



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id
2000 FREIGHTLINER L-75
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 15W40 (44 QTS)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		KL0009560	KL0009557	KL0009555
Sample Date		Client Info		24 Feb 2024	15 Jul 2023	20 Jun 2023
Machine Age	mls	Client Info		264831	202443	195206
Oil Age	mls	Client Info		26101	7237	25476
Filter Age	mls	Client Info		26101	7237	25476
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	SEVERE

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	66	57	▲ 211
Chromium	ppm	ASTM D5185m	>10	3	3	8
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m	>2	0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>30	2	3	1
Lead	ppm	ASTM D5185m	>30	7	<1	6
Copper	ppm	ASTM D5185m	>30	1	<1	6
Tin	ppm	ASTM D5185m	>4	1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is a moderate amount of particulates present in the oil. There is an abnormal amount of solids and carbon present in the oil.

Silicon	ppm	ASTM D5185m	>30	7	6	13
Potassium	ppm	ASTM D5185m	>20	<1	2	4
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	▲ 4.4	2.6	▲ 7.1
Nitration	Abs/cm	*ASTM D7624	>20	12.0	7.4	20.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	27.9	21.1	39.3
Particles >4µm		ASTM D7647		8195	24516	853
Particles >6µm		ASTM D7647	>5000	4464	▲ 13355	464
Particles >14µm		ASTM D7647	>640	● 760	▲ 2273	79
Particles >21µm		ASTM D7647	>160	● 256	▲ 766	27
Particles >38µm		ASTM D7647	>40	40	▲ 118	4
Particles >71µm		ASTM D7647	>10	4	12	0
Oil Cleanliness		ISO 4406 (c)	>19/16	● 19/17	▲ 21/18	16/13
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

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.

Sodium	ppm	ASTM D5185m		1	0	0
Boron	ppm	ASTM D5185m	316	29	53	29
Barium	ppm	ASTM D5185m	0.0	0	0	4
Molybdenum	ppm	ASTM D5185m	1.2	43	65	84
Manganese	ppm	ASTM D5185m		<1	<1	2
Magnesium	ppm	ASTM D5185m	24	200	289	313
Calcium	ppm	ASTM D5185m	2292	1918	1460	1664
Phosphorus	ppm	ASTM D5185m	1064	917	853	885
Zinc	ppm	ASTM D5185m	1160	1108	1014	1032
Sulfur	ppm	ASTM D5185m	4996	3259	3135	2809
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.5	12.1	34.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	6.44	8.00	6.85
Visc @ 100°C	cSt	ASTM D445	15.7	14.3	14.2	▲ 24.6



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KL0009560 **Received** : 29 Feb 2024
Lab Number : 06105414 **Tested** : 06 Mar 2024
Unique Number : 10903644 **Diagnosed** : 06 Mar 2024 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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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)