



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
113610
Component
Diesel Engine
Fluid
SHELL ROTELLA T 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0032931	IL0032792	IL0027545
Sample Date		Client Info		25 Jun 2024	24 Nov 2023	05 May 2023
Machine Age	mls	Client Info		54311	35947	18214
Oil Age	mls	Client Info		18364	17733	18214
Filter Age	mls	Client Info		18364	17733	18214
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	>90	27	39	62
Chromium	ppm	ASTM D5185m	>20	2	2	2
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	41	80	15
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>330	1	5	19
Tin	ppm	ASTM D5185m	>15	0	0	<1
Vanadium	ppm	ASTM D5185m		0	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.

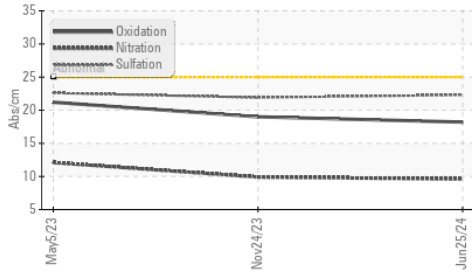
Silicon	ppm	ASTM D5185m	>25	8	9	20
Potassium	ppm	ASTM D5185m	>20	100	232	56
Fuel		WC Method	>3.0	<1.0	<1.0	1.8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.5	0.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	9.6	9.9	12.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.3	21.9	22.6
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

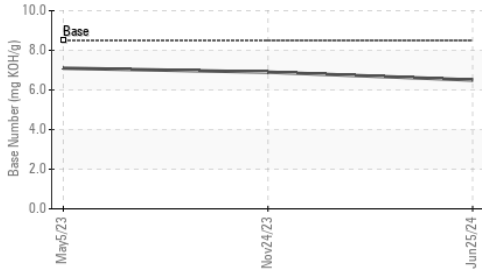
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		2	0	7
Boron	ppm	ASTM D5185m	269	84	70	33
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m	0	19	43	54
Manganese	ppm	ASTM D5185m		<1	1	6
Magnesium	ppm	ASTM D5185m	20	145	317	726
Calcium	ppm	ASTM D5185m	1521	2139	1941	1385
Phosphorus	ppm	ASTM D5185m	948	963	1014	682
Zinc	ppm	ASTM D5185m	893	1202	1200	916
Sulfur	ppm	ASTM D5185m		3727	3193	2612
Oxidation	Abs/.1mm	*ASTM D7414	>25	18.2	19.0	21.2
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.5	6.9	7.1
Visc @ 100°C	cSt	ASTM D445	11.0	11.3	11.4	11.9

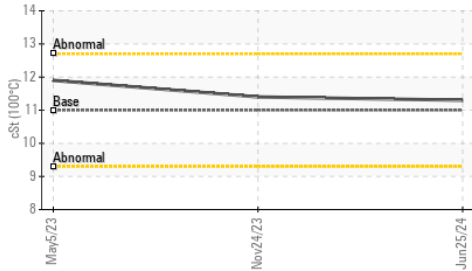
FT-IR (Direct Trend)



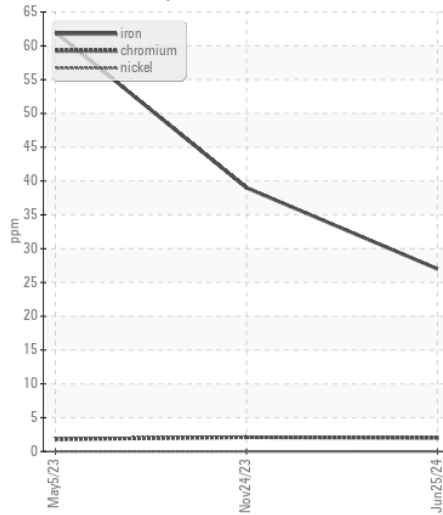
Base Number



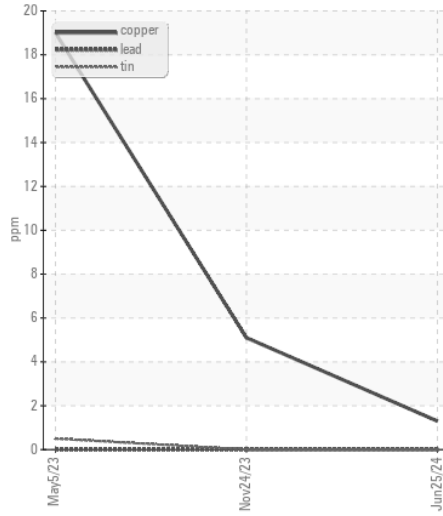
Viscosity @ 100°C



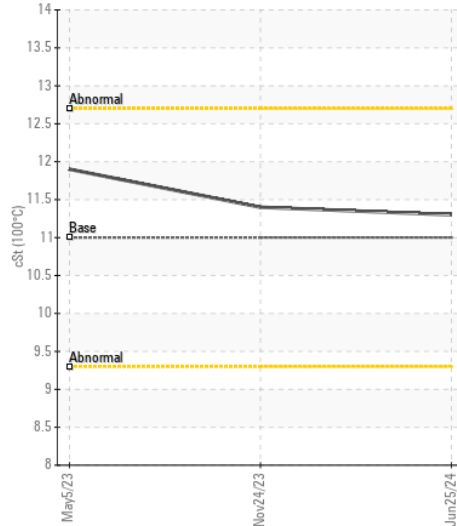
Ferrous Alloys



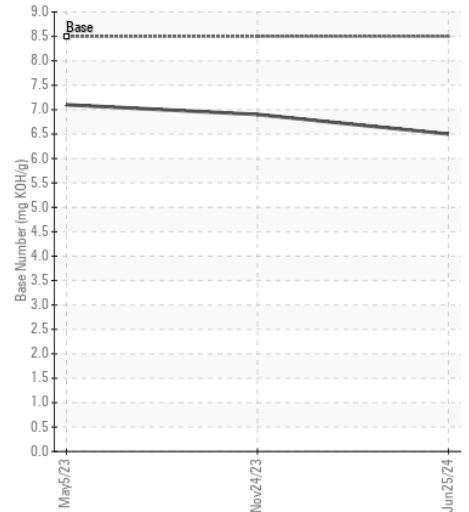
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0032931 **Received** : 02 Jul 2024
Lab Number : 06225873 **Tested** : 03 Jul 2024
Unique Number : 11109366 **Diagnosed** : 03 Jul 2024 - Angela Borella
Test Package : FLEET

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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)