

SEASON'S GREETINGS



Neil Robinson, managing director

As year-end approaches, we review 2013... a year in which WearCheck made notable in-roads into the African continent, with the launch of our first West African laboratory in Ghana, and our first laboratory in East Africa in Tete Province, Mozambique. Our employees have attended numerous conferences and expos, both in South Africa and abroad, in a bid to learn about the latest trends in every aspect of preventive condition monitoring, and to bring the knowledge back to continuously improve our service. We are able to facilitate this thanks to the ongoing support of our customers, for which we are grateful.

Labs open over Christmas

Please note that WearCheck is dedicated to being available all year, and we will therefore remain open throughout the festive season to process samples.

On behalf of the whole team at WearCheck, best wishes for 2014, and may you have a safe and happy festive season.

WearCheck – a new gem in East Africa

WearCheck recently extended its footprint. From its already well-established presence in Southern Africa, the company opened a facility in West Africa earlier in the year in Ghana, and last month moved into East Africa, with a laboratory in Tete province, Mozambique. The Mozambican operation will service the region's burgeoning precious stone and coal mining industries.

The Mozambique laboratory offers a range of condition monitoring services, including oil analysis, coolant testing and 24 hour sample turnaround time.

Managing director Neil Robinson explains, 'The concept of analysing oil samples from a machine or component is similar to that of taking a blood sample from a person – the results determine the health status of the unit. WearCheck's highly-skilled diagnostic team then analyses the results and recommends how to rectify any abnormal findings.'

The Tete laboratory – WearCheck's tenth – joins an expansive network that is strategically positioned to support large industry clusters such as earthmoving, industrial, transport, shipping, aircraft and electrical operations.

The nine other WearCheck laboratories operate in Gauteng, KwaZulu-Natal, Mpumalanga Province, and internationally in India, Dubai, Ghana and Zambia – at Lumwana mine and Kitwe – with a presence in



WearCheck recently opened a new laboratory in Tete, Mozambique – their first in East Africa. Equipped with the latest high-tech instruments, the lab offers fast sample turnaround time and highly accurate oil analysis results



Laboratory manager Gabriel Perengue runs WearCheck Mozambique

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LONG SERVICE

DEDICATED STAFF MEMBERS COMMENDED

Long-serving employees who commit themselves to working at WearCheck for many years are a great asset to the company, because of their familiarity with the systems and processes, they have invaluable experience, and they know the customers very well, helping to make WearCheck a successful company.

So said HR manager Michelle Padayachee in honour of long-serving WearCheck staff, namely, those who have reached major milestones recently: Sizwe Ndlovu (35 years), Wellington Ndlovu (30 years), Prinda Narasi (25 years) and Huganthrie (Sheila) Naidoo (25 years).



Sizwe Ndlovu has worked at WearCheck for 35 years



Wellington Ndlovu has worked at WearCheck for 30 years



Prinda Narasi has worked at WearCheck for 25 years



Huganthrie (Sheila) Naidoo has worked at WearCheck for 25 years

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Cape Town, Rustenburg, Steelpoort, Port Elizabeth, Kuruman, Zimbabwe and Namibia.

Playing a key role in proactive maintenance through the scientific analysis of used oil from mechanical and electrical systems, WearCheck has become the condition monitoring service provider of choice for large multi-national businesses as well as local operators.

The instruments in WearCheck Mozambique's laboratory comply with WearCheck's strict adherence to international standards, and represent a significant investment in technology for the company.

Laboratory manager Gabriel Perengue runs WearCheck Mozambique, with laboratory technician Kenneth Kwacha assisting in the processing of samples.

WearCheck is in the process of translating customer training material into Portuguese, to assist local customers in Mozambique.

WearCheck Mozambique is currently located at Estrada No. 7, Bairro Chingodzi, Tete, and will move into custom-built premises during 2014. They can be reached on telephone +258 846-977006, email support@wearcheck.co.mz, or visit www.wearcheck.co.za

Honeywell happy with WearCheck

WearCheck has three certified aircraft diagnosticians – Ravi Chetty, Steven Lumley and Daan Burger – based in the Pinetown laboratory.

One of their biggest aircraft customers is Garrett aircraft engines, which are manufactured by Honeywell in the USA. Periodically, Honeywell sends out a representative to ensure that WearCheck is meeting the Honeywell criteria for analysis on Garrett engines.

Recently, Robin Humes, an engineer for Honeywell's Spectrographic Oil Analysis Program (SOAP) Laboratory visited WearCheck Pinetown, and was pleased to confirm that WearCheck is, indeed, still meeting all the criteria.



Robin Humes of Honeywell in the U.S (second from left) recently popped in to WearCheck's Pinetown laboratory to touch base with certified aircraft diagnosticians (from left) Daan Burger, Steven Lumley and Ravi Chetty

TECHNICAL TIP: CHANGING DEGRADED OIL EFFECTIVELY BY JOHN EVANS



John Evans, diagnostic manager for WearCheck

When lubricants in industrial, stationary gearboxes degrade, they obviously need to be changed. The degradation may be due to the oil simply having been in use for a very long time and having reached the end of its useful life. Alternatively, there may be adverse operating conditions such as high temperatures or loads, or the gearbox may be operating in a hostile environment.

The oil, in all likelihood, will be badly oxidised, have a high Total Acid Number and viscosity, low active additive package and

contain dirt, moisture, wear metals and oil residues; a highly unsavoury mixture that can quite aggressively cause further damage to the gearbox and fresh oil.

Oil analysis may recommend an oil change based on the level of degradation, and a fresh change of oil will be placed in the gearbox. What happens next is fairly common - the previous change of oil may have lasted for many years but, lo and behold, the new oil is degraded within a few months and this continues to happen again and again. What is happening here?

When an oil change place takes place, often up to 15% of the old oil remains behind, and if that old oil was severely degraded then it will leave behind a host of very reactive (pro-oxidants) and aggressive chemical compounds which will actively attack the new change of oil and degrade it very quickly. The presence of moisture and wear metals can also have a catalytic effect on this process.

It is vitally important that when an oil has been severely degraded (particularly if it has been oxidised) and is then changed, that the gearbox be flushed out thoroughly; if it is not, then these oil residues will continue to attack each new change of oil.

There are a number of flushing methods, the more thorough the better:

Chemical cleaning in which chemicals such as acids and alkalies can be used to dissolve unwanted contaminants to remove them from the system.

Solvent cleaning uses organic compounds such as kerosene to dissolve organic contaminants so that they can be flushed from the gearbox.

Hose flushing in which oil is discharged into the gearbox (from a filtration or kidney unit) at high pressure to dislodge oil residues and debris. The pump is then reversed and the hose is used to suck the waste out of the gearbox.

Power flushing – similar to hose flushing, power flushing involves lowering the sump level and circulating oil at high pressure through the system to dislodge unwanted entities, the oil is then circulated through an external filter to remove the contaminants.

Simple recirculation flushing where clean oil is circulated repeatedly through the gearbox then removed along with all the unwanted debris.

Whatever flushing method is used, it is important to ensure that no unwanted residues are left in the gearbox that can cause damage to the fresh oil.

WearCheck triumphs at SetPoint Mentee/Mentor awards

WearCheck made a clean sweep of the prizes at the 2013 Mentee/Mentor awards – an annual internal mentorship programme run by holding company SetPoint.

- **John Evans** won the Mentor of the year award
- **John Evans** and **Chamaine Pillai** won best partnership of the year award
- **Isaac Mabaso** won the most improved mentee award
- **Michelle Padayachee** for her work in facilitation won the special mention award

Neil Robinson, WearCheck MD, is extremely proud of his team. 'Well done to all those that took part, I hope you enjoyed your journey and that what you have learnt will be valuable to you in both your career and personal lives.

'The only prize we didn't win was mentee of the year award which was won by Tanya Van Jaarsveld of Pneumax, well done to her, but also, who just happened to be mentored by ... our own Phillip Croucamp.'

Congratulations everyone!

Lube tip:

Early automotive engines didn't use any kind of filtration for the oil. It wasn't until a patent was granted to Ernest Sweetland and George Greenhalgh in 1923 for their product the "pure oil later" or "Purolator," that you could buy an automobile with a full pressure lubrication system.

It would be many years later before a full flow oil filter found on today's automobiles was incorporated.

The 1940s would bring about filtration systems on mass produced vehicles, and the 1960s made oil filter changes much more convenient with the advent of "spin on" disposable filters.

Through the next few decades, advances were made in the internal construction and filter media, making the filters much more efficient.

Today, all automotive engines, whether gasoline or diesel, come with filtration designed to improve oil cleanliness and thus extend the life of that engine.

PRODUCT PICK: PLANT PERFORMANCE MANAGEMENT BY PHILIP SCHUTTE



WearCheck's Reliability Solutions manager Philip Schutte is focusing on optimising plant performance management with the creation of a comprehensive suite of tests to monitor potential problems

WearCheck's reliability solutions division appreciates how crucial it is for a plant to operate at peak performance in order to achieve maximum efficiency and, ultimately, boost the bottom line.

The management of plant performance can be optimised using a range of WearCheck's techniques, such as the monitoring and control of the efficiency of combustion, heat transfer, and milling.

WearCheck also offers several other solutions to keeping plant performance at its peak, including:

- The Station Thermal Efficiency Program (STEP), Coal Accounting and Plant Performance Monitoring Services.
- Plant Performance Monitoring of Boiler, Turbine and Auxiliary Plant.
- Routine testing and verification of raw data from plant used in the STEP system or similar programs to produce thermal performance results.
- Investigations and report with recommendations on the plant failures or

incidents.

- Advice on the plant performance tests, including the load lines, clean air curves, plant inspections, air flow test, air heater leakage tests, O₂ verification tests, temperature traverse tests, gas velocity tests, condenser tests, dew point test, pulverized fuel sampling tests, generator H₂ leak test, HP & LP heater performance tests and any other performance and testing tests required for the plant optimisation.
- Assistance with the following during outages: air heater shoe gaps and seals settings, pulverized fuel burner settings, mills settings, draught plant settings, zeroing of coal conveyor mass meters and any other settings that may be required during the plant outages.
- Weekly plant walk-downs and liaison with the operating department for any deviations that are visible on the plant for corrective action to be taken. The activities are performed on the whole station, including turbine, boiler, mills and outside plant.

MAKING HEADWAY New national sales manager for WearCheck

Phillip Croucamp was recently promoted to national sales manager, after he joined the company last year as sales and technical support consultant in Gauteng.

Phillip brings with him many years of experience in the industrial sector, including a seven year stint in Dubai in the hydraulic engineering industry. While in Dubai, he was instrumental in making the initial contact with WearCheck in South Africa, which ultimately led to the establishment of WearCheck's branch in Dubai in partnership with a local company.

Phillip's vast technical experience enables him to add value on the technical side, particularly in helping customers sort out breakdowns. With a career in sales and many marketing courses under his belt, Croucamp is well-qualified to manage WearCheck's product sales, and sign up new customers.



Phillip Croucamp



MANAGEMENT REVIEW 2013 Managers meet to assess progress

Each year, the managers of each of WearCheck's divisions in Africa get together to present, to the management committee, the performance of their teams and the progress of the current projects on which they are working.

This year, the meeting was held at WearCheck Pinetown, and was attended by personnel from Cape Town, Johannesburg, Durban, Middelburg and Zambia.

Management Review 2013. Front row (l – r): Marvin Narainsamy, John Evans, Melanie Hynd, Reshma Soojan, Lorain de Bruin, Michelle Padayachee, Ashley Mayer, Cabangani Ndlovu, Meshach Govender

Back row (l – r): Eddy Perumal, Neil Robinson, Deepak Deepnarain, Philip Schutte, Werner Buys. Absent from pic: Scott Sowman, Philip Croucamp, Loshini Govender

Several WearCheck staff members have been travelling the world to attend conferences, learning about the latest developments in the condition monitoring and oil analysis fields and bringing back the information to implement new, effective techniques back home and share the benefits of the new knowledge with our customers.

Senior diagnostician Steven Lara-Lee Lumley recently attended the Mena Mining Expo in Dubai. While there, she visited local clients and ran some training courses for Middle East customers.



Senior diagnostician Steven Lara-Lee Lumley hosted WearCheck's stand at the Mena Mining Expo in Dubai recently



Customers in Dubai recently attended advanced oil analysis training courses run by senior diagnostician Steven Lumley while she was visiting the country. She is pictured here (centre) with course delegates

WearCheck hosted a stand at the popular 2013 BAUMA expo as well as at the busy 2013 Minex conference, both of which were held recently in Johannesburg

Keith Finlayson (business development) and Michelle van Dyk (training) attended the Coal Mozambique conference in Maputo recently.

National sales manager Phillip Croucamp and Daniel Boakye, who is the customer sales and support officer for WearCheck Ghana, attended the WaCA (West and Central Africa) Mining Summit earlier this year, which took place in Accra, Ghana.



Daniel Boakye, laboratory manager for WearCheck Ghana, was on hand to meet customers at the recent WaCA Mining Summit in Ghana



OUT AND ABOUT



WearCheck managing director Neil Robinson (right) and reliability solutions manager Philip Schutte attended the Africa Down Under mining conference in Perth, Western Australia



WearCheck Speciality Laboratory Manager Ashley Mayer travelled to India last month to take part in the Excon expo – South Asia's biggest construction equipment event. He is pictured here with Nissar Ahamed (left) and Hussain Mahomed of WearCheck India.

WearCheck's on the ball

A team of fleet-footed footballers from WearCheck entered the first maritime industry friendly soccer tournament in the Western Cape recently, where hundreds of players from a range of marine-based businesses exchanged their workplaces for a football pitch for the day.

During a fun-filled, spirited day, the WearCheck Warriors team won all three group games, but, as scores were tied nil-all at full time in the knock-out rounds, penalty shoot-outs cost them a chance at the finals.

Making up the team were staff from WearCheck's Cape Town office, along with friends and colleagues from suppliers, including Meter

Systems, Calberg Lubrication and Calberg Hydraulics.

Team captain Werner Buys, WearCheck Cape Town's branch co-ordinator, was delighted with the day. 'We won 2:1 against Viking Life Saving Equipment, next we beat Dormac 1:0, and lastly, our 2:0 score against SAMSA (South African Maritime Safety Authority) was a sweet victory. Unfortunately, in the knock-out round against Maritime Review we lost 1-0 in the penalty shoot-out.

'WearCheck was one of the sponsors of the successful day, which also saw R22 000 raised by the Maritime Industry Soccer Tournament towards a bursary for a marine engineering student.'



Players in the successful WearCheck Warriors football team were: back row (left to right): Charlton Fortuin, Rendall van Ryhn, Hoosain Sydow, Bertram Snell, and Bradley Roodie. Front row (left to right): Ndiphe Gqolodashe, Werner Buys (team captain), Dominic Chyanan, Ashley Davids, and Kenneth Mubeti

AND THE WINNER IS . . .

To all the WearCheck customers who took the time to complete our recent survey ... thank you! Through constructive dialogue, we aim to continuously improve and streamline the service which we deliver to you, our customers, making everyone into winners.

Each year, as a mark of WearCheck's gratitude to customers for taking the time to give feedback, one of the respondents is randomly selected to win a prize. This year, Guy Lombard from NPC Cimpor Port Shepstone was awarded an iPad mini in the lucky draw.

On receiving his iPad, a delighted Guy (pictured, right) commented that it was the first time he had won anything! Presenting the award is WearCheck's Peter Carty.

We appreciate these positive words from some of the survey respondents:

"Very satisfied, brilliant advice."

"Great service that adds a lot of value to my ability to deliver reliable machines."

"WearCheck has improved our machine availability."

"Keep up the exceptional standard of work."

"There is no going back from WearCheck . . ."

"Very impressed, satisfied because it is professional."



Customer survey 2013 lucky draw winner Guy Lombard of NPC Cimpor Port Shepstone (right) receives an Apple Ipad from WearCheck's Peter Carty

Quality and the Environment matter at WearCheck

This November, WearCheck launched an internal quality awareness programme.

Quality administrator Melanie Hynd explains how the project evolved: 'In order to maintain our QEMS (Quality and Environmental Management System) accreditations, we must demonstrate continuous improvement in WearCheck and our systems, whether they are quality, environmental, health and safety, operational or financial.

'Therefore, we are looking for proposals that demonstrate an improvement on what we are currently doing and that can be sustained going forward. This year, we decided to open the floor to all our employees, to come up with suggestions on how

to improve the way things are done. We are guided by the wise words of His Highness Sheikh Mohammed Bin Rashid Al Maktoum, "In the race for excellence there is no finish line."

'The management team will consider all suggestions, and will give a financial reward to anyone whose idea is implemented. Remember – it must be sustainable.'



Quality administrator Melanie Hynd is on standby to receive suggestions from staff on how to make continuous improvements to WearCheck's systems, as part of the company's commitment to top quality service

Internal Auditor Awards 2013

This year, Samesh Pillay won the Internal Auditor of the Year Award for Pinetown, while Deon Yettian was awarded the Gauteng Internal Auditor of the Year Award.



Samesh Pillay, remote laboratories technician based at WearCheck Pinetown, receives his Internal Auditor Award from managing director Neil Robinson



Deon Yettian, stock controller at WearCheck Johannesburg, was presented with his Internal Auditor Award by MD Neil Robinson



Apparition monitoring . . . Staff in WearCheck's Johannesburg office decided to have some fun for Halloween this year!

2014 TRAINING COURSES

VENUE	NetCheck Software package	Oil Analysis 1 Understanding oil and its analysis	Oil Analysis 2 Report interpretation	Oil Analysis 3 Management
Course length	One full day	Two full days	One full day	Half day
Gauteng	Available on request	18 – 19 February	20 February	21 February
Middelburg	Available on request	11 – 12 March	13 March	14 March
Cape Town	Available on request	13 – 14 May	15 May	16 May
Rustenburg	Available on request	17 – 18 June	19 June	20 June
Bloemfontein	Available on request	22 – 23 July	24 July	25 July
Polokwane	Available on request	12 – 13 August	14 August	15 August
KwaZulu-Natal	18 August	19 – 20 August	21 August	22 August
Namibia	Available on request	16 – 17 September	18 September	19 September
Gauteng	Available on request	21 – 22 October	23 October	24 October
Northern Cape	Available on request	18 – 19 November	20 November	21 November

COSTS

Oil Analysis One covers two full days and costs R4 750. Oil Analysis Two and the NetCheck course cover one full day each and each costs R2 375. Oil Analysis Three is a half-day course and costs R999. All courses include course material, refreshments, giveaways and certificates. Prices exclude VAT and are subject to change.

BOOKINGS

For more details on course content, view Training at www.wearcheck.co.za. For bookings phone Michelle van Dyk on (011) 392-6322 or email training@wearcheck.co.za.

ON-SITE TRAINING

All courses can also be presented at the customer's premises for a minimum of seven delegates.

WearCheck also offers two more on-site courses:

- WearCheck Practical (in English or Zulu), a half day course costing R572.00 plus VAT per delegate
- WearCheck Customised – oil analysis for workshop technicians, a full day course costing R1389.00 plus VAT per delegate.

For on-site training, there may be an additional charge for the lecturer's travel and accommodation, if needed.

ARRANGE A TRAINING COURSE NEAR YOU

Training courses can also be arranged in any of the following areas:

Bloemfontein	Rustenburg
Cape Town	Steelpoort
Kimberley	Botswana
Makopane	Namibia
Middelburg	Tanzania (Mwanza)
Nelspruit	Zambia (Kitwe)
Port Elizabeth	

HIGHLIGHT YOUR SUCCESS

If oil analysis has helped prevent a major failure or saved your company money, we would like to feature this in Monitor. Our writer will contact you for the details and will write the article for your approval. Simply email melanie@wearcheck.co.za and we will contact you.

TECHNICAL BULLETIN TOPICS?

Is there a particular subject you would like to see featured in a Technical Bulletin? Simply email your suggestion to melanie@wearcheck.co.za. Before you do this, why not check out the 56 titles already available on the website: www.wearcheck.co.za

JOINING TOGETHER TO SUPPORT THE PLANET ♻️

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