

OIL ANALYSIS REPORT

[117473] 179779 - FRANKLIN CO 911

Liquid Petroleum Gas

RED STAR 10W30 (2 GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

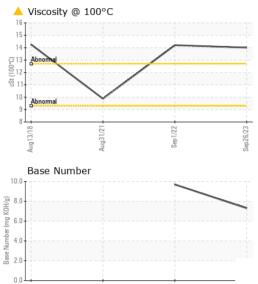
Fluid Condition

The oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sample Number Client Info 26 Sep 2023 01 Sep 2022 31 Aug 2021	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Machine Age hrs Client Info 386 326 308 Oil Age hrs Client Info 0 19 0 Oil Changed Client Info Changed Changed Changed Sample Status Image: Client Info ATTENTION ATTENTION ABNORMAL WEAR METALS method limil/base current history1 history2 Iron ppm ASTM D5185m >10 0 0 <1 Nickel ppm ASTM D5185m >5 0 0 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Sample Number		Client Info		WC0812674	WC0663231	WC0567045	
Oil Age hrs Client Info Changed Changed Changed Changed Changed Changed Changed Changed Sample Status Client Info Changed	Sample Date		Client Info		26 Sep 2023	01 Sep 2022	31 Aug 2021	
Oil Changed Sample Status Client Info Managed Changed ATTENTION Changed ATTENTION Changed ATTENTION Changed ABNORMAL WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 13 6 8 Chromium ppm ASTM D5185m >5 0 0 <1	Machine Age	hrs	Client Info		386	326	308	
Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >120 13 6 8 Chromium ppm ASTM D5185m >10 0 0 <1	Oil Age	hrs	Client Info		0	19	0	
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 13 6 8 Chromium ppm ASTM D5185m >10 0 0 <1 Nickel ppm ASTM D5185m >5 0 0 <1 Titanium ppm ASTM D5185m >5 0 <1 0 Aluminum ppm ASTM D5185m >5 0 <1 0 Aluminum ppm ASTM D5185m >40 0 0 1 Copper ppm ASTM D5185m >40 0 0 1 Copper ppm ASTM D5185m >10 0 <1 0 Antimony ppm ASTM D5185m 0 <1 0 <1 Cadmium ppm ASTM D5185m 0 <1 <1 <1 ADDTTVES method limit/base current history1			Client Info		Changed	Ŭ	_	
Iron	Sample Status				ATTENTION	ATTENTION	ABNORMAL	
Chromium ppm ASTM D5185m >10 0 0 <1	WEAR METALS		method	limit/base	current	history1	history2	
Nickel	Iron	ppm	ASTM D5185m	>120	13	6	8	
Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>10	0	0	<1	
Silver ppm ASTM D5185m >5 0 <1	Nickel	ppm	ASTM D5185m	>5	0	0	<1	
Aluminum ppm ASTM D5185m >20 4 2 2 Lead ppm ASTM D5185m >40 0 0 1 Copper ppm ASTM D5185m >300 3 1 5 Tin ppm ASTM D5185m >10 0 <1 0 Antimony ppm ASTM D5185m 2 2 Vanadium ppm ASTM D5185m 0 <1 0 0 Cadmium ppm ASTM D5185m c1 <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 75 99 52 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 2 2 17 1 -1 -1 -1 -1 -1 -1 -1 -1 -1		ppm	ASTM D5185m					
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Antimony ppm ASTM D5185m 2 Vanadium ppm ASTM D5185m 0 <1					-			
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Cadmium ppm ASTM D5185m <1	•							
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Manganese ppm ASTM D5185m <1		ppm	ASTM D5185m		0	0	0	
Magnesium ppm ASTM D5185m 695 638 678 Calcium ppm ASTM D5185m 1310 1263 1129 Phosphorus ppm ASTM D5185m 998 988 647 Zinc ppm ASTM D5185m 1151 1123 724 Sulfur ppm ASTM D5185m 3922 3529 2905 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 8 5 23 Sodium ppm ASTM D5185m 2 1 3 Potassium ppm ASTM D5185m >20 4 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7415 >30 19.3 19.6 15 FLUID DEGRADATION <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>								
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Potassium ppm ASTM D5185m >20 4 4 9 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 0 0 0.1 Nitration Abs/cm *ASTM D7624 >20 7.2 6.9 5.6 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 19.6 15 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.5 13.0 8.4		ppm		>25				
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Nitration Abs/cm *ASTM D7624 >20 7.2 6.9 5.6 Sulfation Abs/.1mm *ASTM D7415 >30 19.3 19.6 15 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.5 13.0 8.4	INFRA-RED		method	limit/base	current	history1	history2	
Sulfation Abs/.1mm *ASTM D7415 >30 19.3 19.6 15 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.5 13.0 8.4	Soot %	%	*ASTM D7844		0	0	0.1	
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 12.5 13.0 8.4		Abs/cm		>20	7.2	6.9	5.6	
Oxidation Abs/.1mm *ASTM D7414 >25 12.5 13.0 8.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	19.3	19.6	15	
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2	
Base Number (BN) mg KOH/g ASTM D2896 7.3 9.7	Oxidation	Abs/.1mm	*ASTM D7414	>25	12.5	13.0	8.4	
	Base Number (BN)	mg KOH/g	ASTM D2896		7.3	9.7		

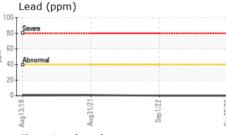


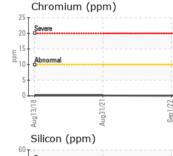
OIL ANALYSIS REPORT

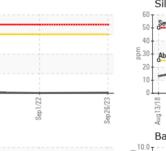


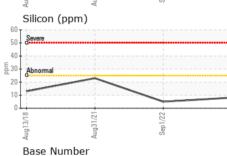
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	▲ MODER
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		14.0	▲ 14.2	9.88

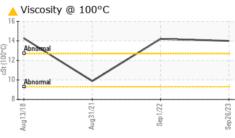
GRAPHS				
Iron (ppm	n)			Lead
250 Severe		<u>-</u>		Severe
150 - Abnormal				E 60
Abnormal				Abnom
50				20
0 000		- 2	22	0 00
Aug13/18	Aug31/21	Sep1/22	Sep26/23	Aug13/18
Aluminum	(ppm)			Chro
Severe				25 Severe
_ 30 -				_ 15
20 Abnormal				Abnom
10				5
0				0

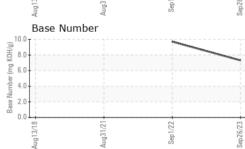














Laboratory Sample No. Lab Number **Unique Number**

: WC0812674 : 05967356 : 10673907

Copper (ppm)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 03 Oct 2023 Diagnosed

: 05 Oct 2023 Diagnostician : Jonathan Hester

Test Package : MOB 1 (Additional Tests: TBN) 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)

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