WEAR CONTAMINATION FLUID CONDITION

NORMAL

ABNORMAL

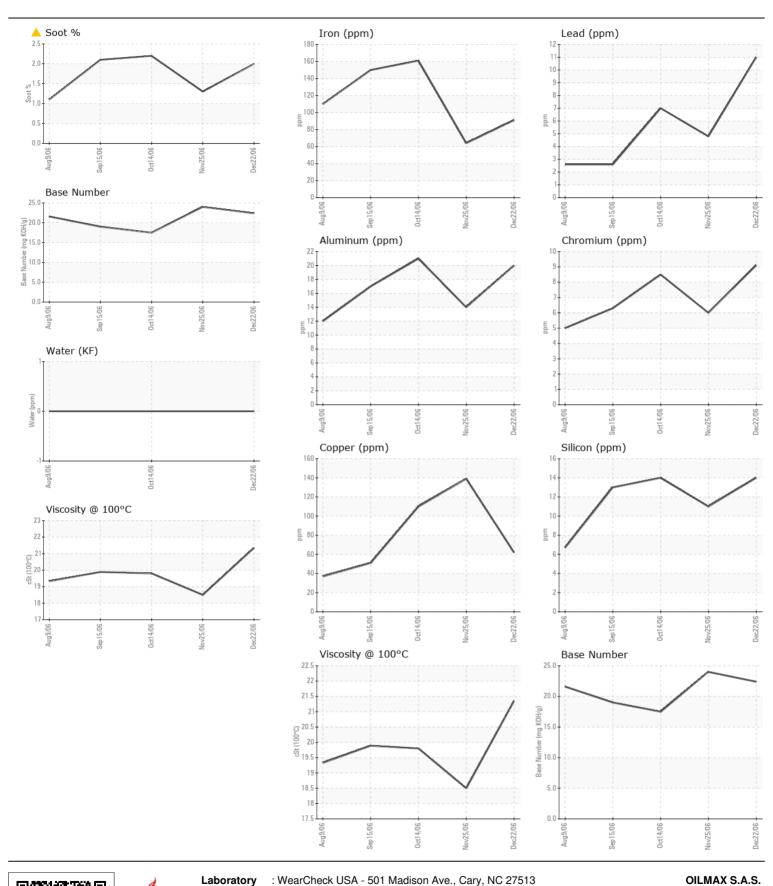
NORMAL

Machine Io

CATERPILLAR EMD CAT 3412

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---------------------|--|---|--|--|---|---|
| Sample Number | | Client Info | | RP033940 | RP034583 | RP03456 |
| Sample Date | | Client Info | | 22 Dec 2006 | 25 Nov 2006 | 14 Oct 200 |
| Machine Age | hrs | Client Info | | 4269 | 3391 | 2607 |
| Oil Age | hrs | Client Info | | 1678 | 800 | 2242 |
| Filter Age | hrs | Client Info | | 878 | 800 | 620 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMA |
| Iron | ppm | ASTM D5185m | | 91 | 64 | 161 |
| Chromium | ppm | ASTM D5185m | | 9 | 6 | 8 |
| Nickel | | ASTM D5185m | | 1 | <1 | 1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | | ASTM D5185m | | 20 | 14 | 21 |
| Lead | ppm | ASTM D5185m | | 11 | 5 | 7 |
| Copper | ppm | ASTM D5185m | | 62 | 139 | 110 |
| Tin | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | maa | ASTM D5185m | | 14 | 11 | 14 |
| | | | | | | 0 |
| | 1-1- | | | | | <1.0 |
| Water | % | ASTM D6304 | | NEG | NEG | △ 0.580 |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | <u>^</u> 2 | 1.3 | <u>^</u> 2.2 |
| Nitration | Abs/cm | *ASTM D7624 | | 19. | 0.75 | 0.43 |
| Sulfation | Abs/.1mm | *ASTM D7415 | | 78. | 0.46 | 1.43 |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORM |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORM |
| Emulsified Water | scalar | *Visual | | NEG | NEG | △ 0.5% |
| Sodium | ppm | ASTM D5185m | | 7 | 4 | 22 |
| Boron | ppm | ASTM D5185m | | 2 | 1 | 5 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 182 | 143 | 149 |
| Manganese | ppm | ASTM D5185m | | 2 | 1 | 2 |
| Magnesium | ppm | ASTM D5185m | | 3952 | 3871 | 3667 |
| Calcium | ppm | ASTM D5185m | | 7743 | 7204 | 7244 |
| Phosphorus | ppm | ASTM D5185m | | 1158 | 1036 | 1119 |
| Zinc | ppm | ASTM D5185m | | 1864 | 1586 | 1792 |
| Oxidation | Abs/.1mm | *ASTM D7414 | | 39. | 1.37 | 0.80 |
| | mg KOH/g | ASTM D2896 | | 22.4 | 24.0 | 17.5 |
| Dase Mulliber (DIN) | mg nong | 710111122000 | | | | |
| | Sample Number Sample Date Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Silicon Potassium Fuel Water Glycol Soot % Nitration Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | Sample Number Sample Date Machine Age hrs Oil Age hrs Filter Age hrs Oil Changed Filter Changed Sample Status Iron ppm Chromium ppm Nickel ppm Titanium ppm Silver ppm Aluminum ppm Lead ppm Copper ppm Tin ppm Vanadium ppm White Metal scalar Yellow Metal scalar Yellow Metal scalar Silicon ppm Potassium ppm Fuel Water % Glycol Soot % % Nitration Abs/cm Sulfation Abs/cm Sulfation Abs/cm Sulfation Abs/cm Sulfation Scalar Sand/Dirt scalar Appearance scalar Codor scalar Sodium ppm Boron ppm Barium ppm Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Calcium ppm Coxidation Abs/.1mm Coxidation Abs/.1mm Calcium ppm Coxidation Abs/.1mm Calcium ppm Coxidation Abs/.1mm Coxidation Abs/.1mm | Sample Number Sample Date Machine Age Oil Age hrs Client Info Client Info Client Info Client Info Client Info Client Info Filter Age Oil Changed Filter Changed Sample Status Iron Ppm ASTM D5185m Chromium Ppm ASTM D5185m Nickel Ppm ASTM D5185m Titanium Ppm ASTM D5185m Aluminum Ppm ASTM D5185m Copper Ppm ASTM D5185m Vanadium Ppm ASTM D5185m Visual Silicon Potassium Ppm ASTM D5185m Fuel WC Method Soot % ASTM D6304 Glycol WC Method Soot % Abs/.1mm ASTM D7415 Silt Scalar Visual Debris Scalar *Visual Appearance Scalar *Visual Appearance Scalar *Visual Sand/Dirt Scalar *Visual Appearance Scalar *Visual Appearance Scalar *Visual Sodium Ppm ASTM D5185m Boron Ppm ASTM D5185m Boron Ppm ASTM D5185m Barium Ppm ASTM D5185m Molybdenum Ppm ASTM D5185m Manganese Ppm ASTM D5185m Manganese Ppm ASTM D5185m ASTM D51 | Sample Number Sample Date Client Info Machine Age hrs Client Info Oil Age hrs Client Info Oil Age hrs Client Info Oil Changed Filter Age Oil Changed Client Info Sample Status Iron Ppm ASTM D5185m Chromium Ppm ASTM D5185m Nickel Ppm ASTM D5185m Vanadium Ppm ASTM D5185m Vone Vellow Metal Scalar Visual NONE Silicon Ppm ASTM D5185m Fuel WC Method Water % ASTM D5185m Fuel WC Method Soot % % ASTM D5185m Fuel WC Method Soot % ASTM D5185m Fuel WC Method Soot % ASTM D5185m Fuel WC Method Soot % ASTM D5185m Fuel NONE Sand/Dirt Scalar Visual NORML Emulsified Water Scalar Visual NORML Emulsified Water Scalar Visual NORML Emulsified Water Scalar Sodium Ppm ASTM D5185m Boron Barium Ppm ASTM D5185m ASTM D5185m Magnesium Ppm ASTM D5185m ASTM D5185m ASTM D5185m Phosphorus Ppm ASTM D5185m ASTM D5185m ASTM D5185m Phosphorus Ppm ASTM D5185m ASTM D5185m Phosphorus Ppm ASTM D5185m ASTM D5185m Phosphorus Ppm ASTM D5185m A | Sample Number Client Info RP033940 Sample Date Client Info 22 Dec 2006 Machine Age hrs Client Info 4269 Oil Age hrs Client Info 1678 Filter Age hrs Client Info Not Changd Oil Changed Client Info Not Changd Filter Changed Client Info Changed Sample Status Client Info Changed Iron ppm ASTM D5185m 9 Chromium ppm ASTM D5185m 9 Nickel ppm ASTM D5185m 9 Nickel ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m 0 Aluminum ppm ASTM D5185m 11 Copper ppm ASTM D5185m 0 Lead ppm ASTM D5185m 0 Vanadium ppm ASTM D5185m 0 Vandium ppm ASTM D5185m 0 Valud Meta | Sample Number Client Info RP033940 Sample Date Client Info 22 Dec 2006 25 Nov 2006 Machine Age hrs Client Info 4269 3391 3 |

Contact/Location: DANNY BARREIRO - PETQUI





Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : RP033940 Lab Number : 01893470

Unique Number : 3997142

Received Tested

: 15 Jan 2007 : 16 Jan 2007

Diagnosed

Test Package : MOB 2 (Additional Tests: KF)

Contact: DANNY BARREIRO oilmax.ec@gmail.com T: (593)996-451694

QUITO-ECUADOR,

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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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