

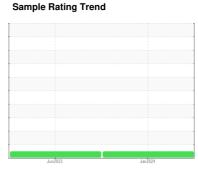
OIL ANALYSIS REPORT

ČFR#72302 [202157] **LEOPARD 2A4M**

Component

Diesel Engine

MOBIL DELVAC EXTREME 15W40 (--- LTR)





Recommendation

Resample at the next service interval to monitor.

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the

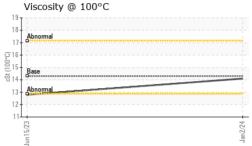
Fluid Condition

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

| -, | | | Jun2023 | Jan 2024 | | |
|---------------|----------|---------------|------------|-------------|-------------|----------|
| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
| Sample Number | | Client Info | | WC0848508 | WC0848509 | |
| Sample Date | | Client Info | | 02 Jan 2024 | 15 Jun 2023 | |
| Machine Age | hrs | Client Info | | 7 | 5 | |
| Oil Age | hrs | Client Info | | 2 | 0 | |
| Oil Changed | | Client Info | | Changed | Not Changd | |
| Sample Status | | | | NORMAL | NORMAL | |
| CONTAMINATION | ١ | method | limit/base | current | history1 | history2 |
| Fuel | | WC Method | >5 | <1.0 | <1.0 | |
| Water | | WC Method | >0.2 | NEG | NEG | |
| Glycol | | WC Method | | NEG | NEG | |
| WEAR METALS | | method | limit/base | current | history1 | history2 |
| Iron | ppm | ASTM D5185(m) | >101 | 7 | 35 | |
| Chromium | ppm | ASTM D5185(m) | >16 | <1 | 1 | |
| Nickel | ppm | ASTM D5185(m) | >6 | <1 | <1 | |
| Titanium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | 2 | |
| Aluminum | ppm | ASTM D5185(m) | >21 | 2 | 4 | |
| Lead | ppm | ASTM D5185(m) | >41 | 2 | 13 | |
| Copper | ppm | ASTM D5185(m) | >21 | 2 | 13 | |
| Tin | ppm | ASTM D5185(m) | >13 | 0 | 1 | |
| Antimony | ppm | ASTM D5185(m) | | 0 | 0 | |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 4 | |
| ADDITIVES | | method | limit/base | current | history1 | history2 |
| Boron | ppm | ASTM D5185(m) | | 40 | 5 | |
| Barium | ppm | ASTM D5185(m) | | <1 | 0 | |
| Molybdenum | ppm | ASTM D5185(m) | | 45 | 67 | |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | |
| Magnesium | ppm | ASTM D5185(m) | | 607 | 822 | |
| Calcium | ppm | ASTM D5185(m) | | 1509 | 1621 | |
| Phosphorus | ppm | ASTM D5185(m) | | 811 | 1130 | |
| Zinc | ppm | ASTM D5185(m) | | 919 | 1275 | |
| Sulfur | ppm | ASTM D5185(m) | | 2387 | 3323 | |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | |
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
| Silicon | ppm | ASTM D5185(m) | >16 | 6 | 6 | |
| Sodium | ppm | ASTM D5185(m) | | 2 | 5 | |
| Potassium | ppm | ASTM D5185(m) | >20 | 4 | 1 | |
| INFRA-RED | | method | limit/base | current | history1 | history2 |
| Soot % | % | ASTM D7844* | >3 | 0 | 0.7 | |
| Nitration | Abs/cm | ASTM D7624* | >20 | 4.5 | 6.6 | |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 20.1 | 19.7 | |



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| FLUID DEGRAD | ATION | method | limit/base | current | history1 | history2 |
|------------------|----------|---------------|------------|---------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* | >25 | 15.8 | 13.3 | |
| VISUAL | | method | limit/base | current | history1 | history2 |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG | |
| Free Water | scalar | Visual* | | NEG | NEG | |
| FLUID PROPER | TIES | method | limit/base | current | history1 | history2 |
| Visc @ 100°C | cSt | ASTM D7279(m) | 14.3 | 14.1 | 12.8 | |
| CDADHS | | | | | | |

| V | isc @ 100°C | cSt | ASTM D7279(m) | 14.3 | 14.1 | 12.8 | |
|---|----------------------------|-----|---------------|----------|-------------------------------------|------|----------|
| | GRAPHS | | | | | | |
| 120 T | Iron (ppm) Severe Abnormal | | | | Lead (ppm) Severe Abnormal 20 10 | | |
| | Aluminum (ppm) | | | Jan2/24 | Chromium (| ppm) | Jan 2/24 |
| 30 - 25 - 20 - | Severe Abnormal | | | | Severe 20 Abnormal | | |
| 10 - 5 - | | | | | 10 | | |
| | Copper (ppm) | | | Jan2/24 | Silicon (ppm |) | Jan2/24 |
| 30 | Severe | | | | 25 | | |
| 25 - 20 - E 15 - 10 - | Abnormal | | | | Abnomal 10 5 | | |
| 0 | Jun15/23 + | | | Jan 2/24 | Jun15/23 | | Jan2/24 |
| 19 - | Viscosity @ 100°C | | | | Soot % | | |
| 18- 17- (0-16- (0-16- 11- 13- 11- | Abnormal Base Abnormal | | | | 5.0 Severe 4.0 Abnormal 2.0 1.0 0.0 | | |
| | Jun15/23 | | | Jan2/24 | Jun15/23 | | Jan2/24 |



CALA ISO 17025:2017 Accredited Laboratory

Laboratory Sample No. Lab Number Unique Number : 5709205 Test Package : MOB 1

: 02608119

: WC0848508

Recieved Diagnosed Diagnostician : Kevin Marson

: 11 Jan 2024 : 12 Jan 2024

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 DEPARTMENT OF NATIONAL DEFENSE MGEN.GEORGE R.PEARKES BUILDING OTTAWA, ON

CA K1A 0K2 Contact: Philippe Charron philippe.charron@forces.gc.ca

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. Validity of results and interpretation are based on the sample and information as supplied.

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