MOB II WEAR CHECK

# OIL ANALYSIS REPORT

| | |
|---|---|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
## VOLVO 110087
Component
## Diesel Engine
Fluid
## DIESEL ENGINE OIL SAE 15W40 (--- GAL)

## RECOMMENDATION

Resample at the next service interval to monitor.

## WEAR

All component wear rates are normal.

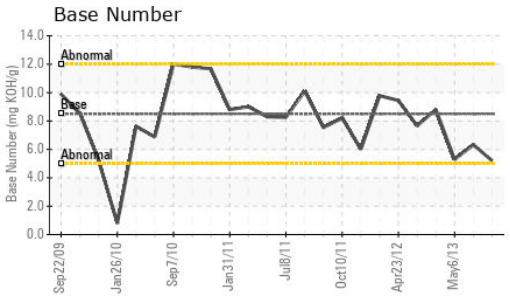
## CONTAMINATION

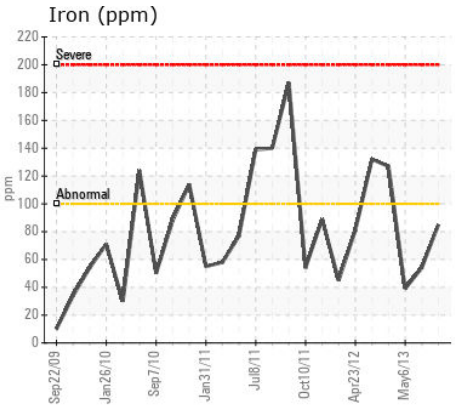
There is no indication of any contamination in the component.

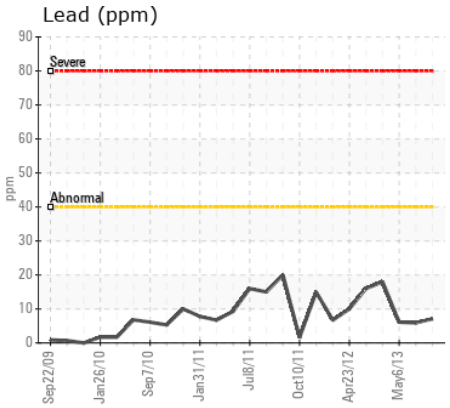
## FLUID CONDITION

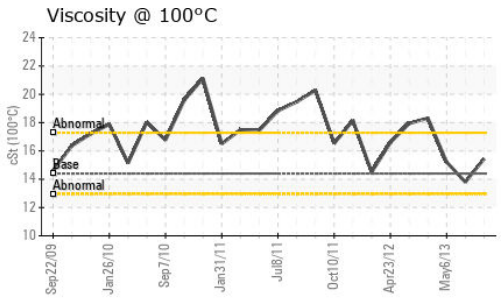
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

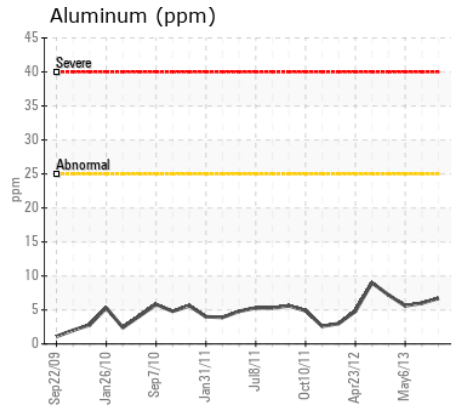
| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | KLMFA13354 | KLMFA13446 | KLMFA06556 |
| Sample Date | | Client Info | | 03 Dec 2013 | 14 Oct 2013 | 06 May 2013 |
| Machine Age | mls | Client Info | | 2370834 | 2342421 | 2295645 |
| Oil Age | mls | Client Info | | 61678 | 33265 | 34303 |
| Filter Age | mls | Client Info | | 61678 | 33265 | 34303 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |
| Iron | ppm | ASTM D5185m | >100 | 85 | 54 | 39 |
| Chromium | ppm | ASTM D5185m | >20 | 2 | 1 | 2 |
| Nickel | ppm | ASTM D5185m | >2 | 2 | 1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 7 | 6 | 6 |
| Lead | ppm | ASTM D5185m | >40 | 7 | 6 | 6 |
| Copper | ppm | ASTM D5185m | >330 | 27 | 17 | 4 |
| Tin | ppm | ASTM D5185m | >15 | 1 | 2 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silicon | ppm | ASTM D5185m | >25 | 6 | 7 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 3 | 2 |
| Fuel | | WC Method | >6.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 2.2 | 1.2 | 1.6 |
| Nitration | Abs/cm | *ASTM D7624 | | 11. | 8. | 12. |
| Sulfation | Abs/.1mm | *ASTM D7415 | | 29. | 22. | 29. |
| 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 | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | NEG | NEG | NEG |
| Sodium | ppm | ASTM D5185m | | 45 | 42 | 32 |
| Boron | ppm | ASTM D5185m | 250 | 52 | 44 | 68 |
| Barium | ppm | ASTM D5185m | 10 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 100 | 93 | 99 | 82 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 450 | 355 | 376 | 343 |
| Calcium | ppm | ASTM D5185m | 3000 | 1775 | 1876 | 1787 |
| Phosphorus | ppm | ASTM D5185m | 1150 | 1077 | 1241 | 1023 |
| Zinc | ppm | ASTM D5185m | 1350 | 1322 | 1475 | 1266 |
| Sulfur | ppm | ASTM D5185m | 4250 | 1836 | 3090 | 3888 |
| Oxidation | Abs/.1mm | *ASTM D7414 | | 25. | 16. | 23. |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 8.5 | 5.20 | 6.33 | 5.29 |
| Visc @ 100°C | cSt | ASTM D445 | 14.4 | 15.44 | 13.8 | 15.21 |

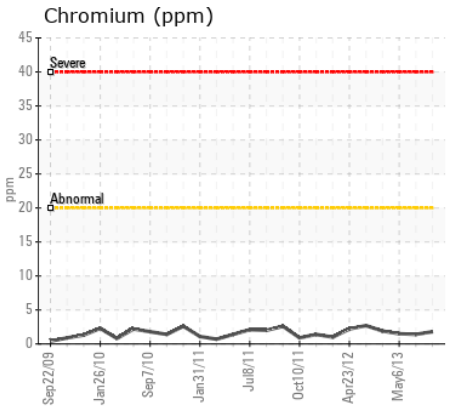


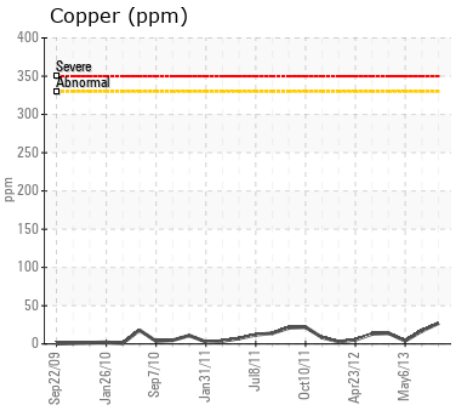



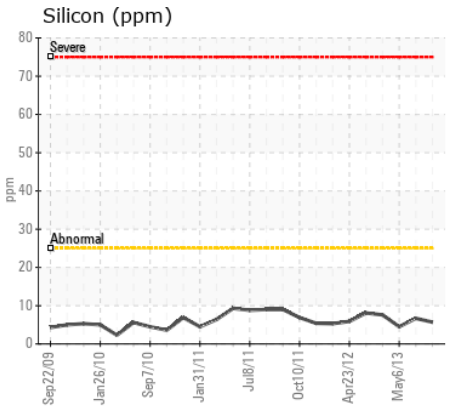



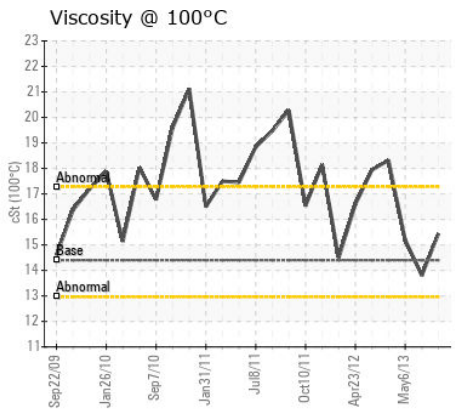



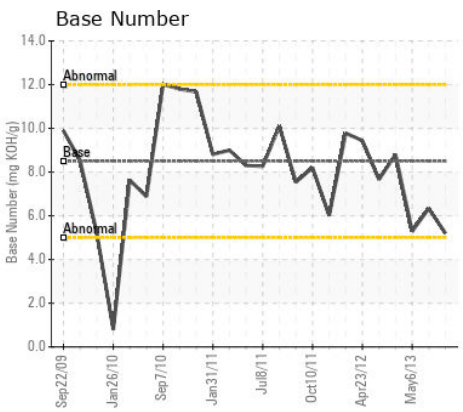




Certificate L2367

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|---|---|---|---|
| **Laboratory** | : WearCheck USA - 501 Madison Ave., Cary, NC 27513 | | |
| **Sample No.** | : KLMFA13354 | **Recieved** | : 09 Dec 2013 |
| **Lab Number** | : 03411257 | **Diagnosed** | : 10 Dec 2013 |
| **Unique Number** | : 6469044 | **Diagnostician** | : Don Baldridge |
| **Test Package** | : MOB 2 | | |

*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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