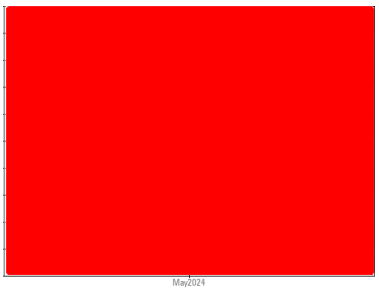
# PROBLEM SUMMARY

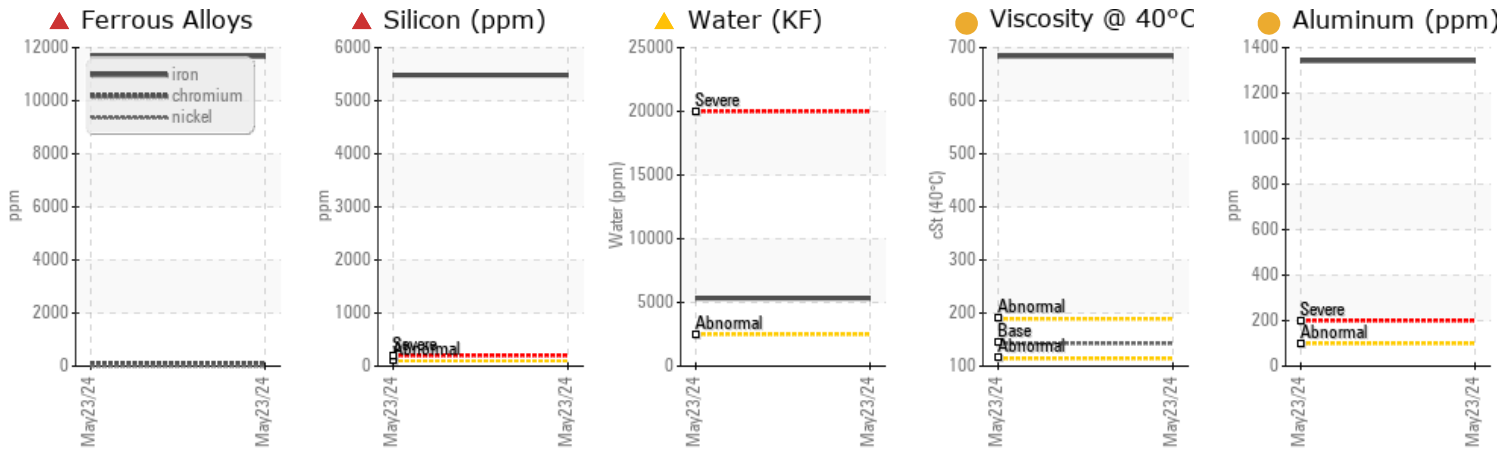
Sample Rating Trend




WEAR

Machine Id
## VOLVO EC350E 310403
Component
**Left Travel**
Fluid
**GEAR OIL SAE 80W90 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | --- | --- |
| Iron | ppm | ASTM D5185m | >1200 | ▲ **11671** | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | ▲ **101** | --- | --- |
| Nickel | ppm | ASTM D5185m | >5 | ▲ **9** | --- | --- |
| Manganese | ppm | ASTM D5185m | | ▲ **78** | --- | --- |
| Silicon | ppm | ASTM D5185m | >100 | ▲ **5480** | --- | --- |
| Water | % | ASTM D6304 | >0.25 | ▲ **0.533** | --- | --- |
| ppm Water | ppm | ASTM D6304 | >2500 | ▲ **5330** | --- | --- |


**Customer Id:** WILCHA
**Sample No.:** ML0001961
**Lab Number:** 06194443
**Test Package:** CONST

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Sean Felton +1 919-379-4092
sfelton@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

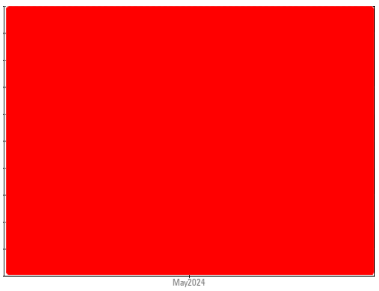
| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Inspect Wear Source | --- | --- | ? | We advise that you inspect for the source(s) of wear. |
| Change Fluid | --- | --- | ? | We recommend that you drain the oil from the component if this has not already been done. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Dirt Access | --- | --- | ? | We advise that you check all areas where dirt can enter the system. |
| Check Water Access | --- | --- | ? | We advise that you check for the source of water entry. |

## HISTORICAL DIAGNOSIS

McCLUNG LOGAN EQUIPMENT COMPANY

# OIL ANALYSIS REPORT

Sample Rating Trend




WEAR

Machine Id
## VOLVO EC350E 310403
Component
**Left Travel**
Fluid
**GEAR OIL SAE 80W90 (--- GAL)**

## DIAGNOSIS

**▲ Recommendation**
We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

**▲ Wear**
Gear wear is indicated.

**▲ Contamination**
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a moderate concentration of water present in the oil.

**● Fluid Condition**
The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **ML0001961** | --- | --- |
| Sample Date | | Client Info | | **23 May 2024** | --- | --- |
| Machine Age | hrs | Client Info | | **9621** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **Not Changd** | --- | --- |
| Sample Status | | | | **SEVERE** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >1200 | ▲ **11671** | --- | --- |
| Chromium | ppm | ASTM D5185m | >20 | ▲ **101** | --- | --- |
| Nickel | ppm | ASTM D5185m | >5 | ▲ **9** | --- | --- |
| Titanium | ppm | ASTM D5185m | | **151** | --- | --- |
| Silver | ppm | ASTM D5185m | | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185m | >100 | ● **1342** | --- | --- |
| Lead | ppm | ASTM D5185m | >50 | **<1** | --- | --- |
| Copper | ppm | ASTM D5185m | >50 | **26** | --- | --- |
| Tin | ppm | ASTM D5185m | >5 | **2** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **4** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **<1** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 400 | **106** | --- | --- |
| Barium | ppm | ASTM D5185m | 200 | **9** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | 12 | **15** | --- | --- |
| Manganese | ppm | ASTM D5185m | | ▲ **78** | --- | --- |
| Magnesium | ppm | ASTM D5185m | 12 | **183** | --- | --- |
| Calcium | ppm | ASTM D5185m | 150 | **253** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | 1650 | **715** | --- | --- |
| Zinc | ppm | ASTM D5185m | 125 | **32** | --- | --- |
| Sulfur | ppm | ASTM D5185m | 22500 | **74003** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >100 | ▲ **5480** | --- | --- |
| Sodium | ppm | ASTM D5185m | >170 | **178** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **393** | --- | --- |
| Water | % | ASTM D6304 | >0.25 | ▲ **0.533** | --- | --- |
| ppm Water | ppm | ASTM D6304 | >2500 | ▲ **5330** | --- | --- |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt | scalar | *Visual | NONE | **NONE** | --- | --- |
| Debris | scalar | *Visual | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | --- | --- |
| Appearance | scalar | *Visual | NORML | **NORML** | --- | --- |
| Odor | scalar | *Visual | NORML | **NORML** | --- | --- |
| Emulsified Water | scalar | *Visual | >0.25 | **0.2%** | --- | --- |
| Free Water | scalar | *Visual | | **NEG** | --- | --- |

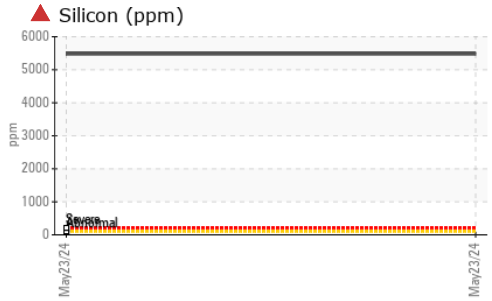
# OIL ANALYSIS REPORT

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 143 | **684** | --- | --- |

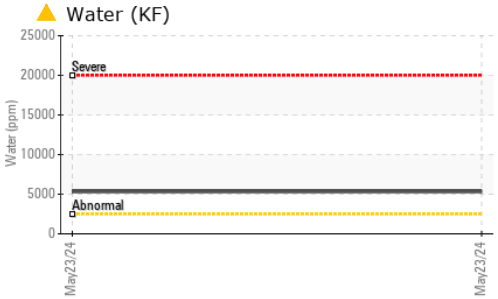
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | *no image* | *no image* | *no image* |
| Bottom | | | *no image* | *no image* | *no image* |

## GRAPHS

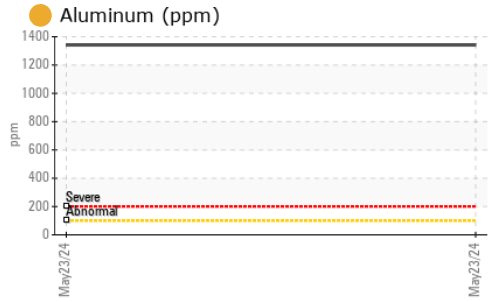
Silicon (ppm)



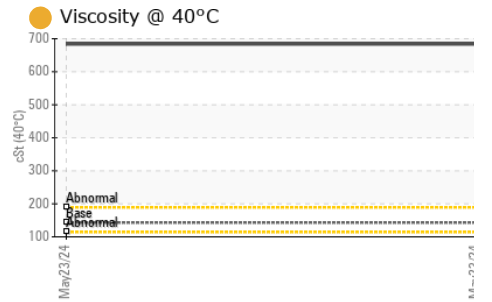

Water (KF)



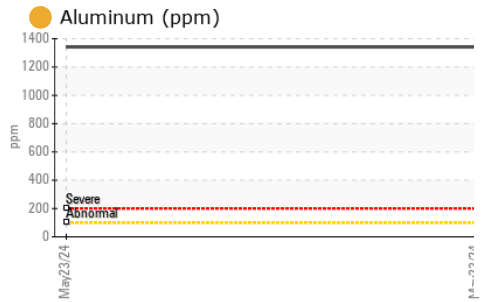

Aluminum (ppm)



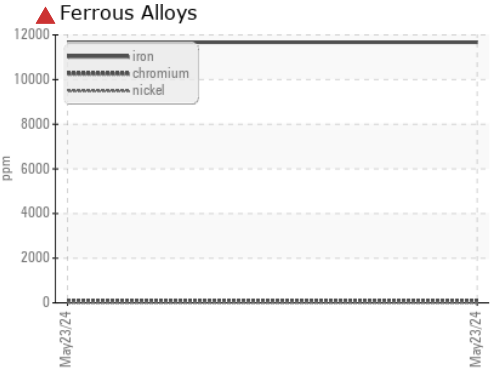

Viscosity @ 40°C



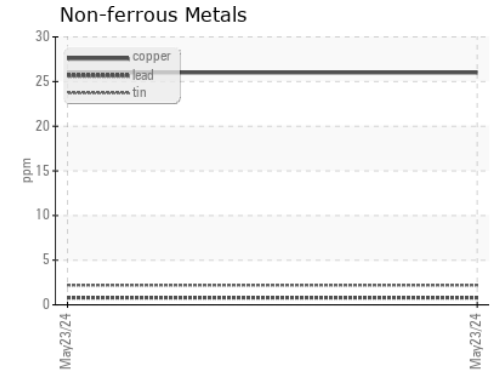

Aluminum (ppm)



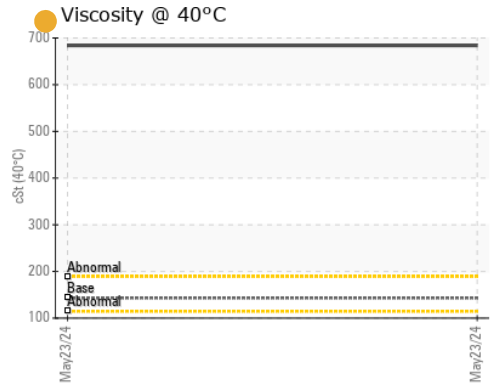

Ferrous Alloys




Non-ferrous Metals




Viscosity @ 40°C




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : ML0001961 **Received** : 29 May 2024
**Lab Number** : 06194443 **Tested** : 31 May 2024
**Unique Number** : 11056566 **Diagnosed** : 31 May 2024 - Sean Felton
**Test Package** : CONST ( Additional Tests: KF )

*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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