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THE STOREY'S CREEK MINE,
STOREY'S CREEK, TASMANIA

The Storey's Creek mine is situated about 14 miles by road in a northerly direction from Avoca. Avoca is connected with the State railway system.

The lodes contain both wolfram and cassiterite and the mine is at present being worked by Storey's Creek Tin Mining Co. The lodes were discovered at least as early as the eighties and were worked for tin ore. The wolfram content did not become marketable until about 1900. The field was worked by small parties of miners until 1913 when the Storey Creek Tin Mining Syndicate purchased the leases. This syndicate worked the mine until about 1928 when operations became unprofitable. The mine was taken over by a local tribute party and worked successfully until about 1937. Since then the working has been conducted by The Storey's Creek Tin Mining Co. N.L.

The production during the past 10 years has been as follows:-

<u>Year</u>	<u>Ore Treated</u>	<u>Metallic Tin in</u>	<u>Wolfram</u>	<u>Men</u>
	(tons)	<u>Tin Concentrate</u>	<u>Concentrate</u>	
		(tons)	(tons)	
1932	1,360	19.4		
1933	3,933	28.8	90.05 ^x	
1934	9,912	49.39	170.92	
1935	10,262	58.17	200.14	
1936	9,353	45.16	177.7	
1937	11,736	17.8	239.2	
1938	12,678	12.1	250	111
1939	12,271	34.7	197	109
1940	12,676	33.5	209.6	100
1941	13,009	44.35	205	91
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	97,190	343.37	1,739.61	

^x Includes some from previous years' operations.

The mineral deposits are quartz veins in Cambro-Ordovician slates and quartzites. They strike slightly west of north and dip west at low to moderate angles. A. McIntosh Reid and Q.J. Henderson (Tas. Geol. Surv. Bull. No. 40) reported that the No. 1 lode had a strike of 350° and a dip of 20° and that the No. 2 lode had a strike of 335° and a dip of 37°. The above two lodes approached one another in depth and formed one lode along a short portion of their length, but separated again. Another lode being worked is a branch lode (1A). Foster's lode occurs to the west of the above. The lodes have been proved by outcrops and underground workings to have lengths up to at least 2,000 feet. In the workings, the lodes have been developed for many hundreds of feet. The widths range up to about 8 feet but the average would be nearer 4 or 5 feet.

The lodes contain wolfram and cassiterite, (both of which are recovered) and also pyrite, galena and martite.

The lodes have been opened up by an adit level (No. 1 adit level) and four levels (Nos. 1 to 4) below it. Recently a connection has been made at the southern end with an old adit (Mechan's) which now becomes the No. 2 adit level. The Nos. 1 to 4 levels are connected to an inclined shaft. No. 4 level is 250 feet

below the outcrop of No.1 lode and 205 feet below the No.1 adit level. The pump shaft has been sunk to 151 feet below No.4 level and at 80 feet, the No.4 intermediate level is being opened up.

The low dip of the lodes necessitates much handling of the broken ore in the stopes and in one section, six men were observed chain shovelling to deliver the ore to the chute beneath. Such multiple handling of material incurs a heavy labour cost, and it is possible that if the stoping operations were preceded by a close drilling campaign that the levels and chutes could be laid out to better advantage. It is realised that the undulatory dip from very low angles to almost flat, together with the presence of several post-lode faults, which have an observed displacement of up to three feet, add to the difficulty of mining operations. The use of small scrapers, shaking launder chutes, etc. may help to overcome the disabilities associated with such mining, and this criticism is merely recorded, following a quick inspection of the mine workings, to indicate the reasons for the low output per man shift.

Two air compressors are installed with only one in use. They are ..

Canadian Ingersoll Rand XVH	1080 c.ft.per minute	200 H.P.motor.
Sentinel compressor	600 c.ft. " "	125 H.P.motor.

The Company does not include in its report any figures for the ore-reserves in the mine. A quick examination of the mine indicates that there is a number of working places and possible working places and that a quantity of ore awaits extraction. Further development appears possible both laterally and at depth below the No.4 level.

The average grade of the ore is not known. The past production figures would give some idea of the recoverable contents of wolfram and cassiterite but the extraction of ore is dependent largely upon the relative prices of tin and tungstic oxide. The production figures for 1941 indicate that the recoverable wolfram concentrate is 1.57 per cent and the recoverable tin (metallic) content is 0.34 per cent. The total concentrates (both wolfram and tin) generally represent about 2 per cent of the ore milled. For the period ended 30/6/41, the Company reported the production of total or mixed concentrates to be 2.2 per cent.

The mill comprises crushing by a gyratory crusher and rolls, followed by jigging at $3/8"$, $1/4"$, $1/8"$ and $1/16"$ for the coarser particles, and table concentration of the finer particles. The mixed wolfram-cassiterite concentrate is dried and separated by electro-magnetic separators. No figures were available as to the metallic contents of the tailings, which are run to waste to Story Creek. These should be dumped for possible future treatment, unless it can be proved that their metallic contents are too low to ever warrant retreatment.

The mill capacity is 25 tons per 8-hour shift and it is operated 12 hours per day only - a very inefficient practice which is conducive to poor recoveries. The wolfram concentrate averages about 73% tungstic oxide and commands a market premium due to freedom from impurities.

The present company has been formed about 5 years. It has a nominal capital of £200,000 and an issued capital of £155,000 in £1 shares each fully paid up otherwise than for cash.

The total amount of dividends paid to date is £81,375, the rate for the last three years being 10%. Its current assets and investments at 30/6/41 included -

Cash at Bank and/or fixed deposit	£2,205
Commonwealth Loan	£7,000
Deposit	£16,000

During 1938, 1939 and 1940 the Company maintained a steady output of 12,000 to 13,000 tons of ore per annum (from which about 275 tons of mixed concentrates were obtained) and employed between 100 and 110 men. This production was achieved by working two shifts. The present production is much less, (probably about 150 tons per annum of mixed concentrates) due to the shortage of men. At present 64 men (including seven on the staff) are employed and one shift (8 hours) is being worked in the mine and 12 hours in the mill.

The position regarding increased production is as follows -

(1) Manpower. A considerable increase would be possible if men were available. With an additional 40 men (a total of 104) a second shift could be worked and the production of mixed concentrate increased from 150 to 275 tons per annum. With a further 35 men (a total of 139) a third shift could be worked and the production increased to 400 tons of mixed concentrate per annum, but additional mill capacity would be necessary.

(2) Financial Assistance. No assistance for housing would be required if men were provided to work two shifts. Financial assistance for housing would be required if men are provided to work three shifts & the Manager (W.L. Stackhouse) reports that 20 new "camps" (huts) would be necessary and that the cost would be £1,000.

If increased production is desired, a grant or loan of £7,000 would be requested by the Company to provide for increased milling plant or preferably a new mill.

(3) Taxation. In attempting to arrange increased production from mines, the financial aspect has to be considered from several viewpoints including return of capital and wastage of assets. This is particularly the case because of the proposed war-time regulations allowing a return of only 4 per cent on capital employed. Provision should be made for return of capital (where necessary) by means of a depletion allowance, and for special taxation concessions for increased production.

The Storey's Creek Co. has been in operation for only about 5 years and has paid £81,375 in dividends. Its issued capital is £155,000. No cash was subscribed, but the shares were issued to take over the mine as a going concern from the Syndicate which previously owned the mine. There were 31,000 Syndicate shares, and five £1 shares were given for each Syndicate share. The issued capital (although not subscribed in cash) has not therefore been returned, and a depletion allowance would be necessary to permit redemption of same. Arrangements should be made, therefore, so that whether the present rate of production is maintained or an increased rate brought about, a depletion allowance should be allowed to permit of return of capital (or of market value of mine and plant). Mr. C.K.R. Stackhouse, Deputy Chairman, expressed the view that such allowance should be based on production and not on profits. Further, a special taxation

concession should be granted for any increased production.

If an increase above the present production of 150 tons of mixed concentrates per ^{year}~~week~~ (about 35 tons of tin concentrate and 115 tons of wolfram concentrate) is required from this mine, it is recommended that:-

(1) As a first step, an additional 40 men be provided to enable the company to work a second shift. Financial assistance would not be required for housing but would for milling plant. The increase in production would be about 30 tons of tin concentrate and 95 tons of wolfram concentrate.

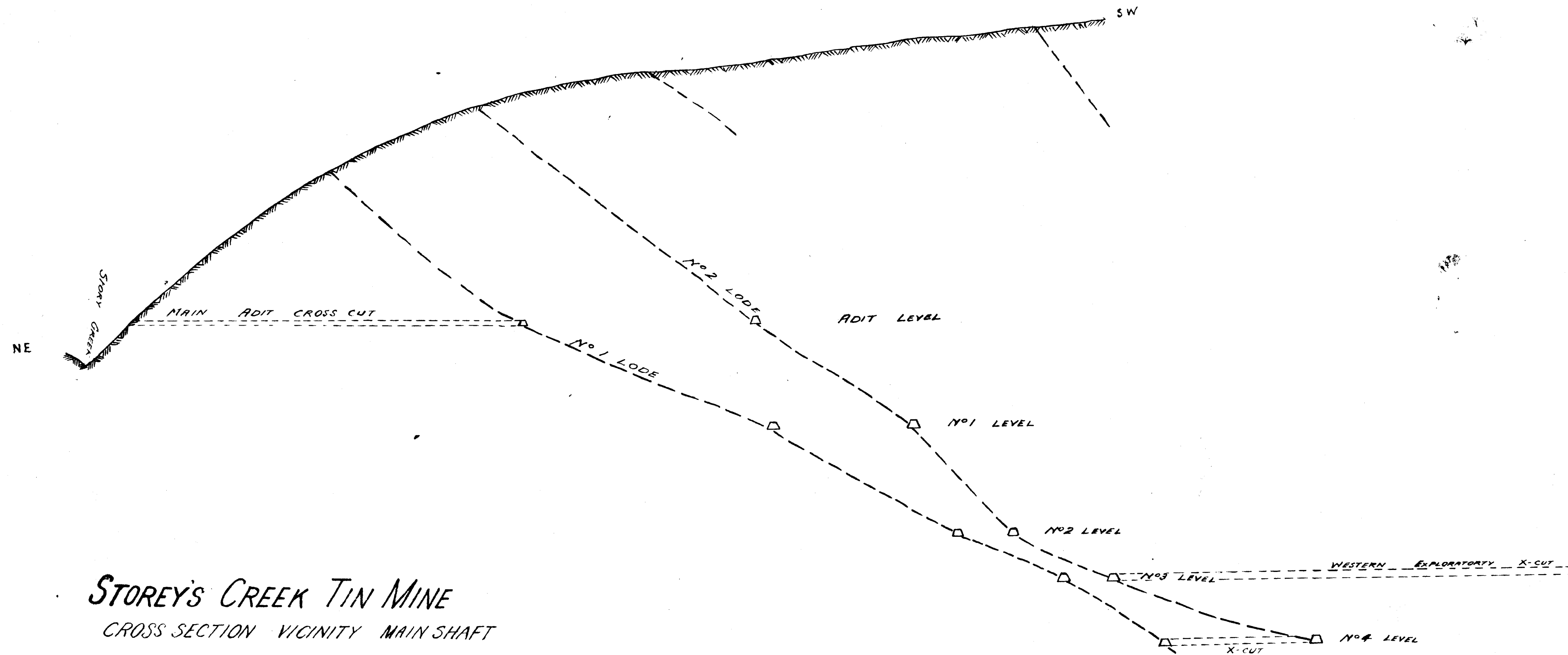
(2) As a second step, a further 35 men be provided to enable the company to work a third shift. Financial assistance (£1,000) would be required for housing and an additional amount for milling plant. The increase in production would be about 25 tons of tin concentrate and 100 tons of wolfram concentrate.

The Mine Manager states that any increased production above the present rate would necessitate additional milling plant (probably a new plant) and the Company estimates the cost as £7,000.

(M.A. Mawby)
Member, Minerals Committee.

9th May, 1942.

(P.B. Nye)
Assistant Geological Adviser.



STOREY'S CREEK TIN MINE

CROSS SECTION VICINITY MAIN SHAFT

Scale 1 in. = 40 ft.