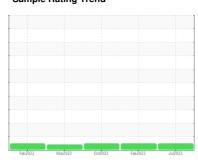


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id 1674 Component Diesel Engine

SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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

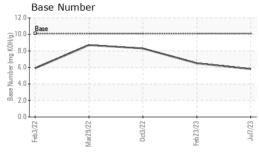
Fluid Condition

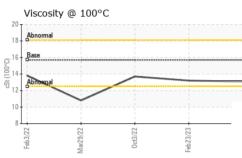
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION method limit/base current history1 history2			Feb2022	Mar2022	Oct2022 Feb2023	Jul2023	
Sample Date Client Info 07 Jul 2023 23 Feb 2023 03 Oct 2022	SAMPLE INFORT	MATION	method	limit/base	current	history1	history2
Machine Age mls Client Info 149645 346856 318580 Oil Age mls Client Info 20000 0 0 Oil Changed Client Info Changed Changed Changed Sample Status NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method 55 <1.0 <1.0 <1.0 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 15 7 4 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >3 0 0 0 Silver ppm ASTM D5185m >30 0 0 0 Lead ppm ASTM D5185m <t< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>PCA0085444</th><th>PCA0085424</th><th>PCA0076206</th></t<>	Sample Number		Client Info		PCA0085444	PCA0085424	PCA0076206
Oil Age mls Client Info 20000 0 0 0 Oil Changed Client Info Changed Changea Changea Changea	Sample Date		Client Info		07 Jul 2023	23 Feb 2023	03 Oct 2022
Oil Changed Sample Status Client Info Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 Fuel WC Method 55 <1.0 <1.0 <1.0 Glycol WC Method NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >100 15 7 4 Chromium ppm ASTM D5185m >20 <1 =1 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 >1 2 <1 Lead ppm ASTM D5185m >30 >1 0 0 Copper ppm ASTM	Machine Age	mls	Client Info		149645	346856	318580
Sample Status	Oil Age	mls	Client Info		20000	0	0
CONTAMINATION	Oil Changed		Client Info		Changed	Changed	Changed
Fuel	Sample Status				NORMAL	NORMAL	NORMAL
Silycol WC Method NEG NEG NEG	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 <1 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 4 <1 Lead ppm ASTM D5185m >20 0 0 <1 Copper ppm ASTM D5185m >15 <1 0 0 Cadmium ppm ASTM D5185m 316 204 157	Fuel		WC Method	>5	<1.0	<1.0	<1.0
Iron	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>100	15	7	4
Titanium ppm ASTM D5185m 0 0 15 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 7 4 <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Silver	Nickel	ppm	ASTM D5185m	>4	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	0	15
Lead ppm ASTM D5185m >40 3 0 <1	Silver	ppm	ASTM D5185m	>3		0	0
Copper ppm ASTM D5185m >330 <1	Aluminum	ppm	ASTM D5185m	>20		4	<1
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	3	0	<1
Vanadium ppm ASTM D5185m 0 0 <1	Copper	ppm	ASTM D5185m	>330	<1	2	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 316 204 157 77 Barium ppm ASTM D5185m 0.0 0 <1 0 Molybdenum ppm ASTM D5185m 1.2 126 116 27 Manganese ppm ASTM D5185m 24 579 611 652 Calcium ppm ASTM D5185m 2292 1469 1434 1433 Phosphorus ppm ASTM D5185m 1064 672 635 685 Zinc ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 </th <th></th> <th>ppm</th> <th></th> <th>>15</th> <th></th> <th>0</th> <th>0</th>		ppm		>15		0	0
ADDITIVES	Vanadium	ppm	ASTM D5185m		-	0	
Boron	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0.0 0 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 1.2 126 116 27 Manganese ppm ASTM D5185m < 1	Boron	ppm	ASTM D5185m	316	204	157	77
Manganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m	0.0	0	<1	0
Magnesium ppm ASTM D5185m 24 579 611 652 Calcium ppm ASTM D5185m 2292 1469 1434 1433 Phosphorus ppm ASTM D5185m 1064 672 635 685 Zinc ppm ASTM D5185m 1160 811 732 712 Sulfur ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 0 <1	Molybdenum	ppm	ASTM D5185m	1.2	126	116	27
Calcium ppm ASTM D5185m 2292 1469 1434 1433 Phosphorus ppm ASTM D5185m 1064 672 635 685 Zinc ppm ASTM D5185m 1160 811 732 712 Sulfur ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION	Manganese	ppm	ASTM D5185m		<1	<1	
Phosphorus ppm ASTM D5185m 1 064 672 635 685 Zinc ppm ASTM D5185m 1 160 811 732 712 Sulfur ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 0 <1 Potassium ppm ASTM D5185m >20 8 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method							
Zinc ppm ASTM D5185m 1160 811 732 712 Sulfur ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 0 <1		ppm					
Sulfur ppm ASTM D5185m 4996 2603 2583 3724 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m >20 8 0 <1 Potassium ppm ASTM D5185m >20 8 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4	·				_		
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m 0 2 <1 Potassium ppm ASTM D5185m >20 8 0 <1 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.3 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4					_		
Silicon ppm ASTM D5185m >25 6 7 3 Sodium ppm ASTM D5185m 0 2 <1							
Sodium ppm ASTM D5185m 0 2 <1		IS				· ·	
Potassium ppm ASTM D5185m >20 8 0 <1				>25			
INFRA-RED							
Soot % % *ASTM D7844 >3 0.3 0.4 0.1 Nitration Abs/cm *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4		ppm		>20	8	0	<1
Nitration Abs/cm *ASTM D7624 >20 8.9 10.1 10.3 Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4						· ·	
Sulfation Abs/.1mm *ASTM D7415 >30 23.9 24.2 19.6 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4							
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.1 21.2 15.4							
Oxidation	Sulfation	Abs/.1mm	*ASTM D7415	>30	23.9	24.2	19.6
	FLUID DEGRA	OATION	method	limit/base	current	history1	history2
Base Number (BN) mg KOH/g ASTM D2896 10.1 5.8 6.5 8.3	Oxidation	Abs/.1mm	*ASTM D7414	>25	20.1	21.2	15.4
	Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.8	6.5	8.3



OIL ANALYSIS REPORT

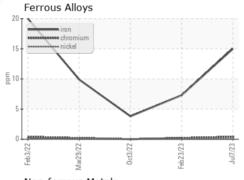


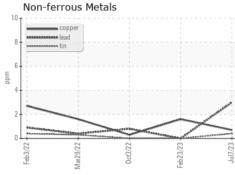


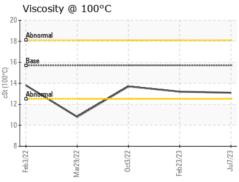
VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	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

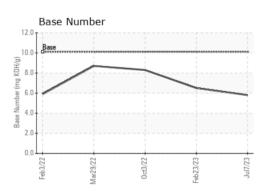
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.7	13.1	13.2	13.7

GRAPHS













Laboratory Sample No. Lab Number

Unique Number : 10559281

: PCA0085444 : 05897925

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 13 Jul 2023 Diagnosed : 17 Jul 2023

Diagnostician : Don Baldridge

Test Package : FLEET Certificate L2367 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)

Ergon Trucking Inc. - MAG601

11337 State Route 800 Magnolia, OH US 44643

Contact: Eddy Smith

eddy.smith@ergon.com T:

F: