OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
49311
Component
Diesel Engine
Fluid
SHELL 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

WEAR

All component wear rates are normal.

CONTAMINATION

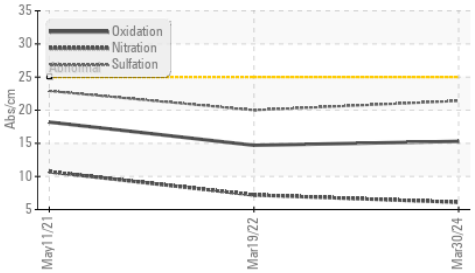
There is no indication of any contamination in the oil.

FLUID CONDITION

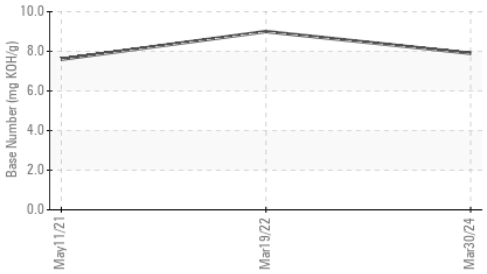
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0925941	WC0670883	WC0531279
Sample Date		Client Info		30 Mar 2024	19 Mar 2022	11 May 2021
Machine Age	mls	Client Info		347669	108658	0
Oil Age	mls	Client Info		0	0	0
Filter Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	3	8	41
Chromium	ppm	ASTM D5185m	>20	0	1	6
Nickel	ppm	ASTM D5185m	>4	<1	0	2
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	4	6	▲ 41
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	<1	38	▲ 552
Tin	ppm	ASTM D5185m	>15	<1	2	11
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	4	3	6
Potassium	ppm	ASTM D5185m	>20	3	8	▲ 89
Fuel		WC Method	>5	<1.0	<1.0	0.2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	6.1	7.2	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.4	20.0	22.9
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
Sodium	ppm	ASTM D5185m	>150	<1	1	6
Boron	ppm	ASTM D5185m		379	6	28
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		80	60	7
Manganese	ppm	ASTM D5185m		<1	<1	4
Magnesium	ppm	ASTM D5185m		492	941	702
Calcium	ppm	ASTM D5185m		1318	1243	1362
Phosphorus	ppm	ASTM D5185m		1063	1087	718
Zinc	ppm	ASTM D5185m		1270	1347	834
Sulfur	ppm	ASTM D5185m		3724	2565	2461
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.3	14.7	18.2
Base Number (BN)	mg KOH/g	ASTM D2896		7.9	9.0	7.6
Visc @ 100°C	cSt	ASTM D445		14.0	14.1	10.6

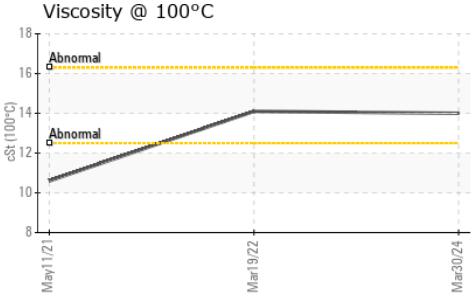
FT-IR (Direct Trend)



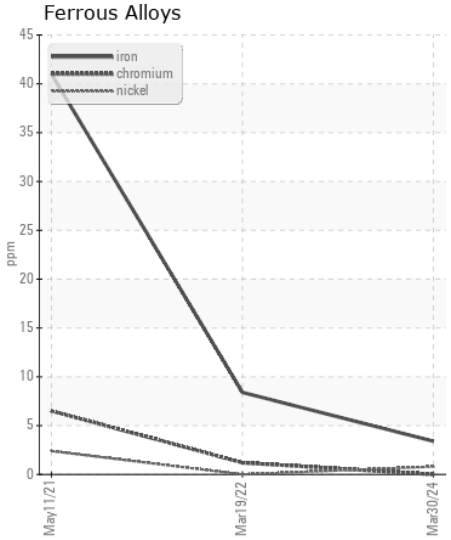
Base Number



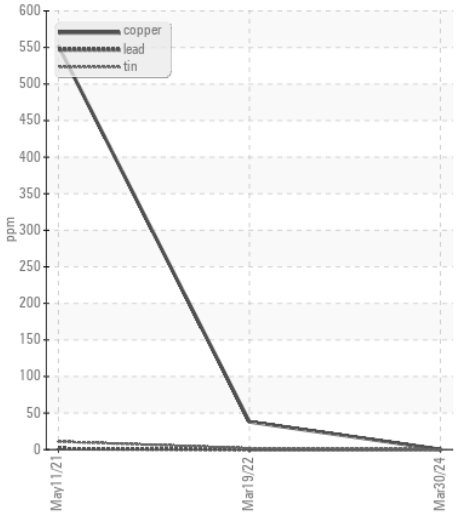
Viscosity @ 100°C



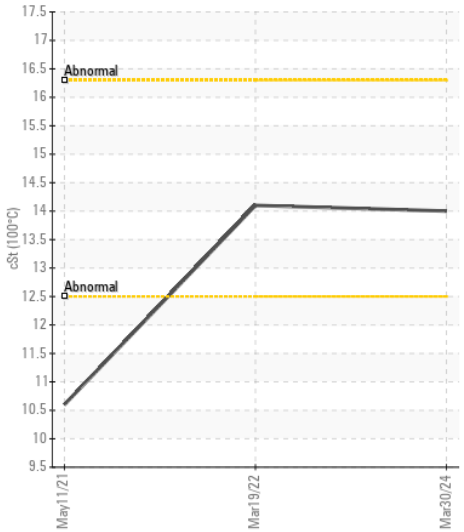
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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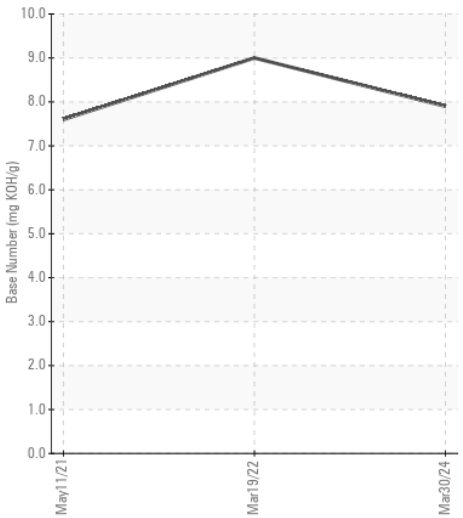

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0925941
Lab Number : 06145200
Unique Number : 10970008
Test Package : FLEET

Received : 10 Apr 2024
Tested : 11 Apr 2024
Diagnosed : 11 Apr 2024 - Wes Davis

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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