



# OIL ANALYSIS REPORT

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

Machine Id  
**NOT GIVEN WC0676265**

Component  
**Diesel Engine**

Fluid  
**AMSOIL SYNTHETIC 12 TBN SAE 15W40 (--- GAL)**

## RECOMMENDATION

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0676265</b>	---	---
Sample Date		Client Info		<b>01 Dec 2023</b>	---	---
Machine Age	hrs	Client Info		<b>9219</b>	---	---
Oil Age	hrs	Client Info		<b>2577</b>	---	---
Filter Age	hrs	Client Info		<b>2577</b>	---	---
Oil Changed		Client Info		<b>Changed</b>	---	---
Filter Changed		Client Info		<b>Changed</b>	---	---
Sample Status				<b>ABNORMAL</b>	---	---

## WEAR

Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	<b>▲ 185</b>	---	---
Chromium	ppm	ASTM D5185m	>20	<b>4</b>	---	---
Nickel	ppm	ASTM D5185m	>4	<b>1</b>	---	---
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
Silver	ppm	ASTM D5185m	>3	<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>20	<b>7</b>	---	---
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m	>330	<b>3</b>	---	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	---	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	---	---

## CONTAMINATION

There is an abnormal amount of solids and carbon present in the oil.

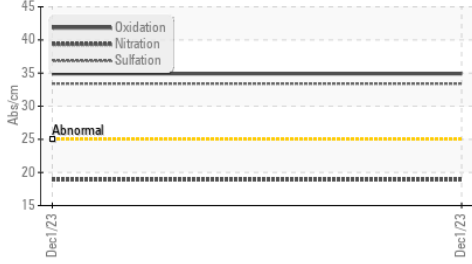
Silicon	ppm	ASTM D5185m	>25	<b>16</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	---	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	---	---
Water		WC Method	>0.2	<b>NEG</b>	---	---
Glycol		WC Method		<b>NEG</b>	---	---
Soot %	%	*ASTM D7844	>3	<b>▲ 4.5</b>	---	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>18.9</b>	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>33.4</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 oil viscosity is higher than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m		<b>5</b>	---	---
Boron	ppm	ASTM D5185m		<b>0</b>	---	---
Barium	ppm	ASTM D5185m		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>66</b>	---	---
Manganese	ppm	ASTM D5185m		<b>2</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>1071</b>	---	---
Calcium	ppm	ASTM D5185m		<b>1238</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>1150</b>	---	---
Zinc	ppm	ASTM D5185m		<b>1424</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>2933</b>	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>34.9</b>	---	---
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>2.73</b>	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		<b>8.09</b>	---	---
Visc @ 100°C	cSt	ASTM D445		<b>▲ 18.7</b>	---	---

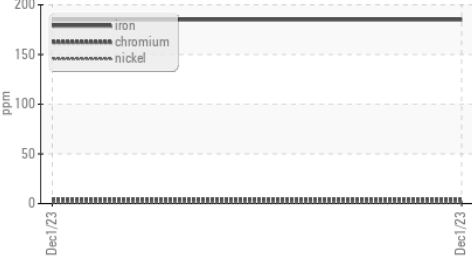
▲ FT-IR (Direct Trend)



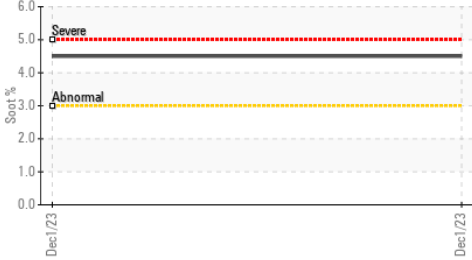
▲ Viscosity @ 100°C



▲ Ferrous Alloys



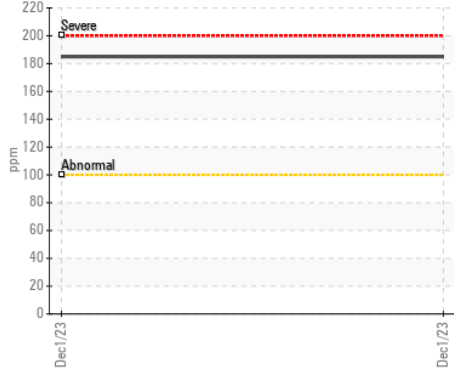
▲ Soot %



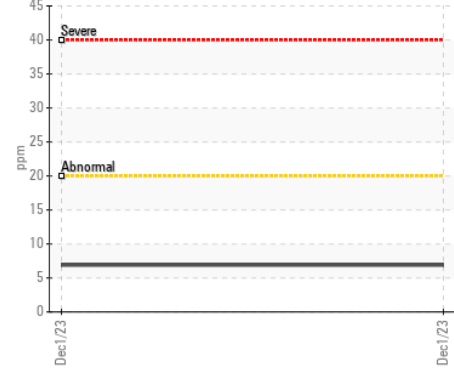
Acid Number



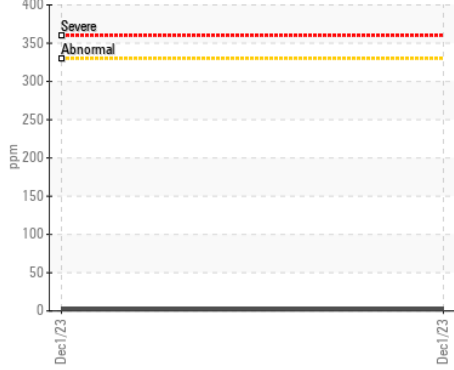
▲ Iron (ppm)



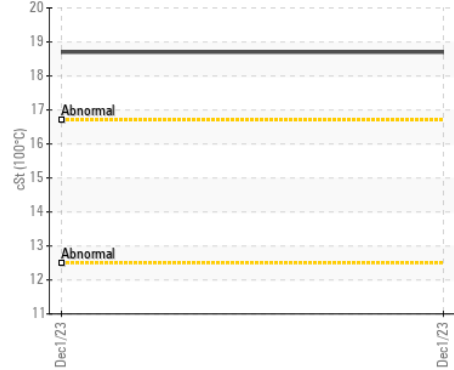
Aluminum (ppm)



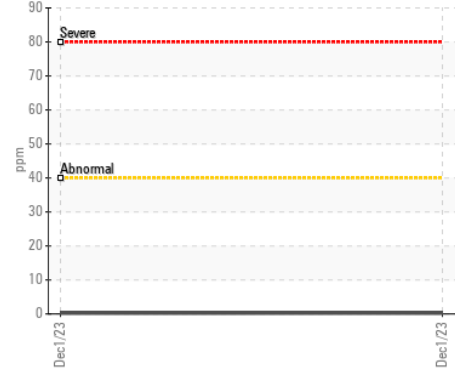
Copper (ppm)



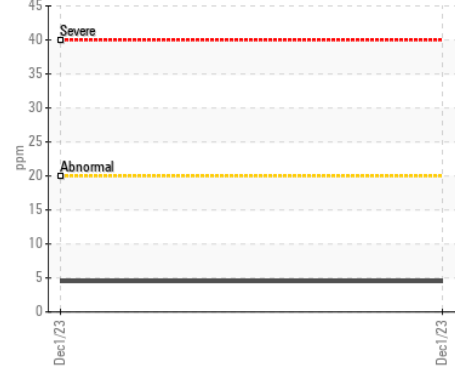
▲ Viscosity @ 100°C



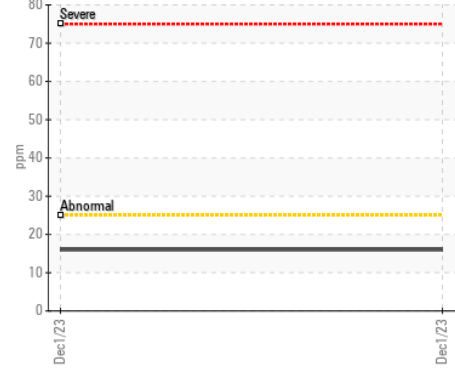
Lead (ppm)



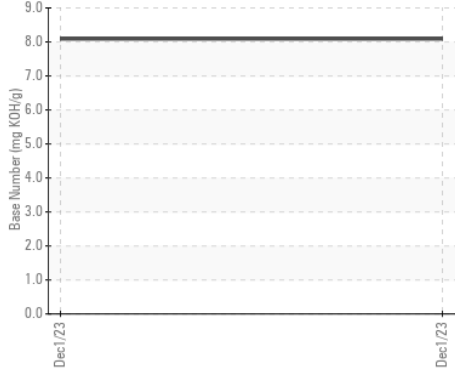
Chromium (ppm)



Silicon (ppm)



Base Number



Certificate L2367

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

Sample No. : WC0676265

Lab Number : 06042701

Unique Number : 10803309

Test Package : MOB 2

Received : 21 Dec 2023

Tested : 26 Dec 2023

Diagnosed : 26 Dec 2023 - Jonathan Hester

GAP REPAIR SHOP

994 GAP RD

KINZERS, PA

US 17535

Contact: EMANUEL ZOOK

jchapman959@gmail.com

T:

F: (717)442-9670

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)