

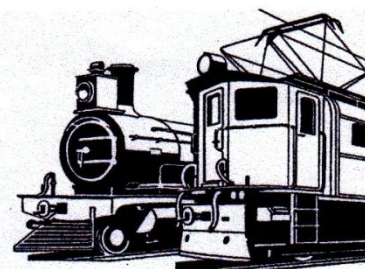
Railway History Group

of Southern Africa,

10029 Howard's End, Pinelands 7405

Tel. (021) 531-1388

E-mail: wgreig@mweb.co.za



Bulletin No. 118 July 2013



Scene at the loco shed of the South Western Railway, Knysna. Knysna heads are visible in the background. Locomotives are, from left to right, SWR No. 1, O & K No. 1175/1906, SWR No. 2, O & K No. 2240/1907, SWR No. 3, O & K No. 4880/1907 and SWR No. 4, Hawthorn and Leslie & Co. No. 2687, ex SAR class NG3, No. 4. The O & K locomotives were wood burners, while the H & L locomotive ran on coal.

Photo: Leith Paxton Collection

Editorial

Subs for 2013

Subs for this year are now due. The rates are as follows:

Printed Bulletins: R110 for S A Residents and R160 (\$ US 16.00£10.45) for Foreign Residents.

E-mail Bulletins: R30 regardless of where you reside. (\$ US3.00 £2.00).

Foreign residents are required to pay via PayPal. This is the cheapest and most secure means of making payments if you are a Foreign Resident . Local Residents can pay by cheque, direct deposit into the RHG account or by Internet Banking. Banking details are:

Name of account: Railway History Group.

Bank: Standard.

Bank Code: 036309.

Type of Account: Savings (Plus Plan).

Account Number: 274 709 635.

Early payment will be appreciated.

There is to be a steam rail tour, in November. Reefsteamers' 12AR and 15F will be in action. For full details do a search on: "South African steam tour Nov 2013" or go to : www.sarsteamtours.com. This is welcome news, particularly as Transnet have relaxed their ban on running steam on mainlines.

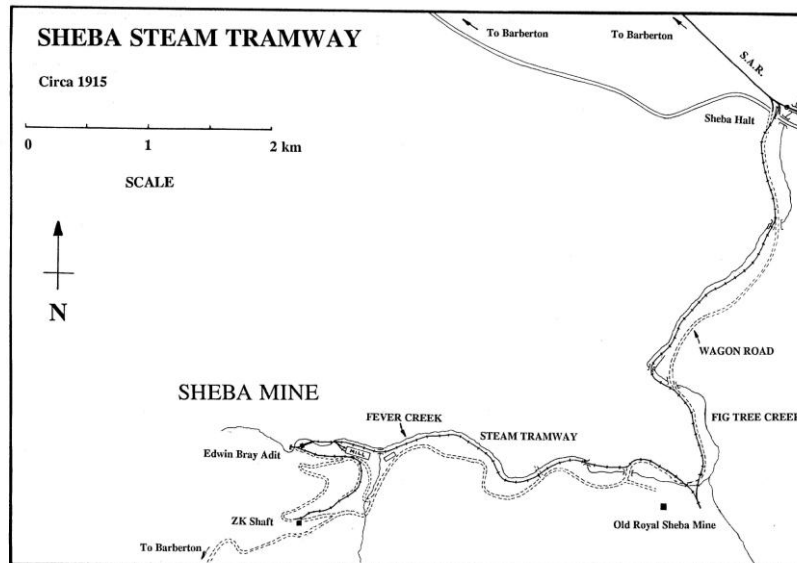
FORGOTTENRAILWAYS THE SHEBA RAILWAY - The First Railway in the Transvaal. by: Frank Jux and John Middleton

It has long been assumed by many enthusiasts that the NZASM "Rand Tram" between Boksburg and Johannesburg, which opened in March 1890 was the first railway in the Transvaal. However, this is not so, since it was pre-dated by the 2'6" gauge Sheba Tramway near Barberton in the eastern Transvaal which opened in January 1890.

During late 19th Century, prospectors discovered alluvial gold in widely scattered areas along the eastern Transvaal escarpment. The first promising find in the Barberton area was in June 1884 by a party led by Fred and Harry Barber who gave their name to the town which grew up near the site. This find attracted

More prospectors to the area and in May 1885 a syndicate led by a former coal miner from Yorkshire, Edwin Bray made the discovery of the fabulously rich "Golden Quarry" in the Sheba range of hills some 14 miles east of Barberton. This was the site of what became the Sheba mine, hailed in its day as the richest mine in the world and which led to the Barberton gold rush of 1886 and 1887.

The difficulties in opening mines in this remote area were immense. The nearest railhead in 1886, was at Ladysmith in Natal and the nearest port Durban, travel was by foot horse or ox-wagon, and in the wet season malaria abounded. The Sheba mine site, in common with most of



the other mine, was high in the mountains and they needed aerial ropeways to transport the ore in any quantity to the valleys where ox-wagon transport could take over. The nearest suitable water supply to the Sheba mine was Fig Tree Creek about four miles away, where the Sheba Reef Gold Mining Company set up their stamps. However, water in sufficient quantity for a large mill was seven miles away on the Kaap River. Wagon haulage was expensive, due to the poor roads, animal sickness and a shortage of contractors and, not unnaturally, the need for cheaper transport expressed itself in the demand for a railway.

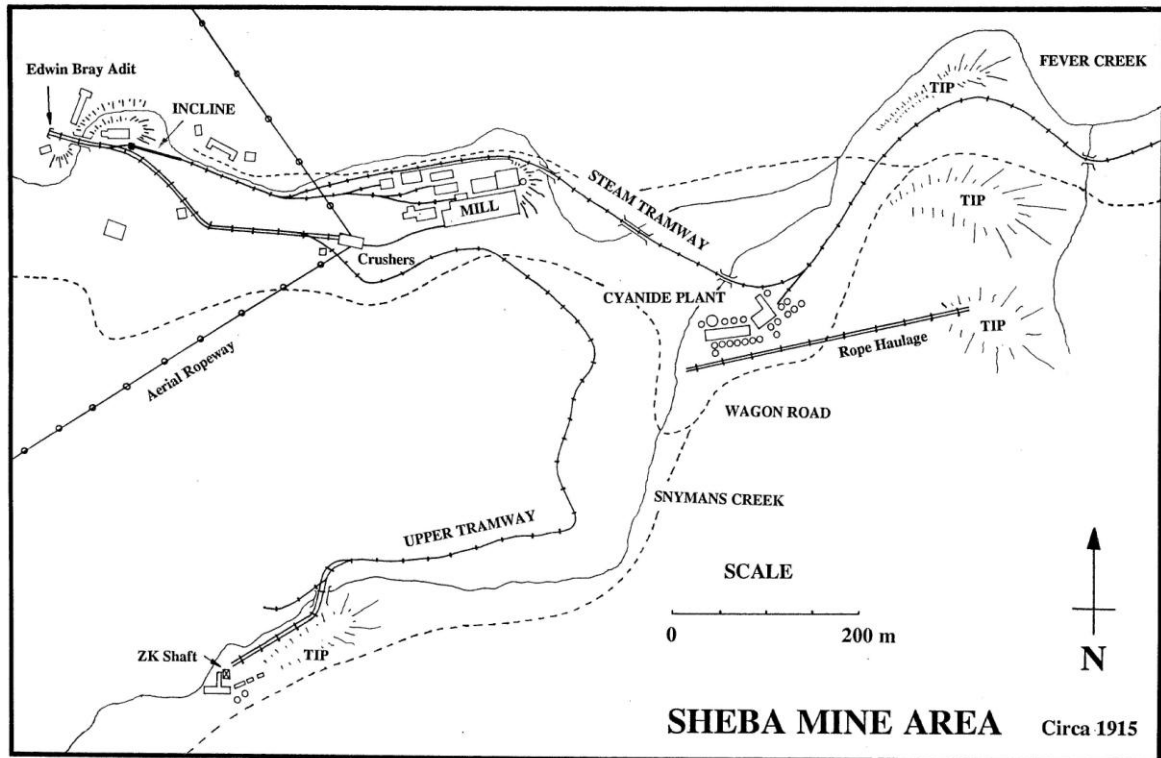


*Looking East from the Edwin Bray addit (December 1990).
The main tramway terminus was in the valley behind the tree
In the centre of the picture. The upper tramway followed the
Road on the right around the Zwartkoppies shaft.*

Photo: J N Middleton

At a public meeting held in Barberton on 23 December 1885 it was decided to petition the Government to build a railway the Sheba group of mines, down Fever Creek and Fig Tree Creek to its junction with the Kaap River. The petition failed but in April 1886 Lewis and Marks who were well known businessmen who had opened coal mines and founded the town of Vereeniging, visited Barberton with the intention to float a company to build the projected railway to serve the Sheba mines. The tramway was to run from Hillary's (a property to the west of the Sheba Reef Company) to the Kaap River and was expected to cost Twenty Five Thousand Pounds of which Lewis and Marks were to find Fifteen Thousand Pounds, the Sheba Company Six Thousand Pounds and Hillary & Co. Three Thousand Pounds. Accompanying Lewis and Marks on their visit was a Mr. Clench, a partner in the engineering firm of Robey & Co. of Lincoln in England, who later appears as shareholder in both the tramway company and

the Sheba Reef Gold Mining Co. They all left for Pretoria to petition the Government for the concession to build the railway. The matter was brought before the Raad for discussion on 28th May 1886 and the concession granted the following day 29th May 1886. The company to operate the railway was soon formed with a capital of Twenty Five thousand Pounds and was known as the Sheba Steam Tramway Co. Ltd. This was the first company formed to build a railway in the Transvaal and the first to commence operation.



It is interesting that, encouraged by the success, Messrs, Clench, Lewis and Marks also tied to obtain the concession to build a railway inland from Lourenco Marques. However, plans were well progressed already for the concession to go to the Dutch promoters, who formed the NZASM in the following year



A view of the Robey locomotive taken in the 1890's, Possibly during construction, since the earthworks look new. Photo: Barberton Museum Collection



Sheba Mine (Zwarkoppies shaft) loading point. Probably taken in the later years of the tramway, post 1912. Photo: Barberton Museum Collection

In July 1886, the "Barberton Herald" reported the arrival of a Mr Shaw to survey the route of the tramway. The report stated that the route would be with "... a starting point close to the Oriental

Company's ground (Kriel's Block) and it will pass at the foot of Bray's, Agatha, the Good Hope and the Gordon. So that by putting up aerial wires, these companies will be able to avail themselves of it..". On the 23rd September 1886 the "Natal Mercury" contained an advertisement inviting tenders for the conveyance of 300 to 400 tons of rails and machinery from Ladysmith railway station to Fig Tree Creek. The rails were of 25lb to the yard in lengths of ten to twenty feet. Perhaps, not surprisingly the order for locomotives was placed with Robey & Co. These were not completed until early in 1887, but the delay did not hold up opening of the line since although the route had been surveyed no construction had taken place.

Unfortunately, the plans now started to go badly wrong, as the survey had resulted in a line 10 miles long instead of the originally planned 6 miles, the grades on the planned line being too great. This resulted in the estimated cost rising to Fifty Thousand Pounds, twice the original estimate, according to the Engineer, Mr Shaw at the first half-yearly meeting of the tramway company held in Kimberley. This was not an encouraging as obviously serious miscalculations had been made. The track, locomotives and plant had been landed in Durban for a total cost of Nine Thousand One hundred and Twenty Six Pounds but transport costs had soared to 25 shillings/cwt. The lowest tender for construction of the line was Sixteen Thousand Two Hundred and Thirty Seven Pounds and the company needed a further Thirty Five Thousand Pounds to pay off its debts and get the line back into operation. The collapse of the speculative stock market boom meant that capital could only be obtained at extortionate rates, if at all, and the project came to a complete halt.

In a bid to get the tramway going again, Lewis and another entrepreneur, Mr. Lippert started working on a scheme to amalgamate two or three mining companies and the tramway company. The final scheme involved the floating in 1889 of the Oriental and Sheba Valley United Gold Mining Co. Ltd to take over Kriel's Oriental Sheba Reef Syndicate Ltd, the Nil Desperandum Gold Mining Co. Ltd and the Sheba Steam Tramway Co. Ltd. The Oriental interests had obviously got things moving, for in November 1888 tenders were submitted for the construction of the line.

By January 1889, earthworks were started and on 18th June 1889 it was reported that the locomotive was running from the Oriental Battery as far as Charlestown. On 2nd July 1889 completion of the viaduct across Fever Creek near Rau's battery was reported. "It is a very creditable piece of work, the length of the bridge being 150 feet, supported by seven trestles each 20 feet apart. The depth from the river bed to the girders is 30 feet". There were however further delays culminating in flood damage caused in December 1889. However, at last on Christmas Eve 1889, the "Gold Fields Times" reported that "the line has now been tested up to the first dead end and the engineer is overcoming the difficulty which was experienced with the locomotives". The reference to a dead end relates to a reversing station or zig-zag which was adopted to gain height. Finally on 29th January 1899 the same paper reported that the "Sheba Tramway is now in complete working order, and the engine has been run from the terminus to the battery on several occasions". The wording of the report hardly indicates a spectacular start to operations and there does not appear to have been an opening ceremony although it would appear to have pre-dated the opening of the NZASM "Rand Tram" by about three months. The upper terminus of the railway was about 30 feet lower than the entrance of the Edwin Bray adit and a connection was made with a short rope worked incline. From the top of the incline another lightly laid tramway ran around the hillside to reach the Zwartkoppies (or ZK) shaft. This upper line was for many years worked by mules but later was relaid with heavier rail to allow the use of locomotives.

The Oriental & Sheba Valley United Gold Mining Co. Ltd was soon in financial difficulties and was taken over by the Sheba Gold Mining Co. Ltd (which itself had been reformed from the Sheba Reef Gold Mining Co. Ltd in 1887) in August 1893. At the time of the

transfer, only one locomotive was in working order (presumably the Manning Wardle) and the line was considered too light for the job. A considerable amount of improvement and strengthening was undertaken by its new owners to make it more economical in operation.

The opening of the NZASM branch from Kaapmuiden to Barberton in 1896 saw a new mill opened close to the branch and the Sheba tramway re-aligned to serve it. An exchange siding and stores were also opened at Avoca in December 1896 which enabled stores to be unloaded direct from NZASM wagons to the tramway. This reduced the cost of coal delivered to the mine from Ten Pounds per ton to Three Pounds per ton. Until this time water power had been used to drive much of the plant at the mill but the water supply was not constant and now that coal could be delivered cheaply it was decided to build a power station at Avoca, which opened in 1897.

Electricity was now becoming widely used in the mines and for electric tramways (the Pilgrims Rest electric tramway opened in 1896) and it was not surprising that the Sheba Board of Directors decided to electrify the tramway at the same time as much of the equipment at the mines. Two electric locomotives were ordered from G.F. Milnes who were well known suppliers of tramway equipment and arrived in late 1897.

In 1899 a new manager, Mr W.T. Pope took over at Sheba and reported of the railway "The electric motor cars are standing by the workshops at Avoca. I did not see them tried on the line but they struck me as being too light to pull up the gradient to the mine. I think they may be of use for conveying quartz to the mill instead of mules (presumably on the upper tramway). Locomotives: These are in a very bad state of repair, but your General Manager informs me that he has purchased two from the Piggs Peak Gold Mining Co. and he was daily expecting delivery." Although the poles and overhead wire were erected for the electrification, the Milnes locomotives never seem to have been used and nothing further was heard about electrification of the tramway. The name of the Piggs Peak Co. was actually the Pigg's Peak Development Co. Ltd which was formed in Natal in 1886 to develop a mine in Swaziland. The company's plans included a seven and a half mile 2'6" gauge tramway from the mine at Piggs Peak to the mill on the Popenyoni River. The railway was apparently completed by December 1888 and thus became the first railway in Swaziland. In May 1889 it was reported that three trains a day were being run. However, the tramway appears to have only seen intermittent use as the mining company experienced serious difficulties. By 1896 the main line of the tramway had been lifted and the locomotives stored until sold to the Sheba tramway.

Meanwhile, at Sheba during 1899 it was realised that it would be cheaper to have a central mill at the mine powered by electricity rather than to haul the ore down to the Kaap River on the tramway. The equipment was ordered but the outbreak of the Anglo-Boer War, in 1899, meant that it could not be fully commissioned before the hostilities caused the suspension of operations. The mine re-opened in August 1902 and it is assumed that by then the Avoca mill had closed and the tramway was no longer carrying ore. A new locomotive shed was also opened at the new Sheba central mill. However, the tramway remained a lifeline for the conveyance of coal and supplies and the yearly tonnage carried varied between 12 274 tons in 1903 to 18 787 tons in 1907 with an average of eight return trips daily.

In the year ended 30th June 1907 a siding was put in to serve the Ulundi Mining Co. about one and a half miles from the Sheba mine. In the year to 30th June 1912 it was decided to lay heavier rail on the branch

between the Edwin Bray adit and the Zwartkoppies section of the mine to allow the use of a locomotive in place of the mules formerly used. In March 1914 a new 500 HP power station was opened at Avoca, this allowed the complete electrification of the reduction plant and resulted in a considerable reduction in the amount of coal hauled on the railway. The First World War saw another suspension of operations and the mine and tramway were out of action from 1917 until 1920.

There seem to have been few accidents on the line. However, on 5th February 1903, a serious one occurred when a locomotive ran off the line and overturned killing a Mr M.F. Patterson and injuring two "natives". A further fatal accident occurred in 21st August 1904 when two men (James Holden and G.D.S.

Mills) were killed and two women and three men injured when the trolley on which they were travelling from the mine to Avoca jumped the rails. It was the general practice to take a gravity trolley ride to Avoca when trains were not running, the trolleys being hauled back to the mine by the next train.

A further account of the tramway appeared in the "Barberton News" on 11th January 1924 when the local scout troop visited the mine. They travelled by SAR train to Sheba siding (renamed from Avoca) from Barberton where they viewed the generating station and then rode with the "loco and trucks" to the mine. The loco took water (electrically pumped) at the reversing station. The top line to the Zwartkoppies section was using the "lighter engine Dr. JIM". They noted that the cocopans brought out of the Zwartkoppies shaft were tipped into 2'6" gauge wagons which were then hauled to the crusher house below the Edwin Bray adit.

This most interesting account is the last of the line in operation and the "Barberton News" of 20th July 1926 under the headline "End of the Sheba"-reported that Sheba Mine (and presumably the tramway) had closed at the end of June. The same paper carried an advertisement on 23rd May 1927 saying that the Sheba Gold Mining Co. Limited (in liquidation) was advertising general mining stores for sale by H.E. Somers Vine (agents for the liquidators) of 17 - 19 Sauers Buildings, Lovedav Street, Johannesburg and that the sale included trucks and rails; no mention is made of the locomotives. W.D Curror in his book

"Golden Memories of Barberton" relates that the engines were sold, possibly for scrap as one is understood to have realised Ten Pounds and the others very little more. It is thought the boiler of one went to the Barberton Engineering Works but even though this company still exists there is no trace of the boiler and no reference to any of the boilers has been found in the Government boiler records.

RECENT HISTORY

After closure in 1926 the mine lay largely dormant for ten years although various individuals did some limited re-working. Eastern Transvaal Consolidated Mines Limited (ETC), which was working the New Consort mine to the north, purchased the Zwartkoppies section in 1936 and in 1952 acquired the rest of

the property which brought the mine back to the size it had been in the old days. Meanwhile, in 1947,ETC had become part of the Anglovaal group and still is today. Sheba reached its centenary in 1985 and although the tonnages produced are relatively low, the gold grades are far higher than the big Witwatersrand mines and Sheba can be expected to work well into the 21st Century. ETC also operate two other mines in the Barberton district, these being the Agnes and the New Consort mines, both of which started life in the 19th Century although Sheba is the oldest.

The Zwartkoppies (ZK) section of Sheba is the main section still operating and is served by the original ZK shaft which is where the present day reduction works is situated. The whole shaft area has been thoroughly modernised in recent years and the old wooden shaft headframe replaced by a steel one. The reduction works also includes some of the latest CIP (carbon-in-pulp) technology. On the northern side of the property, the 1885 Edwin Bray adit is still in use and trains of gold reef hauled by diesel or battery electric locomotives work out of the adit along about 200 metres of the former tramway trackbed to a tipping point, although today the trains are of 2'0" gauge rather than the original 2'6". The ore is taken by lorry along part of the former trackbed of the upper tramway to the reduction works.

In 1992, few traces of the tramway remain, after its closure much of the trackbed became the dirt road up to the Sheba mine. The dirt road was superseded in 1989 by a new tar road and much of the old road was obliterated. The new road has also cut through the formation of the reversing station. Unfortunately, over the years, floods have also washed away some of the formation where it was close to the creek. The upper section between the Edwin Bray adit and the ZK shaft is also now partly a road but the original formation is largely intact. The rope incline from the Edwin Bray adit down to the end of the main tramway can still be seen and the rusty steel haulage ropes are lying in the undergrowth. Further down the creek, the foundations of the original mill (where the loco shed was located) are still in place although very overgrown. No traces of the line remain at Sheba station although Spoornet has sidings which are still used to offload mine supplies which are taken to Sheba by lorry. However, close by, on the south side of the main road, the foundations of the old power station are still visible in the undergrowth. One feature of the

line which does still exist is a steel girder bridge built in 1895 by Joseph Westwood of London which spanned the Fig Tree Creek. This bridge was removed from its original location some years ago and now spans a creek on the approach road to Agnes mine, some 30 km to the south west.



Avoca (Sheba) siding in the 1890's, showing one of the Robey locomotives.

Photo: Barberton museum Collection



Sheba siding as it was in 1991. The layout has been Remodeled, as the original sidings curved sharply to the right.

Photo: J N Middleton

LOCOMOTIVES

The order for the first two locomotives fell to Robey & Co. of Lincoln, England who produced a new design of geared locomotive to cope with the gradients. They were 0-4-0 saddle tanks with inside frames and 6" x 9" inside cylinders. The internal machinery was far from conventional, with the cylinders placed at the leading end of the frames, and driving via a crankshaft and 3:1 reduction gears onto the leading axle. According to a Robey catalogue the engines weighed 6 tons 12 cwt and everything was claimed to be designed for "foolproof handling in the Colonies". The driving wheels were of 30" diameter. The locomotives were delivered early in 1887 but due to the delays in construction did not start work until the following year. The locomotives were named KRUGER (after President Paul Kruger of the South African Republic) and JOUBERT (after General Petrus Joubert, Vice President of the South African Republic from 1896).

However, all was not well with the locomotives, a new buffer beam and other parts were ordered as early as July 1889 whilst in January 1891, Robey supplied a complete new set of wheels and axles for KRUGER.

Meanwhile an order was placed with Manning Wardle & Co. of Leeds, England on 5th November 1890 for a larger orthodox tank locomotive. This was an outside framed O-4-2 side tank with 8" x 14" outside cylinders, 30" coupled wheels and 20.5" trailing wheels. The side tanks held 200 gallons, the heating surface was 185 square feet and the working pressure 150 lb/sq in; central block buffers were fitted and there was a spark arrestor in the smokebox. The loco weighed 10 tons 18 cwts (empty) and 12 tons 18 cwts (in working order). The engine was despatched from Leeds to "Port Natal" (Durban) on 12th March 1891 per agents Hill and Paddon. (One of the Sheba company directors, in 1895, was J. Paddon and in 1894 Howard Hill was appointed manager of the Sheba Mine.) The Manning Wardle was named Dr JIM after Leander Starr Jameson, administrator of Mashonaland and Matabeleland and later leader of the infamous Jameson Raid.



Manning Wardle 1218/1891, named Dr. Jim.

Photo: Hunslet Archive

In May 1897 it was decided to order electric locomotives and plant to electrify the line. The Electrical Engineer at the mine asked for two locomotives of 40 HP each, but whether by reasons of economy or perhaps through misunderstanding, the General Manager A.A. Blow reduced this to a requirement of 20 – 30 HP. The locomotives were ordered from G.F. Milnes, manufacturers of tramway rolling stock along with a tiny passenger coach and were of 30 HP. Hubert Davies of Johannesburg, who was a pioneering electrical consulting engineer, inspected the locomotives at Barberton and recommended that a locomotive of 60 HP be purchased for haulage work as the Milnes locomotives were too light for anything other than light shunting. The General Manager must have realised that a mistake had been made and instead decided, in May 1898 to purchase two locomotives from the nearby Piggs Peak tramway in Swaziland where they had been little used.

The two Piggs Peak Tramway locomotives were acquired in early 1899. They had originally been ordered on 10th February 1887 from Black, Hawthorn & Co. of Gateshead, England by

Howard Farrar & Co., agents for the Piggs Peak Company, for delivery in 10 and 13 weeks respectively. They were 0-4-2 saddle tanks with 7" x 12" outside cylinders and 24" diameter driving wheels. They were named UMBANDINE (after the King of Swaziland between 1875 and 1889) and SANDHLAN (after the King's chief Induna [chief assistant]).

The two Black Hawthorn locomotives together with the Manning Wardle appear to have lasted until the closure of the Sheba Tramway in 1926. The Government Mining Engineer's report for December 1898 shows 5 locomotives operating in the De Kaap area; by June 1903 only three locomotives are shown which suggests that the Robey's had been disposed of. This is confirmed by W.D. Curror in his book "Golden Memories of Barberton" which refers to only three locomotives, Dr JIM, UMBANDINE and SANDHLAN indicating that the Robey's had been disposed of.

LOCOMOTIVE LIST:

KRUGER	0-4-0ST Robey & Co.	9642	1887	New	[1]
JOUBERT	0-4-0ST Robey & Co.	9643	1887	New	[1]
DR. JIM	0-4-2T ManningWardle	1218	1891	New	[2]
UMBANDINE	0-4-2ST BlackHawthorn	902	1887	[a]	[2]
SANDHLAN	0-4-2ST BlackHawthorn	903	1887	[a]	[2]
	4WWE G.F. Milnes		1897	New	[3]
	4WWE G.F. Milnes		1897	New	[3]

- [a] Ex Piggs Peak Development Co. Ltd, circa 2/99
 [1] Sold or scrapped by 1902
 [2] Sold or scrapped circa 5/27
 [3] Sold or scrapped circa 1900



Dubs A of Escom in about 1949. 100 of these locomotives were built for Natal Government Railway, between 1888 and 1900. Umgeni Steam Railway has a Dubs A, which is under restoration.