

Siting the Hanford Engineering Works: I was there, Leslie! (by Louis C. Chesnut, February 1, 2006)



Louis Chesnut served in the Federal Land Bank system for 35 years, 10 years as vice president. This is his recollection of his involvement in the selection of the Hanford site for the development of the atomic energy project in 1943. Regarding documentation for this account Chesnut says, "All records relating to acquisition of the zone became the property of the Army Engineers, and those of us who worked there have only memories, no recorded data." Chesnut's account originally appeared in the Spring 1986 issue of *The Pacific Northwesterner*, published by the Westerners of Spokane.

Siting the Hanford Engineering Works

One wintry day in Pasco, almost 43 years ago, I became involved in an enterprise that was to change the course of human history. On January 7, 1943, at 9 a.m., I was standing in front of the Pasco Hotel keeping an appointment with

General Leslie Groves, who had over-all responsibility for the Manhattan Project that built the first atomic bombs. My job was to assist in locating a suitable area for the project and supervising the appraisal of the land for acquisition by the Army Engineers.

The path that led to this meeting began years before in Spokane, where I had been employed as a field appraiser for the Federal Land Bank. This was during the 1930s, when this country was undergoing the most severe depression it has ever experienced.

At the time of the attack on Pearl Harbor, December 7, 1941, the field appraisers of all 12 land banks were under supervision by the Farm Credit Administration. Two or three days following the attack, each of the banks received a call from Washington, D.C., requesting information on the number of active field appraisers each had and directing each institution to make 90 percent of them available to the Office of Army Engineers in their district no later than December 20, 1941. In this area, the Portland, Oregon, Office of Army Engineers was the designated supervisory office, and our first assignment was to meet at Corvallis, Oregon, for instructions and to appraise 56,000 acres involving 500 properties for the establishment of a cantonment as an army training camp.

The Corvallis site was named Camp Adair. Almost simultaneously we were assigned an area of 50,000 acres near Medford, Oregon, which became Camp White. At the time that these assignments were made, I was employed in the capacity of Assistant Chief Appraiser. The Chief Appraiser had been with the bank many years was 69 years of age and in poor health, so I was instructed to go in for the field and supervise these assignments. During 1942 and 1943 I not only supervised the appraisal of these two cantonments, but also numerous other sites for airfields, gun emplacements along the western slopes of the Cascades, and bombing ranges.

The valuations were to be based on fair market value. This was defined as the amount a willing, but not anxious seller would accept in cash or its equivalent for given property from an informed and willing

buyer. To set this value, appraisers studied records of recent sales in the region for comparable pieces of property. This basis did not allow for inconvenience, moving expenses, etc. Some property owners would not accept the government offer, and the government moved to obtain the property by condemnation. Nationally as well in this district, five percent of the property owners elected to go to court to contest the amount offered.

On January 6, 1943, a year and a month following our entry into World War II, I was in Portland conferring with representatives of the Justice Department regarding condemnation cases that were to be tried the following month. In such cases the appraisers who examined the property were required to appear in court as witnesses for the government. I also stopped by the Army Engineer's office to check on some of our assignments. Asked when I was returning to Spokane, I told them tonight, and that I would be going by train. Civilians ordinarily could not travel by air since military personnel had the first priority for seats upon appearance at the ticket counter. I was requested to stop off at Pasco (the train arrived a 2 a.m.) and meet a General Leslie Groves that morning at nine. General Groves was interested in selection of a site for a "military purpose."

At the appointed hour, a large black limousine drove up in front of the hotel. Four army officers alighted, including a First Lieutenant, a Captain, a Colonel, and General Groves. After speedy introductions all around, General Groves handed me a road map of the type we used to receive at service stations for purchasing a tank of gasoline, and said that he wished to be driven through the area between the villages of Richland, Hanford, and White Bluffs.

The General was very considerate, yet business like. Some of those who worked with him at Los Alamos in developing the bomb considered him a very tough taskmaster. One has to remember his responsibility for putting the whole thing together and making it work, without delay.

The weather was chilly, overcast, and breezy, with a temperature slightly below freezing. The ground was bare and lightly frozen. There was no snow (Hanford has the lowest recorded annual precipitation for the state of Washington). The graveled road had only moderate maintenance and was quite "washboardy." The only sign of life was an occasional jack rabbit crossing the road ahead of us. The General did all the talking and asked all the questions. He was especially inquisitive about the geology of the area, the subsoil drainage, etc. He cited an instance where seepage from a gunpowder plant along the Mississippi River appeared some 40 miles down the river 20 years later following World War I. Whether that was fiction, a red herring, or what, I don't really know. We did not talk to anyone in the area. The appearance of an Army staff looking around the country and asking questions only starts the rumor mill, which in this instance was the last thing the Army wanted.

The usual procedure employed by the Army in acquiring real estate was to have its representative view the area for its suitability for a given purpose, request a gross appraisal (which in effect is a description of the area and the acreage involved), and an estimated cost. This was submitted to officials in the [War] Department who, if they approved, assigned the property for final appraisal, purchase negotiations, and acquisition of title.

The original site started at the confluence of the Yakima and Columbia rivers. This is about one mile north of Highway 410 going west from Kennewick to Yakima. With the Columbia River as the eastern boundary, the line went due north about 45 miles. At that point, the Columbia turns westerly for some 20 to 25 miles. At a distance of some five miles before the Columbia again turns north, the reservation line was drawn to go south to intercept the crest of the Rattlesnake Hills, continuing along this crest in a southeasterly direction to join the Yakima River about halfway between Benton City and West

Richland. Subsequent to that original plan, a buffer zone lying across the Columbia River was added on the north and east sides of the project.

This site included the village of Richland with a population of about 250 people, a store building or two, a garage, service station, school, Grange Hall, and some abandoned structures. About 30 miles north of Richland was the village of Hanford. A store, service station, and post office were combined in one weather-beaten frame building. Other than a school and a few buildings, the other structures were unoccupied. White Bluffs, five or six miles farther up the road, had about the same complement of structures. I cannot be more precise, since all of the data became the property of the Army Engineers. Photographs were not allowed. Anyone carrying a camera was barred from the site.

A branch rail line from White Bluffs connected with the railroad from Pasco to Yakima at a point south of Richland. At White Bluffs, there was a privately owned cable ferry that operated across the Columbia.

Following World War I, the State of Washington had developed an irrigation project at the White Bluffs-Hanford area for the benefit of war veterans. It proved to be impractical, as the soil is virtually pure sand overlying river-washed gravel of depths varying from 20 to 30 feet. Irrigation water would seep into the sandy soil as fast as it would run down an irrigation rill. As a consequence most of the farmers went broke, the district became bankrupt, and a high percentage of the residents left the area.

The Richland area had some 150 or so part-time growers producing fruit and early maturing garden vegetables, and income from sales of this produce combined with earnings from outside work enabled them to stay on the land. A few with slightly better soil deposits were full-time farmers. Somewhat higher farm commodity prices, development of sprinkler irrigation techniques, and the addition of fertilizer in irrigation water have made farming this sandy type of soil feasible for production of high unit value crops.

The reservation area approximated 565 square miles, encompassing 360,000 acres of which 90 percent was grazing land with sage brush the predominant plant type. At the higher elevations of the Rattlesnake Hills area, the desert type grasses increased as ground cover. The bulk of this land was owned by the Northern Pacific Railroad, Washington State, and the Federal government. It was used primarily as winter and early spring pasture for livestock.

After our party had traversed the area, we took the ferry across the Columbia and climbed up the bluffs on the east side of the river to obtain a better perspective. These cliffs are a white to light buff color, giving the village of White Bluffs its name. It was on this prominence that General Groves extended his ample body to its full height, swept his arm in a half circle like Moses on Mount Sinai, and said: "Chesnut, how much will it cost?"

I did not have sufficient information for an accurate answer. I responded to the General that I was not sure how much of the United States he was including in his sweeping gesture.

He replied, "Well, over to that mountain there and down to where we crossed the Yakima River." Estimating that we were talking about a quarter million acres of desert land of which 90 percent was used for grazing, and that most of it was not returning any income to its owners, I ventured a figure subject to revision upon getting more facts.

At this point, the first lieutenant said, "General, if you would tell us the purpose of the site, we would be able to advise you more soundly on its acceptability." The dressing down the lieutenant received kept him quiet for the remainder of the trip. The use of the site was one of the best kept secrets of World War II.

The salient features that resulted in its selection were:

1. Abundant water along 40 miles of the site.
2. Relatively cheap land in a large block.
3. Availability of large quantities of electricity from the Bonneville Power Administration. The main line from Coulee Dam to the Bonneville Dam crossed over the site.
4. Low population in the area.
5. Adequate service by railroads. The Northern Pacific and Union Pacific Railroads were two miles south of the site and the Milwaukee Road ran 10 miles north at Beverly, Washington.

Upon concluding this viewing of the proposed site and other matters affecting a decision, the General authorized a gross appraisal upon my assurance that he could have it within seven days. I called in 10 of our staff, sent for my secretary and installed her in a room in Kennewick, and gave her the data as it was derived so that no delay occurred in the program. We received an immediate request to proceed with a detailed appraisal of each property in the zone as soon as a legal description of the perimeter became available.

Bulldozers started moving behind our appraisers almost as fast as we could get our field work done. The Dupont Company received the basic construction contract. The first dormitories and kitchens were erected in the Hanford village area near the places where laboratories and the reduction plants were being constructed. Construction plans were flown in daily, and as soon as work was completed on a given set of plans, the blueprints and instructions were returned. Workers were methodically moved from construction jobs in various parts of the project to prevent them from becoming too familiar with the total design. No one in the Army Engineer's office in Portland knew the purpose of the project. The construction workers did not know. General Groves and Colonel Mathias, who was the project manager, were the only ones at Hanford who knew the purpose of the installation.

Surveillance was extremely tight. The unshaven fellow resembling a shepherd who sat beside you at a restaurant counter was more than likely an FBI Agent. We heard of workers who speculated out loud about the purpose of the project and were shortly visited by someone from the FBI. As for our staff, our men who had been involved in this acquisition work for various purposes for over a year, seven days a week and part of the nights at times, preferred not to know what any of these acquisitions were for. When queried they could honestly profess ignorance. We were always under pressure to get the job done, as this was wartime and serious business. The Hanford Project was one of the best kept secrets of the war effort, serving the national interest to a degree that superceded any abridgement of democratic rights.

The dormitories and mess halls accommodated and fed 65,000 workers. The first wave of construction workers were Dupont employees who came without their families. The premises were heavily guarded by air and on the ground. Entrance and exit from the project area required identification and permission.

Later on, when families were allowed to come, a trailer park was established inside the area just above the present town of Richland, and the workers were bused to the construction installations some 20 to 30 miles north where the critical installations for that time were being built. For a while this was the largest trailer camp in the world. Later Dupont laid out the present Richland townsite and built dwellings for the project engineers, scientists, and workers.

The first successful nuclear chain reaction was effected by Enrico Fermi at the University of Chicago in December 1942. The Hanford Engineering Works were authorized and started in January 1943. On July 19, 1945, plutonium from Hanford was successfully incorporated into a functional bomb at the Los Alamos Laboratory and exploded in the New Mexico desert. Fifteen days later, a bomb loaded with Uranium 235 was dropped on Hiroshima. A few days later, a bomb containing plutonium was dropped on Nagasaki, bringing the war to a screeching halt. Until that time, American troops had sustained heavy losses.

Albert Einstein wrote President Franklin D. Roosevelt shortly after the attack on Pearl Harbor, suggesting urgency in developing atomic energy. Japanese physicists had been reported to be working on an atomic bomb since 1941, but had encountered difficulties in solving the problem. In 1943, Hitler had ordered all of the uranium from mines in the Belgium Congo to be shipped to Germany. Intelligence sources knew that Germany was pressing development of processes for extraction of deuterium from heavy water. Deuterium, or H₃, is used to sustain a nuclear chain reaction. American defense experts believe that if either of these nations had won the race for the bomb, it would have been dropped on us.

In 1946, Einstein said, "The unleashed power of the atom has changed everything save our mode of thinking, and we thus drift toward unparalleled catastrophe." As with all achievements, there is a price to pay for the development of atomic energy. While it brought a hasty conclusion to World War II, atomic energy poses many problems, both in its use for peaceful purposes and as a dangerous weapon capable of destroying humanity.

Louis C. Chesnut



The Pasco Herald, August 6, 1945 (Courtesy of the Westerners of Spokane)