

# LIEBHERR

## CONSTRUCTION EQUIPMENT



### [(338032)] LIEBHERR LH50M 126428-1216 - Diesel Engine

Sample No: LH0286834

Oil Type: PETRO CANADA SUPREME 5W30



**COMBINED METAL INDUSTRIES**  
454 DOBBIE DRIVE  
CAMBRIDGE, ON  
CA N1T 1S7  
Contact: Service Manager



#### INFORMATION SUR L'ÉCHANTILLON

|                      |             |             |             |             |
|----------------------|-------------|-------------|-------------|-------------|
| Número d'échant.     | LH0286834   | LH0277590   | LH0274485   | LH0251866   |
| Date d'échant.       | 10 Mar 2024 | 17 Oct 2023 | 16 Aug 2023 | 03 Apr 2023 |
| Heures de la Machine | 10987       | 9662        | 9184        | 8117        |
| Heures de l'huile    | 0           | 0           | 0           | 0           |
| Huile changée        | Changed     | Changed     | Changed     | Changed     |
| Statut de l'échant.  | NORMAL      | NORMAL      | NORMAL      | NORMAL      |



#### ÉTAT D'HUILE

|                |     |      |      |      |      |
|----------------|-----|------|------|------|------|
| Visc 100°C     | cSt | 13.2 | 12.8 | 12.9 | 13.0 |
| Oxydation (PA) | %   | 65   | 66   | 60   | 68   |



#### CONTAMINATION

|                  |     |      |      |       |      |
|------------------|-----|------|------|-------|------|
| Eau              | %   | NEG  | NEG  | 0.043 | NEG  |
| % de suie        | %   | 0    | 0    | 0     | 0    |
| Nitration (PA)   | %   | 71   | 73   | 69    | 74   |
| Sulfatation (PA) | %   | 51   | 52   | 53    | 53   |
| Glycol           | %   | NEG  | NEG  | 0.0   | NEG  |
| Essence          | %   | <1.0 | <1.0 | <1.0  | <1.0 |
| Silicium         | ppm | 5    | 6    | 7     | 6    |
| Sodium           | ppm | 1    | 1    | 2     | 1    |
| Potassium        | ppm | <1   | <1   | 2     | <1   |



#### MÉTAUX D'USURE

|           |     |    |    |    |    |
|-----------|-----|----|----|----|----|
| Fer       | ppm | 3  | 3  | 3  | 3  |
| Cuivre    | ppm | 2  | 1  | 2  | 2  |
| Plomb     | ppm | <1 | <1 | <1 | <1 |
| Étain     | ppm | 0  | 0  | <1 | <1 |
| Aluminium | ppm | 2  | 1  | 2  | 2  |
| Chrome    | ppm | 0  | 0  | <1 | 0  |
| Molybdène | ppm | 57 | 58 | 59 | 58 |
| Nickel    | ppm | <1 | 0  | 0  | <1 |
| Titane    | ppm | 0  | 0  | 0  | <1 |
| Argent    | ppm | 0  | 0  | 0  | 0  |
| Manganèse | ppm | 0  | 0  | <1 | <1 |
| Vanadium  | ppm | 0  | 0  | 0  | 0  |



#### ADDITIFS

|           |     |      |      |      |      |
|-----------|-----|------|------|------|------|
| Calcium   | ppm | 1096 | 1028 | 1048 | 1091 |
| Magnésium | ppm | 944  | 943  | 980  | 950  |
| Zinc      | ppm | 1185 | 1164 | 1202 | 1189 |
| Phosphore | ppm | 1016 | 980  | 1052 | 1079 |
| Baryum    | ppm | 0    | <1   | 0    | 0    |
| Bore      | ppm | 2    | 3    | 1    | 2    |

T:  
F:

#### Diagnostic

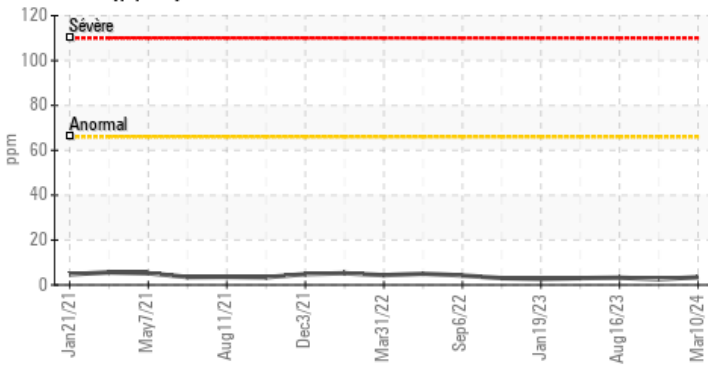
Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Depot: COM454CAM  
Unique No: 5746171  
Signed: Kevin Marson  
Report Date: 11 Mar 2024

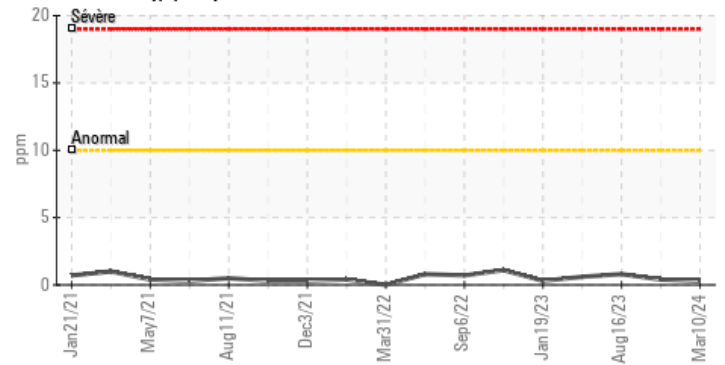


### GRAPHS

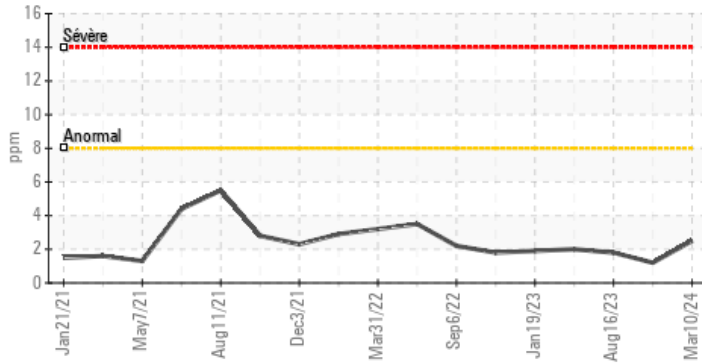
Fer (ppm)



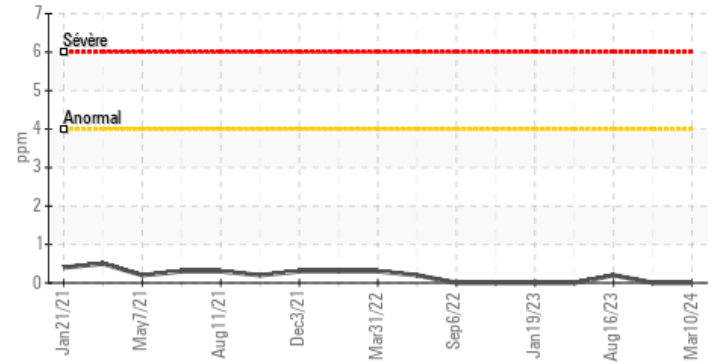
Plomb (ppm)



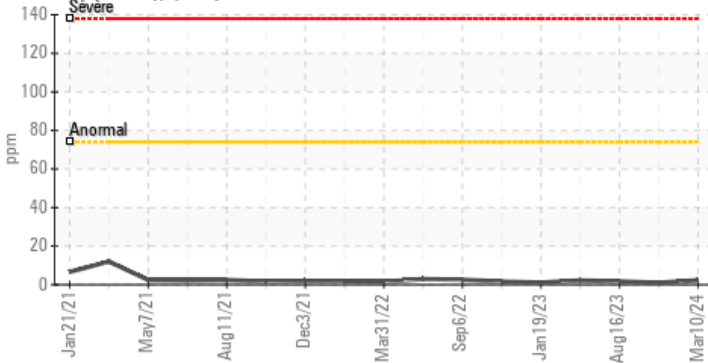
Aluminium (ppm)



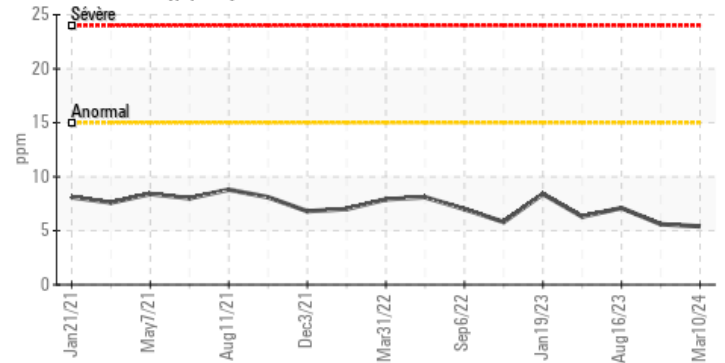
Chrome (ppm)



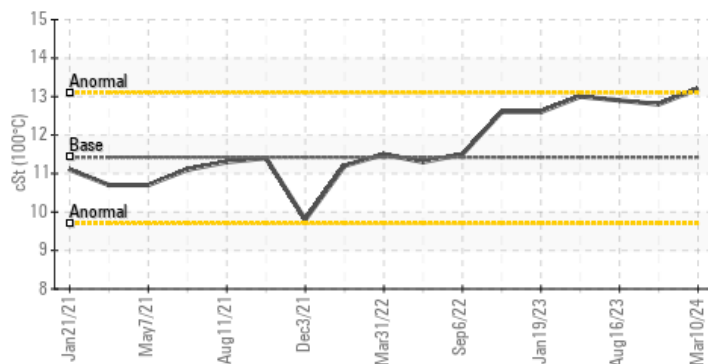
Cuivre (ppm)



Silicium (ppm)



Viscosité 100°C



% de suie

