

Drift Mining.

Except in California, placer mining is not now extensively practiced in any of the Pacific States or in the Territories. In Alaska 90 per cent of the gold taken out is the product of vein mining. In British Columbia, while placer is about the only kind of gold mining much pursued, it does not nor has it ever reached there large dimensions. In Arizona, Oregon, Idaho, Montana and Colorado, where placer operations were at one time very extensive, they have now dwindled to comparatively small proportions. In neither Nevada, Utah, New Mexico, Dakota nor Washington Territory has much placer mining ever been done, the product of gold from this source being larger in California than in all these other counties combined.

The greater portion of the placer gold now obtained in California comes from the drift mines which are here worked on an extensive scale. The business has, in fact, been steadily growing for a number of years past, it having received a considerable impetus through the partial cessation of hydraulic washing. Much ground formerly worked by the latter method is now operated by drifting, though the profits realized are not now so large as they were before, owing to the much greater number of men that have to be employed. Here, again, California is the only country in which this style of mining is much practiced, because here, only, do we find the Pliocene system of channels much developed; it being along these that all the large drift operations are conducted. But for her "dead rivers" drift mining even in California would cut but a poor figure. Very little gold is taken out by drifting in either the extreme northern or the southerly lying counties of the State, because these extinct rivers are entirely absent or show there in only a feeble way.

The Forest Hill Divide, Placer county, Liberty Hill and vicinity, Nevada county, Little and Big Butte creeks and the Megalia ridge, in Butte county, and Forest City and Slate Creek Basin, Sierra county, continue the sites of the principal drift operations in this State, though some drifting is done in a majority of the other mining counties. The larger companies engaged in this business employ from 100 to 150 men, their annual output of gold ranging from \$100,000 to \$300,000. The net profits on this output, once the mine is opened and equipped with plant, vary from 40 to 60 per cent, the results in this kind of mining, so long as the deposits last, being comparatively free from contingencies. Neither drouth, frost nor storms affect drift operations. These being mainly carried on under ground, neither the heat nor the cold, however intense, is much felt, while there is always water enough in the course of the year, even in the driest season, for washing the gravel taken from the drift mines. Last fall many of the quartz miners in the central districts of this State lost fully a month owing to an insufficiency of water to drive their machinery, but none of the drift companies were through lack of water, precluded from washing the stock of gravel they had taken out during the summer, though a few of them were delayed with this work beyond the usual time.

Wherever an opportunity offers to locate any drift ground it is at once taken up and properly secured, and thus the area of these operations is every year enlarged or the foundation laid for its extension. During the past summer a large tract of land on the ridge between the north and the south forks of the middle fork of the American river was taken up, surveyed and put in shape for perfecting title under the general mining laws. This tract covers the upper sections of the rich and extensive Pliocene channels that traverse the Forest Hill divide, notoriously the most productive in the State. During the course of the present year it is expected that this ridge will become the scene of active and profitable drift operations, as the "Dead Rivers" here wherever prospected or eroded by the modern streams show themselves strong and prolific in gold. The locators are experienced drift miners and possess themselves means ample for exploiting; their claims and working them to an effective way. With the companies

operating at Damascus, Sunny South, Bath, Forest Hill and other old and well known drift camps further down the divide, the past has been an exceedingly prosperous year, the outlook with the most of them being at the same time highly encouraging.

Going north, we find drift mining; being resumed in the vicinity of Dutch Flat, Liberty Hill, and about Nevada City, where this class of operations had for a long time been much curtailed, or wholly suspended. At the Derbec mine, a little further on, near North Bloomfield, the year has also been a good one. The Bald Mountain Extension Company at Forest City have for several years past been dividing large profits, as have also the North America Company, operating at Whisky Diggings, in the State Creek basin, not to mention a score or more of smaller companies owning and working drift claims in that portion of Sierra county. On the west side of Slate creek a strong company have located and are preparing to open by means of extensive tunneling nearly the whole country reaching from La Porte to Gibsonville, a stretch of eight miles, and which in the early day was occupied by hundreds of miners, who worked their small claims through vertical shafts. The auriferous channels here, though not generally large, are rich and very numerous. The probabilities are that this company will achieve a great success.

After an interruption of several years, owing to litigation, gravel is again being taken from the Pershbaker drift mine on the Megalia ridge, Butte county. The auriferous channel covered by this claim, though narrow, has yielded as much perhaps to the area worked as any other in the State. Now that work has been resumed there, new life seems likely to be infused into drift operations along the entire gravel range, here very extensive. Owing to the extent of these buried channels and the success that has latterly attended their development, drift mining is destined to see a long life in California, not one-tenth probably of the original drift deposits having yet been exhausted. How far they reach under the lava flow that covers so much of the westerly slope of the Sierra Nevada can, however, only be determined by actual exploitation.

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This business, pursued in California from an early day, continues one of the most active and profitable branches of gold mining in the State. Though confined mostly to the central mining counties, gold extraction by the drift method is carried on over a wide area, the Pliocene channels or "Dead rivers" constituting the sites of its most extensive operations. For reaching the deposits deeply buried in these old riverbeds, recourse is had to shafts and tunnels, from which the work of their further exploitation is carried on. When shafts are employed for the above purpose, the auriferous gravel is raised to the surface in large buckets operated usually by windlass or horse power. Where tunnels are in use the material is brought out on cars run over tramways.

The following constitute the most notable drift localities in California: Vicinity of Forest City and Slate Creek, Sierra county, where some of the tunnels driven exceed a mile in length; along Little and Big Butte creeks and about Magalia, Butte county, most of the mines along these creeks being small but very productive. At Magalia also a few of the claims paid enormously. Of all the drift districts in the State the mines on the Forest Hill divide, Placer county, have yielded the most steadily and in the aggregate perhaps the most largely. The closing of the hydraulic mines has tended of late to give additional importance to drift mining by diverting to the latter much of the capital and labor formerly employed in hydraulic operations.

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