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BALSTRUP
MANGANESE HILL
ZEEHAN
by
WM Thomas

6/12/1937

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Q50 N16

REPORTBALSTRUP-MANGANESE HILL
ZEEHAN

Decr. 6, 1937

Tasmanian Iron Mines Limited,
C/o N. E. McKenna, Esq.,
Ogilvie, McKenna & Morris,
Solicitors,
HOBART.

The Manganese Hill covers an area of 35 acres - five sections of 5 acres each, and one of 10 acres.

Samples - No. 1 - Sample - was taken from quarry marked (a) on Plan. This quarry can be continued along the iron outcrop for further quantities of Ore.

No. 2 Sample - was taken from quarry marked B. on Plan. I should say the formation, or surface exposure of Ore is about one chain in width, and at this point widens to a considerable width, about 4 chains.

No. 3 Sample - (c) on Plan. This was taken from the loose Ore outside a tunnel that is driven about 100 feet with the object of intersecting a large outcrop of Manganiferous ^{to} Limonite. About 50 or 60 feet above the level of this tunnel. The tunnel will require to be driven from 50 to 100 feet further to determine the value of the material on its downward course. When driving the latter part of this tunnel bands of iron were passed through, it was from these occurrences that No. 3 Sample was taken.

No. 4 Sample - (d) on Plan. General Sample. Sections 9266-9267 the sample was taken for its full width, and along the course of the lode which appears from surface indications to be about one chain in width. In places the iron is projecting many feet out of the ground, and appears to be of good quality. In one place in Section 9266 the width of the lode appears to be about 100 feet wide, possibly the roll or loose iron on the surface may give it the appearance of this width. A system of trenching development might prove its width. The iron is so

extensive on other Sections that at the moment you need not seriously consider the width. To be on the safe side I have averaged the lode to be about one chain in width.

No. 5 Sample - (e) on Plan. Sections Nos. 9264 - 9265. There are magnificent outcrops of Ore exposed on these two Sections, in places to a height of from 10 to 20 feet. Some of the exposures are of a dense nature. This outcrop is just above No. 2 quarry on Plan and widens out to about 4 chains in width. Much iron can be easily removed from this exposure on the property. At this point the Hill rises rapidly to its greatest height 350 feet on Sections 9262-9263. In sampling the top of this Hill I took thousands of small chips or grains of the outcrops - also a lot of dust material bruised away by hammer from the outcrops.

No. 6 Sample - (f) on Plan. Sections 9262 and 9263. The Ore in these Sections is a continuation of that referred to in mineral Sections 9264 and 9265 its physical appearance appears to be similar to that of the two previous Sections referred to. The Ore crops out of the ground for about 5 chains across these two Sections in many places up to 10 feet in width. It may be found when the Ore is being removed that there may be a number of lodes or lenses of Ore. It would also be possible for the Ore to have developed in irregular bunches or lenticular shoots of Ore. Practically no development has been made to prove in what form the Ore has been deposited in the Spillite or Melaphire Eruptive Rock. I am inclined to think that the lodes will narrow on their downward course. This Spillite Eruptive Rock is overlaying the older Silurian Rocks which are the base of the Zeehan Mining field. What we want to know now is from the surface exposures and cuts already put into the ore body, the quantity of ore that might reasonably be extracted as a marketable product. I have many times while employed by the Hoskins Companies tried to arrive at a decision. I think

there should be in the vicinity of 1,000,000 tons of similar Ore to the samples sent to you. These samples were taken from the clean iron that has been exposed to the weather conditions. As depth is attained a thin film of non-metallic clay material may at times be found adhering to the Ore, but I ^{do not} think it would be in sufficient quantities to seriously reduce the value of the Ore. I would suggest should you determine to remove the Ore that you stipulate in any contracts that may be made - ore of a lesser size than 2 or 3 inches in diameter be discarded, that would then leave you a first class product. There will also be large quantities of this smaller grade ore available, perhaps from one million to two million tons, much of which would be associated with the dry spillite rock. The small amount of earthy matter associated with this fine ore material could be removed by a system of washing. There is a Govt. Dam at the foot of the hill in which could be placed an hydraulic Ram to pump the water to convenient places for that purpose. You would then have a second marketable product to dispose of. Perhaps you would be wise, and remove all ore that you could readily lay your hands on before attacking the second class material.

There are two methods by which you can remove the ore. One is by the use of self-acting ground Tramways to deliver the ore into the Govt. Railway Trucks. A second method would be a light 2 foot gauge Railway put along the sides of the Hill and connect with the Camstock Tramway. The cost of construction would be light.

Accessibility - The deposits are well served by a two foot gauge Tramway on the South side of the Hill and the formation of a Tramway on the North side of the Hill from which the Government lifted the Rails some years ago. This could be relaid, making your initial cost before production small.

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Your Mining Engineers could go closely into these matters before production stage. I know no mining property on Zeehan that is so well situated for cheap ore production. Transport - It is about $1\frac{1}{2}$ miles from the deposits to the Zeehan Railway Station, 90 miles to Burnie, and about 30 miles to Strahan.

Presence of Manganese in the Ore. - I have taken a number of samples from this deposit, but have no returns.

My son, Edgar, who is an analytical Chemist, and worked for the Government at Zeehan for about 12 months many years ago made some assays for Manganese in the Ore, some of which gave a return of 8% - 9% up to 27% he said he did not know from what particular part of the property they came.

On January 9th, 1924, I have a record of 18% Manganese by Mr. J. B. Scott, that he sent to me which he got from a few lumps of ore that he picked up in the vicinity of the boundary line of Sections 9266 and 9267 that is all the information I can give you relative to the mineral Manganese in the Ore. I have given you a running letter of explanations, thinking you might follow my ideas more clearly than cut into a number of Sections. If the above is not exactly what you want, and that you would like some further explanations about anything that you may be in doubt about, please have no diffidence in referring back to me for further enlightenment. If you intend to keep and work the properties, I would suggest that you have all the corner pegs renewed. I notice some have been removed, and some are in a stage of decay half gone.

The boundary lines also want cleaning out in places, and should you decide to send your Engineers to make an inspection, some of the old tracks should be cut out to give easy access to a number of places. I would put a man on to do this work without monetary consideration to myself, a week or nine days would suffice to do the work.

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The height of the Hill from the Junction of the Camstock
and State Tramway on the North side of the Hill is 350 feet.

Yours faithfully,

(Sgd) Wm. Thomas

Copy to Sec. for Mines.

LABORATORY.
LAUNGESTON.

14th. December, 1937

CERTIFICATE OF ANALYSISTo N. Mc.Kenna, Esq.,18 Elizabeth Street, HOBART.

The samples of Iron Manganese ore received
 from W. Thomas on the 7th. inst.
 and stated to be from Balstrup Hill, Zeehan *has been*
examined, with the following results:—

Registered umber	Constituents	Per Cent.	Per Ton		
			Ozs.	Dwt.	Grs.
1594.	1.	Iron (Fe) 23.0 Manganese (Mn) 27.5 Silica (SiO ₂) 7.72 Alumina (Al ₂ O ₃) 5.83 Titanium Oxide (TiO ₂) 0.12 Phosphorus Pentoxide (P ₂ O ₅) 0.45 Sulphur (S) 0.06 Lime (CaO) Nil. Magnesia (MgO) Trace Loss on Ignition 11.48			
1595.	2.	Iron 55.4 Manganese 2.9 Silica 2.80 Alumina 1.77 Titanium Oxide Trace. Phosphorus Pentoxide 0.16 Sulphur 0.05 Lime Nil. Magnesia Trace. Loss on Ignition 11.76			
1596.	3.	Iron 27.9 Manganese 26.2 Silica 3.88 Alumina 6.53 Titanium Oxide 0.14 Phosphorus Pentoxide 0.34 Sulphur 0.02 Lime Nil. Magnesia 0.04 Loss on Ignition 12.56			

J. E. Manson.
 Chief Government Chemist and Assayer.

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Copy to Sec. for Mines

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LABORATORY.
LAUNGESTON.

14th. December, 1937

CERTIFICATE OF ANALYSIS

To N. Mc.Kenna, Esq.,
18 Elizabeth Street, HOBART.

The sample^s of Iron manganese ore received
from W. Thomas on the 7th. inst.
and stated to be from Balstrup Hill, Zeehan ~~has~~ *have* been
examined, with the following results:—

Registered Number	Constituents	Per Cent.	Per Ton		
			Ozs.	Dwts.	Grs.
1597.	4.	Iron	44.7		
		Manganese	13.1		
		Silica	2.72		
		Alumina	3.90		
		Titanium Oxide	Trace.		
		Phosphorus Pentoxide	0.24		
		Sulphur	0.04		
		Lime	Nil.		
		Magnesia	0.04		
		Loss on Ignition	11.20		
1598.	5.	Iron	43.8		
		Manganese	13.0		
		Silica	2.76		
		Alumina	3.79		
		Titanium Oxide	Trace.		
		Phosphorus Pentoxide	0.09		
		Sulphur	0.06		
		Lime	Nil.		
		Magnesia	Trace.		
		Loss on Ignition	12.04		
1599.	6.	Iron	39.6		
		Manganese	17.1		
		Silica	2.68		
		Alumina	4.51		
		Titanium Oxide	Trace.		
		Phosphorus Pentoxide	0.21		
		Sulphur	0.05		
		Lime	Nil.		
		Magnesia	0.04		
		Loss on Ignition	11.50		

R. C. Hanson.
Chief Government Chemist and Assayer.

The rock sequence observed in the excursion area was -

BASAL TILLITE

This rock was observed at Holland's Quarry and is a coarse-grained, poorly sorted rock consisting of usually angular fragments of sedimentary and metamorphic rocks in a groundmass of fine-grained grey-colored siliceous material. Its colour was generally medium to dark grey and there was very little bedding evident in the rock. The fragments made up only a small proportion of the rock and were of very variable sphericity. The rock fragments were composed of quartz, quartzite, chert and slate.

GRANGE MUDSTONE

This extremely fossiliferous calcareous mudstone was found at Deep Bay. It is pale yellowish-brown or buff in colour. Many erratics usually quartzite were seen in this rock and made up quite a large part of the rock in places. Because of the occurrence of these erratics, the rock is regarded as being of glacial origin, originally formed in a shallow sea in which icebergs carrying erratics floated only for the erratics to be deposited on the seabed when the icebergs melted.

FERN TREE FORMATION

This rock was observed at the second stop and was found to be composed of thick mudstone beds about 2-3 feet thick separated by relatively resistant beds of rock about 6 inches thick. Sandstone beds occur throughout the formation as do small erratics about one inch thick. These erratics are generally of low sphericity and usually rounded. They are mostly composed of quartzite, schist and porphyries.

CYGNET COAL MEASURES

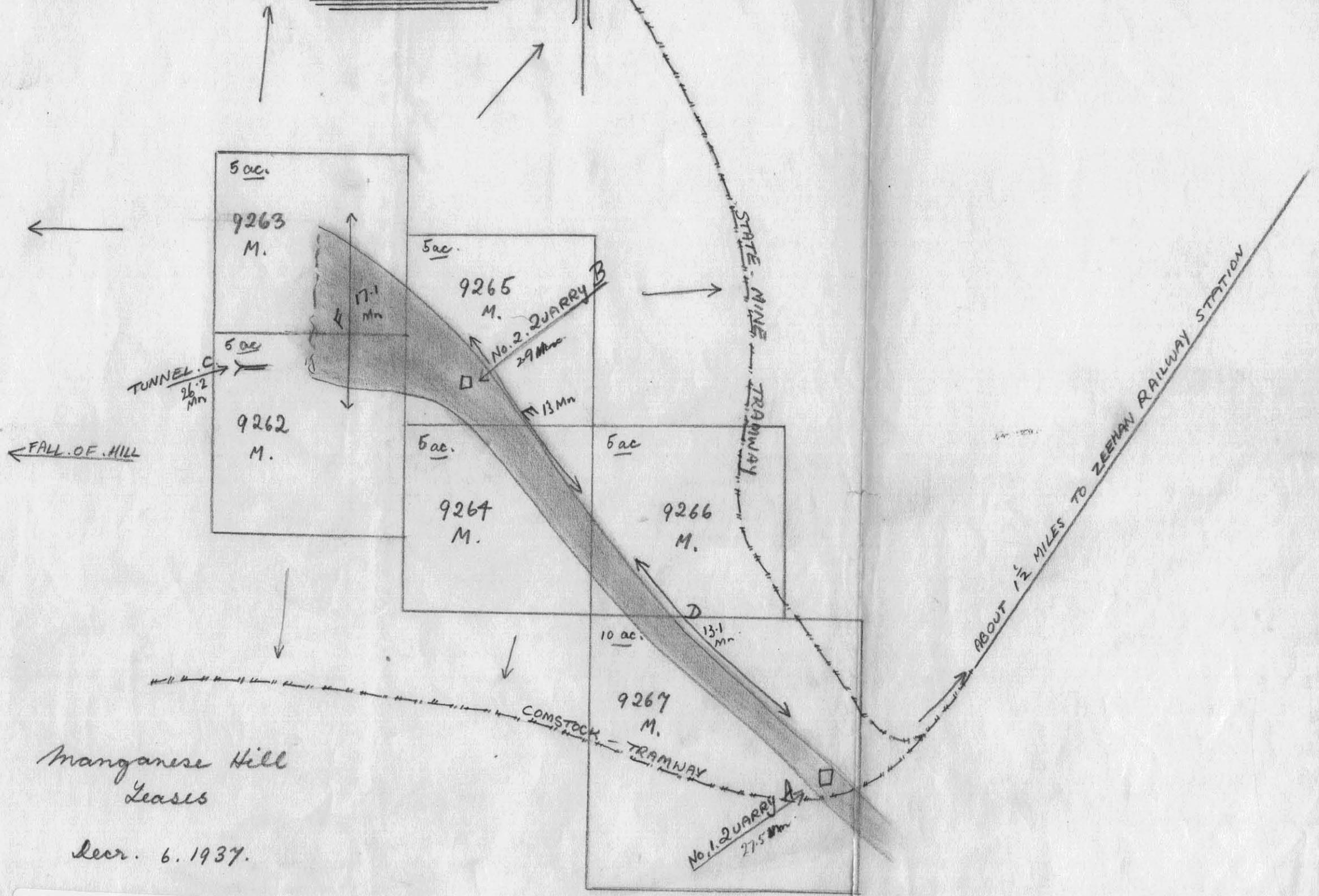
This dark grey to black rock was found at Coal Mine Bay and was observed to be a very fine grained carbonaceous siltstone consisting of laminated beds up to a quarter of an inch in thickness.

SPRINGS SANDSTONE (BARNETTS MEMBER)

Springs sandstone was observed on the northern side of the peninsula jutting into Coal Mine Bay. It is a pale reddish brown medium grained quartz sandstone. I

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Scale. 4 chs. = 1 inch



Manganese Hill Leases

Decr. 6. 1937.

