



OIL ANALYSIS REPORT

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



Area
AMR-Cheyenne
Machine Id
143343-1217 LIEBHERR LH60M 143343-1217
Component
Rear Right Wheel Hub
Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DJJ0020048 | DJJ0018383 | DJJ0017301 |
| Sample Date | | Client Info | | 21 Jun 2024 | 19 Mar 2024 | 07 Dec 2023 |
| Machine Age | hrs | Client Info | | 3196 | 2527 | 1893 |
| Oil Age | hrs | Client Info | | 0 | 500 | 500 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|-------|------|
| Iron | ppm | ASTM D5185m | >650 | 16 | 13 | 15 |
| Chromium | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Nickel | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >4 | 0 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | 2 | 0 |
| Lead | ppm | ASTM D5185m | >4 | <1 | 1 | 0 |
| Copper | ppm | ASTM D5185m | >60 | 3 | 2 | 3 |
| Tin | ppm | ASTM D5185m | >4 | 0 | 1 | <1 |
| Vanadium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | MODER | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

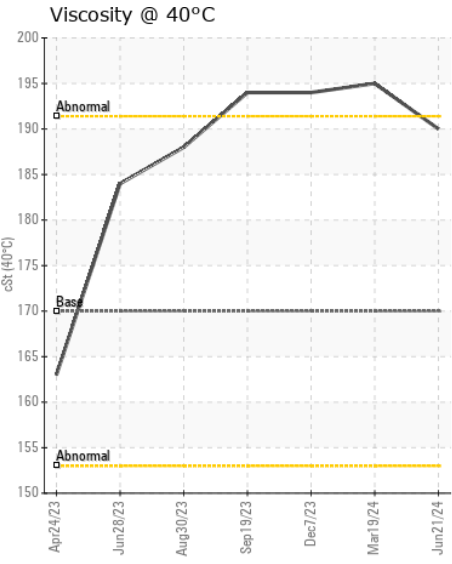
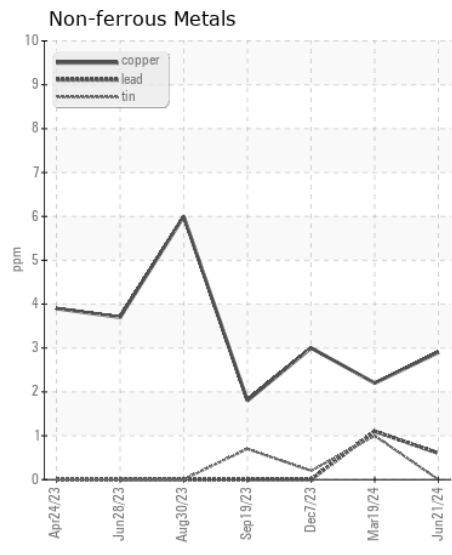
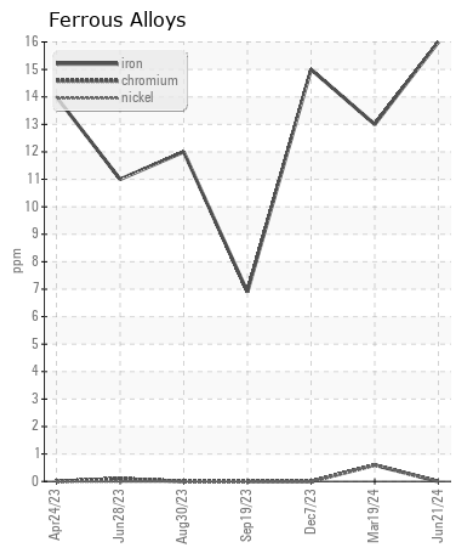
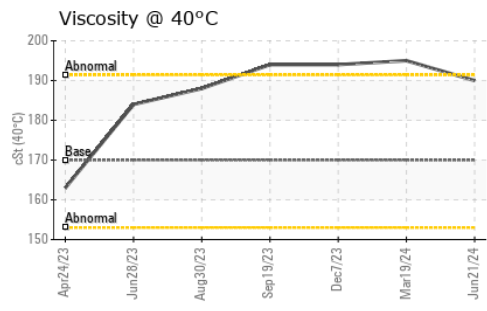
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >75 | <1 | 2 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 1 | 0 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| 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 | | 3 | 0 | <1 |
| Boron | ppm | ASTM D5185m | 0 | <1 | 0 | <1 |
| Barium | ppm | ASTM D5185m | 0 | <1 | 1 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | <1 | 1 | 0 |
| Magnesium | ppm | ASTM D5185m | <1 | 0 | <1 | 0 |
| Calcium | ppm | ASTM D5185m | <1 | 4 | 7 | 0 |
| Phosphorus | ppm | ASTM D5185m | 2143 | 2389 | 2278 | 2356 |
| Zinc | ppm | ASTM D5185m | <1 | 6 | 5 | 0 |
| Sulfur | ppm | ASTM D5185m | 23468 | 29347 | 28816 | 27712 |
| Visc @ 40°C | cSt | ASTM D445 | 170 | 190 | 195 | 194 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0020048
Lab Number : 06222919
Unique Number : 11101116
Test Package : CONST
Received : 27 Jun 2024
Tested : 28 Jun 2024
Diagnosed : 28 Jun 2024 - Wes Davis

ADVANTAGE METALS RECYCLING - CHEYENNE
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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)