



OIL ANALYSIS REPORT

Area
LES ENTREPRISES FBDL INC [02579229]
 Machine Id
CATERPILLAR 335 XBE20156
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (350 LTR)

Sample Rating Trend



CONTAMINANT



DIAGNOSIS

Wear

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

▲ Contamination

Il y a une concentration modérée (9.4%) 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		28 Aug 2023	---	---
Machine Age	hrs Client Info		10	---	---
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	<1	---	---
Chromium	ppm ASTM D5185(m)	>10	0	---	---
Nickel	ppm ASTM D5185(m)	>10	0	---	---
Titanium	ppm ASTM D5185(m)		0	---	---
Silver	ppm ASTM D5185(m)		<1	---	---
Aluminum	ppm ASTM D5185(m)	>10	<1	---	---
Lead	ppm ASTM D5185(m)	>10	0	---	---
Copper	ppm ASTM D5185(m)	>75	<1	---	---
Tin	ppm ASTM D5185(m)	>10	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	0	---	---
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	15	---	---
Phosphorus	ppm ASTM D5185(m)	1700	1610	---	---
Zinc	ppm ASTM D5185(m)	0	▲ 76	---	---
Sulfur	ppm ASTM D5185(m)	1350	1376	---	---
Lithium	ppm ASTM D5185(m)		<1	---	---

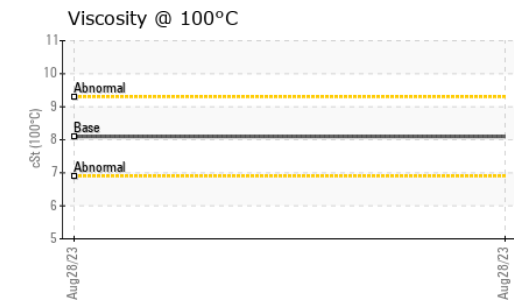
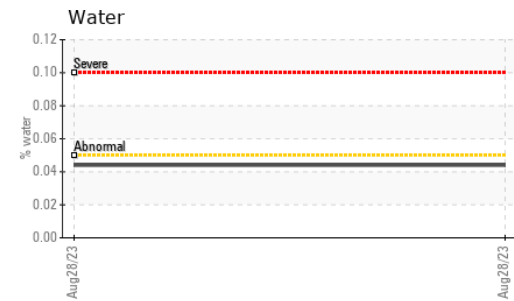
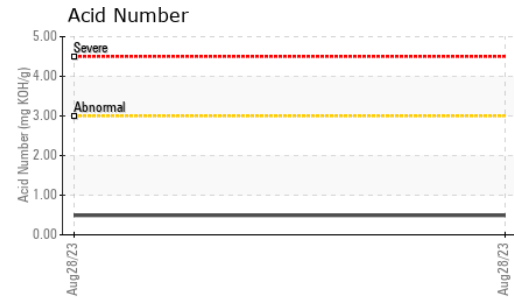
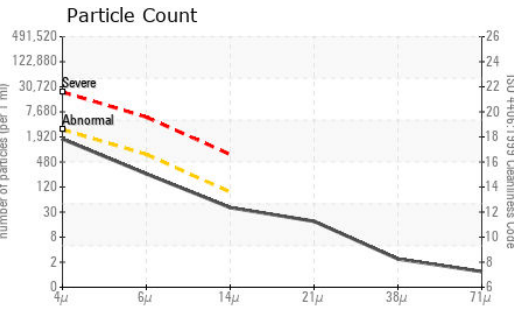
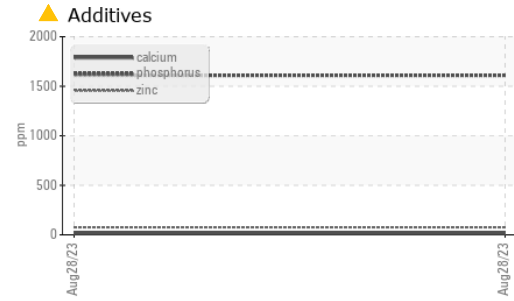
CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	>20	<1	---	---
Sodium	ppm ASTM D5185(m)		<1	---	---
Potassium	ppm ASTM D5185(m)	>20	0	---	---
Water	% ASTM D6304*	>0.05	0.044	---	---
ppm Water	ppm ASTM D6304*	>500	446.2	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	% ASTM D7844*		0	---	---
Nitration	Abs/cm ASTM D7624*		3.9	---	---
Sulfation	Abs/.1mm ASTM D7415*		150.8	---	---
Mineral Oil Content	% ASTM D7418*	<5.0%	▲ 9.4	---	---

OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	1494	---	---
Particles >6µm	ASTM D7647	>640	219	---	---
Particles >14µm	ASTM D7647	>80	34	---	---
Particles >21µm	ASTM D7647	>20	16	---	---
Particles >38µm	ASTM D7647	>4	2	---	---
Particles >71µm	ASTM D7647	>3	1	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	18/15/12	---	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	137.2	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.49	---	---

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*	VLITE	---	---
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	44.7	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.1	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	156	---

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 : **02579230**
Unique Number : 5632290
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.

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 520 rue Adanac
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 Contact: Patrick Levesque
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 T: (418)623-1216
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MINERAL OIL CONTENT REPORT

FAIL



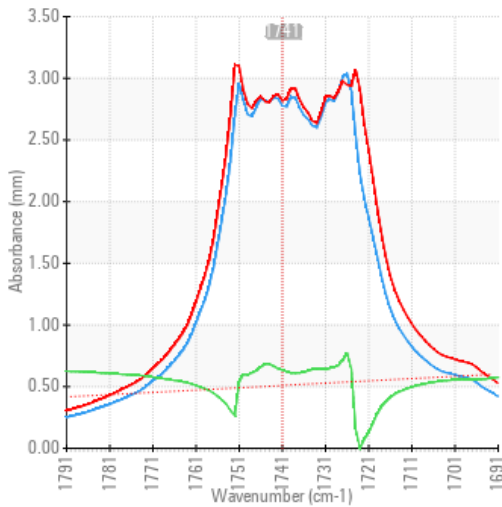
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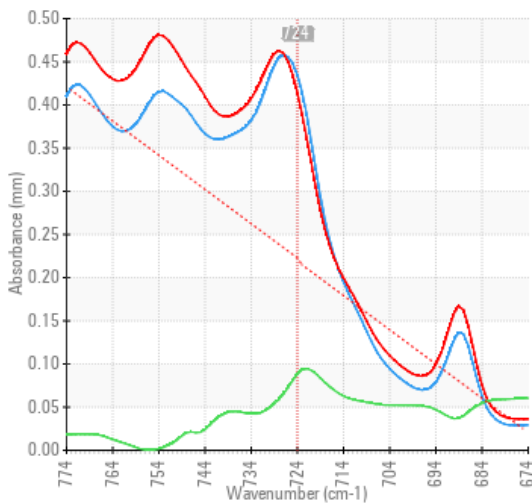
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	▲ 76	---	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	▲ 9.4	---	---

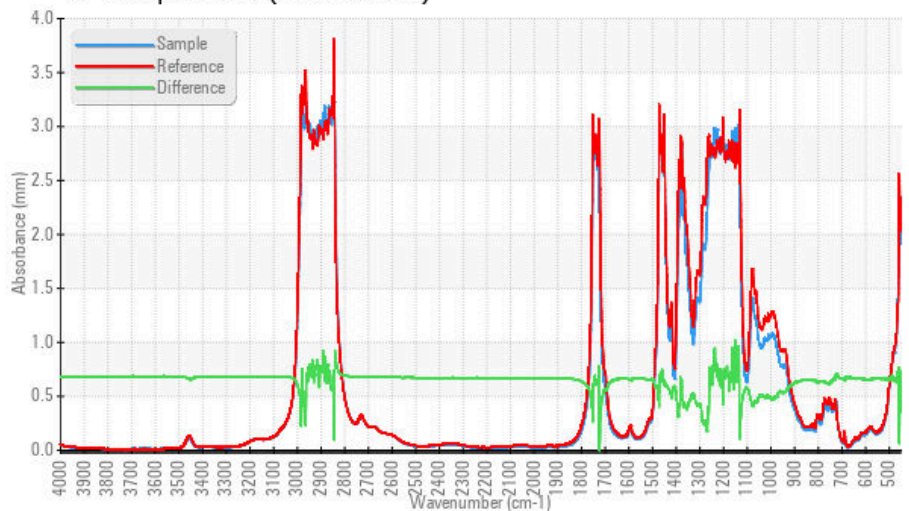
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02579230
Unique Number : 5632290
Test Package : MOB 2 (Additional Tests: TAN MAN)

Received : 29 Aug 2023
Diagnosed : 30 Aug 2023
Diagnostician : Bill Quesnel

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