



ASCENDUM

OIL ANALYSIS REPORT

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



Area

Ascendum Machinery

Machine Id

VOLVO L90H 626962

Component

Diesel Engine

Fluid

VOLVO VDS-4.5 Premium Motor Oil 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | ASC0008472 | ASC0007805 | ASC0000522 |
| Sample Date | | Client Info | | 03 Jul 2024 | 14 Mar 2024 | 05 Dec 2023 |
| Machine Age | hrs | Client Info | | 1962 | 1456 | 951 |
| Oil Age | hrs | Client Info | | 506 | 505 | 458 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|-------------|------|------|
| Iron | ppm | ASTM D5185m | >100 | 12 | 15 | 8 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 3 | 3 | 1 |
| Lead | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >15 | 0 | 1 | <1 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

There is no indication of any contamination in the oil.

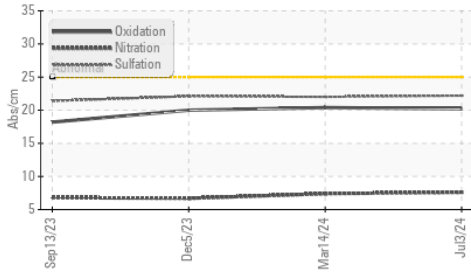
| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >20 | 6 | 6 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 2 | 0 |
| Fuel | | WC Method | >6.0 | <1.0 | <1.0 | <1.0 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | >3 | 0.6 | 0.5 | 0.4 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 7.6 | 7.4 | 6.7 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 22.2 | 22.0 | 22.1 |
| 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 |

FLUID CONDITION

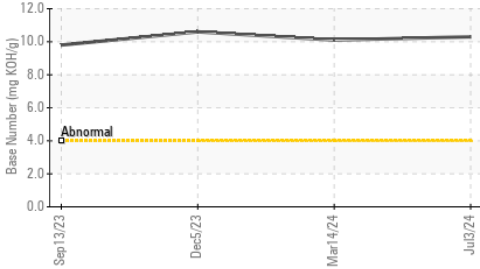
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|-----|-------------|------|------|
| Sodium | ppm | ASTM D5185m | | 2 | 0 | 2 |
| Boron | ppm | ASTM D5185m | | 29 | 45 | <1 |
| Barium | ppm | ASTM D5185m | | 0 | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 37 | 41 | 56 |
| Manganese | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 535 | 472 | 902 |
| Calcium | ppm | ASTM D5185m | | 1776 | 1845 | 1071 |
| Phosphorus | ppm | ASTM D5185m | | 1037 | 974 | 1007 |
| Zinc | ppm | ASTM D5185m | | 1239 | 1176 | 1220 |
| Sulfur | ppm | ASTM D5185m | | 3674 | 3410 | 2868 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 20.2 | 20.4 | 20.0 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 10.3 | 10.1 | 10.6 |
| Visc @ 100°C | cSt | ASTM D445 | | 13.4 | 13.2 | 13.1 |

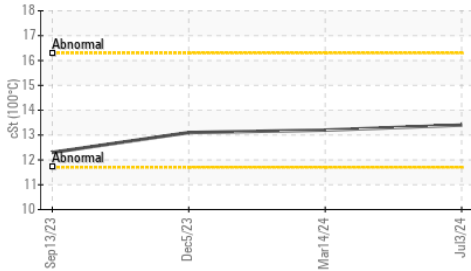
FT-IR (Direct Trend)



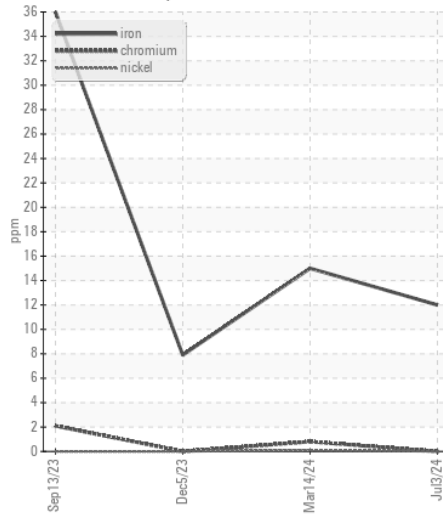
Base Number



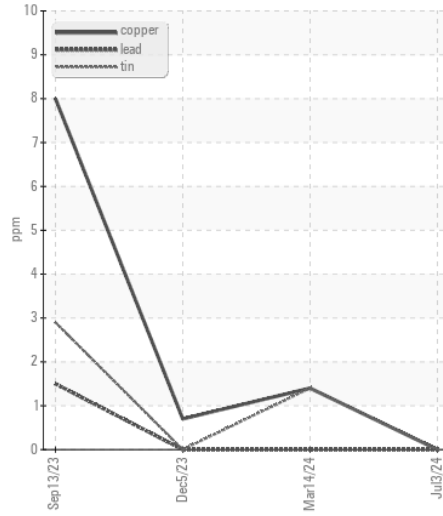
Viscosity @ 100°C



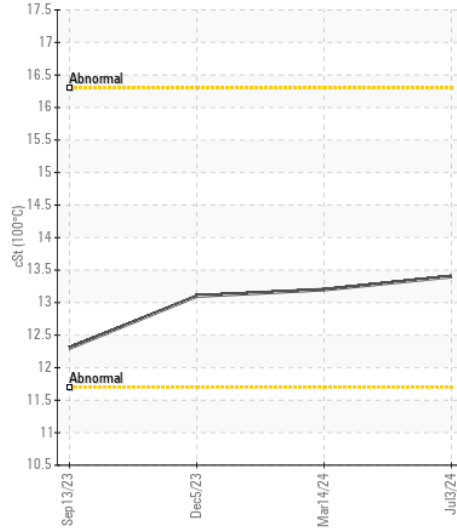
Ferrous Alloys



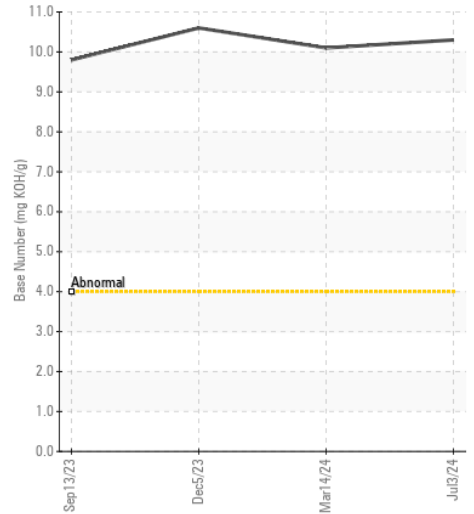
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0008472 **Received** : 11 Jul 2024
Lab Number : 06232896 **Tested** : 11 Jul 2024
Unique Number : 11116389 **Diagnosed** : 11 Jul 2024 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

IAA - INSURANCE AUTO AUCTIONS - OAK BROOK
 701 HARGER RD, SUITE 201
 OAK BROOK, IL
 US 60523
 Contact: Service Manager

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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F: