

Memorandum

To: State Mining Engineer,
Mines Department,
PERTH

GOVERNMENT OF WESTERN AUSTRALIA

MINES DEPARTMENT

11 JUN 1958 KAL BOCHLE

RECORD OFFICE

RECORDS

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, 1958. 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 air survey 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 76,125 c.f.m.

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

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

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 tunnels from the Main Adit would save about 14,000 c.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 greenby 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 25" 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 rotocloners when working satisfactorily do an efficient operation to remove the dust created at each machine. Maintaining a sufficient supply of water to the rotocloners 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. 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 Jun after a conveyor belt had been installed in No. 2 adit. The ore to be crushed to - 12" and stored in a surge bin of 1500 ton capacity will be carted from this surge bin to the Wittenoom mine. Pl 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. Fairclough

DISTRICT INSPECTOR OF MINES

TABULATION OF DUST COUNTS

DATE	NAME	PLACE	COUNT	TEMPERATURE		REMARKS
				DBT	WBT	
26-5-38	Australian Blue Arbuckle Ltd.					
	Colonel Mine	2050 E.W. Slope, Lower section		78	67	Preparing working place thru air
		2050 Slope, Delta South, Upper	370	80	70	Boring thru air
		2080 E.W. Slope	540	80	79	Boring - Vent. by fan and conveyer duct, Dust needs repair.
		6000 N.E. Slope	1000+	80	78	Boring thru air
		6080 Chute	550	80	72	Sweeping in slope. Water spray needed.
		9080 E.W. Slope	640	79.5	76.5	Boring thru air
		9080 N.E. Slope	640	79.5	77.5	Boring in fibre
		9080 Chute	380	79	69	Boiler operator's position. Water spray needed. Strong thru air.
		9050 Chute	1000+	78	64	Boiler operator's position. Dust and some smoke from firing of an adjacent chute-passing through slope.
		9050 N.E. Slope		76	72	Bored out and holes changed thru air
		9050 E.W. Slope		79	74	Bored out and holes changed thru air
		9020 E.W. Slope	1000+	78	74	Boring thru air
		9020 E.W. Slope	760	78	74	Boring thru air
		9020 E.W. Slope	580	80.5	67	Boiler operator's position. Boring electric motor heating.
		9020 Chute		77	65	Boiler operator's position. Boring from electric motor.
26-5-38	No. 3 Mill		340	73.5	63	Boiler operator's position. Boring from electric motor.

See

TABULATION OF DUST COUNTS

DATE	NAME	PLACE	COUNT	TEMPERATURE		REMARKS
				DB	WB	
26-5-78	Colonel M. P.	No. 4 Level North Drive	460	40	75	Wash. bogging mill lock wet. Vent. by No. 21 Cent. fan and 15" canvas duct, No. 31 fan to be installed.
		28 MENNY TINE		79	68	Backen through. Band bogging in through air.
		No. 5 Through off Main Incline	1000+	77	75	Wash. bogging. Vent. by No. 21 Cent. fan and 15" canvas duct from No. 4 Through. More canvas duct needed.
27-5-78		6010 S. N. Slope	190	74.5	68	Bogging. Thru air.
		6010 N. W. Slope	460	76.5	70.5	Bogging. Thru air.
		6010 Chute	450	75	64	Support operators position. Bogging Through air. Water spray in use.
		6010 Chute	210	72	62	Support operators position. Bogging. Strong through air.
		6010 N. R. Slope	380	75.5	70.5	Bogging in fibre through air.
		6010 Slope drive West	380	75	72	Bogging. Vent. by elcst. axial flow fan and 15" canvas duct.
		4.1.8 Chute	490	76	68	Supporting. Water spray required. 1000+
		4.1.8 Slope	480	76	68	Two men hand bogging into chute. Thru air.
		4.2.8 Slope	300	78	73	Two men hand bogging into chute. Thru air.
		Feed to conveyor belt at 880' level	180			In through air in Main Incline.
		9020 Chute, No. 1 level	360			Rolling. Grassy. Trucks from side chute to through air.
		No. 1 level, generally	360			Spalling rocks. Through air.
27-5-78		Discharge from conveyor belt to Mill process, No. 2 mill	1000+			Water spray in use. Just completed. Vent. by No. 21 fan and 15" duct. Fan not switched on during loading. More dust required. 1000+

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