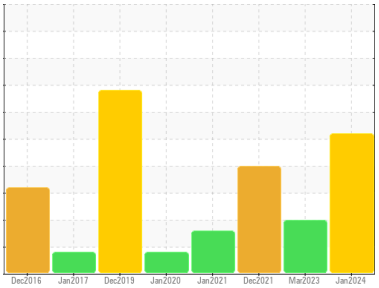
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Area
ALLEN ENTREPENEUR [02608831]
Machine Id
HITACHI ZX470 LCS-5 483 (S/N HCMJAA70H00030870)
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (310 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. L'indice d'acidité (AN) indique que votre fluide a atteint la fin de sa vie utile, veuillez procéder à un changement d'huile complet.

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 niveau de AN est beaucoup plus élevé que la limite recommandée. l`huile ne peut plus être utilisée.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC**	WC	WC
Sample Date		Client Info		**11 Jan 2024**	26 Mar 2023	13 Dec 2021
Machine Age	hrs	Client Info		**9934**	9101	8129
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**SEVERE**	ABNORMAL	SEVERE

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	**4**	3	4
Chromium	ppm	ASTM D5185(m)	>10	**2**	1	2
Nickel	ppm	ASTM D5185(m)	>10	**0**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	<1	0
Silver	ppm	ASTM D5185(m)		**0**	0	<1
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	0	<1
Lead	ppm	ASTM D5185(m)	>10	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>75	**<1**	<1	<1
Tin	ppm	ASTM D5185(m)	>10	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

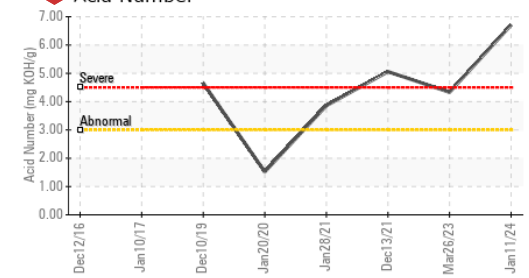
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**2**	<1	2
Barium	ppm	ASTM D5185(m)	0	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)	0	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	0	<1
Calcium	ppm	ASTM D5185(m)	0	**2**	1	4
Phosphorus	ppm	ASTM D5185(m)	1700	**1448**	1549	1474
Zinc	ppm	ASTM D5185(m)	0	**55**	54	54
Sulfur	ppm	ASTM D5185(m)	1350	**1396**	1404	1376
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**2**	2	2
Sodium	ppm	ASTM D5185(m)		**1**	<1	2
Potassium	ppm	ASTM D5185(m)	>20	**2**	<1	1
Water	%	ASTM D6304*	>0.05	**0.043**	0.036	---
ppm Water	ppm	ASTM D6304*	>500	**431**	369.2	---

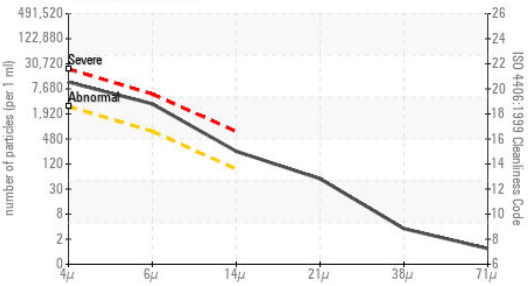
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	---
Nitration	Abs/cm	ASTM D7624*		**4.7**	4.6	---
Sulfation	Abs/.1mm	ASTM D7415*		**153.3**	174.9	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	**<5.0**	<5.0	0.0

OIL ANALYSIS REPORT

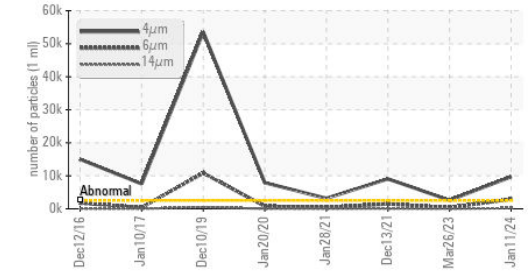
Acid Number



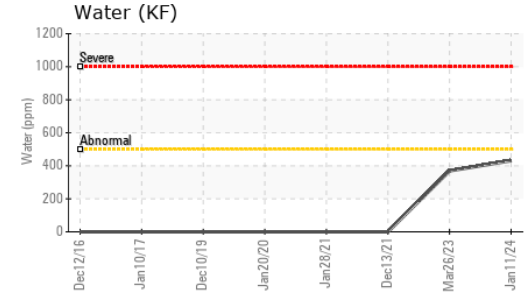
Particle Count



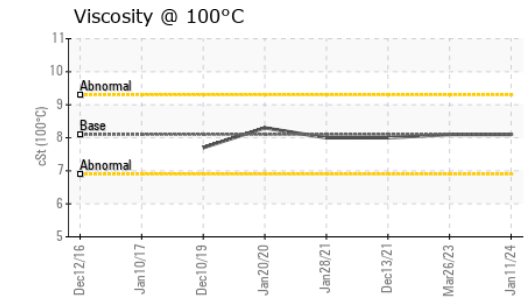
Particle Trend



Water (KF)



Viscosity @ 100°C

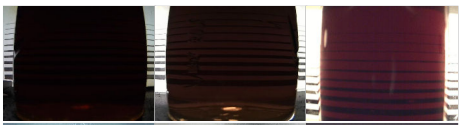


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **9690**	▲ 2598	▲ 9065
Particles >6µm		ASTM D7647	>640	▲ **2914**	365	▲ 1471
Particles >14µm		ASTM D7647	>80	▲ **214**	5	80
Particles >21µm		ASTM D7647	>20	▲ **47**	2	18
Particles >38µm		ASTM D7647	>4	**3**	0	0
Particles >71µm		ASTM D7647	>3	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **20/19/15**	▲ 19/16/10	▲ 20/18/13

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		**164.3**	160.4	---
Acid Number (AN)	mg KOH/g	ASTM D974*		⬢ **6.71**	▲ 4.33	⬢ 5.06

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Precipitate	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**VLITE**	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	**45.0**	45.0	44.3
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	**8.1**	8.1	8
Viscosity Index (VI)	Scale	ASTM D2270*	146	**154**	154	154

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
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ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC **Recieved** : 15 Jan 2024
Lab Number : 02608830 **Diagnosed** : 16 Jan 2024
Unique Number : 5709916 **Diagnostician** : Bill Quesnel
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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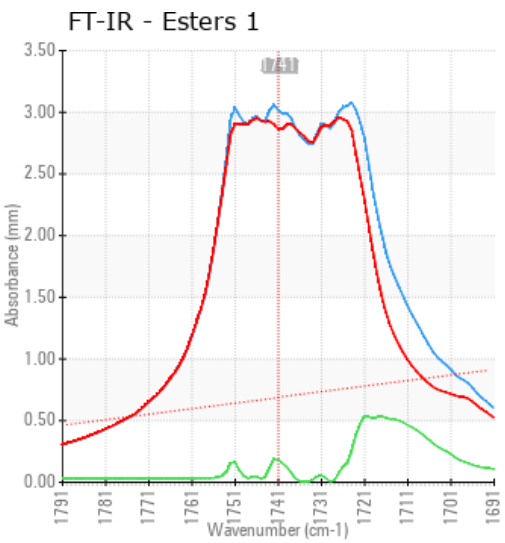
MINERAL OIL CONTENT REPORT

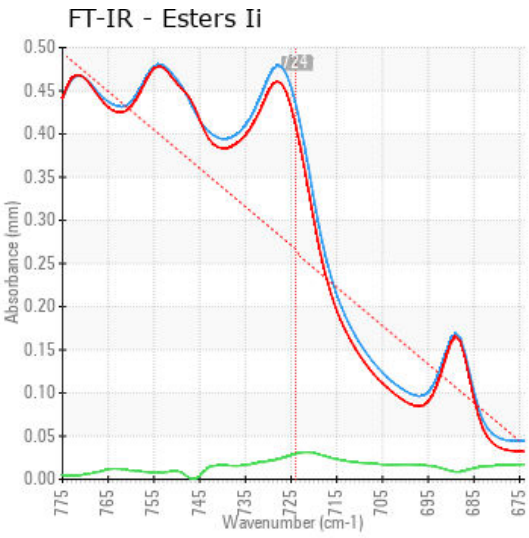
PASS

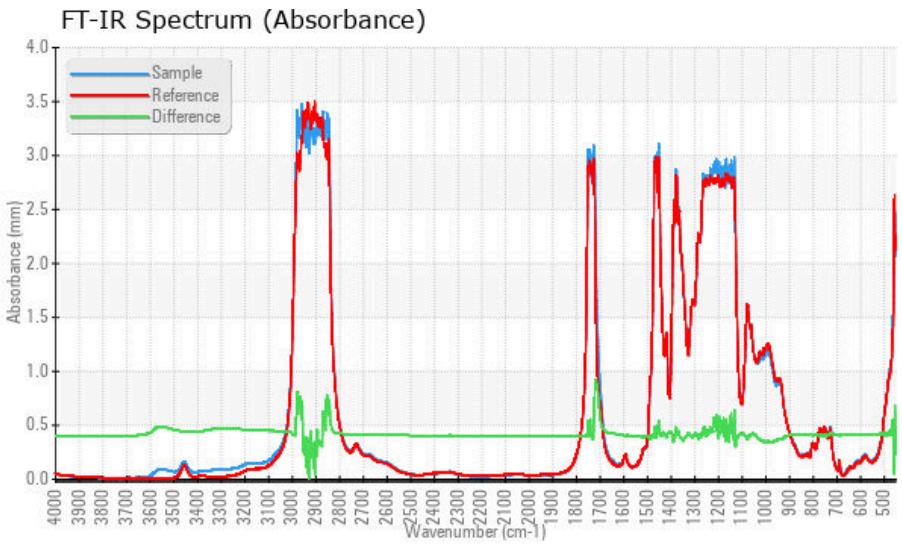
Area
ALLEN ENTREPENEUR [02608831]
Machine Id
HITACHI ZX470 LCS-5 483 (S/N HCMJAA70H00030870)
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (310 LTR)

SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	**55**	54	54
Mineral Oil Content	%	ASTM D7418*	<5.0%	**<5.0**	<5.0	0.0







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