



OIL ANALYSIS REPORT

Sample Rating Trend

CONTAMINANT

Area

ALI EXCAVATIONS [02609803]

Machine Id

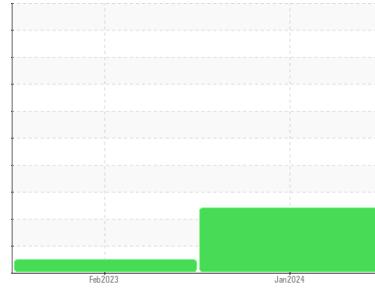
HYUNDAI ROBEX210LC-9 771 (S/N Q60110094)

Component

Hydraulic System

Fluid

PANOLIN HLP SYNTH 46 (250 LTR)



DIAGNOSIS

Recommendation

Nous recommandons le remplacement des filtres de ce composant. Confirm the source of the lubricant being utilized for top-up/fill. 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 concentration modérée (9.0%) 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	---
Sample Date	Client Info	15 Jan 2024	16 Feb 2023	---
Machine Age	hrs	2461	2349	---
Oil Age	hrs	0	0	---
Oil Changed	Client Info	N/A	N/A	---
Sample Status		ABNORMAL	NORMAL	---

WEAR METALS

method	limit/base	current	history1	history2
Iron ppm	ASTM D5185(m) >20	4	13	---
Chromium ppm	ASTM D5185(m) >10	0	0	---
Nickel ppm	ASTM D5185(m) >10	0	0	---
Titanium ppm	ASTM D5185(m)	0	<1	---
Silver ppm	ASTM D5185(m)	0	0	---
Aluminum ppm	ASTM D5185(m) >10	<1	<1	---
Lead ppm	ASTM D5185(m) >10	0	<1	---
Copper ppm	ASTM D5185(m) >75	2	2	---
Tin ppm	ASTM D5185(m) >10	0	0	---
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	0	<1	---
Barium ppm	ASTM D5185(m) 0	0	0	---
Molybdenum ppm	ASTM D5185(m) 0	0	0	---
Manganese ppm	ASTM D5185(m) 0	0	<1	---
Magnesium ppm	ASTM D5185(m) 0	0	0	---
Calcium ppm	ASTM D5185(m) 0	<1	4	---
Phosphorus ppm	ASTM D5185(m) 1700	1301	1561	---
Zinc ppm	ASTM D5185(m) 0	20	44	---
Sulfur ppm	ASTM D5185(m) 1350	1294	1326	---
Lithium ppm	ASTM D5185(m)	<1	<1	---

CONTAMINANTS

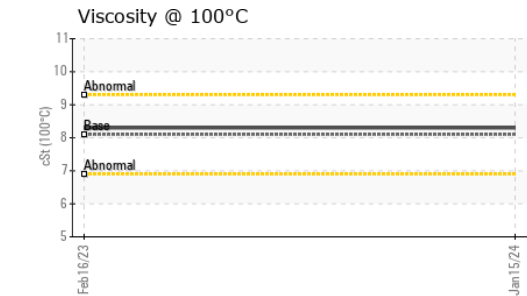
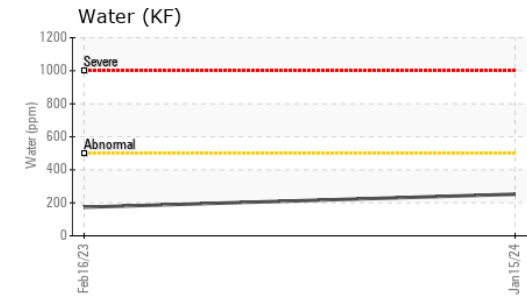
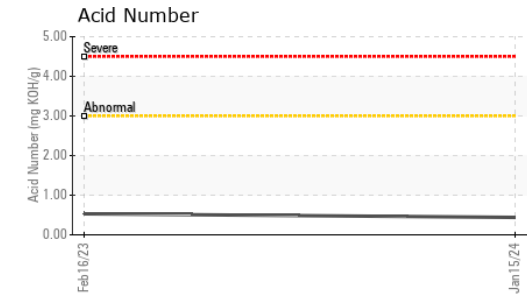
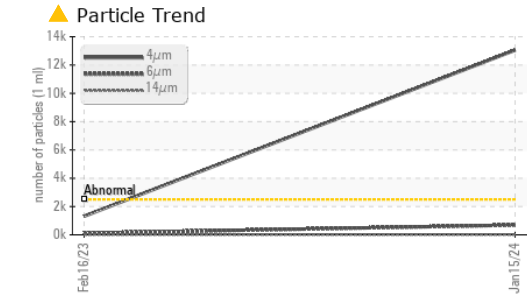
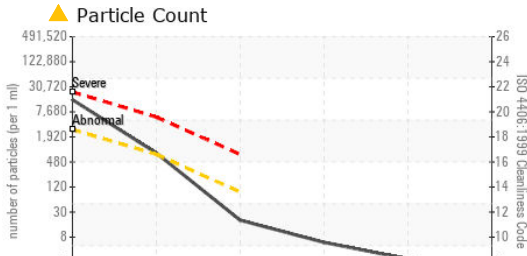
method	limit/base	current	history1	history2
Silicon ppm	ASTM D5185(m) >20	<1	1	---
Sodium ppm	ASTM D5185(m)	<1	<1	---
Potassium ppm	ASTM D5185(m) >20	<1	<1	---
Water %	ASTM D6304* >0.05	0.025	0.017	---
ppm Water	ASTM D6304* >500	252	173.2	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	ASTM D7844*	0	0	---
Nitration Abs/cm	ASTM D7624*	3.6	3.8	---
Sulfation Abs/.1mm	ASTM D7415*	150.2	161.3	---
Mineral Oil Content %	ASTM D7418* <5.0%	▲ 9.0	<5.0	---



OIL ANALYSIS REPORT



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 13053	1314	---
Particles >6µm	ASTM D7647	>640	▲ 690	113	---
Particles >14µm	ASTM D7647	>80	17	13	---
Particles >21µm	ASTM D7647	>20	5	5	---
Particles >38µm	ASTM D7647	>4	2	2	---
Particles >71µm	ASTM D7647	>3	1	1	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 21/17/11	18/14/11	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	138.9	161.4	---
Acid Number (AN)	mg KOH/g	ASTM D974*	0.44	0.53	---

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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	45.1	45.8	---
Visc @ 100°C	cSt	ASTM D7279(m)	8.3	8.3	---
Viscosity Index (VI)	Scale	ASTM D2270*	161	158	---

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



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : **02609570**
Unique Number : 5710656
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.

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



MINERAL OIL CONTENT REPORT

FAIL

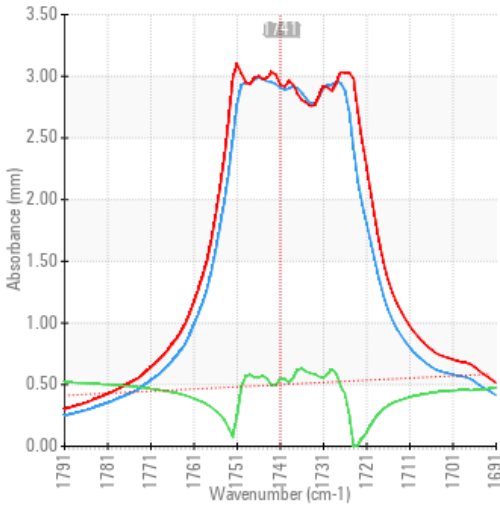


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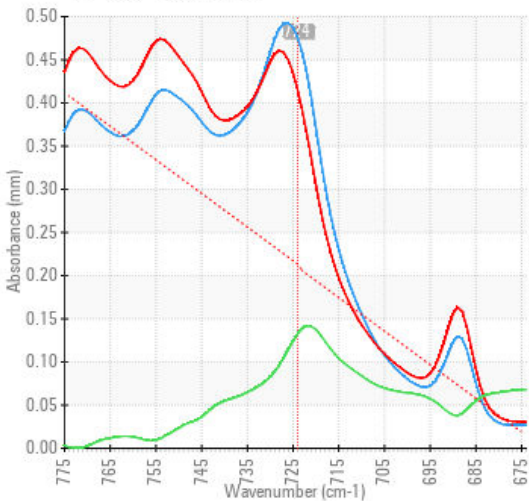
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	20	44	---
Mineral Oil Content	%	ASTM D7418*	<5.0%	▲ 9.0	<5.0	---

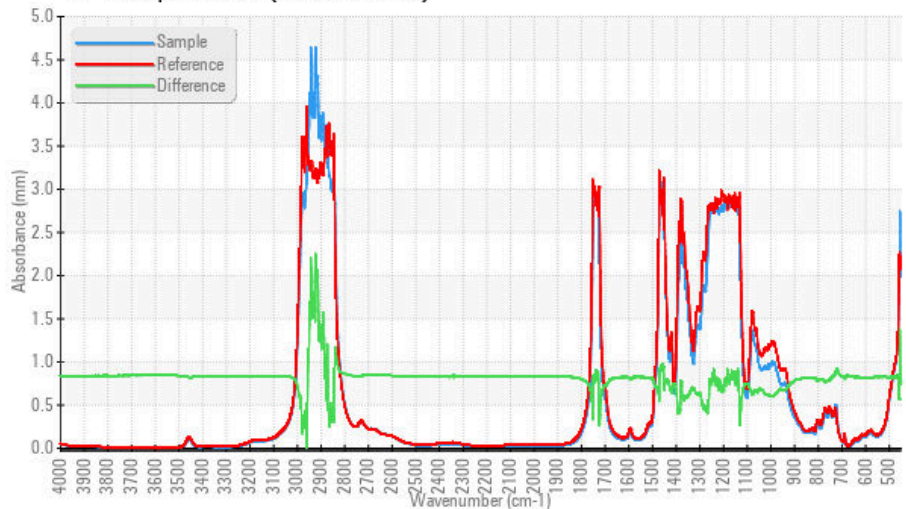
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



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Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 17 Jan 2024
Diagnosed : 19 Jan 2024
Diagnostician : Bill Quesnel

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