



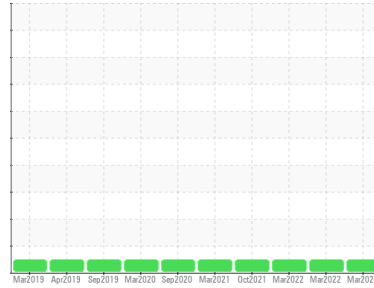
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
JIMMIE CREEK LIMITED PARTNERSHIP [02591887]
 Machine Id
BOSCH REXROTH R987377946 JMC HPU 1 (S/N 124003463-1)
 Component
Hydraulic System
 Fluid
PANOLIN HLP SYNTH 32 (3000 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a light concentration (<5.0%) of mineral oil present in the fluid. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC	WC	WC
Sample Date	Client Info	09 Mar 2024	27 Mar 2022	27 Mar 2022
Machine Age	yrs Client Info	5	4	3
Oil Age	yrs Client Info	0	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		NORMAL	NORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185(m) >20	1	<1	<1
Chromium	ppm ASTM D5185(m) >10	0	0	0
Nickel	ppm ASTM D5185(m) >10	0	0	<1
Titanium	ppm ASTM D5185(m)	0	0	0
Silver	ppm ASTM D5185(m)	0	0	0
Aluminum	ppm ASTM D5185(m) >10	0	0	<1
Lead	ppm ASTM D5185(m) >10	0	<1	<1
Copper	ppm ASTM D5185(m) >75	<1	<1	<1
Tin	ppm ASTM D5185(m) >10	0	0	0
Antimony	ppm ASTM D5185(m)	0	<1	0
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	<1	<1	<1
Barium	ppm ASTM D5185(m) 0	0	0	0
Molybdenum	ppm ASTM D5185(m) 0	0	0	0
Manganese	ppm ASTM D5185(m) 0	0	0	0
Magnesium	ppm ASTM D5185(m) 0	<1	<1	0
Calcium	ppm ASTM D5185(m) 5	1	2	1
Phosphorus	ppm ASTM D5185(m) 1500	1309	1450	1308
Zinc	ppm ASTM D5185(m) 0	14	11	10
Sulfur	ppm ASTM D5185(m) 1450	1281	1332	1261
Lithium	ppm ASTM D5185(m)	<1	<1	<1

CONTAMINANTS

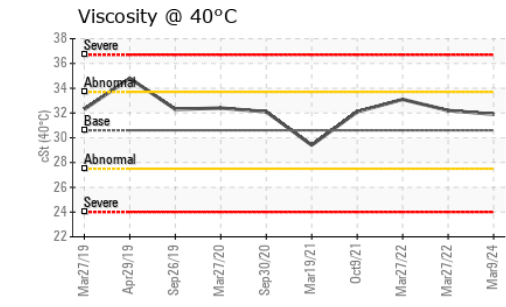
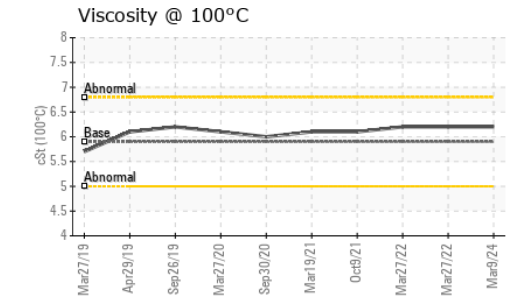
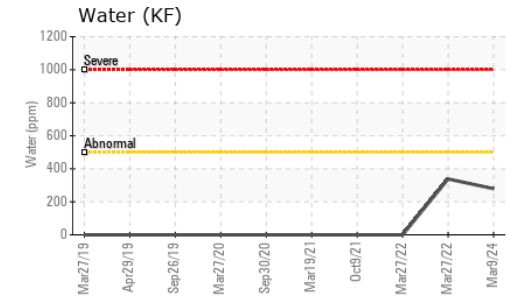
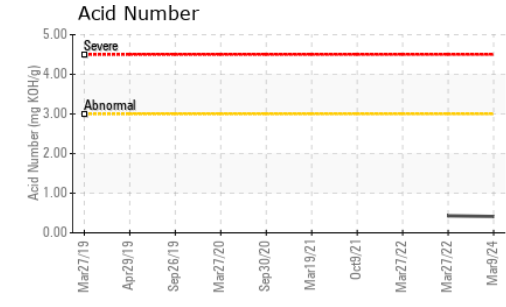
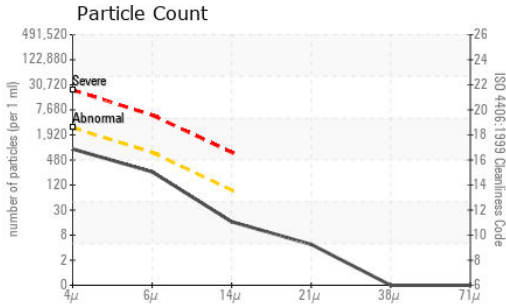
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >20	0	<1	<1
Sodium	ppm ASTM D5185(m)	<1	<1	<1
Potassium	ppm ASTM D5185(m) >20	0	<1	<1
Water	% ASTM D6304* >0.05	0.027	0.033	---
ppm Water	ppm ASTM D6304* >500	279	338.4	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% ASTM D7844*	0	0	0
Nitration	Abs/cm ASTM D7624*	3.8	4.1	3.9
Sulfation	Abs/.1mm ASTM D7415*	156.4	147.9	156.5
Mineral Oil Content	% ASTM D7418* <5.0%	<5.0	<5.0	<5.0



OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC
Lab Number : **02624524**
Unique Number : 5749643
Test Package : MOB 2 (Additional Tests: TAN Man)

Received : 25 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 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.

FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	772	234	170
Particles >6µm	ASTM D7647	>640	219	76	53
Particles >14µm	ASTM D7647	>80	14	7	4
Particles >21µm	ASTM D7647	>20	4	2	0
Particles >38µm	ASTM D7647	>4	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	17/15/11	15/13/10	15/13/9

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	158.6	148.2	150.1
Acid Number (AN)	mg KOH/g	ASTM D974*	0.41	0.43	---

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*	NEG	NEG	NEG
Free Water	scalar	Visual*	NEG	NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	31.9	32.2	33.1
Visc @ 100°C	cSt	ASTM D7279(m)	6.2	6.2	6.2
Viscosity Index (VI)	Scale	ASTM D2270*	147	144	138

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



MINERAL OIL CONTENT REPORT

PASS

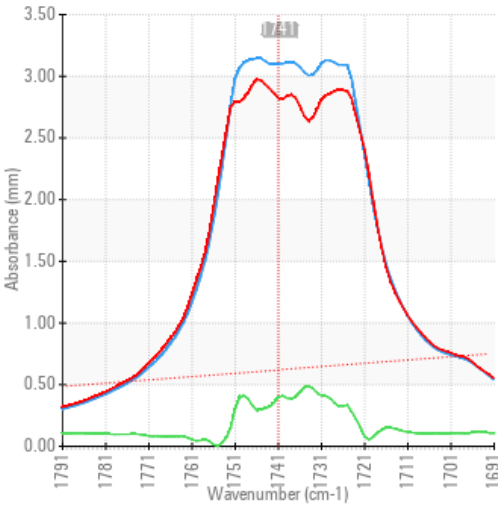


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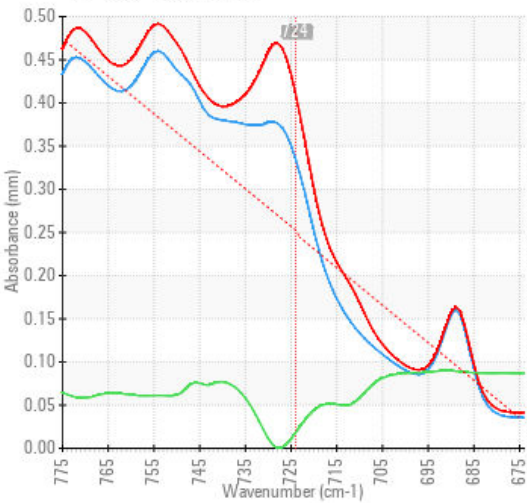
SPECTRAL ANALYSIS

		method	limit/base	current	history1	history2
Zinc	ppm	ASTM D5185(m)	0	14	11	10
Mineral Oil Content	%	ASTM D7418*	<5.0%	<5.0	<5.0	<5.0

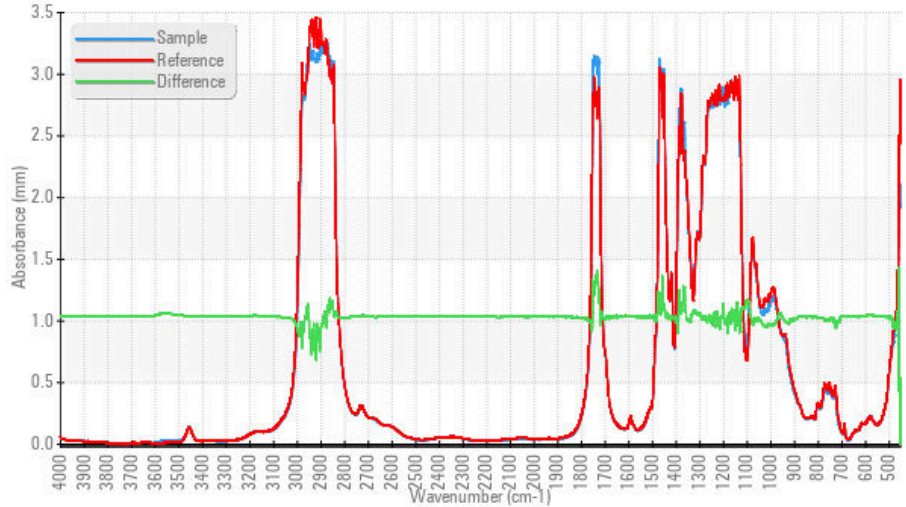
FT-IR - Esters I



FT-IR - Esters II



FT-IR Spectrum (Absorbance)



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