

The coal is of good quality, and finds a ready market as a household, steam, and gas coal. A typical analysis is as follows:—

Proximate Analysis (on air-dried basis)—

Moisture	..	..	..	..	7.2
Volatile matter	..	..	..	..	39.9
Fixed carbon	..	..	..	..	50.6
Ash	..	..	..	..	2.3
					100.0
Sulphur	..	..	..	..	0.25
Calorific value	..	..	..	..	12,910 B.Th.U. per pound.
Coke	..	..	..	..	Non-swollen lustrous No. 3.

Screening-plant.—The screening and storage plant ordered from Nortons-Tividale, England, arrived, and the erection was immediately commenced. A short description of the plant is as follows:—

Tippler.—The tippler is 6 ft. 6 in. in diameter, two-speed type designed to prevent spilling of coal, and fully automatic in action.

The coal will be discharged on to an inclined reciprocating balanced screen 5 ft. wide and 55 ft. long screening to $1\frac{1}{2}$ in. and $-1\frac{1}{2}$ in. to $+\frac{3}{4}$ in. The coal over $1\frac{1}{2}$ in. passes over the screen and is delivered to a 3 ft. wide flat rubber conveying and picking belt. The material through the $\frac{3}{4}$ in. mesh is delivered by a fixed chute on to a balanced horizontal high-speed screen which screens out all coal below $\frac{1}{2}$ in. The $-\frac{3}{4}$ in. $+\frac{1}{2}$ in. coal passes over this screen, and is delivered on to a 2 ft. 6 in. loading-band, and all below $\frac{1}{2}$ in. mesh to a hopper for loading into wagons. By means of doors in the screens, and fixed chutes, it will be possible to make the following mixtures and sizes: $+1\frac{1}{2}$ in., $-1\frac{1}{2}$ in. to $\frac{3}{4}$ in., $-\frac{3}{4}$ in. to $\frac{1}{2}$ in.; also run-of-mine coal.

Flat rubber conveyors are to be used for picking-belts. Each has a hinged lowering jib for loading the coal into railway wagons without breakage.

The steel storage bin is designed to hold the following sizes and quantities: $-\frac{1}{4}$ in., 400 tons; $-\frac{3}{4}$ in., to $\frac{1}{2}$ in., 400 tons; $-1\frac{1}{2}$ in. to $\frac{3}{4}$ in., 400 tons.

A scraper conveyor elevates the $-1\frac{1}{2}$ in. coal to the top of the storage bin, where it is screened to the various sizes. Spiral chutes minimize the breakage of the coal that is delivered to the bin for storage purposes.

Bathhouse.—The reinforced concrete bathhouse, 60 ft. by 40 ft. with 14 ft. walls, has been erected adjacent to the mine-mouth. The bathhouse is designed to accommodate 100 men. The drying arrangements are designed on the latest air conditioning and heating method.

The boiler now operating consists of fifty-five *Babcock Wilcox* boiler tubes, heated by a No. 4 *Iron Fireman* automatic stoker with thermostatic control, supplying hot water to a heater unit. The thermostat so controls the heater that there is no waste of fuel. The hot water is fed to a heating unit consisting of two *Trane* hot-water heating coils each 36 in. by 24 in. by $7\frac{1}{2}$ in. (two rows) capable of raising 3,500 cubic feet of air per minute from 60° to 150°. A thrust pump, direct coupled to a $\frac{1}{2}$ -horse-power electric motor, capable of delivering 15 gallons of water per minute against a 5 ft. head, is attached to the return pipe of the heater unit, and is automatically controlled by a thermostat in the drying-room. The thermostat has a range of adjustment from 40° to 280° F., and can be set to control the air within a limit of from 5° to 10° F.

A $17\frac{1}{2}$ in. *Sirocco* fan driven by an electric motor is attached to the air-heating unit, and forces the air, through suitable duct work, on to the damp clothes. The duct work is so arranged that cold air can be drawn in from the outside atmosphere or a damper can close off the outside air, and the fan then recirculates the air in the drying-chamber and bathhouse.

The hot air from the drying-room is exhausted from the drying-room under the doors leading to the central part of the bathhouse.

Ventilation.—A reinforced-concrete shaft 34 ft. in depth having been completed, preparations are being made for the transfer of the *Sirocco* fan from the James Mine.

Coal-cutting.—A *Korfmann* coal-cutting machine has been purchased, and is now being used. Owing to the presence of granite pebbles in the coal difficulty has been experienced in cutting the coal-faces. The cutter picks, on striking a pebble, wear rapidly, and it is necessary to change the picks frequently, thus slowing up the cutting-rate and throwing excessive strain on the cutter chain. Despite these drawbacks, the machine is giving good service.

Accidents.—No serious accidents occurred at the Strongman Colliery throughout the year.

C. J. STRONGMAN, Superintendent.