

# FAREWELL, MR WEARCHECK

The passing away of popular WearCheck founder Gary Brown, who lost his battle with cancer on 3 March 2012, forms a bleak landmark in WearCheck's history.

Fondly known by colleagues and customers as 'Mr WearCheck' for his integral role in WearCheck's operations since its inception in 1974, Gary combined a passion for oil analysis with a lifetime interest in motorcycles and cars.

Gary developed this much-loved hobby throughout his life, riding a variety of early model motorcycles and cars over the years, and maintaining them in an impeccable garage.

His good mechanical brain and immaculate preparation stood him in good stead when participating in motorcycle rallies around South Africa, including the Durban-Johannesburg Rally ("DJ Rally"). (Gary participated in 13 DJ rallies, all on pre-1936 motorcycles).

Gary's career took off following an eight-year stint as an army officer, after which he qualified as a Mine Assayer at the Phalaborwa Mining Company in 1971, where he became heavily involved in "wear metal analysis in oil". This is where his love for oil analysis started.

From the Phalaborwa Mining Company, Gary relocated to Hilton with his family, to pursue his dream of starting his own laboratory to analyse and diagnose oil samples.

Gary was establishing his oil analysis business when he met Lesley Crawford, who was running a soil analysis laboratory. Gary and Lesley joined forces, with Lesley focusing on soil analysis, and Gary focused on the oil analysis. Many of the customers that Gary signed up at this early stage remain WearCheck customers to this day.

When the soil analysis eventually came to an end, Lesley Crawford, and later her husband Wally, joined Gary in oil analysis, and WearCheck was born in 1974. Gary was soon recognised as a technical leader in the industry. And the rest, as they say . . . is history.

In 2002 after more than 25 years in the industry, Gary retired to pursue his hobbies. However, this was not to last, as a number of years later he was invited by managing director Neil Robinson to rejoin WearCheck as a consultant, which Gary was delighted to do.



*Gary Brown was a true family man, and adored his family. He is pictured here with wife Jenny, son Quentin and daughters Jill and Brigette (front)*

In May 2010 Gary became critically ill and was diagnosed with cancer. For two years Gary bravely fought back, determined to beat the disease surrounding his heart. Despite countless treatments, in January Gary's cancer was deemed terminal. As a close friend said, 'the chassis is still okay, but the engine is not working properly'.

On 3rd of March Gary lost his battle with cancer, and WearCheck lost a wonderful family man, a true gentleman, and a respected businessman – Mr WearCheck.

Gary leaves behind his wife of 46 years, Jenny, his daughters Jill (and family) in New Zealand and Brigette in the UK, and his son Quentin (and family) in South Africa.

Farewell Mr WearCheck – your legacy will live on.

# TRIBUTES TO GARY BROWN

Tributes to Gary Brown from past and present customers and colleagues, based all over the world, continue to pour in to the WearCheck offices:

*In the words of Neil Robinson, managing director, WearCheck*

At work, we often talk of the WearCheck Way, or WearCheck Culture. Gary was a gentleman, a businessman of unsurpassed ethics and a family man. As one of the founders nearly 40 years ago, he instilled these qualities and culture into the very fabric of WearCheck.

Today, WearCheck is one of the largest oil analysis companies in the world. We operate six laboratories, have a presence in seven countries and employ 145 people. Gary and the WearCheck Way are responsible for creating the foundations on which the success of WearCheck stands.

Rest in peace, Mr Brown. Although poorer for your passing, WearCheck is your legacy and we will continue to go from strength to strength.

**Ian Burford, plant manager: Quarry Cats, a subsidiary company of Group Five:**

I am honoured to have known Gary for nearly 40 years, and I have yet to meet a man with more passion and integrity than Gary Brown. I am a long-term customer of WearCheck and Gary – and through him I witnessed the birth and development of oil analysis to what it is today.

Gary guided us through many rough times when we were plagued with breakdowns, and for that I am eternally grateful to a great man. Gary and WearCheck, in conjunction with the Planned Component Replacement (PCR) programme run by Grinaker Technical Services, saved Grinaker Plant millions of Rand. Backed by Grinaker's unswerving confidence in WearCheck and Gary, this move subsequently earned Grinaker the reputation of operating the best plant in Africa.

Gary, thank you for the sound advice you gave so freely, but most of all thank you for being my friend – may you rest in peace. (And don't give St Peter uphill if the pearly gates squeak!)

**Lutz Meyer, contracts controller, Barloworld Cat Rental – Isando:**

Please share my heartfelt condolences with the whole family of a great man that I too admired and respected.

There was a time when Barloworld Equipment came to realize that they had allowed the SOS program to dwindle into non-existence. I was on the team tasked with changing the status quo. After many hours of negotiation, the joint venture between Barloworld Equipment and WearCheck – with Gary Brown at the helm – came into being.

Gary saw the potential growth in the oil analysis business through Barloworld Equipment and was particularly keen for us to get the then fledgling "The Cat Rental Store" into the SOS fold. We made this happen in 2005. I am sure that with great satisfaction he drew a line through this success story on his "bucket list".

Gary was a kind man, always approachable, always making time to listen, always sharing his experience and knowledge without reservation. As with all great men he will fade into history but many will not forget him.

## LUBE TIP

(From "The Practical Handbook of Machinery Lubrication")

An inferior base oil cannot be converted into a premium product simply by the inclusion of an additive. Using a poor-quality oil on a continuing basis and attempting

to overcome its poor lubricating qualities with some special additive is illogical. It is better to determine the manufacturer's recommendation as to the minimum API service rating required and then regularly use a blended lubricant of a higher service classification than originally recommended, if an improvement in lubrication is the objective.

## QUALITY REMAINS KEY AT WEARCHECK

WearCheck's uncompromising adherence to international quality ratings and standards that are monitored by recognised benchmarking institutions, gives customers absolute certainty of the quality and accuracy of the laboratory data and diagnoses they receive.

Paris-based Bureau Veritas recently conducted an inspection and recertified WearCheck to perform oil analysis on vessels under their care. WearCheck was initially certified by Bureau Veritas in 2003 – an endorsement which is reviewed regularly.

WearCheck also holds certification from Lloyds of London, and continues to service several major South African and Namibian marine organisations.

The South African Bureau of Standards (SABS) recently recommended WearCheck's Middelburg facility for inclusion in the company's ISO (International Standards Organisation) 9001:2008 certification. In addition, after reassessment, WearCheck has maintained its status of ISO 14000 certification.

WearCheck's quality administrator Melanie Hynd is proud of the company's ongoing recognition by internationally-recognised standards organisations. "Through the various certifications, WearCheck is able to give customers absolute confidence in the quality and accuracy of their test results."



WearCheck's quality administrator Melanie Hynd displays the recertification certificate from Paris-based Bureau Veritas, which endorses WearCheck to continue to perform oil analysis on the vessels on their programme

# ZAMBIAN INDUSTRIES WELCOME WEARCHECK KITWE

Industrial operations near Kitwe, Zambia – predominantly mines – have welcomed the recent opening of a brand new world-class oil analysis laboratory by South Africa-based specialists WearCheck.

Oil analysis is widely used by many other industries, including construction, automotive, industrial, electrical, aviation, maritime and petrochemical.

WearCheck managing director Neil Robinson hailed the Kitwe laboratory project team at the official launch. 'The fact that our laboratory was able to process in excess of 1500 samples in the days before the official opening ceremony is testament to the demand for a reliable oil analysis service in the region, and we are grateful for the support from Zambian businesses.

The opening of the new state-of-the-art laboratory in Kitwe effectively doubles WearCheck's Zambian presence as it joins WearCheck's already successfully-managed laboratory at Lumwana mine.

Strategically positioned to service the copperbelt mining industry, WearCheck Kitwe will also process used lubricant samples from a variety of industries and plant hire companies throughout Zambia. Plans are already underway to introduce extra capacity to the Kitwe laboratory – in the form of fuel and transformer oil testing – later this year.

Neil attributes WearCheck's growth and expansion in the country to confidence in the emerging Zambian economy, and a growing need for quality local oil analysis facilities. 'Oil analysis is a naturally complementary service for the mining industry – we identified the need for this in Zambia, which resulted in the opening of the lab at Lumwana mine in 2007.

'WearCheck's capital investment in building and equipping the Kitwe laboratory is around half a million US dollars, and will ultimately provide direct employment for about seven Zambian nationals at both laboratories.'

Neil is confident that investment in WearCheck's oil analysis programme gives excellent returns via a managed maintenance programme, which translates to savings on the bottom line. 'Historically, companies who invest in our oil analysis service have reported a return-on-investment ratio of approximately 10:1, with massive financial savings through the early detection of component wear, which in turn avoids costly, unscheduled downtime.'

'We are pleased to offer Zambian businesses access to world-class lubricant analysis services, with faster sample turnaround time as our laboratory capacity expands.'

WearCheck Kitwe – under the guidance of senior chemist Cabangani Ndlovu, who manages the new laboratory – offers a 24 hour sample turnaround time, and boasts the full complement of laboratory equipment on a par with all WearCheck's laboratories, including elemental spectrophotometers, viscometers, particle counters, FTIR (Fourier Transform Infra-Red), debris PAD preparation and fuel dilution determination.

WearCheck Kitwe is located at Plot No. 3717 Prescott Road, Light Industrial Area, Kitwe, Tel: +260 (0) 212-210161 and Fax: +260 (0) 212-210162.



Laboratory assistant at WearCheck Kitwe, Phillimon Nyirenda, subjects lubricant samples to a battery of tests. Local industries have given the new laboratory a vote of confidence by sending increasingly large volumes of samples for processing



Cabangani Ndlovu, senior chemist at WearCheck's new Kitwe laboratory (in a purple shirt), conducts a tour of the state-of-the-art laboratory instruments for guests at the official launch of the facility recently



Standing proudly under their new signage are members of the team who launched WearCheck Kitwe recently. They are (from left to right) Clinton Cotton (Set Point sales rep.), Cabangani Ndlovu (senior chemist), Boniface Yuwama (technical consultant), Phillimon Nyirenda (laboratory assistant) and Thelma Nawinga (office manager)

# PRODUCT PICK: TURBINE TEST KITS

**Product codes: WITS (turbine standard), and WITA (turbine advanced)**

Turbines have very demanding lubricating requirements. Lubricants must be highly oxidative and thermally stable to handle extremely high operating temperatures. In addition, they must remain contaminant-free to adequately lubricate bearings and gears, and to act as a favourable hydraulic medium for governors and valving control systems.

Crucial information for optimum operating conditions is gained through regular analysis of turbine oils, and enables operators to:

- Monitor the operating condition of the oil and conduct scheduled proactive maintenance procedures thereby avoiding costly, unplanned outages
- Determine if the oil achieves oxidation and stability levels to handle operating temperatures.
- Ensure oil is contaminant-free
- Avoid oil oxidation and sludge that could lead to sticking servo valves, meaning control valves will not open on demand.
- Achieve general peace of mind on the operating condition of your turbine and compressor.
- Determine the levels of remaining antioxidants in the oil – detecting unwanted contaminants in the oil accurately determines the suitability of the lubricant for continued use
- Be warned of any potential for damaging varnish build-up through comprehensive diagnosis, and gain recommendations for any necessary maintenance actions to remove contamination and restore the lubricant to optimum operating condition.

WearCheck's turbine analysis kit comprises a one litre aluminium sample tin, a new oil sample tube, a submission form and a box.



**Table:** Laboratory tests & benefits for turbines

Tests	Method	Benefit	KIT	
Viscosity at 40°C	ASTM D7279	Indication of the lubricant's resistance to flow at 40°C (ASTM D445 equivalent)	STANDARD	ADVANCED
Viscosity at 100°C	ASTM D7279	Indication of the lubricant's resistance to flow at 100°C		
Elemental Analysis	ASTM D5185*	Concentrations of various elements present in the lubricant		
Water content	ASTM D6304	Presence of moisture in parts per million (ppm)		
Total Acid Number	ASTM D974	Acidity of the lubricant		
Particle Quantification Index		Indication of magnetic particles in the lubricant		
Particle Count	ISO 4406:99	Size and distribution of particles		
Remaining Useful Life	ASTM D6971*	Concentration of antioxidants present as compared to new oil		
Varnish Potential Rating		Presence of insolubles that may be lead to varnish		
Foaming Characteristics	ASTM D892	Tendency of the lubricant to produce foam and the stability of the foam produced		
Air Release	ASTM 3427	Ability of the lubricant to release entrained air		
Water Separability	ASTM D1401	The lubricant's ability to separate from water		
Rotating Pressure Vessel Oxidation Test	ASTM D2272	Oxidative stability of the lubricant	Special	

\* Variances to the method are applied

# SET POINT GROUP ACHIEVES LEVEL 4 BBBEE

The Set Point Group of companies has been independently rated as a Level 4 Contributor for its Broad-Based Black Economic Empowerment (BBBEE) programme. This marks an important milestone in the transformation of the Group, scoring more than 65% on the compliance rating scale and 125% Procurement Recognition level scale to achieve this.

WearCheck is one of the members of the Set Point group, which is defined as a value adding enterprise. This, together with the Level 4 contributor rating, is good news for the clients of all the organisations who do business with WearCheck and the other Set Point companies, as this will significantly enhance their own procurement scores.

Chief Executive of the Set Point Group, Graeme Horsfield, is happy with the rating. 'While the journey towards sustained transformation continues, there is still much to be done as we contribute to shaping South Africa's future. This rating is a small reward for all we have

worked to achieve to date, and for this, we thank our staff, clients and suppliers for their contributions.

'The transformation strategy in the Group centres on individual accountability, harnessing diversity at all levels within our organisation, and encouraging success. So entrenched is this culture throughout the organisation that it forms the platform of the Group's strap line "Harnessing Diversity, Disciplined Excellence", he said.

WearCheck managing director Neil Robinson believes the BBBEE score reaffirms the company's concerted effort to embrace the empowerment philosophy. 'This rating confirms that we are moving in the right direction, and we will continue to strengthen our BBBEE commitment by using accredited suppliers and business partners wherever possible. In addition, our corporate social responsibility initiatives are an integral part of WearCheck's ethos and are growing from strength to strength.'

## CHRISTMAS CHEER FOR ORPHANS

105 orphaned boys and girls at St Vincent's Children's Home in Mariannhill couldn't believe their eyes when WearCheck staff arrived in December, laden with treats for a party at the orphanage.

The children, aged between three and 16 years, enjoyed jumping castles, water slides, lunch, sweets and even a visit from Santa, who presented each child with a special gift. For many of the orphans, this was the first gift they had ever received.



*Santa brought special gifts for each of the 105 boys and girls at the home, when WearCheck staff raised R8 000 for a fun-filled Christmas party for the orphans.*

Money to finance this special day was contributed by WearCheck staff, who pooled their resources and then approached the company to match what they had raised, ending up with R8 000.

Even though the Christmas party has come and gone, the memories of the fun-filled day live on in the hearts of these special children, as well as those of the WearCheck staff.

## AUDITOR OF THE YEAR 2011



*Lorain de Bruin, branch co-ordinator of WearCheck Johannesburg, was selected as WearCheck's top internal auditor for the year 2011. She is pictured here at the award function being congratulated by managing director Neil Robinson. Well done, Lorain!*

## LONG TERM LOYALTY COMMENDED

60 years, or six decades – that's the combined length of service given by two long-serving members of staff from WearCheck Pinetown. The important career milestones were celebrated recently by diagnostician Rowan Maartens (30 years) and accounts clerk Preleen "Pearl" Joseph (30 years).

Managing director Neil Robinson congratulated Rowan and Pearl. 'We truly value your years of loyalty to the WearCheck family – not only do your years of experience benefit the company and your colleagues, but your familiarity with our customers and their needs translates into better customer service.'



*Diagnostician Rowan Maartens has worked for WearCheck for 30 years*



*Accounts clerk Preleen "Pearl" Joseph recently celebrated 30 years with WearCheck.*

## HILDA RETIRES, STARTS NEW CAREER

Recently retired Hilda Shoji, 65, worked for 13 years in WearCheck Pinetown's stores department. In addition to keeping the stores spotlessly clean, Hilda used her free time to grow plants in the vacant land behind the stores department. Her green fingers produced delicious seasonal vegetables, such as calabashes and mielies, which she shared with other staff members.

Human resources manager Michelle Padayachee reports that everyone was sad to say goodbye to Hilda. 'We wish her well in her retirement – even though she won't be relaxing!' Hilda now plans to run a small tuckshop business from home.

# TECHNICAL TIP: WHAT IS THE PARTICLE QUANTIFICATION INDEX?



WearCheck's diagnostic manager John Evans

The wear readings in oil analysis are expressed as PPM (parts per million), 1 PPM is equal to 1/10000th of 1%. These concentrations (e.g. Fe = 100 PPM) are measured with a spectrometer, typically an ICP (Inductively Coupled Plasma) spectrometer. There is a fundamental limitation to measuring the concentration of wear debris with this technique: because of the way that the instrumentation operates, particles greater than about 5 microns cannot be measured. This is because the sample is introduced into the instrument as an aerosol, and the droplet size is of the order of 5 microns. It is clear that an abnormal wear situation could exist with large wear particles present, but the iron concentration might be low. i.e., all the wear particles are greater than 5 microns.

The solution to this would be to filter all oil samples through a 5 micron membrane and examine the debris under a microscope. This practice is highly labour intensive, both in terms of preparing the membrane and in terms of examining the debris. In order to keep costs down and to make turnaround time as quick as possible without sacrificing quality, the PQ (Particle Quantifier) is used.

The PQI (Particle Quantifier Index) is a bulk magnetic index of the

oil sample. The oil sample bottle is shaken and then placed in the instrument which uses a magnetic field that is disturbed by any ferrous (magnetic) material in the sample, irrespective of size. The extent to which the magnetic field is disturbed is proportional to the total ferromagnetic content of the oil. The PQ is a unitless number, but it is quantitative and can be trended - the higher the number, the more ferrous debris present. Although the PQ is related to the total ferrous content of the sample, it is difficult to express this as an actual concentration in mg per litre. This is because different iron and steel alloys have different magnetic properties.

Although the PQ is a quantitative measurement, the laboratory uses it as a screening test, if the PQ is over a certain failure limit then the oil will be filtered through a 5 micron membrane and the debris examined under a microscope; a qualitative description of the debris is given in the diagnosis.

The failure limits depend on the type of component that the oil has come from, a turbine is a far more delicate system than a gearbox. To give an example, the failure limit for a turbine is 25 and the failure limit for a gearbox is 250. These failure limits have been determined from correlation studies of tens of thousands of samples where both a PQ and an MPE (Microscopic Particle Examination) have been carried out.

A PQ measurement is carried out on all samples, and approximately 20% of the samples fail; of the MPE's carried out on this 50% - roughly half - are completely normal.

In terms of non-magnetic wear material such as white metal or copper/brass/bronze, it is very unusual to find a non-ferrous metal wearing against another non-ferrous metal; iron tends to be the major wearing element in all mechanical systems. Often, non-magnetic material becomes impacted into ferrous wear debris during the wear process, so even non-magnetic material can have a magnetic signature.

Although the PQ is quantitative, the actual readings can be subject to fluctuations. This is due to the fact that a few large particles with fast settling rates may be present with many small particles with slower settling rates. Getting a homogeneous mixture to measure accurately and consistently is no easy task. So, the readings can be trended but don't expect any nice straight lines.

A high PQ could be as a result of a lot of very small wear particles and in this case the iron would be very high. This indicates the onset of an abnormal wear situation. As wear progresses, larger particles will start to be generated and the PQ will increase but the iron might not, as the particles are too big to be detected by the spectrometer. Eventually visible debris will be noted in the MPE.

## LATEST LUBRICATION DATA ON OFFER AT LUBMAT

Lubmat 2012, the premier European exhibition and conference on oil analysis, condition monitoring, maintenance and tribology, is scheduled to take place from 6 – 8 June in Bilbao, Spain.

This annual initiative focuses the world spotlight on lubrication and all related maintenance and industrial wear issues. This year, it is organised jointly by WearCheck's Spanish partner, Tekniker, and the Jost Institute for Tribotechnology.

In addition to the conference and exhibitions, there is a range of training courses on offer.

For more information, or to register, please visit [www.lubmat.org](http://www.lubmat.org)

If you have further queries, please contact Jesús Terradillos on [jterradillos@tekniker.es](mailto:jterradillos@tekniker.es)



# 'ONE STOP SHOP' LUBRICANT TESTING OFFERED BY WEARCHECK

Lubricant analysis forms a key part of predictive maintenance for machinery used in many applications. WearCheck's product range has evolved into a 'one stop shop' for all lubricant testing, offering an extensive selection of specialised tests.

Laboratory manager for WearCheck, Paul Swan, elaborates, 'In the last ten years WearCheck's range of products and services has grown to include increasingly focused tests in response to the escalating needs of our customers.'

WearCheck's standard testing options cover a broad and varied range - developed and refined over several decades - including:

- Engine, drivetrain, hydraulic and transmission oil analysis
- Compressor oil analysis
- Turbine oil analysis
- Heat transfer oil analysis
- Transformer oil analysis
- Diesel analysis
- Petrol analysis
- Coolant analysis
- Grease analysis
- Filter analysis
- Ferrographic analysis
- Dedicated aeronautical division comprising both filter, oil and ferrographic analysis

Swan explains the specialised nature of the testing capabilities. 'Each of these analysis suites comprises a comprehensive range of tests specifically designed to give a complete picture of the samples and the components from which they are taken, which in turn allows our diagnosticians to give the best diagnosis possible, assessing the health of the fluid in question, the health of the component it comes from and the levels of contamination.'

'To allow for this extensive testing capability, we have invested heavily and equipped our laboratories with state-of-the-art spectrometers, such as inductively coupled plasma and optical emission spectrometers, Fourier transform infrared spectrometers, the latest chromatographs including high performance liquid chromatographs and gas chromatographs - with varying configurations and detectors - and titration equipment.'

'Along with these are viscometers, ferrous debris monitors, particle counters, flash point apparatus, filtration equipment and analytical ferrography equipment with associated digital imaging technology.'

'In addition, WearCheck has specialised equipment for the evaluation of foaming and demulsification of oils, analysis of varnish potential and determination of anti-oxidant health (Ruler instrument) and dielectric strength testers.'

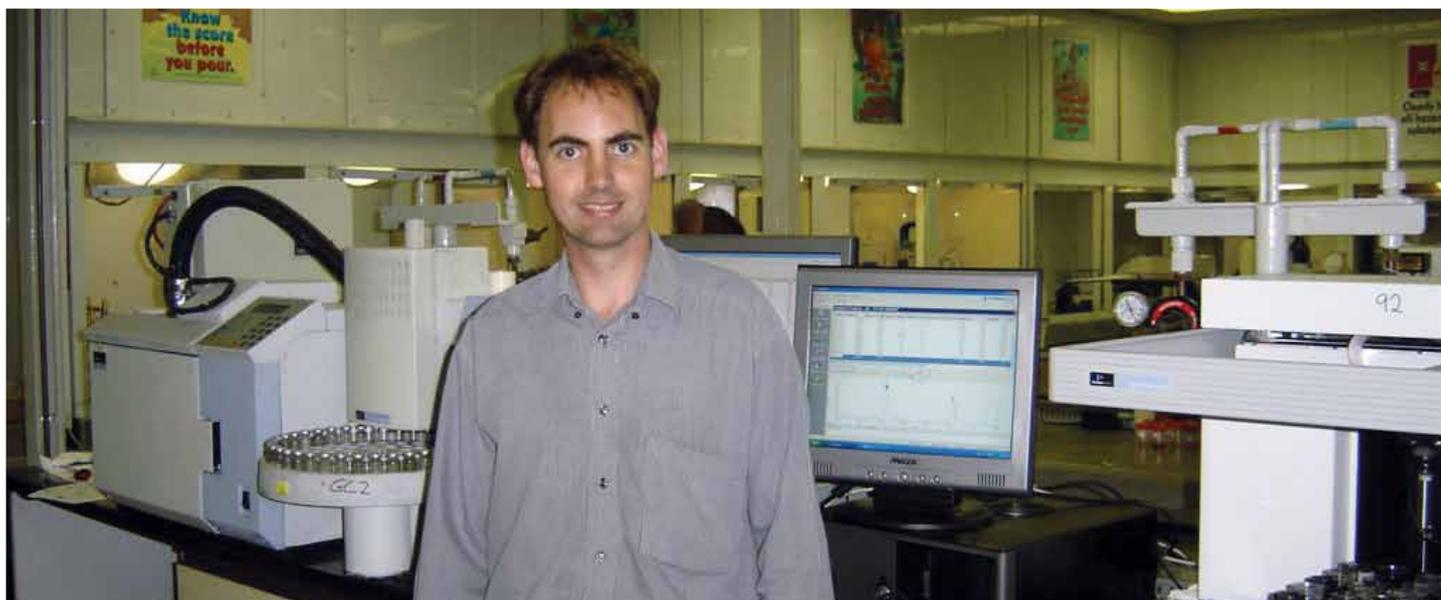
Backed up by WearCheck's cutting-edge laboratory equipment is a team of highly-skilled, experienced chemists (graduate and post-graduate) and senior laboratory staff, with 90 years' combined experience between them.

Condition monitoring is managed by a team of highly-qualified diagnosticians, who assess equipment condition based on laboratory results and handle customer questions about the meaning of reports, and recommend remedial action based on the reports.

Collectively, WearCheck's diagnosticians have 110 years of diagnostic experience, and have diagnosed over 6.5 million samples. The department is headed by a graduate chemist with 30 years' experience in oil analysis and comprises seven diagnosticians (mechanical and electrical engineers) and three technicians.

Swan confirms that WearCheck is constantly refining and enhancing the test profiles to meet customer needs, and appeals for input, 'Anyone who has an analytical need with a petroleum product which is currently not covered by one of our standard products or services and may not even be related to the field of condition monitoring, please contact our laboratory so that we may evaluate the specific need and offer a customised solution - no matter how obscure the request may seem, whether it is "how much oil is in my two stroke mixture?" or "can you do a particle analysis on a batch of brake fluid?"'

'This positions WearCheck as a "one stop shop" for any laboratory work in the petroleum field, and gives customers the peace of mind and convenience of dealing with only one fluid analysis service provider who strives to address every analytical need.'



*WearCheck has embraced the concept of a 'one stop shop' for laboratory work in the petroleum field under the guidance of laboratory manager Paul Swan, who is dedicated to expanding their range of specialist fluid tests to meet customers' needs*

# 2012 TRAINING COURSES

MPUMALANGA Middelburg	KWAZULU-NATAL Pinetown	NORTH WEST PROVINCE Rustenburg	GAUTENG Kempton Park
17-20 July	13-17 August	17-21 September	15-19 October
	<b>NetCheck</b> <i>One full day course</i> Software package		<b>NetCheck</b> <i>One full day course</i> Software package
<b>Oil Analysis 1</b> <i>One full day course</i> Understanding oil and its analysis	<b>Oil Analysis 1</b> <i>One full day course</i> Understanding oil and its analysis	<b>Oil Analysis 1</b> <i>One full day course</i> Understanding oil and its analysis	<b>Oil Analysis 1</b> <i>One full day course</i> Understanding oil and its analysis
<b>Oil Analysis 2</b> <i>One full day course</i> Report interpretation			
<b>Oil Analysis 3</b> <i>Half day course</i> Management			

## COSTS

Oil Analysis One covers two full days and costs R4 392. Oil Analysis Two and the NetCheck course cover one full day each and each costs R2 196. Oil Analysis Three is a half-day course and costs R936. 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](http://www.wearcheck.co.za). For 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 R525.00 plus VAT per delegate
  - WearCheck Customised – oil analysis for workshop technicians, a full day course costing R1278.00 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	
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 53 titles already available on the website: [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 email in pdf format instead of in printed form, please email a request to: [support@wearcheck.co.za](mailto:support@wearcheck.co.za). This option also applies to printed reports.

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