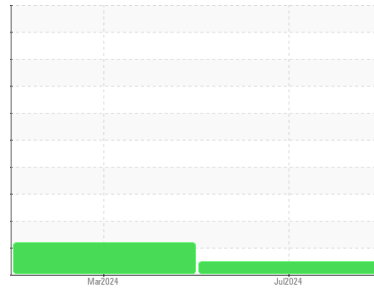




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area

EXCAVATION ST-PIERRE ET TREMBLAY INC [02647461]

Machine Id

HITACHI ZX690LC-6 24HI275625 (S/N HCMJBK61J00060229)

Component

Hydraulic System

Fluid

PANOLIN HLP SYNTH 46 (750 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 teneur en eau est négligeable. 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	WC	---
Sample Date	Client Info	09 Jul 2024	11 Mar 2024	---
Machine Age	hrs Client Info	434	5	---
Oil Age	hrs Client Info	0	0	---
Oil Changed	Client Info	N/A	N/A	---
Sample Status		NORMAL	ABNORMAL	---

WEAR METALS

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

ADDITIVES

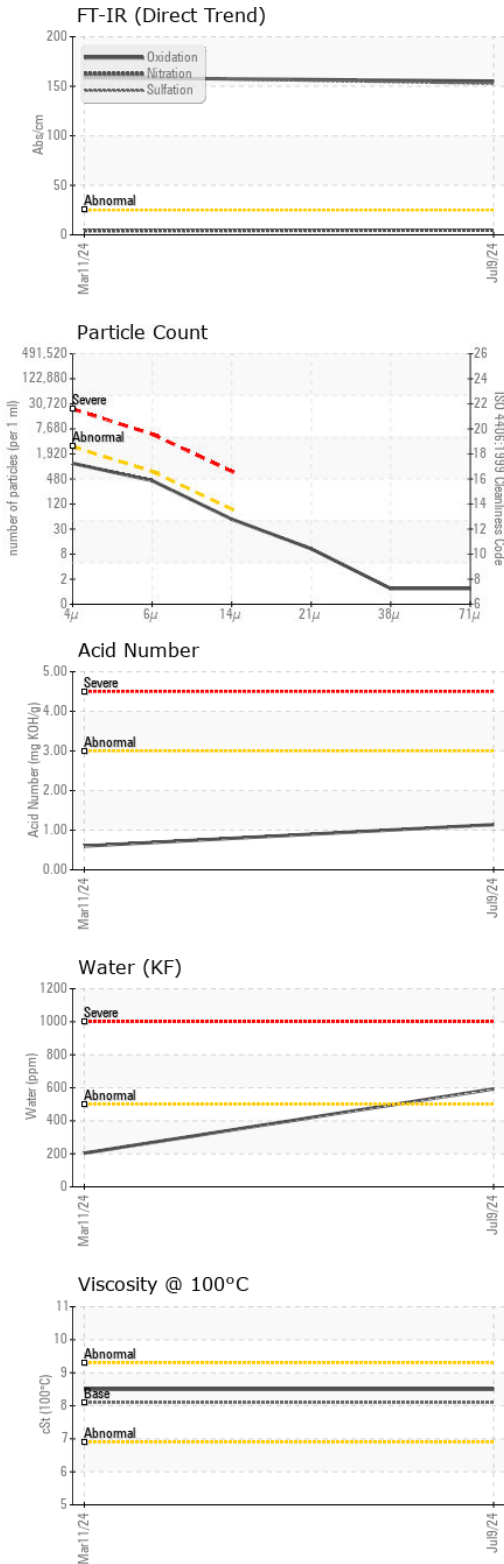
method	limit/base	current	history1	history2
Boron ppm ASTM D5185(m)	0	2	<1	---
Barium ppm ASTM D5185(m)	0	0	0	---
Molybdenum ppm ASTM D5185(m)	0	0	0	---
Manganese ppm ASTM D5185(m)	0	0	0	---
Magnesium ppm ASTM D5185(m)	0	0	<1	---
Calcium ppm ASTM D5185(m)	0	<1	<1	---
Phosphorus ppm ASTM D5185(m)	1700	1641	1671	---
Zinc ppm ASTM D5185(m)	0	12	2	---
Sulfur ppm ASTM D5185(m)	1350	1470	1478	---
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)		0	<1	---
Potassium ppm ASTM D5185(m)	>20	<1	1	---
Water % ASTM D6304*	>0.05	0.059	0.020	---
ppm Water ppm ASTM D6304*	>500	593	204	---

INFRA-RED

method	limit/base	current	history1	history2
Soot % ASTM D7844*		0	0	---
Nitration Abs/cm ASTM D7624*		4.7	4.1	---
Sulfation Abs/.1mm ASTM D7415*		152.5	159.5	---
Mineral Oil Content % ASTM D7418*	<5.0%	<5.0	<5.0	---



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	999	▲ 5475	---
Particles >6µm	ASTM D7647	>640	385	● 1257	---
Particles >14µm	ASTM D7647	>80	46	56	---
Particles >21µm	ASTM D7647	>20	9	13	---
Particles >38µm	ASTM D7647	>4	1	3	---
Particles >71µm	ASTM D7647	>3	1	2	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	17/16/13	▲ 20/17/13	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	155.2	158.7	---
Acid Number (AN)	mg KOH/g	ASTM D974*	1.14	0.60	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	VLITE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	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	47.0
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.5	8.5
Viscosity Index (VI)	Scale	ASTM D2270*	146	162	159

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 : 02647255
Unique Number : 5812807
Test Package : MOB 2 (Additional Tests: Bottom, TAN Man)

Received : 10 Jul 2024
Tested : 15 Jul 2024
Diagnosed : 15 Jul 2024 - Bill Quesnel

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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

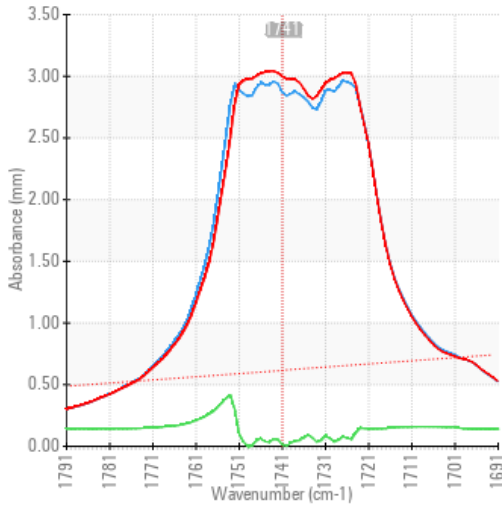


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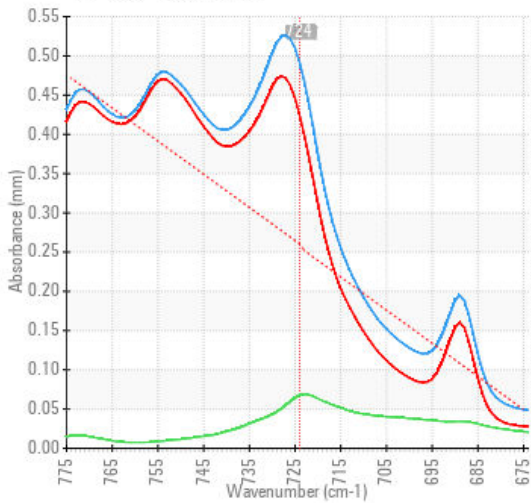
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	12	2	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	<5.0	---

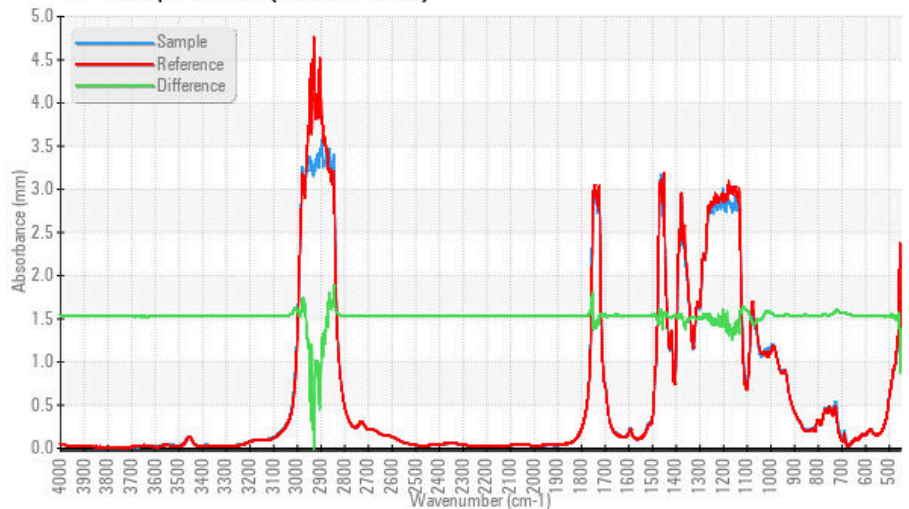
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

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