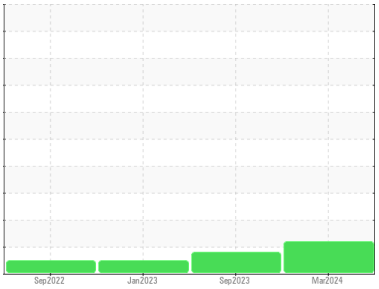
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Machine Id
FORD 2015 F250
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (13 QTS)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. 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 level is low. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**KLMFA19064**	KLM2341614	KL0009643
Sample Date		Client Info		**18 Mar 2024**	23 Sep 2023	20 Jan 2023
Machine Age	mls	Client Info		**228572**	213920	191628
Oil Age	mls	Client Info		**65669**	51017	28333
Oil Changed		Client Info		**Not Changd**	N/A	Not Changd
Sample Status				**ABNORMAL**	ATTENTION	NORMAL

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

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**46**	33	16
Chromium	ppm	ASTM D5185m	>20	**2**	2	<1
Nickel	ppm	ASTM D5185m	>2	**<1**	<1	0
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>25	**6**	7	3
Lead	ppm	ASTM D5185m	>40	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>330	**11**	8	6
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	**37**	32	59
Barium	ppm	ASTM D5185m	0.0	**1**	0	0
Molybdenum	ppm	ASTM D5185m	1.2	**2**	1	<1
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	24	**39**	25	14
Calcium	ppm	ASTM D5185m	2292	**2620**	2173	2304
Phosphorus	ppm	ASTM D5185m	1064	**954**	913	932
Zinc	ppm	ASTM D5185m	1160	**1189**	1148	1190
Sulfur	ppm	ASTM D5185m	4996	**5074**	4013	4634

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**15**	14	13
Sodium	ppm	ASTM D5185m		**2**	3	1
Potassium	ppm	ASTM D5185m	>20	**7**	5	3

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.4**	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**10.9**	10.5	9.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**30.1**	29.0	25.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**26.2**	24.3	21.1
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	**3.6**	4.43	4.96

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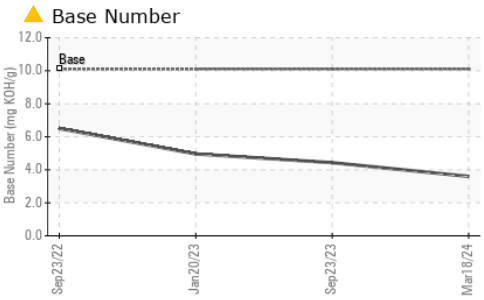
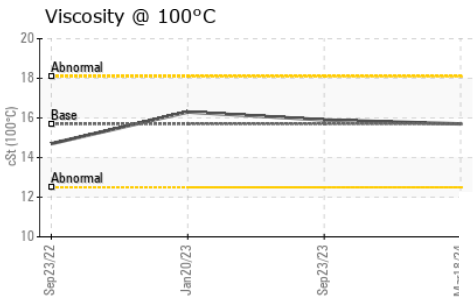
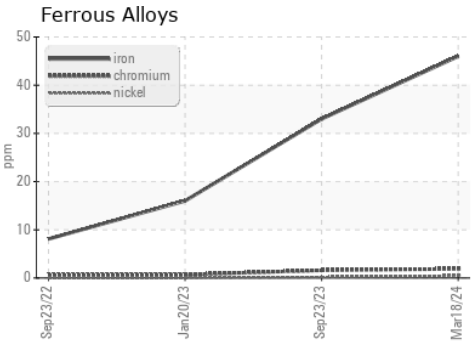


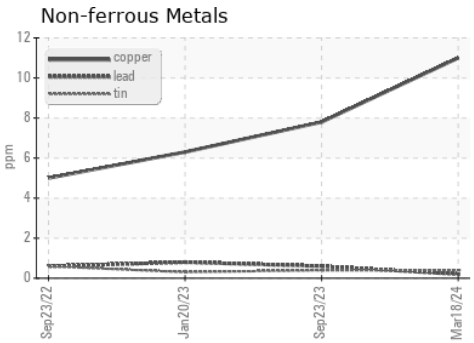


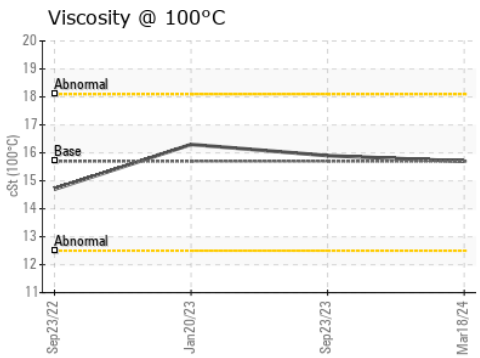
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

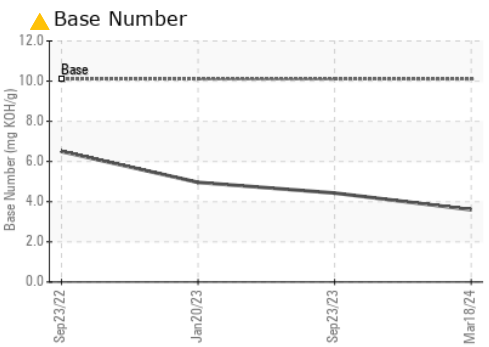
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	**15.7**	15.9	16.3

GRAPHS









Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KLMFA19064
Lab Number : 06125360
Unique Number : 10939511
Test Package : FLEET

Received : 21 Mar 2024
Tested : 22 Mar 2024
Diagnosed : 25 Mar 2024 - Sean Felton

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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