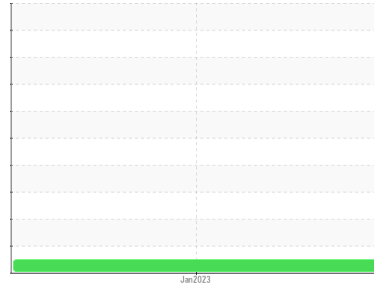




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
NOT GIVEN WC0584593

Component
Diesel Engine

Fluid
SHELL ROTELLA T 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0584593	---	---
Sample Date	Client Info			27 Jan 2023	---	---
Machine Age	mls	Client Info		185899	---	---
Oil Age	mls	Client Info		0	---	---
Oil Changed	Client Info			Not Chngd	---	---
Sample Status				NORMAL	---	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	---	---
Water	WC Method	>0.2		NEG	---	---
Glycol	WC Method			NEG	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	59	---	---
Chromium	ppm	ASTM D5185m	>20	2	---	---
Nickel	ppm	ASTM D5185m	>4	<1	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>3	<1	---	---
Aluminum	ppm	ASTM D5185m	>20	10	---	---
Lead	ppm	ASTM D5185m	>40	18	---	---
Copper	ppm	ASTM D5185m	>330	9	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
Cadmium	ppm	ASTM D5185m		0	---	---

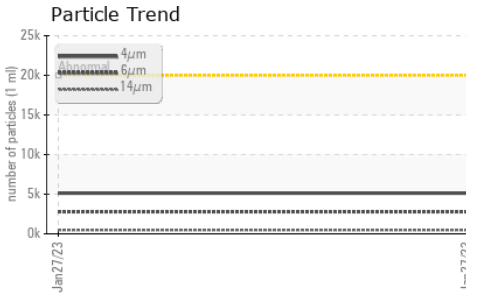
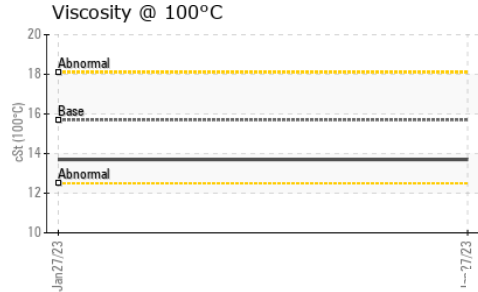
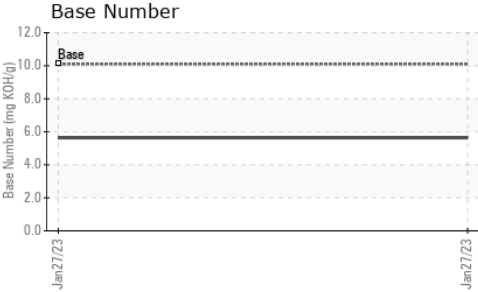
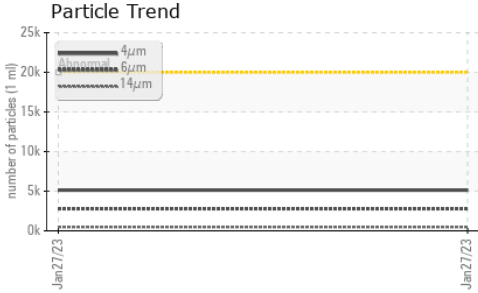
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	316	38	---	---
Barium	ppm	ASTM D5185m	0.0	0	---	---
Molybdenum	ppm	ASTM D5185m	1.2	44	---	---
Manganese	ppm	ASTM D5185m		2	---	---
Magnesium	ppm	ASTM D5185m	24	268	---	---
Calcium	ppm	ASTM D5185m	2292	2085	---	---
Phosphorus	ppm	ASTM D5185m	1064	868	---	---
Zinc	ppm	ASTM D5185m	1160	1129	---	---
Sulfur	ppm	ASTM D5185m	4996	3476	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	14	---	---
Sodium	ppm	ASTM D5185m		4	---	---
Potassium	ppm	ASTM D5185m	>20	21	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.7	---	---
Nitration	Abs/cm	*ASTM D7624	>20	12.0	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	29.6	---	---



OIL ANALYSIS REPORT



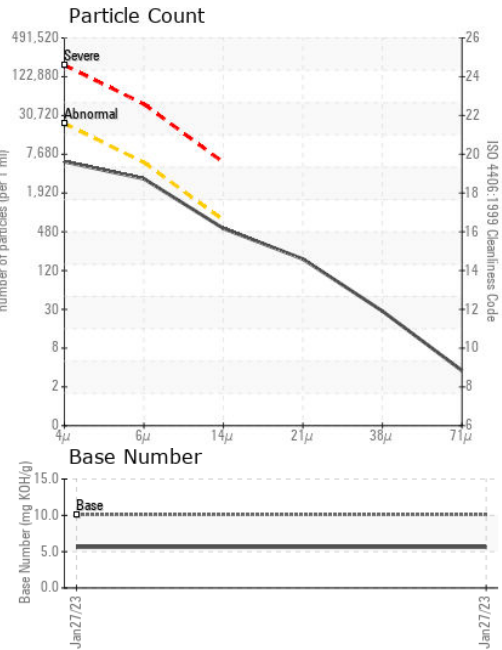
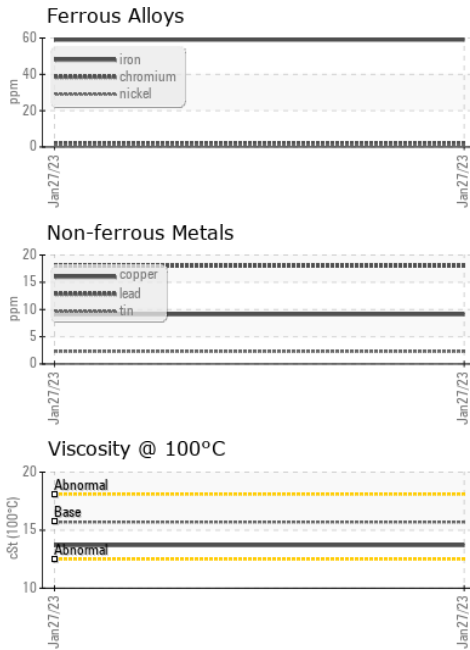
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	5124	---	---
Particles >6µm	ASTM D7647	>5000	2791	---	---
Particles >14µm	ASTM D7647	>640	475	---	---
Particles >21µm	ASTM D7647	>160	160	---	---
Particles >38µm	ASTM D7647	>40	25	---	---
Particles >71µm	ASTM D7647	>10	3	---	---
Oil Cleanliness	ISO 4406 (c)	>21/19/16	20/19/16	---	---

FLUID DEGRADATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414	>25	26.8	---	---
Base Number (BN)	mg KOH/g ASTM D2896	10.1	5.64	---	---

VISUAL	method	limit/base	current	history1	history2
White Metal	scalar *Visual	NONE	NONE	---	---
Yellow Metal	scalar *Visual	NONE	NONE	---	---
Precipitate	scalar *Visual	NONE	NONE	---	---
Silt	scalar *Visual	NONE	NONE	---	---
Debris	scalar *Visual	NONE	NONE	---	---
Sand/Dirt	scalar *Visual	NONE	NONE	---	---
Appearance	scalar *Visual	NORML	NORML	---	---
Odor	scalar *Visual	NORML	NORML	---	---
Emulsified Water	scalar *Visual	>0.2	NEG	---	---
Free Water	scalar *Visual		NEG	---	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D445	15.7	13.7	---	---

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0584593 **Received** : 01 Mar 2023
Lab Number : **05780262** **Tested** : 02 Mar 2023
Unique Number : 10359932 **Diagnosed** : 03 Mar 2023 - Jonathan Hester
Test Package : MOB 2 (Additional Tests: PrtCount)

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 US 72416
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 aurelio@atfilters.com
 T: (202)674-4440
 F:

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)