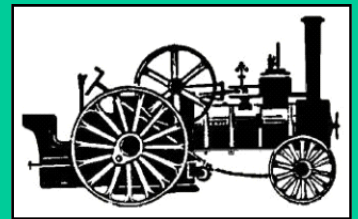


A Wisp of



Extracts from the Melbourne
Steam Traction Engine Club
Newsletter

STEAM SUPREME

Laurie Hall at the controls of the Steam Shovel on it's
first run on compressed air

It RUNS !



Vale Phil Randall



Eldorado Dredge

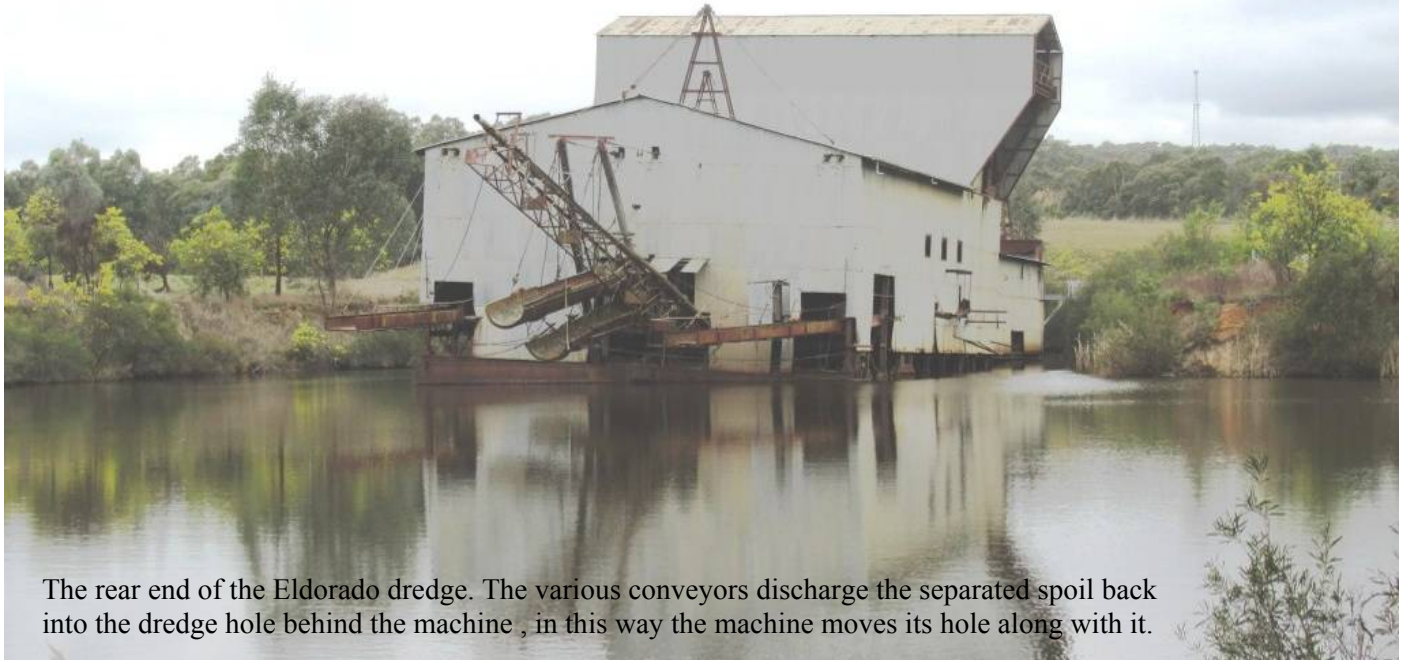


Alex Timber Museun



Melbourne Tank Museum

Thinking Big



The rear end of the Eldorado dredge. The various conveyors discharge the separated spoil back into the dredge hole behind the machine, in this way the machine moves its hole along with it.

The Eldorado gold dredge demonstrates the great engineering ability of Victoria's industrial past and is now readily accessible for visitors. Peter Lynch recently visited this iconic machine and came away impressed by its sheer scale and the logistics involved in its construction.

Gold dredges are floating machines which scoop or suck up gold bearing earth, break it down and wash the material to recover the gold. As gold is heavier than most minerals it can be separated by the correct washing technique. Financial returns depend on the amount of gold in the soil, the percentage recovered versus operating costs of the process. Obviously the more material that can be processed the better.

The Eldorado dredge was designed and constructed on a massive scale. It is roughly 100 metres long overall, 20 metres wide, 20 metres high and weighs around 2200 tons. (Approximately five times the size of MSTEC's Rapier dragline and twenty times heavier). It was built by Thompsons of Castlemaine and Williamstown, railed to site in sections and assembled in a purpose built pond during 1936. Quite an engineering and logistical achievement given the equipment of that era.

The dredge floats on a huge pontoon constructed of riveted steel plates, as typical of marine practice before arc welding became commonplace.

A massive arm carries an endless chain carrying 118 steel buckets, each of 0.3 metre capacity, which dug into the alluvial soil and lifted it up to the onboard processing plant. Around 600 tons per hour could be lifted with the dredge slowly moving forward in a pond that it has excavated.

Drivers view of the bucket chain note the cables and pulleys everywhere

The material was fed into a sluicing drum where rocks and earth were removed and then through three series of jigs operating like mechanical gold pans. Final treatment of the concentrate took place on shore with mercury being used to separate gold and tin ore.

The entire machine, including haulage winches and various water pumps, was electrically powered via a floating cable connecting to the SEC grid nearby. Contemporary reports suggest the dredge was the third biggest consumer of electricity in Victoria (after Melbourne and Geelong) and that noise from its machinery could be heard 20km away. It operated from 1936 until 1954 when falling gold prices reduced viability and has fortunately just escaped the scrap metal merchants.



Drivers control station looking out over the bucket chain . The lever rack operates brake and clutch bands to control the electrically operated winches which position the dredge and raise and lower the bucket chain . Note the pot bellied stove to warm the drivers back on a frosty Eldorado night .

With heritage recognition thanks to the Institute of Engineers Australia in 1973 the massive machine is now protected as an important local engineering achievement. It is estimated that during its working life the Eldorado Dredge recovered 2.2 tons of gold and 1300 tons of tin from 31 million cubic yards excavated. There were some efforts made to reduce its environmental impact such as settling ponds for the sludge created, revegetation of worked ground and recovery of chemicals but this large scale operation would not be tolerated today.



And Now Thinking Small

Victoria's Smallest Pub' (the McEvoy Tavern) provides essential refreshments for weary travelers. to Eldorado

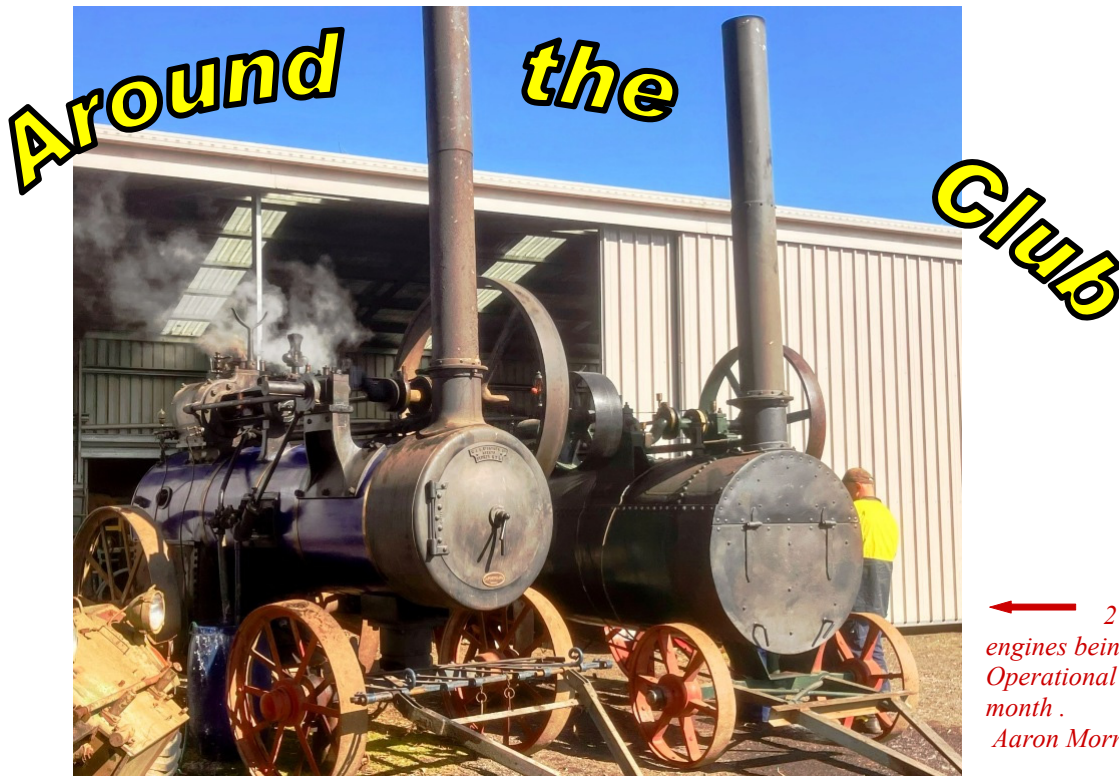
For anyone wishing to visit the Eldorado dredge the approximate address is 20 Eldorado-Byawatha Road, Eldorado, Victoria and access to the control room area is via a walkway from shore. It is around three kilometres from the Eldorado township .

Peter Lynch text and photos .



While on the subject of Gold dredges before the War 8 similar machines operated on the fabulously rich goldfields in the Wau valley about 70 miles inland from Lae on the remote north coast of Papua New Guinea. Being incredibly rough country with valley floors at 2000 feet altitude separated by 4000 foot high mountain passes, unwelcoming natives and no roads the only way in was a 9 day walk. The lure of gold required an innovative solution and thus developed the worlds aerial freight business where special prefabricated dredges with no part heavier than 3 tonne and cargo planes with a removable roof were pioneered. By 1935 over 8,000 tonnes had been flown in with a remarkable safety record. This made the remote village of Lae with its jungle strip by far the busiest freight aerodrome in the world.

← Loading a dredge boiler, using a steam crane, at Lae PNG into a Junkers G-31 Trimotor. Some of the dredges were made in Australia. All were destroyed during the war. Warwick



← 2 of the Club's portable engines being warmed up for Operational Inspections earlier this month .

Aaron Morris photo .

Steam Operational Tests

There is a MSTEC requirement that any engine steamed at a club event must have a current boiler certificate . The inspections are generally timed so we have everything in order for the rally. This year the Inspector decided to include operational tests for 6 of our engines where the safety valves, water gauge , feed pumps etc are tested under working conditions so why not do it at our SteamFest to avoid specially steaming them up . A good idea except the we had Total Fire Bans and no outside boilers could be lit so no tests with the result that we have not had much in steam lately . Anyway the chance to do 4 engines presented itself earlier this month and an early start meant we are now back in steam .

Roy Odgers cooking up some sausages for John Mills, Neil Myers, Peter Jackman and Brendon Roberts . Who had come down earlier in day . Having dinner before the Oct social meeting.

Aaron Morris photo



Annual General Meeting was held Saturday afternoon 12 April with a BBQ lunch before hand .



← This was the first opportunity a lot of members had to enjoy the refurbished Club Rooms and they were mightily impressed.

Peter and Aaron Morris

→ took the opportunity to get stuck into splitting some more firewood before the meeting so we now have a good start for the Rally.

Aaron Photo



After the AGM meeting the Willans Diesel Engine was run with it's new exhaust .

This now discharges the exhaust high up and out the East wall. . While not as spectacular it is now much quieter and enjoyable to watch in action .

Actually with a bit of tweaking of the fuel system to balance exhaust temperatures it is now running and starting very well . A great credit to all those involved in it's rescue, restoration and re erection . Phil Randall would be mighty pleased .

Len Brighton Photo

Franklyn Flyers Progress



John Scott reports Rohan Lamb was good enough to show him the new loco boiler from England being trial fitted in its locomotive frames. I am informed it will be mounted slightly higher than the old one to give improved access to the ashpan and washout plugs around the foundation ring .

With a new boiler of improved design , refurbished valve gear and rebored cylinders it will certainly be a Flyer

SS SS SS SS SS SS SS

John Belfield the Man and his Machines



John plunging into our dam in his WW 2 Buffalo amphibious landing craft during our 2012 rally . Our visitors were completely unprepared for it and did not know which way to run then stood transfixed in awe as it bobbed back up and drove across the surface of the lake .

John Belfield has long been a supporter and member of the MSTEC and would often bring along some form of military vehicle to our rallies with his son Bill . While his passion has been primarily military vehicles he has many things in common with our club in particular the desire to preserve and restore historic machinery and demonstrate it for the enjoyment of the public .

— — — — — ➔

Over the years he has saved a huge amount of rare and historically significant equipment that anyone else would balk on taking on and put in a herculean effort into establishing a world class museum before finally being beaten by bureaucracy . Now 92 years old he still cannot be stopped and is well advanced on probably the most significant of his projects the saving and restoration of Australia's first experimental WW 2 army tank .

I take this opportunity to share with readers Johns drive and achievements as many of the challenges he has faced are similar to those facing us with our historic machinery preservation and operation of a museum . He is surely an encouragement and inspiration in the face of adversity .

This first instalment will touch on his passion and interests in collecting and displaying vintage machinery and the difficulties and heart break that can be put in the way of those establishing a museum despite it being for the benefit of all.

Following instalments will delve into the technical and logistical challenges of collecting large machinery while telling of Australia manufacturing , restoration techniques and history of the Australian WW2 tank program . Warwick

MELBOURNE TANK MUSEUM



John Belfield writes—My daughter Jan and granddaughter Grace have asked me to do a brief history of my work in creating and establishing the Melbourne Tank Museum together with a rough list of the vehicles and artillery pieces that I have collected, restored and put into historic preservation for all time.

I've been lucky all my life to have a passion and enthusiasm for military vehicles and military history. I guess it started when I was six, my old mom brought me a toy tank, next thing it's World War II and I'm 11 years old and the Japanese are bombing Darwin, Broome, and Townsville. It's war, the big thrill though for this kid was when a troop of Bren gun carriers doing training runs came through Skipton, my old hometown. I got an exciting ride up the steep banks of the Emu Creek. I guess I was hooked for all time. We moved to Melbourne and the Yanks had taken over my old school and there were slit trenches along St Kilda Rd below the Shrine.

I joined the Cadets a couple of years later and by 1944 they issued me with a .303 rifle which I was allowed to take home in my new uniform. I really felt proud on the tram hanging onto my rifle and later shooting it at Puckapunyal. We were given bayonets to practise charging at sandbags full of straw attached to a post to

represent the Japanese enemy; we had to yell "charge" and run and bayonet the dummies!

1945 - so the end of World War II and Australia had amassed a huge quantity of military vehicles. Altogether we had over 2,000 tanks, 5,000 Bren gun carriers, 1,000 armoured cars and hundreds of thousands of trucks, utes and Jeeps. Nearly everything would eventually be for sale at the government disposal auctions.

Pat and I married in 1954, Jan and Bill arrived a bit later and moved to West Footscray which was handy for the fact that the biggest local disposal depot was only two miles away at Tottenham. We started with a Standard Tilly (a small ute) as a daily driver as we had started to collect Military Vehicles!

Later we started a country garage at Upper Beaconsfield and the collection started in earnest. We needed a tow truck, so a 1943 Dodge Weapons Carrier was acquired and modified for towing, still got it! Then a couple of Bren Gun carriers and an M3 Stuart, yeah

still got that too!

John's Stuart played a pivotal role at Buna in the Kakoda Trail victory that saved Australia from the Japanese invasion. Warwick pic →

There was a lot of cheap ex-military vehicles just waiting for a mad collector like me to drag home behind the mighty Dodge.

Next came another move with the hope of establishing a military museum on 20 acres in Narre Warren North. I was working on wages as a fitter welder on commercial trucks and in my spare time going to disposal auctions and chasing up new clues on what my old dad used to call that rusty old stuff.

The collecting kept getting bigger and a friend with a heavy low loader helped. Also, I had joined the CMF in 1962 and trained as a recovery mechanic with the 4th/19th Prince of Wales's Light Horse Light Aid Detachment and I later found that recovery training weekends could be handy for bringing home more of that rusty old stuff. After 26 years in the Army Reserve, I left and then concentrated on chasing a bureaucratic nightmare just to obtain a permit to start a Military Museum. After nine years of frustration, we had to move to a new location where the people in power were a bit more sympathetic to me starting a museum.

This was located on 20 acres in Narre Warren, it was an old dairy farm with an old heritage listed small farmhouse and dairy buildings.



John's Military Vehicle spanning 1952 to 2022 are 126 in total .including 33 tanks and Tracked Armoured Fighting vehicles 11 Armoured cars and Wheeled AFV's 29 Artillery pieces 20 mil to 6 inch 53 Soft skinned military vehicles , trucks etc

A few significant ones included

Tanks Centurion 2 , Grant 2, Stuart 7 , Matilda 4, Sherman Replica 3 , General Lee 5 , Australia Cruisers 4 , Churchill 3 , **Amphibious** landing craft 5 , **Wreckers** 5 , Bren Gun Carriers 2

John is proud that many Tanks and other Military vehicles he has saved have been transferred to other Museums :-

Puckapunyal Tank Museum 9
National Military Museum USA 6
Australian Armour and Artillery Museum 6
Australian War Memorial 1 Jap tank
ex Milne Bay , Papua NG

John's Sherman replica tank , based on a Grant for the tele movie The Pacific , on display with his Kaiser transporter Scoreby Steamfest 2018 Warwick pic →



We bought 2000 square metres of second hand building and dismantled it and re-erected it at Narre Warren North; later we added another 1000 square metres with second hand materials. After lots of wire brushing, welding, panel beating and over 100 gallons of paint, the museum was ready to open to the public in 1993.

Bruce Ruxton, President of the RSL opened it to a big crowd including an artillery re-enactment

crew from the 4th /19th Prince of Wales's Light Horse, thanks again boys. Thanks again to all my family and friends who helped over all those years. I had dreamt of opening the Melbourne Tank Museum. I was proud of the resulting display and Pat and I kept it open for 12 years. I had to keep working because it was not a good money maker, and so eventually we had to sell all of the contents of the museum in 2006. We had tried to find a buyer for three years so it would remain intact as an important part of Australian military history and an important part of the Anzac story, but unfortunately it had to go.

I was only 73 and it felt a bit lonely in the empty museum building, so I decided to start again. Two trips to UK in 2012 and 2013 to receive the Bert Vanderveen award for meritorious achievement in Military Vehicles. I bought a few vehicles and restored a lot more. I'd also kept three of the wreckers that I had driven in my 26 years as a recovery mechanic in the 4th/19th. It felt good to be collecting again and saving all that old rusty stuff for future generations to enjoy! These days at 92 I've slowed up a lot but still have the passion and enthusiasm; I guess I've been lucky to keep going with the same passion that I've always had. Yeh, it's been a great trip. Following is a list of military vehicles and artillery that we have saved over the years. - John Belfield

← **The Farm house . Old pic from Warwick's file**



Earlier pic of Soft Skinned vehicles around the back waiting their turn . Warwick pic ↑



Alexandra Timber Tramway and Museum HERITAGE MACHINERY FESTIVAL



2 foot gauge 1909 Fowler 0-6-0 T steam loco was busy giving short rides around the original VR station building which now also serves as a Timber Museum and Refreshment room

Alexandra Timber Tramway and Museum is located in the old station area at the end of the former VR broad gauge branch line in the foothills on the way to Eildon . The visitors , which included quite a few from MSTEC were treated to a diverse range of machinery in close proximity giving them a chance to have a close inspection and chat to the friendly exhibitors who had brought interesting exhibits quite a distance.



← A unusual 1924 American Arco engine driving a grain grinder . Owner David Hawkins all the way from Batlow NSW



↑ A great hit with everyone , even the dog was, Ted Jones and his wife's miniature Mediterranean Donkeys .
 Originating from Scilly and Sardinia they are less than 36 " below the withers (shoulder blades)
 Docile affectionate and easy to care for and being long lived they make good pets.



← Hay bailing demonstrations had many intrigued



← Two of the first batch of Kelly & Lewis Diesel locomotives, build dating from 1935/6, were demonstrated on a short length of track. In their day they were used for bringing timber out of the Rubicon valley down to the mills in Alexandra.

→ *Fitted with Dorman Diesel engines driving Wilson preselector gearboxes through a fluid flywheel they were the first of many of this type.*



A number of sheds housed static displays of timber cutting equipment, tractors and portable steam engines.

A nice touch was these small stationary engines displayed sitting on blocks beside the drag saw. →

Maybe we should give it a try we have plenty of pine logs?



← *Young Spiros V from our club does not seem to know what to make of this Steam Hurdy Gurdy. Perhaps a project for him and Greg!*

Very nice 8 Feb 1909, Blackstone 6 1/2 hp oil engine on transport



Ruston VEB 6 from Nhill power station then later Eildon Note Portable shelter! Warwick



Vale - Phil Randall Bill McRobb reports

Approximately 130 friends were at the service, it was well attended by MSTEC members and was also live streamed. There were around 25 speakers who gave surprising information on his life and generosity. On one of his many motorbike rides in Uganda he decided to donate to a local school and assist with practical training in various trades. He then followed this up by checking it was being complied with. His accountant, who attended his service, was pleased to have these donations confirmed.

On one of his overseas rides in Butan the group leader saw Phil wandering due to altitude sickness and put him in the bus despite his determination to see it through.

Warwick (without notes), gave an excellent account of his travels with Phil to UK and USA, even visiting Jay Leno's garage. After their tours finished at 3pm it was usual to stop and meet for dinner at 7pm, but NOT Phil and Warwick who continued on exploring till dark.



Phil doing a bit of weeding on the back of the Bryce family grave they discovered in Edinburgh

of more wedges and a sledge hammer and it was free. I would have liked to have had the Cleaver Brookes Boiler steaming for him, that he generously donated to the club.

Unfortunately when working with Phil he didn't mention other aspects of his life as we concentrated on what we were doing. I should have sat down with him and had a few more ice creams.

Bill McRobb

As Bill said there was a lot more to Phil than met the eye. One of his proudest achievements was to be the first person in the world to ride a motorbike on every continent. He had already done the other 6 with his conducted overseas motor bike tours. So with a visit to Antarctica on the next itinerary the group took a motorbike ashore. The plan was for a short ride each, but who to go first? Phil being the oldest in the group got the honour. What an achievement? Even more so since he did not take on motor bikes till his early 50's.

No one can ever beat that! Warwick

A purple memorial service poster for Phil Randall. At the top, it says "Celebrating the Life of" in large white letters. Below this is a circular portrait of Phil, an elderly man with white hair, wearing a light blue shirt. Under the portrait, his name "Phil Randall" is printed in bold white letters, followed by his dates "30/09/1939-29/07/2024". The bottom section of the poster contains the following text in white: "Please join Liz Alex and Ben at a Memorial Service to be held at 2pm Monday 30th September Le Pine Funerals 132 Mount Dandenong Rd, Croydon. Followed by afternoon tea."

A member of my caravan club Dennis Dorman, who is having chemotherapy at the moment, sent an apology and streamed the service. As he had ridden with Phil, he thought he knew him, and like the rest of us were surprised of his involvement in so many places including with the Lions Club.

Phil and I were both Marine Engineers, so got along very well. He was a great help on the Lyttelton Triple Expansions and auxiliaries. He machined a new ebonite piston ring on the General Service pump and showed me how to clean up the imploded liner using chipboard and emery paper. The day we were trying to free up the seized Weir boiler feed pump, it was getting really late, he was bushed and refused to give up. A couple

Phil and Hayden using a magnetic drill to enlarge a mounting hole on the large Willans Diesel at the Steam Club. He could turn his hand to anything!



Oils for Old Engines Member Tony Schapendonk has been busy finishing off the restoration of a nice looking New Record 2 C-1 engine .
It looks like it would have been made by Rosebery in the 1950's for New Record , possibly for one of their dragsaws . →

The original label calls for Mobiloil A so he wonders what he should use.

Oil of the day would have been straight SAE 30 viscosity mineral oil without much in the way of additives . The cheapest supermarket oil today is far better than what was available when the engine was new so that is your answer but try to match the viscosity as some modern oils are very thin to keep friction low for better fuel economy .

Modern oils have additional additives to counteract corrosion , keep sludge in suspension, avoid scuffing in the event of metal to metal contact , coupled with a stabler viscosity over a wider temp range , as todays engines work much harder.

These oils also have 2 viscosity ratings ie 15W – 20 The **W** figure is the viscosity with the oil **cold** as in **Winter** and the second SAE figure is at normal operating temperature . The second number is the one you want to match.

The only thing to watch with modern oil in an old unrestored engine is their detergent action can loosen sludge and carbon which can block up oil passages but it should not be a problem if the sump and drillings are cleaned out during restoration . Warwick



SS SS SS SS SS SS SS

Steam Shovel Report October

On an exciting note we ran the Steam Shovel winch on compressed air multiple times yesterday, probably for total of over ¾ hour .

With the valves in full gear and ½ throttle as Peter turned on the air at the compressor the engine just moved off steadily before we even knew it and continued at a very steady rpm . In reverse it was slightly hesitant but that was fixed with tightening a valve rod packing and closing a drain cock .

Air was supplied by Peter's Chamberlain Tractor / compressor which was able to maintain 65 psi which was enough to run the steam engine at a moderate speed continuously.

A great credit to all involved especially Laurie Hall , John Meade , Peter Morris encouraged along by Warwick .

We cannot wait for the opportunity to hook it up to a portables boiler . Warwick



SS SS SS SS SS SS SS

Darryl has been at it again with his famous marked up cartoons featuring club identities in order to catch our attention for our December 4 th Club BBQ .

It has been suggested if you look close enough you should find likenesses to all our members including dogs and rabbits !

