



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**SUPERIOR 522**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- GAL)**

## RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>RW0005049</b>	---	---
Sample Date		Client Info		<b>31 Jan 2024</b>	---	---
Machine Age	hrs	Client Info		<b>1551</b>	---	---
Oil Age	hrs	Client Info		<b>150</b>	---	---
Filter Age	hrs	Client Info		<b>150</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	---	---
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>8</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m		<b>0</b>	---	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	---	---
Lead	ppm	ASTM D5185m	>40	<b>0</b>	---	---
Copper	ppm	ASTM D5185m	>330	<b>&lt;1</b>	---	---
Tin	ppm	ASTM D5185m	>15	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

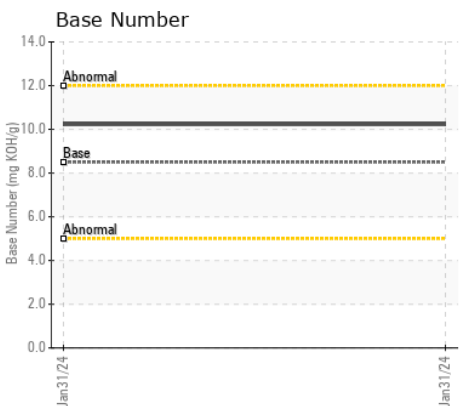
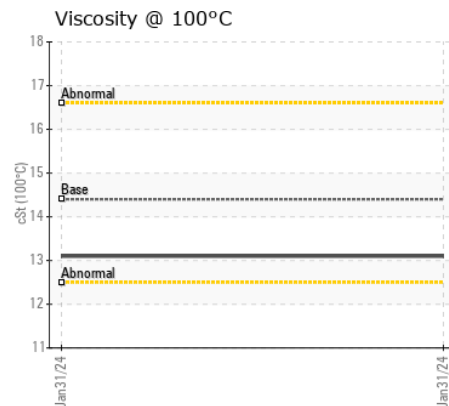
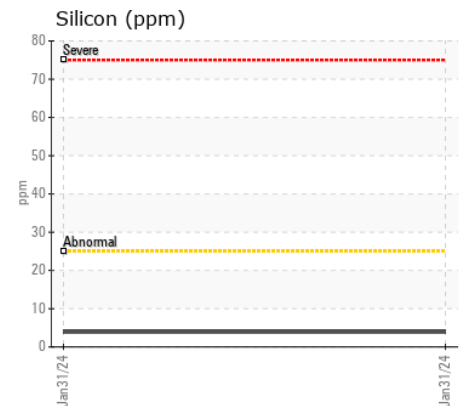
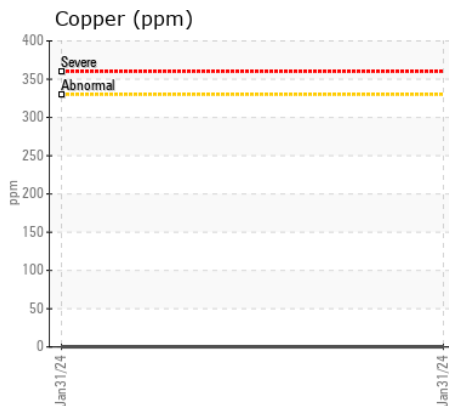
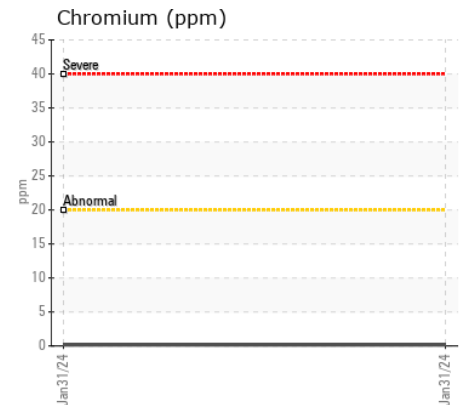
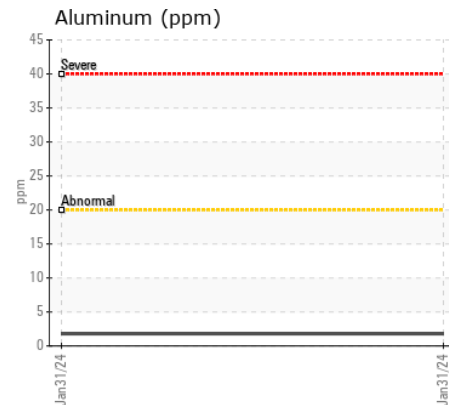
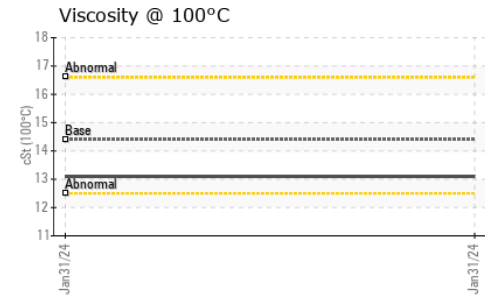
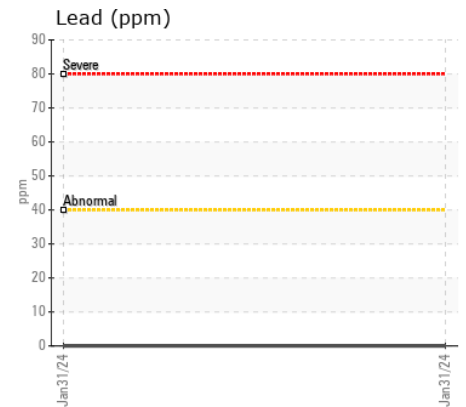
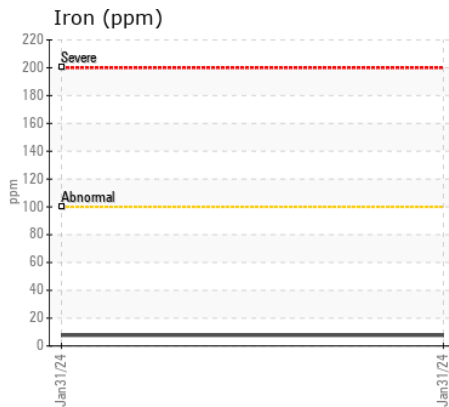
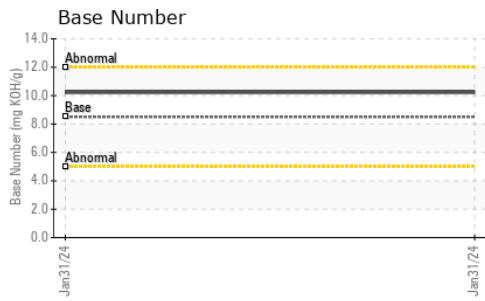
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.2	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844	>3	<b>0.3</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.5</b>	---	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	---	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	---	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	---	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	---	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	---	---

## 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>	---	---
Boron	ppm	ASTM D5185m	250	<b>6</b>	---	---
Barium	ppm	ASTM D5185m	10	<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m	100	<b>56</b>	---	---
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m	450	<b>851</b>	---	---
Calcium	ppm	ASTM D5185m	3000	<b>1085</b>	---	---
Phosphorus	ppm	ASTM D5185m	1150	<b>939</b>	---	---
Zinc	ppm	ASTM D5185m	1350	<b>1197</b>	---	---
Sulfur	ppm	ASTM D5185m	4250	<b>2920</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.3</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>10.23</b>	---	---
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.1</b>	---	---



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : RW0005049  
**Lab Number** : 06101122  
**Unique Number** : 10899352  
**Test Package** : MOB 2

**Received** : 26 Feb 2024  
**Tested** : 28 Feb 2024  
**Diagnosed** : 28 Feb 2024 - Wes Davis

**HALLACK CONTRACTING, INC.**  
 4223 W POLK  
 HART, MI  
 US 49420  
 Contact: DAN HALLACK KARL BUTCHER  
 shop@hallackcontracting.com  
 T: (231)873-5081  
 F: (231)873-2889

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)