



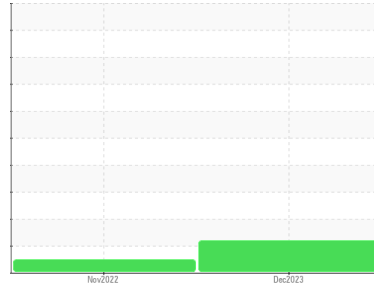
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
CONSTRUCTION BML [02595673]
 Machine Id
KOMATSU PC228USLC-10 231-030 (S/N KMTPC250HHC003119)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (--- GAL)



DIAGNOSIS

Recommendation

Nous recommandons le remplacement des filtres de ce composant. 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 légère quantité de limon (particules de 4 à 14 microns) dans l'huile. Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. La teneur en eau est négligeable.

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	WC	---
Sample Date	Client Info	18 Dec 2023	28 Nov 2022	---
Machine Age	hrs Client Info	8245	6850	---
Oil Age	hrs Client Info	0	0	---
Oil Changed	Client Info	N/A	N/A	---
Sample Status		ATTENTION	NORMAL	---

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >20	2	<1	---
Chromium	ppm ASTM D5185(m) >10	<1	0	---
Nickel	ppm ASTM D5185(m) >10	0	0	---
Titanium	ppm ASTM D5185(m)	0	<1	---
Silver	ppm ASTM D5185(m)	0	0	---
Aluminum	ppm ASTM D5185(m) >10	<1	<1	---
Lead	ppm ASTM D5185(m) >10	9	<1	---
Copper	ppm ASTM D5185(m) >75	<1	0	---
Tin	ppm ASTM D5185(m) >10	0	0	---
Antimony	ppm ASTM D5185(m)	0	<1	---
Vanadium	ppm ASTM D5185(m)	0	0	---
Beryllium	ppm ASTM D5185(m)	0	0	---
Cadmium	ppm ASTM D5185(m)	0	0	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m) 0	<1	<1	---
Barium	ppm ASTM D5185(m) 0	0	0	---
Molybdenum	ppm ASTM D5185(m) 0	0	0	---
Manganese	ppm ASTM D5185(m) 0	0	0	---
Magnesium	ppm ASTM D5185(m) 0	1	2	---
Calcium	ppm ASTM D5185(m) 0	35	40	---
Phosphorus	ppm ASTM D5185(m) 1700	1390	1725	---
Zinc	ppm ASTM D5185(m) 0	27	17	---
Sulfur	ppm ASTM D5185(m) 1350	1605	1513	---
Lithium	ppm ASTM D5185(m)	<1	<1	---

CONTAMINANTS

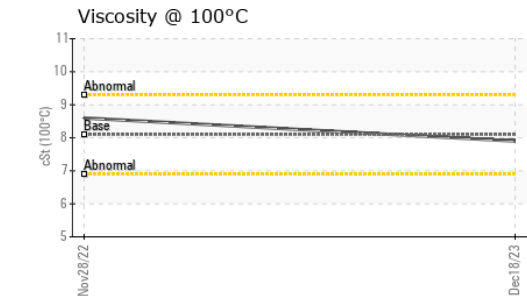
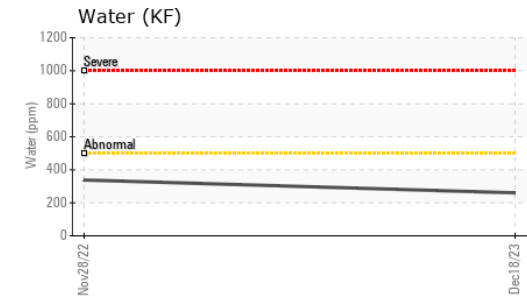
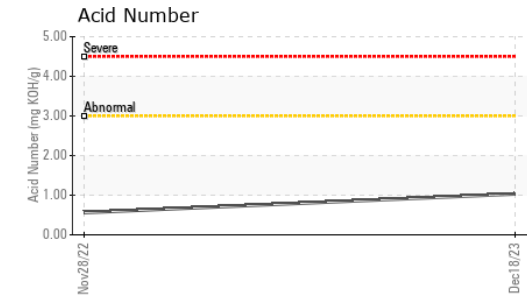
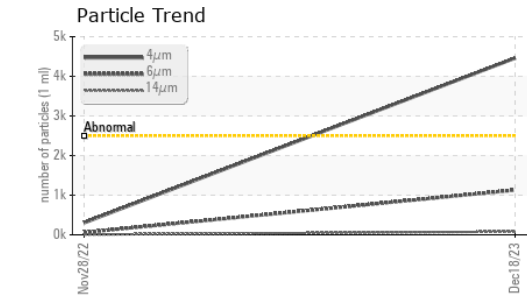
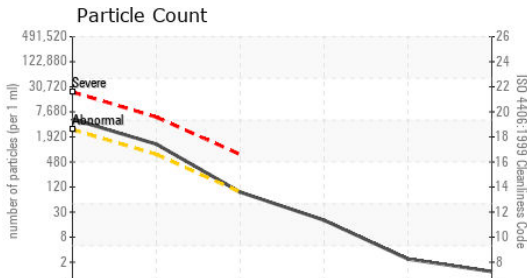
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	1	<1	---
Sodium	ppm ASTM D5185(m)	2	<1	---
Potassium	ppm ASTM D5185(m) >20	<1	<1	---
Water	% ASTM D6304* >0.05	0.026	0.033	---
ppm Water	ppm ASTM D6304* >500	260	338.3	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	0	0	---
Nitration	Abs/cm ASTM D7624*	4.3	4.2	---
Sulfation	Abs/.1mm ASTM D7415*	158.8	161.4	---
Mineral Oil Content	% ASTM D7418* <5.0%	<5.0	<5.0	---



OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 4461	303	---
Particles >6µm	ASTM D7647	>640	▲ 1129	59	---
Particles >14µm	ASTM D7647	>80	80	6	---
Particles >21µm	ASTM D7647	>20	17	3	---
Particles >38µm	ASTM D7647	>4	2	1	---
Particles >71µm	ASTM D7647	>3	1	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 19/17/13	15/13/10	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	155.1	163.5	---
Acid Number (AN)	mg KOH/g	ASTM D974*	1.03	0.56	---

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	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	NEG	NEG	---
Free Water	scalar	Visual*	NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	46.4	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.6	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	165	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					no image
Bottom					no image



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02604270
Unique Number : 5697355
Test Package : MOB 2 (Additional Tests: TAN Man)

Envirolin Canada
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 Quebec, QC
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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

PASS

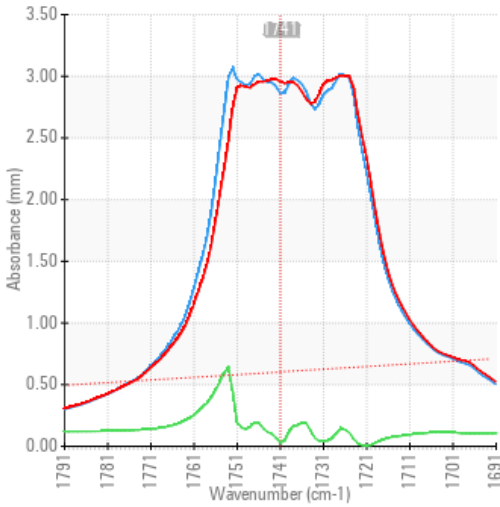


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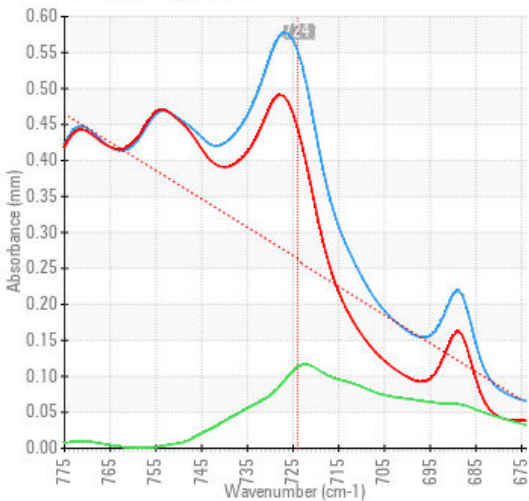
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	27	17	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	<5.0	---

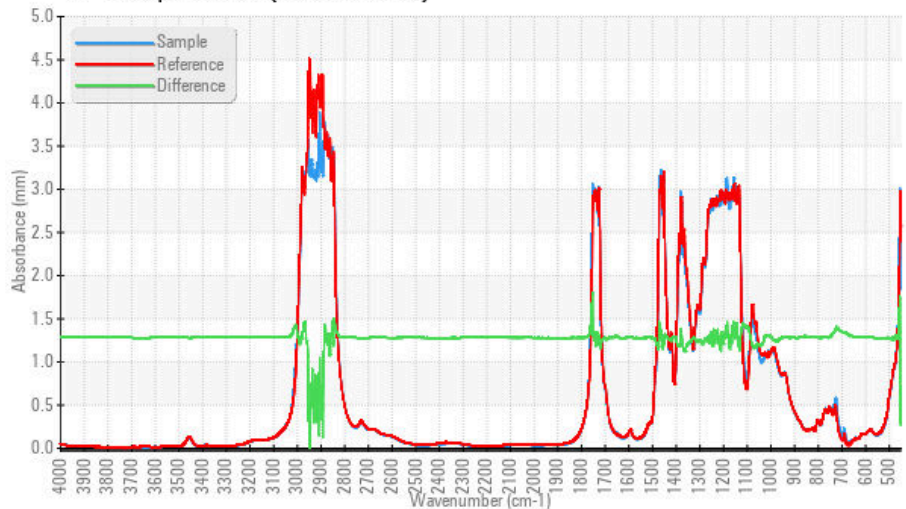
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



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Received : 19 Dec 2023
Diagnosed : 21 Dec 2023
Diagnostician : Bill Quesnel

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