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VENTILATION REPORT FOR 1963

During the year 1963 the following alterations were made to the ventilation set up at Colonial Mine. The 60 A.P. Richardson fan situated at 54 South Rise and which was acting as an intake fan was turned around to act as an exhaust fan. In conjunction with this the No. 3 Adit was ✓ blocked off West of 5 level, 6 Dr. South was blocked off North of the ✓ 68 South manway and the No. 4 Adit was blocked off west of 6 level. The aim was to draw air down the main Adit and into the 5, 6, 7 and 8 levels via the service rises connecting these levels with the main adit and then distributed from the levels into the stopes and drawn back by the exhaust fans and downcasted through 41 South, 42 South, 60 South, 611 South, 612 south and 613 South manways into exhaust channels 4 Dr. South and 54 South Rise.

After a trial run this did not prove very satisfactory. Theoretically it should have been all right but in practice it didn't.

A complete survey of the mine was then carried out and the following facts were found.

The fan at 42 South was exhausting fresh air picked up through the fall and from leaks in the 1, 2 and 3 levels. Also much dust was being generated in the main adit due to the velocity of air coming through the portal.

To counteract these a programme of bratticing and door construction was commenced and the following work was carried out.

All manway and chutes were bratticed off on the No. 1 and No. 2 levels and doors were installed North of the grizzly positions. Then the service rises on these two levels were uncovered and air was allowed to be drawn from the south openings of these levels and entered the Main Adit via the service rises. This had an advantageous effect on the dust nuisance previously mentioned.

The No. 7 service rise which was being used as a mullock pass was then opened up and also No. 5 was cut back slightly to control the amount of air entering the No. 5 level. This ensured that air would be drawn down to the furthest point of workings.

To stop leakage and also make use of air entering through fall (estimated 50,000 cfm) the brattice along 4 level upper seam was reconstructed and the opening from 43 South stope into cliff wall was sealed off. Another brattice was built along the 4 level lower seam stoped on the east side and the manway and chutes of 41 and 42 south were bratticed off over the upper seam. The same procedure was adopted in 50, 518, 528 and 53 South as also 65 South and 68 South. This meant that the exhaust fan at 42 South would then serve the lower seams in 5 level and 6 level and be more or less an independent circuit.

To isolate the other exhaust fan, air doors were then installed in 3 Adit West of 5 level also East of 5 level, 6 Dr. South North of the No. 4 Adit, 3 Adit west of 6 level and 7 Dr. South just north of 75 South. This had the desired effect and exhaust air was downcasted through 758, 768, 778 and 788 manways as also along 5 Adit connecting 7 South with 8 South into the return airway of No. 4 Adit and via exhaust fan at 54 South to the surface.

The leakage of 50,000 cfm through fall was used to best advantage to ventilate stopes 778 and 788, also longwall experimental stope and 6 Dr. South.

At present amount of effective air entering mine workings approximately 22,000 cfm. while the exhaust amounts to 73,000 cfm. from 4 level exhaust fan and 71,000 cfm from 5 level exhaust fan. In addition to these two exhaust fans the following auxiliary fans are being employed:-

PLAINTIFF'S EXHIBIT 105030

18 Keeb EF 4"
2 Keco EF 6"
7 Richardson 2D"
4 Richardson 2½SD"
3 Richardson 3 SD"
2 Richardson 4 SD"

Giving a total of 36 auxiliary fans.

To cool the air entering the mine and also to lay dust generated by conveyor belt and movement along main adit air and water sprays were installed at 100' intervals along the main adit.

Future development programme which will aid the ventilation is the cutting of a barrier pillar from north to south between the 7 and 8 levels. This will enable the air to be circulated to better advantage in the lower levels. The connection of the Main Adit with No. 9 level will solve a problem which exists at present on this level. Also the desirability of a shaft in the North end of the mine to be used for exhaust purposes is being given much consideration.

The ventilating of the workings North of the main adit is presenting more and more of a problem. In the No. 6 level this has been partially overcome by placing a booster fan on the No. 6 service rise blowing North. A similar situation exists in the No. 7 level and a fan is being installed there to alternate the situation.

Dust control is still a major problem due mainly to the nature of the operation and although sprays have been installed in all ore passes and chutes and watering down of dry ore being enforced before scraping operations commence the problem still exists.

Attached is a recent plan showing doors, brattices, primary secondary and exhaust airways as also air flows.

A. MULHOLLAND.

8th January, 1964.