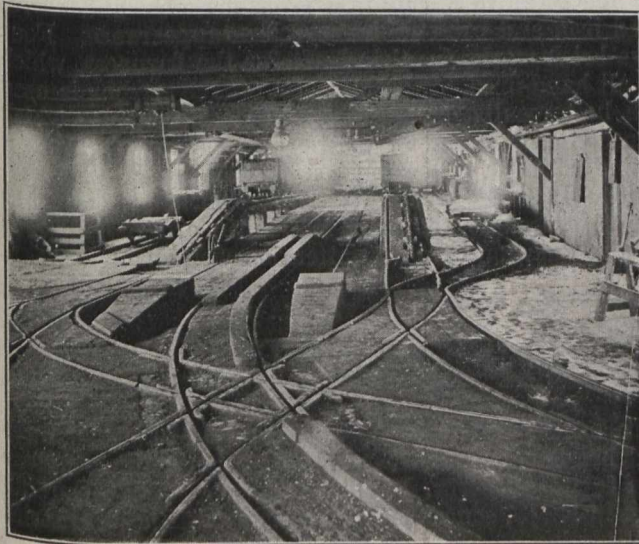


from No. 5 slope some 3,000 feet. The plan of the workings is the same as above.

To the west of the halfway level is a tunnel tapping two seams. The levels extend east and west from this tunnel in each seam. The levels are being driven and other openings for ventilation are being made. This section is known as the tunnel-working halfway level. The tunnel is some 230 feet long, both seams being cut in that distance. The west lower level, No. 5, extends to No. 2 slope, 3,500 feet distant, and taps or connects with the main slope, some 200 feet from the bottom. It has lately been connected with No. 2 east level by incline, by which the coal has been taken over No. 5 district and landed at the 3,600 foot bottom of No. 2 slope, a saving of haulage of two miles underground.

The clearing and sinking of No. 2 slope from the 2,400 foot level down to the present 3,600 foot level presented difficulties seldom met with in coal mines. Fifty feet below the 2,400 foot level a roll was met with that necessitated a rock cutting, after the coal was removed, of 15 feet at the highest point, and extending 200 feet down the slope. This still left the difference of grade between the length of cutting and the slope above and below it of from 8 degrees to 10 degrees. The cutting being flat in comparison, was later brought near the average grade of



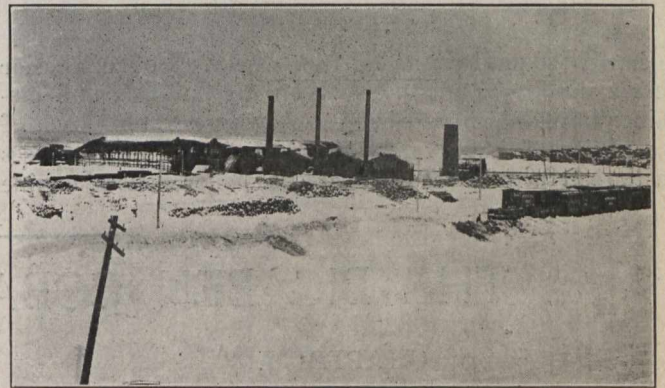
No. 3 Brow of Slope.

32 degrees, by a further cutting of 4 feet out of the bottom, tapering out to a greater distance. This made the hoisting of heavy rakes possible. Before the work was quite finished a fire occurred in No. 1 slope, then working (1896-97), which put the pumps of No. 1 out of service. Nos. 1 and 1 being connected, the new section below 2,400 feet was submerged. Pumps were installed in No. 2 slope below 2,400 feet in short order, and the water was caught and held there for some years. In the spring of 1903 the work of pumping out and re-opening the submerged lower workings was begun. When the water was pumped out it was seen what a colossal undertaking it was. Falls were encountered anywhere from 10 to 50 feet high. The first fall encountered was about 80 feet long and 40 feet high on a grade of 32 degrees. Everything loose had to be loaded out, making the work extremely dangerous and slow. But experience, ingenuity and care, with unlimited material of the best quality, finally accomplished the stupendous task, without the loss of a single life. Pumps were installed at the 300 foot lodgement, which fortunately was found standing intact (except for a few insignificant falls, which were speedily cleaned up), and

sinking at once proceeded below the 3,000 foot level. One hundred and twenty-five feet was sunk, when a down-thrown fault was struck, displacing the seam by a drop of 30 feet vertical. A tunnel was driven down through the rocks at an angle of 52 degrees, striking the coal at 90 feet below the fault. Here it was found that the seam had flattened to 24 degrees of pitch, necessitating the blowing down of top rock for 250 feet, reaching the highest point midway at a distance of 30 feet. But the expenditure of time, labor and money was well warranted by the opening up of this magnificent seam of coal. The quality at this depth really available was 5,000,000 tons. The seam runs down 10 feet to 11 feet in height and clean from roof to pavement. The lower lift of this mine is now being rapidly developed with strict attention to its future. Everything is put to stay. The surface plant of this mine is equal to the limit of output.

The bankhead is built in the shape of a horseshoe, making a space of 320 feet from slope to tipples. The full cars from the mine are carried around the slight grade, there they are caught and guided to the tipples, of which there are both sorts, revolving and end tipples. The coal goes over shaker screens and is spread on moving picking tables, when it is thoroughly cleaned by a number of boys and men before being put in cars.

There are three such screens and tables, capable in the aggregate of handling 2,500 tons per day. The empty



No. 3 Colliery.

cars when drawn from the tipples are guided to the hoist, where they are passed to an elevator and of their own weight run by a carefully graded road to the pit brow, where the empty rake of 12 cars is made up to return to the mine. The hoisting engine is an exact duplicate of No. 3 hoisting engine, and is set well back from the bankhead buildings. This was necessary as the present is the fourth site it has occupied in making room in past years for bank extension. The engines, which are powerful looking machines, are bedded on solid concrete foundations, and appear equal to any work required. Technically described, they stand one pair 30 inch by 48 inch, direct acting, link reversing, hoisting engines, with grooved drums, 7 feet in diameter, 5 feet face each. The drums hold 6,000 feet of 1 1-2 inch steel wire rope. The fan to supply air to this mine is as at No. 3 mine, a Capell double acting blow-down with a capacity of 150,000 feet per minue, 10 inches W. G. Its size is 15 feet in diameter, 5 feet width of vane. In close proximity to this mine is the lamp station. Here 1,200 safety lamps are cleaned, oiled and tested daily by the small force of two men and a boy. Here also, steam, compressed air and electricity are brought into requisition. As a result we see the marvelous celerity with which lamps are turned out for use in the mine. The building is entirely of