S. Nixon Report
on
TRIAL CRUSHING OF TIN ORE
from
DUNN'S TIN MINE, RENISON BELL

For Plan see 8-678.

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ZEEHAN. 20th August, 1932.

S.NIXON REPORT ON TRIAL CRUSHING OF TIN ORE FROM DUNN'D TIN MINE, RENISON BELL.

As instructed by Mr. Arthur H.Leggo, I mined 10 tons of Free Milling Ore from all the cuts on Dunn's Mine, and took as near as possible equal amounts from each cut, so as a true representative sample of all the cuts would be about 35 cwt. The samples were taken across the lode, and in all cases the sample cuts would average 2'6" wide by 1 foot in depth by 10' in length.

Each cut is also represented by a check sample taken from each of the bulk samples so as the individual values of the cuts can be ascertained. These are numbered in accordance with the plan and the representative sample.

I took this Ore to Waratah and we weighed the Ore by weighing and averaging 20 bags. By this method we arrived at the wet tonnage of 12½ tons, less bags 9 cwt. 3 qrs. 10 lbs., = T.12.0.0.18; less moisture 15% = $\frac{12 \times 15}{100}$ = 10-1/5 tons.

(Tin Oxide recovery 5.75 cwt. nett dry weight)

The Ore was tipped into bins and shovelled over to the Stamp box for feedings.

I would have very much appreciated a free milling Ore going through the Mill before we put ours through, but this could not be arranged as the Mine foreman advised us that all the Ore available was Pyritic. However, we cleaned the Tables and Launders and Boxes thoroughly, and there was no Pyrites showing when our Ore went through. I was pleased at the show of Tin on the tables and the class of Tin was excellent, and I should say even though the Mill is rather old and not in good repair that we got a 75% recovery.

The tailings are carried away from the mill in a large launder 12" x 12" x 150' in length and I sampled these tailings every ½ hour by taking 4 dip samples from the running tailings and placing them in two tins until the Ore was finished. This sample was allowed to stand for 10 hours and then the water was drained off and the sample recovered which will now give us our losses.

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COPY. 2. 20th Aug. 1932.

S.Nixon report on trial crushing of Tin Ore from Dunn's Tin Mine, Renison Bell.

TYPE OF MILL USED & TABLES ETC.

A 5-head stamp battery 1,000 lbs. stamps when newly shod.

Drops per minute (90)

Height of drop 8"

Stamp duty 7 tons per 24 hours

Size of screen 12 to lineal inch

TABLES :

7 card tables

1 Jig

1 Biglow Pan

The Mill is driven by electrical power in 3 separate units as follows :-

25 H.P. Motor for driving 10 head of Stamps.
15 " " " " 7 card tables and Grinding Pan.
5 " " " " Jig.

From observations during the trial crushing I am convinced that the stamp mill and grinding pan is all that is needed to successfully treat this Gossan Ore, admitted that the Tin is fine, but it must be remembered that it is of the highest grade and we will have little difficulty in saving the Tin.

Strakes can also be put in below the Mill for catching the extra fine Tin before the tailings reach the dam and I venture to say that we will make an 85% recovery if we put in Wilfley Tables for the spigot and Curvilenar Tables for the Slimes.

In my opinion there will be no difficulty in saving this class of Tin when one considers the thousands of tons of a similar class of Ore which has been milled successfully by past Companies on this field and good recoveries have been made per the Stamp Mill Grinding Pan and Tables.

.....S.NIXON.

AHL.MH.5.

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30th September, 1932.

M Scott

- DREADNOUGHT STAR TIN SYNDICATE (DUNN'S TIN MINE) - RENISON BELL. TASMANIA.

DETAILS OF PROSPECTING, SAMPLING, ASSAYING AND VANNING TESTS AT PROPERTY AND ZEEHAN SCHOOL OF MINES

27th to 30th SEPTEMBER, 1932.

Sample No.	Prospecting Detail	Gossan Deposit sampled detail.	Wet Assay Sn.	10 Gramme Laboratory Vanning test 200 Mesh.	Kershaw Vanning Test 1.12 lbs. 40 Mesh.	10 Ton Trial Crushing at Bischoff. Total - Bags.	Tonnage Section.
0	Main Opencut, from which approx. 200 tons of Ore removed produced 2½ Tons Metallic Tin by Dunn's. Width of cut Hanging Wall on West to intrusion on East app. 40 ft.	Overall width of Gossan 30 ft. including intrusions. Sample taken uphill-side of intrusion on East.	1.3%	1.28%	1.5%	40 Bags	A.
3	Old Open Crosscut put in by Hetherington approx. 15-ft. long in line of Deposit with large Opencut.	Gossan 8-ft. wide at inner end of cut almost vertical. Sampled over full width.	6.5%	6.6%	1.0%	30 Bags	A.
4	Horizontal Tunnel 34-ft. floor line 17-ft. top. Winze 6-ft. deep sunk at point 22-ft. on floor line.	Gossan width roof of Tunnel to bottom of Winze 11 ft. sampled diagonally full width.	1.00%	0.5% 0.9%	1.0%	30 Bags	C.
5	Horizontal Tunnel 24 ft. in directly under No.4 Tunnel about 70 ft. down hillside.	Gossan 6-ft. wide where sampled. Inside end of Tunnel still in Gossan.	0.2%	0.18%	Nil.	30 Bags	C.
6	Open Crosscut on slope of hill directly above Nos. 4 and 5 Tunnels, Cut about 40 ft. long.	Sample withdrawn from 4-ft. depth of Gossan exposed at bottom end of crosscut.	7.1%	7.1%	2.0%	30 Bags	B.
7	Open crosscut extending 40-ft. uphill from No.6. Overburden 2-ft. deep removed for full length of cut.	Sample taken of top face of exposed Gossan length over which sample taken 35 ft.	7.2%	7.2%	2.5%	30 Bags	B.
20	Country Rock	No Gossan Not sampled.	-	-	-		
21	Vertical Shaft 12 ft. deep bottom through Gossan	Gossan 6-ft. wide sampled diagonally across full width.	0.06%	0.06%	Nil		C.
22	No.8 Tunnel by Hetherington in 1925. Floor 40-ft. to Sulphide. Top 24-ft. to Sulphide.	Gossan 12-ft. wide on top of Sulphide. Sampled over full width.	6.5%	6.5%	2.5% (100 mesh = 4%)		B.
23	Horizontal Tunnel 18-ft. on Floor Line, little Gossan mixed with Country Rock. Subsoil 8 to 12 ft.	Gossan showing on inner face of Tunnel. Sampled full 18-ft. length of Tunnel.	Trace	Trace	Nil.		C.
24	Country Rock	No Gossan, not sampled	-	-	-		-
25	Vert. Shaft 13 ft. deep situated 25 ft. South of No.21 Shaft.	Likely looking Gossan 7-ft. wide, bottomed on Sulphide.	0.06%	0.06%	Nil.		C.
26	Horizontal Tunnel 16 ft. length at floor. Subsoil 5-ft. deep.	Gossan (Bog Iron) 5 to 6 ft. wide. Sample over 6' width 13-ft. in from entrance.	0.06%	0.07%	Nil.		C.
27	Country Rock	No Gossan. Not sampled.	-	-	-		
28	Country Rock. Top Hill. Horizontal Tunnel in 35 ft. Winze 6 ft. deep. Bands of clay and decomposed Sulphide	No Gossan. Not sampled.	-	-	-		
29	Not prospected as Gossan	Sampled by No.0 and 3 samples.	-	-	-		
30	Country Rock. Top Hill Open cut 12 ft. long 3 ft. deep. Hard rock.	No Gossan - not sampled	-	-	-		
31	Country Rock	No Gossan " "	-	-	-		
32	Country Rock. Top hill. Open cut 15 ft. long. Winze 5 ft. deep Height wall in end 10 ft.	No Gossan " "	-	-	-		
33	Country Rock. Straight down hill from No.32	No Gossan " "	-	-	-		
	No.2 Open Cut. South end.					35 Bags 225 "	

NOTES re VANNING TESTS: As only brickboard available for grinding samples, time did not permit of finer grinding than through 40 mesh for Kershaw 1.12 lb. vanning tests. Lab. Vanning Tests were made on small 10 gramme samples ground to 200 Mesh. It would be essential in practice to grind all Ore to pass approx. 200 Mesh.

DUNN'S TIN MINE :

Trial crushing at MOUNT BISCHOFF MILL - AUGUST 1932.

NET DRY WEIGHT - 10.2 Tons.

Yield sent to Kelly, Sydney

0.273 tons 66.1% Sn. = 0.180 tons Sn.

Metallic Tin Yield - = 1.76% Per ton Ore.

Tails assay by Midson (Est.) 1.40% " " "

TOTAL Sn. Content = 3.16%

Percentage Extraction = 55.7%

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