

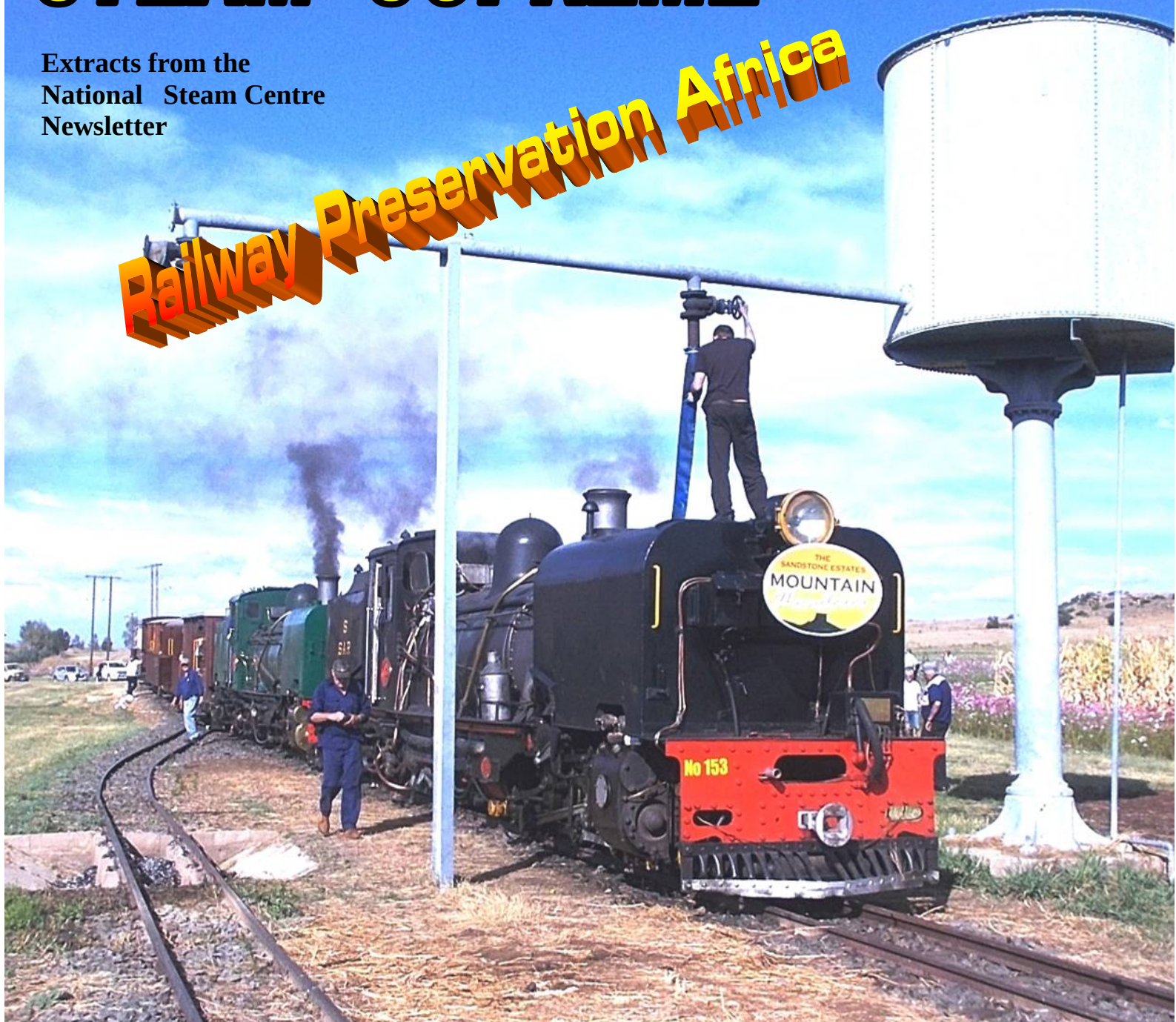
A Wisp of

STEAM SUPREME

Extracts from the
National Steam Centre
Newsletter



Railway Preservation Africa



Cover Photo Double headed Narrow Gauge Garretts filling up with water to add adhesion for the assault on the Mountain Loop of a recently constructed 30 km private 2 ft gauge railway in South Africa photo W. Bryce

Also in
this Issue



RANSOMES
Telegraphic Codes
ZEVOD ZEVKD
MSTEC 06IG43

Wantirna 40 Years Ago

BigFoot's Handbook

RAILWAY PRESERVATION in AFRICA



We take a look at some popular classes of locomotives in preservation in South Africa and touch on aspects of acquiring, preserving and restoring them while uncovering some of special difficulties facing the movement. Warwick Bryce

OLD INFRASTRUCTURE

Bloemfontein Steam Depot We start with a visit to the old Steam Depot of what was South African Railways / Spoornet (SAR) now Transnet in Bloemfontein the capital of Eastern Free State. In the heyday of steam the original roundhouse was replaced by an extensive roof structure over the rail yards to accommodate up to 100 locomotives.

Right *The day running sheds still with it's umbrella construction utilizing old rails and "non corrosive" roof material which provided ventilation and light while protecting from the weather, now house a retired steam locomotive collection..*

Below *In 2014 over 40 locomotives still languished in the yards. All out of steam now the only*



solution is to minimize theft of parts and hope that more overseas buyers can be found that will remove them for preservation before they are so far gone as to be only scrap.

Behind them is the still operating Locomotive repair depot.



Locomotive Repair Workshops

These have a happier outcome now being leased by Sandstone Heritage Trust and is now the restoration center for their locomotives. Run by Lukas Nels one of the original fitters from the steam days he is mentoring 3 or 4 apprentices while providing employment and preserving skills that are in danger of disappearing. To date they have outshopped over 30 superbly restored locos many from no more than rusting hulks. Major boiler repairs and heavy machining is outsourced to specialist firm such as Stevens Mechanical.

Below New firebox going in Sandstones Lawley loco. Boiler rebuilds are carried out using traditional methods of plate flanging and riveting to a high standard by Keith Stevens at his Howick, Kwa Zulu Natal works that specialize in steam restoration.



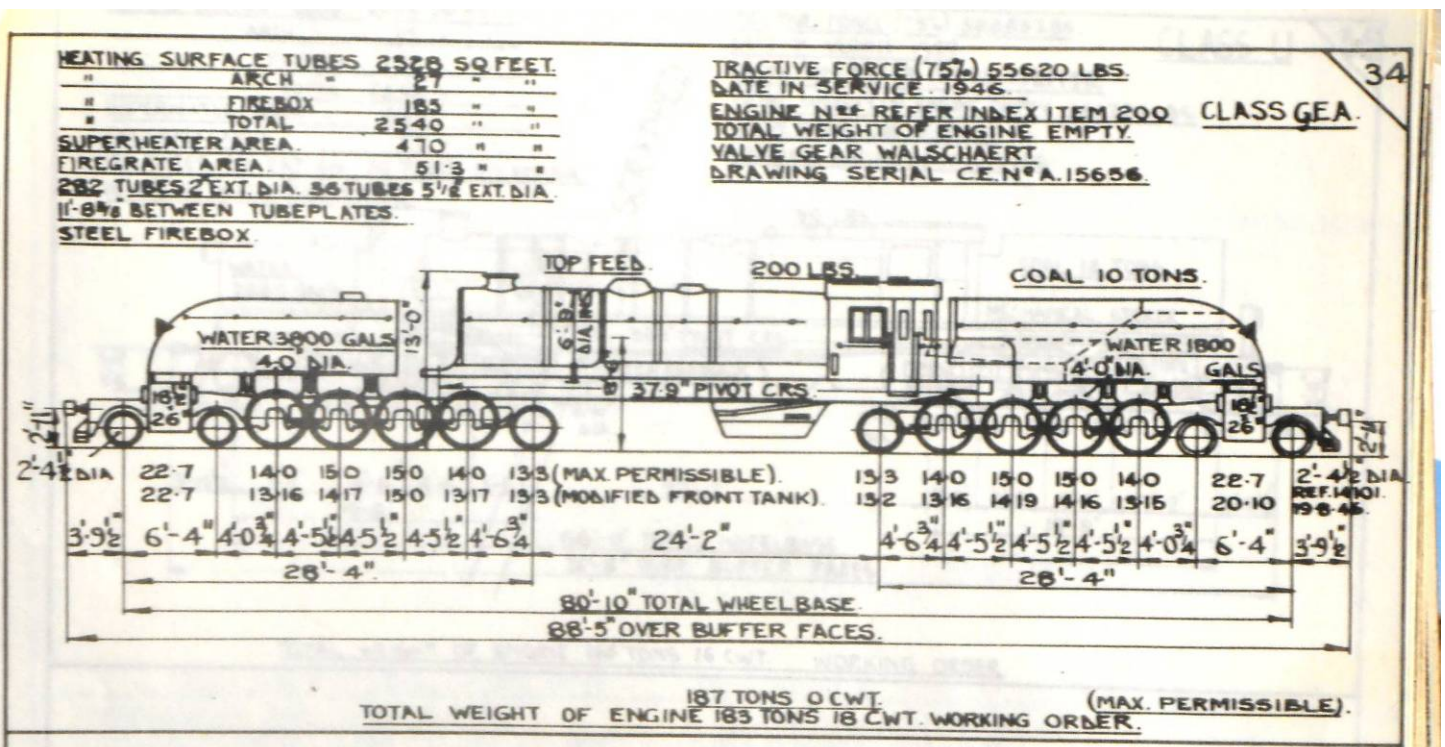
Above Sandstone has put the old Steam Workshop back in operation as the restoration center for its locomotives at Bloemfontein 200 km by road from their railway.

actually the first one was built for use in Tasmania (come on poms give it back). Conceived to give high tractive effort while handling sharp curves they are really 2 locomotives in one and are a type rather than a make.

Below Arrangement diagram for Cape Gauge shows 2 separate bogeys comprising the frames, cylinders and wheel arrangements as for a 4-8-2 engine. These are bridged by a pivoting chassis upon which is mounted a boiler of twice the normal diameter made possible by not having to fit between the driving wheels and narrow frames. Water tanks are placed over each set of wheels adding to the adhesion which inconveniently reduces as water is consumed.

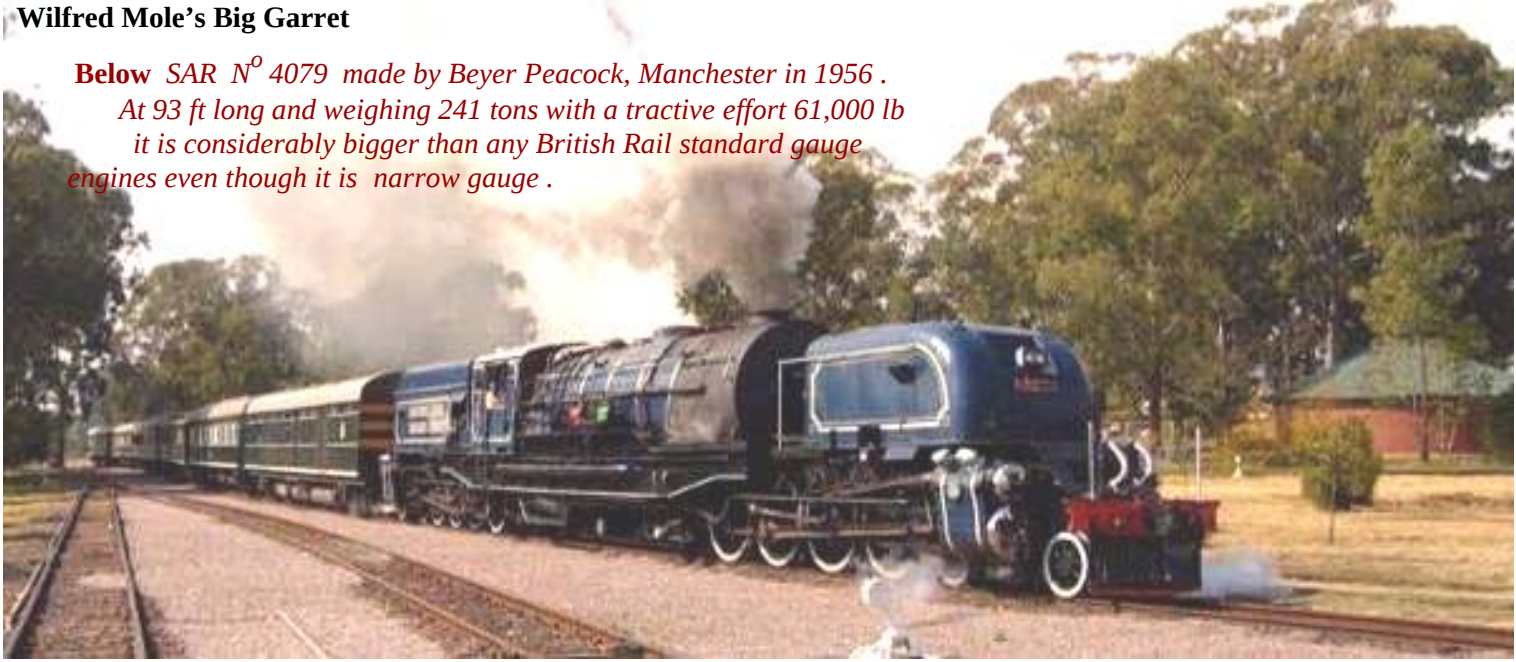
LOCOMOTIVES 3' 6" Gauge Garretts

Garretts are the iconic locomotive of South Africa but



Wilfred Mole's Big Garret

Below SAR N° 4079 made by Beyer Peacock, Manchester in 1956 .
At 93 ft long and weighing 241 tons with a tractive effort 61,000 lb
it is considerably bigger than any British Rail standard gauge
engines even though it is narrow gauge .



N° 4079 was Sandstone's first locomotive acquired in 1997 by Mr Mole from the Randfontein gold mine when they ended with steam and was destined for scrap . Scruffy but still with years of service left Wilf's vision was to use it on freight service transporting the thousands of tonnes of grain the farm produces to market since the main SAR line passes the farm . To this end it was moved to the nearby Ficksberg rail depot and made a number of runs past the farm but it got too hard for SAR bureaucracy, who was struggling with ordinary day to day issues, so in the end semi trailers had to be bought.

The engine languished in the Ficksburg yard with a number of other engine but soon fell victim to systematic stripping by scrap thieves leaving no other option but to vacate the yard and find another home for it since there is no 3' 6" track on the farm .

Tourist Operation To this end a full restoration was completed and a long term loan to ROVOS- Pretoria for use on their prestigious rail tours arranged .

**Right Newly restored loco named
Lyndie Lou after Mrs Mole.**



Above Revenue service on long distance rail tours with heavy trains through spectacular country was taking it's toll on Lyndie Lou

The engine is now happily in the care of volunteer railway enthusiasts group Reef Steamers on occasional day trips .

Preserving 3' 6 " SAR No 771 class 10 Cr Pacific made by North British locomotives Glasgow in 1910. It operated on passenger main line work ending up on shunting duties in Cape Town until all steam was withdrawn in 1977. It then was operated by a Loraine Gold mine until it closed in the mid 1990's then subsequently acquired by Sandstone.



Above No 771 Cosmetically restored to a high standard . Boiler issue preclude it taking to the rails in the near future . Being on display in the Hoekfontein station precinct it compliments the luxuriously refurbished restaurant cars available for visitors to enjoy their meals .

Below At Sandstone the 150 m long 3' 6 " train shed is full of locos and carriages protected from weather and thieves.



Thieves Following wholesale theft of any sort of removable metal from the rolling stock stored in the Ficksburg yard and other places it became obvious the cost of effective full time security would soon exceed the value of the equipment. Sandstone had no option but to remove to the farm anything still worth saving even though there was no intention to operate Cape gauge there. To this end a huge shed of 8 tracks and 150 m long was built within the electrified and 24 hour guarded main farm compound and the remaining rolling stock trucked in by road. With another level of security patrolling the surrounding farm property itself all is now safe and out of the weather ensuring the equipment is preserved for restoration by future generations.

David Shepards North British 15F .

This SAR 3052 North British 9F built in 1946 was the most numerous class of the then South African Railways. It was given to renowned African wildlife artist and railway enthusiast David Shepherd on a visiting SA. The spectacle of this massive loco on 3'6" gauge prompted him to comment that it made his British 9F, 92203, "Black Prince", back home look small! so he was promptly given it. In appreciation he presented a specially made painting of it to Spoornet



Above Davis Shepherd with the specially commissioned painting he swapped for the locomotive. David is content to leave the loco in custody of SA enthusiasts as he has no access to 3' 6" track to run it in the UK.

The locomotive has been in the custody of Wilfred Mole since February 2004. David last travelled behind her on a visit to South Africa in 2002. After some quiet time on the footplate in the evening, David expressed his strong attachment to the loco, which he named "Avril" after his wife. Now based with the Friends Of The Rail, an enthusiast group operating in Pretoria it does occasional day trips to historic Cullinan Village but is currently undergoing repair at Reef Steamers Depot after the March run when a section of rails went "missing".

2 ' GAUGE

Africa has always been a big operator of 2 ft gauge railways for example the Port Elizabeth to Avontuur line was 284 km long and now the largest collection of 2 foot gauge locomotives in the world can be found at Sandstone. There are more than 30 operational and another 20 waiting in the wings.



Above The 2 multi tracked steam sheds with the one for larger locos on our left. Out the front are steaming bays, watering facilities and a coaling depot.

This has 30 km of track constructed from scratch on private

agricultural land bordering the spectacular Maluti mountains deep in South Africa making a photographers paradise.

It all evolved from a love of items of agricultural heritage this was boosted by the private collection that came with the purchase of the Hoekfontein farm which had been in the same family since the 1840's. At no stage did Sandstone see themselves as a tourist destination but hosted a number of open days for

machinery enthusiasts including the inaugural Great 100 Working for vintage tractors which quickly became an international event involving Australia amongst others. The involvement with 2 ft narrow gauge steam started with the opportunistic purchase of the defunct Midmar Museum railway in Natal and the opportunity to set up a short length of track for the Great 400 Tractor Working Guinness book of records attempt. As they say the rest is history.

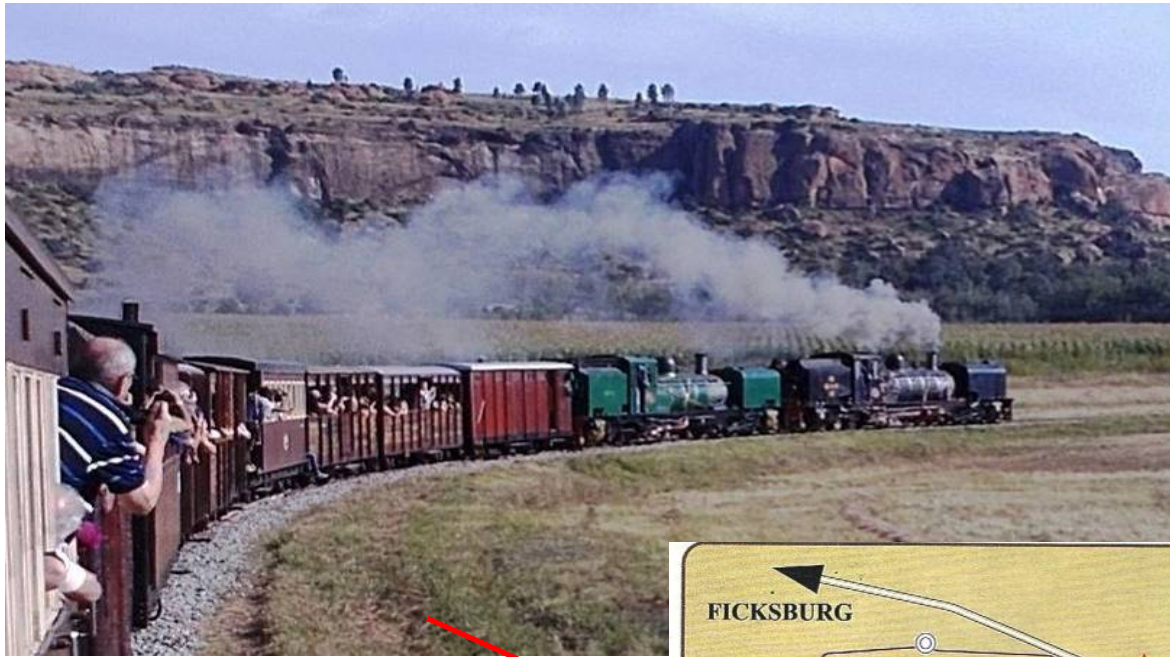
OPERATION Stars of Sandstone

In recent times their major event has been Starts of Sandstone held every couple of years catering for steam, mechanical and military enthusiast from around the world. Running for 11 days with entry of US \$ 130 per day covering meals and unlimited rides there is nothing like it in the world.

*Acknowledgement
photo and info from
Sandstone Heritage
web site .*

Big 2 Ft Gauge The place to see these locos, often doubled headed Garretts, is on the Sandstone Estates Valima Mountain loop. A challenging 21 km run with it's 1 in 20 pinches usually takes about an hour.

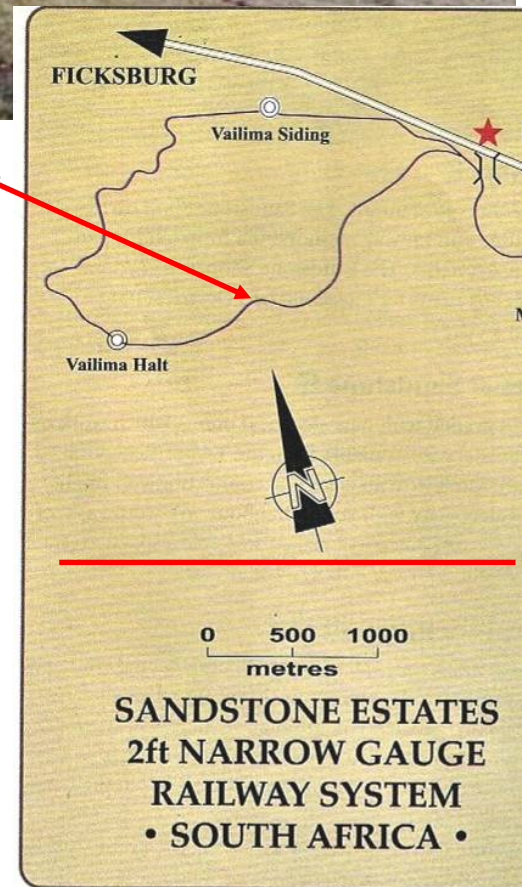
Above *Plenty of exhaust barking and wheel slipping is guaranteed to delight enthusiasts with doubled headed Garretts working a fully loaded train just as hard as they can around the mountain. . It is not many places in the world you can see this type of engine doing real work in such spectacular scenery .*



Preserved Diesels Most steam railways run a Diesel or 2 for moving dead steamers and building up consists . At Sandstone the heritage value of Diesels in their own right is becoming recognized with the acquisition of a General Electric UM6B .The largest 2 ft gauge diesels in the world were ordered to replace NGN13 & 16 steam on the Port Elizabeth to Avontuur 284 km long in 1973 . It has a Cat D750 turbo V8 diesel of 600 hp and specially designed bogies to place the motors between the axles. With the decline of freight in 2004 when the limestone quarry closed most were fitted with 3' 6" bogies and sold off to mines . Class 91 number -010 was bought by Sandstone minus bogies in 2013 and the original 2 ft bogies acquired .

After overcoming hurdles including transporting by road to the farm and re-certifying by the South African Rail Authority it was unveiled at 2017 event .

Right *The preserved station was moved to Hoekfontein from a closed local line (no platforms are used)*



Acknowledgement
Map Stars of Sandstone programme

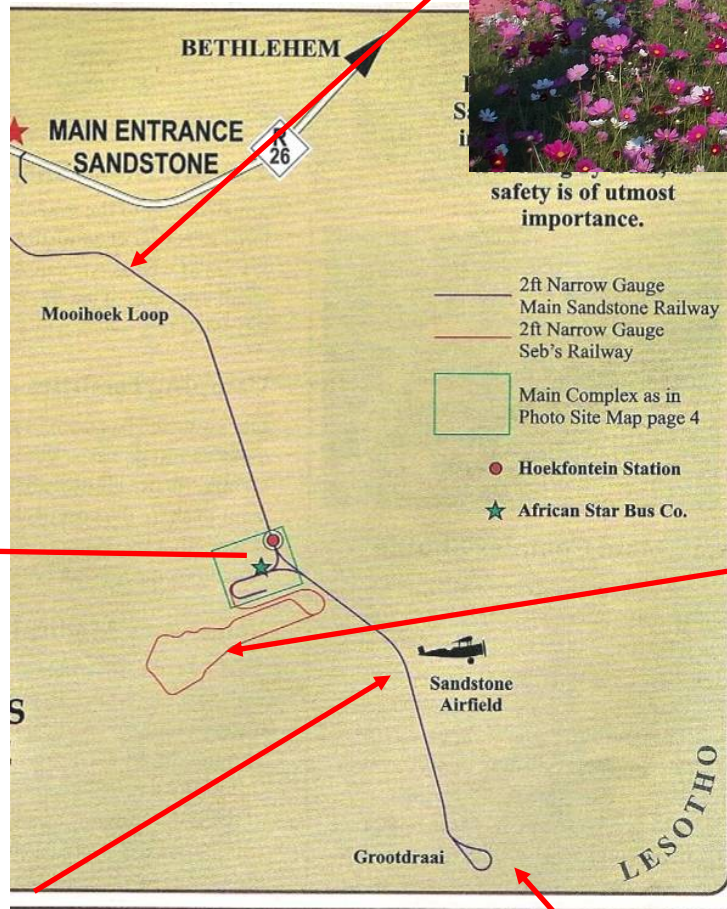
Below *Vintage earthmoving and farm equipment recreate a 1970's scene for No 91's passengers on the run back from Grootdraai .*



Rolling Stock It is not only coaches that are preserved but there is a large variety of restored wagons to enable consists of freight, farm produce and vintage farm equipment to regularly recreate scenes from the old days for visitors delight.

Right Visitors are transported in vintage vehicles to the best trackside viewing locations..

One photographer is particularly taken by the cosmos specially planted to add some colour to the show.



safety is of utmost importance.

2ft Narrow Gauge
Main Sandstone Railway
2ft Narrow Gauge
Seb's Railway

Main Complex as in
Photo Site Map page 4

● Hoekfontein Station

★ African Star Bus Co.

Sandstone
Airfield

Grootdraai

LESOTHO

Tiny 2ft Gauge About a dozen of these engines from industrial



sites and sugar plantations have been restored. Being only suitable for limited main line running a 2.4 km meandering loop has recently constructed

Left These small engines come into their own when rides for small groups are required at short notice.

Middle Sized Steam Locos . A diverse range of these popular engines has been acquired from all over Africa . Lacking the grunt for the mountain loop they really come into there own on the flatter run down to the Grootdraai balloon at the Lesotho border .This 30 minute ride passes through corn fields where



vintage farm equipment can be seen working and past the grass airstrip where tiger moths and WW 2 Harvards can be seen in action

Left German Henschel 1915 steam locomotive saw action in WW1 . It can still be seen carrying army equipment (Marmon Herringtons armoured car) and troops in military re-enactments at Grootdraai . Re-enactments utilizing preserved steam play a big part at the shows .

BIGFOOT'S HANDBOOK



Thanks to Peter Morris the Clubs archives now contain the **Actual Handbook** that came with our W90 Rapier Walking Dragline . It not only covers the Illustrated Parts List but full instructions for Erection Operation and Maintenance .

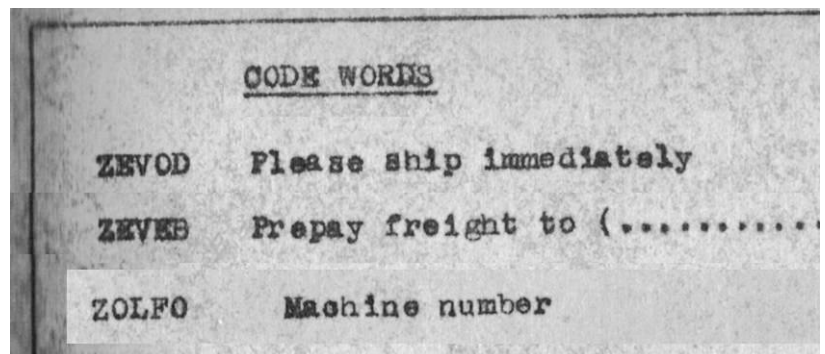
While the erection is done members can be ensured that the inspection , lubrication and maintenance sections will be well read.

As an aside the book lists some sort of quaint **Telegraphic Codes** for ordering parts . I gather in the old days of telegrams the message had to filled out by hand and taken to the post office where it was tapped out in Morse Code manually . This sent a series of dots and dashes of electrical pulses over the wire to England . There the operator converted it back to letters and typed up the message . The telegraph boy would then speed off to Ransome's on his bike with the written parts order as in the early days many concerns had nether telephones or electricity. Being labour intensive the cost was high and charged at so much per word so schemes were devised to reduce the number of words hence the telegraphic codes .

For example *Please ship Immediately Prepaid freight to Melbourne Steam Traction Engine Club Walking Clutch Air Cylinder complete assembly* (the 17 words would break down to 4 code words)

ZEVOD ZEVKD MSTEC 06IG43

With this sort of skills it is not surprising Bletchley Park cracked the German



SS SS SS SS SS SS SS SS SS SS



Signal Lights for Our Railway

We now have a set of signal lights to control trains leaving the station thanks to club friend and former member Ken Spillett .

They use an array of green and red LEDs to ensure long battery life. Included is a multi position control switch for mounting in a convenient position on the station

Around the Club



Above Sundial Engine driving a diaphragm pump Owner Fred Mynard .

Fred still occasionally gets down to MSTEC with an engine or 2.

Right The Ransomes Steam wagon owned by Clarrie Hall. Does anyone know who the admirers are ?



Left Portable Marshall steam engine Number 468 7 nhp 1907 belonging to Les Bloom .

In the background is the our original museum . It has come alone a bit since then you will agree ! It is thought the fireman is Jeff Bloom , but it is the same boy again I hope he turned into a steam enthusiast .

Right Vintage Fire Trucks laid on . Something seldom seen at our rallies these days but they must still be around .

It would be great if we could get a few of them to our 50 th rally next year . Who can volunteer as our Vehicle Steward ?



Around The Club cont.



Above *International 6 hp petrol engine built in USA in 1922 and owned by Ross Foster set up to pump on the bank of the lake in the background.*

What is noticeable from these photos is that in the early days displays revolved around the Beamish lake allowing many engines to be set up to pump water as they would in their working days. Luckily at Scoreby we have a similar lake I wonder if the Oil Engine and Steam Section Stewards could consider compounds on its bank to allow more realistic displays for our 50 th Rally ?

LittleFoot Progress Rolls On

It is great to see the first refurbished track rollers have been received from Paul McMillan's engineering works . The originals being in rather a state so new high tensile pins had to be machined up and new bronze bushes made .

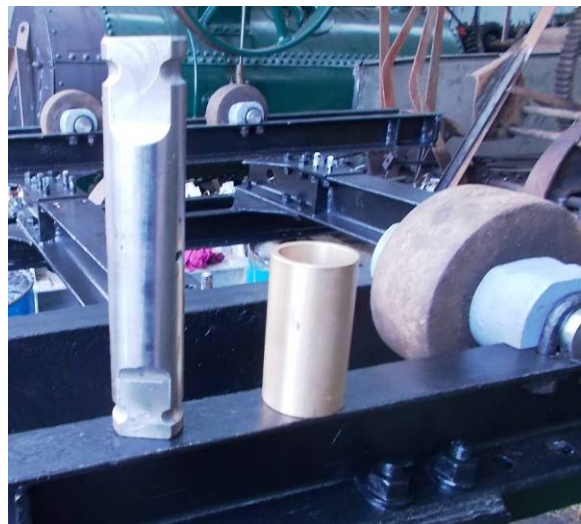
Top Right *The first 4 refurbished track rollers have been installed on the track frame .* After the remainder are fitted the next step is reassembling the track drive and steering

mechanism to the under carriage frame. This is fairly complicated with the king pin made up of 3 concentric shafts and associated linkages . Fortunately Warwick remembered taking it apart much to Phil and Adrian's relief.

Hayden's Display Case

Hayden has made a very smart lockable glass cabinet to display collectables in shed 6 . The current display is members Hot

Air engines although a few more would be welcome. The intention is to have rolling displays every few months with the next featuring Transistor Radios .



SS SS SS SS SS SS SS SS SS SS

Torpedo Motors

Following a visit to Freemantle Maritime museum John Horwood has become interested in torpedo engines especially since club members own a couple including a Brotherhood example.

To this end he has contacted Messers Peter Brotherhood , one of the earliest pioneers, who based such propulsion units on their radial steam engine. For starters they kindly supplied him this image of Peter Brotherhoods experimental traction engine powered by such a motor .

We can look forward to a full article in due course.

