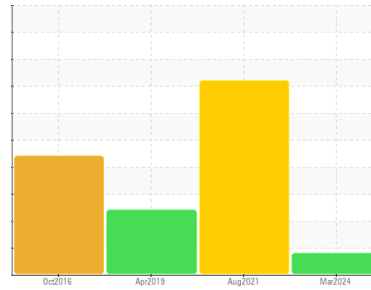




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
CONSTRUCTION INJECTION EDM INC. [02623868]
 Machine Id
2016 DOOSAN DX225LC 924 (S/N DHKCEBA0LE0001644)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 46 (228 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	WC
Sample Date	Client Info	14 Mar 2024	18 Aug 2021	22 Apr 2019
Machine Age	hrs Client Info	2934	2389	1689
Oil Age	hrs Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	SEVERE	SEVERE

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm ASTM D5185(m)	>20	5	7	11
Chromium ppm ASTM D5185(m)	>10	0	<1	<1
Nickel ppm ASTM D5185(m)	>10	0	<1	<1
Titanium ppm ASTM D5185(m)		0	0	<1
Silver ppm ASTM D5185(m)		0	<1	0
Aluminum ppm ASTM D5185(m)	>10	0	<1	<1
Lead ppm ASTM D5185(m)	>10	<1	<1	<1
Copper ppm ASTM D5185(m)	>75	2	2	3
Tin ppm ASTM D5185(m)	>10	0	<1	<1
Antimony ppm ASTM D5185(m)		0	0	0
Vanadium ppm ASTM D5185(m)		0	0	0
Beryllium ppm ASTM D5185(m)		0	0	0
Cadmium ppm ASTM D5185(m)		0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron ppm ASTM D5185(m)	0	0	2	3
Barium ppm ASTM D5185(m)	0	0	0	0
Molybdenum ppm ASTM D5185(m)	0	0	0	<1
Manganese ppm ASTM D5185(m)	0	0	<1	<1
Magnesium ppm ASTM D5185(m)	0	0	2	1
Calcium ppm ASTM D5185(m)	0	<1	4	4
Phosphorus ppm ASTM D5185(m)	1700	1487	1588	1417
Zinc ppm ASTM D5185(m)	0	27	27	47
Sulfur ppm ASTM D5185(m)	1350	1306	1319	1299
Lithium ppm ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

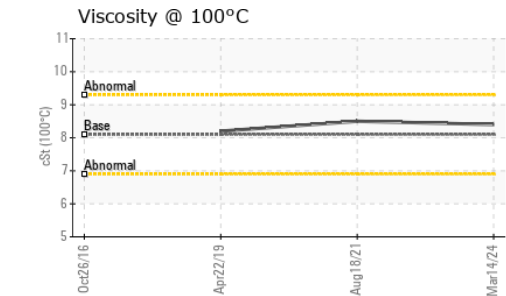
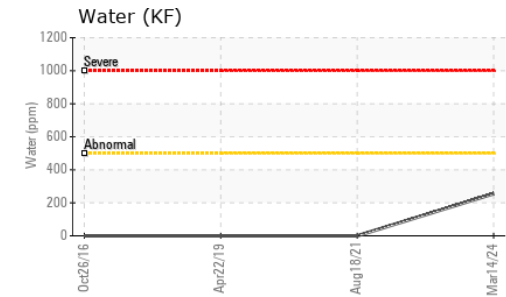
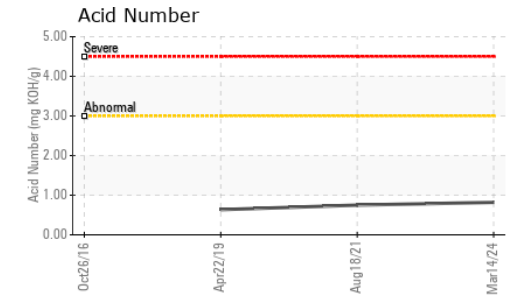
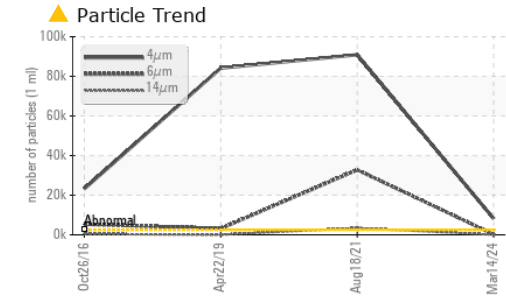
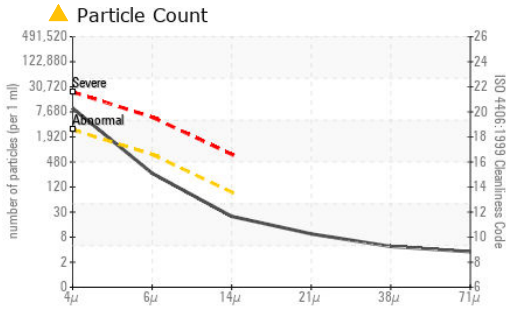
method	limit/base	current	history1	history2
Silicon ppm ASTM D5185(m)	>20	<1	4	8
Sodium ppm ASTM D5185(m)		<1	<1	<1
Potassium ppm ASTM D5185(m)	>20	<1	<1	<1
Water % ASTM D6304*	>0.05	0.025	---	---
ppm Water ppm ASTM D6304*	>500	255	---	---

INFRA-RED

method	limit/base	current	history1	history2
Soot % ASTM D7844*		0	---	0
Nitration Abs/cm ASTM D7624*		4.1	---	1.8
Sulfation Abs/.1mm ASTM D7415*		154.2	---	22.1
Mineral Oil Content % ASTM D7418*	<5.0%	<5.0	0.0	▲ 9.1



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : 02624052
Unique Number : 5749171
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 22 Mar 2024
Tested : 25 Mar 2024
Diagnosed : 25 Mar 2024 - Bill Quesnel

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

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.

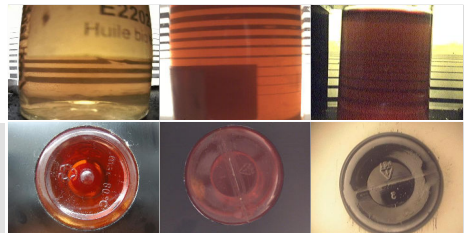
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 8183	▲ 90881	▲ 84163
Particles >6µm	ASTM D7647	>640	226	▲ 32802	▲ 3149
Particles >14µm	ASTM D7647	>80	21	▲ 3403	29
Particles >21µm	ASTM D7647	>20	8	▲ 717	9
Particles >38µm	ASTM D7647	>4	4	▲ 19	0
Particles >71µm	ASTM D7647	>3	3	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 20/15/12	▲ 24/22/19	▲ 24/19/12

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	155.4	---	18.0
Acid Number (AN)	mg KOH/g	ASTM D974*	0.82	0.75	0.635

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	46.9	46.7
Visc @ 100°C	cSt	ASTM D7279(m)	8.1	8.5	8.2
Viscosity Index (VI)	Scale	ASTM D2270*	146	159	150

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					





MINERAL OIL CONTENT REPORT

PASS

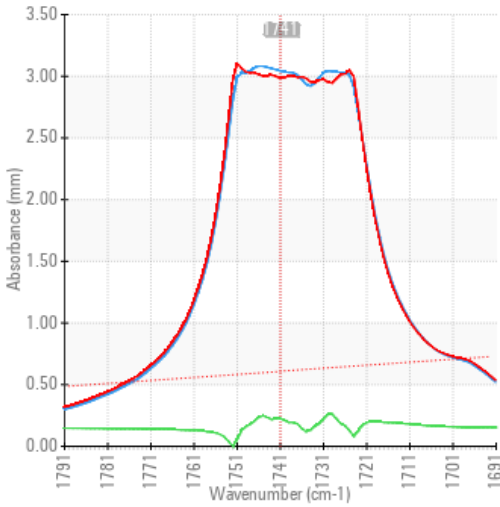


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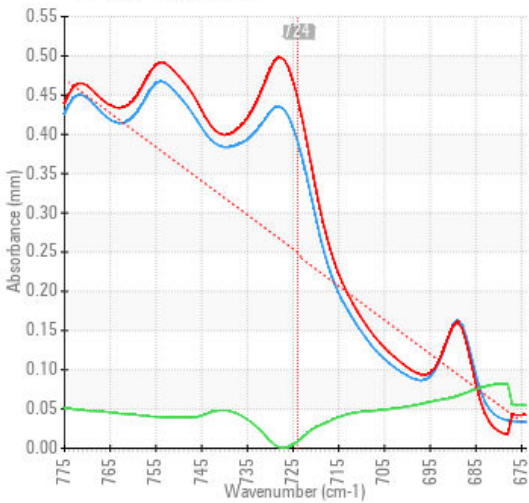
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	27	27	47
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	0.0	▲ 9.1

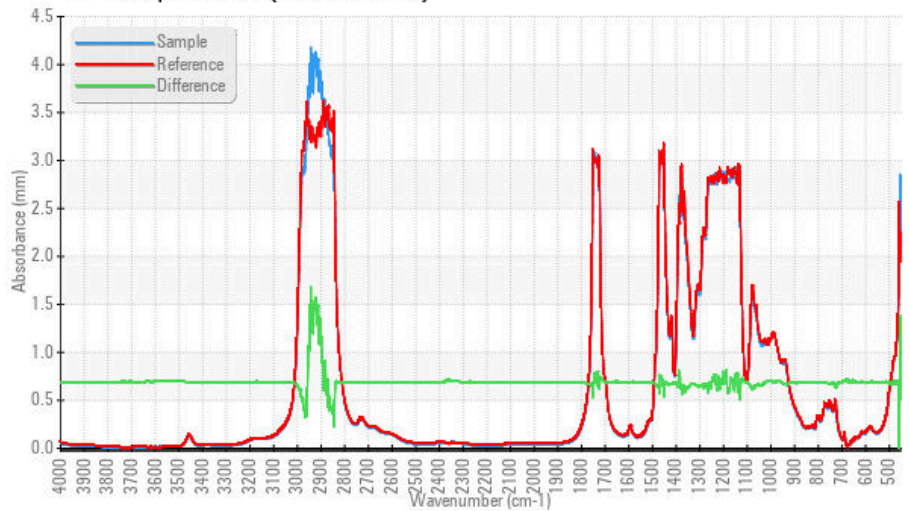
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



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