



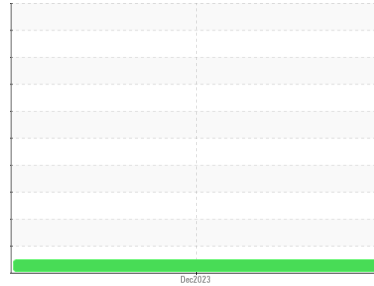
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
JEAN LECLERC EXCAVATION [02605604]
 Machine Id
JOHN DEERE 245P 1FF245PAJNF000172
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (240 LTR)



DIAGNOSIS

Recommendation

Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition.

Wear

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

Contamination

Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La propreté du système et du fluide est acceptable.

Fluid Condition

Le AN est acceptable pour ce fluide. L'état de l'huile permet d'en prolonger l'utilisation.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|----------|----------|
| Sample Number | Client Info | | WC | --- | --- |
| Sample Date | Client Info | | 22 Dec 2023 | --- | --- |
| Machine Age | hrs | Client Info | 11 | --- | --- |
| Oil Age | hrs | Client Info | 0 | --- | --- |
| Oil Changed | Client Info | | N/A | --- | --- |
| Sample Status | | | NORMAL | --- | --- |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|---------------|---------|--------------|----------|
| Iron | ppm | ASTM D5185(m) | >32 | 0 | --- |
| Chromium | ppm | ASTM D5185(m) | >9 | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >5 | <1 | --- |
| 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 | <1 | --- |
| Tin | ppm | ASTM D5185(m) | >5 | 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) | 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 | <1 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 1700 | 1488 | --- |
| Zinc | ppm | ASTM D5185(m) | 0 | 2 | --- |
| Sulfur | ppm | ASTM D5185(m) | 1350 | 1258 | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | --- |

CONTAMINANTS

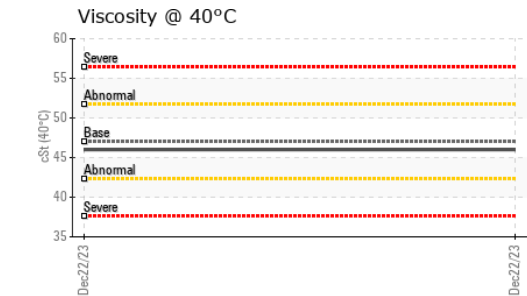
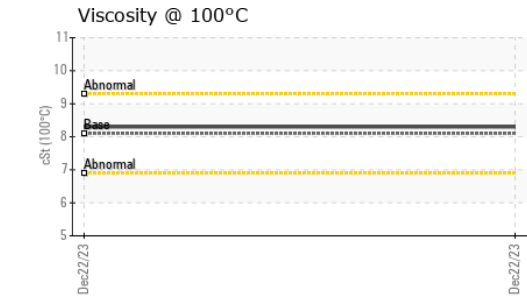
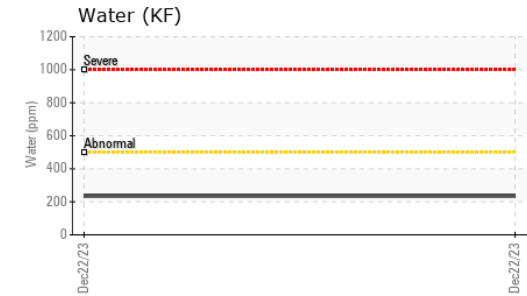
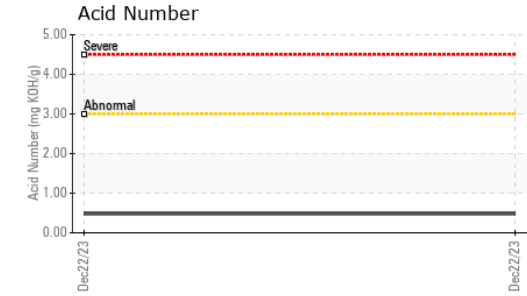
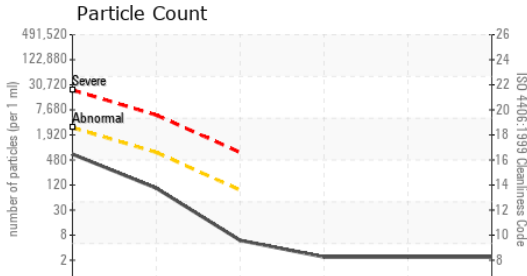
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|-----------|--------|---------------|---------|--------------|----------|
| Silicon | ppm | ASTM D5185(m) | >11 | <1 | --- |
| Sodium | ppm | ASTM D5185(m) | >21 | <1 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 0 | --- |
| Water | % | ASTM D6304* | >0.05 | 0.023 | --- |
| ppm Water | ppm | ASTM D6304* | >500 | 234 | --- |

INFRA-RED

| | method | limit/base | current | history1 | history2 |
|---------------------|----------|-------------|---------|----------------|----------|
| Soot % | % | ASTM D7844* | | 0 | --- |
| Nitration | Abs/cm | ASTM D7624* | | 3.9 | --- |
| Sulfation | Abs/.1mm | ASTM D7415* | | 150.4 | --- |
| Mineral Oil Content | % | ASTM D7418* | <5.0% | <5.0 | --- |



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02605603
Unique Number : 5698688
Test Package : MOB 2 (Additional Tests: TAN Man)

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.

Envirolin Canada
 520 rue Adanac
 Quebec, QC
 CA G1C 7B7
 Contact: Patrick Levesque
 patrick.levesque@envirolin.com
 T: (418)623-1216
 F: (418)660-8889

| FLUID CLEANLINESS | method | limit/base | current | history1 | history2 |
|-------------------|--------------|------------|-----------------|----------|----------|
| Particles >4µm | ASTM D7647 | >2500 | 582 | --- | --- |
| Particles >6µm | ASTM D7647 | >640 | 89 | --- | --- |
| Particles >14µm | ASTM D7647 | >80 | 5 | --- | --- |
| Particles >21µm | ASTM D7647 | >20 | 2 | --- | --- |
| Particles >38µm | ASTM D7647 | >4 | 2 | --- | --- |
| Particles >71µm | ASTM D7647 | >3 | 2 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) | >18/16/13 | 16/14/10 | --- | --- |

| FLUID DEGRADATION | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|--------------|----------|----------|
| Oxidation | Abs/.1mm | ASTM D7414* | 147.4 | --- | --- |
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.48 | --- | --- |

| 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 | --- | --- |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|----------------------|--------|---------------|---------|-------------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 47.0 | 46.0 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 8.1 | 8.3 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 146 | 157 | --- |

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



MINERAL OIL CONTENT REPORT

PASS

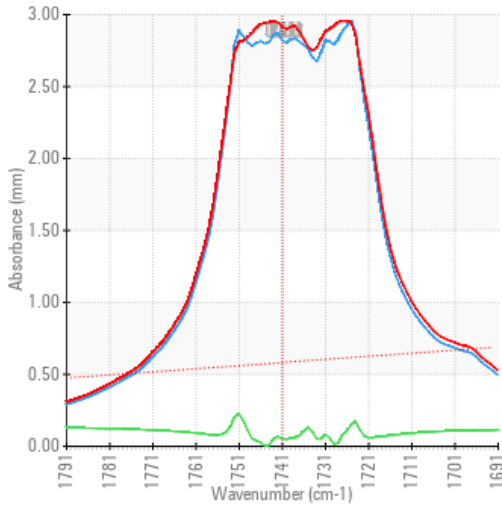


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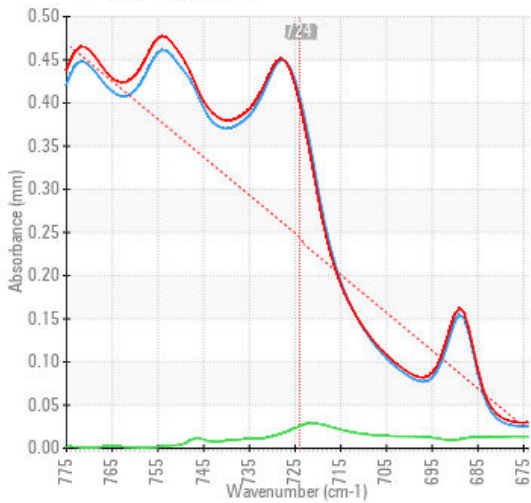
SPECTRAL ANALYSIS

| | | method | limit/base | current | history1 | history2 |
|---------------------|-----|---------------|------------|----------------|----------|----------|
| Zinc | ppm | ASTM D5185(m) | 0 | 2 | --- | --- |
| Mineral Oil Content | % | ASTM D7418* | <5.0% | <5.0 | --- | --- |

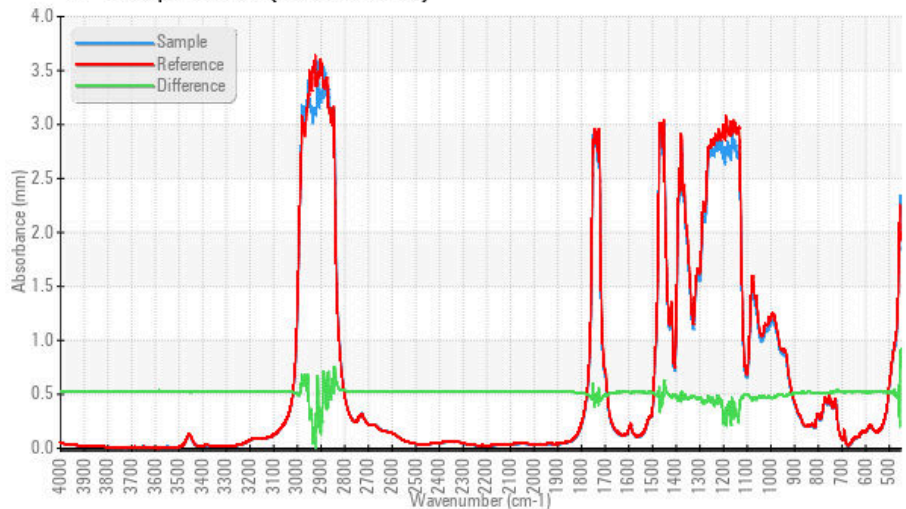
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

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Sample No. : WC
Lab Number : 02605603
Unique Number : 5698688
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 28 Dec 2023
Diagnosed : 02 Jan 2024
Diagnostician : Bill Quesnel

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