



OIL ANALYSIS REPORT

Sample Rating Trend

CONTAMINANT

Area
JEAN LECLERC EXCAVATION [02607343]
 Machine Id
JOHN DEERE 245G 736 (S/N 1FF245GXEKF801452)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (240 LTR)



DIAGNOSIS

Recommendation

Nous vous recommandons de vidanger l'huile de ce composant si vous ne l'avez pas déjà fait. Nous vous recommandons de rincer complètement le composant avant de le remplir l'huile. Confirm the source of the lubricant being utilized for top-up/fill.

Wear

Les taux d'usure de tous les composants sont normaux.

Contamination

Il y a une forte concentration (12.6%) d'huile minérale présente dans le fluide. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La teneur en eau est négligeable.

Fluid Condition

Le AN est acceptable pour ce fluide.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info | | WC | --- | --- |
| Sample Date | Client Info | | 03 Jan 2024 | --- | --- |
| Machine Age | hrs | Client Info | 4170 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | SEVERE | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) >32 | 4 | --- | --- |
| Chromium | ppm | ASTM D5185(m) >9 | 0 | --- | --- |
| Nickel | ppm | ASTM D5185(m) >5 | 0 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | 0 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) >9 | <1 | --- | --- |
| Lead | ppm | ASTM D5185(m) >28 | <1 | --- | --- |
| Copper | ppm | ASTM D5185(m) >50 | 2 | --- | --- |
| Tin | ppm | ASTM D5185(m) >5 | <1 | --- | --- |
| 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) 0 | <1 | --- | --- |
| Barium | ppm | ASTM D5185(m) 0 | 0 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) 0 | 0 | --- | --- |
| Manganese | ppm | ASTM D5185(m) 0 | 0 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) 0 | <1 | --- | --- |
| Calcium | ppm | ASTM D5185(m) 0 | 6 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) 1700 | 1262 | --- | --- |
| Zinc | ppm | ASTM D5185(m) 0 | 35 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) 1350 | 1283 | --- | --- |
| Lithium | ppm | ASTM D5185(m) | <1 | --- | --- |

CONTAMINANTS

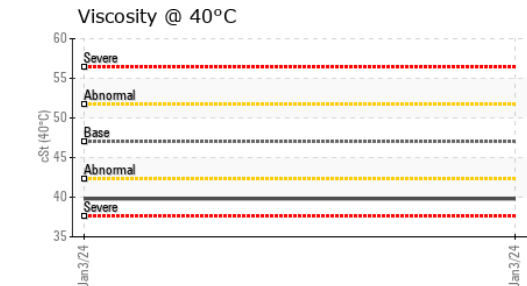
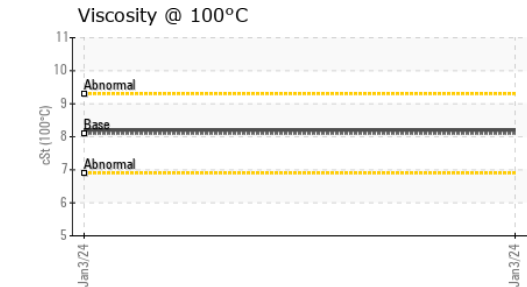
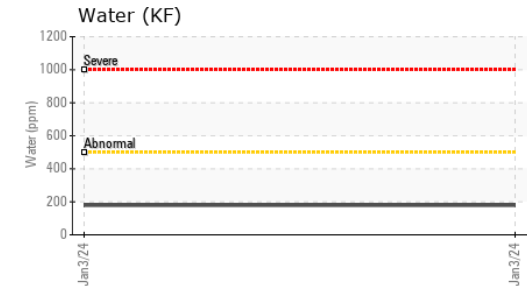
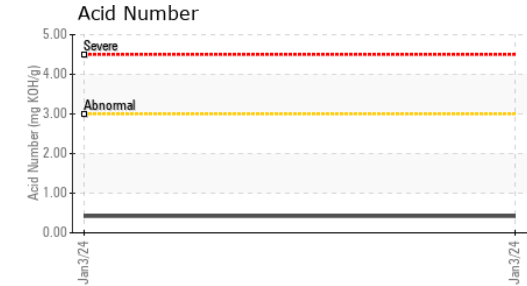
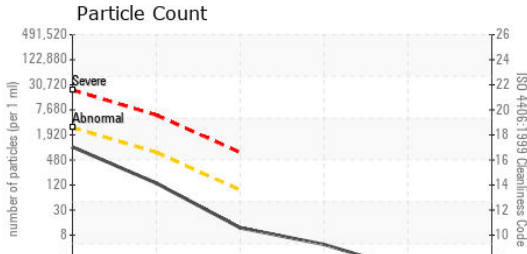
| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >11 | <1 | --- | --- |
| Sodium | ppm | ASTM D5185(m) >21 | <1 | --- | --- |
| Potassium | ppm | ASTM D5185(m) >20 | <1 | --- | --- |
| Water | % | ASTM D6304* >0.05 | 0.017 | --- | --- |
| ppm Water | ppm | ASTM D6304* >500 | 179 | --- | --- |

INFRA-RED

| | method | limit/base | current | history1 | history2 |
|---------------------|----------|-------------|-------------------|----------|----------|
| Soot % | % | ASTM D7844* | 0 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | 3.5 | --- | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | 147.3 | --- | --- |
| Mineral Oil Content | % | ASTM D7418* | <5.0% 12.6 | --- | --- |



OIL ANALYSIS REPORT



| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >2500 | 866 | --- | --- |
| Particles >6µm | ASTM D7647 | >640 | 117 | --- | --- |
| Particles >14µm | ASTM D7647 | >80 | 10 | --- | --- |
| Particles >21µm | ASTM D7647 | >20 | 4 | --- | --- |
| Particles >38µm | ASTM D7647 | >4 | 1 | --- | --- |
| Particles >71µm | ASTM D7647 | >3 | 1 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >18/16/13 | 17/14/10 | --- | --- |

| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|--------------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* | 137.2 | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.42 | --- | --- |

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

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|----------------------|--------|---------------|---------|-------------|----------|-----|
| Visc @ 40°C | cSt | ASTM D7279(m) | 47.0 | 39.8 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 8.1 | 8.2 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 146 | 186 | --- | --- |

| 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. : WC
Lab Number : **02607345**
Unique Number : 5708431
Test Package : MOB 2 (Additional Tests: TAN Man)

Envirolin Canada
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 Quebec, QC
 CA G1C 7B7
 Contact: Patrick Levesque
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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.



MINERAL OIL CONTENT REPORT

FAIL

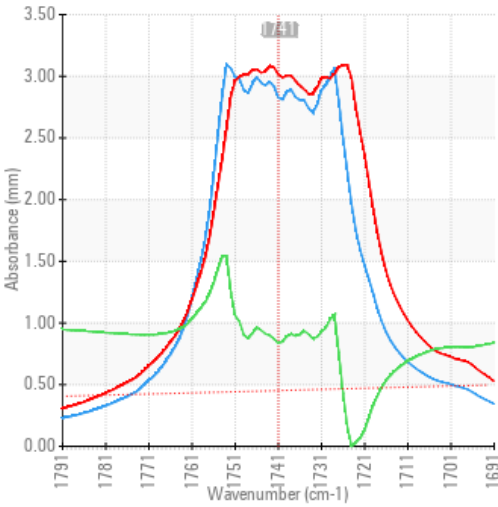


Area
JEAN LECLERC EXCAVATION [02607343]
 Machine Id
JOHN DEERE 245G 736 (S/N 1FF245GXEKF801452)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (240 LTR)

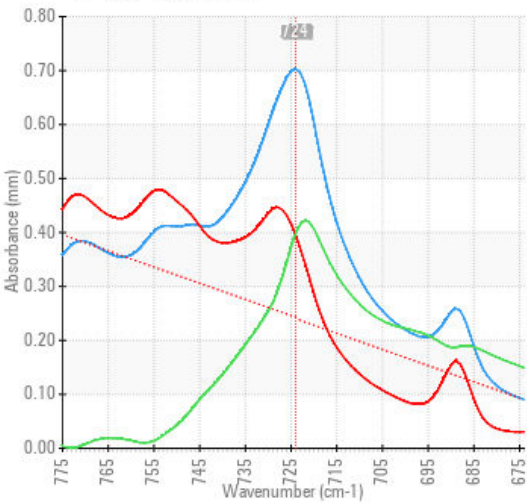
SPECTRAL ANALYSIS

| | | method | limit/base | current | history1 | history2 |
|---------------------|-----|---------------|------------|-------------|----------|----------|
| Zinc | ppm | ASTM D5185(m) | 0 | 35 | --- | --- |
| Mineral Oil Content | % | ASTM D7418* | <5.0% | 12.6 | --- | --- |

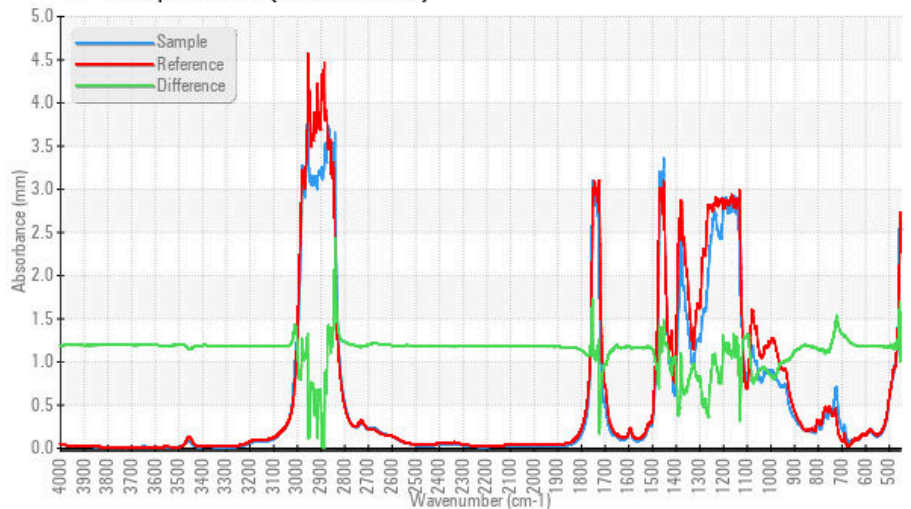
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC **Received** : 08 Jan 2024
Lab Number : 02607345 **Diagnosed** : 11 Jan 2024
Unique Number : 5708431 **Diagnostician** : Bill Quesnel
Test Package : MOB 2 (Additional Tests: TAN Man)

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