

LIEBHERR

CONSTRUCTION EQUIPMENT



FL2152 - Hydraulic System

Sample No: LH0260629

Oil Type: PETRO CANADA ENVIRON MV 46



SAMPLE INFORMATION

| Sample Number | LH0260629 | LH0260502 | LH0250517 | LH0240712 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 26 Feb 2024 | 13 Oct 2023 | 24 Jul 2023 | 11 Jan 2023 |
| Machine Hours | 2482 | 2208 | 1962 | 1370 |
| Oil Hours | 0 | 0 | 0 | 0 |
| Oil Changed | Not Changd | Not Changd | Not Changd | Not Changd |
| Sample Status | ATTENTION | ABNORMAL | ABNORMAL | ABNORMAL |

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OIL CONDITION

| Visc @ 40°C | cSt | 41.3 | 36.8 | 36.9 | 36.8 |
|-------------|-----|------|------|------|------|
| | | | | | |



CONTAMINATION

| Water | % | NEG | NEG | NEG | NEG |
|-------------------|-----|----------|----------|----------|----------|
| Particles >4µm | | 8129 | 8276 | 7797 | 18048 |
| Particles >6µm | | 536 | 801 | 549 | 2136 |
| Particles >14µm | | 14 | 14 | 11 | 25 |
| ISO 4406:1999 (c) | | 20/16/11 | 20/17/11 | 20/16/11 | 21/18/12 |
| Silicon | ppm | 0 | 1 | <1 | <1 |
| Sodium | ppm | 0 | <1 | <1 | <1 |
| Potassium | ppm | <1 | 0 | <1 | <1 |

Diagnosis

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.



WEAR METALS

| | | | | | |
|------------|-----|----|----|----|----|
| Iron | ppm | 1 | 4 | 4 | 3 |
| Copper | ppm | <1 | <1 | <1 | <1 |
| Lead | ppm | <1 | 0 | 0 | 0 |
| Tin | ppm | 0 | 0 | 0 | 0 |
| Aluminum | ppm | <1 | <1 | <1 | <1 |
| Chromium | ppm | 0 | <1 | <1 | 0 |
| Molybdenum | ppm | 0 | 0 | <1 | <1 |
| Nickel | ppm | 0 | 0 | 0 | 0 |
| Titanium | ppm | 0 | 0 | 0 | 0 |
| Silver | ppm | <1 | <1 | 0 | 0 |
| Manganese | ppm | 0 | 0 | 0 | 0 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|-----|-----|-----|-----|
| Calcium | ppm | 16 | 16 | 15 | 13 |
| Magnesium | ppm | 2 | 3 | 3 | 2 |
| Zinc | ppm | 17 | 27 | 26 | 22 |
| Phosphorus | ppm | 651 | 621 | 644 | 628 |
| Barium | ppm | 0 | <1 | 0 | 0 |
| Boron | ppm | <1 | <1 | <1 | 1 |

Depot: AMISUR

Unique No: 5735509

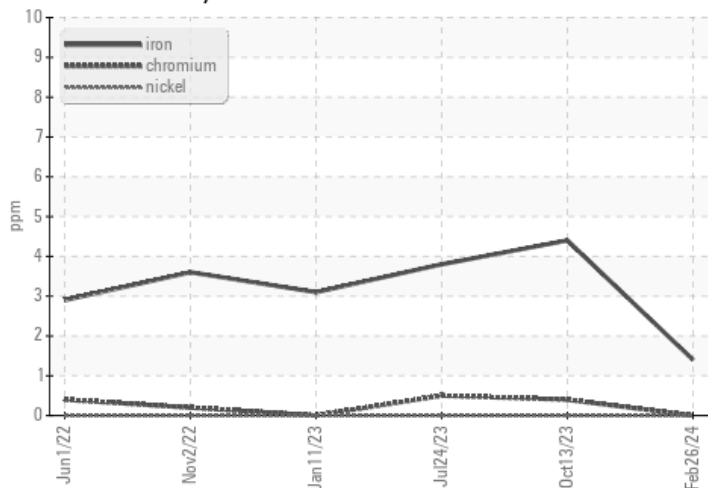
Signed: Wes Davis

Report Date: 28 Feb 2024

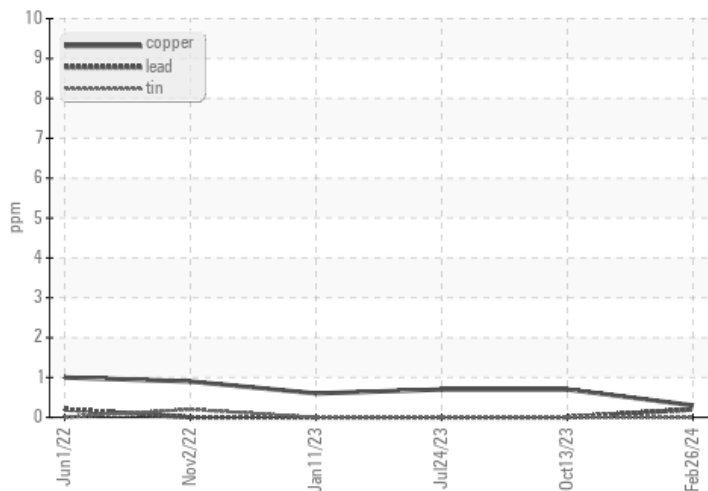


GRAPHS

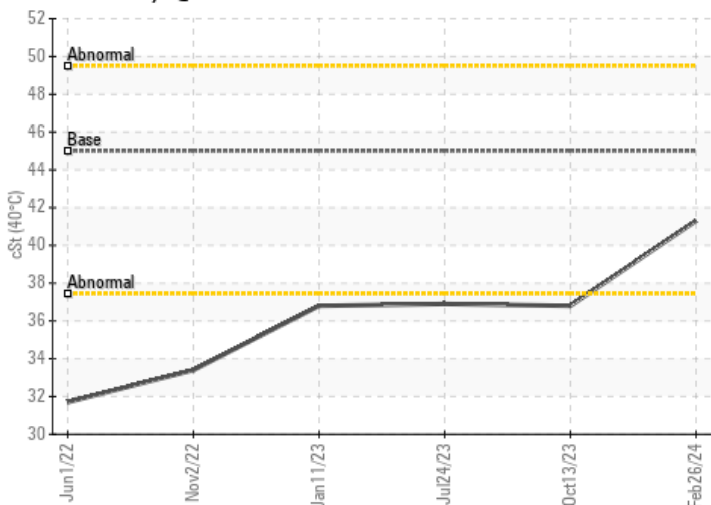
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 40°C



Particle Count

