



OIL ANALYSIS REPORT

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

Area
AMR-12th Street
 Machine Id
484145 116360
 Component
Swing Drive
 Fluid
LIEBHERR GEAR BASIC 90 LS (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

WEAR

Gear wear is indicated.

CONTAMINATION

There is no indication of any contamination in the oil.

FLUID CONDITION

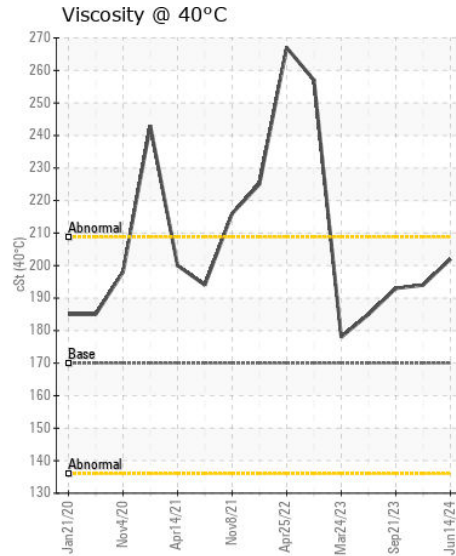
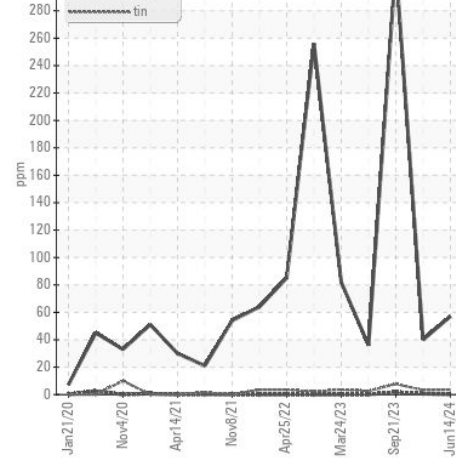
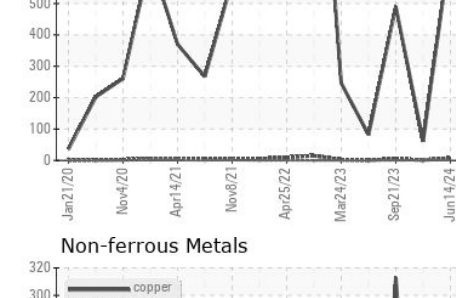
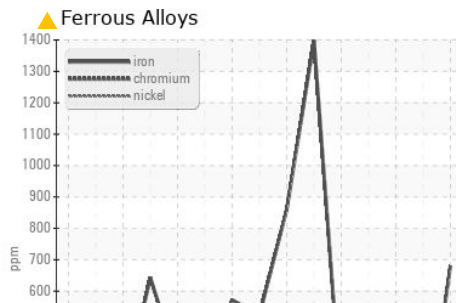
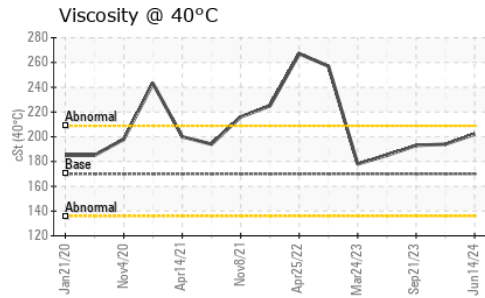
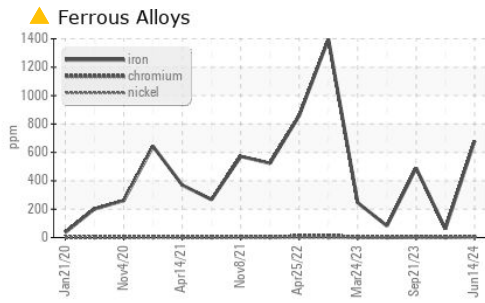
The condition of the oil is acceptable for the time in service.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | DJJ0023302 | DJJ0020063 | DJJ0018348 |
| Sample Date | | Client Info | | 14 Jun 2024 | 02 Jan 2024 | 21 Sep 2023 |
| Machine Age | hrs | Client Info | | 9959 | 9493 | 9001 |
| Oil Age | hrs | Client Info | | 1000 | 0 | 0 |
| Filter Age | hrs | Client Info | | 250 | 0 | 0 |
| Oil Changed | | Client Info | | Changed | Changed | Changed |
| Filter Changed | | Client Info | | Changed | N/A | N/A |
| Sample Status | | | | ABNORMAL | NORMAL | ABNORMAL |

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|--------------|
| Iron | ppm | ASTM D5185m | >400 | ▲ 680 | 61 | ▲ 490 |
| Chromium | ppm | ASTM D5185m | >10 | 7 | 1 | ● 5 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 2 | 2 | <1 |
| Lead | ppm | ASTM D5185m | >50 | <1 | <1 | 2 |
| Copper | ppm | ASTM D5185m | >200 | 57 | 40 | ▲ 313 |
| Tin | ppm | ASTM D5185m | >10 | 4 | 3 | ▲ 8 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | MODER |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | 3 | 2 | 4 |
| Potassium | ppm | ASTM D5185m | >20 | <1 | 1 | 4 |
| Water | | WC Method | >0.2 | NEG | NEG | NEG |
| Silt | scalar | *Visual | NONE | LIGHT | NONE | MODER |
| Debris | scalar | *Visual | NONE | NONE | LIGHT | 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 |

| | | | | | | |
|-------------|-----|-------------|-------|--------------|-------|-------|
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 6 |
| Boron | ppm | ASTM D5185m | 0 | 1 | 0 | <1 |
| Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | 0 | 5 | <1 | 2 |
| Magnesium | ppm | ASTM D5185m | <1 | <1 | <1 | 5 |
| Calcium | ppm | ASTM D5185m | <1 | 0 | 18 | 97 |
| Phosphorus | ppm | ASTM D5185m | 2143 | 2565 | 2451 | 2683 |
| Zinc | ppm | ASTM D5185m | <1 | 8 | 0 | 30 |
| Sulfur | ppm | ASTM D5185m | 23468 | 28697 | 37328 | 29362 |
| Visc @ 40°C | cSt | ASTM D445 | 170 | 202 | 194 | 193 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DJJ0023302
Lab Number : 06216136
Unique Number : 11089000
Test Package : CONST

Received : 20 Jun 2024
Tested : 21 Jun 2024
Diagnosed : 23 Jun 2024 - Don Baldrige

ADVANTAGE METALS RECYCLING - 12 STREET
 1153 S. 12TH STREET
 KANSAS CITY, KS
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 F: (913)621-2766

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)