



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
VOLVO 232
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		LW0009174	LW0007399	LW0006687
Sample Date		Client Info		16 May 2024	21 Jul 2023	02 Mar 2023
Machine Age	mls	Client Info		5121888	775833	724651
Oil Age	mls	Client Info		50000	5121888	5121888
Filter Age	mls	Client Info		25000	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	46	99	▲ 163
Chromium	ppm	ASTM D5185m	>20	2	3	5
Nickel	ppm	ASTM D5185m	>2	1	2	▲ 12
Titanium	ppm	ASTM D5185m		3	1	9
Silver	ppm	ASTM D5185m	>2	1	0	0
Aluminum	ppm	ASTM D5185m	>25	6	8	16
Lead	ppm	ASTM D5185m	>40	2	2	3
Copper	ppm	ASTM D5185m	>330	4	4	6
Tin	ppm	ASTM D5185m	>15	2	<1	2
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.

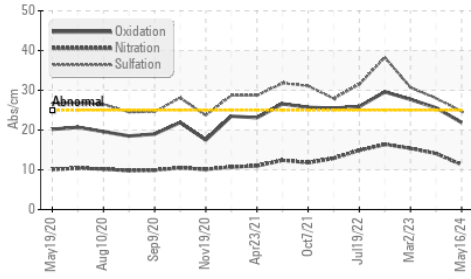
Silicon	ppm	ASTM D5185m	>25	8	9	10
Potassium	ppm	ASTM D5185m	>20	14	▲ 276	32
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	▲ 0.10	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.9	1.9
Nitration	Abs/cm	*ASTM D7624	>20	11.3	14.1	15.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.7	28.0	30.7
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

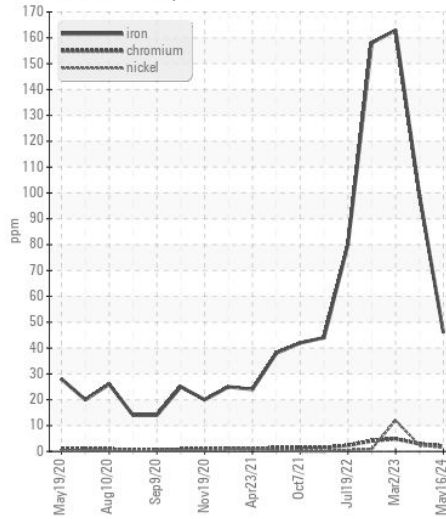
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		12	▲ 153	32
Boron	ppm	ASTM D5185m	2	0	1	9
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	67	83	59
Manganese	ppm	ASTM D5185m	0	<1	2	2
Magnesium	ppm	ASTM D5185m	950	1054	887	1008
Calcium	ppm	ASTM D5185m	1050	1221	1121	1440
Phosphorus	ppm	ASTM D5185m	995	1179	1036	1174
Zinc	ppm	ASTM D5185m	1180	1416	1248	1460
Sulfur	ppm	ASTM D5185m	2600	3070	2681	3345
Oxidation	Abs/.1mm	*ASTM D7414	>25	21.9	25.6	27.7
Base Number (BN)	mg KOH/g	ASTM D2896		5.2	5.1	5.8
Visc @ 100°C	cSt	ASTM D445	12.00	11.6	12.0	12.8

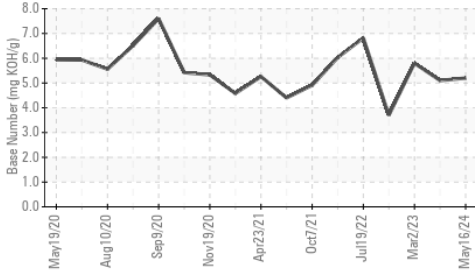
FT-IR (Direct Trend)



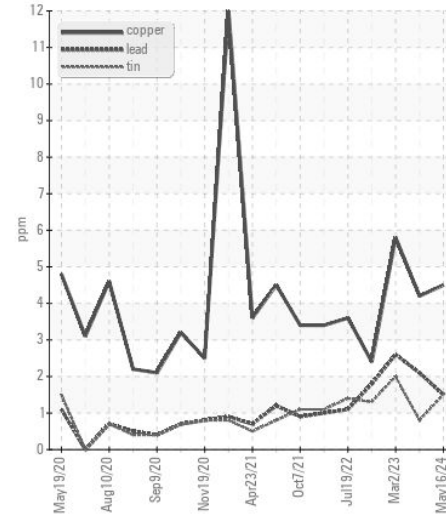
Ferrous Alloys



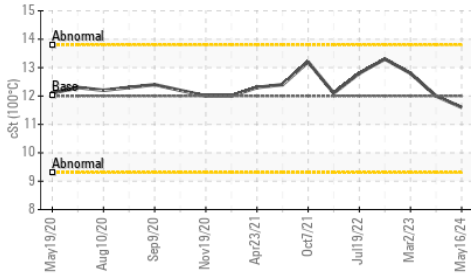
Base Number



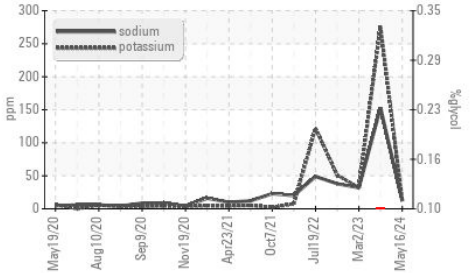
Non-ferrous Metals



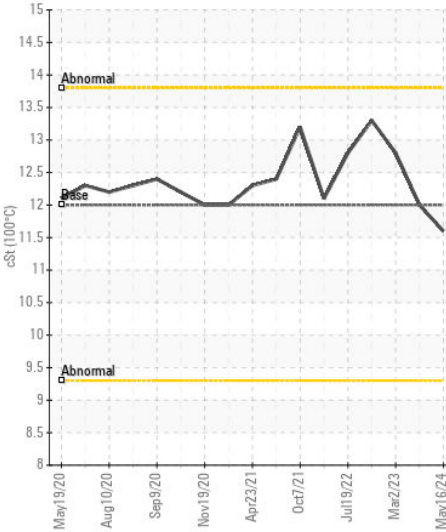
Viscosity @ 100°C



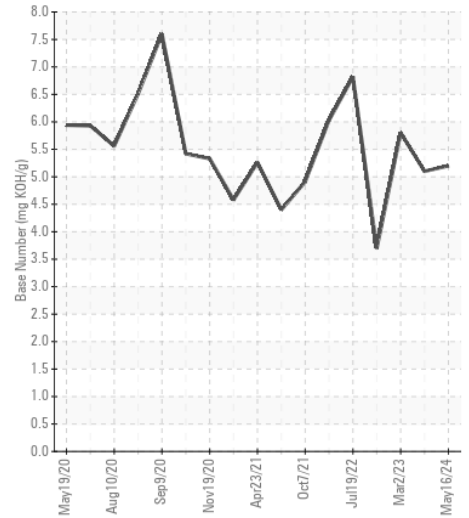
Glycol Contamination



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : LW0009174

Lab Number : 06189903

Unique Number : 11046655

Test Package : FLEET

Received : 23 May 2024

Tested : 29 May 2024

Diagnosed : 29 May 2024 - Sean Felton

LIV TRANSPORTATION, INC

9809 INDUSTRIAL DRIVE

BRIDGEVIEW, IL

US 60455

Contact: CHRIS BIELECKI

CHRIS@LIVTRANSPORTATION.COM

T:

F:

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)