



OIL ANALYSIS REPORT



Area
CONSTRUCTION POLARIS INC [02548846]
 Machine Id
CATERPILLAR 345DL 5536 (S/N EEH00768)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (480 LTR)

Sample Rating Trend



ISO



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'état de l'huile permet d'en prolonger l'utilisation.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC	---	---
Sample Date	Client Info		08 Apr 2024	---	---
Machine Age	hrs Client Info		15068	---	---
Oil Age	hrs Client Info		0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			ABNORMAL	---	---

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm ASTM D5185(m)	0	<1	---	---
Barium	ppm ASTM D5185(m)	0	0	---	---
Molybdenum	ppm ASTM D5185(m)	0	0	---	---
Manganese	ppm ASTM D5185(m)	0	0	---	---
Magnesium	ppm ASTM D5185(m)	0	1	---	---
Calcium	ppm ASTM D5185(m)	0	6	---	---
Phosphorus	ppm ASTM D5185(m)	1700	1386	---	---
Zinc	ppm ASTM D5185(m)	0	28	---	---
Sulfur	ppm ASTM D5185(m)	1350	1300	---	---
Lithium	ppm ASTM D5185(m)		<1	---	---

CONTAMINANTS

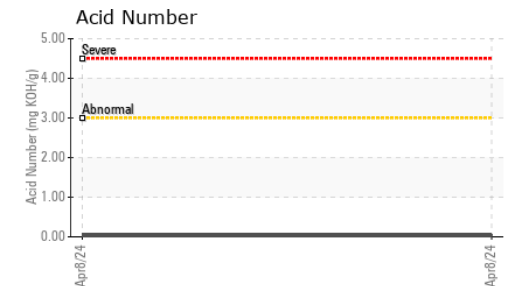
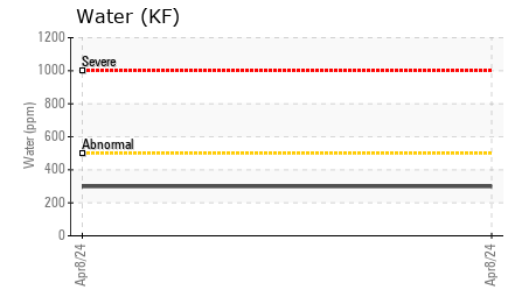
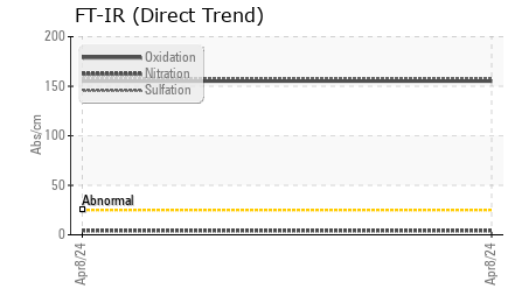
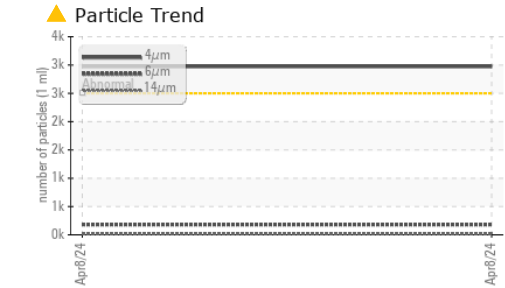
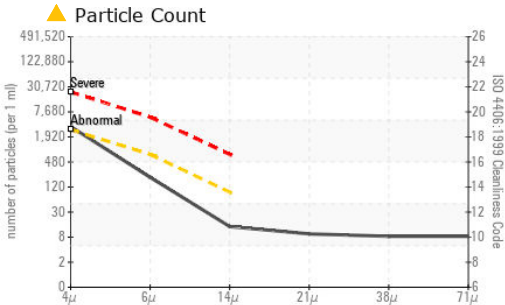
	method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m)	>20	3	---	---
Sodium	ppm ASTM D5185(m)		1	---	---
Potassium	ppm ASTM D5185(m)	>20	<1	---	---
Water	% ASTM D6304*	>0.05	0.029	---	---
ppm Water	ppm ASTM D6304*	>500	299	---	---

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	% ASTM D7844*		0	---	---
Nitration	Abs/cm ASTM D7624*		4.3	---	---
Sulfation	Abs/.1mm ASTM D7415*		158.2	---	---
Mineral Oil Content	% ASTM D7418*	<5.0%	<5.0	---	---



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02628318
Unique Number : 5761450
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 11 Apr 2024
Tested : 12 Apr 2024
Diagnosed : 15 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.

Envirolin Canada
 520 rue Adanac
 Quebec, QC
 CA G1C 7B7
 Contact: Patrick Levesque
 patrick.levesque@envirolin.com
 T: (418)623-1216
 F: (418)660-8889

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	● 2973	---	---
Particles >6µm	ASTM D7647	>640	● 181	---	---
Particles >14µm	ASTM D7647	>80	● 12	---	---
Particles >21µm	ASTM D7647	>20	● 8	---	---
Particles >38µm	ASTM D7647	>4	● 7	---	---
Particles >71µm	ASTM D7647	>3	▲ 7	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	● 19/15/11	---	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	155.1	---	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.03	---	---

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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	45.9	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.3	---
Viscosity Index (VI)	Scale	ASTM D2270*	146	157	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



MINERAL OIL CONTENT REPORT

PASS



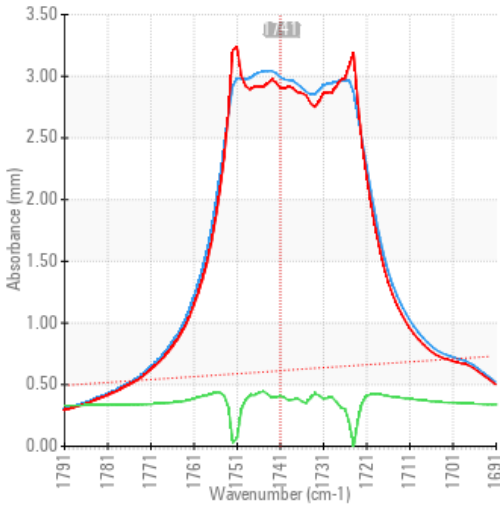
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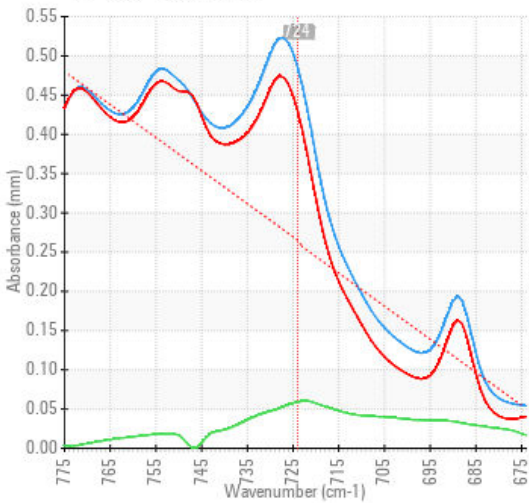
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	28	---	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	---	---

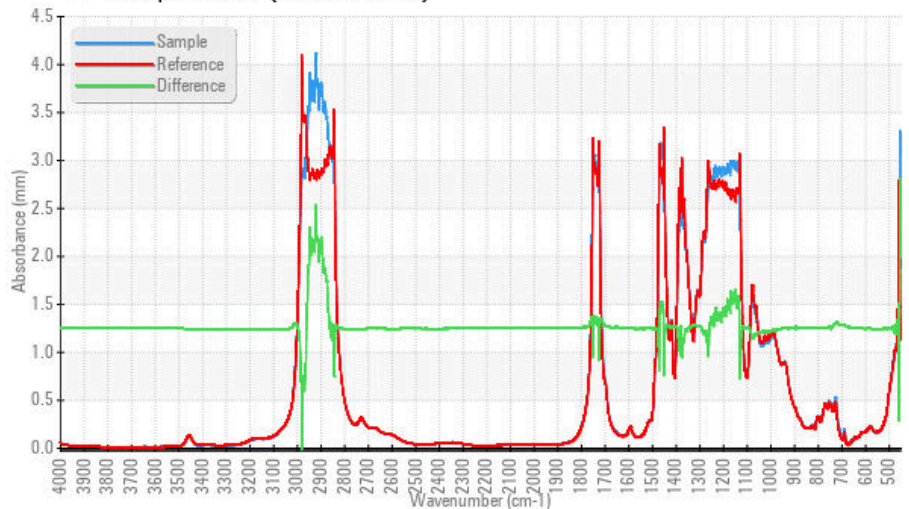
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

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