



VOLVO

OIL ANALYSIS REPORT

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



Area
[8000391308]
Machine Id
VOLVO L70H 622342
Component
Hydraulic System
Fluid
VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | VCP449446 | VCP380183 | VCP391745 |
| Sample Date | | Client Info | | 16 Jan 2024 | 20 Oct 2023 | 08 May 2023 |
| Machine Age | hrs | Client Info | | 14046 | 13516 | 12522 |
| Oil Age | hrs | Client Info | | 4000 | 994 | 480 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Filter Changed | | Client Info | | Changed | Not Changd | Not Changd |
| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|---------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185(m) | >50 | 14 | 12 | 11 |
| Chromium | ppm | ASTM D5185(m) | >20 | 1 | 1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |
| Silver | ppm | ASTM D5185(m) | | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185(m) | >20 | 8 | 7 | 6 |
| Lead | ppm | ASTM D5185(m) | >20 | <1 | <1 | <1 |
| Copper | ppm | ASTM D5185(m) | >20 | 3 | 3 | 3 |
| Tin | ppm | ASTM D5185(m) | >20 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| White Metal | scalar | Visual* | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE | NONE |

CONTAMINATION

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

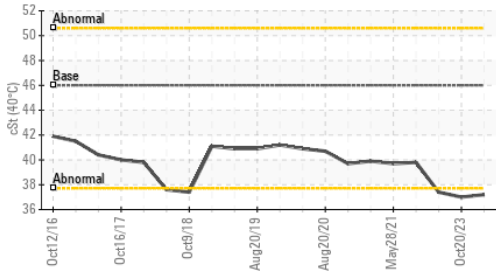
| | | | | | | |
|------------------|--------|---------------|-----------|-----------------|----------|------------|
| Silicon | ppm | ASTM D5185(m) | >20 | 19 | 17 | 16 |
| Potassium | ppm | ASTM D5185(m) | >20 | 3 | 2 | 2 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Particles >4µm | | ASTM D7647 | >5000 | 4218 | 1729 | ▲ 33197 |
| Particles >6µm | | ASTM D7647 | >1300 | 1048 | 372 | ▲ 5633 |
| Particles >14µm | | ASTM D7647 | >160 | 78 | 24 | 66 |
| Particles >21µm | | ASTM D7647 | >40 | 19 | 6 | 8 |
| Particles >38µm | | ASTM D7647 | >10 | 2 | 2 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | 1 | 2 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | 19/17/13 | 18/16/12 | ▲ 22/20/13 |
| 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* | >0.2 | NEG | NEG | NEG |

FLUID CONDITION

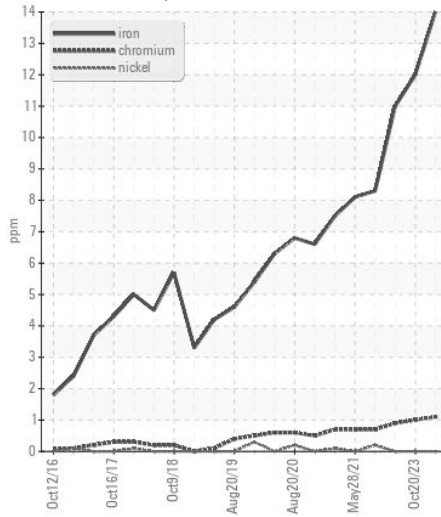
Viscosity of sample indicates oil is within ISO 32 range, advise investigate. The condition of the oil is acceptable for the time in service.

| | | | | | | |
|-------------|-----|---------------|------|---------------|--------|--------|
| Sodium | ppm | ASTM D5185(m) | | 4 | 3 | 3 |
| Boron | ppm | ASTM D5185(m) | 14 | 10 | 10 | 11 |
| Barium | ppm | ASTM D5185(m) | 0.0 | 0 | <1 | 0 |
| Molybdenum | ppm | ASTM D5185(m) | 0.0 | 0 | 0 | <1 |
| Manganese | ppm | ASTM D5185(m) | 0.0 | 0 | 0 | <1 |
| Magnesium | ppm | ASTM D5185(m) | 2.6 | 10 | 10 | 16 |
| Calcium | ppm | ASTM D5185(m) | 49 | 407 | 412 | 414 |
| Phosphorus | ppm | ASTM D5185(m) | 354 | 365 | 364 | 390 |
| Zinc | ppm | ASTM D5185(m) | 419 | 437 | 444 | 430 |
| Sulfur | ppm | ASTM D5185(m) | 3719 | 4012 | 3849 | 3879 |
| Visc @ 40°C | cSt | ASTM D7279(m) | 46 | ▲ 37.2 | ▲ 37.0 | ▲ 37.4 |

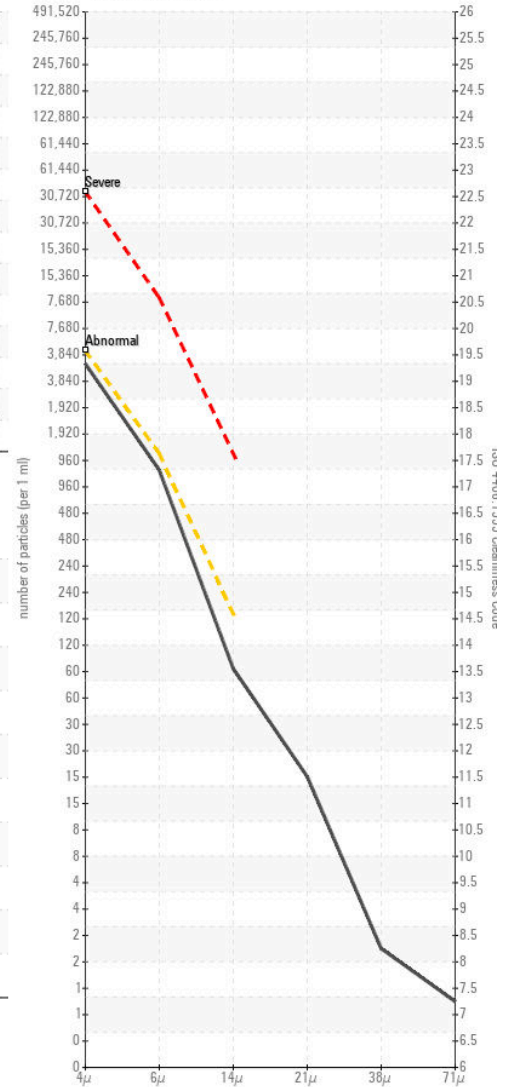
▲ Viscosity @ 40°C



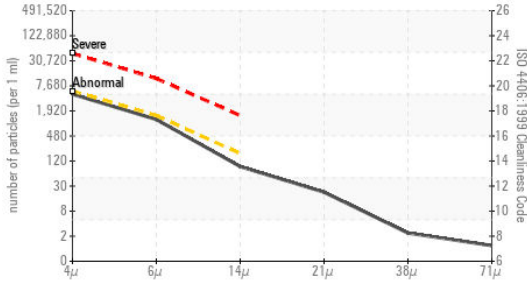
Ferrous Alloys



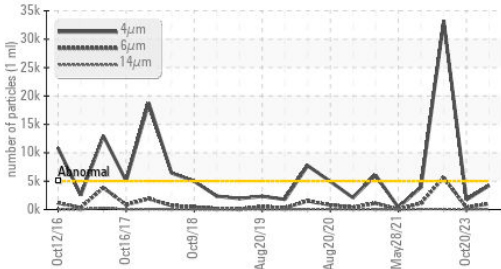
Particle Count



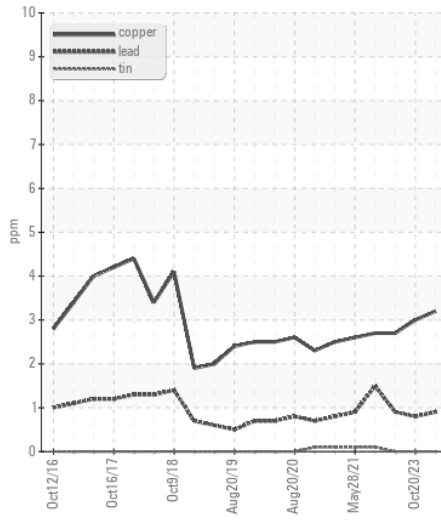
Particle Count



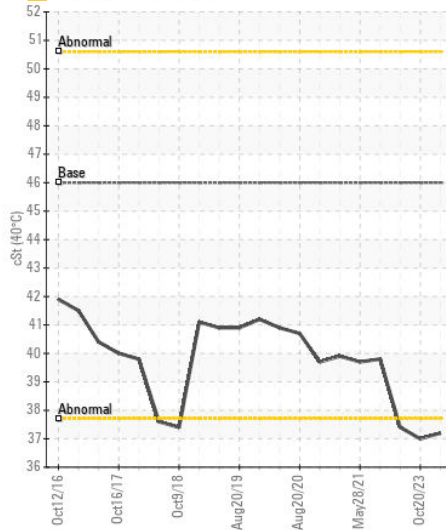
Particle Trend



Non-ferrous Metals



▲ Viscosity @ 40°C



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : VCP449446 **Received** : 22 Jan 2024
Lab Number : 02610334 **Diagnosed** : 23 Jan 2024
Unique Number : 5711420 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PrtCount)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.