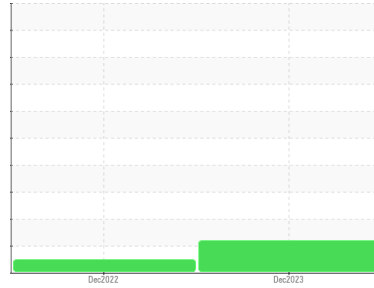




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
LES ENTREPRISE FBDL INC. [02601740]
 Machine Id
HITACHI ZX135US-6 22HI80490 (S/N HCMDAS60A00518363)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (155 LTR)

DIAGNOSIS

Recommendation

Nous recommandons le remplacement des filtres de ce composant. 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 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. 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		WC	WC	---
Sample Date	Client Info		05 Dec 2023	05 Dec 2022	---
Machine Age	hrs	Client Info	993	5	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ABNORMAL	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	12	<1	---
Chromium	ppm	ASTM D5185(m)	>10	0	0	---
Nickel	ppm	ASTM D5185(m)	>10	0	0	---
Titanium	ppm	ASTM D5185(m)		0	<1	---
Silver	ppm	ASTM D5185(m)		<1	0	---
Aluminum	ppm	ASTM D5185(m)	>10	<1	0	---
Lead	ppm	ASTM D5185(m)	>10	<1	0	---
Copper	ppm	ASTM D5185(m)	>75	1	0	---
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	<1	<1	---
Barium	ppm	ASTM D5185(m)	0	<1	0	---
Molybdenum	ppm	ASTM D5185(m)	0	0	0	---
Manganese	ppm	ASTM D5185(m)	0	0	0	---
Magnesium	ppm	ASTM D5185(m)	0	0	0	---
Calcium	ppm	ASTM D5185(m)	0	<1	0	---
Phosphorus	ppm	ASTM D5185(m)	1700	1321	1638	---
Zinc	ppm	ASTM D5185(m)	0	48	3	---
Sulfur	ppm	ASTM D5185(m)	1350	1382	1422	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

CONTAMINANTS

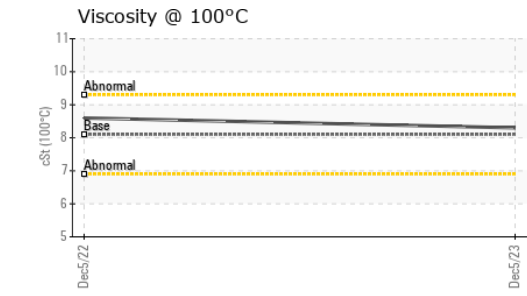
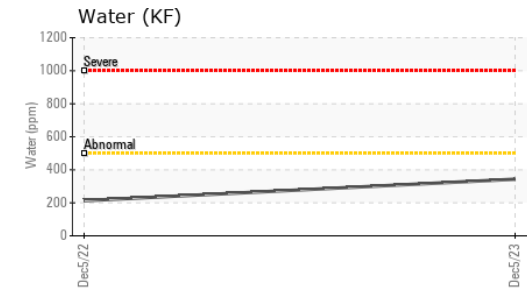
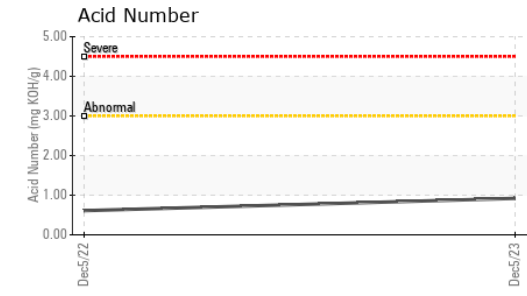
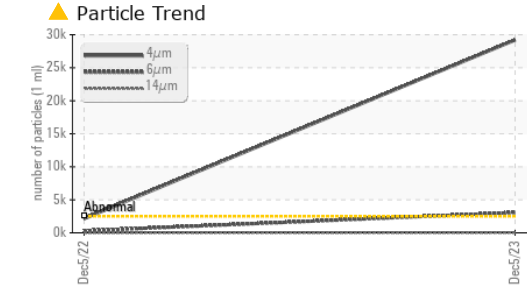
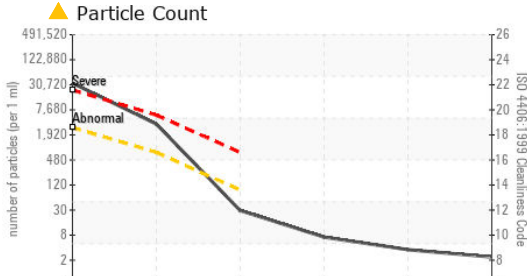
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	2	<1	---
Sodium	ppm	ASTM D5185(m)		<1	<1	---
Potassium	ppm	ASTM D5185(m)	>20	0	<1	---
Water	%	ASTM D6304*	>0.05	0.034	0.021	---
ppm Water	ppm	ASTM D6304*	>500	343	212.8	---

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*		0	0	---
Nitration	Abs/cm	ASTM D7624*		4.3	4.1	---
Sulfation	Abs/.1mm	ASTM D7415*		153.4	150.6	---
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	▲ 29204	2148	---
Particles >6µm	ASTM D7647	>640	▲ 3064	302	---
Particles >14µm	ASTM D7647	>80	26	16	---
Particles >21µm	ASTM D7647	>20	6	5	---
Particles >38µm	ASTM D7647	>4	3	0	---
Particles >71µm	ASTM D7647	>3	2	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 22/19/12	18/15/11	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	153.2	156.2	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.92	0.61	---

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)	45.5	46.8	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.3	8.6	---
Viscosity Index (VI)	Scale	ASTM D2270*	159	163	---

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 : **02601739**
Unique Number : 5694824
Test Package : MOB 2 (Additional Tests: TAN Man)
Received : 07 Dec 2023
Diagnosed : 08 Dec 2023
Diagnostician : 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

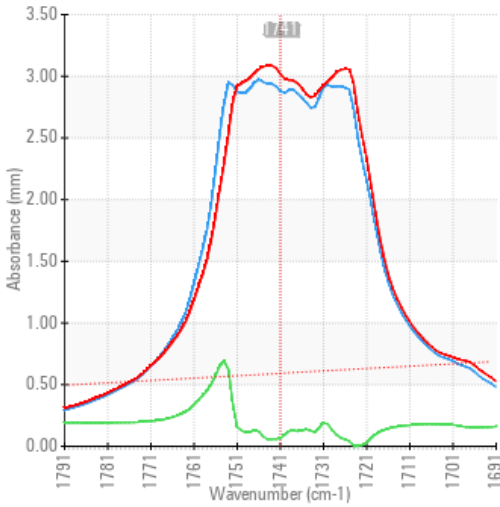


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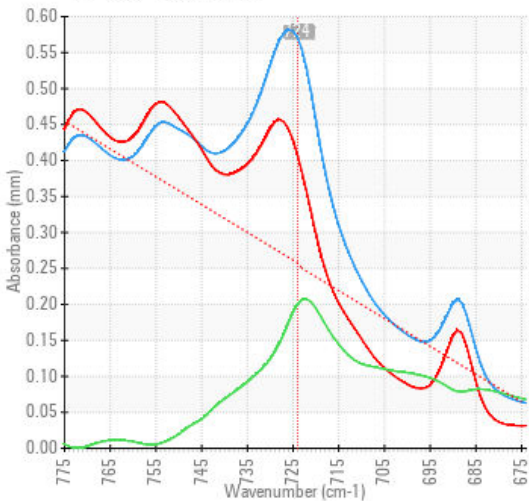
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	48	3	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	<5.0	---

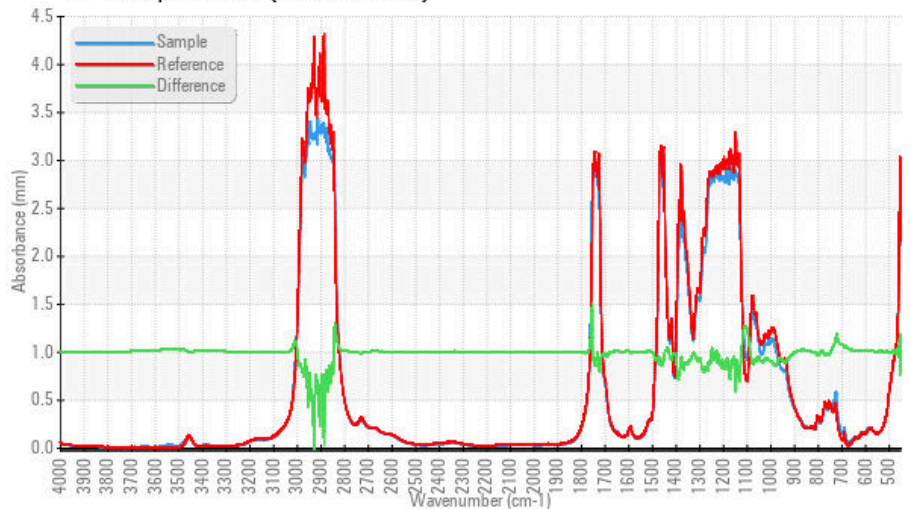
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



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