



23<sup>rd</sup> April 2015

Kimberly Clark of South Africa (Pty) Ltd  
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Bedford Gardens  
Bedfordview 2007  
Gauteng / Transvaal.  
South Africa.

Independent Survey.

## RE: USAGE OF CHINCO COAL CATALYST SINCE 2006.

During a routine visit to our longstanding client **Kimberly Clark** in Johannesburg we spoke to the Utilities Foreman/ Superintendent and were given the following information by Mr Dawie Pretorius. *If required he may be contacted at +27 11 360 7000 to verify and confirm the information below.*

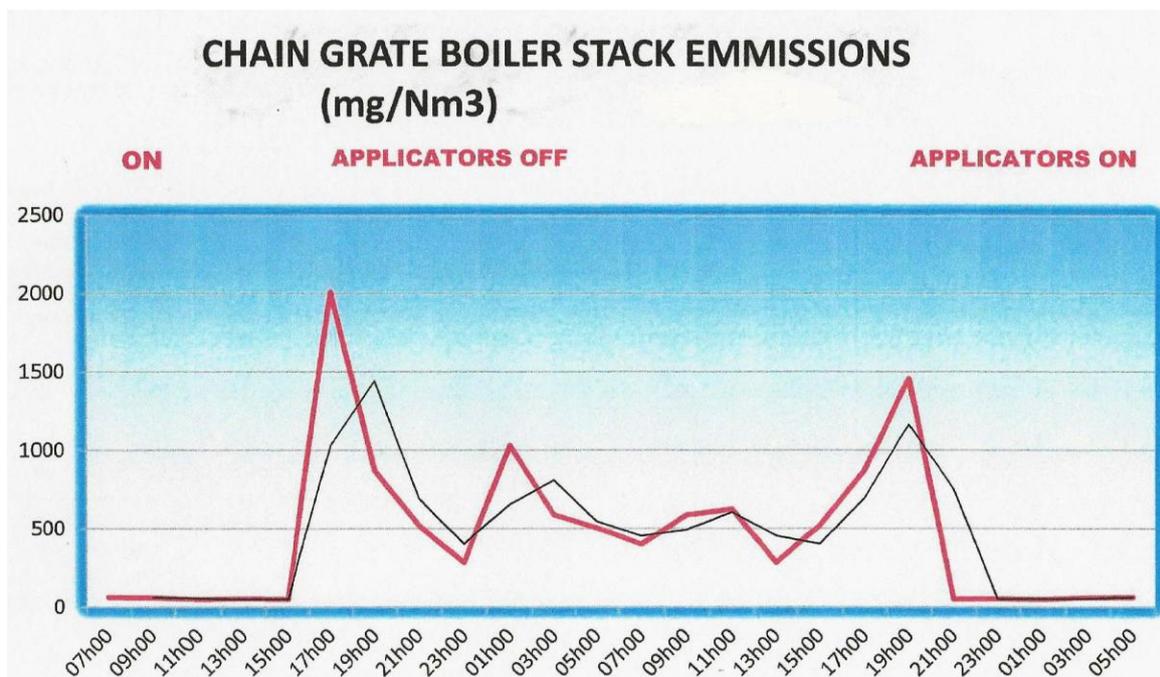
### **(A) BOILER:**

- 1) The coal catalyst has helped the Company save costs **since 2006** when the product was first introduced, but no actual record has been kept of how much, if any, and if indeed if it was beneficial to use Chinco. So, over the past twelve months special notes were taken to ascertain the actual facts and figures of the usage of Chinco and before continuing blindly using the catalyst without need.
- 2) **The Boilers have been on line, non-stop, for the past twelve months without indications of loss of efficiency, choking, or signs of blockages requiring shut down and cleaning.**
- 3) On routine inspections the economizer was clean throughout the 12 months.
- 4) During regular inspections the super heater tubes were clean and free of the normal wet build-up between tubes that would cause blockages and choking.
- 5) When shutdown and inspection eventually took place **after 12 months**, furnace tubes inside the boiler had very little, and soft, build-up that only required **high pressure washing** down without mechanical scraping to clean.
- 6) Rear tubes were also found to have **minimal soft, friable build-up.**
- 7) The turn-around time to clean the entire boiler and restart was very quick and required a **much shorter down period than usual.**
- 8) It is estimated that due to the fact that the boilers/plant had not required shut downs and cleaning for an entire year, the savings to the Company [*budget allowed for these expected shuts*] was in the region of **ZAR2.2 million.!!**



## **(B) STACK EMISSION:**

- a) During the year the Chinco applicator feeder machines *were turned off without prior warning* at 3 pm one afternoon and restarted at midnight that same evening [for 9 hours]. This was done as a random test to ascertain whether there is in fact an ongoing reduction of the Stack emissions. As can be seen on the graph below, the stack emissions were extremely low whilst the catalyst was being fed into the boiler and immediately shot up to about 1500 ppm and 2000 ppm and average at about 700 ppm until the applicators were turned on again, and dropping back to below 100 ppm.



## **(C) FULL EMISSION SURVEY**

- 1) A **full** emission Survey was commissioned by Kimberly Clark to confirm once and for all the possible reduction of SO<sub>x</sub> and NO<sub>x</sub> and particulate emissions by using the Chinco Catalyst. *It must be stressed that Chinco and its employees took no part in the survey, and it was paid for by Kimberly Clark.*
- 2) The details of the survey are attached for reference and it shows a significant reduction in SO<sub>x</sub>, NO<sub>x</sub> and Particulates. [See tests 1, 2 and 3].
- 3) The entire exercise was thus proof without any doubt whatsoever that Chinco Coal Catalyst not only saved major input costs but also reduced all emissions considerably!

— TP Roberts CEO.