The Secret City – part 3

(As published in The Oak Ridger's Historically Speaking column the week of May 27, 2024)

Anna Caryl brings us the third in the three-part series on Oak Ridge. Here she deals with the segregation and the secrecy.

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At the bottom of the wartime housing scale were the hutments, reserved mostly for Black workers and unskilled laborers. Hutments were ugly, 16-foot-square, un-insulated plywood units with no electricity, no plumbing, no furniture except for footlockers, and no glass in the windows. There was only one door, and a pot-bellied stove.

Many residents walked a block or more to bathhouses for toilets and showers. Four people and sometimes five lived in them - 16,000 people in all, and not for a week or a month or a season, but for the duration of the war. In keeping with practices in the South at the time, Blacks were segregated, rode in backs of buses and got the worst jobs. And in the earliest days, they weren't allowed to live with their spouses or have their children with them or leave their compounds after 10 p.m.

Most white townspeople were never aware of the Blacks' living conditions. They saw them mostly in their workplace. Later, when the war was over Oak Ridge would become the first town in the South to desegregate its school system in 1955. But during the '40s, the Army was not out to promote social change. Its mission was solely to complete a project as rapidly as possible. The town was always of secondary interest.

Oak Ridge was a town of soldiers and civilians, men, and women - all under military rule, all protected by gates on all roads with armed guards and patrol boats and mounted sentries. And everybody lived under the watchful eye of the FBI and military intelligence. Nobody, nobody, was allowed to talk about what they were doing or even what building they worked in. There was a war on. The enemy was listening.

One in four adults was a government informant, many of them were enlisted from their workplace with orders to file weekly reports of any loose talk or security breaks. A loose tongue could get you a trip out of town. No one ever seemed to know where.

Cameras, telescopes, binoculars, and firearms had to be registered with the military. No liquor was allowed. Phones were tapped. Mail was inspected. Some top scientists used aliases, (Enrico Fermi was Henry Farmer) and names of other key project personnel weren't allowed to appear in newspapers. Plant workers could be called in for periodic lie-detector tests. "Are you discussing your work with your spouse?" "Have you heard others discuss their work?"

Every worker's background was checked by the FBI before he or she was hired. Then they were told only what they needed to know to do their jobs.

In the buildings where operators worked with secret "stuff", Oralloy, 24 hours a day, secret men would come and collect the secret material and cover it with black hoods so that workers couldn't see what they were making.

Everybody knew they were on an important war mission, but nobody seemed to know what or that their project had been given top priority from the White House, above planes and tanks and ships and invasions.

At Oak Ridge during the war, patriotism and secrecy had become religions. "If you only knew," the Army kept reminding us, "how important this work is to our fighting boys. ".

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Because of the secrecy, most of the people living and working at Oak Ridge didn't know enough to be scared. Everybody worked round the clock, six and seven days a week, and never asked questions. Even labor union leaders were persuaded to postpone plans to organize plant workers until after the war.

But some of those who did know weren't just scared, they were terrified that the project might fail or that something might slip or spill and blow up the building. Or the town. Or the state.

Col. Groves, who during the project was promoted to general, once told one of his engineers: "If the reactor blows up, jump in the middle of it and save yourself a lot of trouble."

Outsiders were mystified to see trains haul in 100-boxcar loads of material almost every day, and never see anything go out. Part of what they saw go in looked like raw ore. Nothing went out for almost three years - and then it was shipped by the ounce in a specially made briefcase handcuffed to a secret courier.

Only a handful knew it, but on Nov. 4, 1943, just 14 months after the first parcel of land had been purchased in Tennessee, the world's first full-scale graphite nuclear reactor went critical at X-10. Criticality, a controlled nuclear chain reaction, was achieved on a grand scale. X-10 then became the pilot reactor for producing plutonium upon which the reactors at Hanford, Washington (Site W) were based.

A few miles to the east, the electromagnetic separation plant (Y-12) and later the gaseous diffusion separation plant (K-25) began turning out U-235, the weapons-grade uranium, the "stuff" for which the secret atomic city had been built.

At Los Alamos, Robert Oppenheimer and his team of physicists had been working for three years to perfect the atom bomb.

At 05:29:21 am on July 16, 1945, at a test site in New Mexico code named Trinity, the first atom bomb exploded with an energy equivalent to 20,000 tons of TNT. It left a crater of fused radioactive glass in the desert nine feet deep and 1,100 feet wide. At the time of detonation, the surrounding mountains were illuminated "brighter than daytime" for one to two seconds, and the heat was reported as "being as hot as an oven" at the base camp.

The observed colors of the illumination ranged from purple to green and eventually to white.

The roar of the shock took 40 seconds to reach the observers The shock wave was felt over 100 miles away, and the mushroom cloud reached 7.5 miles in height. After the initial euphoria of witnessing the explosion had passed, test director Kenneth Bainbridge, commented to Los Alamos director J. Robert Oppenheimer, "Now we are all sons of bitches." Oppenheimer later stated that, while watching the test, he was reminded of a line from the Bhagavad Gita, a Hindu scripture: "Now I am become Death, the destroyer of worlds."

The test bomb, known as the "Gadget," at Trinity had used Plutonium from Site W in Washington. By late July, Los Alamos had about 60 pounds of the enriched uranium from Oak Ridge. Less than a gallon in volume.

On August 6, 1945, President Truman come on the radio and announced, that a B-29 bomber had dropped a new kind of bomb on Hiroshima, a bomb more powerful than 20,000 tons of conventional explosives - and the main component had come from Oak Ridge, Tenn.

"It's a bomb!" Everyone shouted, "We've been making an atom bomb!". -

As quickly as you could say "atomic bomb," the secret of the hometown was out - and no town was ever quite so proud. Oak Ridge, not even in existence when the war started in 1941 (and at war's end, still not shown on maps of Tennessee), suddenly was known all over the world.

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People who had uprooted themselves from their homes all over America to live here secrecy, who were from virtually every walk of life, who had joined hands for three years in the '40s and lived under military dictatorship to help win a war, were suddenly reading about themselves in the newspapers and hearing about their town in radio broadcasts.

As soon as Truman finished making his announcement, neighbors spilled into their yards and formed snake lines in the streets. Car horns and fire hall sirens sounded, and firecrackers exploded (how did they ever get them through the security gates, I wondered). Wives telephoned their scientist husbands at the plants: "Hey, now I know what you've been working on!"

Waldo Cohn, then a young biochemist at X-10, and some of his colleagues knocked off work, drove to the center of town and became engulfed in a spontaneous parade. They stuck their heads out of car windows and waved and shouted words they had been forbidden to utter:
"Uranium!" "Atoms!" "Nuclear fission!" "Radioactivity!"

In a matter of hours, the Knoxville newspapers had extra editions on the streets ("Power of Oak Ridge Atomic Bomb Hits Japan"), selling for $1 apiece. Bootleggers sold out before dark. Street dancing lasted well into the morning.

Three days later, another bomb, this one with a plutonium core from a second secret city, Hanford, WA, was detonated above Nagasaki. Four days after that, World War II was over.
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When the announcement came, a group of boys ran through the streets of Oak Ridge shouting and beating dishpans with spoons and waving an American flag until they came upon an unsmiling man, a scientist, mowing his lawn.

"Hey," they shouted, "don't you know the war's over?"

"I know," he said, "but a lot more than the war is over. We've got to live tomorrow, too, you know." They thought he was a grump. They didn't know what he knew.

All they knew was what we read and heard on the radio: They had been working on one of the most important missions in history - and the world would never be the same because of it. It was the largest, most extraordinary scientific experiment in history, the first time that mankind had ever handled radioactivity on such an enormous scale. They all felt a little famous, the nuclear scientists and the laborer, the homemaker, and the schoolboy.

It didn't matter that half the town didn't know what an atom was, that, in fact, only about one percent of the people working there knew what was going on. They were all in it together, and they all had kept the secret - even if we didn't know what the secret was.

Halfway around the world, in the Philippines, the young Sergeant from Kentucky and his fellow American Soldiers had also erupted into celebration upon learning of the dropping of the bomb. There would be no invasion of Japan! Millions of lives, including their own, had been spared. After four years of brutal fighting, they would return to their hometowns in America after all!

With the war ended, and still lacking the money necessary to pay for college that fall, Miss Brown returned to her home in Kentucky to teach high school biology in Graham, KY.

On January 2, 1946, a cold snowy day, Miss Brown walked down the hill from Graham High School to the local restaurant to wait for her ride home. As she sat, drinking a Coca Cola and grading papers, one of her students came rushing up. "Miss Brown, I want you to meet someone who just got home from the war!"

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Leaning against the counter, still dressed in his Khaki uniform, and tanned from years of fighting in the south Pacific was the Sergeant from Kentucky.

The student grabbed the Sergeant by the arm and led him across the room to her teacher's table. "Miss Brown," she exclaimed, "I want you to meet Charlie Baker! Charlie, I want you to meet my biology teacher, Miss Frances Brown!"

Sergeant Baker sat down in the booth to have a Coca Cola with Miss Brown, and as they talked, he asked her "What are your plans for the future?"

She answered, "I am teaching this year to save enough money to go back to school." With a twinkle in his eye and a sly grin on his face, Sergeant Baker said, "If you will marry me, I will send you back to school!"

And so it was that the Sergeant from Kentucky, who had spent four years fighting the Japanese in the Pacific, and the young coed from Murray, who traveled to Oak Ridge, Tennessee, to help build the bomb that helped end the war, were married. And when their first child was born, they named her after each of their mother's, Anna and Caryl.

Presented to the Shakespeare Club of Hopkinsville, Kentucky
By Anna Caryl Baker Guffey

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Now that was an interesting compilation of details about Oak Ridge pulled from many sources to make a most intriguing story. I think it is most interesting to see what others who are not from our city think are important details to include when they compose the story about what happened here during the Manhattan Project. Also, I find it amazing what online information they can draw from to tell what they believe is worthy of including.

Anna Caryl concludes: My father, Charles Baker, Jr., was from Graham, KY, and he met my mother, Frances Brown, on January 2, 1946. They married soon after they met. I was their first child and they named me after their mothers, Anna Martin Baker and Caryl Lovell Brown. My name is Anna Caryl.

Thank you, Anna Caryl!

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Anna Caryl Guffey

Frances Brown Baker.jpg Anna Caryl's mother

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Charles Baker Jr.jpg: Anna Caryl's father

Anna Caryl as a baby with her parents