

### Hogsback Mine Tunnel Costs

Having run a tunnel (but not quite so long) at the Hogsback mine in Placer county nine years ago, and having kept a record of that work, I thought it would be of interest to readers of the Mining and Scientific Press to compare the work

The tunnel in Placer county ran diagonally across the strike of the rock, at an angle of about 20°, which was composed of alternate stratas of slate, diorite, and white, barren quartz. The regular force of men, consisting of twenty-one all told, divided into three shifts of five men each, working eight hours; two engineers working twelve hours; two drivers and horses working twelve hours, and two blacksmiths working ten hours.

#### MELONES MINING COMPANY.

Actual Cost of 2608.5 Feet of Tunnel and Drifts, 7x8 Feet, Exclusive of Management, up to September 24, 1898.

	Cost per Running Foot.	
Labor payroll	\$19,501.46	\$7.47
Powder—2000 lbs. No. 1 @ 16.6c; 25,550 lbs. No. 2 @ 11.90	3,405.65	1.30
Fuse—74,000 ft. @ 51.7c; Caps—200 bxs. @60c	500.20	.19
Wood—3334 cds. @ \$5	1,667.50	.63
Water—40 in. @ 15c per in. and tender.	828.50	.32
Coal—Cumberland, 11,591 lbs. 6c \$15ton. 79.75 Freight	99.68	.06
Foot Planks and Ties, and 9 sets of Timbers—8466 ft. @ \$20 per M	169.32	.06
Candles—3040 lbs. @ 74c 262.04 .10		
Steel.Rails—21,555 lbs., 1¼ c and 2¼ c.	567.62	.22
Air and Water Pipe—11-in. Air Pipe, 18c and 30c; 3-in. do, 224c; 2-in. do, 11¼ c	1,012.25	.45
Horse Feed—Hay, 14c; Barley, 1.9c .	267.16	.10
Steel, Drill Parts, Oil, Waste, etc. ...	<u>316.92</u>	<u>.12</u>
Total	\$28,708.25	\$11 .02
Actual cost per running foot \$11.02		

#### HOGSBACK MINE.

Actual Cost of 1559.6 Feet of Tunnel, 7x8 Feet, Exclusive of Management, up to December 27, 1888.

	Cost per running foot	
Total labor (including timbering)	\$12,131 .49	\$7.77
Powder—10,021 lbs. @ 14% c delivered. .	1,478.10	.90
Fuse—23,045 f t. @ 544c ; Caps—\$40 case.	165 59	.10
Wood—522 cds. @ \$2.75 delivered	1,435.50	.92
Charcoal—1580 bush. @ 20c.	316.00	.20
Candles -1755 lbs. @ 13¼ c	232.23	.14
Gang Planks and Ties—7624 ft. @ \$22.50		

per M	171.54	.10
Timbers—21 sets @ \$1.80 per set	37.80	.02
Steel Rails, etc.—16-lb., 20,048 lbs. @ 4c	801.92	.51
Air and Water Pipes—1800 ft. 3-in. @ 29½ c; 1700 ft. 1-in. @ 6¼ freight on same	761.43	.48
Horse Feed—Hay, 2c; Barley, 3c per lb	319.60	.22
Steel, Drill Parts, Oil, Tools, etc	<u>916.33</u>	<u>.58</u>
Total	\$18,797.83	\$11.94

Actual cost per running foot \$11.94

Comparison Showing Best Week's Record and Cost of Same at Each Mine.

	Melones Mine, Report for the Week May 28, 1898, 10 a. m.	Hogsback Mine Report, for the Week Aug. 4, 1888, 9 a. m
Holes drilled	291	150
Holes reblasted	6	11
Total depth of holes	1478 ft.	758 ft.
Average depth of holes	5 ft.	5 ft.
Time used in drilling	45 h. 0 m.	20 h. 0 m.
Average time per shift	2h. 8 m.	2h. 8 m.
Timber used	None	None
Powder used	925 lbs.	314 lbs.
Candles used	77 lbs.	72 lbs.
Water used	40 in.	None
Wood consumed	None	21 cds.
Rock extracted per shift	23.19 cars	21.8 cars
Total extracted per week	69.57 cars	65.42 cars
No. of working days	7	7
No. of shifts	21	21
No. of men	31	20
Average progress per shift.	4.38 ft.	3.5 ft
Average progress per day	13.14 ft	10.51 ft
Tunnel advanced for the week	92 ft.	73.6 ft
Previously reported	2310 ft.	404.1 ft
Total length per date	2402 ft.	477.7 ft
Expenses for the week (labor)	\$551.75	\$435.75

In comparing the foregoing several differences are apparent. The small amount of carloads per week at the Melones as compared to the Hogsback is explained by stating that the ground at the Hogsback mine was blocky and broke big, necessitating handling much more rock than was necessary. The difference in cost of labor per week is explained by stating that at the Melones mine of the twenty-one miners only six receive \$3 a day, the balance \$2.50 a day, carmen \$2, whereas at the Hogsback mine everybody was paid \$3 a day. It will also be noticed that it required twice as many holes to be drilled in the face of the Melones mine than it did at the Hogsback mine, as the ground was much harder and more difficult to break. During the progress of the work at the Melones mine not a single man was maimed nor did any accident occur.

To Mr. B. Deleray, the superintendent of the mine, is due the credit of the splendid results attained.

W. C. Ralston, Manager, San Francisco, Oct. 3rd, '98.

*Mining and Scientific Press, V. 77, 11/5/1898, p. 446*