



# WEAR CHECK

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**45683**  
Component  
**Diesel Engine**  
Fluid  
**SHELL 15W40 (18 QTS)**

### RECOMMENDATION

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0887091</b>	WC0669352	WC0635625
Sample Date		Client Info		<b>02 Jan 2024</b>	21 Sep 2022	14 Jul 2022
Machine Age	mls	Client Info		<b>0</b>	85647	80735
Oil Age	mls	Client Info		<b>0</b>	4912	0
Filter Age	mls	Client Info		<b>0</b>	4912	0
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>N/A</b>	Changed	Changed
Sample Status				<b>ATTENTION</b>	NORMAL	ABNORMAL

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>45</b>	13	17
Chromium	ppm	ASTM D5185m	>20	<b>1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	<1	1
Aluminum	ppm	ASTM D5185m	>20	<b>9</b>	2	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	<1
Copper	ppm	ASTM D5185m	>330	<b>2</b>	<1	<1
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

### CONTAMINATION

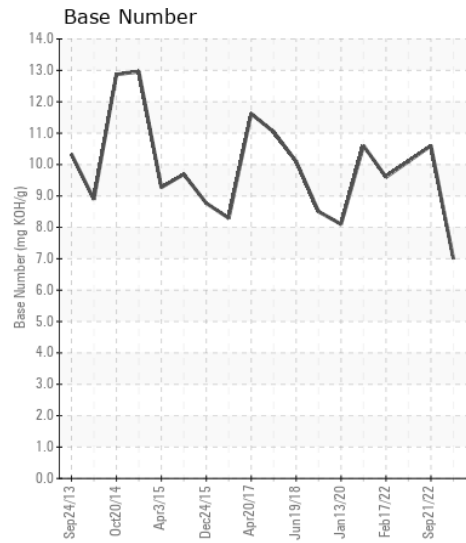
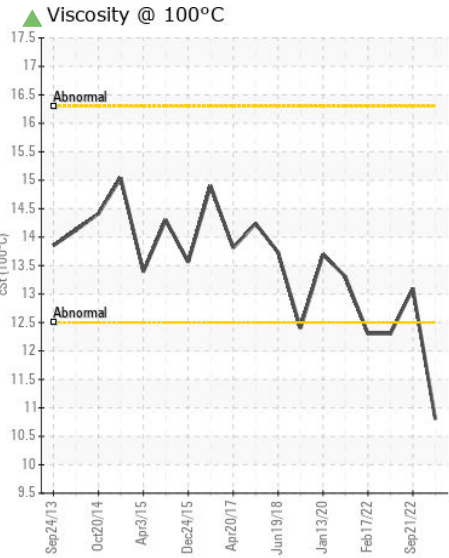
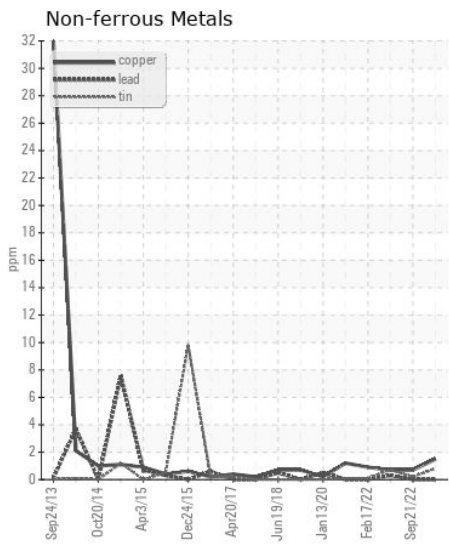
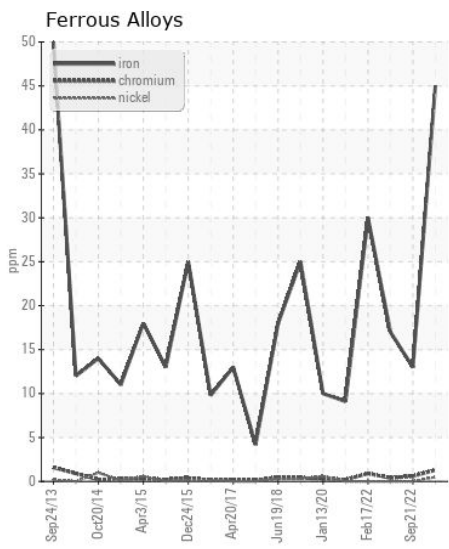
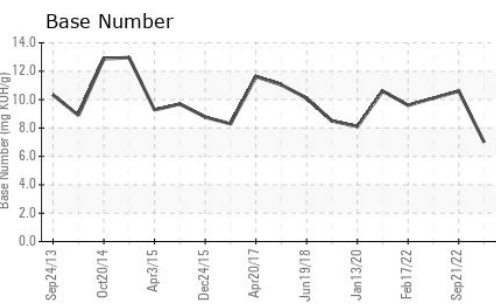
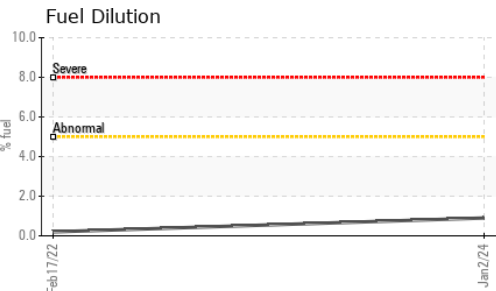
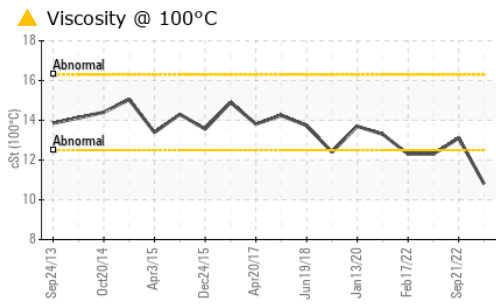
Fuel content negligible. There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>9</b>	1	3
Fuel	%	ASTM D3524	>5	<b>0.9</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>0.4</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.1</b>	7.2	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.3</b>	20.3	21.0
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 oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sodium	ppm	ASTM D5185m	>150	<b>1</b>	2	2
Boron	ppm	ASTM D5185m		<b>31</b>	3	13
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>114</b>	70	75
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	1	<1
Magnesium	ppm	ASTM D5185m		<b>728</b>	948	931
Calcium	ppm	ASTM D5185m		<b>1389</b>	1127	1200
Phosphorus	ppm	ASTM D5185m		<b>963</b>	1068	1078
Zinc	ppm	ASTM D5185m		<b>1127</b>	1256	1256
Sulfur	ppm	ASTM D5185m		<b>3161</b>	3557	3921
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.0</b>	15.9	15.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.0</b>	10.6	10.1
Visc @ 100°C	cSt	ASTM D445		<b>▲ 10.8</b>	13.1	▲ 12.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0887091 **Received** : 11 Jan 2024  
**Lab Number** : 06058617 **Diagnosed** : 15 Jan 2024  
**Unique Number** : 10829999 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )  
 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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