

LIEBHERR

CONSTRUCTION EQUIPMENT



054454-194 - Front Differential

Sample No: LHMC123414

Oil Type: LIEBHERR GEAR BASIC 90 LS



SAMPLE INFORMATION

| Sample Number | LHMC123414 | LHMC123367 | LHMC96896 | LHMC73540 |
|---------------|-------------|-------------|-------------|-------------|
| Sample Date | 09 Jan 2020 | 09 Jan 2020 | 26 Apr 2018 | 16 May 2016 |
| Machine Hours | 3409 | 3409 | 2587 | 986 |
| Oil Hours | 0 | 0 | 0 | 0 |
| Oil Changed | Changed | Not Changd | Not Changd | Changed |
| Sample Status | NORMAL | ATTENTION | NORMAL | NORMAL |

UNITED STATES GYPSUM
 301 RILEY RD
 EAST CHICAGO, IN
 US 43612
 Contact: Service Manager



OIL CONDITION

| Visc @ 40°C | cSt | 126 | 129 | 124.4 | 133.0 |
|-------------|-----|-----|-----|-------|-------|
| | | | | | |

T:
F:



CONTAMINATION

| Water | % | NEG | NEG | NEG | NEG |
|-----------|-----|-----|-----|-----|-----|
| Silicon | ppm | 0 | <1 | <1 | <1 |
| Sodium | ppm | <1 | <1 | <1 | <1 |
| Potassium | ppm | 0 | 0 | 5 | 3 |

Diagnosis

Resample at the next service interval to monitor. NOTE: one of two samples received with same ID and sampling date. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.



WEAR METALS

| | | | | | |
|------------|-----|----|----|----|----|
| Iron | ppm | 17 | 2 | 9 | 1 |
| Copper | ppm | 7 | 2 | 3 | 2 |
| Lead | ppm | 0 | 0 | 0 | 0 |
| Tin | ppm | 0 | 0 | 0 | 0 |
| Aluminum | ppm | 0 | 0 | 0 | 0 |
| Chromium | ppm | <1 | <1 | <1 | <1 |
| Molybdenum | ppm | <1 | <1 | 0 | <1 |
| Nickel | ppm | <1 | <1 | 0 | 0 |
| Titanium | ppm | 0 | 0 | 0 | 0 |
| Silver | ppm | 0 | 0 | 0 | 0 |
| Manganese | ppm | <1 | <1 | <1 | <1 |
| Vanadium | ppm | 0 | 0 | 0 | 0 |



ADDITIVES

| | | | | | |
|------------|-----|------|------|------|------|
| Calcium | ppm | 5 | 14 | 4 | 8 |
| Magnesium | ppm | 0 | 0 | 0 | 0 |
| Zinc | ppm | 3 | 5 | 3 | 5 |
| Phosphorus | ppm | 1707 | 1784 | 1671 | 1459 |
| Barium | ppm | <1 | <1 | <1 | 24 |
| Boron | ppm | 216 | 228 | 197 | 262 |

Depot: UNIEASLH
 Unique No: 8883927
 Signed: Don Baldrige
 Report Date: 16 Jan 2020



GRAPHS

