



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
2006
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- GAL)

RECOMMENDATION

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0210325	JR0195458	JR0195120
Sample Date		Client Info		06 Mar 2024	13 Feb 2024	28 Nov 2023
Machine Age	hrs	Client Info		16674	15893	15542
Oil Age	hrs	Client Info		250	750	500
Filter Age	hrs	Client Info		250	750	500
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	3	6	7
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>10	<1	1	2
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	3	2
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>20	1	2	1
Tin	ppm	ASTM D5185m	>20	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

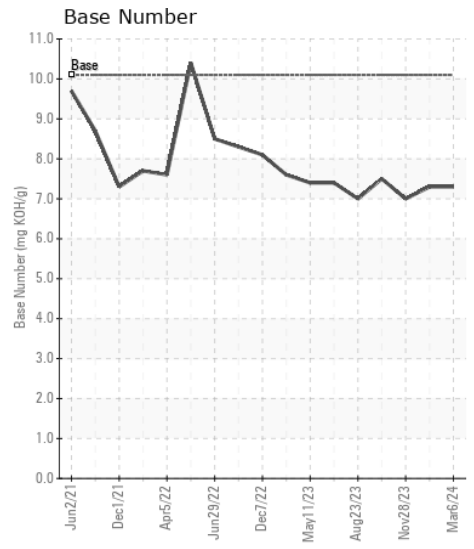
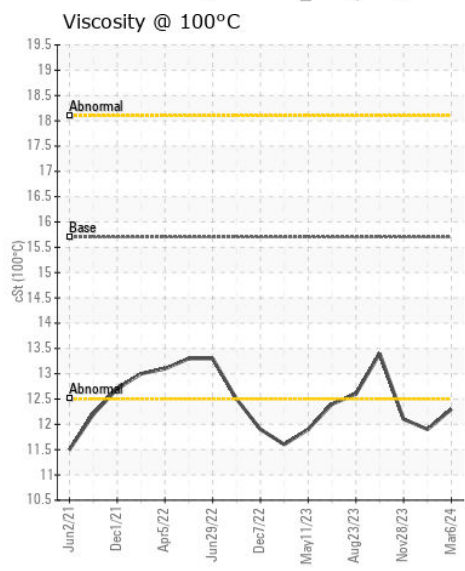
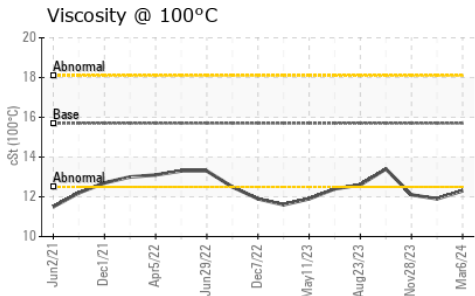
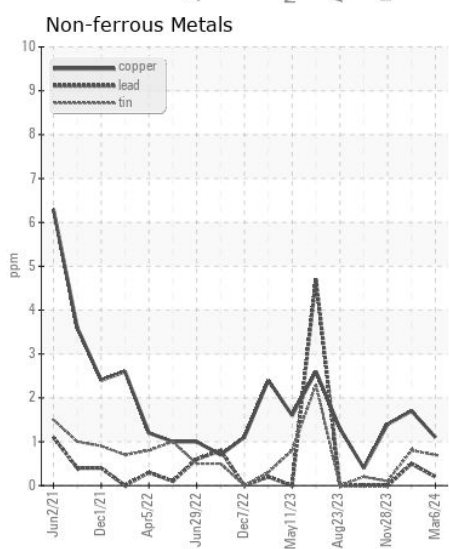
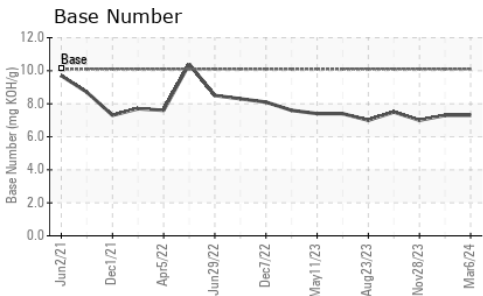
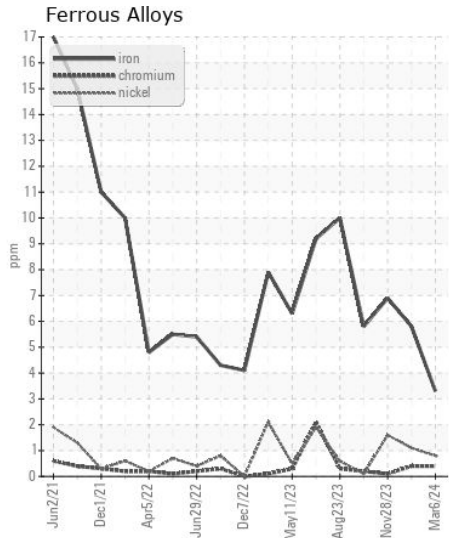
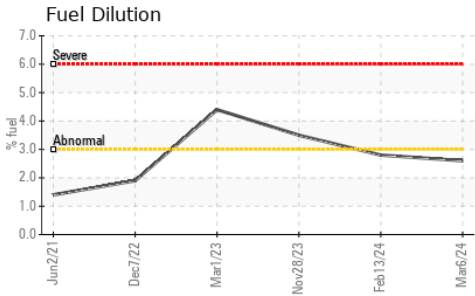
Light fuel dilution occurring. No other contaminants were detected in the oil.

Silicon	ppm	ASTM D5185m	>20	4	7	8
Potassium	ppm	ASTM D5185m	>20	2	2	2
Fuel	%	ASTM D3524	>3.0	2.6	2.8	▲ 3.5
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	6.1	6.8	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.6	15.6	15.9
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

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	1	0
Boron	ppm	ASTM D5185m	316	4	3	4
Barium	ppm	ASTM D5185m	0.0	0	0	2
Molybdenum	ppm	ASTM D5185m	1.2	3	3	3
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	24	45	40	41
Calcium	ppm	ASTM D5185m	2292	2233	2194	2195
Phosphorus	ppm	ASTM D5185m	1064	893	847	816
Zinc	ppm	ASTM D5185m	1160	1040	1011	988
Sulfur	ppm	ASTM D5185m	4996	4019	3780	5023
Oxidation	Abs/.1mm	*ASTM D7414	>25	10.0	9.2	9.5
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	7.3	7.3	7.0
Visc @ 100°C	cSt	ASTM D445	15.7	12.3	11.9	▲ 12.1



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0210325 **Received** : 20 Mar 2024
Lab Number : 06123487 **Tested** : 22 Mar 2024
Unique Number : 10937638 **Diagnosed** : 22 Mar 2024 - Wes Davis
Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN)

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 STERLING, VA
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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)