

1). PROJECT : 12AR STEAM DOWN PIPE REMOVAL:



B01 – After several weekend's and public holiday's worth of sun-blasted electric fencing and gate work, the depot team happily gets back into the more interesting loco work with the Class 12AR boiler re-tube project. And they now really appreciate the shade of the 15M shop roof. But without those electric fences, those locomotives won't stay intact for long! From left to right, George, Aidan and Jeremy.



B02 – The boiler inspector missed a few eroded tube ends the first time round, so we have to replace a few more to get her 100% dunbopped. The recently installed tubes are obvious by their black interiors. The protruding tube at the top left was blocked by the RHS down pipe. The lonely pipe hanging in the foreground is the brake vacuum ejector exhaust and it is normally connected to the blower ring.



B03 – The incomparable Dr. Smudge gets to work to remove that downpipe. But naturally, the steel studs were seized and wouldn't loosen even under the 5-pounder drift.



B04 – I know, I know, yet another Smudge pic. But don't you just love the unposed 'Now what the hell do I do?' facial expression here? (He doesn't mug-up for the camera.)



B05 – A part of the problem was the loose waist flange between the wing pipe and the down pipe – the movement reducing the effect of the hammer blows. You can clearly see the protruding boiler tube whose removal is blocked.



B06 – Hott-Nutts George (in blue) explains most eloquently that if we scrap Class 12AR No.1535 where she stands, we can release funding for a contracted rebuild of 15F No.2914 and get the hand-bomber F running by March. <Joke.>



B07 – A hopeful tweak with the Bobbejaan (Baboon) Spanner actually got the front stud out, but there was no room to swing for the rears. And we weren't then up to taking the vacuum breakers off from the valve chests.



B08 – I could have taken yet another close-up Smudge pic for the details, or perhaps a more general view of the work area. Seeing that the previous Depot Report didn't feature a single locomotive, here is some essential iron top-up.



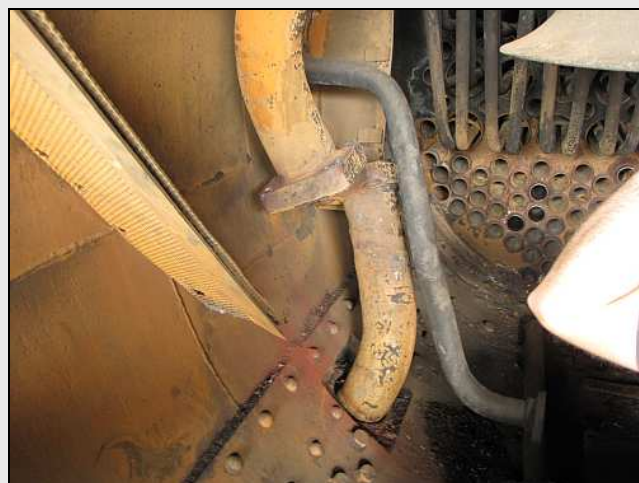
B09 – The last of the seized studs is getting some serious heat treatment to cut right through, before drifting the upper shank out. You can see by the extra access holes (for the collar ring) drilled into the smokebox's protruding boss that this pipe has been removed before, since the original boiler was replaced and this loco became a 12AR class. (The pipe is noticeably thinner than the opposite counterpart.)



B10 – With all the rotating, a hole was found in the down pipe. The steam leak under the now cut-away pipe fairing had earlier been misdiagnosed as leaking vacuum breakers. (The down pipe fairing is in one piece with the steam chest cowlings on the old Hendrie-type engines.) Instead of repair, the valves pictured had been naughtily borrowed from the similar 12R 1947 'Rosie', but to no avail.



B11 – Aidan gets his 'grunt on' and wrestles with that now-warm pipe. For full access, the wing pipe from the dry side of the superheater header should have been undone first. This way was harder, but avoided breaking open an extra joint.



B12 – Success! Aidan managed to get the pipe down far enough to clear the flanges for radial displacement. With subsequent removal of the spark arrestor's chord panel, the down pipe could be rotated forward and flat to clear the way for the withdrawal of that protruding boiler tube.

2). PROJECT : CUTTING TUBES FOR 12AR BOILER:

C01 – Before you can cut boiler tubes, you need something to do it with. This cutter has been in the 'Millsite Store' for a while; unused, as one of the staffers had cut the 3-phase cord off to use on the WAP cleaner. Alan (R) and Gordon set it to rights again with some difficulty. The normally cheerful Alan was a bit grumpy, so I gave him a wide berth.



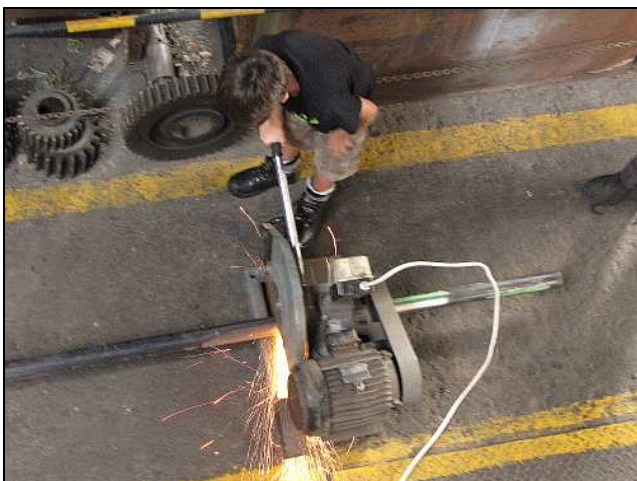
C02 – After the first new tube is clamped, Gabriel 'Squirt' Blore gets to take the first swing at the newly wired cut-off tool while 'Little Chipper' Josh looks on. Aidan is watching from the background as he would be taking delivery of this tube to start the de-burring process. The two little guys are fast becoming regulars at the workshop.



C03 – Jeremy Wood withdraws another tube while the little coalers get ready for the other tube end to drop. The tubes were first slipped in to get the length correct, including the important standard 8mm overhang at the firebox end.



C04 – The tube is withdrawn and taken away for cutting. Jeremy was messing with Gabriel's head by adjusting the amount of weight he was taking. Naturally, the tubes are stiff enough to carry at either end without center support.



C05 – The Little Chipper becomes 'The Little Grinder' as he takes his turn at the cut-off disk. I was standing on the rear end of Class 25NC No.3472's tender's water tank.



C06 – Zen and the art of boiler tubes. Aidan settles down to ground level quite comfortably, thank you very much, to file off the sharp outer burrs from the tube ends.



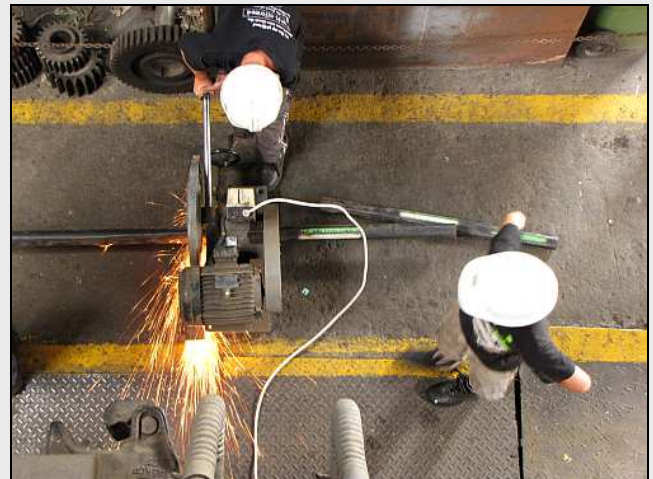
C07 – The short ‘uns get to take a new boiler tube in all by themselves this time, without Jeremy getting up to mischief at the tail end. In the background are the buckeye bogie frames for Greg McLennan’s 24 Class’s tender.



C08 – I feel sorry for the first fireman to have to warm up that boiler with that dusty coal. (Coal does deteriorate in storage.) Apparently, Jeremy has been booked for the infamous first light-up to start his shed-based training.



C09 – While setting up the boiler tube firmly in the clamp, Shaun teaches the youngsters the principle of cutting shy of the marked line to allow for a margin of error. Tubes protruding a bit too much at the front tubeplate can be always be ground back a little more after being expanded.



C10 – Gabriel takes another go at butchering a tube and he did this one in two passes – Josh was worriedly but unnecessarily watching the disk depth. The pint sized steam-heads weren’t unsupervised during this work – Dr. Smudge is standing JUST outside of frame to the left.



C11 - Two more mothers’ sons that we have ruined – Joshua (11) and Gabriel (9) stand proudly at the cut-off machine after the final tube cutting of the day. Notice that BOTH their (smart) mothers have assigned the pair of them BLACK tee-shirts to wear for their steam depot adventures.



C12 – Jeremy grinds down the burrs on the insides of the newly cut tubes while Gabriel supervises. The tubes act as great sound pipes and I could hear the grinding clearly from the other end. It’s always weird to be able to clearly hear someone talking in a firebox when you’re in the smokebox.

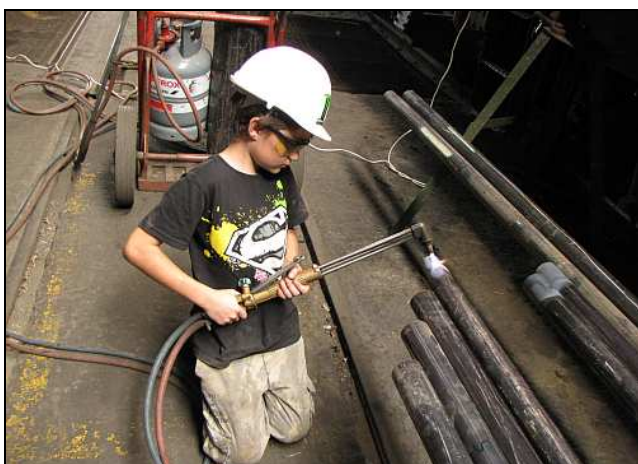
3). PROJECT – ANNEALING 12AR BOILER TUBES:



A01 – A melancholic-looking ‘Little Chipper’ tips the gas trolley back, wondering what will happen with the hoses. He was under the impression he had to roll the trolley all the way back to the store – and was manfully up to doing it!



A02 – I was impressed with these two! They barely come up to the 25NC’s foundation ring. (Not including brain pans) yet they figured out how to get the trolley over the difficult bits. I’ve seen grown men struggling more over this area!



A03 – On his knees and the third tube under way – Gabriel and his playful antics may as well not exist as Joshua concentrates on the task of evenly gas-cooking steam locomotive ironmongery.



A04 – ‘Dad! You’re going too fast!’, he grumps. You can clearly see the streak of hot steel as the tube is being constantly turned. Josh was starting to hold the torch a bit too close at this point and the flames would soon star-out.



A05 – A close-up of the tube being annealed. The ends are softened by the slow cooling (Ductility), making them less liable to split when expanding them into the tube plate. It also homogenizes the metal – removing stress points. It also burns away any scale and the protective coating.



A06 – Big Daddy Waddy Wood Would (www!) be supervising the work and keeping the tubes rolling to spread the heat. Joshua got to learn about which part of the flame is hottest. Notice the center tube still glowing cherry red. (Photo un-retouched.)

4). PROJECT - WHEEL LATHE ROOF:



W01 – Here's a bit of insight into the original derelict state of the wheel lathe house's roof ... and this was BEFORE dismantling! When the remains of the sheeting was replaced, the rotted roof trusses were all replaced as well.



W02 – A similar view taken two weeks later! The old 15M workshop still has its original roof timbers in pretty good condition, but its roof is also starting to rust as the zinc has been consumed. We are getting quotes for repainting.



W03 – An unexpected side-benefit of the new roof was having a safe, covered port to park the traversing crane when not in use. Note that the wiring & insulators of an old 3-phase electric cantenary system still exist. (Top right.)



W04 – The new roof has a simpler, straight-sided structure than the old one – but the new overhangs will require effective fastening. Height-agonistic volunteers are needed to assist us with replacing windows and painting sheeting.



W05 – Hot-Nutts George is pictured spending an early Saturday evening welding up cleats to be able to fasten the sheeting down. (It was only wired into place at this point.)



W06 – George faces the scenario of having more roof than welding rods! The Smudge had used up his fair share of welding rods in the previous two weeks – on the new gates.

5). OTHER PROJECTS:



H01 – The forge's bypass track had long been a dumping area for sleepers and scrap steel. Not only unsightly, but a pipe n' step snagger for the longer locos. This area was cleared up during the mighty depot cleaning in December.



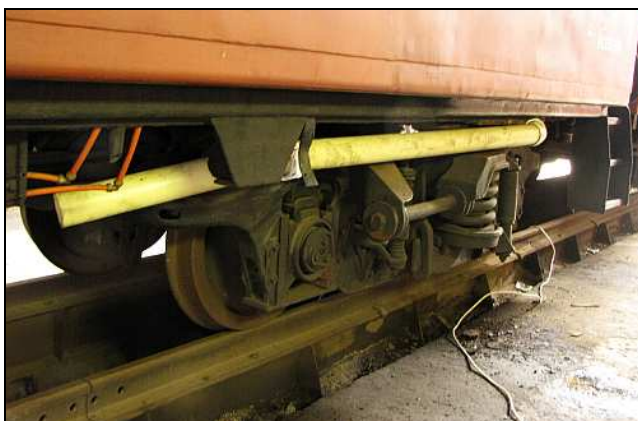
H02 – Where deceased wooden sleepers go to their eternal rest. We keep them primarily for locomotive lighting fuel. Very occasionally we might cut off an intact end as a heavy jacking block or a bolster.



H03 – A domestic water-trapped porcelain toilet being fitted to Sandstone's Sleeper as a trial unit. This is one of two pans we had spare with a close-coupled cistern. (Future fittings will have remote tanks) It has been fitted loosely for future adjustment. Note the extra marine ply mounting pad.



H45 – An amused Gordon holds the pipework while safely listening to Alan battling and grumping within the coach. Domestic piping isn't exactly compatible with the SAR and the toilet has to be mounted at an angle to allow space for less agile passengers who aren't keen on a twisted urethra.



H05 – We are planning to upgrade the sleeper train from open-ended scat pipes to cess tanks. No matter how well the current scat pipe and SAR-style leach bags are serviced, powdered lime supplements notwithstanding, the toilets inevitably smell rank after a day or two of usage at standstill – especially with the old fashioned trapdoor pans.



H06 – This is an experiment in using standard PVC pipework – note the awkward geometry to get past the frame and clear the bogie at the same time. The bracket at the far end is to be bolted to a welded extension bar – at a higher point to clear the bogie. If the experiment fails – the pipe can be removed again with no damage to the coach.

6). THE TRAIN ARRIVES HOME:

Just a few pictures of a mid-summer homebound train arrival, as a reminder that it is not all only happening in the workshop. I frequently get asked why I don't post many train and line-side pictures on Facebook and in the Depot Reports. The answer is simple. My main interest is the depot and recording the progress there, as well as the footplate work I get to do. I also often have to do 'salary' work half days on Saturdays. I'm good ☺, but even I can't be in two places at once. However, there are no rules that state that other Reefsteamers members cannot post pics of Reefsteamers trains on Facebook, or even to write about them. So get those cell phones and cameras out, and start recording the public side of Reefsteamers' activities.



H01 – The coaches are strung out on the curved goods main as we wait for the road to start the switch-back moves into our siding. We are only 1 track deep today, so it won't be so bad with only one line's worth of interlocking to cross.



H02 – The wing-light lenses are beautifully backlit by the sun. They have sliding translucent-red plates behind their clear glass lenses. These two are functional but are usually unused as only the end-coach lights need to be illuminated.



H03 – Coenie (LHS - Catering) and Jeandre (RHS - Coach Controller) share a laugh. Of the contracted young men, Jeandre is the most mechanical one and is learning stacks, including gaining experience in operating the machinery.



H04 – With the afternoon sun light bleeding out over the consist and tender, you'd be forgiven for thinking this locomotive had been running light-engine.



H05 – A sunlit commonwealth bogie, with a still intact land-power socket next to the jacking point. (Above the axle.) The drag link is angled for the track curvature too.



H06 – Trains keep you young. TSO Cliffie Matthee has just had 15 years knocked off his odometer after a good run. (Photo sneaked at +/- 35x zoom from the Commuter Yard!)

7). PICS AROUND THE DEPOT:



M01 – Nothing like a gentle, subtle bit of Reefsteamers physio-therapy for that cramped neck and shoulders! Hott-Nutts George endeavours to loosen up The Smudge during a tense moment while working on the 12AR.



M02 – The exposed regulator chest on Susan the 12AR, waiting for the hydraulic boiler test. A quick test was done before the tubes were first removed, so the regulator's valves are already ground-in and sealed with silicone.



M03 – Lubricative still life. A classic red MH oil can and a battered feeder stand against the dust-caked but still-graceful quadranted sweeps at the Hendrie-style front end. This picture was unposed. I don't know what they were doing with that loose valve handle and spindle.



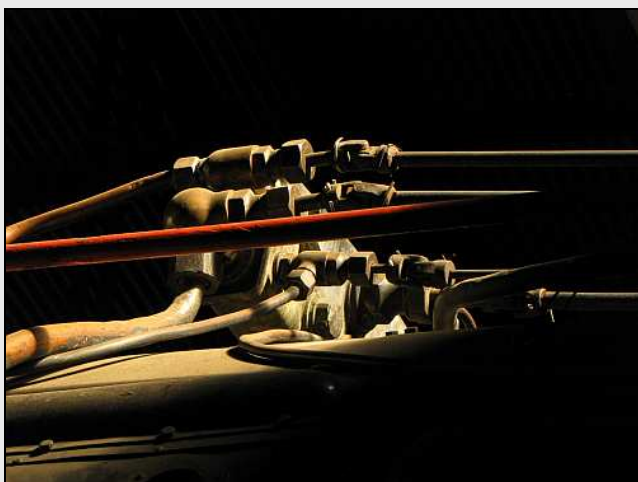
M04 – 15F No.3046 'Janine' rests cold with start-of-year smokebox cleaning in progress. (No trains booked this January.) She has exceeded her 4-month duty cycle and is well into overtime, but the old grinder has been running reliably while we await completion of the 12AR's repairs.



M05 – Neatly stowed cut-offs from the 12AR's new boiler tubes. A bit too heavy for use as wind chimes, we often keep them as rollers or for scrap steel, and the longer bits (Left) are useful as cheater pipes. However, workshop management is currently strict about discouraging the hoarding of steel scrap on a 'just in case' basis.



M06 – There has much been debate in the past to whether 12R No.1947 'Rosie' started life as a Class 12A or a 12B. The cylinder foundry marks show that she was a 'B.' (For 'Baldwin') When the loco is intact with cylinder cladding on, apart from the front bogie axle spacing being 2 inches longer, the original loco was visually identical to a 12A.



M07 – In the late afternoon light, which slowly climbs up the engines until extinction amongst the soot-blackened rafters, the 12AR's assembled and waiting turret valve gear is highlighted.



M08 – The depot regulars have been challenged to pull out weeds wherever they walk. Although this is industrial ground, the soil is friable and absorbs water easily. In peak summer rainy season, this area had been plucked-out just three weeks previously. We do have weed killer on order.



M09 – A pair of wee little rascals have been having fun running the pump-trolley through the 15M workshop. They are actually sensible lads and we weren't too worried about them, although they were warned about the gears and the movement of the handles. They were battling to get it started though – until Jeremy climbed on board and joined in the fun. (George Museum has one of these on display.)



M10 – One of our dear old boys, Tony 'Shakey' King, proudly holds a belated Coach Controller Certificate. Tony was christened 'Shakey' because of an involuntary palsy in his right arm. With the advance of the nervous condition, Tony voluntarily retired himself from active RS service for safety reasons – but he still has a lively mind, a great sense of humour and lots of railway & aviation stories to share!



M11 – A matching pair of old wing-boards. Being daylight versions of wing-lights, they were used for goods trains without guards vans. The white-on-black target board reassures the driver that the tail vehicle is still on the train.



M12 – There is only ONE Coenie and we love him! Of the three young men contracted as assistants during the week, Coenie is the 'main ou' assigned to the facilities, trackwork and the grounds – and he has worked faithfully and well.



M13 – One of several unused stores that have been stealthily appropriated by the coach gang. This one has since had the windows sealed against theft. We are collecting timbers from crates for heavy machinery, building up a collection for coach flooring and pillar work for the splinter fleet. (They use planks rather than sheeted floors.)



M14 – The Saki Salon basks in late afternoon summer sunlight. The catci were planted by Piet Steenkamp when the old depot was still bare and barren. We are discussing removing and replacing them to make the grassy areas less spiky for public days, and for our hoped-for future when the Depot is a working steam museum site.



M15 – Now, here is a rare sight! A Scotsman freely volunteers to pay for lunch! As Chairman Dennis Edgar's day job and RS work involve a lot of admin-type homework, he is rarely seen at the depot during a 'normal' work day, although he is a regular train staffer. He enjoyed his day with the gang, with no train to catch. (8 Dec. 2012)



M16 – 15F No.3046 drops her fires on the third last trip of 2012. She will need to drop her fires for a while at the end of March 2013 for her three year boiler inspection. Thus, we are in a bit of a scramble to get 12AR 'Susan's' boiler going, including refabricating the front-end draft gear and replacing the steam down-pipes to the cylinders.



M17 – Reefsteamers : Even the gravel hounds are a bit 'touched.' This one is enjoying an enthusiastic roll over the sad remains of a dead pigeon, while her littermate looks on.



M18 – An increasingly dusty 'Andrew' is still waiting for his gearbox. Won't be too long now, as the new jackshaft gear has been cut and will be going for hardening before 25 Jan.

8). FUN WITH A PUMP TROLLEY:



P01 – After a long but not very energetic day together, the devil got into these two to do something fun and different. Because the one-way ratchet was 'pointing' the wrong way, the trolley had to be wheeled out past the points first.



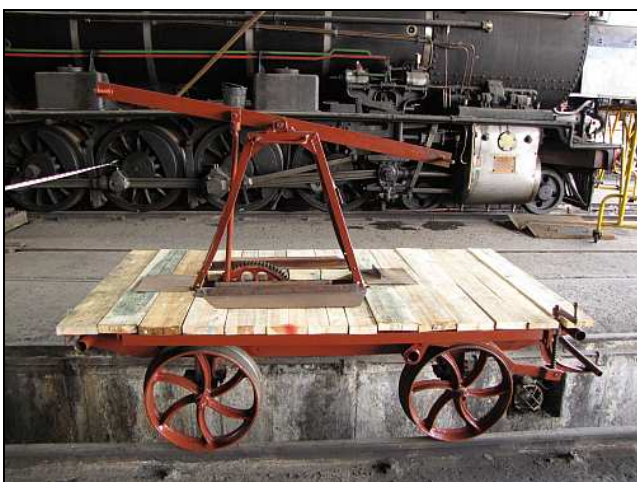
P02 – What was a bit surprising about the trolley was that in normal operation, the crank wheel only rotates through 180 degrees. So one fellow is always pulling up on his bars and one fellow is always pushing downwards.



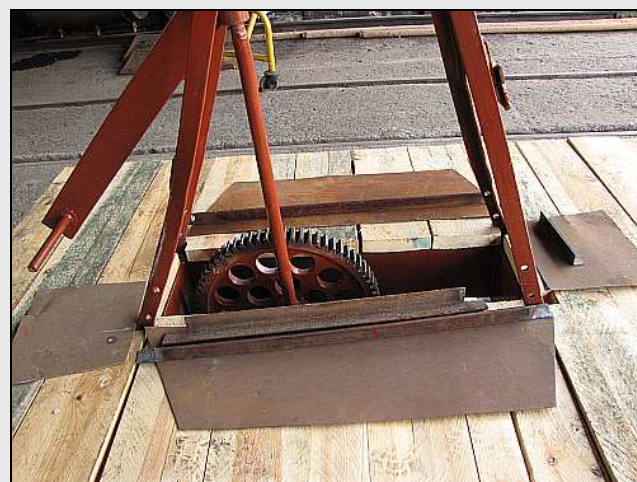
P03 – How NOT to run a volunteer preservation group. The chairman sits on his arse while the members do all the grunt work. Actually, these pump trolleys were built as inspection vehicles so the manner in which Dennis is sitting is realistic – notice that he has his hand on the rim brake.



P04 – The chaps get into the rhythm and are pumping their way uphill to the depot after turning then newly painted pump trolley around. (The drive ratchet only works one way) This was the second last Magaliesburg Express train of the year and it was waiting for the home-road.



P05 – New decking has been cut out from planks from Captain Curly's Coach store. (We have our sources.) This wood is NOT for fire lighting – Hoor jy my, Victor! The new decking isn't rigidly attached to the frame as yet.



P06 – Here's a close-up of the custom-fabricated plate work and upper frames for the closure of the gear and rod aperture. We would hate for some curious kids to get their fingers between the gear teeth or nipped in the crank.



This Depot Report was compiled by Mr. Lee D. Gates on behalf of Reefsteamers Association NPC.
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