



WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
22155
 Component
Diesel Engine
 Fluid
SHELL ROTELLA T 10W30 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0909717	WC0866858	WC0866919
Sample Date		Client Info		04 Apr 2024	06 Feb 2024	01 Jan 2024
Machine Age	hrs	Client Info		313	8234	14030
Oil Age	hrs	Client Info		313	8234	335
Filter Age	hrs	Client Info		313	8234	335
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	>100	6	14	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	2	1
Lead	ppm	ASTM D5185m	>40	1	1	0
Copper	ppm	ASTM D5185m	>330	<1	<1	0
Tin	ppm	ASTM D5185m	>15	<1	<1	0
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.

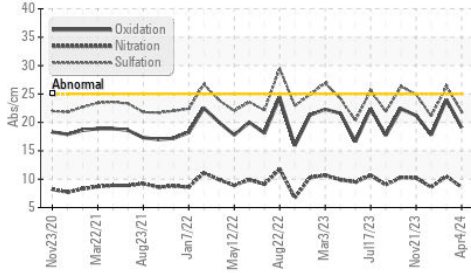
Silicon	ppm	ASTM D5185m	>25	2	4	3
Potassium	ppm	ASTM D5185m	>20	4	7	5
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.5	0.2
Nitration	Abs/cm	*ASTM D7624	>20	8.6	10.5	8.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.9	26.3	21.1
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

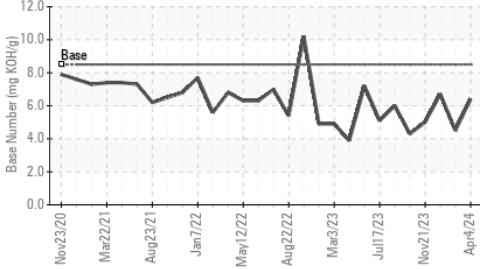
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		1	0	0
Boron	ppm	ASTM D5185m	269	132	86	144
Barium	ppm	ASTM D5185m		0	13	0
Molybdenum	ppm	ASTM D5185m	0	3	5	3
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	20	20	26	35
Calcium	ppm	ASTM D5185m	1521	2230	2081	2043
Phosphorus	ppm	ASTM D5185m	948	982	918	1016
Zinc	ppm	ASTM D5185m	893	1163	1129	1144
Sulfur	ppm	ASTM D5185m		3935	3569	3293
Oxidation	Abs/.1mm	*ASTM D7414	>25	19.1	24.0	17.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.4	4.5	6.7
Visc @ 100°C	cSt	ASTM D445	11.0	11.1	11.3	11.5

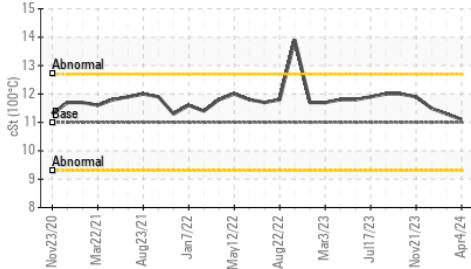
FT-IR (Direct Trend)



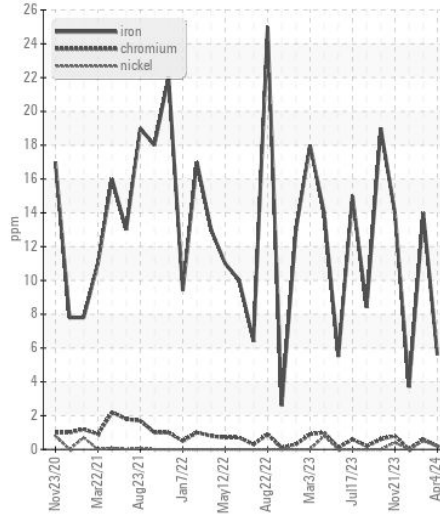
Base Number



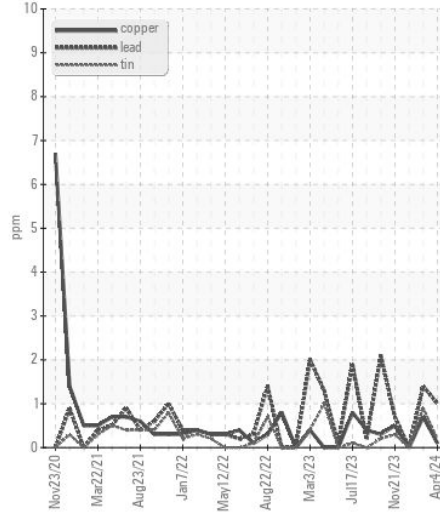
Viscosity @ 100°C



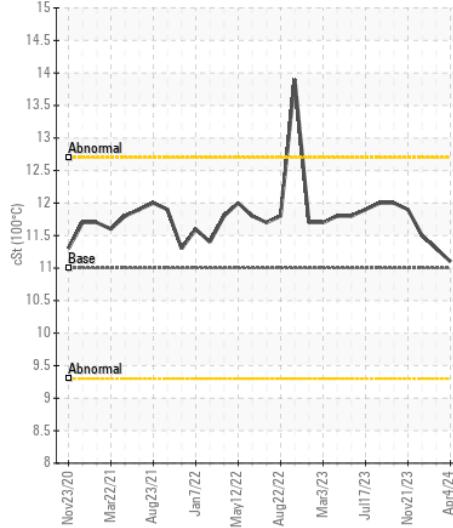
Ferrous Alloys



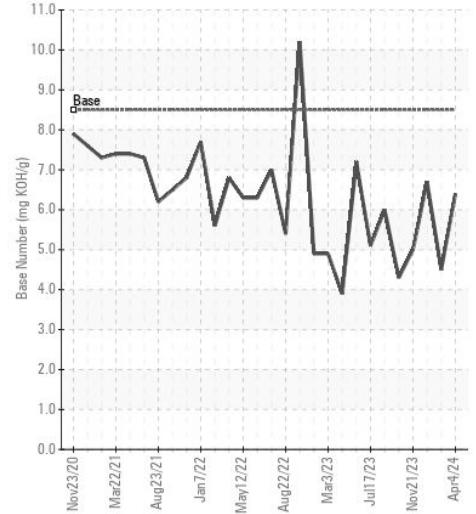
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : WC0909717

Lab Number : 06145620

Unique Number : 10970428

Test Package : FLEET

Received : 11 Apr 2024

Tested : 12 Apr 2024

Diagnosed : 14 Apr 2024 - Don Baldrige

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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)