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(First Geological Map of California) Geological Map of a Part of the State of California Explored in 1853 . . .

Stock#: 84781
Map Maker: U.S. Pacific RR Survey

Date: 1857
Place: New York
Color: Hand Colored
Condition: VG
Size: 16 x 22.25 inches

Price: SOLD



Description:

The Earliest Geological Map of California

This is an important early geological map of California, prepared to accompany reports regarding the Transcontinental Railroad. The map is color-coded according to geological features, with a key provided in the lower left. The geology is shown west of the Great Western Divide, extending as far north as Grass Valley, and down to the Gulf of California. The detail on this subject is simple when compared to modern geologic maps, but surprising for the time and for the most part correct. This is truly a marvelous map of California.

The geology of the area is broken down into nine strata. The geology can be seen to range from the "granitic and metamorphic" rocks of the Sierra Nevada, which give the range its famous grey color, to the

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alluvium and other quaternary sediments found in the San Joaquin Valley. Basaltic flows are recognized near the westernmost part of the Sierra Nevada, just north of Fresno, and near Punta de Los Reyes. Perhaps most interestingly, from a geological standpoint, are the "serpentine traps" noted in such locations as San Francisco and Mt. Diablo. For the most part, these are degraded ophiolites, meaning that these were parts of the seafloor, originally erupted 10,000 ft. below the surface of the ocean, which have been thrust onto land during the formation of California. They were originally composed of basalt and peridotite (this latter is basalt that has crystallized at depth), but the thrusting process introduced to water, which broke down the crystal structures of the minerals and converted the rock into serpentinite. This is a major source of natural asbestos.

Most of the geological groupings have interesting have additional notes, for example alluding to the basaltic deposits of the Cascades or drift of the Great Basin. It is impossible to understate the importance of geology in California's history, which early explorers would have recognized. This influences everything from mining in eastern California, to landslides in San Francisco, to agriculture in the central valley, and to the location of mountain passes through the Sierra Nevada.

Regarding non-geological detail, the surveying on the map was at the forefront of its field, though the map lacks some major details. Tahoe is but a tiny lake named Bonpland, dwarfed by Mono Lake and other lakes in the region. The rivers of Southern California are well-demarcated, and several westward routes are marked heading to San Diego and Los Angeles over Warner and Cajon passes. The Coast ranges are still little mapped, with no peaks appearing. Oakland was incorporated between surveying and publication of the map, making it one of the earliest state-wide maps to show the city. Another area of interest is the mining towns to be found on the western foothills of the Sierra Nevada.

The California Department of Conservation cites this as the "first geologic map that specifically and exclusively pertained to California." Earlier maps had focused on tiny parts of the state, for example, Edward Belcher's well-executed map of San Francisco published in 1839. Earlier geologic maps of the United States had touched on California, but this was extremely limited. For example, Hildburghausen in 1853 simply colors the central valley yellow, marks it as a gold region, and eschews any other detail. The second map of the state following Blake's would not appear until 1867, and several other independently published maps would continue until the first California geologic survey map of 1891.

This map was published alongside several other attempts by the U.P.R.R. focusing on specific parts of the state, and so far we have been able to locate detailed mapping of San Francisco and of the Coast Ranges from Los Angeles northwards.

The Pacific Railroad Surveys

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This work was produced by William Phipps Blake, a "Yankee Gentleman and Pioneer Geologist of the Far West" (Dill) during the Pacific Railroad Surveys of 1853. These were a series of five surveys that took place along several routes during the years 1853 to 1855 and were conducted in order to gather valuable information regarding possible routes of a transcontinental railroad. Four surveys followed east-west routes, comprised of a Northern Pacific, Central Pacific, and two Southern Pacific surveys. The fifth survey followed a north-south route instead, going from San Diego to Seattle. This is the survey that Blake was attached to, and was led by Lt. Robert S. Williamson. This map was likely included in the 1857 publication by Theodore Judah which collated the information collected from the five surveys.

Blake, a Yale graduate and relative of Eli Whitney, was attached to the Williamson survey. He was a proficient mineralogist whose first job was to collect minerals for the New York City world fair prototype. He left this role less than a year after his graduation to join the 1853 Pacific Railroad Survey at the age of 26. At first, he was assigned to a party which surveyed half a dozen unsuitable passes throughout the Sierras, and he was sent on an unhopeful quest to survey a legendary pass in southern California. Blake would cement his importance in the survey when he discovered the excellent San Gorgonio Pass, which had, as of then, not appeared on any maps. After this thrilling discovery, Blake would explore the rest of the Colorado Desert before being sent northwards to explore the Coast Ranges. Blake would return to the East but soon realize that he was happier in California, where he would decamp and spend most of his life exploring, usually in a steep professional rivalry with his longtime colleague Josiah Whitney.

Detailed Condition:
Minor small tear in upper left of margin, just past neatline. Minor damage to left margin, away from image.