



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
111526
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0032947	IL0032966	IL0032745
Sample Date		Client Info		11 Jun 2024	15 Feb 2024	10 Oct 2023
Machine Age	mls	Client Info		290508	259771	231575
Oil Age	mls	Client Info		30737	28196	39915
Filter Age	mls	Client Info		30737	28196	39915
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	15	15	19
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	2	5
Lead	ppm	ASTM D5185m	>40	0	0	1
Copper	ppm	ASTM D5185m	>330	2	2	3
Tin	ppm	ASTM D5185m	>15	0	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

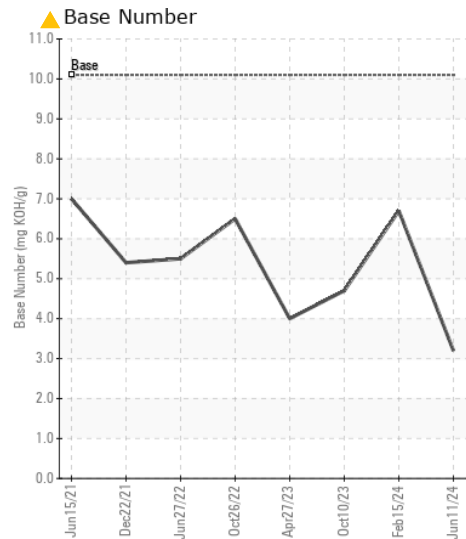
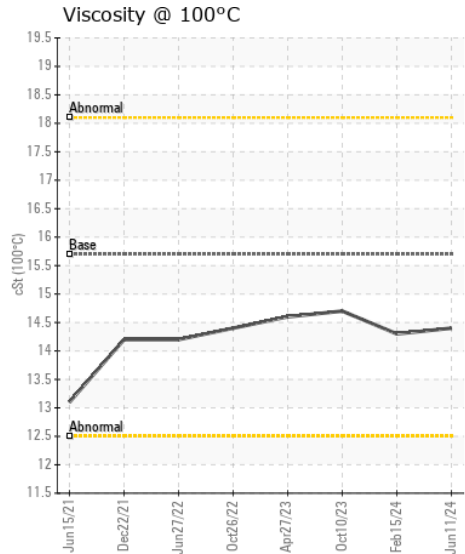
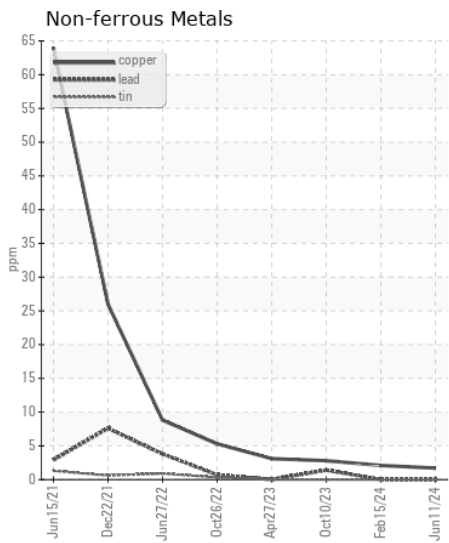
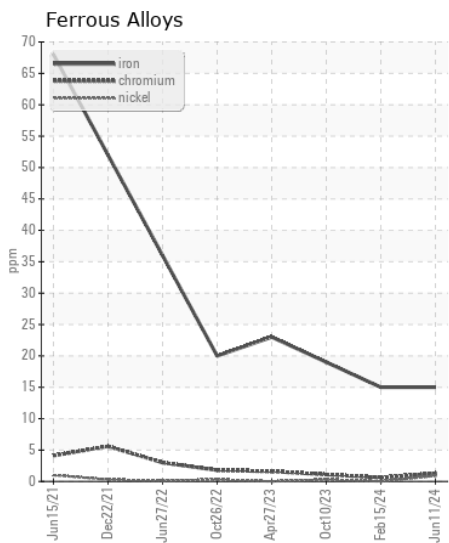
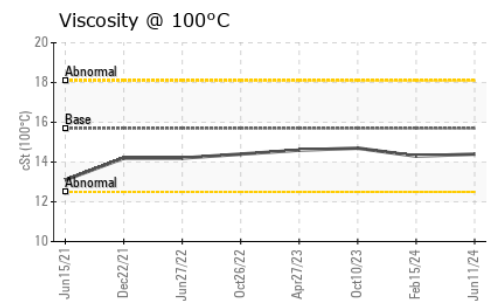
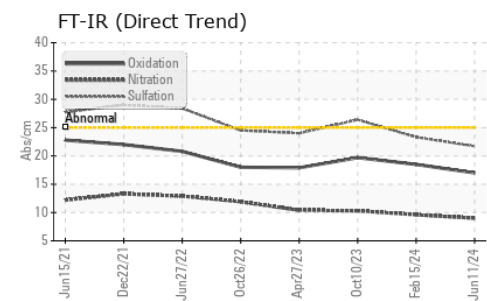
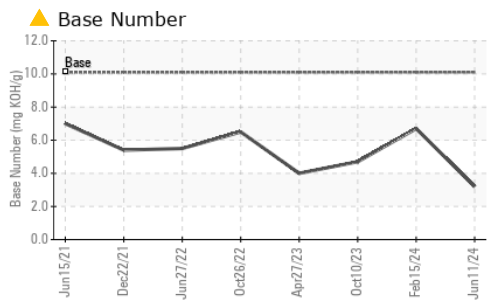
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	8	7	7
Potassium	ppm	ASTM D5185m	>20	7	9	12
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	0.8	0.9	1.2
Nitration	Abs/cm	*ASTM D7624	>20	9.0	9.6	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.7	23.3	26.4
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 level is low. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		4	0	0
Boron	ppm	ASTM D5185m	316	21	26	13
Barium	ppm	ASTM D5185m	0.0	0	<1	0
Molybdenum	ppm	ASTM D5185m	1.2	27	34	30
Manganese	ppm	ASTM D5185m		<1	0	0
Magnesium	ppm	ASTM D5185m	24	296	300	143
Calcium	ppm	ASTM D5185m	2292	2088	1677	1895
Phosphorus	ppm	ASTM D5185m	1064	1062	883	904
Zinc	ppm	ASTM D5185m	1160	1312	1108	1055
Sulfur	ppm	ASTM D5185m	4996	3919	3030	2938
Oxidation	Abs/.1mm	*ASTM D7414	>25	17.0	18.5	19.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	▲ 3.2	6.7	4.7
Visc @ 100°C	cSt	ASTM D445	15.7	14.4	14.3	14.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0032947
Lab Number : 06219354
Unique Number : 11097551
Test Package : FLEET
Received : 25 Jun 2024
Tested : 25 Jun 2024
Diagnosed : 26 Jun 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)