



OIL ANALYSIS REPORT

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

Machine Id
ALS 5W20 SYN
 Component
New (Unused) Oil
 Fluid
{not provided} (--- QTS)

RECOMMENDATION

This is a baseline read-out on the submitted sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DC0031260 | DC0031298 | DC0031355 |
| Sample Date | | Client Info | | 21 Feb 2024 | 27 Nov 2023 | 07 Nov 2023 |
| Machine Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

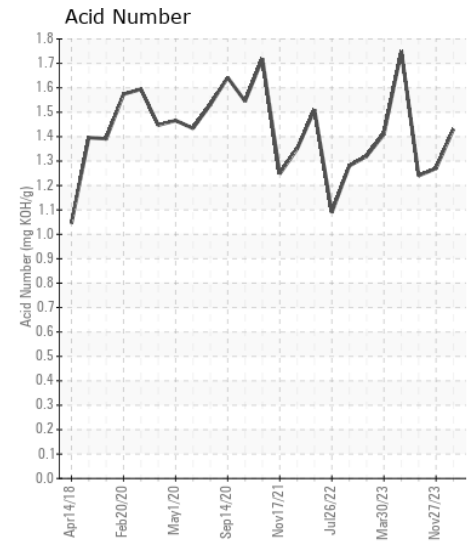
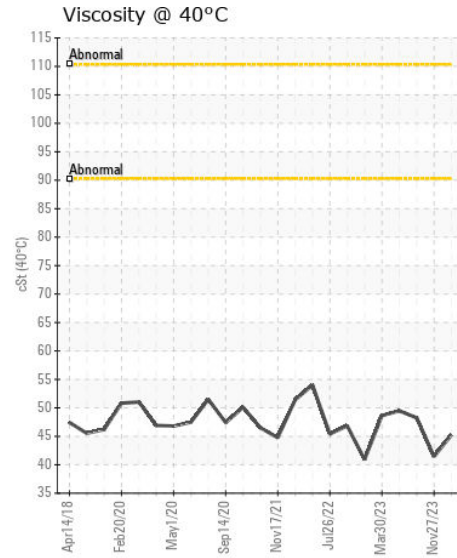
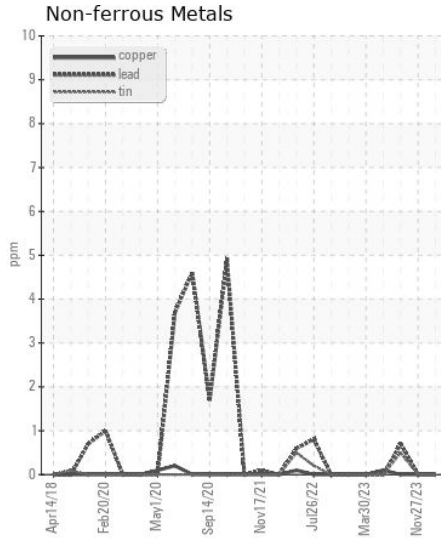
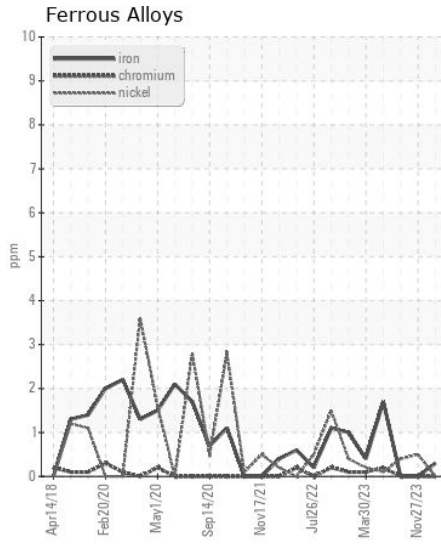
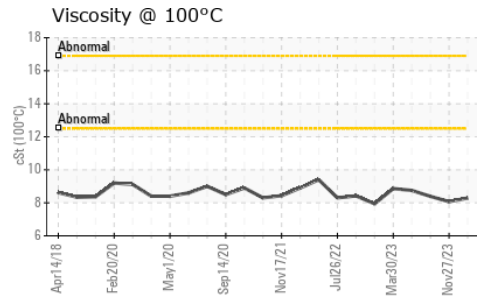
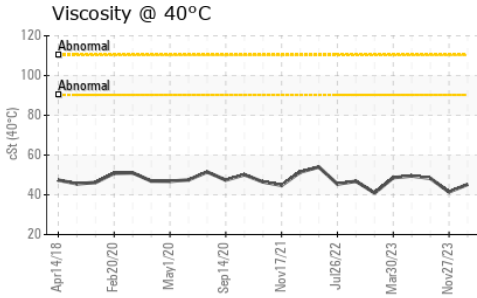
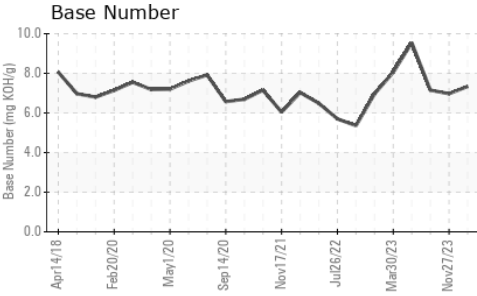
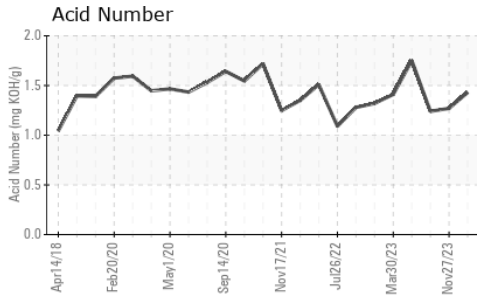
| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Chromium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | 0 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | | 1 | 1 | 1 |
| Lead | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Copper | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Tin | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | | 8 | 7 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | 1 | <1 | 2 |
| Water | | WC Method | | 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 | | NEG | NEG | NEG |

FLUID CONDITION

| | | | | | | |
|----------------------|----------|-------------|--|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Boron | ppm | ASTM D5185m | | 131 | 126 | 134 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 37 | 36 | 40 |
| Manganese | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | 700 | 650 | 706 |
| Calcium | ppm | ASTM D5185m | | 756 | 681 | 745 |
| Phosphorus | ppm | ASTM D5185m | | 613 | 552 | 612 |
| Zinc | ppm | ASTM D5185m | | 719 | 661 | 739 |
| Sulfur | ppm | ASTM D5185m | | 2397 | 2213 | 2475 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.43 | 1.27 | 1.24 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 7.34 | 6.97 | 7.15 |
| Visc @ 40°C | cSt | ASTM D445 | | 45.24 | 41.44 | 48.25 |
| Visc @ 100°C | cSt | ASTM D445 | | 8.29 | 8.07 | 8.39 |
| Viscosity Index (VI) | Scale | ASTM D2270 | | 160 | 172 | 150 |



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DC0031260
Lab Number : 06102131
Unique Number : 10900361
Test Package : MOB 2 (Additional Tests: FT-IR, ICP-NewOil, KV100, PrtCount, TBN,

THE UNITED OIL COMPANY - OPERATIONS
 4405 E. BALTIMORE ST
 BALTIMORE, MD
 US 21224
 Contact: MICHELLE HORNING

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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