

LIEBHERR

CONSTRUCTION EQUIPMENT



LIEBHERR R918LC 047212-1721- Diesel Engine

Sample No: LH0286430

Oil Type: PETRO CANADA 10W40



WESTERRA ENTERPRISES INC.
 33171 2ND AVENUE
 MISSION, BC
 CA V2V 6T8
 Contact: Service Manager

T:
 F:



Sample Information

| | | | | |
|---------------|-------------|-------------|-------------|-----|
| Sample Number | LH0286430 | LH0284032 | LH0221997 | --- |
| Sample Date | 15 Jun 2024 | 01 Mar 2024 | 11 Mar 2022 | --- |
| Machine Hours | 3540 | 3066 | 1505 | --- |
| Oil Hours | 0 | 0 | 0 | --- |
| Oil Changed | Changed | N/A | Changed | --- |
| Sample Status | NORMAL | NORMAL | NORMAL | --- |



Oil Condition

| | | | | | |
|----------------------|-------|------|------|------|-----|
| Visc @ 40°C | cSt | --- | 105 | --- | --- |
| Visc @ 100°C | cSt | 14.4 | 14.1 | 13.8 | --- |
| Viscosity Index (VI) | Scale | --- | 136 | --- | --- |
| Oxidation (PA) | % | 73 | 90 | 51 | --- |

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 condition of the oil is acceptable for the time in service.



Contamination

| | | | | | |
|----------------|-----|------|------|------|-----|
| Water | % | NEG | NEG | NEG | --- |
| Soot % | % | 0 | 0 | 0 | --- |
| Nitration (PA) | % | 83 | 94 | 57 | --- |
| Sulfation (PA) | % | 58 | 71 | 53 | --- |
| Glycol | % | NEG | NEG | NEG | --- |
| Fuel | % | <1.0 | <1.0 | <1.0 | --- |
| Silicon | ppm | 19 | 10 | 24 | --- |
| Sodium | ppm | 2 | 4 | 2 | --- |
| Potassium | ppm | <1 | 2 | 1 | --- |



Wear Metals

| | | | | | |
|------------|-----|----|----|----|-----|
| Iron | ppm | 11 | 24 | 12 | --- |
| Copper | ppm | 3 | 10 | 2 | --- |
| Lead | ppm | <1 | 3 | <1 | --- |
| Tin | ppm | 0 | 0 | 0 | --- |
| Aluminum | ppm | 2 | 3 | 2 | --- |
| Chromium | ppm | <1 | 1 | <1 | --- |
| Molybdenum | ppm | 59 | 37 | 55 | --- |
| Nickel | ppm | 0 | <1 | <1 | --- |
| Titanium | ppm | 0 | 0 | 0 | --- |
| Silver | ppm | 0 | 0 | 0 | --- |
| Manganese | ppm | <1 | 0 | <1 | --- |
| Vanadium | ppm | 0 | 0 | 0 | --- |



Additives

| | | | | | |
|------------|-----|------|------|------|-----|
| Calcium | ppm | 1585 | 1933 | 1724 | --- |
| Magnesium | ppm | 713 | 556 | 863 | --- |
| Zinc | ppm | 1283 | 1209 | 1387 | --- |
| Phosphorus | ppm | 1091 | 994 | 1238 | --- |
| Barium | ppm | 0 | 0 | 0 | --- |
| Boron | ppm | 11 | 13 | 3 | --- |

Depot: SUMMIS
 Unique No: 5814114
 Signed: Kevin Marson
 Report Date: 18 Jul 2024



Graphs

