

These are carried on a ladder, 105 ft. long between the centres of the tumblers, and the line is driven by a 100 h.p. A.S.E.A. slip-ring motor through a rope drive to a counter-shaft, thence by a belt drive to the top tumbler gearing which gives a speed of 10½ buckets per minute. The special features of the dredge's reconstruction are: A water-sealed bottom tumbler, a double crown-wheel and a standby plant of two sets of Ruston-Hornsby crude oil-engines totalling 300 h.p. and running at 375 r.p.m. Each engine is directly coupled to a 100 kv.a. 400-volt A.S.E.A. generator with a power-factor of 0.8. The current from the generators is stepped-up to 6,000 volts for transmission to the dredge. All power is controlled from a well-equipped switch-board. Oil-storage tanks of 90 tons capacity are installed both at Cromwell and Nevis. If no unexpected delays occur dredging will commence early in 1934.

*Nevis Crossing Dredge* (S. Fache, Dredgmaster).—This dredge, which has been idle for several years, was formerly owned by a small syndicate. It has been bought by Mr. S. Fache, who is making preparations to overhaul the pontoons and machinery with the intention of carrying on dredging operations on some unworked ground left by former miners.

*Freshford Gold-dredging Co., Ltd.* (Part of Block I, Wendon Survey District, Waikaia, Southland; R. M. Smail, Dredgmaster).—Eight men employed. This steam-driven dredge commenced operations in March, 1933, on ground which proved to be shallow and tight. Deeper ground was reached, but a considerable amount of heavy clay had to be dredged. The returns have been poor, and further boreholes are to be drilled to test the area ahead. The result of the operations shows the necessity for accurate check boring of all dredging areas before a dredge is built. The total quantity of gold won amounted to 471 oz. 13 dwt. 20 gr., valued at £2,956.

#### MINERALS OTHER THAN GOLD.

*Tungsten*.—No scheelite was produced during the year. Values are now rising, and if the demand increases, some of the mines will probably be producing in 1934.

*Oil Wells, Southland Oil, Ltd.*—No boring has been done at either No. 1 or No. 2 bore during the year.

*Platinum*.—3 oz. 10 dwt. of platinum was obtained in the Orepuki district, Wallace County, the estimated value being £6 ls. 8d. per ounce. Total estimated value, £21 5s. 10d.

#### FATAL ACCIDENTS.

There were three lives lost during the year, one by drowning and two by a fall of rock.

On the 14th July Mark Holmes was drowned in the Kawarau River, which was in high flood at the time, while attempting to get another mooring-line on to a pontoon in the Lady Ranfurly claim. The body was not recovered.

At some period between the 17th and 19th of July, J. L. Cochrane and T. Livingstone were killed by a fall of rock when working on their claim on the west bank of the Kawarau River, near Waitiri. They had been dead for some time when their bodies were found. They were engaged in cradling alluvial wash which was removed from among the large rocks on a bank above the river. Heavy rain had fallen previously, and the fatalities were attributed to a slip which was caused by the disturbance of a key-rock in their claim.

#### NON-FATAL ACCIDENTS.

Bart Black, miner, was injured at the King Solomon Deep Leads Mine, Waikaia, at 3.30 a.m. on the 18th July. He suffered a fractured tibia and fibula. He and his mate were timbering on the midnight to 8 a.m. shift. A false set swung forward and knocked out the face set. The cap piece fell and caught Black by the ankle. Jim Law, on jumping clear, fell over the truck, injuring two of his ribs.

William Crockett, trucker, was injured at the Makaeroa Quarry, near Dunback, at 7.45 a.m. on the 30th September. A rectangular stone fell from the steam-shovel bucket and hit Crockett's left heel, fracturing the heel bone.

Roman John Kubala, claim-manager, was injured at the Terrace Gold-mining Co.'s claim, Waimumu, at 10 a.m. on the 24th November. He was blasting lignite clay boulders. One shot exploded before he was clear, and he sustained injuries to his right hand necessitating amputation at the wrist joint.

#### BORING.

*Cromwell* (W. Campbell, Superintendent).—The following boring operations were carried out during the past year: The Bendigo Deep Lead Syndicate bored 1,598 ft., and then the area tested was taken over by a company which is placing a dredge on the property. At Quartz Reef Point 603 ft. was bored by the same syndicate. The depths varied from 50 ft. to 136 ft., and the values were discouraging. The Mines Department's steam keystone drill and 6 in. casing were used.

*Nevis* (J. Stevenson's Area; A. E. Bamgarton, Superintendent).—The Alluvial Gold (Australia) sent their superintendent, crew, and their machine to bore this area. Ten holes, totalling 395 ft., were bored, 5 in. casing being used.

*Matakanui*.—The Sinclair Syndicate bored eight holes, totalling 231 ft., at Matakanui. No. 3 alluvial drill was used with 6 in. casing. W. Gibson, superintendent.

*Arrowtown*.—The same syndicate used the No. 3 alluvial drill to bore fifteen holes, totalling 532 ft., at Arrowtown. No values recorded. W. Gibson, superintendent.

*Big Beach, Shotover* (P. O. Shiel, Superintendent).—The Goldfields Dredging Co. bored three holes, totalling 86 ft., with the No. 3 alluvial drill and 6 in. casing. Four holes, totalling 89 ft., were bored with a smaller machine, using 3 in. casing.

#### Maniototo County.

*St. Bathans*.—Two holes were drilled on the township side of the Kildare Consolidated Gold-mining Co.'s workings by the Manuherikia Development Syndicate. No. 1 hole reached bedrock at 232 ft.; No. 2 hole was drilled to a depth of 412 ft., but did not reach bedrock. The casing could not be driven farther. J. Stewart's 6 in. Keystone type drill, using 6 in. casing, was employed for the work. George Nelson, supervisor.

*Canadian Flat, Upper Taieri*.—Three holes were drilled by Investigations Ltd. to a total depth of 125 ft. Depths varied from 33 ft. to 51 ft.

*Poolburn District, Ida Valley*.—One hole was drilled to a depth of 105 ft. for Mining House, Ltd. N. Page, superintendent.

#### Tuapeka County.

*Teviot Survey District*.—Part of Block II, on the west bank of the Clutha River, between the Roxburgh-Alexandra Main Road and the river: Five holes were drilled with a total depth of 314 ft., the depths varying from 36 ft. to 75 ft.; 6 in. casing was used. M. McDougall, drill superintendent.

*Teviot Survey District*.—Four holes were drilled by Industries Ltd. on the Hammond-Broad-Crossan claim in part of Section 2, between the Roxburgh-Alexandra Main Road and the river, one mile west of Roxburgh Post-office; 3 in. casing was used. H. T. Gordon, supervisor.

*Island Block*.—The Mining Trust, Auckland, and Australian Gold Development drilled an area alongside the Beaumont-Roxburgh Main Road. Two machines were used—Keystone type, using 6 in. casing; W. Bowden, drill superintendent; J. Stewart's steam-driven machine; M. McDougall, drill superintendent; E. T. Anderson, supervisor.