Pelton Wheel.

The Pelton at the Thames School of Mines is 3 ft. in diameter, and is driven by water delivered under a pressure of 62 lb. by 1,200 ft. of 9 in. pipes. It was originally fitted with a 16 in. driving-pulley, but as it was found not to develop sufficient power along with high velocity, experiments by Mr. J. Parr, B.Sc., and myself demonstrated the necessity of a 21 in. driving-pulley. This allows the Pelton itself to run at a slower speed—*i.e.*, less than 287 revolutions per minute—and there is a consequent increase in the horse-power available, while the speed of the machinery is the same as before, and can be regulated as required. The diagram attached clearly illustrates the fact that if a Pelton runs at too high a speed the horse-power developed diminishes, and this is due to flooding. The diagram enables the horse-power to be ascertained at a glance when the number of revolutions and the size of nozzle are known; and similar diagrams for the different-sized Peltons used in connection with mining would, if constructed, prove extremely useful to those in charge of the machinery.

Appointments held by Students at the Thames School of Mines.

During the last twelve months several of the Thames School of Mines Students have received appointments, as follows:—

—	Name.	Position.	Present Address, 31st March, 1899.	Approximate Salary per Annum.
				£
1	J. Rickard ...	Mine-manager, Nonpareil	Thames ...	200
2	R. Bradley ...	Assayer, Te Puke Reefs	Te Puke ...	150
3	F. Williams ...	Clerk and assayer, Ethel Reefs	Thames ...	200
4	P. E. Keam ...	Mine-manager, Preservation Inlet	...	300
5	D. Hughes ...	(Mine-manager) Shift-boss, Preservation Inlet	...	175
6	F. Kidd ...	Battery superintendent, Waihi-Silverton Gold-mining Company	Waihi ...	150
7	R. Vercoe ...	Battery superintendent, Monowai Gold-mining Company	Thames ...	250
8	J. Trelease ...	Manager, Puru Consolidated	...	200

It is difficult to obtain records of the movements of past students, but among those who have received further and new appointments during the last twelve months may be mentioned:—

—	Name.	Position.
1	W. H. Baker ...	Assistant, Thames School of Mines.
2	W. Baker ...	Mine-manager, Saxon-May Queen.
3	E. Cartwright ..	Mine-manager, Moanataiari.
4	G. H. White ...	Mine-manager, Monowai Gold-mining Company.
5	R. Tierney ...	Mine-manager, Ethel Reefs.
6	H. McKenzie ...	(Mine-manager and battery superintendent) supervisor to a New South Wales syndicate
7	R. Clarke ...	Battery superintendent, Waitekauri Gold-mining Company.
8	W. Morrin ...	Battery superintendent, Waitekauri Cross.

Syllabus of Instruction.

The following is the syllabus of instruction followed during 1898–99:—

General and Mining Geology.—(Lecturer, the Director, Mr. F. B. Allen, M.A., B.Sc.).

Physical Geology.—The earth as a planet, its form and motions; geological climate; the atmosphere; ocean; solid crust; the interior of the earth.

Dynamical Geology.—Metamorphism; agencies modifying the crust of the earth—atmospheric, aqueous, chemical; weathering; sedimentation; classification of deposits—mechanical, aqueous, organic, and chemical; denudation and erosion.

Structural Geology.—Stratification; jointage; contortion; faults; conformity; unconformity; dip and strike; cleavage; metamorphic rocks; intrusive sheets, bosses, dykes, fissures; formation of quartz veins, lodes, and metallic deposits; dynamics of lodes; recovery of lost lodes.

Geological Surveying.—The practice of running natural sections; noting dip, strike, and inclination of strata and lodes; mapping geological formations; collection of mineral and rock specimens.

Stratigraphical Geology.—Classification of plants and animals; fossils; blending of species; geological record; the study of characteristic life, and distribution of formations from archæan to recent times, with special reference to the geology of New Zealand.