



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
FREIGHTLINER 223
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LW0009173	LW0008947	LW0008979
Sample Date		Client Info		16 May 2024	26 Mar 2024	15 Mar 2024
Machine Age	mls	Client Info		845043	823157	821926
Oil Age	mls	Client Info		21886	50000	35000
Filter Age	mls	Client Info		21886	25000	35000
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	38	25	50
Chromium	ppm	ASTM D5185m	>5	4	1	6
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	5	<1
Silver	ppm	ASTM D5185m	>3	1	0	0
Aluminum	ppm	ASTM D5185m	>30	24	8	28
Lead	ppm	ASTM D5185m	>30	<1	0	<1
Copper	ppm	ASTM D5185m	>150	30	<1	65
Tin	ppm	ASTM D5185m	>5	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

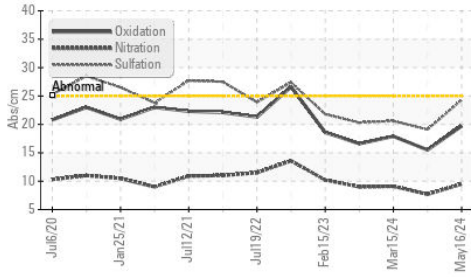
Silicon	ppm	ASTM D5185m	>20	6	5	6
Potassium	ppm	ASTM D5185m	>20	18	0	20
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.6	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.5	7.7	9.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	19.1	20.6
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

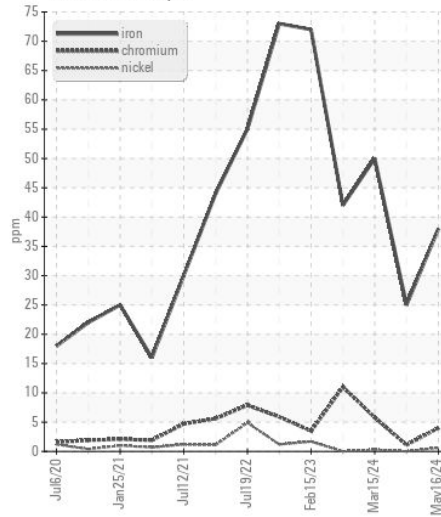
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	<1	<1
Boron	ppm	ASTM D5185m	2	<1	7	<1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	67	54	64
Manganese	ppm	ASTM D5185m	0	<1	<1	1
Magnesium	ppm	ASTM D5185m	950	1039	914	1018
Calcium	ppm	ASTM D5185m	1050	1199	1083	1140
Phosphorus	ppm	ASTM D5185m	995	1051	1002	1008
Zinc	ppm	ASTM D5185m	1180	1333	1234	1299
Sulfur	ppm	ASTM D5185m	2600	2816	3343	2474
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.7	15.5	17.9
Base Number (BN)	mg KOH/g	ASTM D2896		5.7	8.4	7.2
Visc @ 100°C	cSt	ASTM D445	12.00	11.6	11.8	11.9

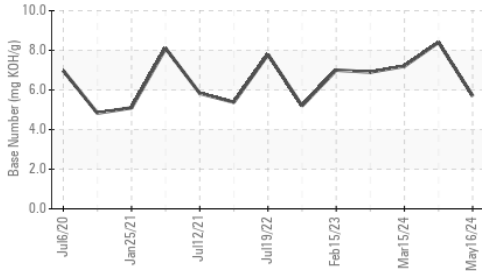
FT-IR (Direct Trend)



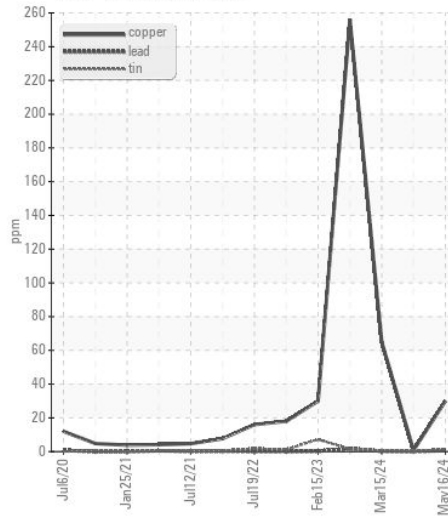
Ferrous Alloys



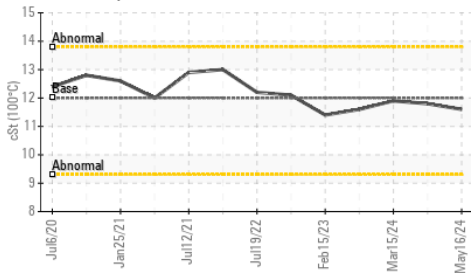
Base Number



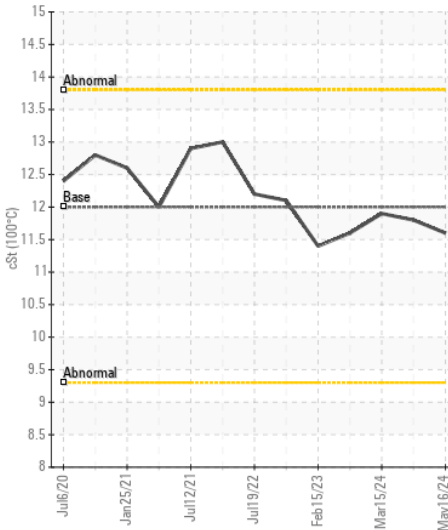
Non-ferrous Metals



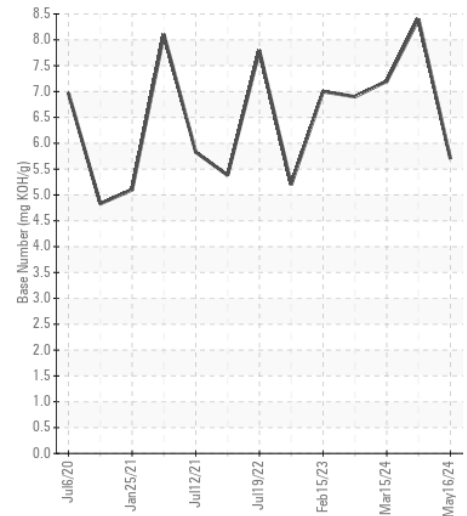
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LW0009173
Lab Number : 06189902
Unique Number : 11046654
Test Package : FLEET
Received : 23 May 2024
Tested : 25 May 2024
Diagnosed : 29 May 2024 - Sean Felton

LIV TRANSPORTATION, INC
 9809 INDUSTRIAL DRIVE
 BRIDGEVIEW, IL
 US 60455

Contact: CHRIS BIELECKI
 CHRIS@LIVTRANSPORTATION.COM

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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F: