



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR T27
Component
Diesel Engine
Fluid
SHELL 15W40 (36 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		RW0004647	RW0004654	RW0004636
Sample Date		Client Info		08 Mar 2024	08 Dec 2023	26 Jun 2023
Machine Age	mls	Client Info		772184	763476	750757
Oil Age	mls	Client Info		8708	12719	13700
Filter Age	mls	Client Info		8708	12719	13700
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	35	71	74
Chromium	ppm	ASTM D5185m	>20	0	2	2
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>2	15	27	27
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>25	2	3	4
Lead	ppm	ASTM D5185m	>40	1	8	14
Copper	ppm	ASTM D5185m	>330	4	8	9
Tin	ppm	ASTM D5185m	>15	0	2	2
Vanadium	ppm	ASTM D5185m		0	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

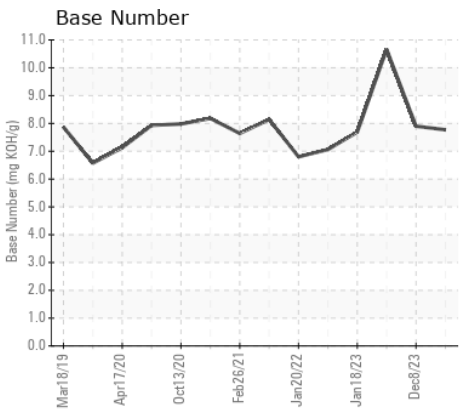
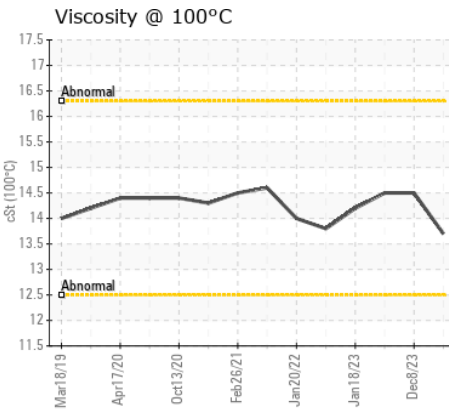
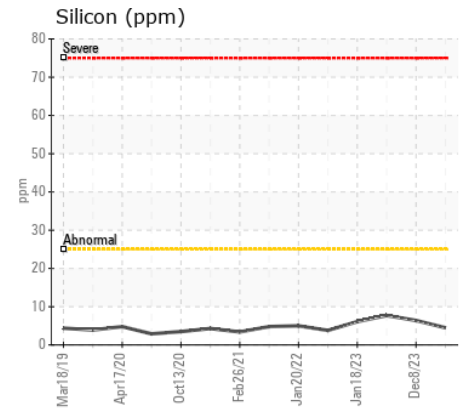
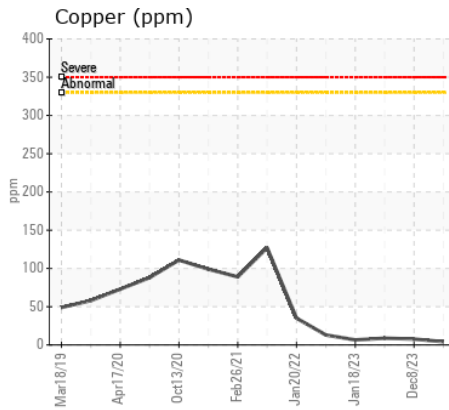
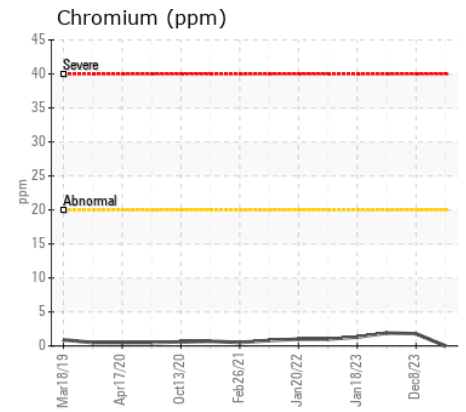
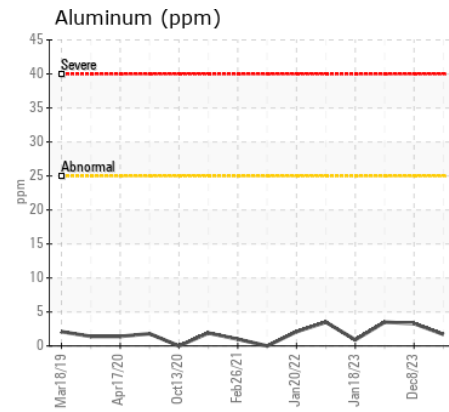
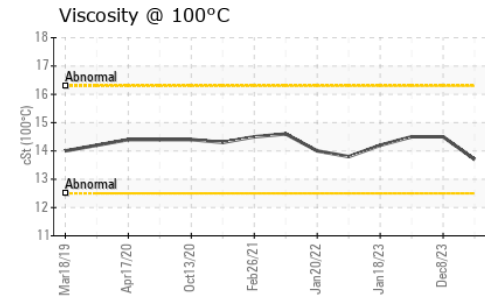
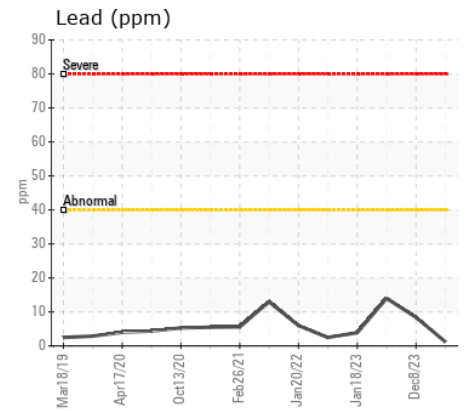
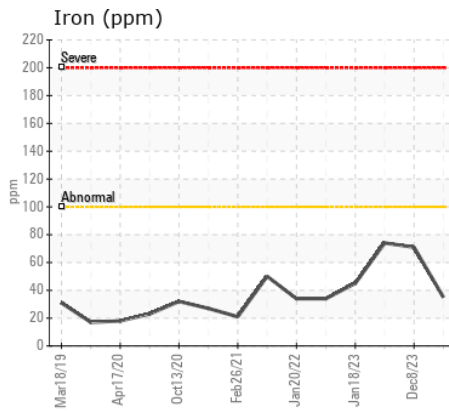
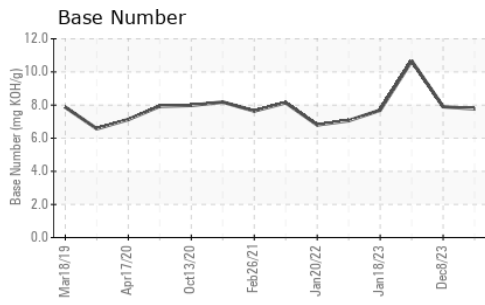
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	4	6	8
Potassium	ppm	ASTM D5185m	>20	0	2	2
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	0.5	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	11.0	12.2	12.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	23.8	28.2	28.8
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	>150	0	3	3
Boron	ppm	ASTM D5185m		57	56	64
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		54	52	55
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		344	396	471
Calcium	ppm	ASTM D5185m		2099	1887	2194
Phosphorus	ppm	ASTM D5185m		1120	1171	1242
Zinc	ppm	ASTM D5185m		1316	1373	1518
Sulfur	ppm	ASTM D5185m		4491	3787	4896
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.4	25.4	24.8
Base Number (BN)	mg KOH/g	ASTM D2896		7.77	7.90	10.66
Visc @ 100°C	cSt	ASTM D445		13.7	14.5	14.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RW0004647
Lab Number : 06124372
Unique Number : 10938523
Test Package : MOB 2
Received : 20 Mar 2024
Tested : 21 Mar 2024
Diagnosed : 21 Mar 2024 - Wes Davis

ROTHIG FOREST PRODUCTS, INC.
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 LUTHER, MI
 US 49656
 Contact: DOUG NELSON
 ROTHIGFORESTPRODUCTS@GMAIL.COM

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)
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