

NEW EQUIPMENT ENSURES LAB UPTIME

WearCheck took delivery of a new Hiac Royco particle counter and PerkinElmer Clarus 500 gas chromatograph (GC) for the determination of fuel dilution in engine samples in June.

'Every instrument in our main Pinetown laboratory is now duplicated and, in some cases, triplicated,' says WearCheck laboratory manager, Paul Swan. 'This means that we have immediate back-up for all tests.'

'Although rare in our laboratories, unforeseen equipment breakdowns do occur and a typical repair can take from one to four weeks. We no longer have to worry about this possibility. To our knowledge, we are the only used oil analysis laboratory in the country to offer this assurance of continued lab uptime.'

'This dependability is reinforced by WearCheck's 200KVA Cummins generator which ensures an



WearCheck laboratory chemist, Meshach Govender, with the new Clarus GC in the Pinetown laboratory

uninterrupted power supply in the event of an electrical outage, enabling us to provide a consistently reliable service and peace of mind for our customers.'

The two new purchases bring WearCheck's total investment in state-of-the-art new laboratory instruments in the past year to more than R4 million.

DID YOU KNOW?

WearCheck is a member of the Set Point Group, a successful JSE listed group, which provides a home for diverse, yet related niche service companies and is focused on three core activities:

- The **inorganic and analytical services** provided by Set Point Laboratories and WearCheck and the supply of matrix matched reference materials and standards by AMIS.
- The **fluid handling** specialists, the Letaba Group, Pneumax and Meter Systems, supply products and services to the petrochemical, mining and pneumatic industries.

- Reng and North West Gopro are in the business of **mining support**. They supply leading edge roller systems, used in the mining industry, across Africa and are in demand in Australia, Canada and the USA.

The Set Point Group harnesses these diversities and provides the resources to market within spaces that would not otherwise be available.

View a video of the group at <http://www.wearcheck.co.za/The%20Company.htm> or visit the Set Point web site www.setpoint.co.za



JOIN US ON FACEBOOK

We invite you to become part of WearCheck's online community by joining our Facebook group where you will find links to informative videos about the company. You can also access the videos directly at <http://www.youtube.com/watch?v=TOF7l-zj3cg>

OUT AND ABOUT

- WearCheck senior diagnostician, Michelle Allis, presented the oil analysis module of the SAIT Lubrication Engineering Course held in Durban during May.
- WearCheck received a request to be added to the company's publications mailing list from a representative of the Technology and Innovation division of Rio Tinto in Perth, Australia.
- An engineer from Kleenoil SA wrote to WearCheck recently to express his appreciation for the valuable information featured in the company's technical bulletins.

WEARCHECK IS RECOGNISED FOR SABS MAP PROGRAMME

WearCheck received a Certificate of Participation recently for taking part in the SABS Measurements Assurance Programme (MAP) proficiency testing scheme for automotive fuel oil during 2008.

'We have been participating in MAP since 2005 and continue to do so', says Chris Joshua, supervisor of WearCheck's speciality laboratory. 'It is basically a round robin benchmarking system which confirms the integrity of our test data and enables us to compare the accuracy of our analysis with other labs in South Africa.'



Speciality lab assistants show off WearCheck's Certificate of Participation in the SABS MAP programme: (from left) Tumelo Seobi, Marcelle Symons, Kefilwe Ntshabele and Shiven Brijlal.

Participating laboratories receive a batch of samples from the SABS at regular intervals. They return their test results to the SABS who then compare all the results. The system is used by oil companies and test laboratories throughout the country.

'Our results compare favourably with the other participating labs, some of whom have been on the programme for much longer than us,' Chris said.

'Subscribing to the SABS Map is part of WearCheck's ongoing quest for optimum quality,' says managing director, Neil Robinson. 'All of our results conform with ISO 9001 and ISO 14001 standards and we are working towards achieving ISO 17025 accreditation for our laboratories.'

'We continue to conduct round robins every quarter with the other members of Wearcheck International, confirming agreement on both the analysis and diagnosis of a cross-section of samples. We also participate in an ASTM (American Society of Testing Materials) round robin every six months for diesel engine oil analysis, along with about 50 other companies globally who subscribe to this service.'

'This benchmarking helps us maintain the consistently high standards of accuracy our customers expect from us.'

WEARCHECK OPENS STEELPOORT DEPOT

WearCheck has opened a new depot in Steelpoort in Limpopo province for the convenience of customers in the area. A full range of WearCheck products will be available and customers may purchase kits and drop off samples here.

The office is shared with Letaba Dewatering, another division of WearCheck holding company, the Set Point Group.

PRODUCT PICK



WEARCHECK SAMPLING KIT

These large and durable plastic toolboxes containing all the basics for an oil analysis programme, are ideal starter kits for new customers, but are also popular with those who have been using WearCheck for some time. They contain a roll of disposable sampling tube for sample taking, a tube cutter, a sample extraction pump, a clipboard, sampling instructions and can hold up to 40 sample kits.

The contents may be specified by the customer and the toolboxes are also available "empty" for those who may wish to consolidate their existing sampling accessories into one convenient toolbox.

LUBE TIP

OIL LEVEL AFFECTS FOAMING

Before adding antifoam agents to get a handle on a foaming problem in a circulating system, one of the first things to check is the oil level. Both too much, and too little oil can lead to a foaming problem. Too much and there may be a piece of the machine touching the surface of the oil that shouldn't, churning and slinging the oil (high-speed pinion in gearbox). Too little oil, and a vortex can form inside the reservoir at the inlet for the circulating pump, sucking in air.

If you cannot tell the level due to the foam, you may be able to stick a clear piece of tubing straight down to the bottom of the reservoir. Cover the end of the tubing to create a seal, and pull it out to observe the actual oil level. Don't put anything into an oil reservoir unless you are certain of its internal configuration and components.

- Van Richard, Sr. Reliability Engineer, Georgia Gulf Corporation

SAMPLING AT ILBA MEMBER COMPANIES



Alex Hime, current chairman of ILBA at his Centurion company, Viscol Oil, with fellow ILBA member, Vic Burger of Q-Base Limited in Benoni.

The Independent Lubrication Blenders Association (ILBA) has appointed WearCheck to perform ad hoc quality control sampling at all of its member companies.

'It is important for the 10 members of the association, who all blend their own oils, to be able to provide independent verification to their customers of the quality of their products. This enables them to compete in the finished lubes market on an equal footing,' said WearCheck's Keith Finlayson.

'Our mandate is to visit the manufacturers' premises without prior notice, take samples of the different lubricants, then analyse them to confirm that each one meets certain set standards. We measure the composition of the oil, additive levels, viscosity, etc. The results are stored on a data base for ILBA who are able to make this information available to current and prospective customers.'

Alex Hime, chairman of ILBA, who has been using WearCheck's services for more than 15 years for his Centurion plant, Viscol, said, 'As small manufacturers it is important to us to be able to offer independent assessment of the composition of our oils and we are happy to entrust this function to an organisation of WearCheck's calibre to help us maintain the necessary credibility in this competitive market.'

IS THERE BIODIESEL IN YOUR DIESEL?

As biodiesel continues to grab the headlines, WearCheck has developed a powerful, fast and accurate new test to determine the biodiesel content in diesel in response to requests from a number of customers.

'The test is significant because, if more than 5% of biodiesel is added to regular diesel, it no longer meets the specifications of diesel fuel in South Africa as regulated by SANS 342,' says laboratory manager, Paul Swan. 'This would have implications for warranty claims and could negatively impact on the longevity of engines.'

WearCheck's test is accurate at less than 1% up to 100% biodiesel content.

To develop the test, the chemists in WearCheck's Pinetown laboratories synthesised pure biodiesels from a range of vegetable oils. After accurately blending these into a range of regular diesels at known concentrations, the Fourier Transform Infra Red (FTIR) spectra of these standards were obtained. Using Partial Least Squares modelling, including the full FTIR spectral range with a first derivative base line determination, a sophisticated method was developed.

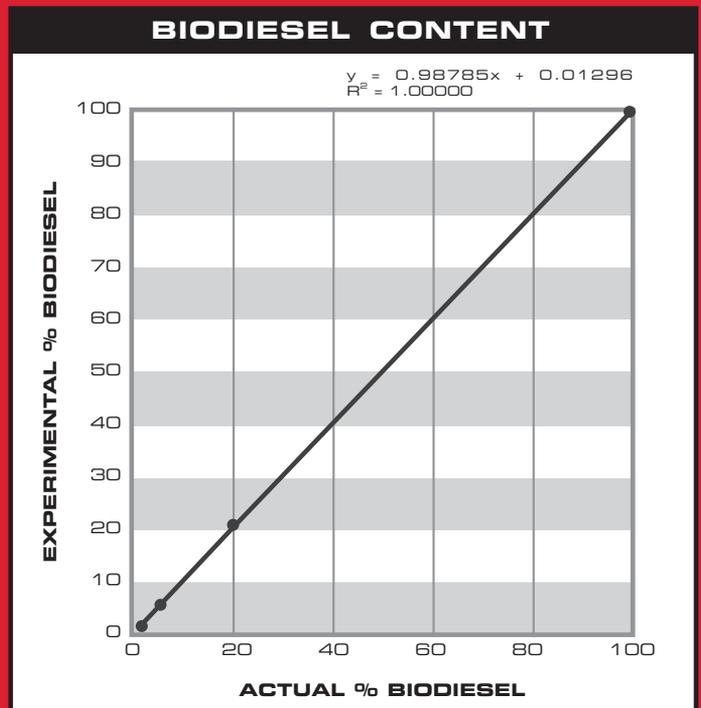
'This method factors in differences in chemistries from the different feedstocks used in making biodiesel,' said Paul. 'This is its strength and it has proved to be very robust and extremely accurate.'

To validate WearCheck's model, a number of standards were created using a pure biodiesel standard purchased from VHG Labs in the USA. The standards cover the full range from 0 to 100%. FTIR spectra were collected from this new set of standards and the spectra were evaluated using the model. These results are shown in the graph alongside.

'The experimental results match the actual calculations, and the correlation of fit at 1.00000 ensures that, no matter the concentration, the test remains very accurate,' Paul said.

Customers may request the biodiesel test as an add-on test for their diesel fuel analysis at an extra cost of R100.

'The new test provides peace of mind and confirms that your diesel is what you think it is,' said Paul. 'It will also ensure that there are no nasty surprises down the line when an engine has failed and the warranty is not honoured because the fuel was found not to meet the requirements of SANS 342.'



WCI MEMBERS VIEW STATE-OF-THE ART NEW INSTRUMENTS IN BELGIUM



Representatives of the member companies of WearCheck International (WCI) held fruitful discussions at this year's annual conference in Belgium in July. A highlight of the event was the demonstration of the latest new instruments available by five leading instrumentation manufacturers. Taking a break from proceedings are Gwyn Simmonds of the United Kingdom, Jon Fazenbacker of the USA, Bill Quesnel Junior of Canada, Jesus Terradillos of Spain, Gilbert de Mey of Belgium, Bob Cutler of the United Kingdom, Neil Robinson of South Africa, Bill Quesnel Senior of Canada and Andre Verlinden of Belgium.

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.

2009 TRAINING COURSES

COURSE	JOHANNESBURG	MIDDELBURG
NetCheck: Software	12 October	7 September
WearCheck 1: Oil analysis orientation	13 October	8 September
WearCheck 2: Understanding oil analysis	14 October	9 September
WearCheck 3: Report interpretation	15 October	10 September
WearCheck 4: Management	16 October	11 September
Machinery & Lubrication: Level One	5-7 October	
Machinery & Lubrication: Level Two	8-9 October	

The WearCheck courses are full day and cost R 1550 plus VAT with the exception of Course 4, which is half day and costs R550 plus VAT.

The Machinery and Lubrication (MLA) courses are run in joint venture with the ABB School of Maintenance. Level One is a three-day course costing R5456.85 plus VAT. Level Two is a two-day course costing R4354.35 plus VAT.

More details on the content of each course can be viewed under Training on the WearCheck web site: www.wearcheck.co.za. For all bookings phone Michelle van Dyk on (011) 392-6322.

TRAINING NEAR YOU

If you would like WearCheck to arrange training courses in any the following places, please phone Michelle van Dyk in the Johannesburg office or email training@wearcheck.co.za:

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

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

THE LEADER IN OIL AND FUEL ANALYSIS

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