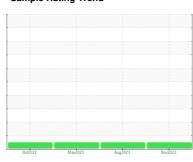


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
7673L
Component
Diesel Engine

MOBIL 15W40 (--- GAL)

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

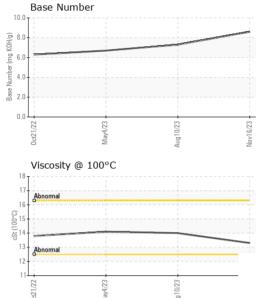
Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2			Oct202:	2 May2023	Aug2023 N	ov2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 194914 172868 145433 Oil Age mls Client Info 22046 28435 42319 Oil Changed Client Info N/A Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL Evel WC Method 5 <1.0 <1.0 <1.0 Water WC Method >5 <1.0 <1.0 <1.0 WEAR METALS Wc Method NEG NEG NEG NEG WEAR METALS method limit/bass current history1 history2 Iron ppm ASTM D5185m >100 10 17 32 Chromium ppm ASTM D5185m >20 <1 1 2 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >20 4 4 8 Lead	Sample Number		Client Info		IL06026244	IL0032338	IL0028899
Oil Age mls Client Info 22046 28435 42319 Oil Changed Client Info N/A Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0	Sample Date		Client Info		16 Nov 2023	10 Aug 2023	04 May 2023
Oil Changed Sample Status Client Info N/A Changed NORMAL NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >5.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 10 17 32 Chromium ppm ASTM D5185m >20 <1 1 2 Nickel ppm ASTM D5185m >3 0 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 0 Lead ppm ASTM D5185m >40 0 <1 3 0 Copper ppm ASTM D5185m >15	Machine Age	mls	Client Info		194914	172868	145433
Sample Status	Oil Age	mls	Client Info		22046	28435	42319
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5186m >100 10 17 32 Chromium ppm ASTM D5186m >20 <1 1 2 Nickel ppm ASTM D5186m >4 0 0 <1 2 Silver ppm ASTM D5186m >3 0 0 0 0 Silver ppm ASTM D5186m >40 0 <1 3 1 <1 2 <1 <1 2 <1 <1 2 <1 <1 <2 <1 <1 <2 <1 <1	Oil Changed		Client Info		N/A	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Water Glycol WC Method Glycol NEG NEG NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 10 17 32 Chromium ppm ASTM D5185m >20 <1 1 2 Nickel ppm ASTM D5185m >4 0 0 <1 Silver ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >3 0 0 0 Lead ppm ASTM D5185m >40 0 <1 3 Copper ppm ASTM D5185m >330 <1 <1 2 Tin ppm ASTM D5185m 0 <1 2 Vanadium ppm ASTM D5185m 0 <1 2 </th <th>CONTAMINATION</th> <th>1</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINATION	1	method	limit/base	current	history1	history2
Silycol WC Method NEG NEG NEG	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS	Water		WC Method	>0.2	NEG	NEG	NEG
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	10	17	32
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 4 4 8 Lead ppm ASTM D5185m >40 0 <1 3 Copper ppm ASTM D5185m >330 <1 <1 2 Tin ppm ASTM D5185m 0 <1 2 2 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 2 Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 937 1040 965 Calcium ppm	Chromium	ppm	ASTM D5185m	>20	<1	1	2
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 4 4 8 Lead ppm ASTM D5185m >40 0 <1	Nickel	ppm	ASTM D5185m	>4	0	0	<1
Aluminum		ppm			-		
Lead ppm ASTM D5185m >40 0 <1	Silver	ppm					
Copper ppm ASTM D5185m >330 <1		ppm					
Tin ppm ASTM D5185m >15 0 <1		ppm					
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1							
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 <1 2 Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 61 62 62 Manganese ppm ASTM D5185m 0 <1 <1 Magnesium ppm ASTM D5185m 937 1040 965 Calcium ppm ASTM D5185m 924 1065 1009 Zinc ppm ASTM D5185m 924 1065 1009 Zinc ppm ASTM D5185m 3263 3722 2944 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >20 11				>15			
ADDITIVES					-		
Boron		ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 2 0 0 Molybdenum ppm ASTM D5185m 61 62 62 Manganese ppm ASTM D5185m 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 61 62 62 Manganese ppm ASTM D5185m 0 <1	Boron	ppm	ASTM D5185m		0		2
Manganese ppm ASTM D5185m 0 <1			ASTM D5185m		2	0	0
Magnesium ppm ASTM D5185m 937 1040 965 Calcium ppm ASTM D5185m 1082 1133 1186 Phosphorus ppm ASTM D5185m 924 1065 1009 Zinc ppm ASTM D5185m 1194 1357 1271 Sulfur ppm ASTM D5185m 3263 3722 2944 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1							
Calcium ppm ASTM D5185m 1082 1133 1186 Phosphorus ppm ASTM D5185m 924 1065 1009 Zinc ppm ASTM D5185m 1194 1357 1271 Sulfur ppm ASTM D5185m 3263 3722 2944 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1 2 Potassium ppm ASTM D5185m >20 11 8 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 </th <th>•</th> <th>ppm</th> <th></th> <th></th> <th>-</th> <th></th> <th></th>	•	ppm			-		
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Zinc ppm ASTM D5185m 1194 1357 1271 Sulfur ppm ASTM D5185m 3263 3722 2944 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1							
Sulfur ppm ASTM D5185m 3263 3722 2944 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1 2 Potassium ppm ASTM D5185m >20 11 8 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5					_		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1 2 Potassium ppm ASTM D5185m >20 11 8 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5					-		
Silicon ppm ASTM D5185m >25 4 4 6 Sodium ppm ASTM D5185m >118 0 <1				1: 1: 0			
Sodium ppm ASTM D5185m >118 0 <1							
Potassium ppm ASTM D5185m >20 11 8 20 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5		• •					
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Soot % % *ASTM D7844 >3 0.3 0.4 0.6 Nitration Abs/cm *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5		ppm					
Nitration Abs/cm *ASTM D7624 >20 8.4 10.1 12.0 Sulfation Abs/.1mm *ASTM D7415 >30 20.5 22.5 24.1 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5							
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FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5							
Oxidation Abs/.1mm *ASTM D7414 >25 17.0 19.6 22.5			*ASTM D7415	>30	20.5	22.5	24.1
	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 8.6 7.3 6.7	Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	19.6	22.5
	Base Number (BN)	mg KOH/g	ASTM D2896		8.6	7.3	6.7



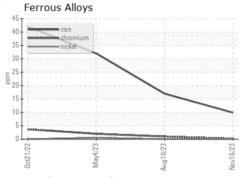
OIL ANALYSIS REPORT

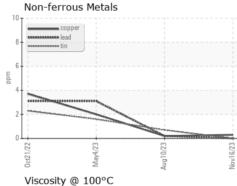


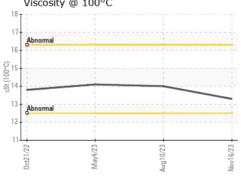
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

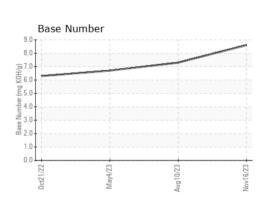
FLUID FROFEI	71163	method		HISTOLAL	HISTOLA
Visc @ 100°C	cSt	ASTM D445	13.3	14.0	14.1

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number Test Package : FLEET

: IL06026244 : 06026244 Unique Number : 10776035

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

Diagnosed Diagnostician : Wes Davis

: 06 Dec 2023

: 07 Dec 2023

RUSH TRUCK CENTER - CHICAGO IDEALEASE 4655 SOUTH CENTRAL AVENUE

CHICAGO, IL US 60638

Contact: MIKE LINLEY linleym@rushtruckcenters.com

T: (708)496-7500 F: (708)496-8818

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)