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COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF SUPPLY AND SHIPPING.
BUREAU OF MINERAL RESOURCES
GEOLOGY AND GEOPHYSICS.

REPORT No 1948/15.

REPORT ON CONSOLIDATED GOLD MINES OF
COOLGARDIE LTD.

by

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REPORT ON CONSOLIDATED GOLD MINES OF

COOLGARDIE LTD.

(Tindalls Gold Mine).

Report No. 1948/15.

I. SUMMARY.

The Tindalls Gold Mine has not been examined by the Bureau and unless this is done no definite statement about the ore possibilities of the property can be made. However, from past reports it seems likely that the deposit has a chance of producing a large tonnage of ore, from which perhaps 3.50 to 3.75 dwt. gold per ton could be extracted. Under present conditions and with the mining methods now employed, it is extremely doubtful whether ore of this grade could be mined at a profit. No experienced mining engineer has yet stated that cheaper methods can be employed successfully.

If the Commonwealth did prove the presence of a large tonnage of ore, the company has neither the financial nor technical resources to operate the mine.

Under these circumstances either the Commonwealth would be asked for further moneys which might easily amount to £100,000 to £200,000 or the company would try to sell its asset to one of the large mining groups. Under these circumstances the company would not be the loser.

The general opinion among some competent mining engineers at Kalgoorlie, is to the effect that Tindalls Gold Mine could not be successfully re-opened at the present time by the present company. It is considered that the deposit has considerable possibilities, which, at a later date, might be investigated by a mining group with strong technical resources with the object of ascertaining whether it would be possible to initiate large-scale production on a profitable basis. It is considered that this is the only possible way to view the proposition under the present circumstances.

The Phoenix Mine at Coolgardie, which at present employs 67 men, will probably cease production within the next year or two, but it seems likely that these men will readily find employment with Western Mining Corporation which is developing prospects in the area. It is considered that sufficient labour is not available at present for the commencement of large-scale mining at Tindalls Gold Mine.

II. INTRODUCTION.

The enquiry into this mine resulted from an application by the company for a loan from the Commonwealth of £100,000 to carry out exploration and development.

Consolidated Mines of Coolgardie Ltd., is the operating company, the holding company being Tindalls Gold Mines Ltd., (London). The latter company has a nominal capital of £600,000 and the operating company has a fully paid capital of £A300,000.

Table I shows past production by the present company and operating costs.

TABLE I.

CONSOLIDATED GOLD MINES OF COOLGARDIE LIMITED

STATEMENT SHOWING PRODUCTION AND COSTS FROM 1939 TO 1944 INCLUSIVE.

Year	Tons Treated	Gold Recovered fine oz.	Total Realisation including Gold Tax Refund.	Total Cost per long ton
1939 (May/Dec.)	43,107	8,698	84,801	25/7
1940	69,086	12,847	126,178	26/5.1
1941	72,980	13,182	140,594	28/7.9
1942	43,112	8,266	86,366	34/2.7
1943	33,100	5,127	53,633	41/7
1944	21,294	2,266 (from amalgamation only).	24,202	34/10
Total:	282,679	50,386	515,774	

Average recovery: 3.56 dwt.

Table II at the end of this report shows the present financial position of the company.

Table I indicates that from 1939-1944, the company produced 282,679 tons of ore which yielded 50,386 fine ozs. of gold, or an average of 3.56 dwt. per ton. According to Mines Department records, the total production from the main lease (including ore produced prior to 1939) has been:-

Tons	Fine ozs.	Grade.
425,929	85,849	4.0

Ore Reserves.

A shoot of gold-bearing ore has been worked over a length of 1,000 ft. and an average width of 16 ft. to a depth of 700 ft. According to the company, the present ore reserves are as follows:

Broken Ore	20,245	4.0
Other proved ore	206,070	4.3
Total:	226,315	4.3
Probable Ore	62,545	3.9
Possible Ore	86,900	3.9
Total:	375,760	4.1

The maximum rate of production obtained was approximately 6,000 tons per month, but, prior to the closing of the mine in 1944, plant alterations were being carried out with the aid of a loan from the Western Australian Government with a view to doubling the rate of production.

Mining.

Ore was mined on the shrink stoping method. The ground holds well and very little timber is required. The present shaft which has reached a depth of 800 ft. vertically is not adequate for future mining and would require to be stripped.

It has been suggested by the company that a cheaper mining method could be used but no competent engineer has yet suggested that a cheap mining method such as sub-level caving could be utilized on this deposit.

Milling.

As already stated the mill was designed to treat 6,000 tons of ore per month but considerable work was done towards duplicating this plant. The ore is cyanided after fine grinding; the extraction is approximately 90 per cent.

Competent metallurgists who have inspected the plant consider that it is well designed and well equipped. However, during the war, three of the diesel power units were requisitioned for use in other parts of Australia and two of these units have not yet been returned. It has been estimated that after these units have been returned, it would be necessary to spend approximately \$48,000 for additions to the plant in order to enable it to treat 10,000 to 12,000 tons of ore per month. When in full operation, the power units had an output of 1900 h.p.

Costs.

The operating costs from 1939-1944 are shown on Table I. The Head Office added an arbitrary 10 per cent of these costs for depreciation. After allowing for this 10 per cent the operating profit and loss account for the period 1939-1944 was approximately as follows:

<u>Year.</u>	<u>Profit</u> <u>£A</u>	<u>Loss</u> <u>£A</u>
1939	21,000	
1940	8,794 (no gold refund tax)	
1941	17,194 (including gold tax refund).	
1942		10,285
1943		37,523 (including 3,800 for back income tax)
1944		22,410
Total :	<u>46,988</u>	<u>70,218</u>
	Net Loss	23,230

It is believed that the low costs obtained from 1939 to 1941 were partly at the expense of development. It is clear that it would be impossible to operate this mine at a profit at the present rate of production and the company is aware of this fact. The company believes, however, that it would be possible to increase production to 20,000 tons per month and to make a substantial profit out of the operation.

General Financial Outlook.

At present the company has no operating capital and is in debt to the extent of approximately £50,000.

Mr. R.C. Wilson, late Western Australian State Mining Engineer, has suggested a development program which, he estimated, would cost approximately £100,000 and it is for this purpose that a loan is being sought from the Commonwealth.

Mr. Wilson's estimate is based on 1938 costs, e.g. shaft-sinking is estimated at £20 per foot, winzine at £6 per foot and driving at £4/10/0 per foot. It is safe to add approximately 30 per cent of these costs so that the total cost of the program would be likely to be £130,000.

Mr. Wilson estimates that as a result of this work there would be a good chance of developing approximately 800,000 tons of ore containing 4 dw. gold per ton. Judging from other

information that was gathered, it seems quite possible that this tonnage could be obtained, though the grade might be a little below 4.0 dwt. However, unless considerable sums of capital were raised by the company it would still be in a very unsound financial position after the exploration had been completed. Mr. Handlestam (Managing Director of the company) states that he would be able to raise £80,000 in London but this would do little more than pay for the additional cost of development and liquidate the present indebtedness. In addition it is estimated that the following expenditure is necessary to enable the mine to produce at the rate of 10,000 to 12,000 tons per month.

	SA
Renovations to existing plant.	10,050
Additional plant.	48,000
Shaft stripping (800ft.).	15,000
	<u>£73,050</u>

In order to attract labour under present conditions of full employment, it would be necessary to undertake a considerable housing programme so as to provide accommodation for married workers, and for the additional staff which would be required if the mine was producing at a rate of 10,000 to 12,000 tons per month. In addition the company would require substantial operating capital, which, at present, is not in sight.

While in Perth, Mr. Handlestam was interviewed and the impressions gained from him (although he did not expressly state his views) are as follows:

- (a) The mine is probably capable of supplying a large tonnage of ore of the order of 4 dwt. per ton.
- (b) If the Commonwealth will advance a loan for development, this suggestion can be proved. The fact that the Commonwealth had advanced a loan would, in itself, aid in the raising of further capital. Mr. Handlestam says that he is able to raise £80,000 but hopes for £270,000.
- (c) The basic idea is that the Commonwealth will possibly prove the existence of a very large asset which Mr. Handlestam will be able to sell to one of the large operating companies, e.g. Big Bell Gold Mine Ltd.,

CANBERRA.
11th March, 1948.

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TABLE II.

CONSOLIDATED GOLD MINES OF COOLGARDIE LIMITED.BALANCE SHEET AS AT 31st DECEMBER, 1946.

<u>Liabilities</u>	<u>Australian Currency</u>		<u>Assets</u>	<u>Australian Currency</u>	
	<u>£</u>	<u>£</u>		<u>£</u>	
<u>Nominal Capital -</u> 1,200,000 shares at 5/- each	300,000		<u>Leases</u>		304,850
<u>Paid up Capital</u> 1,200,000 shares of 5/- each		300,000	<u>Mine Account -</u> As per last Balance Sheet	145,835	
<u>Tindalls Gold Mines Ltd. - Loan Account</u>		56,399	Less written off	<u>82,971</u>	62,864
<u>Sundry Creditors</u>		7,715	<u>Buildings -</u> As per last Balance Sheet	10,993	
<u>Western Australian Government Loan Account</u>	34,621		Less written off	<u>5,993</u>	5,000
<u>Interest Accrued</u> (The loan is secured by a mortgage on all assets (present and future) of the Company and collaterally by a debenture on the assets of Tindalls Gold Mines Ltd.)	<u>9,432</u>	44,053	<u>Plant, Machinery and Equipment -</u> As per last Balance Sheet	62,829	
			Less written off	<u>32,829</u>	30,000
<u>Profit and Loss Appropriation Account -</u> Net Loss for year ended 31st December, 1946, 5,287 Less Credit Balance brought forward.	440		<u>Stores -</u> As per last Balance Sheet	4,729	
	4,817		Less written off	<u>2,729</u>	2,000
Less written off	<u>4,817</u>		<u>Sundry Debtors, Prepayments Etc.</u>		38
			<u>Broken Ore Reserves as per last B/sheet</u>	6,762	
			Less written off	<u>3,762</u>	3,000
			<u>Cash -</u> English, Scottish & Australian Bank, Kalgoorlie. Bank of New South Wales, Kalgoorlie.	402 <u>13</u>	415
		<u>84408,167</u>			<u>84408,167</u>