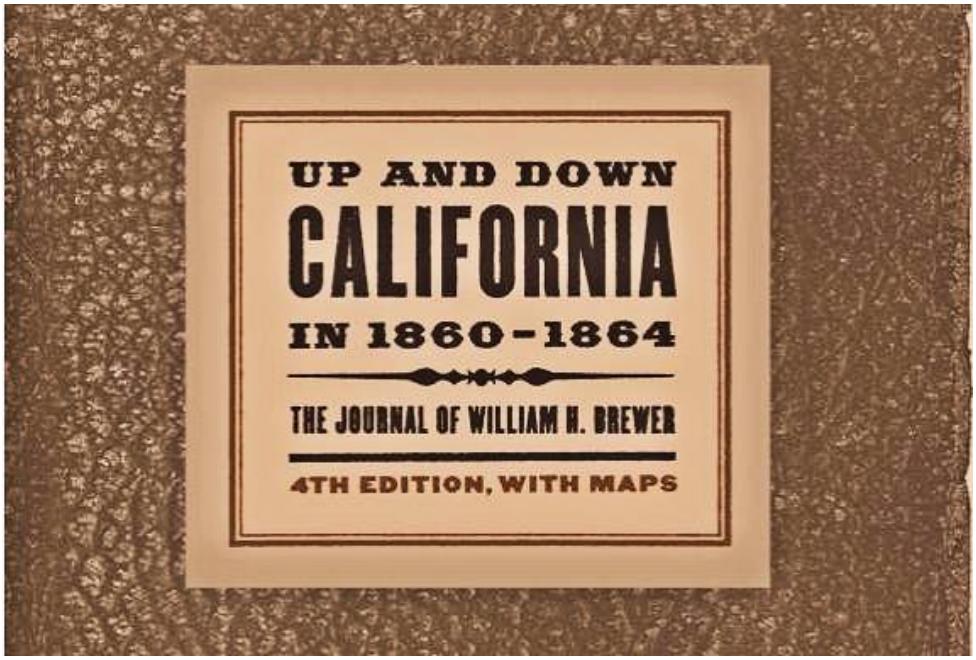

California's first geological survey was undertaken by state geologist Josiah Whitney from 1860 to 1864. Whitney and five other men journeyed up and down California, mapping the state, but primarily looking for minerals. William H. Brewer, more a botanist than a geologist, was a member of the survey party. The journal he kept during the four-year odyssey is still in print.

The tin mines lured the survey party to Temescal in January 1861, where the men stayed for several days. During their time here, Brewer wrote about the famed tin mines, the mineral springs bathhouse forerunner to Glen Ivy Hot Springs and their trek to the top of Santiago Peak in the Santa Mountains.

Here's the Temescal excerpt from his journal:

Camp No. 12, San Gabriel
Sunday, February 28, 1861

I have not written for some time -- the nights have been too cold for me to write without bringing on my rheumatism, and my days have been entirely occupied, much of the time with fatiguing travel or field work. Today is lovely again. I am writing this sitting under a tree, minus coat, vest, and hat, thermometer at 80° in shade, and sky as clear as August. We are back in good weather again, and I will take up my journal where I left it.

Monday morning, January 21, it looked like rain. We measured the cliffs above camp (about four hundred feet high). Then it cleared up, and I went on with advance camp to find a good place to camp at Temescal, where we expected to spend several days. We took our way southeast, over a sort of plain which sloped each side from the mountains. Most of it was very green, but alkali covered a part, and to the northeast many hills of

granite rose like islands in it. The flying clouds shading this great plain in places, the snowy mountains on the horizon, the grassy carpet beneath, the fine hard road we were on, all conspired to make it a lovely view and pleasant ride. We got in camp before night near the Temescal Overland station, at the foot of the Temescal hills, a splendid place to camp, wood and water plenty, and protected from the winds.

Tuesday, January 22, I stayed in camp all day and observed barometer, to compare with observations at Santa Ana River. Pete went back and brought up the rest of the party. **Wednesday, January 23**, while the Professor went to the tin mines, Averill and I went across to the hills on the opposite side of the valley to observe rocks. The Temescal hills are a range some two thousand feet high, lying east of the Santa Ana Mountains, and are celebrated now as being the locality of fabulous mines and quantities of tin. People are “crazy” about tin ore, every man has from one to fifty claims, while poor devils with ragged clothes and short pipes talk as they smoke of being the wealthy owners of one hundred or two hundred tin claims, each in time to rival Cornwall or Banca. It was to see these mines and the formation around that we came here.

The Santa Ana Mountains rise between us and the coast. It was desirable that we should ascend them, so **Thursday, January 24**, Averill, Pete, and I started on our mules to ride a few miles and examine the base and find some practical way to get up them. Hot springs issue from the base, where a bathhouse has been erected. Here Averill and Pete stayed, not wishing to climb, while I went alone to a height of 2,500 or 3,000 feet above the sea, found a practical way of ascent, and made some interesting geological observations. The stillness was profound, the solitude almost oppressive. I found no grizzlies, of which I had heard so much, but on my way back, trying to explore a canyon, got into chaparral so thick that I tore my pants off almost. They were completely ruined -- my last pair, but I bought a pair of Averill to get back to Los Angeles with.

Friday, January 25, we rode to the principal tin mine, four miles distant -- found it a splendid humbug. These hills are desolate beyond description, rough and dry, no trees, scarcely a bush, very little water and that quite strongly alkaline and nauseous. Many black streaks are found in the rocks; some of which contain some tin. Many claims are made and entered. One man has invested $14,500, and has commenced mining operations, that is, has sunk a shaft in the granite to look for richer ore. All thus far is mere speculation, and will end in that, I think. We carried a barometer and measured the height of the hill at the mine -- found it about a thousand feet above the sea.

We were back soon after noon, when Professor Whitney, Pete, Guirado, and I took our small tent and went about seven miles to Camp 10, at the base of the mountains across the valley from the ridge of tin, and camped in the mouth of a wild canyon, Cañon Agua Fria, or “Cold Water Canyon.” A fine stream of pure cold water here issues from the mountain. We were in bed early for an early rise. The Professor and I were to climb the mountain the next day, so all was got in readiness.

Saturday, January 26, we were up and breakfasted at dawn, and as soon as it was light enough we started. Professor Whitney carried barometer, hammer and bag, and canteen of water; I, a compass and tripod, level, spyglass, provisions, and another canteen. We had heard such big stories of animals that, by the advice of all, each carried a heavy revolver loaded with slugs, and a heavy bowie, for emergencies. We carried some bread, a little meat, and some panoli. This last is made by the Indians here, and is pulverized roasted corn -- when mixed with some water and with some sugar is very refreshing as a drink, sustaining one as hardly anything else will, as we found that day. These, with a few other small items made up our burdens.

We struck up the canyon a short distance. The granite sides were generally inaccessible, but at last we took up a slope exceedingly steep, some thirty-three degrees (the roof of an ordinary house is but twenty-three degrees). Vigorous climbing in due time brought us on a ridge, where the rising sun greeted us, first gilding the snowy peaks in the distance, and then flooding the valley below us in light and casting dark shadows in the canyons of the Temescal Range opposite. Several very steep slopes were surmounted until we gained a ridge at 2,200 or 2,500 feet, which runs laterally from the central chain. Here we found a few pine and fir trees. The chaparral became more dense, but by following the ridge we found in places a trail worn by deer and other animals. Tracks of deer, wildcats, and coyotes (small wolves), with their other traces, were numerous. Here we reached the highest point I had climbed to three days before, and we made it in a little over two hours.

The sun came out hotter, thawing the frozen ground, making it slippery in places, and increasing our thirst -- our canteens were often used. After another hour's climbing I lost the plug to my canteen, so we stopped and mixed the water left in it with panoli, and after dispatching it and resting, felt decidedly refreshed and in fine climbing trim.

Now commenced the real hard work of our ascent. We had risen much over half the height to be gained, but in places we had to climb over cragged granite rocks, and then walk over a steep slippery slope of decomposing feldspar. The stones which were loosened by our feet went bounding away into the canyons sometimes hundreds of feet beneath. But the real difficulty was the chaparral, which in places seemed absolutely impenetrable -- a tangled mass of stiff, interlaced, thorny shrubs. Sometimes we broke them down (our hatchet had been lost), sometimes tore through, sometimes crawled on our hands and knees a long distance. At one time nearly an hour was consumed in making probably sixty or eighty rods. I had rigged up an old pair of pants for the occasion, but they were “nowhere” -- they were torn to shreds. My drawers “followed suit” and left my legs to the mercy of the thorns. I had to go ahead, as the Professor carried the barometer. His shirt fared as badly as my pants, but my shirt stood it with only a few tears.

At last, after over six hours of the most vigorous climbing, we reached the summit. We had found snow for the last two hours of our climb, and a cold, piercing, raw wind fairly shrieked over the summit. We went about thirty feet below to hang the barometer in the

bushes. After half an hour's observations, eating our lunch, and drinking the rest of our panoli we put up the barometer, and planted our compass on the summit to get the bearings of the conspicuous objects around. It was so cold that I could scarcely write the bearings as read off.

But the view more than repaid us for all we had endured. It was one of the grandest I ever saw. Not less than ten or twelve thousand square miles were spread out in the field of vision; or, if we take the territory embraced within the extreme points -- land and sea -- more than twice that amount. We were on the highest point of the Santa Ana Range. To the west and south lay the sea, 150 miles of the coast in full view, from Point Duma to the islands off Lower California, Los Coronados. Table Mountain in Lower California was in full view on the horizon. The whole plain along the sea lay to the northwest: the plain of Los Angeles and beyond, some eighty or ninety miles to the Sierra Santa Monica, with the Santa Clara Mountains much farther still, the tops covered with snow, 125 or 150 miles distant (much more by road). We could see out on the Pacific a hundred miles from the coast, with the islands of Santa Barbara, San Miguel, etc., visible.

To the north lay the chain we were on, gradually growing lower, and at last sinking into the plain; beyond that the snow-covered Sierra Madre, the highest peaks nine thousand or more feet. A desert at the base, although eighteen or twenty miles across, seemed but a brown level field. In the northeast the great mass of San Bernardino with its many ridges shut out the farther view; it was probably fifty miles distant. A sort of plain stretches from its base to us, like the sea, with numerous rocky hills rising from it, like islands, some twenty or thirty miles in extent, but far beneath us. The scene in this direction, as well as to the southeast, was desolate in the extreme -- dry, almost desert, broken into rough, rugged, rocky ridges, or dry valleys -- no forests, no water or rivers to amount to anything -- a country nature had not favored.

Time was short, we must hurry. We had to pass the same chaparral. Trying an easier way in one direction for a short distance, we found trails, but the traces of grizzlies grew so very numerous, that we took to the ridge again.

The sun set while we had a thousand feet still to descend. We saw it gild the snowy peaks on the horizon. Tired as we were, we were not too tired to admire the beauties of that sunset. It was just dark as we got back. Pete had shot some quail and rabbits, and had them served in their best style, and how that meal tasted! We cut a sorry figure as we came back -- clothes torn, parts out, boots ruined, scratched, bleeding, bruised, dirty, and tired, I was nearer used up than I had been before; the Professor stood it better. But a hearty supper, early to bed, and late up in the morning, worked wonders. More quail for breakfast, then a most luxurious bath at the warm sulphur springs, and, save bruises and scratches, I was myself again. Our barometrical observations made the height of the peak 4,900 feet above camp and 5,675 above the sea. The next morning after breakfast we raised our tent, loaded up soon, and being short of provisions, went back to the other camp, about six miles distant.

On the way we stopped at the Temescal hot sulphur springs and bathed. The warm sulphur-water issues from the rock in large quantities at a temperature of 93°, very soft water, and slightly mineral. A rude bathhouse has been erected over it, and a bath in that warm water was refreshing in the highest degree. An Indian village, the old village of Temescal, lies at the spring, although the Overland station five miles distant is now the place called Temescal. The Indians speak Spanish and Indian. They are a miserable, thieving set. I saw a half-breed squaw, the prettiest I have seen in California thus far. We spent the rest of the day resting in camp, quietly enough, and had fine roasted wild ducks for dinner.

Monday, January 28, I rode with Averill to the north end of the Temescal Range, a series of granite ridges, covered with bowlders, some of immense size. One was seen forty feet high and many twenty-five or thirty feet.

Tuesday, January 29, the advance camp started to return to Los Angeles, on our old route. Professor Whitney and I rode with the proprietor of several tin leads to see them, several miles in the mountains, up steep and narrow trails, where we at home would think no horse or mule could climb, much less carry a rider. I rode my mule, the Professor our new horse, which had shown many signs of tricks and had thrown him two or three times. When about seven or eight miles from camp his horse threw him and got away. Our companion lassoed him once, but he got away again. He lost his saddle, which was stolen by the Indians, and we never recovered it. I tied my mule to some sagebushes while we climbed a hill, and when I returned it had pulled up the bushes and left. We footed it back. We found my mule at camp, but it was two days before we got the horse.

During the next two days I climbed over those barren hills with Professor Whitney looking at tin leads and studying the interesting geology of the place. I found some exquisitely beautiful flowers of very small size, several species being less than an inch in height, as small as any alpine vegetation.

The loss of our horse detained us a day longer than we expected, but we were off **Saturday morning, February 2**, for San Gabriel Canyon, about thirty-eight miles distant, where the rest were encamped. We were detained, however, by a “slough,” and failed to make it. Although we had started very early, night found us five or six miles short. So we pitched camp, and early the next morning, Sunday, were up, raised our tent, and got into camp before the rest had got their breakfast.

Monday, February 4, the Professor and I rode a few miles, and climbed a ridge about 2,500 feet high, where there were extensive outcroppings of rock. We saw four fine deer, but of course had no guns to shoot them with.

Tuesday, February 5, we came on to Los Angeles and camped again on the site of our first camp. We passed over the lovely plains of San Gabriel, El Monte, and Los Angeles, with their thousands of cattle, horses, and sheep feeding; tens of thousands were seen, in pleasing contrast with the barren hills of Temescal. We saw on our return quantities

of wild ducks and geese in the ponds along the road. The plains and hills were green, men were putting their vineyards in order, and fruit trees were coming in bloom here, fruit plenty in the streets, but very dear -- apples four to fifteen cents each, oranges five to ten cents.

Thursday, February 7, Professor Whitney left for San Francisco, leaving the party in my charge, a responsibility I by no means desire, but I will make the best of it. That night three of our men came in very drunk, for the first time, a bad beginning of my rule. I had been in town in the evening, and on returning put things in order, as it looked like rain. At two o'clock they came in, and disarranged some of the things. Soon after it began to rain hard, and rained until near daylight, the wind cold and increasing. Just before daylight the wind changed, and a fierce squall carried over both tents in the rain. Such a pickle! Instruments and blankets and books were hurried in the wagon, clothes lost in the intense darkness. I worked barefooted, in shirt tail and drawers -- ugh! -- how cold it was! It completely sobered the men, I assure you. It was fortunately near daylight, and the wind and rain lulled and finally ceased. When day dawned we found our clothes (wet, to be sure), put up our tents, dried ourselves by the fire, and, after a hearty breakfast, laughed at our mishaps. No serious damage was done.

The next two days were spent in making preparations to leave for the north.