



OIL ANALYSIS REPORT

Area
FIO Automotive - F03000
 Machine ID
A2404105
 Component
Lube System
 Fluid
LUBE VG 100 (--- GAL)

Sample Rating Trend



VISCOSITY



DIAGNOSIS

- Recommendation**
 The sample submitted is 8 times dirtier than the ISO dirt count recommendation of 19/16/14. Viscosity at 40 °C is out of spec (100 ± 10 cSt).
- Contamination**
 Particles >4µm and oil cleanliness are abnormally high. Particles >6µm are notably high.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|------------------|-------------|-------------|--------------------|----------|----------|
| Batch # | Client Info | | Mobile | --- | --- |
| Machine ID | Client Info | | T1 Lube | --- | --- |
| Department | Client Info | | Production | --- | --- |
| Sample From | Client Info | | Machine | --- | --- |
| Production Stage | Client Info | | Initial | --- | --- |
| Sent to WC | Client Info | | 04/17/2024 | --- | --- |
| Sample Number | Client Info | | E30001896 | --- | --- |
| Sample Date | Client Info | | 16 Apr 2024 | --- | --- |
| Machine Age | hrs | Client Info | 0 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------|---------|-----------|----------|
| Iron | ppm | ASTM D5185(m) | >20 | 8 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | 10 | --- |
| Tin | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | --- |

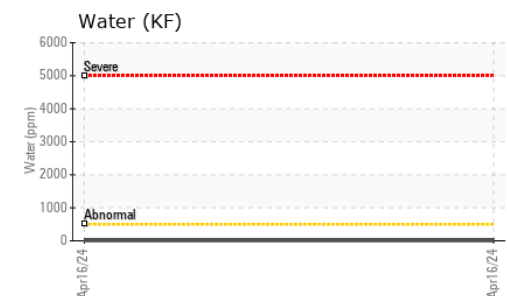
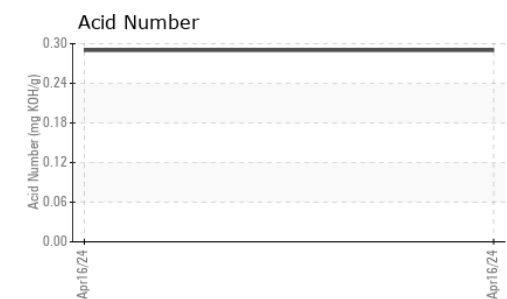
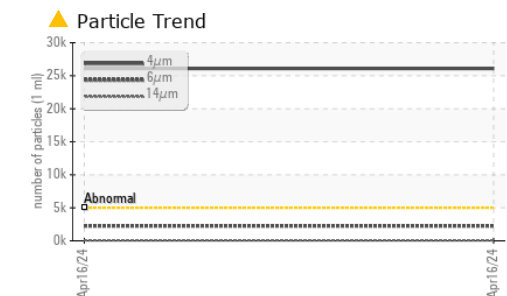
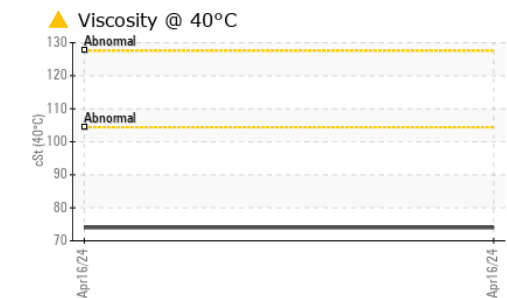
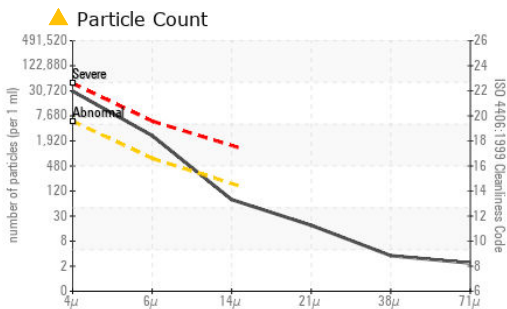
ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|---------------|---------|--------------|----------|
| Boron | ppm | ASTM D5185(m) | | <1 | --- |
| Barium | ppm | ASTM D5185(m) | | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | | 5 | --- |
| Calcium | ppm | ASTM D5185(m) | | 88 | --- |
| Phosphorus | ppm | ASTM D5185(m) | | 281 | --- |
| Zinc | ppm | ASTM D5185(m) | | 354 | --- |
| Sulfur | ppm | ASTM D5185(m) | | 3363 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | --- |

CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------|---------|--------------|----------|
| Silicon | ppm | ASTM D5185(m) | >15 | 0 | --- |
| Sodium | ppm | ASTM D5185(m) | | 0 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Water | % | ASTM D6304* | >0.05 | 0.001 | --- |
| ppm Water | ppm | ASTM D6304* | >500 | 6 | --- |

OIL ANALYSIS REPORT



| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|------------|----------|----------|
| Particles >4µm | ASTM D7647 | >5000 | ▲ 26092 | --- | --- |
| Particles >6µm | ASTM D7647 | >640 | ▲ 2255 | --- | --- |
| Particles >14µm | ASTM D7647 | >160 | 66 | --- | --- |
| Particles >21µm | ASTM D7647 | >40 | 16 | --- | --- |
| Particles >38µm | ASTM D7647 | >10 | 3 | --- | --- |
| Particles >71µm | ASTM D7647 | >3 | 2 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >19/16/14 | ▲ 22/18/13 | --- | --- |

| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------|------------|---------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.29 | --- | --- |

| VISUAL | method | limit/base | current | history1 | history2 | |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | NONE | --- | --- |
| Precipitate | scalar | Visual* | NONE | NONE | --- | --- |
| Silt | scalar | Visual* | NONE | NONE | --- | --- |
| Debris | scalar | Visual* | NONE | VLITE | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | NONE | --- | --- |
| Appearance | scalar | Visual* | NORML | NORML | --- | --- |
| Odor | scalar | Visual* | NORML | NORML | --- | --- |
| Emulsified Water | scalar | Visual* | >0.05 | NEG | --- | --- |
| Free Water | scalar | Visual* | | NEG | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | ▲ 74.0 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 9.8 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 112 | --- | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

| | | | |
|--------|--|----------|----------|
| Color | | no image | no image |
| Bottom | | no image | no image |



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : E30001896
Lab Number : 02630203
Unique Number : 5763335
Test Package : IND 2 (Additional Tests: KF, KV100, VI)

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 Cobourg, ON
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To discuss this sample report, contact Customer Service at 1-905-372-2251.
 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.