

# THE WORLD CUP OF WEARCHECK AFRICA

WearCheck staff at offices throughout Africa - as well as in the Middle East and India - threw their weight behind the South African World Cup tournament from the heart-stopping opening match till the final whistle blew in Johannesburg.

Here they are sporting the colours of the rainbow nation and showing their support for Bafana Bafana - in the Pinetown lab, at the Johannesburg office, at the speciality and SOS labs in Isando, at the Middelburg

lab, at the new Cape Town office as well as in Zambia, Dubai and our new office in India (more about that in the next issue of Monitor), not forgetting our one-man bands doing a sterling job in Rustenburg, Port Elizabeth and on site at Terex in Kempton Park.

Some of the Jo'burg staff went the extra, multi-coloured mile one Football Friday - put on your sunglasses and check them out on page 4.



SOS lab



Middelburg lab



Cape Town



PE



Pinetown laboratory and head office



Terex



Johannesburg office



Speciality lab



Rustenburg



Dubai



Zambia



India

# CONDITION MONITORING REDUCES DOWNTIME FOR DRILLCORP

Oil analysis by WearCheck is an integral part of a condition monitoring service provided for Drillcorp Africa by Complete Filtration Solution (CFS) since August 2007, which has seen a steady decrease in downtime, particularly on engines and hydraulic pumps.

This, in turn, has had a significant impact on maintenance practices and cost reduction at Drillcorp, a South African-based company with a fleet of more than 80 exploration drills servicing the mining industry internationally.

Says Rentia Briedenhann, managing director of CFS, 'The harsh environment the drills operate in as well as the highly irregular loading makes it absolutely necessary to monitor component condition.'

Prior to contracting CFS, Drillcorp's policy was to run to failure and many unplanned breakdowns occurred on engines, gearboxes and hydraulic systems.

In conjunction with CFS, a monthly service schedule on basic components was initiated in 2007, including oil analysis by WearCheck.

'This enabled Drillcorp management to identify trends and gain a clear understanding of the condition of their machines,' said Briedenhann.

'If the Wearcheck oil analysis report indicates a problem, an inspection is done to see how urgent the problem is. Based on risk, a decision is made to replace the component as planned maintenance. This ensures no unplanned maintenance delays and prevents expensive failures.'

'Drillcorp determined, through downtime analysis, that the three main contributors to lengthy downtimes were engines, hydraulic pumps and gearboxes,' Briedenhann said.

The graphs below show trends for engines and hydraulic pumps on all rigs running between 2007 and 2009. The 'y' axis on the graphs is the mean downtime for all machines caused by breakdown of the particular component.

In addition to reducing downtime, increasing production and saving costs, the life of components has also increased significantly due to regular oil changes and filter replacement by CFS.

EXTRACT FROM DRILLCORP AFRICA'S MAINTENANCE POLICY RELATING TO CFS/WEARCHECK CONDITION MONITORING

## ENGINES

### Preventive

- Engine oil replaced every month.
- Filters replaced every month.

### Condition based criteria

- If marked as urgent risk by monthly WearCheck tribology analysis, engine to be replaced or performance closely monitored.
- Daily check for oil temperatures. If the temperature is higher than 110°C, maintenance manager to be informed.
- Vibration analysis during drilling every day when possible should indicate a vibration velocity of no more than 10 mm/s. If higher than this, maintenance manager to be informed.

## GEARBOXES

### Preventive

- Gearbox oil replaced every month.

### Condition based criteria

- If marked as urgent risk by monthly WearCheck tribology analysis, to be monitored closely by maintenance manager.
- Oil levels to be checked daily.

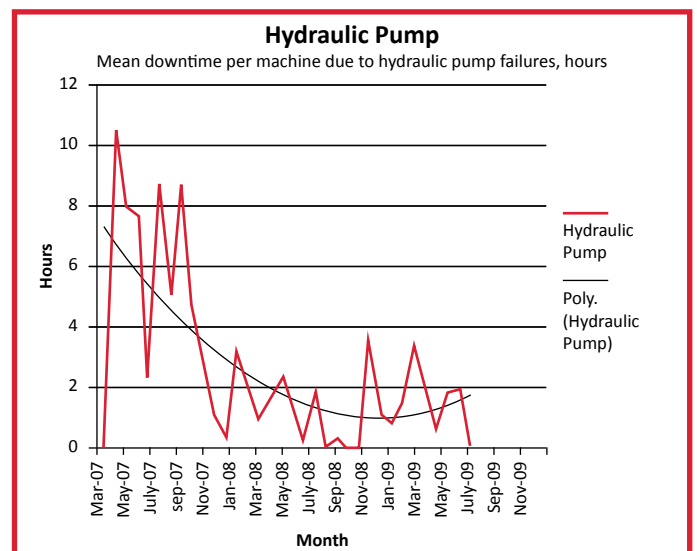
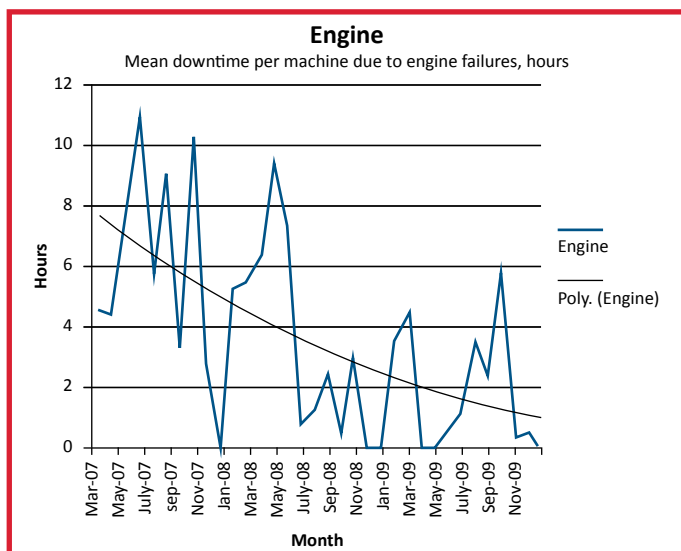
## HYDRAULICS

### Preventive

- Oil filters changed monthly.

### Condition based criteria

- Daily oil temperature check. At oil temperature higher than 80°C, inform maintenance manager.
- If monthly WearCheck tribology analysis is marked as urgent, inform maintenance manager.



# MAKING HEADWAY

There have been a number of new appointments at WearCheck as the company continues to grow.

'We always try and keep skills in-house by promoting from within,' says managing director, Neil Robinson. 'Where this is not possible we are fortunate in being able to attract high calibre individuals to add to the skills and experience of our existing staff.'

## HEADING UP FINANCE

Scott Sowman is WearCheck's new financial manager, based in the Pinetown office. He qualified as a chartered accountant, CA (SA), through Unisa in 2007 and went on to gain practical experience with an owner-managed transport consulting company. He then spent a year in the financial services sector of global company, Equity Trust, in their London head office before joining WearCheck in March this year.



Scott Sowman

## SOFTWARE SUPPORT

Karen Govindsamy has moved from the data processing section to IT as customer software support assistant. She enjoys helping people get the most out of WearCheck's Netcheck and online software programmes, as well as assisting them to manage their data bases effectively.



Karen Govindsamy

## NEW FACES IN MIDDELBURG

The Middelburg laboratory has two new employees - Alida du Toit, who is responsible for admin, and Siphon Magcaba who joins the team of laboratory assistants.



Siphon Magcaba and Alida du Toit

## NEW JO'BURG CUSTOMER SUPPORT TEAM

Long serving WearCheck employee, Vasthie Naicker, has been appointed senior customer support officer in the Isando office, and Tracy Kellermann joined the company in April as customer support assistant. The pair are dedicated to providing solutions for customers' queries as well as dealing with sales.



Vasthie Naicker and Tracy Kellermann

## RAPID QUALITY CERTIFICATION FOR WEARCHECKPM IN DUBAI

After less than a year of operation and on its first application, the WearCheckPM laboratory in Dubai has attained ISO 9001 certification.

'This is an outstanding achievement considering the short period of time the lab has been up and running,' said WearCheck managing director, Neil Robinson. 'The lab has now established itself as a force in the United Arab Emirates and is analysing samples for several global companies such as Aggreko and Volvo.'

The quality certification is in line with WearCheck's policy of entrenching ISO 9001 standards in all of its laboratories.

## WHAT'S ON YOUR MIND?

Help us to serve you better by completing our online customer service survey - and stand in line to win the lucky draw prize of a 12MB Olympus Tough digital camera worth R3 000. Type <https://online.wearcheck.co.za/PRODUCTION/anon/survey.aspx> or visit the WearCheck web site [www.wearcheck.co.za](http://www.wearcheck.co.za) and follow the survey links.

## IT'S A SMALL WORLD

WearCheck recently received requests for its publications from an engineer at a coal mine in Borneo, Indonesia and a John Deere construction equipment dealer in Michigan, USA.



# NEW VANDERBIJLPARK OUTLET FOR WEARCHECK

Customers in Vanderbijlpark can now take advantage of a new WearCheck agency on their doorstep, which will act as a support centre and where they can buy kits and drop off samples.

It is located on the main road from Vanderbijlpark to Vereeniging at: Parker Store Vaal, Unit 7, Prime Business Park, Rabie Street, Vanderbijlpark.

Tel: (016) 931-0132/1886. Fax: (016) 931-0155.

Contact: Lauwrens Briedenhann

Email: [lauwrens@parkerstorevaal.co.za](mailto:lauwrens@parkerstorevaal.co.za)



*The new WearCheck depot at Parker Store Vaal in Vanderbijlpark*

A sample collection service is also available.

'We have joined forces with Parker Store Vaal on a trial basis,' said WearCheck managing director, Neil Robinson. 'We hope that the new outlet will offer convenience and accessibility to our industrial customers in the area as well as those in the hydraulic, filtration and auto fields.'

## JOIN US AT ELECTRA MINING

We extend a warm invitation to all our customers and associates to visit the WearCheck stand at Electra Mining Africa, which takes place in the MTN Expo Centre at NASREC from 4 to 8 October.

WearCheck will be joining forces with fellow Set Point Group company, Meter Services, to showcase all of the company's products and services and offer technical troubleshooting advice on predictive maintenance.

Show times are from 9h00 to 17h00 daily. We look forward to seeing you there!

## FOOTBALL FEVER!



*Getting into the spirit of the World Cup are Johannesburg office staffers Lorain de Bruin, Ashley Mayer, Michelle van Dyk, Keith Finlayson, Josephine Rakolota, Isaac Mabaso, Werner Buys, Vasthie Naicker and, in front, Tracy Kellermann*

## WEARCHECK TARGETS ELECTRICAL INDUSTRY IN NAMIBIA

WearCheck's stand at a one-day exhibition for the electrical industry in Windhoek in May attracted a great deal of interest amongst the roughly 100 delegates from across Namibia.

The Electro-Technical & Equipment and Transmission & Distribution and Instrumentation and Control Suppliers Road Show attracted representatives from industrial companies, power stations, mines and government departments including the Windhoek municipality, Nampower, Namibia Water Corporation, the national airports company, Namibia Breweries and De Beers Marine.

'It was a worthwhile exercise to expose WearCheck to these new markets,' said Ashley Mayer and Michelle van Dyk of the Johannesburg office who travelled to Windhoek to set up and man the display.

## DID YOU KNOW?

WearCheck is one of the cogs in the wheels that keep the Gautrain running on track. We provide an oil analysis service to Bombela, the private sector partner in this groundbreaking new rapid rail transport venture.

## CONTACT WEARCHECK'S NEW CAPE TOWN OFFICE

Here are the contact details for WearCheck's new Cape Town office where customers are invited to drop off samples and buy sample kits.

Unit 18 Platinum Park, Taurus Road, Brackenfell.

Take Orion or Kruinsfontein Way off the Old Paarl Road (R101), then turn into Taurus Road.

Tel: (021) 981-8810 or Werner Buys on 076 050 6807

A laboratory will be opened here in the near future.

*Werner Buys, Cape Town branch co-ordinator, outside WearCheck's new Cape Town office.*



## THE SIX MOST EXPENSIVE OIL ANALYSIS TESTS

Do you know the six most expensive oil analysis tests? Maybe you do and maybe you've learned to tolerate them or simply didn't register their true cost. For the maintenance organization seeking world-class status, you might call these the "tests of fire" because they often separate the winners from the users.

These six tests are expensive for many reasons but most often it's because of lost opportunity. Thousands of organizations each year go through the motions of performing oil analysis and get little in return. Why? Often it's the small things, the critical but seemingly insignificant elements, which have the largest impact on the value-generated potential of an oil analysis program. Like an integrity chain, each link must be strong and secure - brilliance in execution at all points in the process.

So you're wondering what these tests are and what makes them so expensive? Let's go down this list together and see what we can learn.

### 1. The Tardy Test

This test is expensive because it wastes time and opportunity. One common example is when lab data arrives 10-20 days after a sample is pulled. Perhaps this was due to procrastination in forwarding the sample to the lab or a lack of timely service from the lab. By then, responding is often a futile exercise since the data may bear little resemblance to the current conditions of the oil or machine. And, had the belated report flagged an impending failure condition, the consequence of the delay might be a more expensive repair and collateral damage to other machine components.

### 2. The Garbage Test

Often oil analysis is performed routinely over a period of years on samples that are not representative of machine or lubricant condition. This is typically due to lack of training and proper documentation of correct sampling procedures. As the name implies, the Garbage Test is oil analysis that is done on unrepresentative samples (you've heard of garbage in and garbage out). The practice frequently results in untrendable data and nuisance alarms. No amount of laboratory wizardry can extract useful data from the smog of poorly sampled oil. And, the onward investment in oil analysis from such samples will yield no real return. The Garbage Test is indeed very expensive.

### 3. The Puzzling Test

This test is oil analysis that reveals a critical machine fault that an unskilled technician fails to identify (false negative), or a benign condition that is mistakenly alarmed (false

positive). This could be caused by lack of training, lack of people resources or lack of emphasis on the importance of oil analysis. Effective interpretation of oil analysis data takes knowledge and focus. Sadly, many organizations place little importance on the development of oil analysis skills as a vital part of machine condition monitoring.

### 4. The Bloody Test

For want of a better term, the Bloody Test describes oil analysis performed post mortem, to find out what went wrong. Too often new maintenance policies and procedures are "written in blood" because change occurs slowly and often only after machine mortality. This is classic "reactive maintenance" when failure precedes analysis. Oil analysis can't breathe new life into a fatally maintained machine.

### 5. The Non-Test

This is the test not performed. Sometimes this test is thinly disguised as cost reduction. Common examples are samples taken too infrequently or tests not performed as a part of the test slate. Taking fewer samples or reducing the program test scope can reduce costs but often such practices have woeful consequences. The optimum selection of sampling frequency, routine oil analysis tests and exception tests can significantly enrich the quality and effectiveness of oil analysis.

### 6. The Get-No-Respect Test

This is lab data that is neglected by the maintenance staff. Common oil analysis exceptions that are sometimes ignored range from the use of a wrong lubricant, to a dirty hydraulic fluid, to a coolant leak. These are failure "root causes" that can, and often do, lead to expensive machine upsets. Occasionally the non-conforming data points to an active degenerative condition in a critical component - accelerated bearing wear for instance. Yet, sometimes the correction itself risks lost production and downtime. Many people in charge of oil analysis fear "eating crow" if they recommend a corrective repair that upon further inspection (after the bearing was removed for instance), it was found that no maintenance action was needed. The machine lubricant analyst who has mastered his craft and is skillful at troubleshooting and problem solving offers real value to maintenance organizations today.

If one or more of the tests described above make you grimace because they strike a little close to home, it may be time to retool your oil analysis program. And, it may be time to learn about proactive maintenance and how to correctly use oil analysis to get a penetrating view of what's happening inside your machine.

**This article appeared in Practicing Oil Analysis Magazine in March 2001**

# 2010 TRAINING COURSES

COURSE	JOHANNESBURG	PINETOWN	MIDDELBURG
NetCheck: Software package	11 October	16 August	6 September
Oil Analysis One: Understanding oil and its analysis	12-13 October	17-18 August	7-8 September
Oil Analysis Two: Report interpretation	14 October	19 August	9 September
Oil Analysis Three: Management	15 October	20 August	10 September

More details on the content of each course can be viewed under Training on the WearCheck web site [www.wearcheck.co.za](http://www.wearcheck.co.za).

## COSTS

Oil Analysis One covers two full days and costs R3 990 plus VAT. Oil Analysis Two and the NetCheck course cover one full day each and each costs R1 995 plus VAT. Oil Analysis Three is a half-day course and costs R850 plus VAT. All courses include course material, refreshments, giveaways and certificates.

## BOOKINGS

For all bookings phone Michelle van Dyk on (011) 392-6322 or email [training@wearcheck.co.za](mailto: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 R475.20 plus VAT per delegate
  - WearCheck customised - oil analysis for work shop technicians, a full day course costing R1 161.60 plus VAT per delegate.
- For on-site training, there is an extra charge for travel costs and accommodation for the lecturer if needed.

## ARRANGE TRAINING NEAR YOU

Training courses can also be arranged in any the following places:

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

## 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](mailto: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](mailto:melanie@wearcheck.co.za). Before you do this, why not check out the 48 titles already available on the web site: [www.wearcheck.co.za](http://www.wearcheck.co.za)

## JOINING TOGETHER TO SUPPORT THE PLANET

If you would prefer to receive future issues of WearCheck Monitor and Technical Bulletin via e-mail in pdf format instead of in printed form, please e-mail a request to: [support@wearcheck.co.za](mailto:support@wearcheck.co.za). This option also applies to printed reports.

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