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STATE MINING ENGINEER,
Mines Department,
PERTH.

KALGOORLIE 26th November, 1948

Australian Blue Asbestos Mine - Wittenoom Gorge.

In company with Inspector Adams and Workmen's Inspector Hunter an inspection of the above mine was made on the 10th September followed by a ventilation and dust survey of the underground workings and surface arrangements.

UNDERGROUND

Since my previous visit in February last the general ventilation of the mine has further improved but with regard to ventilation of dead ends a further request had to be made for venturi's to be suspended instead of lying on the floor or broken dirt. As evidence of this faulty practice a dust sample, taken in 7 Right where bogging operations were in progress, registered a 1000 + while the temperature recorded 83°D - 80°W.

During the progress of the survey the main fan had to be stopped at least three times due to a fault in the power lines causing over heating of the motor, nevertheless the air measurements revealed a greater volume entering and leaving the mine since last survey.

Following completion of measurement of main air currents, four samples of air containing exhaust gases from the Diesel locomotive were obtained together with measurement of air discharge from venturi.

AIR MEASUREMENT.

For the purpose of comparison I have quoted the volumes and temperatures recorded at last survey, in brackets.

<u>Intake</u>	<u>Return.</u>
24,288 c.f.m. (15,000 ")	22,836 c.f.m. (21,000 ")

TEMPERATURES

<u>Intake</u>	<u>Return</u>
79°D - 62.75°W (89°D - 67.50°W)	78°D - 63.50°W (82°D - 68°W)

Apart from the fact that venturi's are being used improperly, the secondary ventilation of development ends was found to be satisfactory, all such ends being ventilated per medium of electric mill exhaust fans.

With regard to sampling of air containing exhaust gases from the Diesel, two of these were obtained in a development end under normal working conditions, namely two journeys, firstly to take out the full truck and a return with empty.

The third sample was obtained at the point of an air regulator through which the driver had been specially requested to operate for purpose of obtaining same immediately the loco passed through.

The fourth sample was taken in the main return airway from fan.

As a result of the analysis it is very gratifying to report that no CO was found to be present and do not indicate any appreciable vitiation of the air by the products of combustion of diesel engine.

SAMPLE	1B	3A	1A	3B
Oxygen $\frac{1}{2}$	20.72	20.76	20.74	20.81
C.O ₂ $\frac{1}{2}$	0.10	0.10	0.11	0.10
C.O.	Nil	Nil	Nil	Nil
Air flow	562	Drift	6578	22,836 c.f.m.
Temperature	80.50D -75.00W	80.0D -73.0W	77.0D -62.0W	79.0D -62.75W

Attached please find plan showing latest development and direction of air currents together with points at which air samples were obtained.

SURFACE.

Conditions in the Mill, from a dust point of view were found to be most unsatisfactory as will be noted in the dust tabulation hereunder:-

SAMPLE	Situation	Count C.P.S.C.	REMARKS.
0	Trommel	1000 +	Filling bags.
1	Packing belt	Nil	* Open. Fair breeze blowing.
2	No. 3 Shaker Tail end.	1000 +	Apart from 3 sample spots, slide heavily coated.
3	Kubit Mill	1000 +	Apart from 3 sample spots, slide heavily coated.
4	No. 3 Roller	318	
5	No. 4 Shaker	468	

On completion of the inspection, in company with Inspector Adams, an interview was held with the Manager, during the course of which attention was drawn to the unsatisfactory set up of the dust exhausting system and danger to the health of the men.

In reply the Manager stated the present plant would in the near future be discarded and it was the intention of the company to erect a new plant when sufficient data had been obtained as a result of operating the present system.

Prior to leaving the mine, I was approached by the Engineer with a request for information relative to measurement of air flow into the various ducts of the exhausting system as he had no means of measuring same.

This was duly done and the Engineer expressed keen appreciation as the data supplied would assist him in designing the various sizes of pipes requisite for the more efficient operation of the proposed exhausting unit.

A summary of the dust counts recorded has been forwarded to the Manager.

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DISTRICT INSPECTOR OF MINES.