FILE NAME: Colonial Sugar Refinery (CSR)

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(27)

KALGOORLIE.

Chief Inspector Taichney,

6th December, 1926.

Mines Department,

KALGOORLIE.

Ventilation - Australian Blue Mercury Mine, Kittenoom.

I visited the mines operated by the above company from November 25th to November 27th and inspected the underground workings and surface plant. An air survey of the underground workings was also carried out in the company of District Inspector Ibbotson.

Conditions in both mines were satisfactory, although the Kittenoom Mine is below the standard of the Colonial Mine. This is to be expected because of the fact that the Kittenoom is the older mine of the two.

Attached is a copy of dust counts and temperatures recorded in the mine and dust counts in the treatment plant.

Air Measurements

All measurements were taken with a Vetrovick Velometer.

Kittenoom Mine

Exhaust (measured past fan) ... 60,000 c.f.m.

Intake (through new Portal) ... 39,000 c.f.m.

Although air entering through the sealed off adits would not amount to 21,000 c.f.m., the amount of intake air measured totals up satisfactorily and the fan used for exhausting is capable of exhausting this amount of air. It is therefore hard to imagine how this large discrepancy could arise. The intake air flows through the working places until eventually it is exhausted by the fan. The fan used is a Sirocco 60 A.F. with a 15 H.P. motor driving it, against 1.7 ... .6.

The surface plant is situated close to the main adit of this mine and when the wind blows in the right direction the dust from the mill is passed into the underground workings.

Dust counts taken under conditions were fairly good showing:

When air appears free from dust ... 130 p.p.c.c.

" " " to be picking up some dust ... 210 p.p.c.c.

When there is a lot of dust about the fan is blowing the mill dust and the main dust count is for occasional dust.

X

It is [illegible] that the mill is not only a hazard to [illegible] but also to the underground workings.

Colonial Mine

PLAINTIFF'S EXHIBIT 102790

Besides the main adit and the exhaust adit there are other openings to the gorge viz. No. 1 Cliff Opening and No. 2 Cliff Opening.

Exhaust (measured before fan)	75,660 c.f.m.
Intake (total)	83,000 c.f.m.

The total intake being made up as follows:

Main Adit	33,[illegible] c.f.m.
No. 1 Cliff Opening	26,000 c.f.m.
No. 2 " "	22,500 c.f.m.

The discrepancy arrived at here totals 6,340 c.f.m. which is quite satisfactory. It is quite possible that this error was arrived at when measuring the intake at the No. 1 Cliff Opening, because, if a rake of trucks were passing through the main adit entrance the fan would draw more air through this No. 1 Cliff Opening in preference to the No. 2 Cliff Opening on account of its lower resistance, hence the higher intake total obtained. From this deduction it would be possible to assume the intake through the No. 1 Cliff Opening to be approximately 20,000 c.f.m. instead of 26,000 c.f.m.

A conveyor belt is still used for transporting the ore underground into a transfer pass which is fitted with an air-water spray which completely eliminates the dust except when the motor trucks are being filled in the Ore Truck Adit. As the chute is opened a puff of dust rises from the transfer pass, but this is of such small amount that the danger present is of a very small magnitude.

The Ore Truck Adit is ventilated by a No. 1½ D. Richardson Electric Fan forcing the air. This fan appears to be too small for the job and a better system would be to fit a Keco E.F.4A Electric Fan so it would be exhausting instead of forcing the air into the adit. This would ensure fresh air entering the adit all the time. A dust count taken while the truck was being filled showed 260 p.p.c.c.

Treatment Plant

X At this my first visit to this mine I cannot compare the plant with an earlier visit but the impression I gained was that the plant is of a very low standard with a very high dust hazard, not only to the surface workers but also to the underground workers at the Witteroom Mine.

The proposed alterations to the plant which were to allow for the use of water had to be abandoned because the buyers of the fibre refused to buy fibre that has been wet.

The management of the mine is trying every possible avenue to obtain [illegible] and have installed M.I. Dreppers [illegible] to install dust collection system for a cost of £50,000. This system should be operating by the end of March, 19[illegible].

General

At the time of my visit I was advised that the ore [illegible]

The average dust count obtained at the mill was 690 p.p.c.c.

as compared with the underground workings

Kitchener Mine	330 p.p.c.c.
Colonial Mine	250 p.p.c.c.

Secondary ventilation is used where necessary underground and is supplied exclusively by electric fans.

Compressed air & water sprays are used at all scraping points in order to eliminate dust.

Even though the dry bulb temperature outside the mine rose as the day progressed the wet bulb temperature remained constant.

Temperature 9 a.m.	70° D	71° W
Temperature 12 p.m.	85° D	70.5° W

It was noticed during the inspection of the underground workings that although the dry bulb temperature varied the wet bulb temperature remained fairly constant.

During the process of counting the dust particles on the slides, particular attention was paid to the amount of asbestos fibre present in each sample. With the underground samples, only an occasional fibre was observed, but with the mill samples a higher percentage of fibre was present although not excessive. The higher fibre concentration would be at the Sagging Station, No. 3 Trommel and the Screening Station and would only be in the vicinity of 40-50 p.p.c.c. The rest of the mill would average only about 10 p.p.c.c. of asbestos fibre.

ASSISTANT INSPECTOR OF MINES.