

COLLIERIES IN ALBERTA

There is an immense area of coalfield in the Province of Alberta, but little explored or developed up till now. Towards the south-east corner of the province, at Medicine Hat, the coal, so far as perceived, is of the nature of lignite. Westwards, towards the Rocky Mountains, it gradually changes in character, till, at Lethbridge, about 100 miles westwards, it is bituminous; while about 70 miles further west, at Frank and Coleman among the mountains, on the border of British Columbia, the coal is suitable for coking, as well as for general industrial and household purposes. At Bankhead, near Banff, about 120 miles north-west from Coleman, the coal is more anthracitic in its nature. Approaching the Rocky Mountains at Coleman and Bankhead, the strata have been tilted up, so that the seams lie at a high angle of inclination. This necessarily makes the working of the coal a more difficult problem than in the coalfield of Sydney, Nova Scotia, already described, where the seams are at a moderate inclination and under a comparatively uniform thickness of strata. At Coleman, where presently two seams of 44 feet and 6½ feet thick respectively are being worked, the inclination is 3½°. The main level in the thick seam entering into the mountain side is 3,000 yards in length, timbered all the way with timber sets of 9 inches to 12 inches diameter, set from 2 to 3 feet apart, indicative of the immense strain to which the underground ways are subjected from the weight and thrust of the mountain strata. The coal is conveyed along the levels in large tubs, in long trains of perhaps 50 tubs, by means of compressed air locomotives. At Bankhead, on the main line of the Canadian Pacific Railway, crossing the Rockies into British Columbia, a crosscut mine driven 300 feet into the mountain has proved six seams of from 6 to 9 feet in thickness, lying at an inclination of 37° to 45°, with a stretch of five miles along the level course of the seams, and possibly other three miles capable of being worked from that mine. A special feature of the Bankhead mine is the plant for making briquettes. The coal is soft, and a large proportion is small. After the product of the mine is divided into six different grades of size for the market, about 30 per cent. is left, too small to be sold. This is ground to dust, and passed over furnace flues, where it is thoroughly dried. It is then mixed by means of mechanical mixers with 11 per cent. of its weight of pitch, melted, and raised to a temperature of 200°, and passed into the dust in the form of fine spray by a steam jet. The mixture is then carried by belting to a pair of rollers with hollows on their surface, between which, under a pressure of 2,200 lbs. per square inch, the impregnated dust is formed into little square knob-sided briquettes, which are then passed on to a series of slow moving belts, where they are thoroughly dried. Having passed through this series of belts, they come to a point where a self-acting arrangement tips them into another conveyer, which carries them to bins ready to be loaded for the market. These little briquettes are particularly convenient and cleanly for use in household stoves, and the ready market found for this product provides a profitable outlet for the otherwise unmarketable small.