



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
INTERNATIONAL 108402
Component
Diesel Engine
Fluid
SHELL ROTELLA T 15W40 (--- QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		IL0032959	IL0032709	IL0027586
Sample Date		Client Info		07 Feb 2024	01 Sep 2023	28 Mar 2023
Machine Age	mls	Client Info		249446	226659	206054
Oil Age	mls	Client Info		22787	20605	18599
Filter Age	mls	Client Info		22787	20605	18599
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	32	31	29
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	10	10	9
Lead	ppm	ASTM D5185m	>40	0	<1	0
Copper	ppm	ASTM D5185m	>330	2	1	1
Tin	ppm	ASTM D5185m	>15	0	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

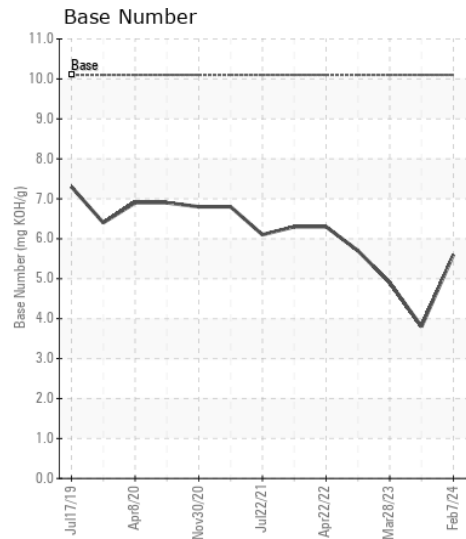
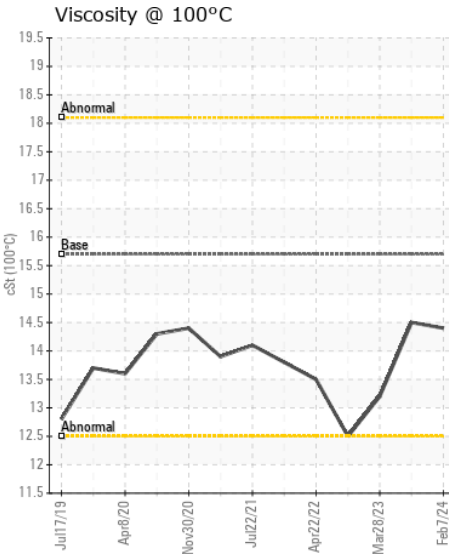
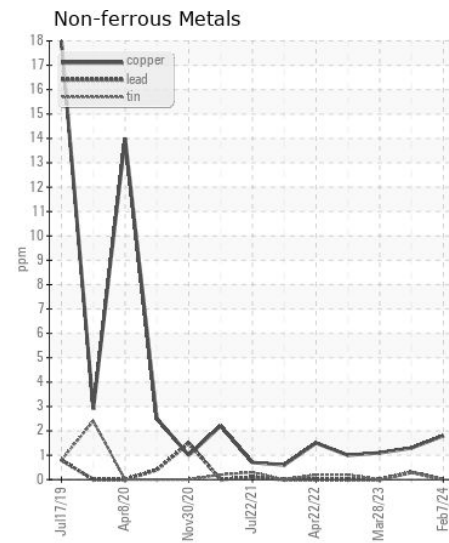
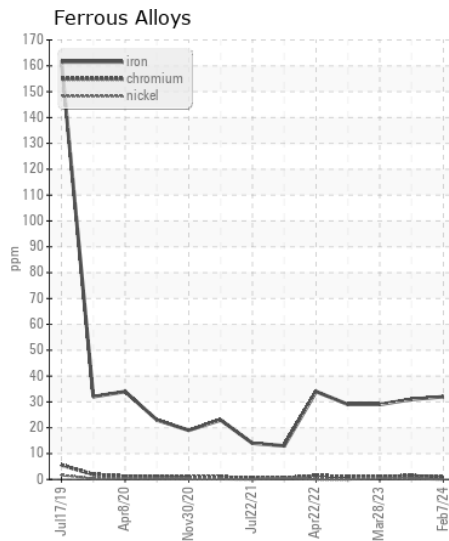
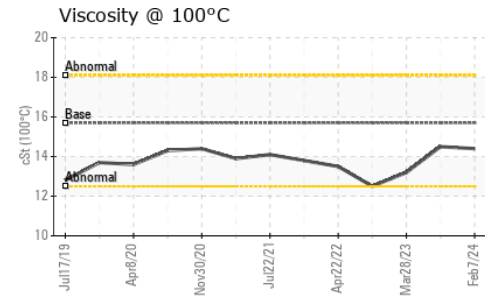
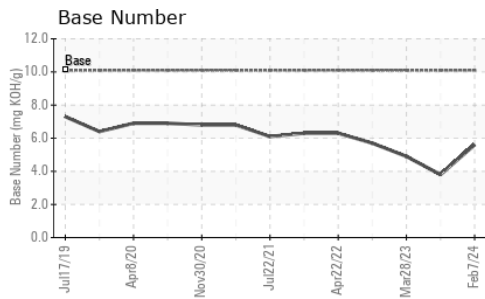
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	7	5
Potassium	ppm	ASTM D5185m	>20	12	8	6
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	1	0.2	0.9
Nitration	Abs/cm	*ASTM D7624	>20	13.6	14.1	12.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	28.8	31.1	26.1
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	3	3
Boron	ppm	ASTM D5185m	316	49	40	37
Barium	ppm	ASTM D5185m	0.0	0	0	0
Molybdenum	ppm	ASTM D5185m	1.2	41	70	84
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	24	277	127	45
Calcium	ppm	ASTM D5185m	2292	2011	2375	2337
Phosphorus	ppm	ASTM D5185m	1064	969	1007	937
Zinc	ppm	ASTM D5185m	1160	1256	1307	1195
Sulfur	ppm	ASTM D5185m	4996	3145	4176	4197
Oxidation	Abs/.1mm	*ASTM D7414	>25	27.0	28.1	21.7
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	5.6	▲ 3.8	4.9
Visc @ 100°C	cSt	ASTM D445	15.7	14.4	14.5	13.2



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : IL0032959 **Received** : 13 Feb 2024
Lab Number : 06087017 **Tested** : 14 Feb 2024
Unique Number : 10874462 **Diagnosed** : 14 Feb 2024 - Don Baldrige
Test Package : FLEET

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Certificate L2367
 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)