

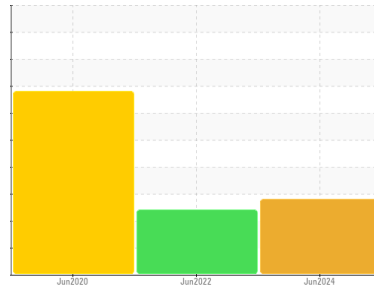


OIL ANALYSIS REPORT



Area
NUGENT CINSTRUCTION [02642180]
 Machine Id
CASE CX290B ZZ290 (S/N DAC290K5NESSN1232)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (300 LTR)

Sample Rating Trend



ADDITIVES



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	WC
Sample Date	Client Info	12 Jun 2024	08 Jun 2022	19 Jun 2020
Machine Age	hrs Client Info	6568	5549	4528
Oil Age	hrs Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	SEVERE

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185(m)	>65	1	2	0
Chromium ppm ASTM D5185(m)	>6	0	0	0
Nickel ppm ASTM D5185(m)	>10	0	<1	0
Titanium ppm ASTM D5185(m)		0	0	<1
Silver ppm ASTM D5185(m)		0	0	0
Aluminum ppm ASTM D5185(m)	>5	0	<1	0
Lead ppm ASTM D5185(m)	>45	0	0	0
Copper ppm ASTM D5185(m)	>120	<1	<1	<1
Tin ppm ASTM D5185(m)	>4	0	<1	<1
Antimony ppm ASTM D5185(m)		0	0	<1
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	4	10	3
Barium ppm ASTM D5185(m)	0	0	0	<1
Molybdenum ppm ASTM D5185(m)	0	0	<1	0
Manganese ppm ASTM D5185(m)	0	0	0	0
Magnesium ppm ASTM D5185(m)	0	2	3	<1
Calcium ppm ASTM D5185(m)	0	179	358	89
Phosphorus ppm ASTM D5185(m)	1700	1503	1512	1615
Zinc ppm ASTM D5185(m)	0	87	172	38
Sulfur ppm ASTM D5185(m)	1350	1516	1892	1480
Lithium ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

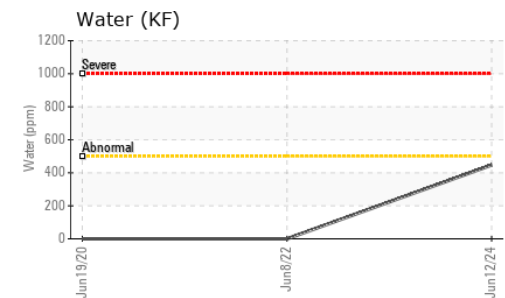
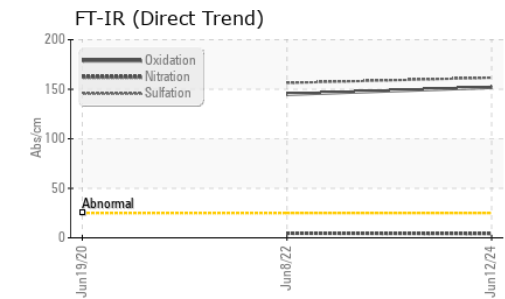
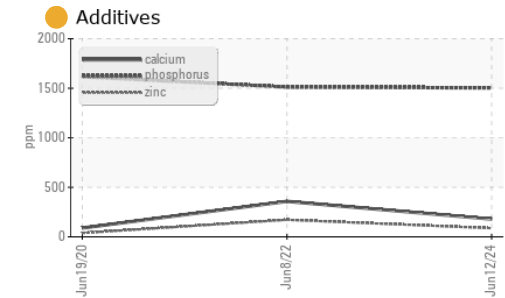
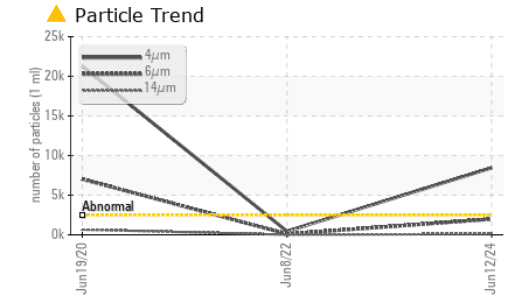
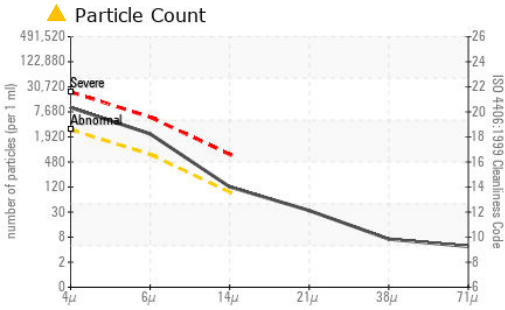
method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m)	>25	0	1	1
Sodium ppm ASTM D5185(m)		2	2	0
Potassium ppm ASTM D5185(m)	>20	<1	1	<1
Water % ASTM D6304*	>0.05	0.044	---	---
ppm Water ppm ASTM D6304*	>500	447	---	---

INFRA-RED

method	limit/base	current	history1	history2
Soot % ASTM D7844*		0	0	---
Nitration Abs/cm ASTM D7624*		4.3	4.6	---
Sulfation Abs/.1mm ASTM D7415*		161.6	156.3	---
Mineral Oil Content % ASTM D7418*	<5.0%	<5.0	7.4	0.0



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02642181
Unique Number : 5799720
Test Package : MOB 2 (Additional Tests: TAN Man)
Received : 14 Jun 2024
Tested : 17 Jun 2024
Diagnosed : 24 Jun 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
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 Quebec, QC
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 Contact: Patrick Levesque
 patrick.levesque@envirolin.com
 T: (418)623-1216
 F: (418)660-8889

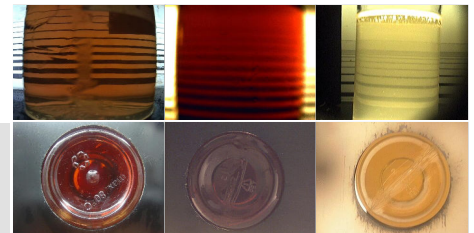
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 8465	446	▲ 21288
Particles >6µm	ASTM D7647	>640	▲ 1983	102	▲ 7031
Particles >14µm	ASTM D7647	>80	● 107	9	▲ 661
Particles >21µm	ASTM D7647	>20	● 29	4	▲ 214
Particles >38µm	ASTM D7647	>4	6	0	5
Particles >71µm	ASTM D7647	>3	4	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 20/18/14	16/14/10	▲ 22/20/17

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	151.9	144.9	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.54	0.44	0.50

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	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	47.0	45.8	45.3
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.2	8.2
Viscosity Index (VI)	Scale	ASTM D2270*	146	154	156

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					





MINERAL OIL CONTENT REPORT

PASS

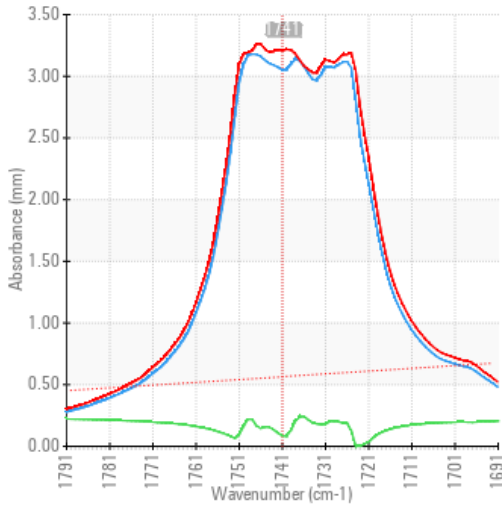


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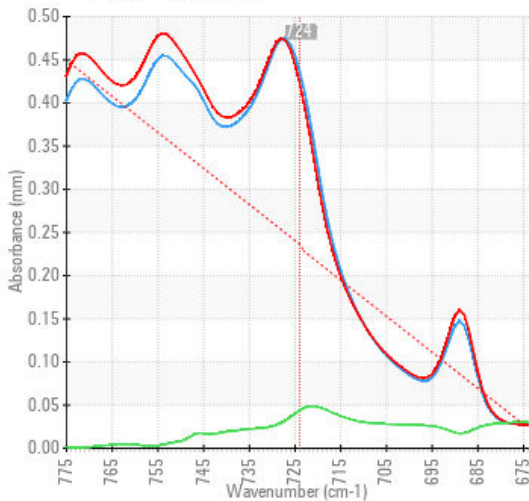
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	● 87	● 172	38
Mineral Oil Content	%	ASTM D7418*	<5.0%	● <5.0	▲ 7.4	0.0

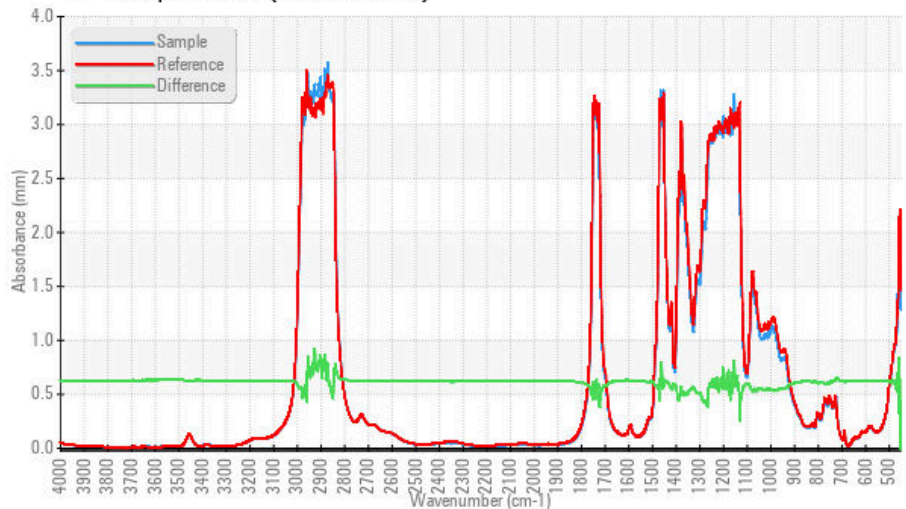
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



ISO 17025:2017
 Accredited
 Laboratory

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