Jemez Springs, Dodged Bullets, and the Manhattan Project

Jemez Springs has repeatedly come close to becoming something entirely different from the place it is today. In fact, the village and the valley "dodged the bullet" on at least four occasions since the 1880s. Each time, the grandiose schemes that would have completely altered the area, thankfully, fell through.

The first scheme was to develop Jemez Springs as a major tourist resort, becoming the "Yellowstone" of the Southwest, as hyped in a Santa Fe newspaper article in 1886. The railroad had arrived in Las Vegas, New Mexico, in 1879, and a massive tourist hotel and resort were built there adjacent to local hot springs. The wealthy New Mexico businessmen and politicians of the Otero family thought the Jemez hot springs would be the next lucrative tourist and health resort destination, especially if a railroad line could be built from Bernalillo. In 1879–1881, they bought dozens of acres in Jemez Springs and built the adobe and stone "Otero Bathhouse" and the "Stone Hotel" (now on the Bodhi Manda compound) with a dozen rooms for rent.[1]

Construction of the railroad spur from Bernalillo began, but funding for its completion fell through when it became apparent that tourist demand for vacationing at the remote Jemez Hot Springs was too low and inconsistent to sustain the railway's costs. It wasn't until the early 1920s that railroad tracks were laid up the valley to the Rio Guadalupe to haul logs to a lumber mill in Bernalillo, rather than to transport tourists to and from the hot springs.[2] Since then, the hotel business in Jemez Springs has expanded and contracted multiple times, but never enough to change the valley in fundamental ways.

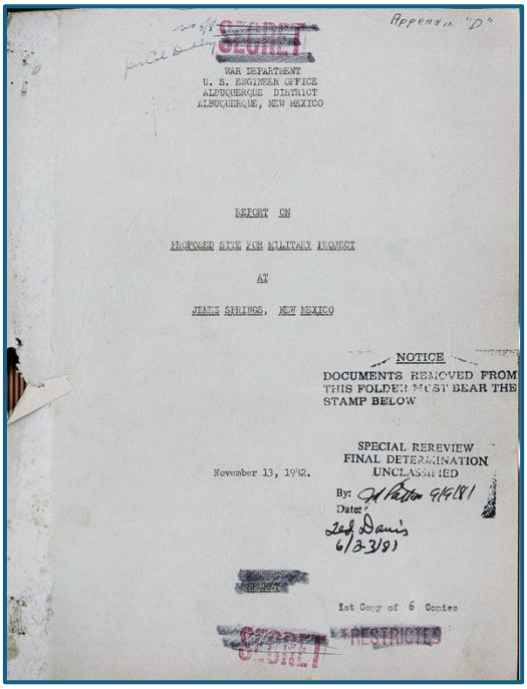
The next scheme, even more far-reaching than the tourism dream, proposed damming the Jemez River and all its major tributaries to create lakes for irrigation water. The water was to be conveyed by canal to Albuquerque to support a vast expansion of farmland. This plan was developed by John Wesley Powell, the second director of the U.S. Geological Survey (1881-1894). Powell had teams of topographers mapping the Jemez in the late 1880s, and he camped and traveled in the Jemez Mountains for about a month in 1887. He rode horseback to the top of Redondo Peak, where he viewed the Valle Grande and envisioned it filled with water, along with seven dams and lakes throughout the Jemez. San Diego Canyon would have been a long ribbon of lake water, with the sunken ruins of Jemez Springs far below the surface.[3]

In February 1889, Powell outlined his grand vision for the Jemez Mountains as a vast water storage tank to congressional committees in Washington, D.C. He presented maps and calculations of water volumes, miles of canals, and acres of farmland to be irrigated. When asked whether many people already lived in the areas to be flooded, he bent the

truth (to be generous), saying there were few and that most of the land was already in federal ownership. Ultimately, most of Powell's water storage plans for the western U.S. went unfunded by Congress, including his poster child, the Jemez plan. Powell's overreach on water development generated mounting opposition, eventually contributing to his ouster from government leadership in 1894.[4]

The third scheme that would have irrevocably altered the valley is the main subject of this article: the proposed 1942 construction in Jemez Springs of "Site Y," later known as the Los Alamos part of the "Manhattan Project."

After the attack on Pearl Harbor in December 1941, the U.S. scrambled to build up its military and weapons capacity. Albert Einstein and other physicists alerted President Franklin D. Roosevelt to the potential of "atom splitting" to create a weapon of unprecedented power and destruction. This led to the Manhattan Project, a massive, secret research and development program to build the first "A-Bomb." In late 1942, an Army Major and engineer named John H. Dudley was tasked with finding a location for Site Y, a facility for designing and building the bomb. The criteria for the location included remoteness and a "natural bowl shape" for security. The need for extreme secrecy was the reason for choosing a remote site, as well as an area that could be watched from above by guards to prevent unauthorized entry. The "bowl shape" was also apparently a criterion in case of an accidental explosion during the bomb's development, so that the blast might be partly contained.[5]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Appendix "D"

WAR DEPARTMENT
U. S. ENGINEER OFFICE
ALBUQUERQUE DISTRICT
ALBUQUERQUE, NEW MEXICO

REPORT ON

PROPOSED SITE FOR MILITARY PROJECT

AT

JEMEZ SPRINGS, NEW MEXICO

NOTICE
DOCUMENTS REMOVED FROM THIS FOLDER MUST BEAR THE STAMP BELOW

SPECIAL REREVIEW
FINAL DETERMINATION
UNCLASSIFIED
By:
Date:

November 13, 1942.

1st Copy of 6 Copies

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The haste in planning and investigation is evident from the timeline. Major Dudley was tasked with identifying and assessing potential sites in October, and by mid-November he had narrowed the selection from five sites in the Southern Rockies to his final choice: Jemez Springs, New Mexico. The U.S. Army Engineers Office in Albuquerque submitted its report on November 13, 1942, titled "Report on Proposed Project for Military Project at Jemez Springs, New Mexico."

Cover of the report, at left.

Three days after the submission of this report, the Project's scientific leader, J. Robert Oppenheimer; his associate, physicist Edwin M. McMillan; and Major Dudley traveled to Jemez Springs to assess

the location in person. They likely spent a night or two at the old La Esperanza Hotel, which had been renamed the “Jemez Mountain Inn” by that time. The proprietors kept horses for day rides by visitors. Oppenheimer, McMillan, and Dudley rode horseback around Jemez Springs and probably up onto Virgin or Cat Mesa.

Panoramic photo of the Jemez Mountain Inn, taken by the Army for the 1942 report on Jemez Springs. This was the later location of the Servants of the Paraclete's Via Coeli building, which was recently acquired by the Valles Caldera National Preserve to be used as part of their headquarters.

General Leslie Groves, the military leader of the Manhattan Project, arrived late the next day by car and immediately said, “This place won’t do.” The physicists concurred, and over the years, several reasons have been reported for their rejection of Jemez Springs. The limited space for expanding the facility in the relatively narrow canyon was a primary deficiency and a prescient observation. The engineers had been told to plan for 265 people, but over the next several years, the final selected site at Los Alamos grew to over 2,000. The massive flood the year before (April-May 1941) also clearly showed the risks of building along the canyon bottom. Oppenheimer also said that he thought San Diego Canyon, with its soaring cliffs on the west and east, would make the location “gloomy,” and that it would affect the morale of the scientists, technicians, and their families.[6]

It is not stated in the historical accounts (that I have read), but I suspect another reason Oppenheimer, McMillan, and Groves rejected Jemez Springs was that they saw this place was home to dozens of families, with remarkable historical and cultural sites and many beautiful natural features (e.g., the ruins of the Mission de San Jose, Soda Dam, Battleship Rock, etc.). To evict all of these longtime residents, to exclude the public from this beloved and scenic recreational area, and to build an industrial complex of government buildings

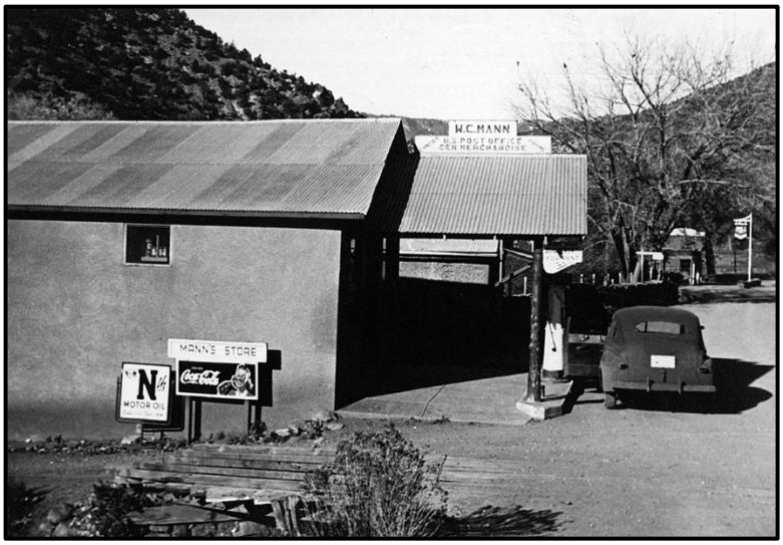
essentially on top of the cultural and natural landmarks… well, they must have realized that would be a desecration of history and this special place.

Thankfully, they chose the other side of the mountain, the mesas and canyon bottoms of the Pajarito Plateau. Of course, there was deep history and some people there too, but arguably not quite as rich in history or occupied by as many permanent residents. Ultimately, Oppenheimer's choice of the Los Alamos Ranch School, which he had attended as a boy, was a good one. It provided the needed security, space to grow, and the inspiring vistas he wanted of the Rio Grande Valley and Sangre de Cristo Mountains.

Prior to Oppenheimer et al.'s visit in mid-November, the investigating Army engineers spent multiple days in Jemez Springs gathering data on all houses and other structures, water and sewage, power, and climate conditions. They also traveled by jeep on old logging roads up onto the mesas. Fortunately, the 1942 report, classified as "Secret" and "Restricted," was unclassified in 1981. I was able to track down and obtain a copy of this document from the National Archives in Atlanta, Georgia. The report is 46 pages long, including appendices, plus three maps, and 52, 3x5-inch photographs. The following is a brief summary of some of the most interesting facts in the report, and a selection of additional photos follows at the end of the article. The report is a remarkable snapshot of rural New Mexico in the early 1940s.

Houses, Cabins, Churches, Hotels, Stores, Bathhouses, a School, and a Camp

The report lists 44 properties, including measurements and descriptions of about 130 houses and various structures. The inventory begins below the village near the old Spanish Queen Mine (Burnett Mine in the 1930s) and extends up to Battleship Rock. The properties are generally listed by family name. Most structures were built of adobe and stone, but some were wood-frame, and a few were of logs or milled logs. Six of the places listed were hotels or groups of cabins and cottages



The W.C. Mann store in Jemez Springs, and an Army sedan filling up with gas. This building is across the road from the Presbyterian Church. It was one of 4 mercantiles listed in the report, including Baird's store, visible in the distance with a Chevron sign.

that were typically for rent. The largest hotels were the Jemez Mountain Inn (formerly La Esperanza) and J.D. Block's establishment. Both offered rooms, cottages, or cabins for rent. The Jemez Mountain Inn was two stories and over 32,000 square feet. It seems that the old Stone Hotel (built by the Oteros in 1881) was not in operation at that time (this structure may be listed with the N.B. Field Estate in the report). The Presbyterian and Catholic churches were listed (but the former was misidentified as a Methodist church). A school was also listed, and a photo of it was included. This was probably located right across from the Catholic church. The last facility listed was the "NYA Camp," which was the National Youth Association Camp at Battleship Rock. NYA was a government work program for youths. A Civilian Conservation Corps camp was previously located there, and in 1947 it became the YMCA's Camp Shaver.[7]

Electricity

Thirty-two of the 44 properties lacked electricity, while 12 homes and facilities had generator-powered electricity, ranging from 1,000 to 10,000 watts. Most of the generators were presumably powered by gasoline or diesel fuel. Three of the 12 generators were "hydro-plants," powered by Jemez River water flowing down flumes and over water-wheels,

View of Jemez Springs looking northeast. In the center of the view are the large Abousleman home, the Mann store, and the Presbyterian church. At the upper right is the Block Estate. At the center left is the Otero Bathhouse.

including a 10kw hydro-plant owned by the Abousleman family. In 1947-1948, Fred Abousleman and others organized the Jemez Mountains Electric Cooperative, and with federal grant funding they brought transmission lines and electric power to Jemez Springs.

Water

Only 14 of the properties in the inventory had piped or plumbed water. Remarkably, 19 of the 44 listed properties obtained domestic water from the Jemez River or irrigation ditches. The report described this as “filtered river water.” Other sources included springs on slopes or in tributaries (e.g., Church Canyon), rainwater, and only 2 drilled wells. An appendix of the report stated the river's water quality was “good,” but a detailed analysis of bacteriological and turbidity data was underway at the time of the report and was expected to be completed in January 1943. There were several “reservoirs” (concrete tanks) on slopes or in tributaries above the village, fed by nearby springs (e.g., Church Canyon), filled with water pumped from wells, or from the river (e.g., J.D. Block, Baird, and Abousleman).

There is also an appendix listing legal water rights in the valley that is quite interesting. In addition to long-time historical water rights, the permits for the hydro-power plants are listed.

Sewage

Only 10 of the homes and facilities had indoor plumbed toilets that drained to cesspools or septic tanks. According to the report, one home had indoor plumbing, but sewage drained to the river. The other 34 properties used pit latrines. This seems remarkable from a public health standpoint, given that many homes drew water from the Jemez River or irrigation ditches fed by the river.

Heating

Almost every home and facility was heated by wood stoves, and a few homes had fireplaces. The main building of the Jemez Mountain Inn was an exception, with a steam-heating system, presumably fired by wood, fuel oil, or coal. A few places had “Flamo-gas,” presumably propane, for cooking stoves. Given that almost all homes and other structures used wood fuel for heating and cooking, it is worth considering the significant quantity of cordwood collected and hauled over time, as well as the impacts of that fuelwood collection on nearby and distant woodlands.

People

Strangely, the 1942 Army Engineers report does not list the number of people living permanently in Jemez Springs. However, by checking the official 1940 census for Jemez Springs (which may not have been available to the engineers), I have been able to match

most of the family names associated with properties listed in the report to families in the census. The 1940 Jemez Springs census includes many families that were apparently working as loggers and mill workers, living over at Porter and what is now called Gilman. It also includes families living in La Cueva, Seven Springs, and Vallecitos de los Indios, for a total of 374 people in this census precinct. However, based on families in the census that I am sure were living in the proposed Site Y area in Jemez Springs and San Diego Canyon, I estimate there were about 150 to 170 permanent residents here at that time. The current population of the Village of Jemez Springs is about 200. If residents living in San Diego Canyon above and below the Village are included, perhaps this number is 300 to 400.

At the end of this article, I include a set of selected photographs from the report, with descriptions in the captions. Links to the original report, maps, and photos are included in the endnotes.[8]

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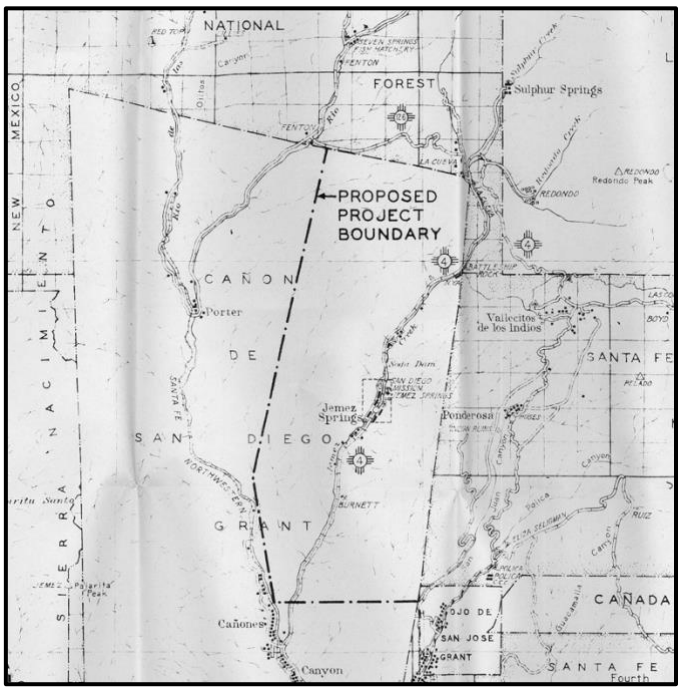
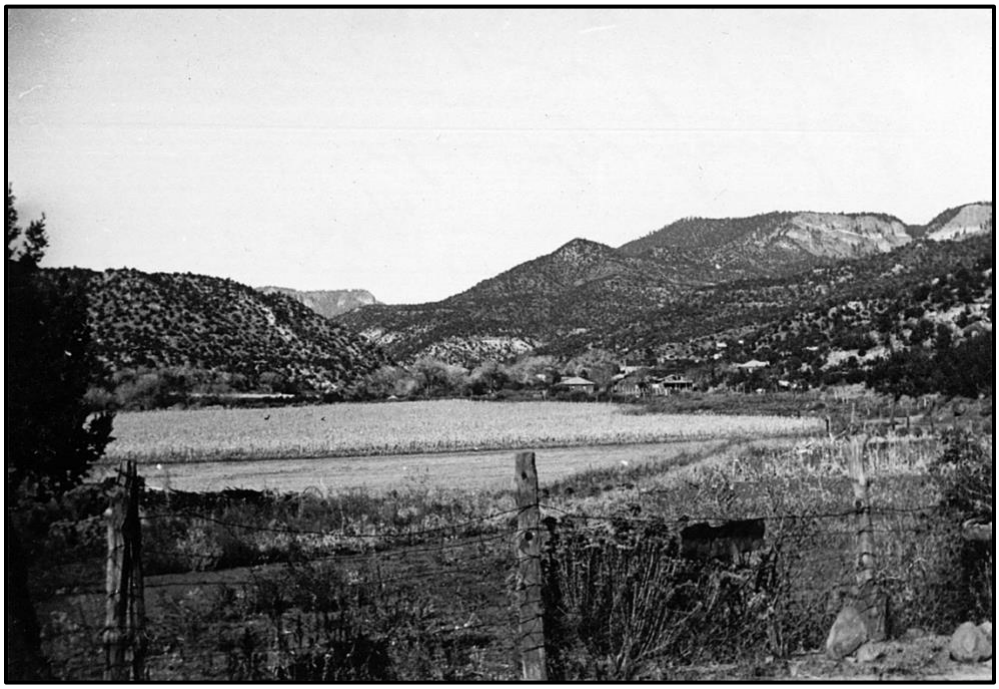
To conclude, you may recall that I said there was a fourth "bullet" that Jemez Springs "dodged," that is, a potential development that probably would have changed the village and the valley forever. That fourth *almost-change* event was the possible construction of geothermal generating plants and electric transmission lines within and south of the Valles Caldera. This was a hoped-for opportunity for investors (the Union Oil and UnoCal companies, with U.S. federal support) in the 1970s and early 1980s to tap into the energy potential of hot rock near the surface below the Caldera.

Approximately 20 exploratory wells were drilled in the Redondo Creek area and other locations to depths of 2,000 to 8,000 feet in hopes of finding sufficient hot rocks and steam to support 50 megawatts of power generation. Another project on Fenton Hill, led by Los Alamos National Laboratory, aimed to demonstrate the power-generation potential of so-called "hot-dry rock" by pumping water down to it to create steam. A well there went down more than 14,000 feet, and the rock's temperature at that depth exceeded 300 degrees Celsius. Both projects were deemed a "technical success, but economic failures" because the amount of steam and energy that could be produced was deemed insufficient to justify the costs of building out the plants and transmission lines.[9]

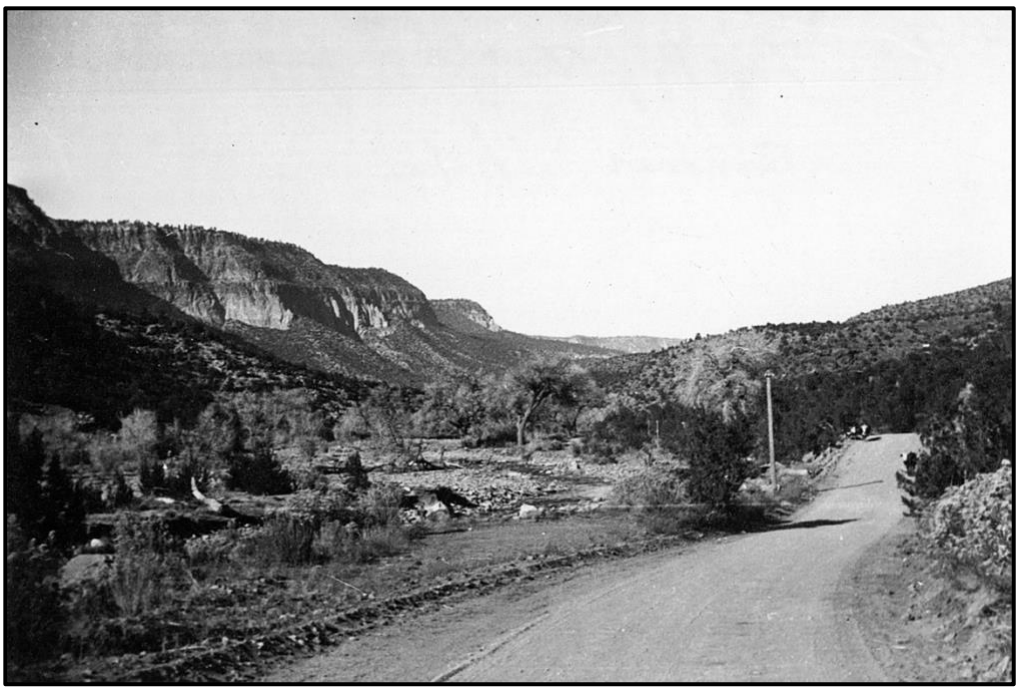
Maybe the Jemez Valley hasn't yet dodged this bullet, because energy demand is increasing and new technologies may ultimately make geothermal electric generation economically feasible in the Jemez. Another unknown, though, is the impact such a development might have on water, other natural resources, and people in the valley. Let's hope this and other future bullets continue to be dodged sufficiently so that the essential character and quality of the Jemez landscape are preserved.



Clip from one of the maps that accompanied the 1942 Army Engineers report, showing the proposed Site Y project area, encompassing Jemez Springs from Cañones to La Cueva.



View of Jemez Springs from the southern end, looking north. The foreground and cornfield are approximately where the Post Office and Credit Union buildings are today.



View to the north up San Diego Canyon from just south of the Spanish Queen Mine. Note the effects of the 1941 flood, which scoured the river bottom, leaving the largest cottonwoods as survivors. Also note the graveled State Road 4 and the three bald-face cows.

This is a rare photographic view of the north side of Soda Dam, showing State Road 4 going over the western end before it was blasted and leveled in 1960. The 1941 flood, and perhaps earlier ones, had filled in with sediment a large cave under the northwest end of the Dam that archaeologists used for camping during the winter of 1934-35 while excavating Jemez Cave.

Endnotes:

[1] *Visit to the Valles*, The Santa Fe New Mexican (Santa Fe, New Mexico), Saturday, July 17, 1886; The enthusiasm for hot spring resorts was partly related to a desire for health benefits of the "water cure," or "hydrotherapy," which reached a peak of popularity in the late 1800s; see https://en.wikipedia.org/wiki/Hydrotherapy

[2] Glover, Vernon J. 1990. *Jemez Mountains Railroads*: Santa Fe National Forest, New Mexico. No. 9. USDA Forest Service, Southwestern Region. 77 pages; The economic justification for building the railroad came after the Cañon de San Diego land grant was unjustly partitioned and sold for a small fraction of its value by Territorial court order in 1912, and the timber rights were then available for exploiting by unscrupulous lawyer-investors. I describe this history in Chapter 11, *Whose lands are the Jemez Mountains?,* and Chapter 12, *The Santa Fe Northwestern Railroad*, *The Jemez Mountains, a Cultural and Natural History*, University of New Mexico Press, 2025, 352 pages.

[3] I describe this story of Major Powell's ill-fated plan to dam the Jemez Mountains in more detail in Chapter 8, *John Wesley Powell's Jemez Dam Dreams, The Jemez Mountains, a Cultural and Natural History*, University of New Mexico Press, 2025, 352 pages.

[4] John Wesley Powell, "*Irrigation of Arid Lands*," statement and testimony to US Senate committee, February 15, 1889; John Wesley Powell, "*Reclamation of Arid Lands by Irrigation*," statement and testimony to Committee on Territories, US House of Representatives, February 16, 1889; and see deBuys, William, ed. 2004. *Seeing Things Whole, The Essential John Wesley Powell*. Island Press, illustrated edition, 402 pages.

[5] Page 84, Jones, Vincent C. *Manhattan, the Army and the Atomic Bomb*. Vol. 8. US Government Printing Office, 1985; and see this National Park Service web site: https://www.osti.gov/opennet/manhattan-project-history/Places/LosAlamos/la-selection.html

[6] Pages 657-659, Rhodes, Richard. *The Making of the Atomic Bomb*. Simon and Schuster, 2012; It is a bit odd that Oppenheimer thought San Diego Canyon might be gloomy and induce claustrophobia, given that many of the recruited scientists were from cities with artificial canyons, and the eastern U.S. where distant vistas were rare. In fact, Jemez Springs is blessed with many inspiring vistas, including spectacular cliff faces, and down/up canyon views of multiple miles. However, it is true that on the canyon floor the cliff walls cut off some hours of direct sunlight each day, and some people used to low and distant horizons might feel claustrophobic. It's likely the Los Alamos Ranch School option was in Oppenheimer's mind long before the November 1942 visit to Jemez Springs, as he had enjoyed his boyhood school days there. When Oppenheimer, McMillan, and Groves all took a negative view of Jemez Springs for Site Y, Oppenheimer suggested they drive over the

mountain to the Ranch School and take a look. Regarding Dudley's response, Rhodes wrote, "*Oppenheimer proposed the boys' school site, grouses Dudley, "as though it was a brand new idea." Dudley had already scouted the mesa twice, rejecting it because it failed to meet Groves' criteria. But a mesa is an inverted bowl, its perimeter similarly fencible. And the first requirement was to make the longhairs happy. "As I . . . knew the roads (or trails)," Dudley says sardonically, " . . . we drove directly there."*

[7] For more history of the camps at Battleship Rock, see Chapter 36, *The Many Camps at Battleship Rock*, In: *The Jemez Mountains, A Cultural and Natural History*, University of New Mexico Press, Albuquerque, 2025, 352 pages.

[8] Link to the original 1942 Army Engineer report, maps, and photographs: https://www.dropbox.com/scl/fo/viexqlep0md0t6op8xv81/ANSmUAdSiwXI8H1W4ohtyEo?rlkey=5f06e2qlrx006ck8w22pgabtw&dl=0

[9] Final Environmental Impact Statement: U.S. Department of Energy. 1980. *Geothermal Demonstration Program 50 MW Power Plant, Baca Ranch, Sandoval and Rio Arriba Counties, New Mexico*. (DOE/EIS-0049); Brown, D.W., Duchane, D.V., Heiken, G., & Hriscu, V.T, 2012, *Mining the Earth's Heat: Hot Dry Rock Geothermal Energy*. Springer.