

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR LH80M 060802-1205 - Diesel Engine

Sample No: LH

Oil Type: PETRO CANADA SUPREME 10W40 MOTOR OIL



SAMPLE INFORMATION

| Sample Number | LH | LH | LH0242835 | LH0235251 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 24 Jul 2023 | 30 Apr 2023 | 08 Jan 2023 | 02 Oct 2022 |
| Machine Hours | 15000 | 14708 | 14123 | 13515 |
| Oil Hours | 0 | 0 | 0 | 0 |
| Oil Changed | N/A | Changed | Changed | Changed |
| Sample Status | NORMAL | NORMAL | NORMAL | NORMAL |

ARCELORMITTAL LONG PRODUITS CANADA
3185 ROUTE MARIE-VICTORIN
CONTRECOEUR, QC
CA J0L 1C0
Contact: Danny Drouin
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OIL CONDITION

| | | | | | |
|----------------------|-------|------|------|------|------|
| Visc @ 40°C | cSt | 84.6 | --- | --- | --- |
| Visc @ 100°C | cSt | 14.0 | 14.1 | 14.2 | 14.4 |
| Viscosity Index (VI) | Scale | 170 | --- | --- | --- |
| Oxidation (PA) | % | 174 | 181 | 179 | 172 |

Diagnosis

Confirm the source of the lubricant being utilized for top-up/fill. Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition. Les taux d'usure de tous les composants sont normaux. Il n'y a aucun indice de contamination dans l'huile. Les niveaux d'additifs indiquent l'ajout d'une autre marque ou d'un autre type d'huile. L'état de l'huile est acceptable pour la durée de service.



CONTAMINATION

| | | | | | |
|----------------|-----|------|------|------|------|
| Soot % | % | 1.1 | 1.5 | 1.7 | 2.1 |
| Nitration (PA) | % | 98 | 109 | 112 | 99 |
| Sulfation (PA) | % | 109 | 115 | 117 | 117 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | <1.0 | <1.0 | <1.0 |
| Silicon | ppm | 6 | 5 | 7 | 7 |
| Sodium | ppm | 1 | 1 | 2 | 2 |
| Potassium | ppm | <1 | 14 | <1 | <1 |



WEAR METALS

| | | | | | |
|------------|-----|----|----|----|----|
| Iron | ppm | 25 | 34 | 44 | 30 |
| Copper | ppm | 4 | 4 | 4 | 3 |
| Lead | ppm | <1 | 1 | 1 | 2 |
| Tin | ppm | <1 | <1 | <1 | <1 |
| Aluminum | ppm | 10 | 7 | 11 | 9 |
| Chromium | ppm | <1 | 1 | 1 | <1 |
| Molybdenum | ppm | 51 | 50 | 53 | 52 |
| Nickel | ppm | <1 | <1 | <1 | <1 |
| Titanium | ppm | <1 | <1 | <1 | <1 |
| Silver | ppm | <1 | 0 | 0 | 0 |
| Manganese | ppm | <1 | <1 | <1 | <1 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 1072 | 1168 | 1143 | 1116 |
| Magnesium | ppm | 893 | 896 | 881 | 872 |
| Zinc | ppm | 1203 | 1259 | 1234 | 1215 |
| Phosphorus | ppm | 1100 | 1115 | 1066 | 1100 |
| Barium | ppm | 0 | 0 | 0 | 0 |
| Boron | ppm | 43 | 39 | 31 | 46 |

Depot: MITCON
Unique No: 5617009
Signed: Kevin Marson
Report Date: 26 Jul 2023



GRAPHS

