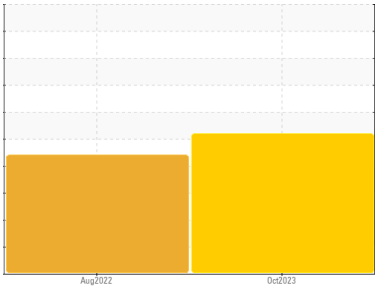
OIL ANALYSIS REPORT

Area
[02592504]
Machine Id
CATERPILLAR 336EL CFHDC336 (S/N FJH01494)
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (--- GAL)

Sample Rating Trend



ISO

DIAGNOSIS

Recommendation

Vérifier les scelles et/ou les filters pour des points d'entrée des contaminants. Le reniflard d`air doit être réparé. S`il n`est pas classé, nous vous recommandons de le remplacer par un reniflard à air adapté au micron et / ou au dessicant. Si évalué, nous vous recommandons de réparer / remplacer le reniflard. Nous recommandons le remplacement des filtres de ce composant. Confirm the source of the lubricant being utilized for top-up/fill. Échantillonner de nouveau dans 30 à 45 jours afin de contrôler la situation.

Wear

Le bas indice ferreux (PQ) indique que l'usure ferreuse est due à de la corrosion.

Contamination

Il y a une grande quantité de limon (particules de 4 à 14 microns) dans l`huile. Il y a une faible concentration (0.4%) d'huile minérale présente dans le fluide. Le code de propreté du système est beaucoup plus haut que la limite acceptable pour votre objectif de propreté ISO 4406.

Fluid Condition

Les niveaux d`additifs indiquent l`ajout d`une autre marque ou d`un autre type d`huile. l`huile n'est plus en état de service en raison d'une usure anomale et/ou sévère.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PP**	PP	---
Sample Date		Client Info		**26 Oct 2023**	10 Aug 2022	---
Machine Age	hrs	Client Info		**10540**	9673	---
Oil Age	hrs	Client Info		**867**	0	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**SEVERE**	SEVERE	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>20	▲ **35**	5	---
Chromium	ppm	ASTM D5185(m)	>10	**1**	0	---
Nickel	ppm	ASTM D5185(m)	>10	**0**	<1	---
Titanium	ppm	ASTM D5185(m)		**0**	0	---
Silver	ppm	ASTM D5185(m)		**<1**	0	---
Aluminum	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Lead	ppm	ASTM D5185(m)	>10	**<1**	<1	---
Copper	ppm	ASTM D5185(m)	>75	**4**	2	---
Tin	ppm	ASTM D5185(m)	>10	**0**	<1	---
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	---

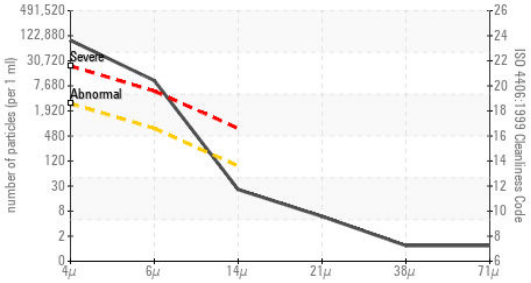
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**1**	<1	---
Barium	ppm	ASTM D5185(m)	0	**<1**	0	---
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	---
Manganese	ppm	ASTM D5185(m)	0	**0**	0	---
Magnesium	ppm	ASTM D5185(m)	0	**<1**	<1	---
Calcium	ppm	ASTM D5185(m)	0	**2**	12	---
Phosphorus	ppm	ASTM D5185(m)	1700	**1501**	1639	---
Zinc	ppm	ASTM D5185(m)	0	▲ **140**	45	---
Sulfur	ppm	ASTM D5185(m)	1350	**1679**	1736	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	**2**	2	---
Sodium	ppm	ASTM D5185(m)		**2**	2	---
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	---

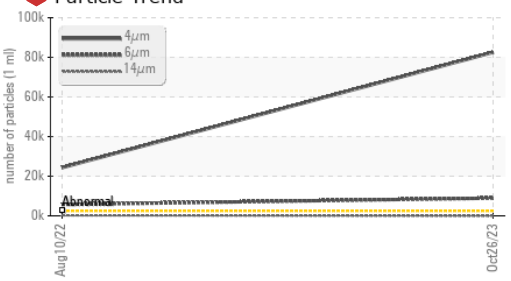
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	---
Nitration	Abs/cm	ASTM D7624*		**4.9**	4.2	---
Sulfation	Abs/.1mm	ASTM D7415*		**153.1**	153.2	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	**0.4**	0.0	---

OIL ANALYSIS REPORT

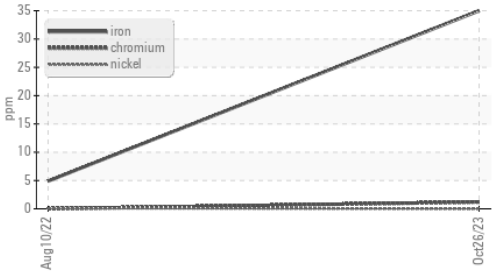
Particle Count



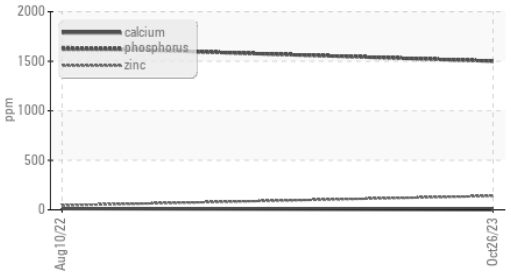
Particle Trend



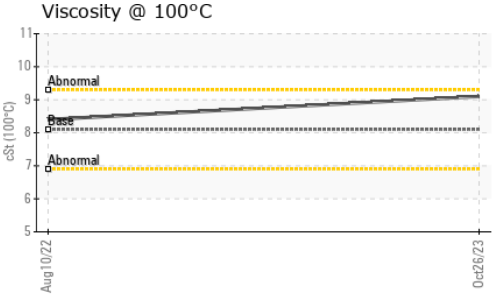
Ferrous Alloys



Additives



Viscosity @ 100°C

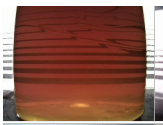
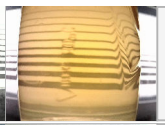
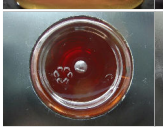


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**82533**	24333	---
Particles >6µm		ASTM D7647	>640	**8940**	5725	---
Particles >14µm		ASTM D7647	>80	**22**	257	---
Particles >21µm		ASTM D7647	>20	**5**	37	---
Particles >38µm		ASTM D7647	>4	**1**	1	---
Particles >71µm		ASTM D7647	>3	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**24/20/12**	22/20/15	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		**151.7**	151.7	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	**NONE**	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	**43.6**	44.7	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	**9.1**	8.4	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	**196**	166	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02592505
Unique Number : 5669584
Test Package : MOB 2 (Additional Tests: FT-IR, KV100, Mineral Oil Content, PQ, VI)
Received : 27 Oct 2023
Diagnosed : 31 Oct 2023
Diagnostician : 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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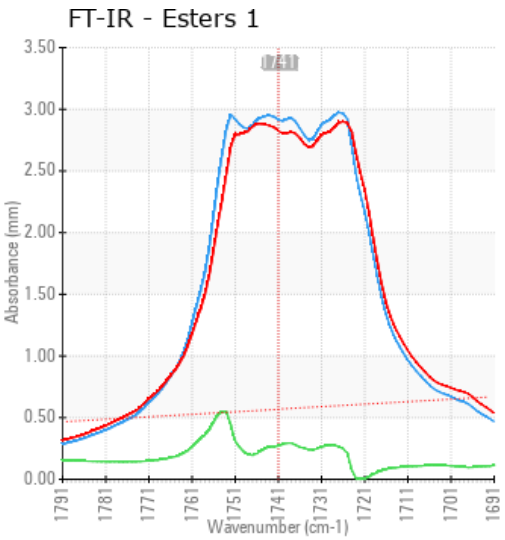
MINERAL OIL CONTENT REPORT

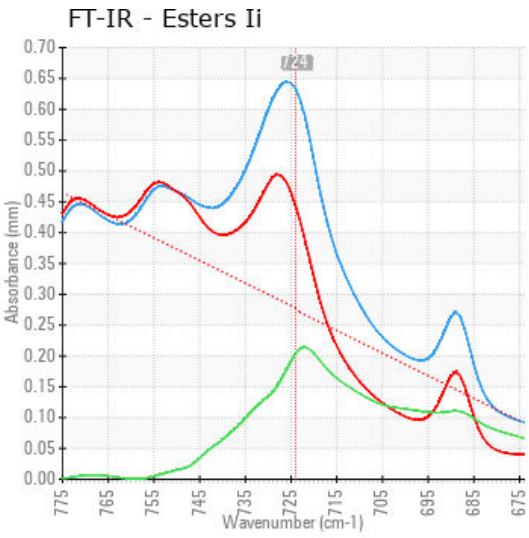
PASS

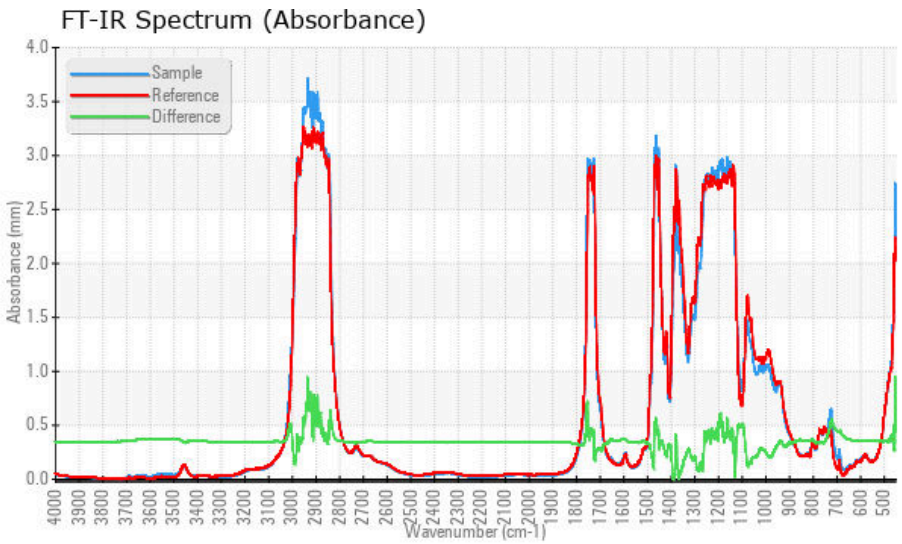
Area
[02592504]
Machine Id
CATERPILLAR 336EL CFHDC336 (S/N FJH01494)
Component
Hydraulic System
Fluid
PANOLIN HLP SYNTH 46 (--- GAL)

SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	▲ **140**	45	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	**0.4**	0.0	---







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