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GOVERNMENT OF WESTERN AUSTRALIA

Memorandum

MINES DEPARTMENT
11 JUN 1958
RECORD OFFICE
26 Jun 1958
RECORDS

To State Mining Engineer, Mines Department, PERTH. KALGOORLIE. 9th June, 1958

Ventilation - Australian Blue Asbestos Ltd. - Wittenoom.

A visit to the mine operated by the above company was made in the period 24th - 29th May last. Underground working places at the Colonial mine and the treatment plant in Wittenoom gorge were inspected. Mining operations at the Wittenoom mine were stopped in October last year and the only source of fibre now is the Colonial mine. The projected production of fibre for 1958 is 18,000 short tons and it is evident that ore breaking is being increased. There are over 120 men employed underground at this mine.

An airsurvey was made along the major levels, the readings of air velocity being obtained with the velometer.

The Exhaust measured at the discharge from the 60" diameter axial flow fan was 76,125c.f.m.

The Intake totalled 72,770c f.m. made up of

Main Adit	19,320c.f.m.	(This may be higher as it is possible the door on No.2 level was open).
No.2 level	450c.f.m.	(Leakage when door is closed).
No.3 level	33,600c.f.m.	(Break through at North wall of gorge
No.4 level	19,400c.f.m.	and subject to variation due to eddying air currents).

The placing of doors near the cliff openings to Nos. 1 and 2 levels has done much to force the airflow through the lower workings. However I believe that the installation of doors in Nos. 1 and 2 Turnouts from the Main adit would save about 14000c.f.m. of air from being short circuited through worked out areas to the main fan. These doors would tend to force more air to the deeper levels

Compressed air and water sprays which give a mist like watering to the broken rock are installed at most chutes, (there were six chutes requiring sprays) and appear effective in the immediate vicinity of the chute. Conditions generally appear satisfactory, but the counts obtained from dust samples at underground working places are very high. It seems that there is a considerable amount of very fine airborne dust circulating through the stopes. This dust must be liberated by the scraping operations, and again when the broken ore is drawn off from the chutes and loaded into the granby trucks.

Dust counts in the three development ends were also high, yet these ends are well ventilated by centrifugal fans drawing from the purest sources available. One end is ventilated by a No.3½ centrifugal fan and two other ends are equipped with No.2½ centrifugal fans (One is to be replaced with a No.3½ fan). All fans have 15" diam. canvas duct attached.

The treatment plant at Wittenoom was in the best condition that I have ever seen it. This is borne out by the dust counts obtained in the plant. The three rotoclones when working satisfactorily do an efficient operation to remove the dust created at each machine. Maintaining a sufficient supply of water to the rotoclones seems to be a difficulty but this is being tackled with

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the installation of larger diameter piping. Two counts of 1000 + p.p.c.c. were recorded and these were obtained in rooms enclosing breakers and screens. These rooms are fitted with exhaust ducts to remove the dust. The operators (apart from one) working in these rooms are there for short periods and are supplied with respirators for use whilst in the rooms.

The construction of the new treatment plant at the Colonial mine is nearly completed. A trial run of the primary crushing section was to be made on the week-end 31st May - 1st June, after a conveyor belt had been installed in No.2 adit. The ore is to be crushed to - 12" and stored in a surge bin of 1500 ton capacity Ore will be carted from this surge bin to the Wittenoom mine. Fielc and Rotoclone dust collection units are in position to exhaust the dust from the treatment operations. It is anticipated that dust collection in this treatment plant will get away to a good start and continue satisfactory.

Attached is a copy of the dust counts and temperatures recorded underground and results of dust samples taken in the treatment plant.

J. M. Fairchney

DISTRICT INSPECTOR OF MINES.

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TABULATION OF DUST COUNTS

DATE	MINE	PLACE	COUNT	TEMPERATURE DRY	TEMPERATURE WET	REMARKS
26 - 5 - 58	Australian Blue Asbestos Ltd.					
	Colonial Mine.	2050 S.W. Stope Lower seem.		78	67	Preparing working place. Thru'air.
		2090 Stope Drive South, Upper seem.	370	80	70	Boring. Thru'air.
		2080 E. Stope.	540	80	79	Boring. Vent. by fan and canvas duct. Duct needs repairs.
		6080 N.E. Stope.	1000+	80	78	Boring. Thru'air.
		6060 Chute.	550	80	72	Scraping in stope. Water spray needed.
		9080 S.E. Stope.	640	79.5	76.5	Boring. Thru'air.
		9080 N.E. Stope.	640	79.5	77.5	Boring in fibre.
		9080 Chute	180	79	69	Scraper operator's position. Water spray needed. Strong thru'air.
		9050 Chute.	1000+	78	64	Scraper operator's position. Dust and some smoke from firing of an adjacent chute passing through stope.
		9050 N.E. Stope.		76	72	Bored out. Charging holes. Thru'air.
		9050 S.E. Stope.		79	74	Bored out and holes charged. " "
		9020 N.E. Stope.	1000+	78	74	Boring. Thru'air.
		9020 S.E. Stope.	760	78	74	Boring. " "
		9020 Chute.	580	80.5	67	Scraper operators position. Scraping electric motor heating.
				77	65	Temps. taken at bottom of manway away from electric motor.
26 - 5 - 58		No.3 Adit.	340	73.5	63	Mech. bogging. Vent. by No.2½ Cent. fan with 15" canvas duct.

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TABULATION OF DUST COUNTS

DATE	MINE	PLACE	COUNT	TEMPERATURE DRY	TEMPERATURE WET	REMARKS
26 - 5 - 58	Colonial mine	No.4 level North Drive.	480	80	75	Mech. bogging mullock wet. Vent. by No.2½ Cent. fan and 15" canvas duct. No.3½ fan to be installed.
		22N Manway rise.		79	68	Broken through. Hand bogging in through air.
		No.5 Turnout off Main incline.	1000+	77	75	Mech. bogging. Vent. by No.2½ cent. fan and 15" canvas duct from No.4 Turnout. More canvas duct needed.
27 - 5 - 58		6010 S.E. Stope.	190	74.5	68	Boring. Thru' air.
		9010 N.W. Stope.	460	75.5	70.5	Boring. Thru' air.
		9010 Chute.	450	75	64	Scraper operators position. Scraping Through air. Water spray in use.
		9040 Chute.	240	72	62	Scraper operators position. Scraping. Strong through air.
		9040 N.E. Stope.	380	75.5	70.5	Boring in fibre. Through air.
		9040 Stope drive West.	340	75.	72	Boring. Vent. by elect.-axial-flow fan and 15" canvas duct.
		4.1.S Chute.	490	76	68	Scraping. Water spray required. Thru' air.
		4.1.N Stope.	480	76	68	Two men hand bogging into chute. Thru' air.
		4.2.N Stope.	300	78	73	Two men hand bogging into chute. Thru' air.
		Feed to conveyor belt at No.3 Ore pocket.	480			In through air in Main incline.
		9020 Chute No.3 level.	380			Filling grenby trucks from side chute
		No.3 level Grizzly.	360			In through air. Spelling rocks. Through air.
27 - 5 - 58		Discharge from conveyor belt to main orepass. No.2 Adit.	240 1000+			Water spray in use. Loading of truck just completed. Vent by No.1½ fan and duct. Fan not switched on during loading. More duct required.

J. M. Gardiner
DISTRICT INSPECTOR OF MINES.

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