



# LIEBHERR

## OIL ANALYSIS REPORT

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



Machine Id  
**LIEBHERR LH30 146882-1253**  
Component  
**Hydraulic System**  
Fluid  
**MV-46 (--- GAL)**

### RECOMMENDATION

The filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | LH0272378   | ---      | ---      |
| Sample Date    |     | Client Info |           | 27 Jun 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 1002        | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 0           | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Changed    |     | Client Info |           | N/A         | ---      | ---      |
| Filter Changed |     | Client Info |           | Changed     | ---      | ---      |
| Sample Status  |     |             |           | ABNORMAL    | ---      | ---      |

### WEAR

All component wear rates are normal.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >50  | 5    | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >5   | 0    | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Titanium     | ppm    | ASTM D5185m |      | <1   | --- | --- |
| Silver       | ppm    | ASTM D5185m |      | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Lead         | ppm    | ASTM D5185m | >4   | <1   | --- | --- |
| Copper       | ppm    | ASTM D5185m | >10  | 2    | --- | --- |
| Tin          | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

### CONTAMINATION

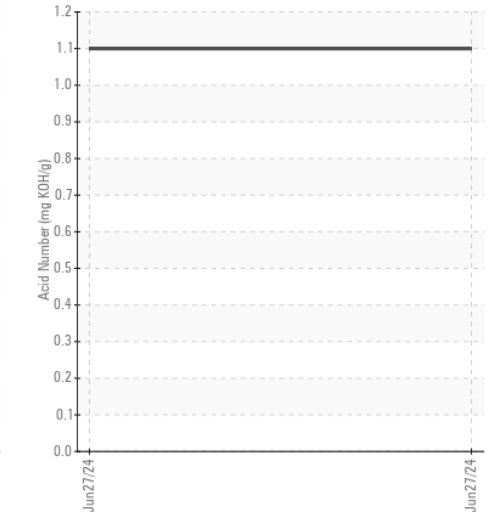
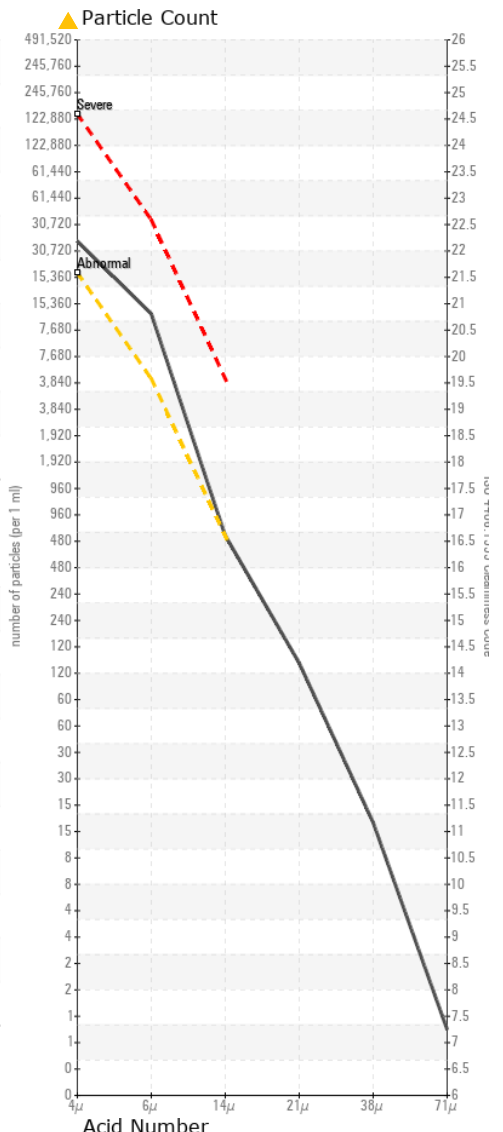
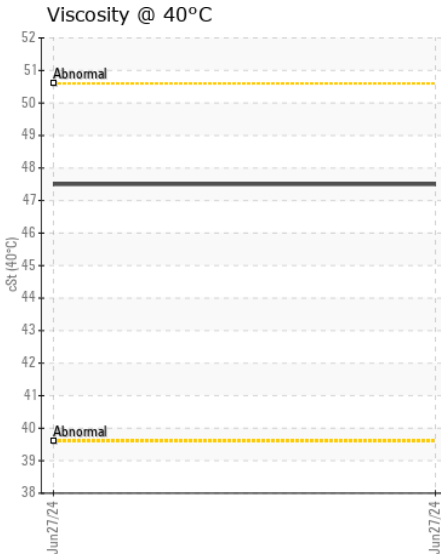
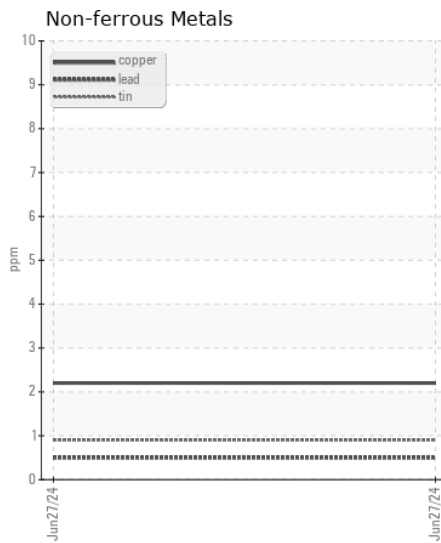
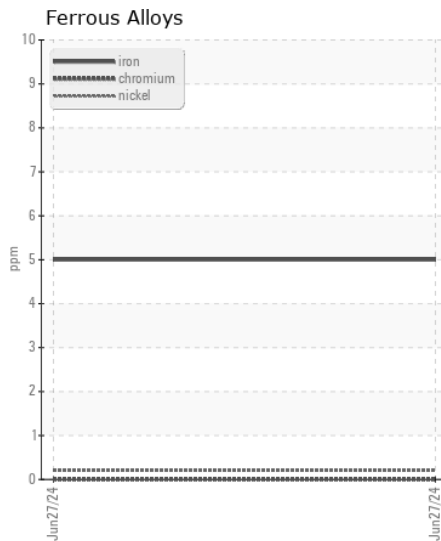
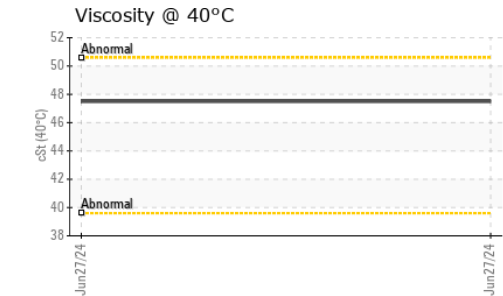
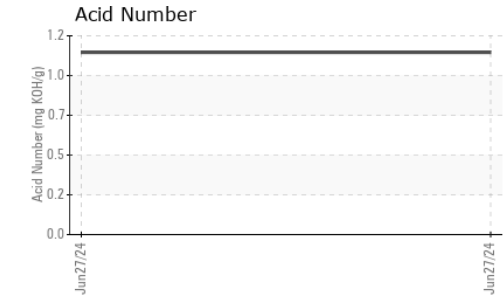
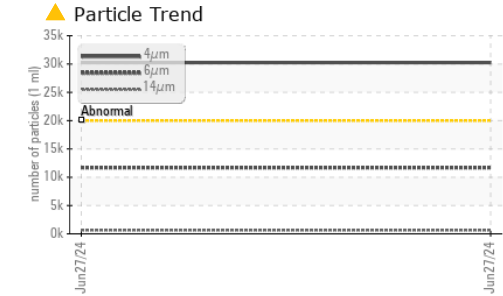
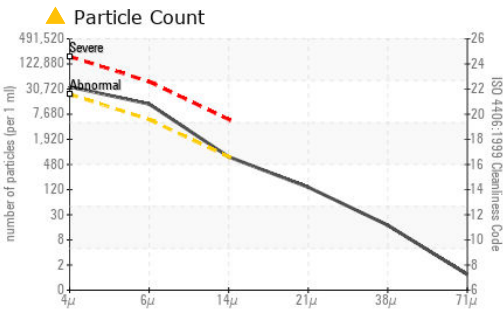
There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

|                  |        |              |           |          |     |     |
|------------------|--------|--------------|-----------|----------|-----|-----|
| Silicon          | ppm    | ASTM D5185m  | >17       | 3        | --- | --- |
| Potassium        | ppm    | ASTM D5185m  | >20       | 3        | --- | --- |
| Water            |        | WC Method    | >0.1      | NEG      | --- | --- |
| Particles >4µm   |        | ASTM D7647   | >20000    | 30250    | --- | --- |
| Particles >6µm   |        | ASTM D7647   | >5000     | 11689    | --- | --- |
| Particles >14µm  |        | ASTM D7647   | >640      | 642      | --- | --- |
| Particles >21µm  |        | ASTM D7647   | >160      | 121      | --- | --- |
| Particles >38µm  |        | ASTM D7647   | >40       | 15       | --- | --- |
| Particles >71µm  |        | ASTM D7647   | >10       | 1        | --- | --- |
| Oil Cleanliness  |        | ISO 4406 (c) | >21/19/16 | 22/21/17 | --- | --- |
| 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      | >0.1      | NEG      | --- | --- |

### FLUID CONDITION

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

|                  |          |             |  |      |     |     |
|------------------|----------|-------------|--|------|-----|-----|
| Sodium           | ppm      | ASTM D5185m |  | 2    | --- | --- |
| Boron            | ppm      | ASTM D5185m |  | <1   | --- | --- |
| Barium           | ppm      | ASTM D5185m |  | 0    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m |  | 0    | --- | --- |
| Manganese        | ppm      | ASTM D5185m |  | <1   | --- | --- |
| Magnesium        | ppm      | ASTM D5185m |  | 10   | --- | --- |
| Calcium          | ppm      | ASTM D5185m |  | 984  | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m |  | 555  | --- | --- |
| Zinc             | ppm      | ASTM D5185m |  | 672  | --- | --- |
| Sulfur           | ppm      | ASTM D5185m |  | 3874 | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D8045  |  | 1.10 | --- | --- |
| Visc @ 40°C      | cSt      | ASTM D445   |  | 47.5 | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LH0272378  
**Lab Number** : 06224996  
**Unique Number** : 11103193  
**Test Package** : CONST

**Received** : 01 Jul 2024  
**Tested** : 02 Jul 2024  
**Diagnosed** : 02 Jul 2024 - Wes Davis

**RECO EQUIPMENT INC**  
 8075 PRODUCTION DRIVE  
 FLORENCE, KY  
 US 41042

Contact: TRACEY EDGERTON  
 tedgerton@recoequip.com

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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