



RAPPORT D'ANALYSE D'HUILE

| | |
|----------------|------------------|
| USURE | NORMAL |
| CONTAMINATION | ANORMAL |
| ÉTAT DU FLUIDE | ATTENTION |



Secteur
MAXI-PAYSAGE [02548846]
Identité de la machine
CATERPILLAR 277D SSK01 (S/N CAT02770HFMT00448)
Composant
Système hydraulique
Fluide
PANOLIN HLP SYNTH 46 (52 LTR)

RECOMMANDATION

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|---------------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Numéro d'échant. | | Client Info | | WC | WC | WC |
| Date d'échant. | | Client Info | | 29 Jun 2023 | 13 Sep 2022 | 27 Jul 2022 |
| Âge de la Machine | hrs | Client Info | | 2261 | 2050 | 0 |
| Âge de l'huile | hrs | Client Info | | 0 | 0 | 0 |
| Âge du filtre | hrs | Client Info | | 0 | 0 | 0 |
| Huile changée | | Client Info | | N/A | N/A | N/A |
| Filtre changé | | Client Info | | N/A | N/A | N/A |
| Statut de l'échant. | | | | ABNORMAL | ABNORMAL | ABNORMAL |

USURE

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

| | | | | | | |
|-------------|--------|---------------|------|--------------|------|------|
| Fer | ppm | ASTM D5185(m) | >20 | 4 | 2 | 2 |
| Chrome | ppm | ASTM D5185(m) | >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185(m) | >10 | 0 | <1 | <1 |
| Titane | ppm | ASTM D5185(m) | | <1 | <1 | <1 |
| Argent | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Aluminium | ppm | ASTM D5185(m) | >10 | <1 | 0 | <1 |
| Plomb | ppm | ASTM D5185(m) | >10 | <1 | <1 | 0 |
| Cuivre | ppm | ASTM D5185(m) | >75 | 1 | <1 | <1 |
| Étain | ppm | ASTM D5185(m) | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Métal blanc | scalar | Visual* | NONE | NONE | NONE | NONE |
| Bronze | scalar | Visual* | NONE | NONE | NONE | NONE |

CONTAMINATION

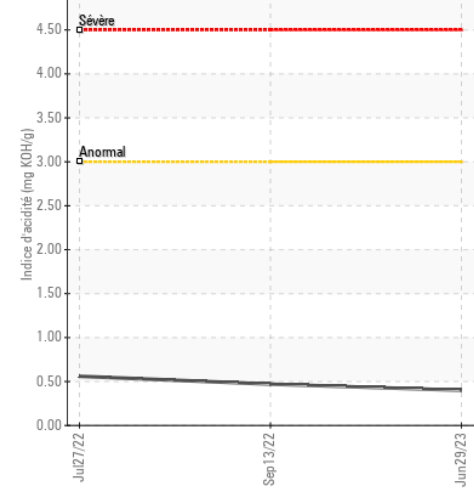
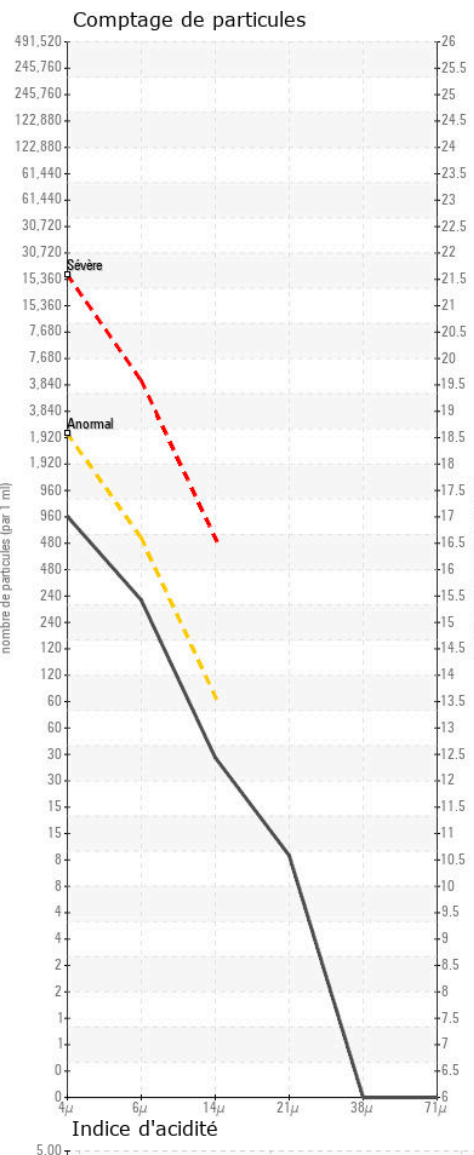
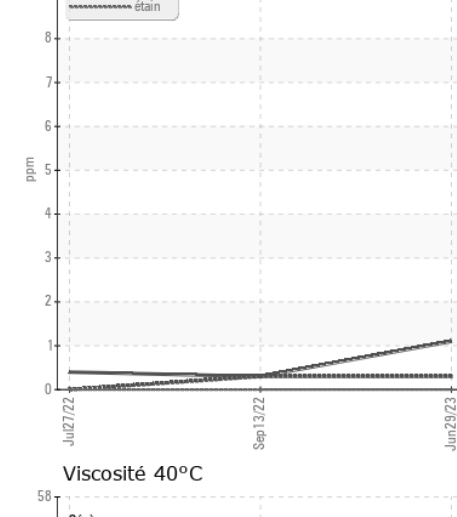
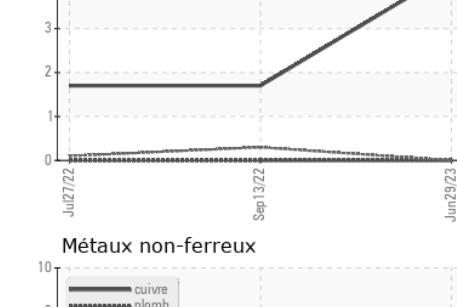
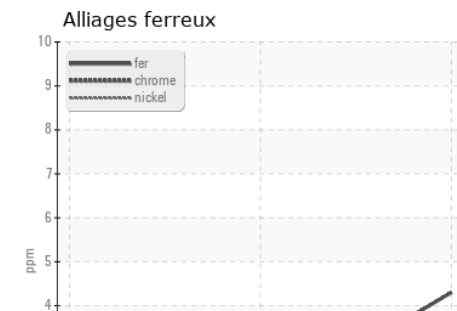
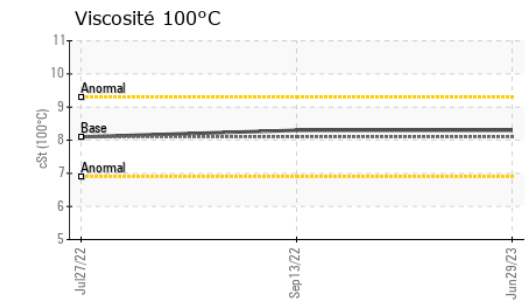
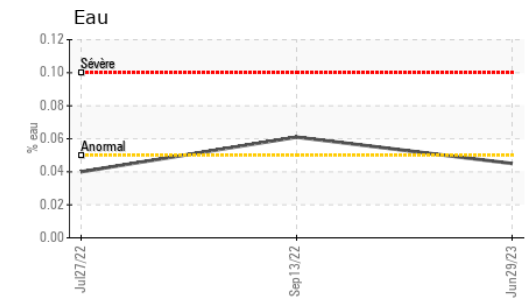
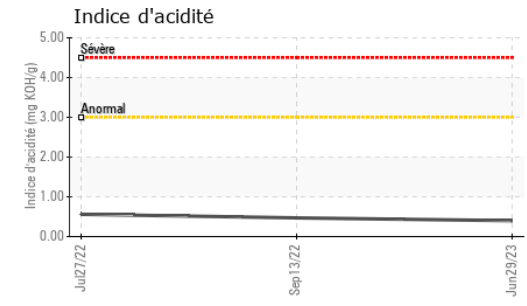
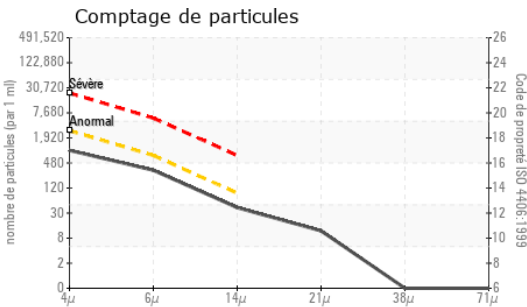
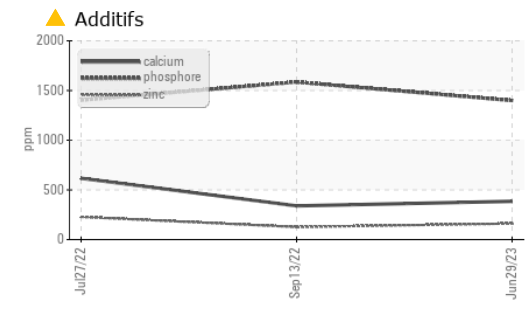
Il y a une concentration modérée (7.0%) d'huile minérale présente dans le fluide. La propreté du système est acceptable pour votre objectif de propreté ISO 4406. La teneur en eau est négligeable.

| | | | | | | |
|---------------------------|---------|---------------|-----------|-----------------|----------|----------|
| Silicium | ppm | ASTM D5185(m) | >20 | 1 | 1 | 1 |
| Potassium | ppm | ASTM D5185(m) | >20 | <1 | <1 | <1 |
| Eau | % | ASTM D6304* | >0.05 | 0.045 | ▲ 0.061 | 0.040 |
| ppm d'eau | ppm | ASTM D6304* | >500 | 454.9 | ▲ 619.6 | 406.2 |
| % de suie | % | ASTM D7844* | | 0 | 0 | 0 |
| Nitration | Abs/1mm | ASTM D7624* | | 4.1 | 4.3 | 4.1 |
| Sulfatation | Abs/1mm | ASTM D7415* | | 150.4 | 160.6 | 162.2 |
| Contenu en huile minérale | % | ASTM D7418* | <5.0% | ▲ 7.0 | <5.0 | ▲ 9.8 |
| Particules >4µ | | ASTM D7647 | >2500 | 847 | 270 | 725 |
| Particules >6µ | | ASTM D7647 | >640 | 283 | 53 | 221 |
| Particules >14µ | | ASTM D7647 | >80 | 36 | 7 | 36 |
| Particules >21µ | | ASTM D7647 | >20 | 10 | 4 | 12 |
| Particules >38µ | | ASTM D7647 | >4 | 0 | 2 | 1 |
| Particules >71µ | | ASTM D7647 | >3 | 0 | 2 | 1 |
| Propreté de l'huile | | ISO 4406 (c) | >18/16/13 | 17/15/12 | 15/13/10 | 17/15/12 |
| Limon | scalar | Visual* | NONE | NONE | NONE | NONE |
| Débris | scalar | Visual* | NONE | NONE | NONE | NONE |
| Saleté | scalar | Visual* | NONE | NONE | NONE | NONE |
| Apparence | scalar | Visual* | NORML | NORML | NORML | NORML |
| Odeur | scalar | Visual* | NORML | NORML | NORML | NORML |
| Eau émulsifiée | scalar | Visual* | >0.05 | NEG | NEG | NEG |

ÉTAT DU FLUIDE

Le AN est acceptable pour ce fluide.

| | | | | | | |
|--------------------------|----------|---------------|------|---------------|--------|--------|
| Sodium | ppm | ASTM D5185(m) | | <1 | <1 | 1 |
| Bore | ppm | ASTM D5185(m) | 0 | 1 | <1 | 2 |
| Baryum | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Molybdène | ppm | ASTM D5185(m) | 0 | <1 | <1 | <1 |
| Manganèse | ppm | ASTM D5185(m) | 0 | 0 | 0 | 0 |
| Magnésium | ppm | ASTM D5185(m) | 0 | 8 | 5 | 9 |
| Calcium | ppm | ASTM D5185(m) | 0 | ▲ 385 | ▲ 339 | ▲ 617 |
| Phosphore | ppm | ASTM D5185(m) | 1700 | 1399 | 1585 | 1403 |
| Zinc | ppm | ASTM D5185(m) | 0 | ▲ 161 | ▲ 126 | ▲ 228 |
| Soufre | ppm | ASTM D5185(m) | 1350 | ▲ 1824 | ▲ 1843 | ▲ 2248 |
| Oxydation | Abs/1mm | ASTM D7414* | | 141.9 | 149.1 | 143.9 |
| Indice d'acidité | mg KOH/g | ASTM D974* | | 0.40 | 0.47 | 0.56 |
| Visc 40°C | cSt | ASTM D7279(m) | 47.0 | 46.5 | 46.6 | 45.7 |
| Visc 100°C | cSt | ASTM D7279(m) | 8.1 | 8.3 | 8.3 | 8.1 |
| Indice de viscosité (VI) | Scale | ASTM D2270* | 146 | 154 | 154 | 151 |



Laboratoire : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
N° d'échantillon : WC **Reçu** : 30 Jun 2023
N° de laboratoire : 02567596 **Diagnostiqué** : 07 Jul 2023
Numéro unique : 5604642 **Diagnostiqueur** : Bill Quesnel
Analyse : MOB 2 (Additional Tests: TAN Man)

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

Pour discuter ce rapport, contacter le service à la clientèle au 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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 Identité de la machine
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 Composant
Système hydraulique
 Fluide
PANOLIN HLP SYNTH 46 (52 LTR)

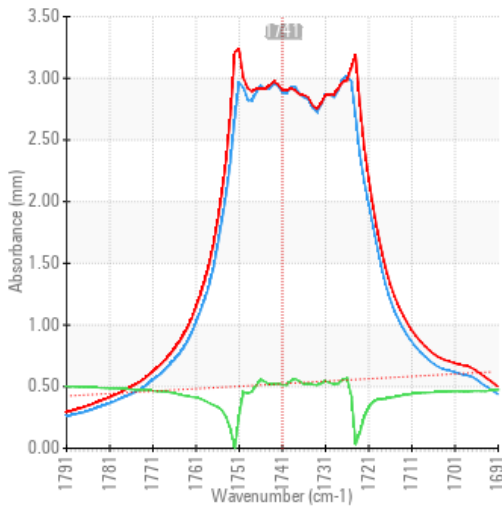


ANALYSE SPECTRAL

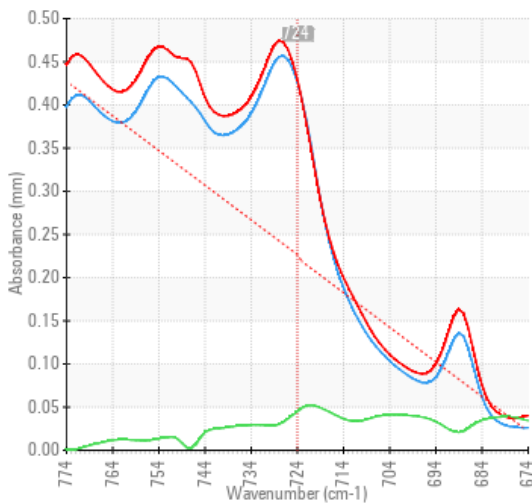
RÉSULTATS

| | methode | limite/base | actuel | passé 1 | passé 2 |
|-----------------------------|---------------|-------------|--------------|---------|---------|
| Contenu en huile minérale % | ASTM D7418* | <5.0% | ▲ 7.0 | <5.0 | ▲ 9.8 |
| Zinc ppm | ASTM D5185(m) | 0 | ▲ 161 | ▲ 126 | ▲ 228 |

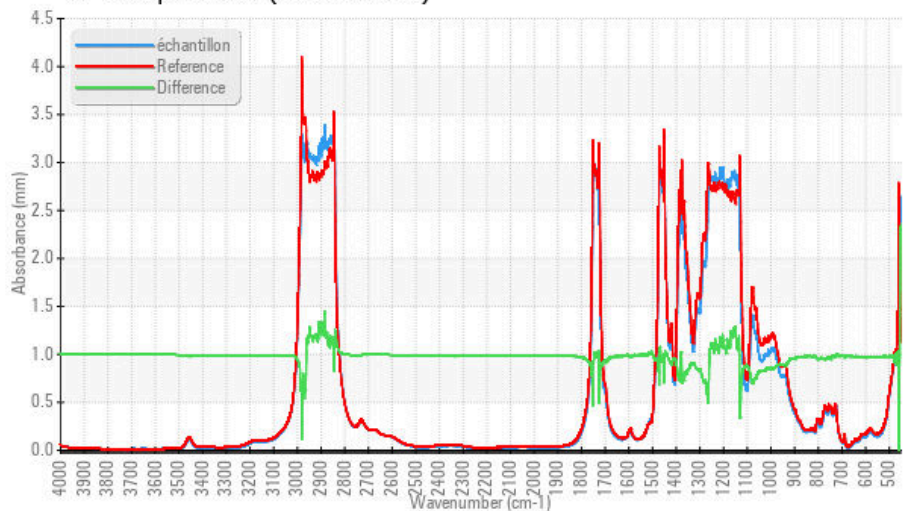
FT-IR - Esters 1



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

Laboratoire : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
 N° d'échantillon : WC Reçu : 30 Jun 2023
 N° de laboratoire : 02567596 Diagnostiqué : 07 Jul 2023
 Numéro unique : 5604642 Diagnostiqueur : Bill Quesnel
 Analyse : MOB 2 (Additional Tests: TAN Man)

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