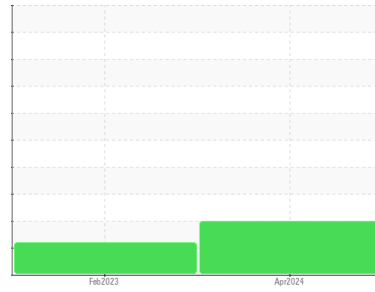




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

**LOISELLE [02630831]**

Machine Id

**HITACHI ZX350LC-6 23HI81623 (S/N HCMDDQ60A00082383)**

Component

**Hydraulic System**

Fluid

**PANOLIN HLP SYNTH 46 (340 LTR)**

## DIAGNOSIS

### Recommendation

Nous vous recommandons de remplacer le filtre et d'utiliser un système de filtrage hors-ligne afin d'améliorer la propreté du fluide. Nous vous recommandons d'échantillonner de nouveau dès que possible afin de contrôler la situation.

### Wear

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

### Contamination

Il y a une quantité modérée de matières particulaires (2 à 100 µm de taille) présente dans l'huile. Il y a une faible concentration (<5.0%) d'huile minérale présente dans le fluide. La teneur en eau est négligeable. La propreté du système est supérieure à la limite acceptable pour votre objectif de propreté ISO 4406.

### Fluid Condition

Le AN est acceptable pour ce fluide. l'huile peut encore servir si la contamination peut être réduite à un niveau acceptable.

## SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		<b>WC</b>	WC	---
Sample Date	Client Info		<b>19 Apr 2024</b>	03 Feb 2023	---
Machine Age	hrs	Client Info	<b>1583</b>	6	---
Oil Age	hrs	Client Info	<b>0</b>	0	---
Oil Changed	Client Info		<b>N/A</b>	N/A	---
Sample Status			<b>ABNORMAL</b>	ATTENTION	---

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	<b>8</b>	<1	---
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Titanium	ppm	ASTM D5185(m)		<b>0</b>	<1	---
Silver	ppm	ASTM D5185(m)		<b>0</b>	0	---
Aluminum	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Lead	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Copper	ppm	ASTM D5185(m)	>75	<b>&lt;1</b>	0	---
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	---
Antimony	ppm	ASTM D5185(m)		<b>0</b>	<1	---
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	---
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	---

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	---
Barium	ppm	ASTM D5185(m)	0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	---
Manganese	ppm	ASTM D5185(m)	0	<b>0</b>	0	---
Magnesium	ppm	ASTM D5185(m)	0	<b>1</b>	0	---
Calcium	ppm	ASTM D5185(m)	0	<b>6</b>	0	---
Phosphorus	ppm	ASTM D5185(m)	1700	<b>1387</b>	1665	---
Zinc	ppm	ASTM D5185(m)	0	<b>45</b>	1	---
Sulfur	ppm	ASTM D5185(m)	1350	<b>1342</b>	1408	---
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	---

## CONTAMINANTS

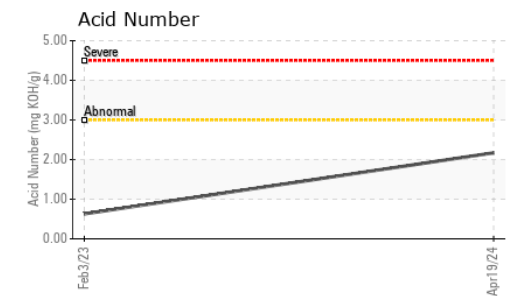
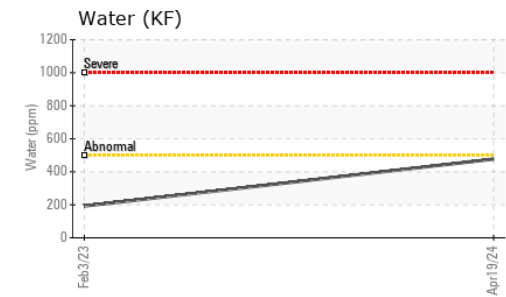
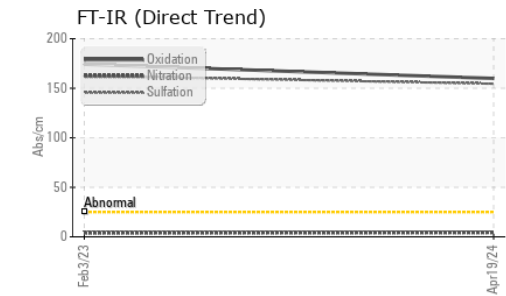
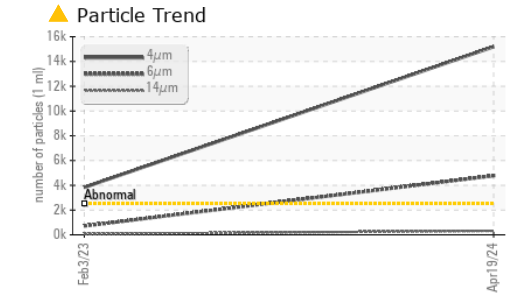
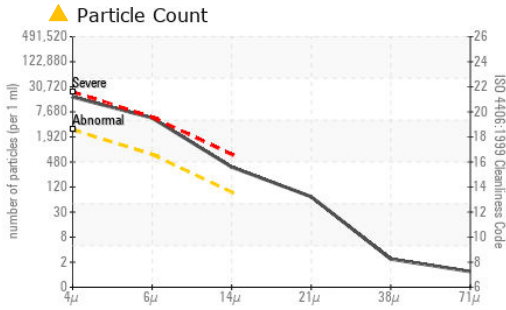
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	---
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	---
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	---
Water	%	ASTM D6304*	>0.05	<b>0.047</b>	0.019	---
ppm Water	ppm	ASTM D6304*	>500	<b>477</b>	192.4	---

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		<b>0</b>	0	---
Nitration	Abs/cm	ASTM D7624*		<b>4.4</b>	4.1	---
Sulfation	Abs/.1mm	ASTM D7415*		<b>154.5</b>	162.5	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<b>&lt;5.0</b>	<5.0	---



# OIL ANALYSIS REPORT



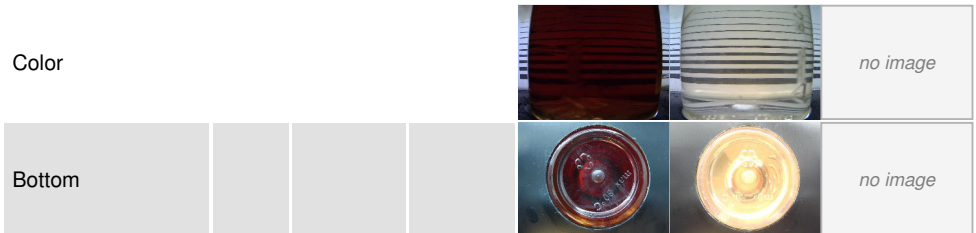
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ <b>15195</b>	● 3832	---
Particles >6µm	ASTM D7647	>640	▲ <b>4774</b>	● 711	---
Particles >14µm	ASTM D7647	>80	▲ <b>319</b>	64	---
Particles >21µm	ASTM D7647	>20	▲ <b>62</b>	18	---
Particles >38µm	ASTM D7647	>4	<b>2</b>	1	---
Particles >71µm	ASTM D7647	>3	<b>1</b>	1	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ <b>21/19/15</b>	● 19/17/13	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	<b>159.9</b>	174.2	---
Acid Number (AN)	mg KOH/g	ASTM D974*	<b>2.17</b>	0.63	---

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*	>0.05	NEG	---
Free Water	scalar	Visual*	NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	<b>45.1</b>	46.2
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	<b>8.2</b>	8.5
Viscosity Index (VI)	Scale	ASTM D2270*	146	<b>157</b>	163

SAMPLE IMAGES	method	limit/base	current	history1	history2
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**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC  
**Lab Number** : 02630829  
**Unique Number** : 5763961  
**Test Package** : MOB 2 ( Additional Tests: TAN Man )  
**Received** : 22 Apr 2024  
**Tested** : 24 Apr 2024  
**Diagnosed** : 25 Apr 2024 - Bill Quesnel

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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# MINERAL OIL CONTENT REPORT

PASS



Area

**LOISELLE [02630831]**

Machine Id

**HITACHI ZX350LC-6 23HI81623 (S/N HCMDDQ60A00082383)**

Component

**Hydraulic System**

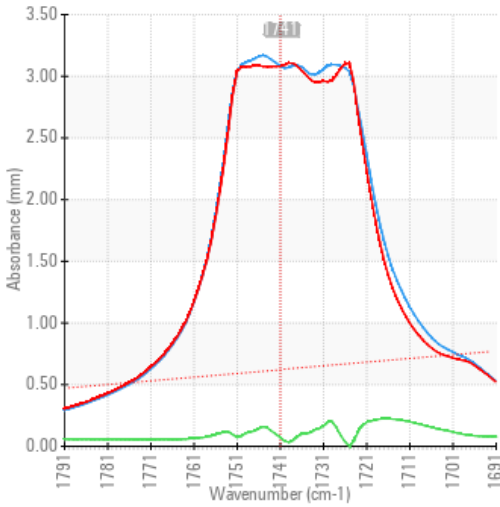
Fluid

**PANOLIN HLP SYNTH 46 (340 LTR)**

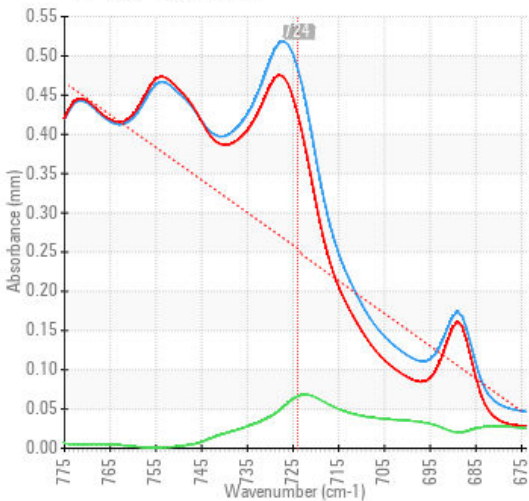
## SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	<b>45</b>	1	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<b>&lt;5.0</b>	<5.0	---

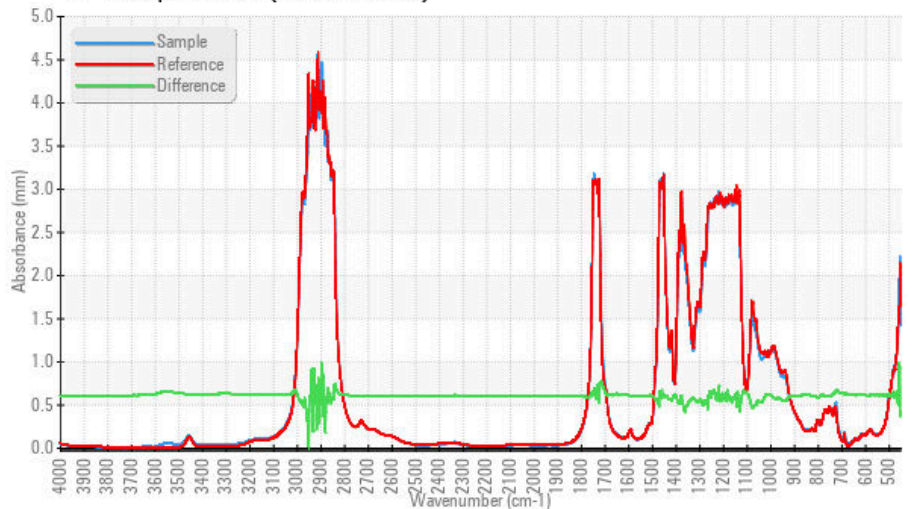
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017  
Accredited  
Laboratory

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