

OIL ANALYSIS REPORT

[20567321] **ROYAL PURPLE SYNFILM 68**

Component
New (Unused) Oil
Fluid

ROYAL PURPLE SYNFILM 68 (--- GAL)

Sample Rating Trend NORMAL

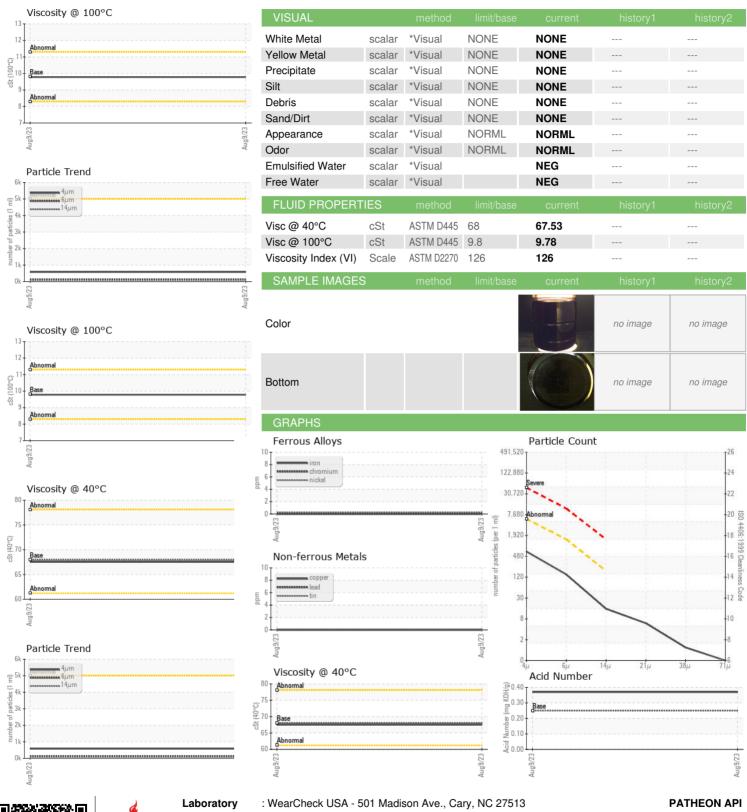
Recommendation

This is a baseline read-out on the submitted sample.

Sample Number Client Info WC0842616					Aug2023		
Sample Date	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0	Sample Number		Client Info		WC0842616		
Oil Age hrs Client Info N/A Oil Changed Client Info N/A Sample Status NORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 0 Chromium ppm ASTM D5185m >5 0 Nickel ppm ASTM D5185m >5 0 Aluminum ppm ASTM D5185m >5 0 Lead ppm ASTM D5185m >5 0 Copper ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m 0 Vandium ppm ASTM D5185m 0 ADDITIVES method Imit/base <t< td=""><td>Sample Date</td><td></td><td>Client Info</td><td></td><td>09 Aug 2023</td><td></td><td></td></t<>	Sample Date		Client Info		09 Aug 2023		
Cilichanged Cilient Info N/A NORMAL Sample Status Sample Status	Machine Age	hrs	Client Info		0		
Sample Status	Oil Age	hrs	Client Info		0		
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 0 Chromium ppm ASTM D5185m >5 0 Nickel ppm ASTM D5185m >5 <1	Oil Changed		Client Info		N/A		
Pron	Sample Status				NORMAL		
Chromium	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >5 <1 ···· ···	Iron	ppm	ASTM D5185m	>5	0		
Titanium	Chromium	ppm	ASTM D5185m	>5	0		
Silver	Nickel	ppm	ASTM D5185m	>5	<1		
ASTM D5185m S5	Titanium	ppm	ASTM D5185m		0		
Lead	Silver	ppm	ASTM D5185m	>5	0		
Copper ppm ASTM D5185m >5 0 Tin ppm ASTM D5185m >5 0 Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 4 Manganesium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 3	Aluminum	ppm	ASTM D5185m	>5	<1		
Tin	Lead	ppm	ASTM D5185m	>5	0		
Vanadium ppm ASTM D5185m 0 Cadmium ppm ASTM D5185m 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 90 87 Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 215 <1 CONTAMINANTS m	Copper	ppm	ASTM D5185m	>5	0		
ACADDITIVES	Tin	ppm	ASTM D5185m	>5	0		
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 Barium ppm ASTM D5185m 2 Molybdenum ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 90 87 Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 4 Zinc ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m >15 <1	Vanadium	ppm	ASTM D5185m		0		
Boron ppm ASTM D5185m Q	Cadmium	ppm	ASTM D5185m		0		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 4 Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 3 Zinc ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Boron	ppm	ASTM D5185m		0		
Manganese ppm ASTM D5185m 0 Magnesium ppm ASTM D5185m 90 87 Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 3 Zinc ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Barium	ppm	ASTM D5185m		2		
Magnesium ppm ASTM D5185m 90 87 Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 4 Zinc ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Molybdenum	ppm	ASTM D5185m		0		
Calcium ppm ASTM D5185m 4 Phosphorus ppm ASTM D5185m 4 Zinc ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Manganese	ppm	ASTM D5185m		0		
Phosphorus ppm ASTM D5185m 4 Sulfur ppm ASTM D5185m 3 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Magnesium	ppm	ASTM D5185m	90	87		
Silfur ppm ASTM D5185m 21244 Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >21μm ASTM D7647 >40 13 Particles >38μm ASTM D7647 >40 5 Particles >71μm ASTM D7647 >3 0 Particles >71μm ASTM D7647 >3 0 Cil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Calcium	ppm	ASTM D5185m		4		
Sulfur ppm ASTM D5185m 21244 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1 Sodium ppm ASTM D5185m >20 0 Potassium ppm ASTM D5185m >20 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >40 5 Particles >21μm ASTM D7647 >40 5 Particles >71μm ASTM D7647 >3 0 Particles >71μm ASTM D7647 >3 0 <t< td=""><td>Phosphorus</td><td>ppm</td><td>ASTM D5185m</td><td></td><td>4</td><td></td><td></td></t<>	Phosphorus	ppm	ASTM D5185m		4		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >15 <1	Zinc	ppm	ASTM D5185m		3		
Silicon ppm ASTM D5185m >15 <1	Sulfur	ppm	ASTM D5185m		21244		
Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >20 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	S	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Dil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION <td>Silicon</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>15</td> <td><1</td> <td></td> <td></td>	Silicon	ppm	ASTM D5185m	>15	<1		
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Particles >71μm ASTM D7647	Sodium	ppm	ASTM D5185m		0		
Particles >4μm ASTM D7647 >5000 579 Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Poil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	0		
Particles >6μm ASTM D7647 >1300 127 Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Particles >71μm ASTM D7647 >3 0 Dil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >160 13 Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Dil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >4μm		ASTM D7647	>5000	579		
Particles >21μm ASTM D7647 >40 5 Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>1300	127		
Particles >38μm ASTM D7647 >10 1 Particles >71μm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >14μm		ASTM D7647	>160	13		
Particles >71µm ASTM D7647 >3 0 Oil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >21μm		ASTM D7647	>40	5		
Oil Cleanliness ISO 4406 (c) >19/17/14 16/14/11 FLUID DEGRADATION method limit/base current history1 history2	Particles >38μm		ASTM D7647	>10	1		
FLUID DEGRADATION method limit/base current history1 history2	Particles >71μm		ASTM D7647	>3	0		
	Oil Cleanliness		ISO 4406 (c)	>19/17/14	16/14/11		
Acid Number (AN) mg KOH/g ASTM D8045 0.25 0.37	FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045	0.25	0.37		



OIL ANALYSIS REPORT





Certificate L2367

Sample No. Lab Number **Unique Number**

: 05922966 : 10602913

: WC0842616

Received : 11 Aug 2023 Diagnosed : 15 Aug 2023

Diagnostician : Jonathan Hester Test Package : IND 2 (Additional Tests: FT-IR, KV100, PrtCount, VI)

To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

6173 East Old Marion Highway, Bldg. 806 Florence, SC

Contact/Location: BARRY OLIVER - ROCFLO

US 29506 Contact: BARRY OLIVER

Calvin.Oliver@Roche.com

T: (843)629-4577 F: (843)629-4553