The race was on to control the West Coast mining and smelting industries, still in their infancy in the early 1900s. The famous Rockefellers were anxious to lead the race, as were the flamboyant and publicity-hungry Guggenheims.

Holding the controlling interest in the New York-based American Smelting and Refining Company, the Guggenheims were

eager to add to their wealth. In 1905, a secret meeting was arranged between Guggenheim and Rust in a warehouse 60 miles from the Tacoma Smelter. Negotiations for its sale were kept private to ensure that the Rockefellers would not step in with a counteroffer. An unprecedented \$5.5 million was eventually settled on as the purchase price, making W.R. Rust an instant multi-millionaire. The Tacoma division of the American Smelting and Refining Company, or ASARCO, was born.

By 1911, the plant had become one of the world's largest suppliers of copper and boasted the first electrolytic copper refiner on the Pacific Coast. As productivity grew, so did the need for pollution control. The original 307-foot concrete smokestack was no longer able to provide the draft needed to pull the smoke from the plant and disperse it into the atmosphere. In February 1917, construction began to build the world's tallest smokestack, "The Grand Old Lady of Ruston."

Frank Puz grew up in a simple wooden house only 200 feet from the construction site. Nearing his 84th birthday, Frank remembers watching her grow from a hole in the ground. Teams of horses dragged huge scrapers round and round, carving out the foundation's floor. Loose dirt was rolled out by wheelbarrow and wagon.

"You have to remember," Frank reminisces, "there were no bulldozers or graders in those days. It was all done by hand and by horses."

The hole grew to over 200 feet in diameter and sank 30 feet into the ground. One hundred twenty tons of rails were fanned out on the prepared flooring, forming a circle of steel. Wooden footings then were built on top of the rails in an octagon shape, and almost 6,000 cubic yards of concrete was poured to form the stack's base.

Slightly curved bricks were laid on top of this base to form the circular shape of the stack, whose ground floor diameter stretched 103 feet. A huge wooden scaffolding was erected in the center of the stack, and each brick was carefully laid by hand from the inside out. When they reached the top, the workers crowned the stack with a nine-foot, terra-cotta cap.

"At first, we didn't pay too much attention to the builders," Puz continues. "It was just a lot of activity, and we were only kids. But as the stack began to grow, I got kinda scared. I used to wonder what would happen to our house if the stack fell

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## RUSTON

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over. Then it got so big you couldn't see the top!"

The stack originally was intended to rise 550 feet, but the Guggenheim brothers discovered a 570-foot stack in Japan only days before the ASARCO stack's scheduled completion. So, the brothers ordered the stack raised an additional 21 feet at an added cost of over \$5,000. In December 1917, she was finally completed, the world's tallest stack!

But the stack meant more to the tiny Croatian community that surrounded her than being the world's tallest. She was prosperity and freedom and a symbol of rising industrial power. Over 1,200 men and women worked at ASARCO in its heyday and raised families in the shadow of her stack. The close-knit immigrants depended on ASARCO to keep them fed and clothed. Their lives revolved around the smelter, and the shift whistles were a comforting ritual, signaling that all was right in their worlds.

Yet, all was not right. What was once a symbol of pride and workmanship would soon become a symbol of fear.

"We used to watch the smoke come out of the stack," Puz continues. "When it headed for our houses, all the women would run outside to get their wash. The flue dust from the stack would come out in lumps and burn holes in the clothes."

Families were concerned. Sulfur dioxide had burned their lawns yellow and killed their shrubs and plants. The putrid smell of rotten eggs filled the air. Public officials began to take notice, and concern soon turned to panic.

Frank Puz shakes his head when he thinks of the beginning of the end for the Grand Old Lady. "It was just public hysteria," he insists. "I grew up playing barefoot in the dust from the stack, drank water from the spring near her base, and ate vegetables grown in the dirt around her. I never felt at any time like we were poisoned. I had no fear of the stack."

She had survived three major earthquakes, several hurricanes, and 75 years of hard and constant use. But she would not survive environmental progress and community pressure.

On March 25, 1985, Tacoma's ASARCO plant officially closed. For almost 100 years it had provided jobs to the community, contributed \$50 million annually to the

local economy, and helped to win two World Wars by providing copper ammunition. It had also dumped millions of tons of sulfur dioxide, arsenic and lead into the atmosphere, soil and water. Many feared the worst, and a 'cancer fear' spread like wildfire. The federally based Environmental Protection Agency declared ASARCO a Superfund Cleanup Site, and it would smelt no more.

Other factors contributed to the smelter's demise. Several labor strikes had severely affected operations, and ore supplies from the Philippines and Chili had dried up.

"It was a wise decision to close her down," said Doug Bowen, ASARCO's public relations director. "She was old, and she was tired, EPA wanted us to invest over \$100 million to bring the plant up to standards. We would have been basically building a brand new plant."

Over \$16 million had already been spent in the mid-1970s in an attempt to comply with air pollution controls. An elaborate SO<sub>2</sub> plant had been constructed to trap sulfur dioxide gases, but EPA decided that this was not enough.

"I'm an environmentalist at heart," continues Bowen, "but there has got to be a middle ground between environmentalists and industry. Manufacturing is simply taking raw, natural ingredients out of the ground and producing conveniences for society. There are very few things in your life that aren't a part of the ore-smelting industry in some way."

Soon after the plant closed, ASARCO began plans for the demolition and destruction of its buildings and the stacks. The Grand Old Lady of Ruston would have to go. Her bricks had become spongy and soft, and some had fallen to the earth. She had already been shortened by about 10 feet following extensive damage during an earthquake in 1937, and she was bulging dangerously.

"It was time," Bowen continues. "If we don't take her down ourselves, she's going to come down on her own, and then someone could get hurt."

Controlled Demolition International, from Phoenix, Maryland, was hired to bring her down for a fee of \$600,000, four times her original construction cost. The company was expert in implosion techniques, but a brick chimney of her size had never been felled before.

"The ASARCO stack is a tough job," said Doug Loizeaux, vice president of Controlled Demolition, "but it will be very controlled. We're taking down something that has to come down. It's better for the Grand Old Lady to come down gracefully."

Rearms of feasibility studies were done, and factors such as wind, height, weight and timing were calculated. Two hundred sixty holes were drilled in the south face of the stack's base. Three 16-by-3-foot slots were notched out, and 70 additional holes were drilled in the south radial chimney. The dynamite was then packed in the holes, and a fuse attached. An additional 85 charges were set on the steel bands that had helped to hold the aging stack together.

A 360-by-170-foot pit was dug around the base of the stack, the final resting place for the Lady. Three thousand feet of cyclone fencing was stretched around her perimeter to keep the curious at a safe distance. To hold the dust to a minimum, an elaborate sprinkler system was installed, along with air-monitoring and dust-collecting equipment.

Crews had worked for two months preparing for the blast. Local media and ASARCO joined hands in promoting the event as a community party. The Grand Old Lady would go out in style.

"It was like the Fourth of July in January," local police officials said.

An estimated 100,000 people turned out in the bitter February cold to wait . . . and wait. Fifteen hundred boats lined Commencement Bay, vying for a better view. Locals, wrapped in blankets, kept their eyes glued to the brick tower that had been a part of the skyline for so long. The atmosphere was festive, and local espresso vendors were plying their trade. The waiting turned to hours, and fingers and toes began to numb. But no one left, no one gave up. They had come to say good-bye.

ASARCO officials were ready; emergency crews were prepared; CSI had everything in place. The fuse leading to the explosives was lit, and everyone held his breath. The base blew first, and the entire chimney listed to the south. A second later, another blast on the opposite side of the stack righted it, while the steel bands popped free. In eight seconds, the Grand Old Lady of Ruston collapsed.

"It was picture perfect," claims Bowen. "Everything went according to plan. Not even a window was broken."

For those who watched, the acrid smell of sulfur once again filled the air. While levels did not violate any federal EPA standards, the dust collectors reported sand, mortar, lime and, of course, arsenic, in her final puff.

"My wife and I were special guests of the Smelter," says Puz, who watched the Lady go down from an ASARCO viewing area. "I don't know of anyone else still alive who watched her being built like I

did. It was real sad to watch her go. My wife cried. The stack had been a landmark for fisherman like me in the bay. When you entered the bay and saw her, it was like seeing home."

No trace of the Grand Old Lady exists today. She had been buried under a layer of dirt and geo-synthetic fabric. All arsenic laden bricks will be stored on site until the EPA decides what ASARCO can do with them. Demolition of the remaining buildings will continue, completing an 18- to

22-month schedule that began with the removal of the stack.

Latest health studies of local residents show that the public panic in the '70s may have been premature. Dr. Samuel Milham of the state of Washington Department of Health recently completed a 20-year study on the health effects of arsenic on Ruston children. He concluded that there is no current health risk to Ruston residents from residual soil arsenic. Cancer rates in the

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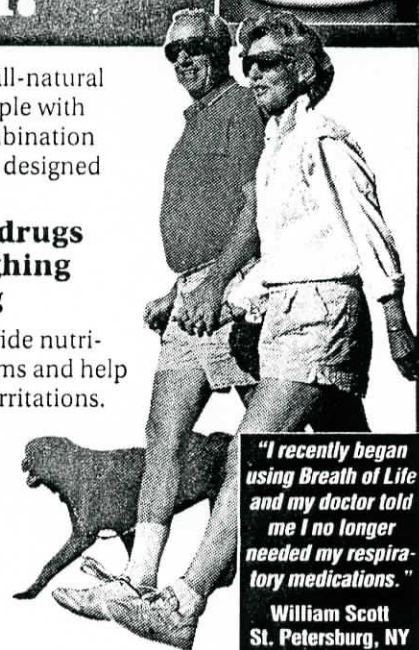
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## **RUSTON**

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residential areas immediately surrounding the smelter have been no greater than in areas without arsenic exposure.

"ASARCO got a bad rap," Puz said angrily. "I hated to see the smelter go. Sure, they were dirty at one time, but they

had cleaned up. Then, come to find out, there really wasn't any danger of cancer after all."

While the smokestack that symbolized Tacoma's industrial growth is gone, ASARCO lives on. A Fortune 500 Company, ASARCO employs over 8,900 people worldwide. Smelters now sit next to their own mines, eliminating the need for out-of-country ores. They are consistently number one in the world in the production of copper, and number two in the production of silver.

But in the beautiful Pacific Northwest, where copper smelting once thrived, ASARCO is no more. The huge stack that was once the largest in the world had become a symbol of industrial filth. But she was a part of history and had watched over the bay for longer than most of its residents had lived.

In less than 10 seconds, 75 years of history was gone. For all the controversy that surrounded the Grand Old Lady's final years, she will be missed by those who call Tacoma home. ■