



### Sample Readings

| LabNo      | Mo | B  | Ba | Mg | Ca   | Zn  | P   | H2O | V40  | OXI | NIT | SUL | 10μ  | 25μ |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------|----|----|----|----|------|-----|-----|-----|------|-----|-----|-----|------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 44G1881945 | 4  | 38 | <1 | 9  | 2573 | 995 | 984 | 0.3 | 98.1 | 2   | 4   | 18  | 2348 | 64  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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Printed: 9/07/2014 11:45:50PM This report is valid only to the sample indicated on this report. Use this report in conjunction with other maintenance procedures.

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THIS ANALYSIS IS INTENDED AS AN AID IN PREDICTING MECHANICAL WEAR. NO GUARANTEE,  
EXPRESS OR IMPLIED, IS MADE AGAINST FAILURE OF THIS PIECE OF EQUIPMENT OR A COMPONENT PART  
THERE OF

**OUR VISION - TO BE THE WORLDS BEST S.O.S LABORATORY IN ALL KEY MEASURES**

SCHEDULED OIL SAMPLING IS AN ACCURATE AND RELIABLE PROGRAM WHICH WILL IMPROVE PRODUCTIVITY AND REDUCE MAINTENANCE COSTS

**TAKING A GOOD SAMPLE**

- ENSURE THAT ALL EQUIPMENT IS SAFE TO WORK ON AND THAT SAFE WORK PRACTICES ARE FOLLOWED WHEN EXTRACTING SAMPLES.
  - ENSURE THE AREA AROUND THE SAMPLE EXTRACTION POINT IS CLEAN AND FREE OF CONTAMINANTS. **DO NOT REUSE ANY PART OF THE SAMPLE KIT TO AVOID CROSS CONTAMINATION.**
  - EXTRACT THE SAMPLE FROM HOT, WELL MIXED FLUID PREFERABLY USING THE ENGINE, TRANSMISSION AND HYDRAULIC SYSTEM SOS SAMPLE VALVE, WHERE FITTED.
  - WHEN THE SUCTION EXTRACTION METHOD IS USED, IT IS BEST TO TAKE THE SAMPLE FROM MID LEVEL FLUID. **NOTE:** DO NOT TAKE THE SAMPLE FROM THE OIL DRAIN OR FROM THE FILTERS.
  - PLEASE USE OIL COMMANDER TO GENERATE THE SAMPLE CARD, ALTERNATIVELY FILL IN THE CORRECT SAMPLE CARD WITH COMPLETE AND ACCURATE INFORMATION. **NOTE:** WHEN INSUFFICIENT INFORMATION IS RECEIVED THE SAMPLE WILL NOT BE PROCESSED. ENSURE SUFFICIENT FLUID IS PROVIDED FOR A COMPLETE TEST
- COMMIT TO CONTINUOUS SOS SAMPLING AT **REGULAR INTERVALS**, THIS WILL PRODUCE TREND RESULTS THAT CAN BE EASILY UNDERSTOOD AND GRAPHED.

**ADDITIVE & WEAR ELEMENTS**

PARTICLES UP TO 8 MICRON IN SIZE ARE MEASURED USING ICP EMISSION SPECTROMETRY

|   |                      |                       |                      |                              |                      |                                 |                  |                     |                    |                   |
|---|----------------------|-----------------------|----------------------|------------------------------|----------------------|---------------------------------|------------------|---------------------|--------------------|-------------------|
| <b>Fe</b> IRON  | <b>Cr</b> CHROME     | <b>Pb</b> LEAD        | <b>Al</b> ALUMINIUM  | <b>Si</b> SILICON            | <b>Mo</b> MOLYBDENUM | <b>Na</b> SODIUM                | <b>Sn</b> TIN    | <b>Mg</b> MAGNESIUM | <b>Ni</b> NICKEL   | <b>Ca</b>         |
| CALCIUM   |                      |                       |                      |                              |                      |                                 |                  |                     |                    |                   |
| <b>Zn</b> ZINC  | <b>Cu</b> COPPER     | <b>Ag</b> SILVER      | <b>Cd</b> CADMIUM    | <b>Mn</b> MANGANESE          | <b>Ti</b> TITANIUM   | <b>B</b> BORON                  | <b>Ba</b> BARIUM | <b>K</b> POTASSIUM  | <b>P</b> PHOSPHATE | <b>V</b> VANADIUM |
| OIL CONDITION   |                      |                       |                      |                              |                      |                                 |                  |                     |                    |                   |
| <b>ST</b> SOOT  | <b>OXI</b> OXIDATION | <b>SUL</b> SULPHATION | <b>NIT</b> NITRATION | <b>VIS</b> VISCOSITY         |                      |                                 |                  |                     |                    |                   |
| CONTAMINANT TESTS   |                      |                       |                      |                              |                      |                                 |                  |                     |                    |                   |
| <b>W</b> WATER  |                      | <b>F</b> FUEL         |                      | <b>PCT</b> PARTICLE COUNTING |                      | <b>PQI</b> PARTICLE QUANTIFYING |                  |                     |                    |                   |
| A VISUAL INSPECTION OF ALL NON DARK SAMPLES IS CARRIED OUT FOR LARGE WEAR ELEMENTS OR CONTAMINATION |                      |                       |                      |                              |                      |                                 |                  |                     |                    |                   |



**ACCEPTABLE:** ALL TEST RESULTS ARE WITHIN ACCEPTABLE LIMITS. CONTINUE TO SAMPLE AT THE RECOMMENDED INTERVAL.



**ACCEPTABLE (A.I):** TEST RESULTS ARE ACCEPTABLE; HOWEVER THERE IS A PROBLEM WITH INFORMATION ON THE SAMPLE CARD. CORRECT OR CONFIRM THE INFORMATION.



**REPORTABLE:** SLIGHT CHANGES IN ONE OR MORE TEST RESULTS HAVE OCCURRED. THE COMPARTMENT NEEDS TO BE MONITORED, RESAMPLED OR CHECKED.



**UNACCEPTABLE:** ONE OR MORE TESTS HAVE HAD A LARGE INCREASE OR CHANGE IN THE RESULTS AND THE COMPARTMENT NEEDS INSPECTION AND OR CORRECTION ASAP.



**URGENT:** ONE OR MORE TEST RESULTS ARE EXCESSIVE AND THE COMPARTMENT NEEDS IMMEDIATE INSPECTION AND OR CORRECTION.

**PLEASE NOTE:** ENSURE THAT OIL SAMPLE RESULTS CORRELATE WITH OTHER DIAGNOSTIC INFORMATION BEFORE COMPARTMENTS ARE STRIPPED DOWN OR REPAIRS ARE UNDERTAKEN. ALWAYS RESAMPLE

**DID YOU KNOW?**

- THAT CONTAMINANTS SUCH AS DIRT ARE RESPONSIBLE FOR MOST ABRASIVE WEAR AS THEY ARE OFTEN HARDER THAN METAL.
- THAT IF YOUR COOLING SYSTEM IS NOT OPERATING WITHIN THE MANUFACTURERS RECOMMENDED TEMPERATURES YOU MAY REDUCE OIL LIFE. INCORRECT OPERATING TEMPERATURES MAY CREATE HARMFUL MOISTURE AND ACIDS TO BUILD UP THAT CAN ALSO REDUCE ENGINE LIFE.
- THAT NEW OIL AND DIESEL FUEL IS OFTEN CONTAMINATED BEFORE USE. ALL NEW FLUIDS SHOULD BE FILTERED BEFORE USE.
- THAT EXTENDED IDLING OR ENGINE LUGGING CAN INCREASE WEAR

- OTHER SERVICES WE SUPPLY (ADDITIONAL CHARGES APPLY).
- MICROSCOPIC PARTICLE ANALYSIS - A REPORT WITH PHOTOS
- **COOLANT ANALYSIS**
- **TBN** (TOTAL BASE NUMBER)
- **TAN** (TOTAL ACID NUMBER)
- CONSULTING SERVICES
- TRAINING
- CONTAMINATION CONTROL