WEAR CONTAMINATION FLUID CONDITION

ABNORMAL NORMAL NORMAL

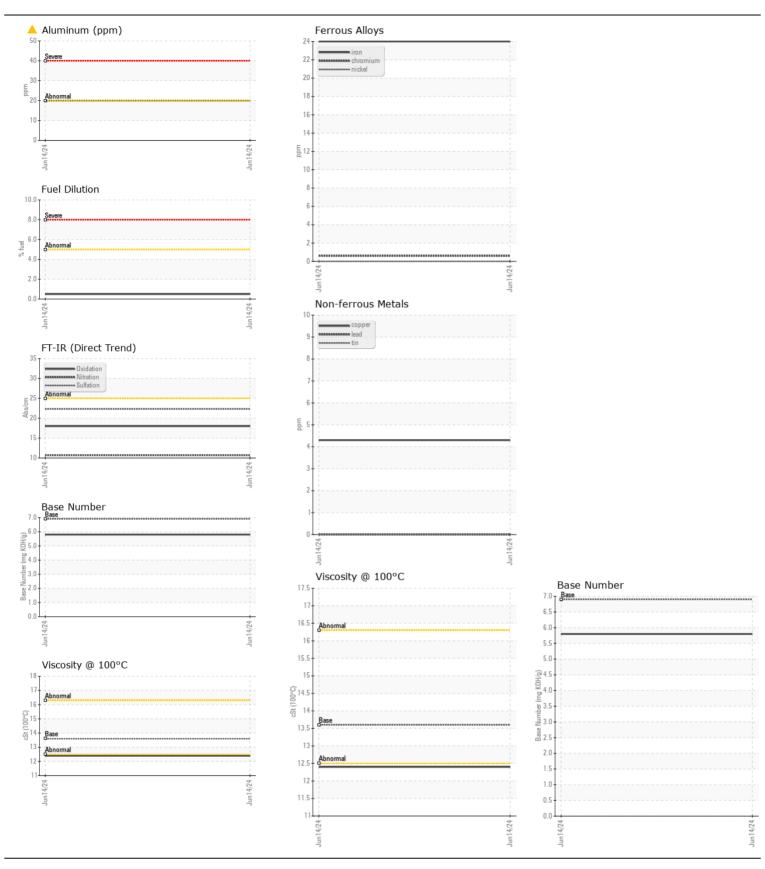
Machine Id

1R81935

Component
Diesel Engine

VALVOLINE 15W40 (--- GAL)

Sample Number Sample Nate Client Info 14 Jun 2024	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Date All part of the time of sampling has been noted. Resample at the next service interval to monitor. All part of the part	TEOOMMENDATION		COM		Littleyton		,	
## ABNORMATION ABNORMATION	Oil and filter change at the time of sampling has been noted. Resample							
Oil Age mils	at the next service interval to monitor.		mls					
Filter Age		J						
Ol Changed Client Info Changed Changed								
Filter Changed Sample Status			11110			_		
MEAR								
Iron		_		Onoric iiiio				
Chromium September Properties Proper								
Nickel ppm ASTM D5185m 3	WEAR	Iron	ppm	ASTM D5185m	>100	24		
Note	The aluminum level is abnormal. All other component wear rates are normal.	Chromium	ppm	ASTM D5185m	>20	<1		
Itlanium ppm SSIMUPSIESS 0		Nickel	ppm	ASTM D5185m	>4	0		
Aluminum ppm ASTM D5185m >20 A 20		Titanium	ppm	ASTM D5185m		0		
Lead ppm ASTM DS185m >40 0		Silver	ppm	ASTM D5185m	>3	0		
Copper		Aluminum	ppm	ASTM D5185m	>20	<u>^</u> 20		
Tin		Lead	ppm	ASTM D5185m	>40	0		
Vanadium ppm ASTM D5185m NONE NONE			ppm			4		
White Metal Yellow Metal Scalar Visual NONE		Tin	ppm		>15	0		
Yellow Metal Scalar Visual NONE NONE Stilicon ppm ASTM D5185m >25 8 Potassium ppm ASTM D5185m >20 26 Put % ASTM D585m >20 26 Put % ASTM D585m >20 26 Water % ASTM D585m >20 25 Water % ASTM D585m >20 25 Water % ASTM D784h >3 0.4 Wisual NORE NEG Sulfation Abs/imm *ASTM D784h >3 0.4 Sulfation Abs/imm *ASTM D585m 3 0.4 Sulfation Abs/imm ASTM D585m 3 3 5 1 Sulfation Abs/imm ASTM D585m 4 3 4 Sulfation Abs/imm ASTM D585m 4 3 4 Sulfation Abs/imm ASTM D585m 4 3 4 Sulfation Abs/imm ASTM D585m 1 5 4 Sulfation Abs/imm ASTM D585m 1 5 4 Sulfation ASTM D585m 3 5 4			ppm	ASTM D5185m		0		
Silicon		White Metal	scalar	*Visual				
Potassium ppm ASTM D5185m >20 26		Yellow Metal	scalar	*Visual	NONE	NONE		
Potassium ppm ASTM D5185m >20 26	CONTAMINATION	Ciliana		ACTM DE10E	05	•		
Fuel content negligible. There is no indication of any contamination in the oil. Fuel % ASTM D3824 >5 0.5	CONTAMINATION		• •					
the oil. Water								
Glycol			%					
Soot %					>0.2			
Nitration Abs/tmm *ASTM D7624 >20 10.7		-	0/		. 2			
Sulfation Abs/.tmm *ASTM D7415 >30 22.3								
Silt scalar *Visual NONE NONE Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NO								
Debris Scalar *Visual NONE NONE Sand/Dirt Scalar *Visual NONE NONE Sand/Dirt Scalar *Visual NONE NONE Sand/Dirt Scalar *Visual NONE NORML Scalar *Visual NORML NORML Scalar *Visual NORML NORML Scalar *Visual NORML NORML Scalar *Visual NORML *Visual *Visual *Visual *Visual *Visual *Visual								
Sand/Dirt Scalar *Visual NONE NORML Appearance Scalar *Visual NORML								
Appearance								
Codor Scalar Visual NORML NO								
Emulsified Water scalar *Visual >0.2 NEG								
Sodium ppm ASTM D5185m 39 51								
Boron ppm ASTM D5185m 39 51 Barium ppm ASTM D5185m 1 0 Molybdenum ppm ASTM D5185m 1 0 Manganese ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOHlg ASTM D2896 6.9 5.8								
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service. Barium ppm ASTM D5185m 1 0 Molybdenum ppm ASTM D5185m 49 84 Manganese ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 1554 1944 Calcium ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Sulfur ppm ASTM D5185m 2624 4024 Base Number (BN) mg KOHlg ASTM D2896 6.9 5.8	FLUID CONDITION The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.	Sodium	ppm	ASTM D5185m		2		
Barium ppm ASTM D5185m 1 0 Molybdenum ppm ASTM D5185m 1 49 84 Manganese ppm ASTM D5185m 1 49 84 Manganese ppm ASTM D5185m 1 41 Manganese ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 1554 1944 Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOHlg ASTM D2896 6.9 5.8		Boron	ppm	ASTM D5185m	39	51		
Manganese ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 1 <1 Magnesium ppm ASTM D5185m 616 198 Calcium ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 899 1008 Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		Barium		ASTM D5185m	1	0		
Magnesium ppm ASTM D5185m 616 198 Calcium ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 899 1008 Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		Molybdenum	ppm	ASTM D5185m	49	84		
Calcium ppm ASTM D5185m 1554 1944 Phosphorus ppm ASTM D5185m 899 1008 Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		Manganese	ppm	ASTM D5185m	1	<1		
Phosphorus ppm ASTM D5185m 899 1008 Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		•	ppm	ASTM D5185m	616	198		
Zinc ppm ASTM D5185m 1069 1241 Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		Calcium	ppm					
Sulfur ppm ASTM D5185m 2624 4024 Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8		Phosphorus	ppm		899	1008		
Oxidation Abs/.1mm *ASTM D7414 >25 18.0 Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8			ppm					
Base Number (BN) mg KOH/g ASTM D2896 6.9 5.8			ppm			4024		
Visc @ 100°C cSt ASTM D445 13.6 12.4						5.8		
		Visc @ 100°C	cSt	ASTM D445	13.6	12.4		







Certificate L2367

Laboratory Sample No.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : IL0036662 Lab Number : 06220678

Unique Number : 11098875

Received : 26 Jun 2024 **Tested** Diagnosed

: 28 Jun 2024

: 28 Jun 2024 - Jonathan Hester Test Package: FLEET (Additional Tests: FuelDilution, PercentFuel) To discuss this sample report, contact Customer Service at 1-800-237-1369.

TAMPA, FL US 33610-9565 Contact: Russ Cook russcook@idealease.com T: (813)626-9285

TAMPA IDEALEASE

5951 ORIENT ROAD

* - 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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