



# OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**STERLING 239**  
Component  
**Front Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (30 GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>RW0004809</b>	RW0003960	RW0002753
Sample Date		Client Info		<b>14 Feb 2024</b>	03 Feb 2023	08 Aug 2022
Machine Age	hrs	Client Info		<b>4116</b>	3775	3543
Oil Age	hrs	Client Info		<b>256</b>	232	513
Filter Age	hrs	Client Info		<b>256</b>	232	513
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>15</b>	13	11
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	2	<1
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	1	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	1
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

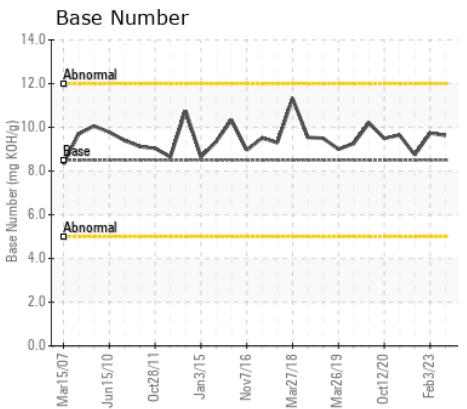
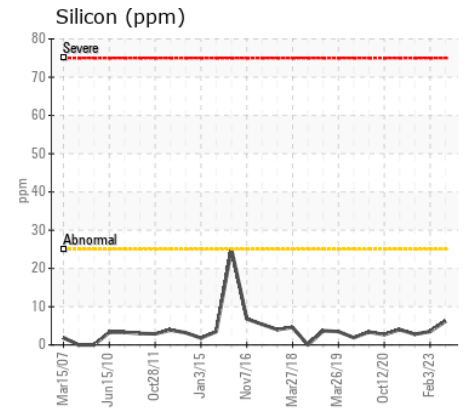
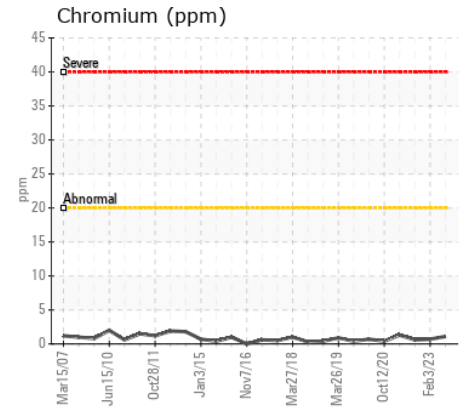
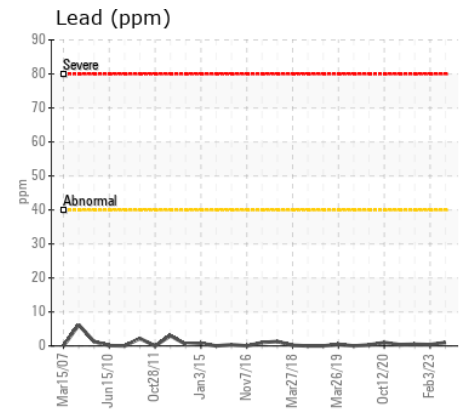
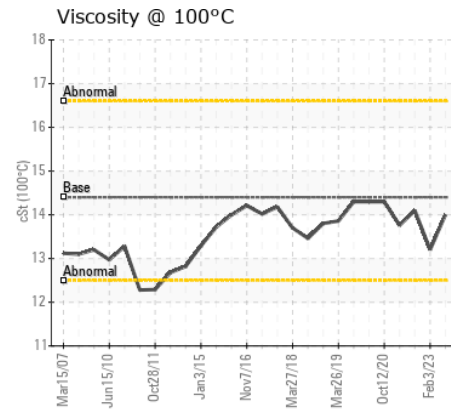
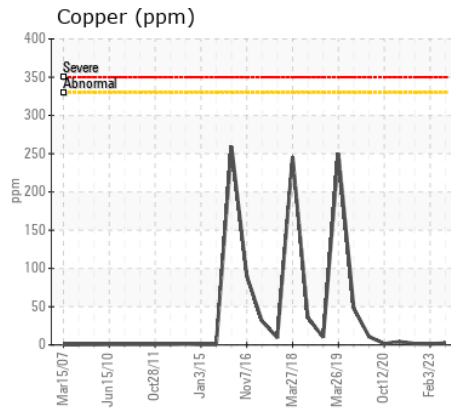
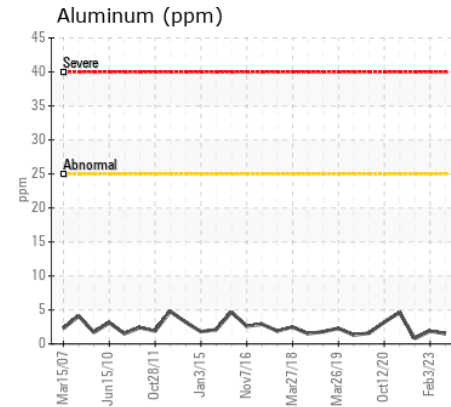
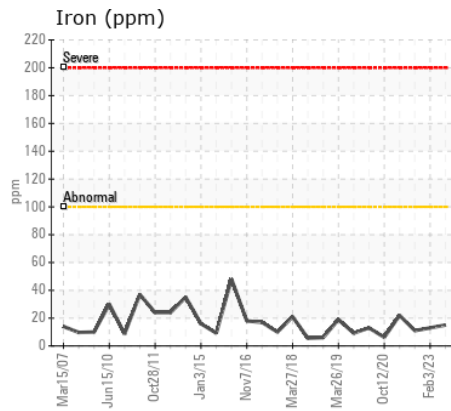
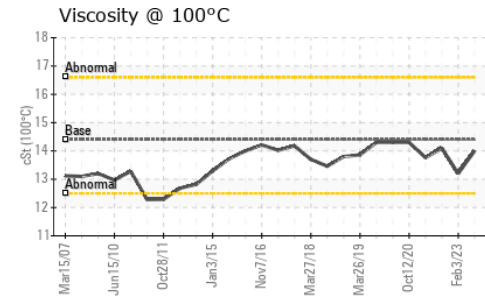
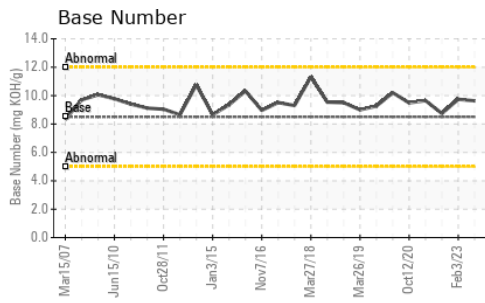
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>6</b>	4	3
Potassium	ppm	ASTM D5185m	>20	<b>8</b>	3	2
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.6</b>	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.8</b>	8.7	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.7</b>	19.3	20.9
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	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	>158	<b>0</b>	2	3
Boron	ppm	ASTM D5185m	250	<b>4</b>	6	8
Barium	ppm	ASTM D5185m	10	<b>5</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>61</b>	66	56
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>855</b>	888	864
Calcium	ppm	ASTM D5185m	3000	<b>992</b>	1055	1038
Phosphorus	ppm	ASTM D5185m	1150	<b>939</b>	986	962
Zinc	ppm	ASTM D5185m	1350	<b>1162</b>	1184	1177
Sulfur	ppm	ASTM D5185m	4250	<b>2887</b>	3502	2873
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.9</b>	15.3	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>9.63</b>	9.74	8.74
Visc @ 100°C	cSt	ASTM D445	14.4	<b>14.0</b>	13.2	14.1



Certificate L2367

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

Sample No. : RW0004809

Lab Number : 06097911

Unique Number : 10896141

Test Package : MOB 2

Received : 22 Feb 2024

Tested : 23 Feb 2024

Diagnosed : 23 Feb 2024 - Wes Davis

CITY OF FARMINGTON HILLS

27245 HALSTED RD

FARMINGTON HILLS, MI

US 48331

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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)