

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R956 044827-1476 - Diesel Engine

Sample No: LH0267644

Oil Type: CHEVRON DELO LE 5W40



SAMPLE INFORMATION

| | | | | |
|---------------|-------------|-------------|-------------|-------------|
| Sample Number | LH0267644 | LH0236130 | LHMC155891 | LH0172026 |
| Sample Date | 03 Oct 2023 | 11 Nov 2022 | 10 Jul 2020 | 23 Jun 2020 |
| Machine Hours | 6506 | 6058 | 3753 | 3625 |
| Oil Hours | 0 | 500 | 128 | 0 |
| Oil Changed | Changed | Changed | Not Changd | Changed |
| Sample Status | NORMAL | ATTENTION | NORMAL | ABNORMAL |

OZINGA - IM CRUSHING

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US 60410

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OIL CONDITION

| | | | | | |
|------------------|----------|------|------|------|------|
| Visc @ 100°C | cSt | 13.6 | 11.9 | 14.2 | 11.7 |
| Base Number (BN) | mg KOH/g | 6.0 | 7.1 | --- | --- |
| Oxidation (PA) | % | 67 | 86 | 59 | 102 |



CONTAMINATION

| | | | | | |
|----------------|-----|------|-----|-----|-----|
| Soot % | % | 0.1 | 0.1 | 0.1 | 0.1 |
| Nitration (PA) | % | 80 | 97 | 76 | 141 |
| Sulfation (PA) | % | 55 | 65 | 55 | 71 |
| Glycol | % | NEG | NEG | NEG | NEG |
| Fuel | % | <1.0 | 2.5 | 1.1 | 4.0 |
| Silicon | ppm | 8 | 8 | 7 | 6 |
| Sodium | ppm | 1 | 2 | 3 | 3 |
| Potassium | ppm | 4 | 6 | <1 | 4 |



WEAR METALS

| | | | | | |
|------------|-----|----|----|----|----|
| Iron | ppm | 6 | 11 | 6 | 16 |
| Copper | ppm | 2 | 7 | 2 | 7 |
| Lead | ppm | <1 | 2 | 4 | 2 |
| Tin | ppm | <1 | <1 | 0 | <1 |
| Aluminum | ppm | 1 | <1 | 1 | 2 |
| Chromium | ppm | <1 | <1 | <1 | 1 |
| Molybdenum | ppm | 11 | 36 | 2 | <1 |
| Nickel | ppm | 0 | 0 | <1 | <1 |
| Titanium | ppm | <1 | <1 | <1 | <1 |
| Silver | ppm | 0 | 0 | 0 | <1 |
| Manganese | ppm | 0 | <1 | <1 | <1 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 1439 | 1859 | 1794 | 4325 |
| Magnesium | ppm | 652 | 483 | 611 | 38 |
| Zinc | ppm | 859 | 892 | 778 | 1210 |
| Phosphorus | ppm | 690 | 739 | 740 | 1058 |
| Barium | ppm | 0 | 0 | 0 | <1 |
| Boron | ppm | 66 | 92 | 100 | 274 |

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Depot: OZICHA

Unique No: 10701309

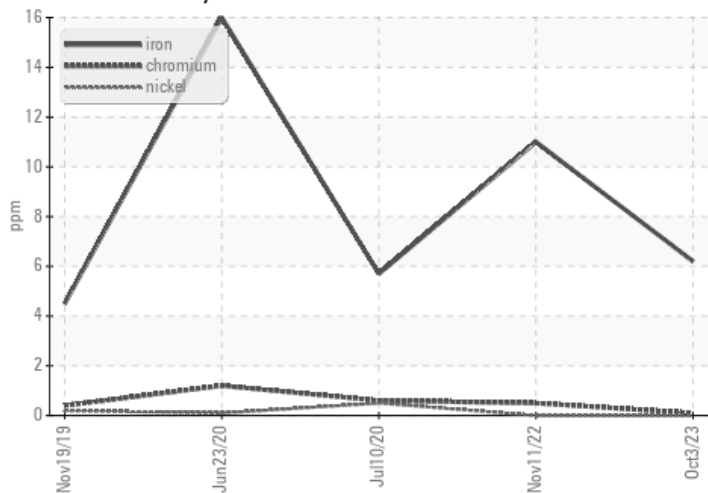
Signed: Wes Davis

Report Date: 20 Oct 2023

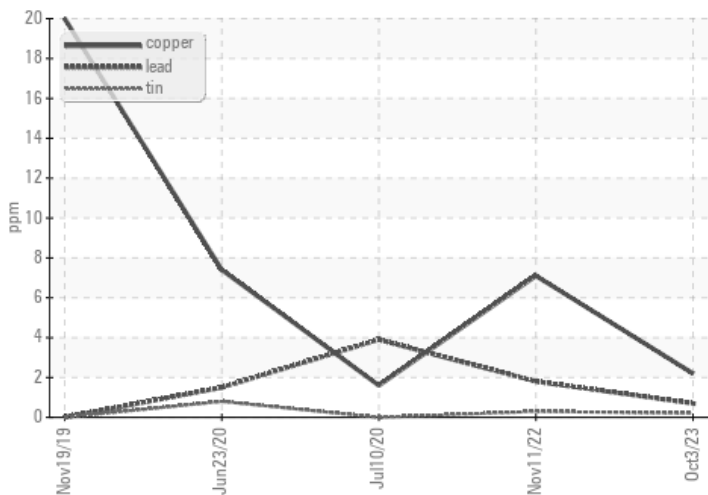


GRAPHS

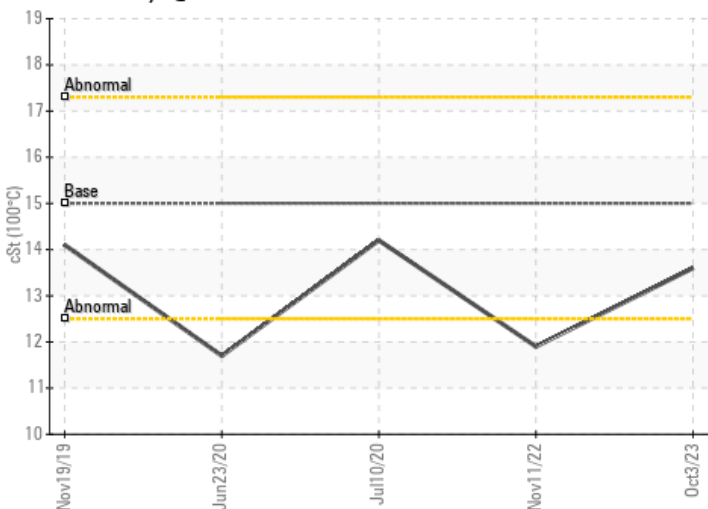
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

