



# WEAR CHECK

## OIL ANALYSIS REPORT

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

Machine Id  
**1817**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 5W30 (--- QTS)**

### RECOMMENDATION

Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0876667</b>	WC0686077	WC0639592
Sample Date		Client Info		<b>06 Jan 2024</b>	15 Jul 2022	18 Dec 2021
Machine Age	mls	Client Info		<b>477732</b>	318054	242041
Oil Age	mls	Client Info		<b>50000</b>	100000	100000
Filter Age	mls	Client Info		<b>50000</b>	50000	50000
Oil Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Changed</b>	Not Changd	Changed
Sample Status				<b>SEVERE</b>	NORMAL	ABNORMAL

### WEAR

Piston, ring and cylinder wear is indicated. Bearing and/or bushing wear is indicated.

Iron	ppm	ASTM D5185m	>100	<b>445</b>	97	112
Chromium	ppm	ASTM D5185m	>20	<b>18</b>	4	7
Nickel	ppm	ASTM D5185m	>4	<b>4</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>23</b>	13	14
Lead	ppm	ASTM D5185m	>40	<b>602</b>	8	12
Copper	ppm	ASTM D5185m	>330	<b>74</b>	2	5
Tin	ppm	ASTM D5185m	>15	<b>18</b>	2	2
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

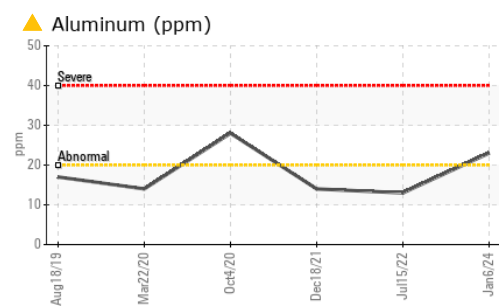
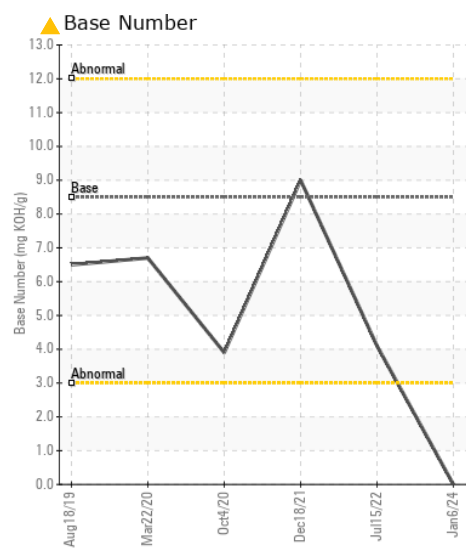
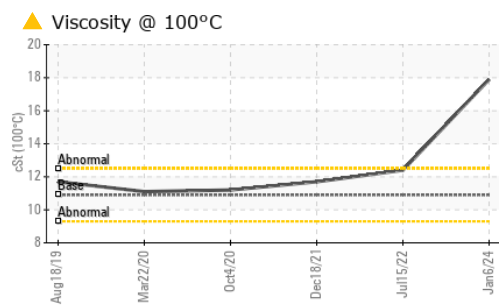
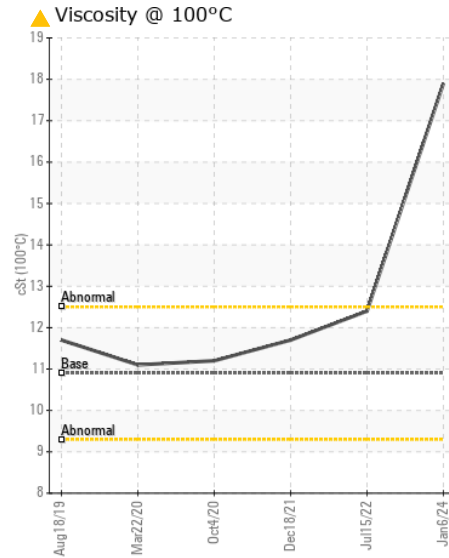
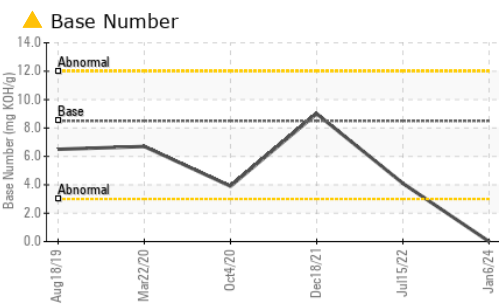
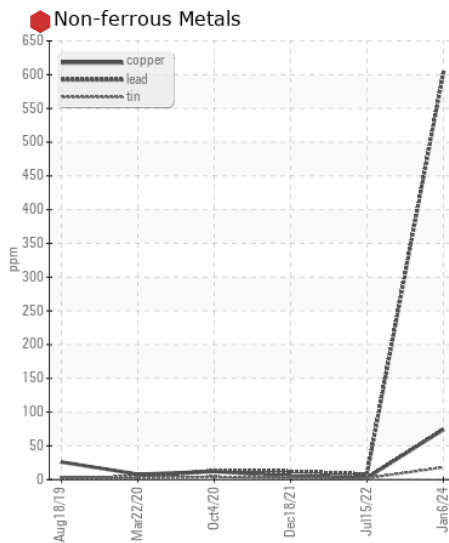
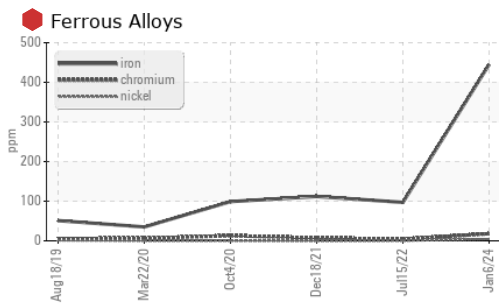
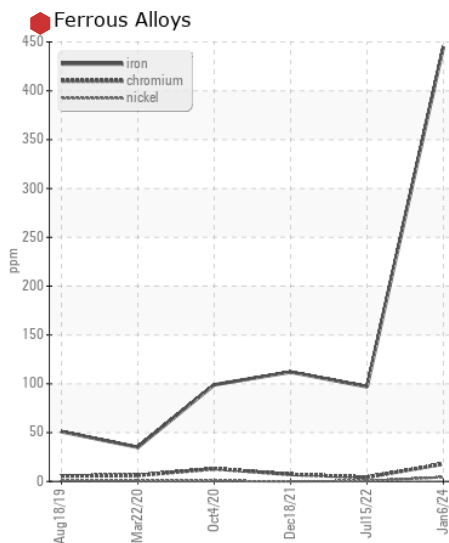
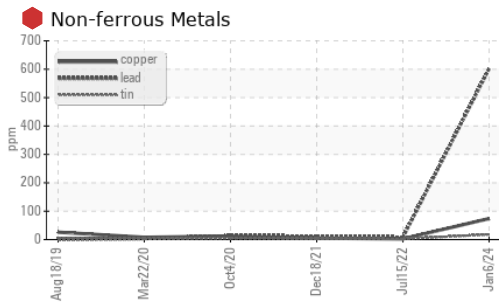
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>17</b>	7	8
Potassium	ppm	ASTM D5185m	>20	<b>21</b>	15	32
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>1.5</b>	0.7	0.4
Nitration	Abs/cm	*ASTM D7624	>20	<b>28.0</b>	14.9	7.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>51.8</b>	33.0	19.5
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 higher than normal. The BN level is low.

Sodium	ppm	ASTM D5185m		<b>6</b>	5	5
Boron	ppm	ASTM D5185m	250	<b>18</b>	29	10
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>57</b>	53	61
Manganese	ppm	ASTM D5185m		<b>5</b>	1	2
Magnesium	ppm	ASTM D5185m	450	<b>1031</b>	996	1149
Calcium	ppm	ASTM D5185m	3000	<b>1398</b>	1169	924
Phosphorus	ppm	ASTM D5185m	1150	<b>1251</b>	1015	1052
Zinc	ppm	ASTM D5185m	1350	<b>1560</b>	1332	1240
Sulfur	ppm	ASTM D5185m	4250	<b>3062</b>	3652	2455
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>85.1</b>	36.5	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>0</b>	4.1	9
Visc @ 100°C	cSt	ASTM D445	10.9	<b>17.9</b>	12.4	11.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0876667 **Received** : 18 Jan 2024  
**Lab Number** : 06064914 **Diagnosed** : 24 Jan 2024  
**Unique Number** : 10836296 **Diagnostician** : Doug Bogart  
**Test Package** : FLEET

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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