



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
WESTERN STAR 27

Component
Diesel Engine

Fluid
FLEETLINE SUPERFLEET XHD 15W40 (10 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LP0000881	LP0000873	LP0000672
Sample Date		Client Info		10 Feb 2024	09 Feb 2024	17 Oct 2023
Machine Age	mls	Client Info		268	641026	1300
Oil Age	mls	Client Info		268	9340	1300
Filter Age	mls	Client Info		268	9340	1300
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	>100	11	43	10
Chromium	ppm	ASTM D5185m	>20	1	2	<1
Nickel	ppm	ASTM D5185m	>2	<1	1	<1
Titanium	ppm	ASTM D5185m	>2	<1	<1	<1
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>25	3	1	2
Lead	ppm	ASTM D5185m	>40	3	2	5
Copper	ppm	ASTM D5185m	>330	10	▲ 651	29
Tin	ppm	ASTM D5185m	>15	2	3	3
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

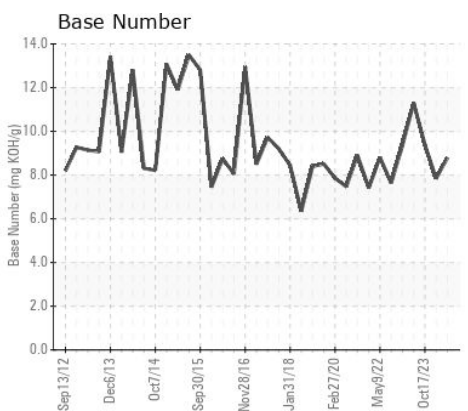
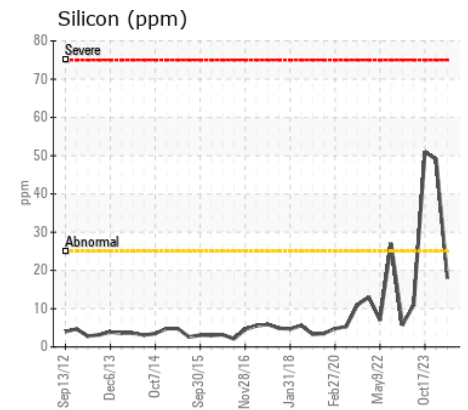
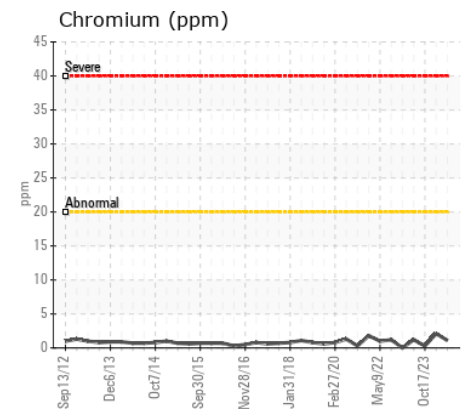
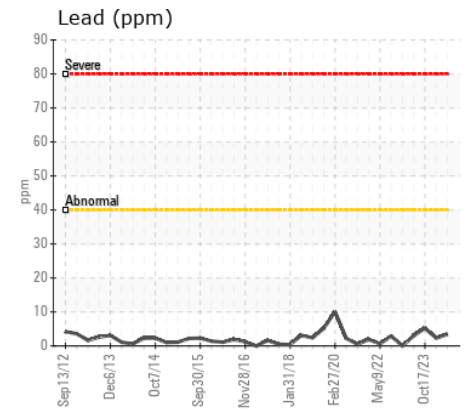
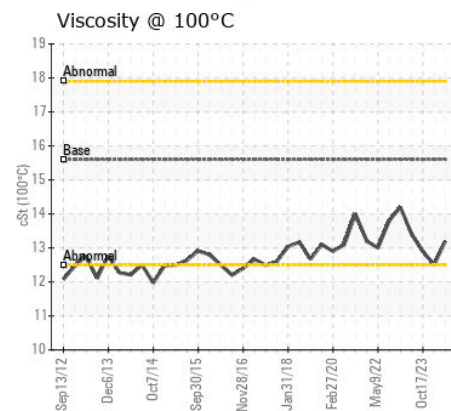
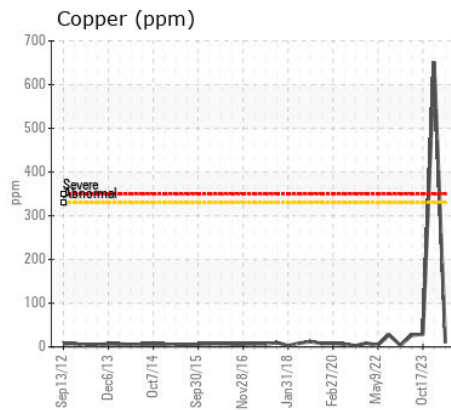
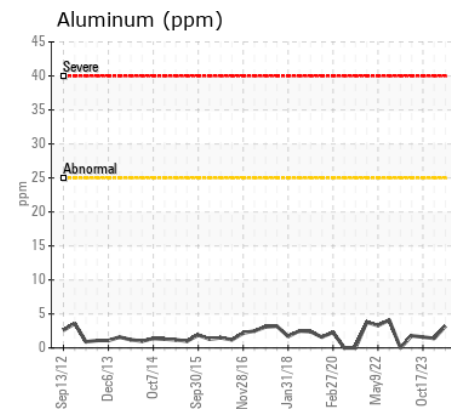
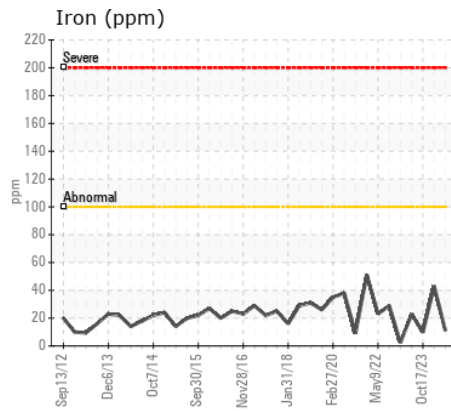
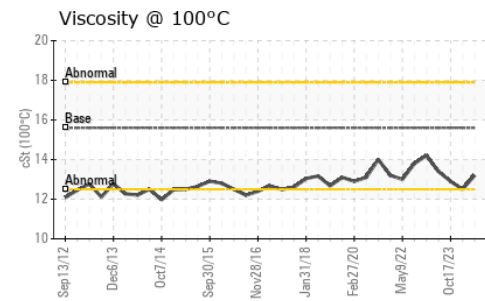
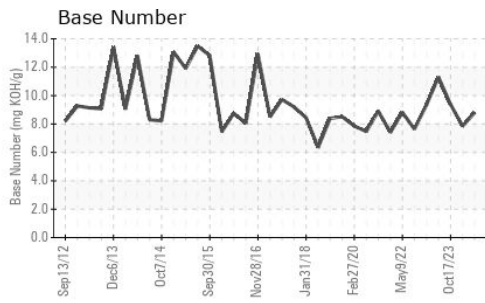
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	18	▲ 49	51
Potassium	ppm	ASTM D5185m	>20	2	2	3
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	0.1	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	8.1	8.6	5.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	17.4	17.7	17.1
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		3	0	3
Boron	ppm	ASTM D5185m		79	21	22
Barium	ppm	ASTM D5185m		11	0	11
Molybdenum	ppm	ASTM D5185m		71	46	29
Manganese	ppm	ASTM D5185m		2	2	2
Magnesium	ppm	ASTM D5185m		188	212	356
Calcium	ppm	ASTM D5185m		2353	1673	1626
Phosphorus	ppm	ASTM D5185m		970	807	917
Zinc	ppm	ASTM D5185m		1398	1015	1066
Sulfur	ppm	ASTM D5185m		4469	3072	3857
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.1	13.4	12.0
Base Number (BN)	mg KOH/g	ASTM D2896		8.79	7.85	9.38
Visc @ 100°C	cSt	ASTM D445	15.6	13.2	12.5	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : LP0000881

Lab Number : 06103833

Unique Number : 10902063

Test Package : MOB 2

Received : 28 Feb 2024

Tested : 29 Feb 2024

Diagnosed : 01 Mar 2024 - Don Baldrige

S.M. LORUSSO & SONS

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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)