



VOLVO PENTA

OIL ANALYSIS REPORT

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

Area
JOHN LUGGER [SAM]
Machine Id
VOLVO PENTA 3950002691
Component
Starboard IPS
Fluid
GEAR OIL SAE 75W90 (8 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | VPA060417 | VPA048933 | VPA037061 |
| Sample Date | | Client Info | | 13 Mar 2024 | 11 Nov 2022 | 02 Jan 2022 |
| Machine Age | hrs | Client Info | | 1442 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 176 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Not Changed | Changed |
| Filter Changed | | Client Info | | Changed | Not Changed | Changed |
| Sample Status | | | | NORMAL | NORMAL | ATTENTION |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| PQ | | ASTM D8184 | | 16 | 14 | 28 |
| Iron | ppm | ASTM D5185m | >200 | 62 | 72 | 220 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | <1 | 2 |
| Nickel | ppm | ASTM D5185m | >10 | 1 | <1 | 2 |
| Titanium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 1 | 1 |
| Aluminum | ppm | ASTM D5185m | | 2 | 2 | 13 |
| Lead | ppm | ASTM D5185m | | <1 | <1 | 1 |
| Copper | ppm | ASTM D5185m | | 6 | 6 | 10 |
| Tin | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

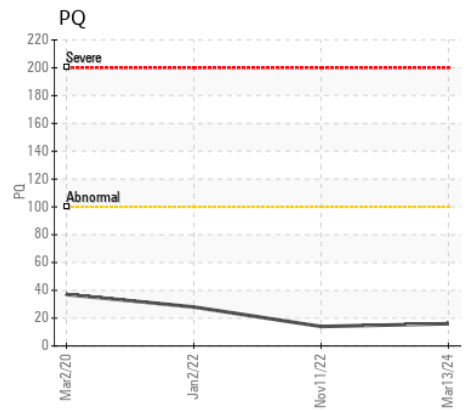
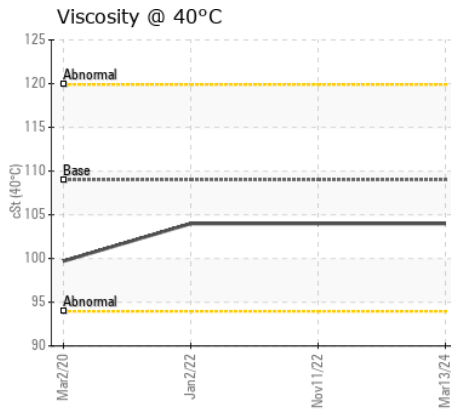
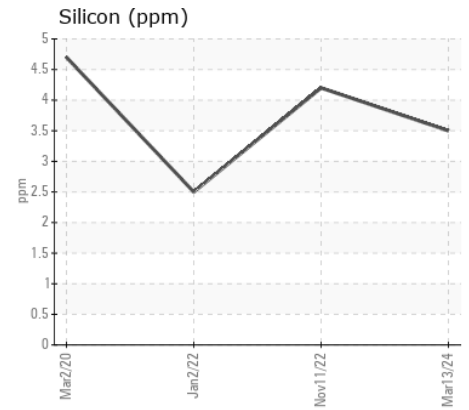
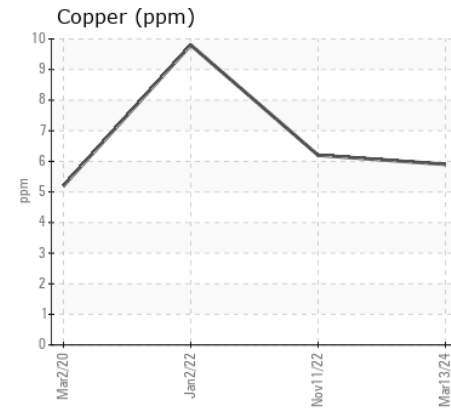
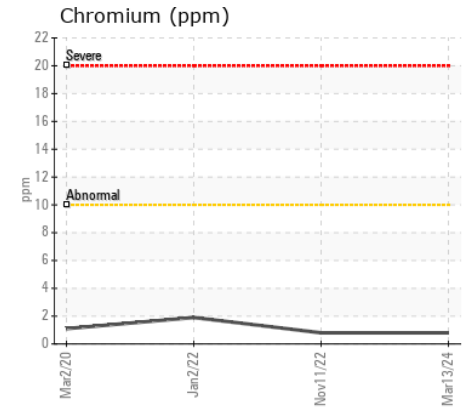
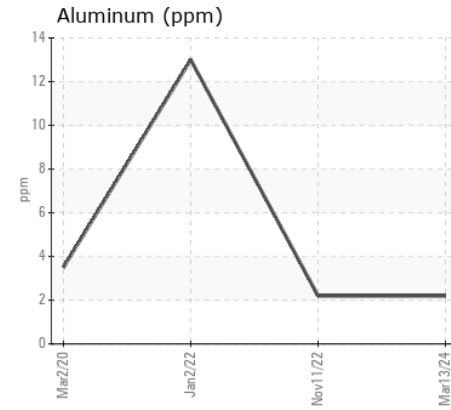
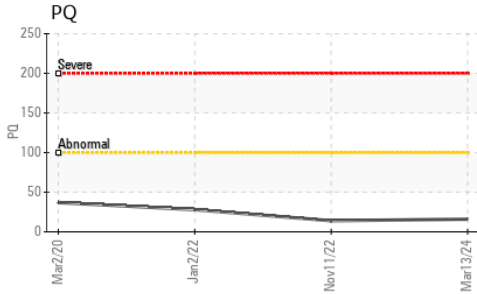
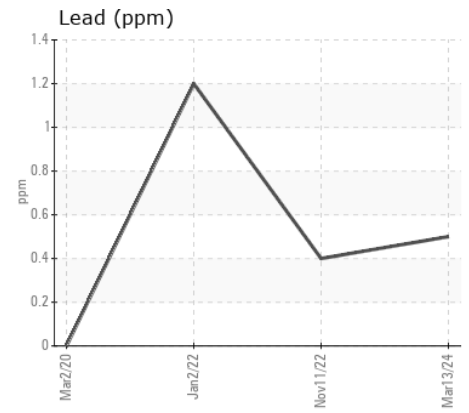
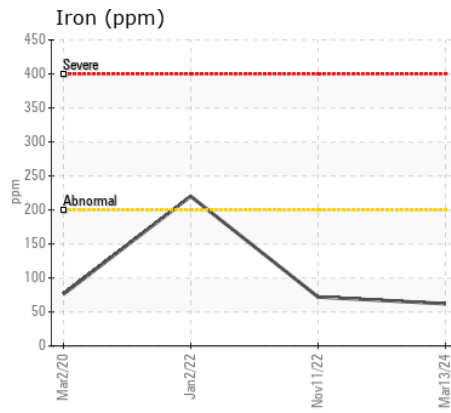
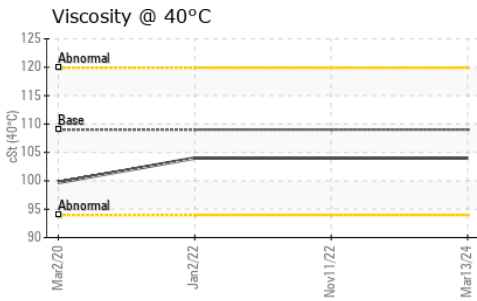
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | | 4 | 4 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 3 | 6 | 2 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| 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

The condition of the oil is acceptable for the time in service.

| | | | | | | |
|-------------|-----|-------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 6 | 5 | 20 |
| Boron | ppm | ASTM D5185m | 400 | 282 | 284 | 263 |
| Barium | ppm | ASTM D5185m | 200 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 12 | <1 | <1 | <1 |
| Manganese | ppm | ASTM D5185m | | 3 | 5 | 4 |
| Magnesium | ppm | ASTM D5185m | 12 | 6 | 42 | 12 |
| Calcium | ppm | ASTM D5185m | 150 | 12 | 24 | 6 |
| Phosphorus | ppm | ASTM D5185m | 1650 | 1193 | 1379 | 1445 |
| Zinc | ppm | ASTM D5185m | 125 | 7 | 0 | 159 |
| Sulfur | ppm | ASTM D5185m | 22500 | 24588 | 25056 | 21622 |
| Visc @ 40°C | cSt | ASTM D445 | 109 | 104 | 104 | 104 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : VPA060417 **Received** : 20 Mar 2024
Lab Number : 06123984 **Tested** : 21 Mar 2024
Unique Number : 10938135 **Diagnosed** : 22 Mar 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: PQ)

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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)