

Is this YOUR Boiler?

FCAF, in Ushuaia, Tierra del Fuego, Argentina, uses ***Porta Treatment*** in their locomotive boilers. A private visit to FCAF in October 2004 enabled viewing of the inside of FCAF No.2's boiler which has been operated with ***Porta Treatment*** from new in late 2001. The results were as impressive as should be expected. The conditions shown below can be seen as the norm for a locomotive operating on ***Porta Treatment***.

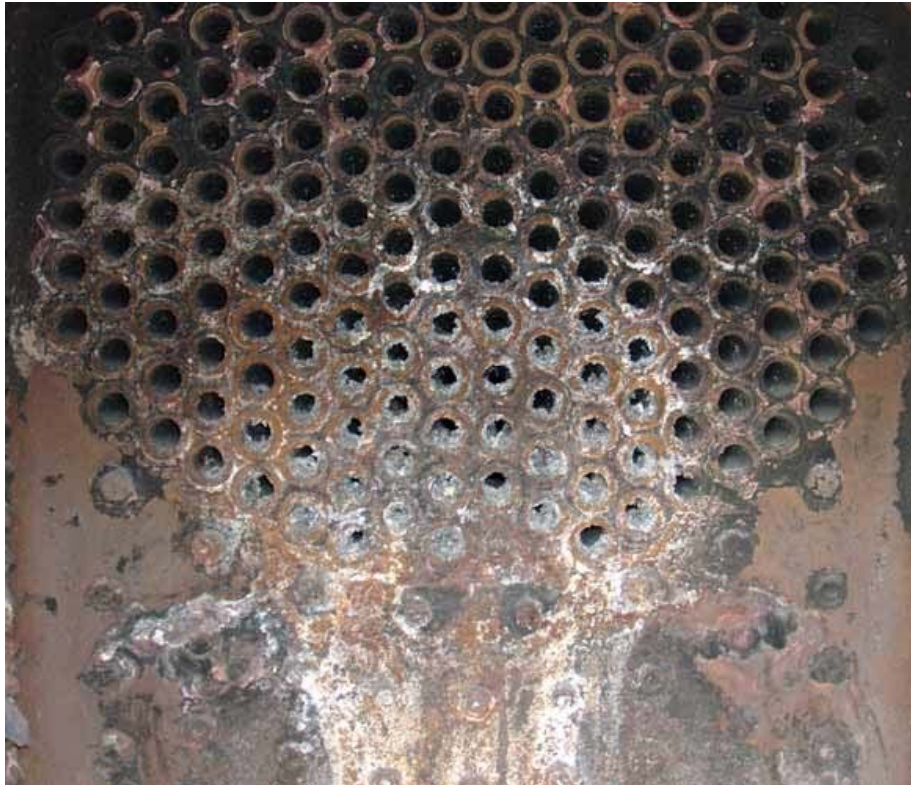
If the internals of your boiler do not look like this and you can not obtain at least 180 days in steam between washouts, then your current water treatment regime is inadequate:



With the dome removed the superb corrosion, scale and mud free internal boiler surfaces of FCAF No.2's boiler can clearly be seen. The grey appearance of the surfaces shows the treatment is providing full protection from corrosion. This boiler had been in almost constant use for three years at the time of the photograph. It is washed out approximately every six months. October 11 2004

The following series of photographs are presented as an illustration of the typical problems associated with boilers and to show what problems can be totally prevented by an application of ***Porta Treatment***. Sadly the condition of the boilers and other components is all too common, which is totally unnecessary in the modern age.

These photographs have been collected during the last few years whilst examining boilers. The sources are not quoted to prevent embarrassment.



Failed tubes showing signs of both corrosion failure and overheating due to fouling. All very preventable.



A crust of scale exists on the water side surfaces of this boiler. If that was not bad enough, as is to be expected, under the scale is some less than healthy corrosion.



Even a light covering of scale, as seen on these tubes, is enough to mask serious corrosion of the metal underneath - masked that is until it is too late.



*And same again... This time a layer of scale on the inside of a boiler barrel is hiding serious corrosion which will soon lead to the barrel becoming life expired. However all is not lost. A thorough application of **Porta Treatment** would save this boiler.*



This boiler was mid-way through its boiler ticket and is not uncommon in exhibiting plenty of corrosion and serious tube pitting. It is unlikely that the tubes will last a full ten years, let alone the 20+ years possible.



Another tube which has failed prematurely. Serious pitting has failed a tube which ought to have giving much greater service. Of course the scale present is totally preventable too!



Corroded and scaled girder stays in a boiler which has seen better days!



A frightening photo - this boiler was in daily use in this condition. The scale is so bad the water space from the foundation ring up is blocked solid. Not surprisingly the inner firebox shows signs of rippling - this boiler has, thankfully, been condemned! But it need not have ever been in this condition.....



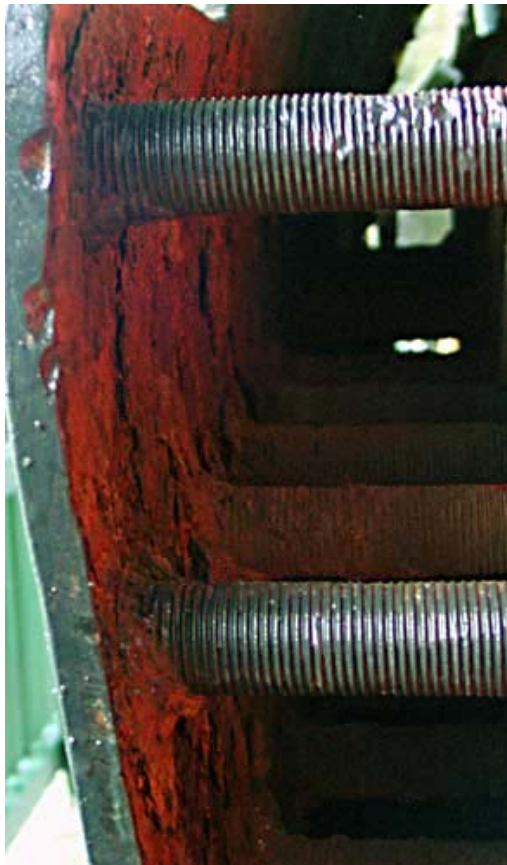
The amount of scale present in this Swindon built boiler is obvious to see. What is underneath it? The loose scale at the bottom of the barrel is reminiscent of the scale removed during "sifting" operations undertaken in very bad water districts. Sifting involved removing lower level tubes the scaling was so severe.



In the same boiler as above scale is present very high up after which is mainly corrosion.



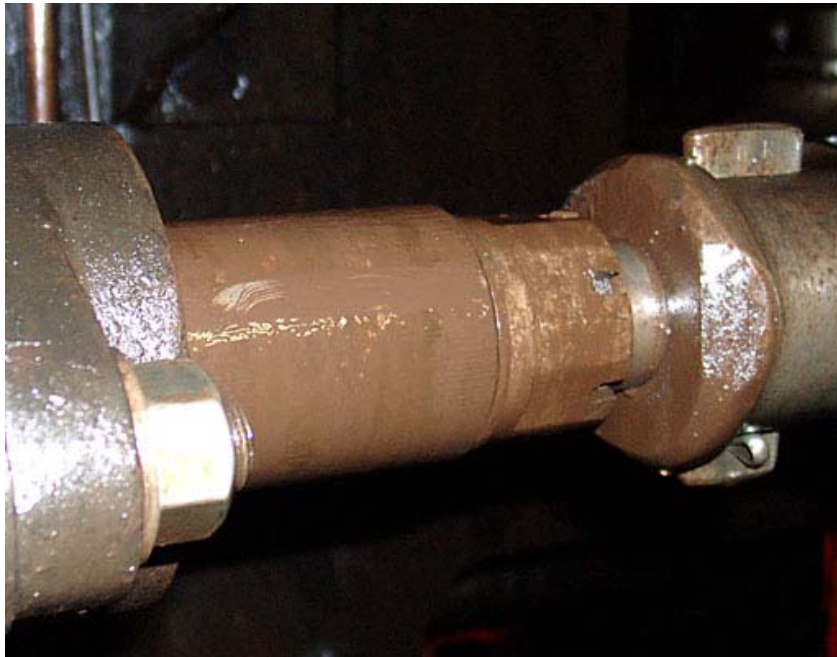
Oh dear! Another boiler in trouble..... This corroded and scaled all steel boiler has a failed dry pipe. This pipe failed due to the effects of corrosion.



This sectioned boiler shows clearly why it was condemned. Operating in an area of water containing an amount of natural tannin has not stopped serious corrosion with some pitting reducing wall thickness by almost 50%.



Interesting to see but basically unnecessary. This British boiler is receiving some MAJOR surgery. Even from a distance the scale and corrosion, which is likely to be the main cause of the heavy repairs, is clear.



*A seriously misunderstood phenomena. This is tannin contamination of lubricating oil. Less visible are salts and other suspended solids which have been carried over from the boiler all the way to the cylinders. With **Porta Treatment** the lubricants will not become contaminated.*



*Sticky mud and solid scale which could only be removed from the boiler in question with a pressurised source of water. This stuff is nothing like the fully mobile sludge created with **Porta Treatment**.*



*Scale and corrosion in a water tank - yet again this will be treated, then prevented by **Porta Treatment**.*



Little scale but serious corrosion problems. How long will it be until this tanks rusts through?