

# On Track

**RAILWAY SOCIETY OF  
SOUTHERN AFRICA  
REEF BRANCH NEWSLETTER  
March 2012**

## **From the Editor**

I don't like to include pictures of modern S African train accidents but I thought this is so close to home that it is newsworthy. This derailment happened on Sunday night the 29<sup>th</sup> January this year at the freight line the passes to the north of the Reefsteamers depot at Germiston where it joins the metro line to Springs. The 6E1 hauled cement train failed to stop at a red signal and hit the de-railer points which put the 3 locomotives into the ballast.



Work to pick up and re-rail the locomotives started at 10H00 on Monday morning until 16H00 when work stopped to let the Metros run to Johannesburg. Work restarted at 21H00 and was finished at 05H00 the following morning.

*Thanks to Fred Sewell for the information and picture.*

Nathan also advise that 2 x 34 class diesels were derailed on the 29<sup>th</sup> February 2012 on the Cullinan line due the perennial problem of sleeper theft.

*Refer to Page 6 of this newsletter.*

Please remember this is your newsletter and I will publish anything (within reason) that you guys send to me.

## **April On Track**

Sorry to tell you all that there will be no On Track next month as I will be on one of my jaunts out of the country. Sorry but I just will not have time to compile the newsletter

## **Friends of the Rail**

FOTR first train in February was for Valentine's Day to Cullinan. A request was sent to Rovos Rail for the use of their class 19D and this was kindly granted. So now there was to be double heading with the class 24 and the Dolly.

The previous year's train was also a double header but got as far as the shunt signal at the shunters cabin and the train had to return to the platform as all signals were down and the train could not get out.

However this time, with hearts beating, we actually got the lights and off went the train.

Driver Peter Odell had come up from Kimberley to drive the second loco as Rovos had no spare staff.

The trip was absolutely brilliant. Good time keeping and perfect weather. The photographers were out and David Benn got some goodies on the return leg.

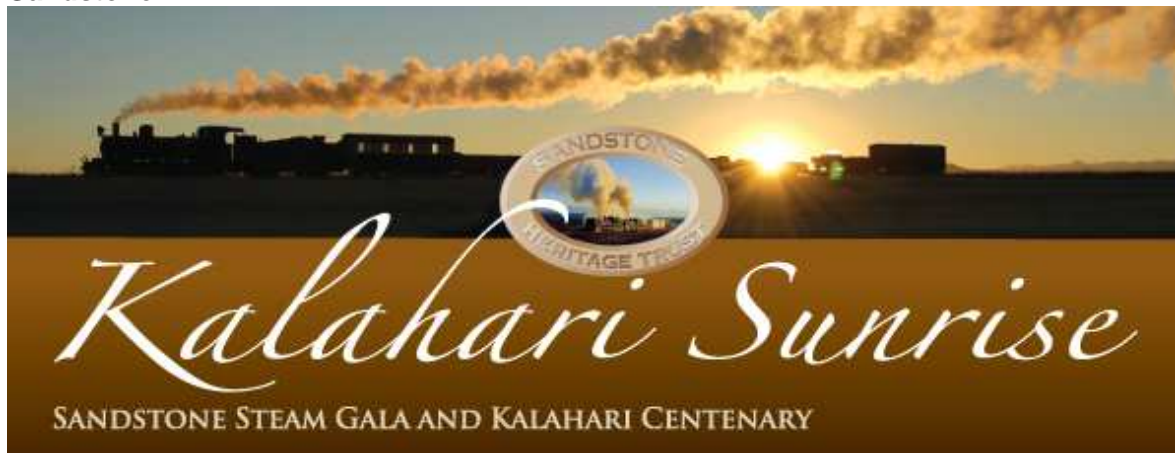
Apart from a few delays waiting for the Pilot working to occur, the train was back in fairly good time and all were satisfied.

This was indeed a morale booster for the club as the previous year had been disastrous indeed. This past weekend FOTR ran single engine to Cullinan and this went just as smoothly. Perhaps the railway wheel of fortune is turning in the right direction.



Thanks to Nathan for picture and information

## Sandstone



**23<sup>rd</sup> March to 1<sup>st</sup> April 2012**

**Information Bulletin No. 3**

The weeks are racing by and we will soon all be together at Sandstone for our annual event, Kalahari Sunrise. We have had some criticism over the fact that the Kalahari has not been featured as prominently as might have been the case. We have some special Kalahari events planned but the primary reason for calling our event Kalahari Sunrise was to focus people's minds on the significance of this locomotive in the context of 2-ft Narrow Gauge design in Southern Africa. We would very much like to have received support from Namibia for this event because that is where these fine locomotives originated.

For those that are attending we are pleased to advise that there will be a strong contingent from the Welsh Highland Railway, as well as a similar number of drivers and firemen from various railways in Australia. Unlike last year when we struggled to meet our operating schedule it looks like we will have the luxury of more trained crews than we would necessarily need. This will reduce the footplate experience for drivers and firemen but it is thanks to the enthusiasm of the volunteer drivers like Bob Baker, Paul Willemse, and Peter Randall that we have had such a lot of support and enthusiasm. The word obviously travels fast.

We want to give everybody the best possible experience so now is not a bad time for drivers and firemen to tell us which specific locomotives interest them the most. We can give no guarantees but we will begin planning the roster over the next few weeks. We are also calling for high levels of cooperation between the parties so that all the qualified people come away with happy memories of their time at Sandstone.

We will almost certainly place the four Garratts in steam again, this time probably backed by the NG15. This has never been done before because there have never been enough crews on hand to make it happen. It will certainly be a milestone for those participating.

We are constantly receiving e-mails from people who are telling us that they might come if the event is on.

We have crossed many hurdles to get this far and there are very few obstacles in the left to deal with unless of course something totally unforeseen should happen. Even if we have to steam our traction engines inside one of our big sheds in the middle of a cyclone we will carry on.

Last year we changed our approach by scaling down our expenses dramatically and running the event on a much more informal basis. For example, we did all our own catering which saved us a fortune. Because we have learnt how to that we can now tailor the event and its expenses to the number of people who decide to visit us. In other words, we have developed our business model on a very flexible basis. If only five people pitched up we could still have an event and not suffer any untoward financial consequences.

**So, to those who harbour these doubts, thoughts and reservations all we can say is – the event is definitely on.**

We have quite a number of people who have said they intend to register but they haven't actually done so. We do not have much time to complete our detailed organisational plans for the event so if you are thinking of coming then take the plunge and join the fun and excitement.

## Line construction

Things are progressing very well. For an update click here: <http://www.sandstone-estates.com/index.php/railway-heritage/39-railway-heritage/2692-good-news-regarding-sandstones-line-rehabilitation>.

Since the last bulletin there has been non-stop activity. By the time you arrive you will not even notice that some of this work has been done. For example, look at the way in which the grass is covering the rehabilitated embankment at Pandora.



Bearing in mind it is the 100<sup>th</sup> anniversary of the development of the Kalahari design why not spend some time and study the history of this locomotive?

### Cosmos planting

Many of you who have been to Sandstone have wondered how come the flowers seem to appear miraculously. It is part planning, part skill, with a good dose of good fortune.

We only plant our Cosmos now (January) and it should be an excellent show.

## Overalls for drivers, firemen, helpers, and spectators.

We are in the process of ordering some special Kalahari Sunrise overalls. These are black with yellow writing. They are very tough two-piece Conti suits. They are manufactured by Jonsson Workwear and are of the highest quality. If you would like to reserve a set can you please e-mail Babita Hira (E: [babitan@sandstone.co.za](mailto:babitan@sandstone.co.za)) giving your size and she will incorporate it into the production order that we are placing this week. We will need to know by Wednesday, 8<sup>th</sup> February 2012. Please note the cost per set of overalls is R 265.00 plus 14% VAT which totals R 302.10 and you will be invoiced accordingly.



*Kalahari No. 17 at sunrise, between Grootdraai and Hoekfontein at last year's event.*

We look forward to seeing you on the farm in March.

*Wilfred, Mike, and the Kalahari Sunrise team*

## **PRADSA**

The rolling stock fleet the Passenger Rail Agency of South Africa (PRASA) aimed to procure in its R136-billion renewal programme would most likely be electric multiple units with 3 kV DC traction, but 25 kV AC traction for the Eastern Cape, said PRASA enterprise programme management office head **Piet Sebola** on Tuesday.

Speaking in Pretoria, he noted that the trains would be 12-car units, and that they would have to feature on-board wi-fi access and closed circuit television cameras to ensure commuter safety. All trains were to have electronic information signs on board, offer easy access for people with disabilities and had to be able to reach speeds of up to 120 km/h, if not 160 km/h, he added.

*Even at 120km/h the track needs to be in perfect condition to give the passengers an acceptable ride: - Ed*

The narrow Cape gauge was to remain the PRASA track width, said Sebola, and not standard gauge as implemented on the Gautrain.

The aim of the more luxurious rail coaches was to ensure that PRASA could expand its market coverage beyond that of lower-income groups, offering “safe and comfortable” public transport to all South Africans, said Sebola.

The rolling stock programme, which also included new depots, would then also add to already existing projects, such as the current roll-out of a new signalling system and the improvement of station infrastructure.

“We want to transform and modernise our railways,” said Sebola.

*Brilliant I agree:-Ed*

Part of this transformation was to cut travel time for commuters. A Metrorail train trip between Johannesburg and Pretoria currently took up to two hours, said Sebola. With new rolling stock this could be cut to one hour.

*Will the freight on that line also speed up? - Ed*

Paid passenger trips were also expected to pick up from the current less than 500-million people a year using the Metrorail service, to a billion passenger trips a year.

Sebola admitted that the roll-out of the first new trains in 2015 would not solve all of PRASA’s reliability woes, but noted that a targeted corridor modernisation approach would assist the agency in focusing its efforts.

Some of the first corridors targeted for a major overhaul were Johannesburg to Naledi, and Khayelitsha to Cape Town, for example.

### **LOCALISATION TARGET AT 65%**

The localisation target on the new rolling stock would be 65%, said Sebola, with indications that this could reach 80%. Components that PRASA believed could be manufactured locally included the car body shell, door system, axles, wheels, lighting, interior cladding, bogie frame, windows and seats.

The 20-year procurement process would be split into two, with the first ten-year contract running from 2015 and the second from 2025.

The contract would be for the design, build and shared maintenance of the rolling stock and would also have strict black economic-empowerment criteria.

A technical transfer of skills to PRASA was also required, and the successful bidders would have to establish a factory and local supply chain in South Africa.

*Now I have a couple of questions. Firstly the existing Metro stock was built locally and I would imagine had a very high local content (Union Carriage as well as TRE) why need more manufacturers? Secondly why transfer of skills? Modern passenger rail operators do not own or*

*maintain their rolling stock. They outsource it to specialist companies and have it financed by the banks. PRASA core business is to run trains not to maintain them.*

The new fleet in the first ten-year contract would be split between Gauteng (2 400 coaches), the Western Cape (1 800 coaches), eThekweni (936 coaches) and the Eastern Cape (228 units).

The timeline for the first contract would see the formal tender process start in March and financial closure with the successful bidder in June 2013.

The first train is to be delivered in 2015.

*2 years to design test accept and build is far too short!:-Ed*

Sebola said PRASA had the funding for the project in the bag.

PRASA Group CEO **Lucky Montana** admitted that the project timeline was “very tight”, but noted that a third of the current 4 666-strong Metrorail fleet was due to retire in three to five years. He added that only two-thirds of the fleet were currently in operation, owing to reliability issues.

“Some are between 47 and 52 years old. We want to move with speed.”

Montana said the old coaches might be scrapped when the new fleet arrived, but added that some African rail operators had indicated that they would be interested in acquiring a number of working units from PRASA

*Which countries in Africa have a 3kV DC rail network?:-Ed*

The rolling stock procurement programme was to create 65 000 jobs over the 20-year life of the programme, said Sebola.

Montana also noted that despite the anticipated improvement in the level of service delivered, Metrorail tickets would remain subsidised, but that this subsidy would reduce progressively.

*The concept is brilliant but someone needs to stand back and read what they are saying and come into the real world. :-Ed*

### **Transnet Freight Rail**

A surprising decision in respect of Transnet Freight Rail's planned fleet of 143 class 43 diesel-electric locomotives is that 62 are to be allocated to electrified lines. The 861km Sishen-Saldanha heavy-haul iron-ore line, for instance, which is to get 30 class 43s, is electrified at 50kV AC. The line east of Witbank to Komatipoort (348km, 3kV DC) gets 32.

The largest slice (53 locos) goes to mineral traffic heading south from Phalaborwa. Beyond Komatipoort and on through Swaziland, almost to Richards Bay, this line is not electrified, so here the proposed allocation makes more sense. The rest of the new order for 43 locos, to be built at Transnet Rail Engineering (TRE), is destined for lines vaguely described as serving Eskom power stations.

### **Around and About**

Sleepers again have been stolen on the Cullinan line, this time a couple of TFR diesels bit the dust. This was taken looks like just before the cutting where the FOTR class 15F derailed. Luckily no one was hurt and there are now concrete sleepers in place.

*Picture and information from Nathan*



Some unusual visitors to North Braamfontein this afternoon:

Brown 34 836 brought in two purple 18Es 410 and 415. The three front cab windows of 410 were missing and there was damage to the bodywork at the front corners. 836 must have been pulled off some other duty to bring them in.

Also the first red TFR 18E seen in the yard, no 513 coupled to blue 267.

Non-Shosholoza locos in the yard are very rare these days - perhaps some regular Shosholoza locos failed on a train.

*Vaughan Mostert*

## **Kwa Zulu Natal**



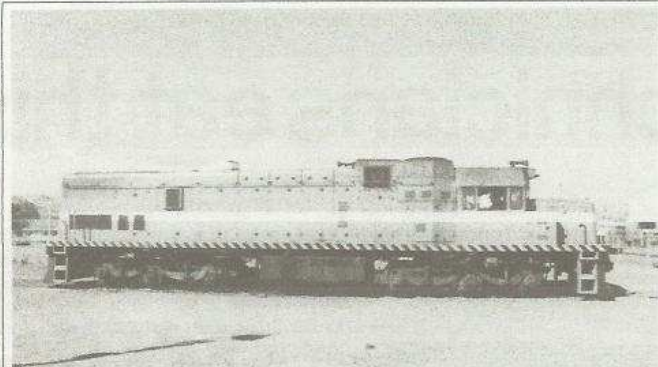
An historic steam locomotive is about to reach its' 100th birthday in service on the Umgeni Steam Railway this month in the form of 3BR Class 4-8-2 No. 1486. When steam locomotive development is reviewed the 3BR's are often overlooked but the small batch of David Hendrie 'D' Class locomotives delivered to Natal in early 1912 represented a great deal of advanced thinking on the part of their designer.

Constructed at NBL's Atlas Works, the 10 locomotives of this type were Hendrie's first superheater 4-8-2's and their piston valve cylinders resulted in a graceful sweep of the running plate that became characteristic in his more famous 12, 14 and 15 classes. These engines must have seemed enormous to the NBL workers at the time as many British lines were still building 0-6-0's and 4-4-0's ! The 'D' class engines were re-designated SAR Class 3B and later 3BR when re-boilered by A.G.Watson in the 1930's & 1940's.

No. 1486 owes it's survival to a long career in industrial service going to the Western Holdings Gold Mine and later to Umgala Colliery after withdrawal from SAR duties in the 1970's. She is seen above at Kloof station on the Umgeni line after arrival on a trip from Inchanga. 6th June 2010. Operational dates for the 3BR and other fine locomotives can be found on the USR website [www.umgenisteamrailway.co.za](http://www.umgenisteamrailway.co.za)

*Thanks to North British Locomotive Preservation group for the picture and information.*





This profile of a former Sats U20C diesel shows the waistband and chevron markings which identify Trans-Namib's motive power.

Electric 32,000 diesels (U18Cs). No fewer than 115 of these US-built diesels were delivered over the 1959-61 period, while a further 10 units of the 32,200 type (U20Cs) arrived in 1966. The South West African, now Namibian, system has been totally diesel-operated for nearly 30 years. Latterly, SAR and Sats have used type 33,000 and 33,400 U20Cs supplied by General Electric over the 1966-70 period.

While independence is brand new, the transition process in transport began a few years back. In May 1985, the roads and rail transport - plus the harbours - was placed under the authority of the territory's government, but Sats continued to manage the system.

On 16 May 1986 the first locomotives to run in SWA/Namibia railway livery were ceremonially taken into service at Windhoek station. The territory's transport minister noted that the locomotives symbolised the transfer of the territory's complete rail system to it as a national asset.

In 1987 the National Transport Corporation Act was adopted by the SWA/Namibia national assembly and signed into law by the administrator general. The corporation was given wide powers to take over and continue to manage and promote the territory's transport services. The NTC was a private company with its entire shareholding held by the government. Assets worth some R150 million were transferred to the NTC. These included 128 diesels of the types already mentioned, 180 passenger coaches and 2 900 goods trucks. The trains were still crewed by Sats employees, but a large number of Namibians were already under training for an eventual complete takeover.

The National Transport Corporation Ltd (NTC) adopted a new name - Trans-Namib - in July 1988.

Motive power has been maintained in the Windhoek workshops, and rolling stock repairs and maintenance are centred on the same workshops. Trans-Namib now has a

staff complement of 3 575. Some railwaymen opted to stay with Sats and return to South Africa.

Of the 2 382 km of railway, there is just over seven hundred kilometres of branch lines to Gogabis, Outjo and Luderitz. The rail varies between 30 kg/m to 57 kg/m standard profile for the main line and 20-30 kg/m for the branches. Train operating control has largely followed the Van Schoor system but radio control is now being introduced throughout the network.

The new Namibia Railways connects with Sats at the border town of Ariamsvlei in the south-east of the country, and Ariamsvlei station has now been expanded into an interchange point.

The new nation's railway may be somewhat aged in motive power and rolling stock but it is now in a position to invite technological and financial assistance from the international railway world. Political developments in Southern Africa may make South Africa a more acceptable neighbour, but Namibia has in the meantime already decided to join the Southern African Development Coordination Conference (Sadec). In terms of Sadec's concept of greater regional transport cooperation, a scheme previously shelved may now be revived with external aid and funding. This is the proposed 1 000 km trans-Kalahari route linking Gaborone in Botswana with Gogabis. Relations with Sats remain good. Last year Sats's locomotive shortages led to the hiring from Namibia of 15 diesels of the old 32,000 type and 12 34,400 units. The National Railways of Zimbabwe (NRZ) has also indicated that it might apply to hire some Namibian units to alleviate its current critical motive power situation. Fourteen diesels have been sold to Zaire (SNCZ). Namibia also still depends on a close working relationship with Sats for exports and imports either via the Indian Ocean ports or through the Walvis Bay enclave on the Atlantic seaboard.



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### **Umgeni Steam Railway**

Our track men walked the line between Inchanga and Cato Ridge on Saturday to check sleeper condition. Not good.

Require 85 concrete to replace wooden sleepers and 91 wooden to replace wood on check rail curves. Total R 30,000.00 plus.

We were thinking that we could get the Inchanga Choo Choo down to Port Shepstone at a reasonable cost to USR but now the track condition precludes that possibility unless we can fix the line by end March!

We are currently loco less for at least next 4 months!

*Andy*

### **Port Shepstone**

I will try and answer various questions raised about Port Shepstone.

Coaches moved to Paddock as follows:

By 23/11/2011: 7, 72, 143

By 25/11/2011: 8, 12, 141, 142

07/12/2011: 95

17/01/2012: 109

That just leaves 27 and 136. It is thought that 136, at least, is likely to move tomorrow.

There are a handful of wagons in the yard, and it is thought they will most likely be scrapped when the site is cleared. Van 3189 may also go to Paddock however.

The coaches are presently stored on the ACR "mainline" alongside the yard where the Garratts are stored. I am not sure about the Garratts ex Port Shepstone, as I haven't visited Paddock since they moved there, but possibly also on the mainline at the moment.

The reason for going there is because the owner of the factory, where the locos are stored, wishes to re-introduce the Banana Express (he submitted an expression of interest when they were asked for). At the same time the owner of the Port Shepstone locos needed to store his locos somewhere as the site was being cleared. It was therefore logical to store them at Paddock. Their place in the yard has been taken by 156, 139 and the front engine unit of 151. The rest of 151 is mounted on a short stretch of isolated track on a large concrete slab nearby (it was apparently initially off loaded onto the concrete slab, the rails coming later!). This loco is being worked on by Rolf van Wyngaardt and Amos Cele, and is being prepared for a boiler inspection.

*Peter Bagshawe*

The following article by the Chairman of the Emerald Tourist Railway Board published in the Puffing Billy "Weekly Notice" (issue 06/12, 10-2-2012) relates to the purchase of NGG16 127 and associated NGG16 spare parts.

### **PURCHASE OF NGG16 GARRATT LOCOMOTIVE AND SPARE PARTS**

The Board is pleased to advise that it has purchased ex South African Railways Garratt locomotive NGG16 127. The locomotive was last operated by the Alfred County Railway and was in traffic when the railway closed in 2004. It is essentially complete with all major components intact. A number of bronze valves and fittings have been removed to prevent theft and these will be shipped to Australia with the locomotive. As part of the purchase we have been able strip some components from derelict NGG16 locomotives in South Africa. These include two cylinders complete with covers, pistons, piston rods, valves, valve rods, two sets of valve gear, slide bars, crossheads, suspension springs and various other components.

In addition, we are negotiating the purchase of a container load of spare parts, some new and some recovered. These parts, together with those on NGG16 127, will preclude the need to fabricate a series of components required to restore NGG16 129 to operating condition. We believe that the money spent in these purchases will be offset in the savings made in the

restoration of NGG16 129. At this stage we do not believe that the boiler, tanks and cab on NGG16

127 are worth the cost of restoration and our intent would be to replace these items. It is expected that NGG16 127 will arrive in Melbourne mid March with the container of spares to follow.

*Ray Leivers - ETRB Chairman*

### **Franschhoek Tram**

Some time ago I reported that there was a rumour of a project to operate a Tram on the moribund Franschhoek line. Well I thought this was another pie in the sky idea but suddenly two weeks ago this picture of the tram arrives at my desk taken on the Franschhoek line. It is hoped to start operating soon.



Many thanks to Per Sinclair for the picture and information

The Franschhoek tram was built by PROF Engineering in Alrode (Johannesburg southern suburbs). I saw it under construction there in May 2011.

It's a 4-wheel, open toast rack style tram with typical tramway style flip over seats. It has a steel frame but was going to use a lot of hardwood for seats and structure which should look good. The wheels and suspension system follow the design of PROF's industrial locomotive range; it will be interesting to see how well it rides!

It has a 30 kW Cat diesel engine and hydrostatic transmission with two Staff axle mounted hydrostatic motors, again following current small industrial locomotive practice.

It has been given PROF works number PT1.001 but I don't know if it's dated 2011 or 2012. I am sure PROF will have fitted a works plate on it somewhere.

*John Middleton*

For those of you on the internet have a look at the Tram website <http://winetram.co.za/>

## **Kenya**

John Ashworth reports on progress on getting the 59 Garratt working again.

9<sup>th</sup> February

In May last year the Garratt failed on a trip to Athol River and was hauled back to the workshop and left. After a number of conversations with Maurice the curator and others I decided we needed to do something about this or it would sit there ad infinitum. So a plan was drawn up to see if we can sort out the loco as well as stop water leaks on 3020 which is still the current loco for mini trips. . A while back Henry Gunston kindly gave me a number of 59 class Garratt drawings and via Nick Lera I learnt that BOHRT also had a massive set of 59 drawings. After a visit to BOHRT in London I bought a dozen of the most important ones to take with me.

So last Monday five of us including four of the steam team are working on 59 and 30 simultaneously with a view to sourcing the faults. We have had the 59s two brake cylinders apart and they seem to be in good nick so have been cleaned and lubricated and are awaiting new springs which we hope are in the stores. I am not sure how they got them out from under the power units as they weigh a ton!!

The other item which was causing problems on both locos was the slack in the oil firing rods resulting in erratic firing and unnecessary black smoke. This has been sourced as the link pins and holes on the rods and also a bracket on 59 being slack. We got the rods and bracket off yesterday and it goes for welding today I hope.

Meantime the water in 3020 tender was drained and the manhole opened to access the three valves for the water to the injectors all three of which were leaking gently but aggravated when in steam. The rods were badly worn on the pins, so have been removed and I took them off to be welded and drilled to the correct size. The bronze valves are being ground in to get a water tight seal. A rather unpleasant job inside a rather odorous rusty tender, with not much headroom. Me thinks they had dwarfs working at North British....

Also every single gate valve on both locos some of which had seized were removed, serviced and replaced. William and I stripped the driver's injector on 3020 and have begun opening up s injectors as well. The cones are showing signs of old age etc. Meanwhile Maurice has an official from KR working on obtaining access to the steam spares of which there are tons although not necessarily for our locos. My visit to the stores showed items for locos that have long since gone to the torch.

In a bid to find out where the steam leak on 59 is we hope to put the loco into steam tomorrow using the static boiler to help get the loco up to 150 PSI. Just waiting confirmation the static boiler will be in steam and the shunter can tow us down to the boiler.

10<sup>th</sup> February:

Yesterday all the rods and levers were collected from the w/shop and refitted to both locos. Today the 87 Class diesel arrived around 11 and John Ashworth and self plus Paul a visitor tore round to the sheds to assist with getting the locos hitched up and moved. it was a sight for sore eyes with the 87 struggling to move a wagon plus 59 plus 3020 plus three 87s in order to get 59 adjacent to the boiler. In doing so sparks from the wheels set the dry grass alight and JA and I became self appointed firemen putting the fire out under the loco. However all was well and when we left at 1345 hrs 59 was having the boiler and tanks filled in preparation for Mondays firing...we hope... I shall be there tomorrow to see how much water we have loaded..

Yesterday (16th February 2012:). It was a somewhat dirty afternoon yesterday lying in the bottom of the 59 smokebox with a torch and steel bar but it was well worth while, William and I found three holes in three separate superheater tubes, one on the left of the petticoat and two where we saw the discolouring of the tubes on the right. Clearing an avalanche of soot etc off the tubes

revealed the holes. Bingo, just as we discussed. Obviously to replace these will require the main smoke box plate taken off which would need an overhead crane or possibly just a 5 ton chain block, however as discussed maybe we could cut and cap the tubes and probably take out six elements out of the fifty. As the loco is never going to pull 1100 tons again it's not going to adversely affect its performance. William and I had a browse round the store yard and could see what appears to be new s/h tubes albeit years old..

Also water was leaking out of one of 59 fireman's side injectors which comes down to grinding in the valve seat as we did with 3020s injector which is now fitted to the fireman's side, while the one removed is now on the drivers side having been cleaned but both awaiting cones. 59 now has the best part of 8000 gals on board so at least we have a supply to tap off. William however showed me a main water tap hidden under the engine as part of the filter in line to the injectors so that has stopped that.

30 has had its fireman's injector supply pipe brazed that had a crack in it and the firing rod has been re-drilled to stop the fireman's lever overrunning the toothed quadrant. 59s firing rods are tight so that's that..

Meantime I paid a visit yesterday to one of the GMs who had approved the spares and also a deputy who apparently was concerned the spares were being used for other purposes... by 4.30 we had the requisite authorisation for spares as of today via Ben... Who is quite chuffed in more ways than one having rushed about getting signatures...this means we hope to have 3 sets of cones for 30 and 59 and as William said also two sets for 24... William currently removing the 24 cones as I type

Finally after much chasing and long conversations in Swahili it appears we might be able to put steam into 59 today around 11 and test brakes etc. The delay yesterday was filling the oil bunker for the static boiler.. ho hum so at the time of writing I hope they have lit the fire....Eric has just called to say the oily rag is lit. Its a start, we just need 100psi ASAP. That's it for now.. Will update in due course..."

Later update:

"The boiler was fired up and after some fiddling with the steam joints we finally got pressure to the loco. However as we had already located the leak, the steam really didn't help much as there was so much in the smoke box you couldn't see or breathe. We got the blower going which worked fine and it was impressive to see steam coming out the funnel. So after an hour I shut the loco down and disconnected the steam line. William wanted to fire 59 but I said it is a waste of time as nothing will happen. Meantime the Askari caught some light fingered youth trying to rip off bits last night or maybe just casing the loco either way he was hot trotted to the police and appears in court tomorrow!!!!

Meantime while I was looking after 59, William was busy in the stores finding cones and putting them in our stores. To date thanks to Ben we have got the ball rolling re spares... At 3 pm I wrapped up the job, settled up with the team, locked the store and returned keys to Maurice. While all this was going on Eric arranged an 87 and pushed 59 back into the w/shop... So all is back in order but the cones on 30 and 59 need replacing at some point.

I have started drafting a report for the GM etc inc you to read and have an appointment with Gatache tomorrow to explain what's going on and hopefully get KR interested enough to put some lolly into the loco... one can only hope..."

*This is a compiled report from Kevin Patience via John Ashworth.*

### **Why were there GOs at Braamfontein**

The aspect of carrying capacity of the 45 and 60 pound rails and in fact any rail is not just governed by the vertical static axle load.

Rails are also subject to horizontal loads at the rail head due to curving forces.. Even rails on tangent track do experience horizontal loads to some extent through the normal "Klingel" motion

of the wheelset down the track and various reasons for a small “angle of attack” of about 2-3 degrees always being present. I even remember a derailment I was called to in Springs where a wagon derailed and smashed up all the mainline sets in the Joburg end of the yard. Wagon had HS bogies but had very heavy flange wear- but why? It appears the fitters when assembling the bogie put in some components upside down so instead of being self steering the bogie became the opposite. The human aspect.

An example is the “Heavy Haul” lines in SA where way back, the CCE’s office allowed 26 tonne axle load on the coal wagon fleet because of the use of the “Scheffel or radial axle bogies” reducing the horizontal loading on the crowns of the rails.

Now getting back to Garratts. SA has many lines which are largely tangent such as the Mafeking-14 Streams and even the Mafeking- Zeerust- Krugersdorp line which when they had 60 pound rail could carry GMAM’s. because the curves were few and as such the horizontal loads were less so the rails could carry the loads. Also from memory the 19D’s had a 13 .5 tonne axle load whilst the GMA’s had something like 15 tonnes. A small difference but enough to make a difference.

I recall back in my younger days our District Supervisor at the time saying they tried Garratts down the Bethal-Volksrust line(not sure if they were GF’s, GEA’s or GMAM’s but if I was a betting man I would say GEA’s as one of the guys at our club (late Albie Wegener) talked of firing the GEA’s to Breyten when he was a young fireman at Braamfontein. Anyhow the result was that the Garratt cracked the rails in the web/foot region necessitating a speed restriction on the curves.(Much like the other SAR’s experience with the American “Webb” engines when they first appeared and before the springing and bearing clearances were sorted out for Australian conditions.

In addition track and especially rail maintenance (rail husbandry) are dependent on the loading to which the track and rails are subjected. Locally they can run occasional 25 tonne axle load on 47kg/m rails but under speed restrictions and with a knowledge that rail crown maintenance(grinding) is going to increase especially on the curves.

A while back there was some corro on the list over 14CR and their “balancing” for branch line and the list was advised of the dynamic loading which is the real load felt by the rails and which they have to carry. A few people picked up on this concept of rotating and also reciprocating masses and the dynamic effects.

Looking back through past records of loco types allocated to specific lines and a Working Time Book that I once saw for the Lydenburg line, I note that the latter line was also allowed 19D’s in addition to GO’s! Not sure if anyone ever saw one down there and I always presumed they were used for shunts etc.

Others may correct me but I always thought the Lootsberg Pass and other curvaceous lines that were worked by GMAM’s actually had 80 pound rail at least on the curves.

Similarly, I was under the impression that operating needs pushed the 25NC’s north of Vryburg before the line was fully re-railed from 60 pound to 48 kg/m rail. Again under a speed restriction but a necessity and would have been getting the last drop out of the rails before they were replaced. For a similar reason I recall once seeing a 15CA on the shunt at Mafeking when the line from Vryburg north to Mareetsane was still 60 pound rail and I wondered how it got there. (I seem to have an idea the Mareetsane to Mafeking section was 48kg/m rail even in 19D days.

So returning to the GO’s “raison d’etre”. I would say they were bought with a view to using them for heavy haulage on curvaceous 60 pound lines. Putting them all in one depot makes operating sense. Reduced spares and increased crew and fitter familiarity.

As for one offs in certain depots. Maybe a trial but also like all new toys I bet some one shouted the loudest and being closest to head office was heard first and got one of the new toys to play with until they found it didn’t really meet expectations so passed it on to some one else.

Alternatively sometimes a poor performer is dumped on a distant relative. The human aspect sometimes over-rules technical or financial matters.

Some food for thought.

Happy steaming  
*Peter Micenko*

### **Wood Fired Locos**

I can offer the following comments regarding wood firing of steam locos based on personal experience.

Back in 1972 I first rode and experienced locos fired with wood. These were on the Joao Belo, Inhambane & Quelimane systems in Mozambique, the Zambesi Sawmills Railway in Zambia and the Ubundu to Kisangani isolated line in Zaire (now Republic of Congo). None of the locos encountered had been designed to be fired with wood. The brick arches had been removed. The firebox of the loco would be filled to capacity with wood. The wood was ideally cut to the length of the firebox and was packed in longitudinally as tightly as possible to prevent excess primary (cold) air passing through the fire and through the tubes without being used to assist the combustion process. Steam pressure was raised while the train was stationary and the boiler filled with water. The locos would then haul their train as far as possible until the steam pressure and water level dropped until such time as the train stopped. The process was then repeated until the destination was reached. At wood refuelling points the tender and the cab floor was filled with as much wood as possible, (that was to about crew seat level in the cab). The firebox was also filled with wood in preparation for the next stint. Great care needed to be taken by those on the footplate to avoid scorpions, spiders and other insects that took a dislike to the heat and vibration of their new environment. If a log did not go in straight or needed to be moved in the firebox the fireman had a long metal rod for this or would simply use another piece of wood for a poker to rearrange the fire. Firing on the run was not conducive to maintaining steam pressure due to the large amount of cold air entering the firebox and passing straight through the tubes due to the lack of a brick arch. The fireman did not require a shovel unless he was lucky enough to have a small amount of coal to supplement the wood fuel (this sometimes was the case on the 750mm Joao Belo system at the time). Water had an effect on wood fuel as heat energy from combustion was required to dry the wood. This was exacerbated by the much lower calorific value of wood when compared with that of coal and oil. Fire cleaning was a breeze as there was no clinker or ash, it all went up the funnel and drifted down around the countryside. If the surrounding vegetation was dry then it was likely to be ignited by the falling embers.

Back in Australia on the Puffing Billy Railway with Climax loco 1694 my experience as a fireman and driver has been somewhat different. The Climax is a geared loco built in the USA and was designed to burn wood. It has a very large grate area in proportion to the boiler size but like other wood fired locos does not have a brick arch. Although the loco is not unduly taxed when working and the maximum speed for it is only 10 mph, it is able to maintain the water level and steam pressure when running. It is currently o/o/s undergoing a rebuild. The firing technique and fire cleaning is the same as for other wood fired locos that I have seen.

Although a bit long winded I hope this is of interest for those not familiar with wood firing.

*Lindsay Rickard*

### **Letters**

Hi Stewart, I see the government expect to provide 65000 new jobs due to the new trains to be built by PRASA and that a new rolling stock facility would be built for this purpose, I cannot see how 65000 new jobs can be created as if UCW at Nigel can carry on with a decent staff compliment how does PRASA expect to invent all these new jobs, also we have dedicated rolling stock facilities i.e. UCW at Nigel, and Koedoespoort works in Pretoria which I am sure have the capacity to build the new trains and create a number of new jobs but not 65000, maybe this is for the increased maintenance of the railway infrastructure, but I do not know.

Just thought I would comment for the newsletter.

*Nick Twynham*

### **RSSA Reef Branch**

Last month's meeting was a slide show by Nick Twynham of American and Canadian Steam and early diesels. The 150 slides were run through speedily and there were many very unusual and rare views shown and the members were most appreciative.

This month's meeting will be a talk by Chris Avis on interesting railway matters. Those of you who attended his previous talk will recall that it was very absorbing and much was learnt. Diarise the 28<sup>th</sup> March to attend.

### **Teaser**

Last month's teaser was a little tricky and only Eugene Armer and that most knowledgeable coach man Peter Stowe got it correct. It was:-

The picture of the white coaches is the twin coaches 11CB 503 and 11CB 504 in the railway museum in Nairobi, Kenya. Built in 1928 in Leeds for the Prince of Wales tour they were also used by the Queen of England in 1983. The balcony afforded a protected platform to address the masses.

*Peter A. Stow*

Now what is the occasion for this RR DE2 being so decked up?



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