



# OIL ANALYSIS REPORT

WEAR	ATTENTION
CONTAMINATION	ABNORMAL
FLUID CONDITION	ATTENTION

Machine Id  
**10485**  
Component  
**Diesel Engine**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (--- QTS)**

## RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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>WC0883314</b>	WC0773132	WC0740953
Sample Date		Client Info		<b>23 Jan 2024</b>	28 Mar 2023	18 Oct 2022
Machine Age	mls	Client Info		<b>559486</b>	489435	454500
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>36</b>	22	19
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>▲ 22</b>	14	9
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	0
Copper	ppm	ASTM D5185m	>330	<b>98</b>	4	5
Tin	ppm	ASTM D5185m	>15	<b>5</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

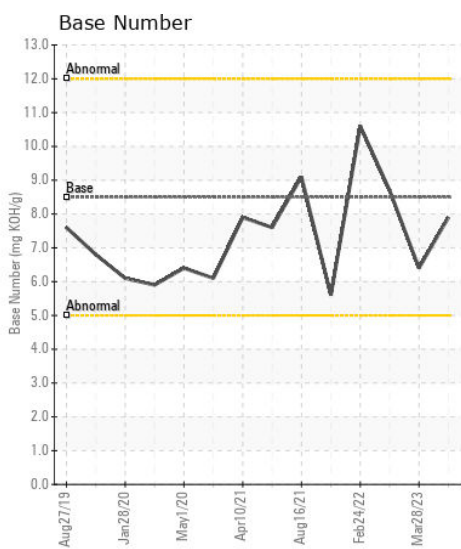
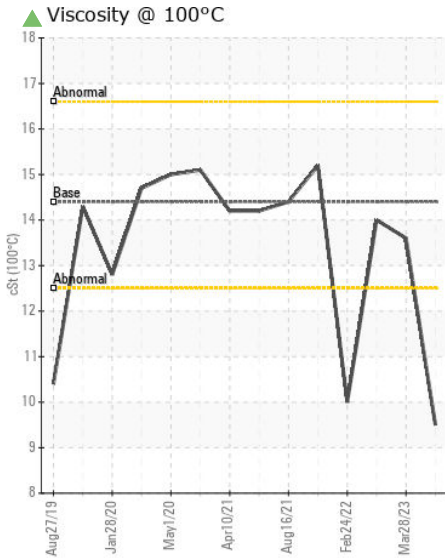
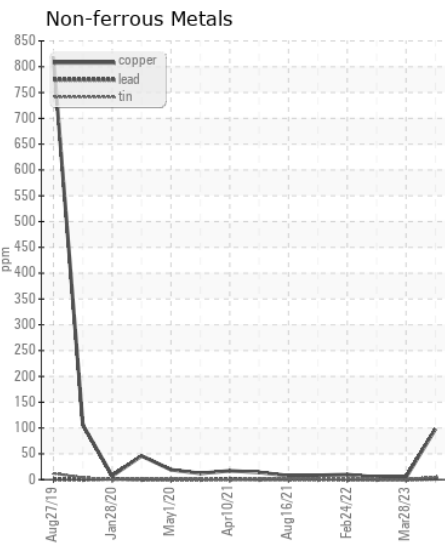
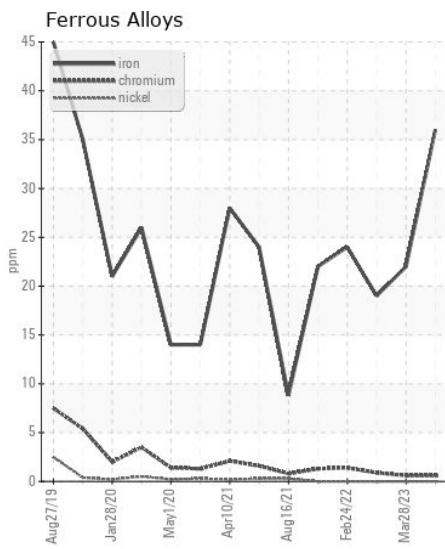
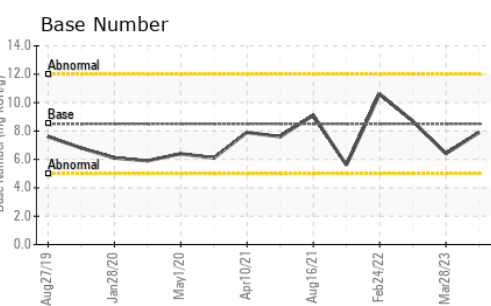
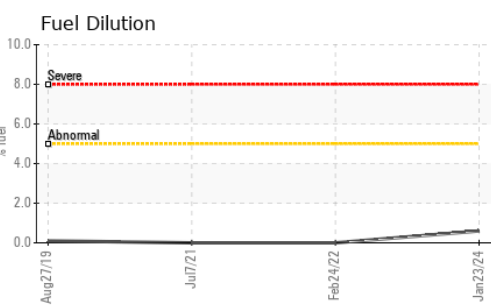
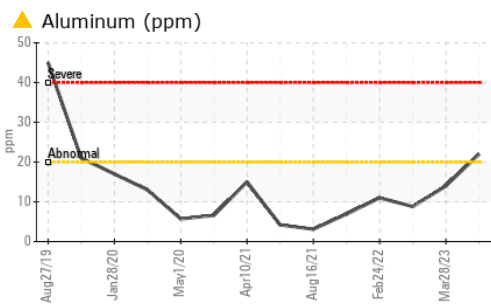
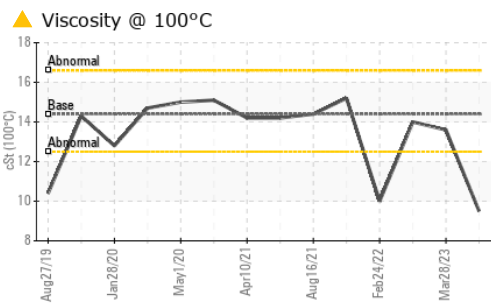
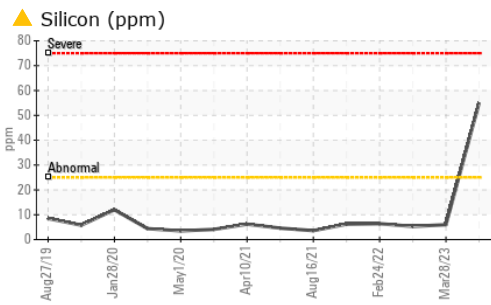
Fuel content negligible. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Silicon	ppm	ASTM D5185m	>25	<b>▲ 55</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>53</b>	3	4
Fuel	%	ASTM D3524	>5	<b>0.6</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>0.3</b>	0.6	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.0</b>	10.2	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>24.9</b>	23.4	24
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	>158	<b>3</b>	2	<1
Boron	ppm	ASTM D5185m	250	<b>210</b>	1	4
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>119</b>	63	61
Manganese	ppm	ASTM D5185m		<b>4</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>671</b>	980	908
Calcium	ppm	ASTM D5185m	3000	<b>1505</b>	1207	1187
Phosphorus	ppm	ASTM D5185m	1150	<b>679</b>	1017	1049
Zinc	ppm	ASTM D5185m	1350	<b>846</b>	1324	1274
Sulfur	ppm	ASTM D5185m	4250	<b>2349</b>	3182	3620
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>22.9</b>	19.4	18.8
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.9</b>	6.4	8.7
Visc @ 100°C	cSt	ASTM D445	14.4	<b>▲ 9.5</b>	13.6	14.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0883314 **Received** : 30 Jan 2024  
**Lab Number** : 06074567 **Diagnosed** : 02 Feb 2024  
**Unique Number** : 10856658 **Diagnostician** : Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: FuelDilution, PercentFuel )

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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)