



ASCENDUM

OIL ANALYSIS REPORT

WEAR

ABNORMAL

CONTAMINATION

SEVERE

FLUID CONDITION

ATTENTION

Area

Ascendum Machinery

Machine Id

SENNEBOGEN 821E RTH5 (S/N 82102699)

Component

Hydraulic System

Fluid

VOLVO SUPER HYDRAULIC OIL 46 (69 GAL)

RECOMMENDATION

We advise that you check for the source of water entry. We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | ASC0007958 | ASC0000493 | VCP0006693 |
| Sample Date | | Client Info | | 10 Apr 2024 | 09 Aug 2023 | 12 Apr 2023 |
| Machine Age | hrs | Client Info | | 5663 | 5133 | 4027 |
| Oil Age | hrs | Client Info | | 4027 | 1106 | 4027 |
| Filter Age | hrs | Client Info | | 0 | 1106 | 4027 |
| Oil Changed | | Client Info | | Not Changed | Not Changed | Changed |
| Filter Changed | | Client Info | | Changed | Changed | Changed |
| Sample Status | | | | SEVERE | ABNORMAL | ABNORMAL |

WEAR

The iron level is abnormal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >20 | ▲ 25 | 5 | 8 |
| Chromium | ppm | ASTM D5185m | >10 | 3 | 2 | 4 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >75 | 0 | 0 | <1 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

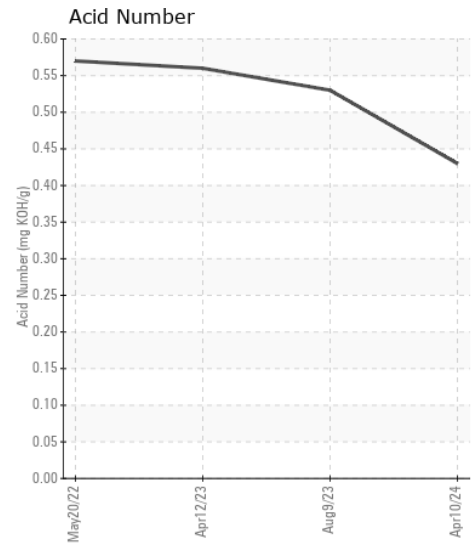
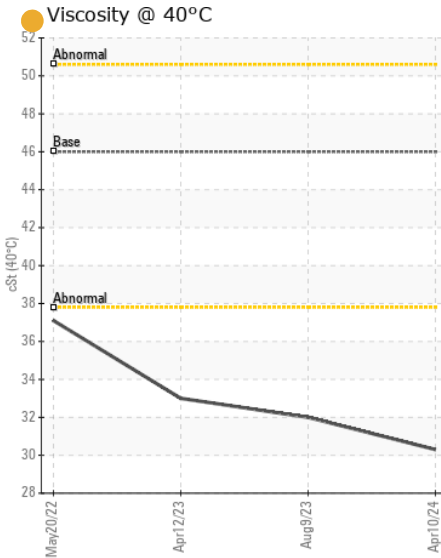
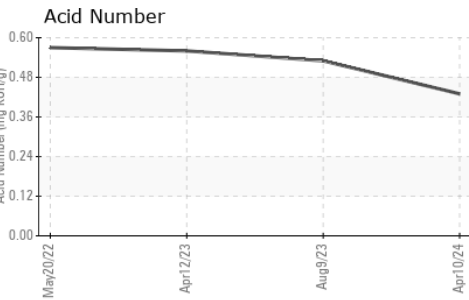
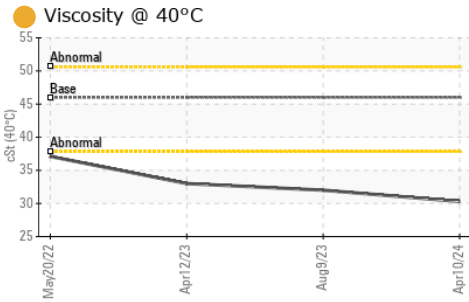
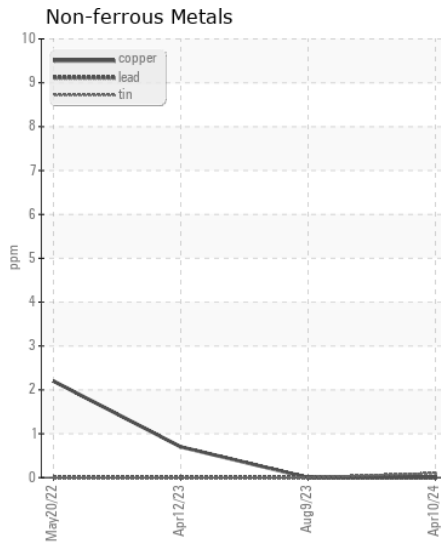
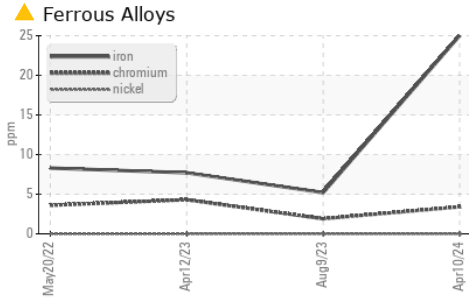
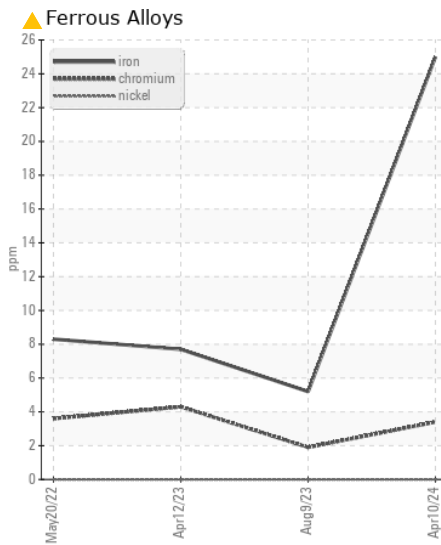
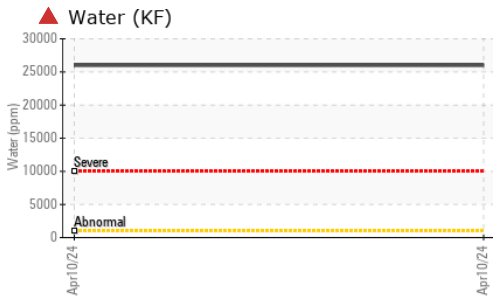
There is a moderate amount of visible silt present in the sample. Moderate concentration of visible dirt/debris present in the oil. There is a high concentration of water present in the oil.

| | | | | | | |
|------------------|--------|--------------|-----------|----------------|-------------------|-------------------|
| Silicon | ppm | ASTM D5185m | >20 | 2 | 2 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 1 |
| Water | % | ASTM D6304 | >0.1 | ▲ 2.60 | --- | --- |
| ppm Water | ppm | ASTM D6304 | >1000 | ▲ 26000 | --- | --- |
| Particles >4µm | | ASTM D7647 | >5000 | --- | ▲ 36059 | ▲ 41102 |
| Particles >6µm | | ASTM D7647 | >1300 | --- | ▲ 8194 | 537 |
| Particles >14µm | | ASTM D7647 | >160 | --- | ▲ 271 | 25 |
| Particles >21µm | | ASTM D7647 | >40 | --- | ▲ 58 | 6 |
| Particles >38µm | | ASTM D7647 | >10 | --- | 2 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | --- | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | --- | ▲ 22/20/15 | ▲ 23/16/12 |
| Silt | scalar | *Visual | NONE | ▲ MODER | NONE | NONE |
| Debris | scalar | *Visual | NONE | ▲ MODER | NONE | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | ● MILKY | NORML | ● HAZY |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.1 | ▲ 0.2% | NEG | ▲ 0.2% |

FLUID CONDITION

Viscosity of sample indicates oil is within ISO 32 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

| | | | | | | |
|------------------|----------|-------------|------|---------------|---------------|---------------|
| Sodium | ppm | ASTM D5185m | | <1 | 3 | 4 |
| Boron | ppm | ASTM D5185m | 14 | 0 | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0.0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0.0 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 0.0 | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 2.6 | 2 | 4 | 3 |
| Calcium | ppm | ASTM D5185m | 49 | 42 | 164 | 295 |
| Phosphorus | ppm | ASTM D5185m | 354 | 322 | 361 | 366 |
| Zinc | ppm | ASTM D5185m | 419 | 397 | 439 | 445 |
| Sulfur | ppm | ASTM D5185m | 3719 | 880 | 1940 | 2024 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.43 | 0.53 | 0.56 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | ● 30.3 | ● 32.0 | ● 33.0 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : ASC0007958 **Received** : 15 Apr 2024
Lab Number : 06148583 **Tested** : 17 Apr 2024
Unique Number : 10978661 **Diagnosed** : 17 Apr 2024 - Don Baldrige
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)

HILCO TRANSPORT
 7700 KENMONT RD
 GREENSBORO, NC
 US 27409

Contact: MIKE LAUGHEAD
 mlaughead@hilcotransport.com

T: (336)273-9441

F: (336)273-9701