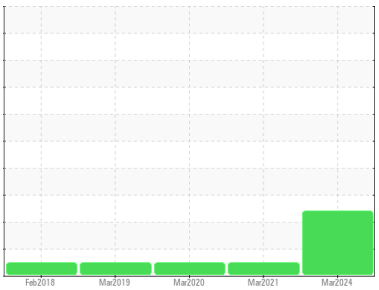
FUEL REPORT

Sample Rating Trend



ISO

Machine Id
TOSHIBA 2
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (LOW-SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation
We advise that you filter this fluid before use. All laboratory tests indicate that this sample meets specifications for No.2 low-sulfur diesel fuel.

Corrosion
All metal levels are normal indicating no corrosion in the system.

Contaminants
There is a high amount of particulates present in the fuel. There is no bacteria or fungus (yeast and/or mold) indicated in the sample. The water content is negligible.

Fuel Condition
Sulfur value derived by ASTM D5453 method for ULSD validation.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC06133764**	WC05213703	WC04933045
Sample Date		Client Info		**28 Mar 2024**	24 Mar 2021	12 Mar 2020
Machine Age	hrs	Client Info		**0**	0	0
Sample Status				**ABNORMAL**	NORMAL	NORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298	0.839	**---**	0.842	0.843
Fuel Color	text	*Visual Screen	Yllow	**Red**	Red	Red
ASTM Color	scalar	*ASTM D1500		**L6.0**	L5.5	L5.5
Visc @ 40°C	cSt	ASTM D445	3.0	**2.4**	2.53	2.42
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**60.2**	62	63

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	250	**0**	112	160
Sulfur (UVF)	ppm	ASTM D5453		**72**	122	140

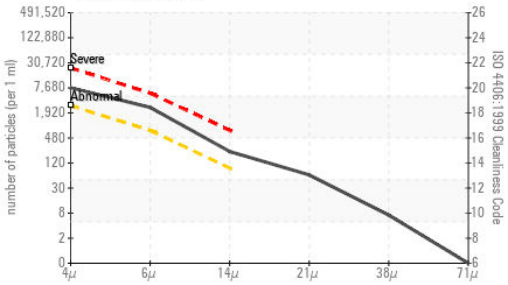
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86	165	**171**	162	158
5% Distillation Point	°C	ASTM D86		**193**	190	188
10% Distill Point	°C	ASTM D86	201	**203**	200	201
15% Distillation Point	°C	ASTM D86		**211**	210	211
20% Distill Point	°C	ASTM D86	216	**219**	217	219
30% Distill Point	°C	ASTM D86	230	**234**	231	233
40% Distill Point	°C	ASTM D86	243	**247**	246	247
50% Distill Point	°C	ASTM D86	255	**261**	259	260
60% Distill Point	°C	ASTM D86	267	**275**	273	274
70% Distill Point	°C	ASTM D86	280	**288**	288	289
80% Distill Point	°C	ASTM D86	295	**304**	305	304
85% Distillation Point	°C	ASTM D86		**314**	314	313
90% Distill Point	°C	ASTM D86	310	**325**	325	324
95% Distillation Point	°C	ASTM D86		**342**	341	339
Final Boiling Point	°C	ASTM D86	341	**356**	349	348
Distillation Residue	%	ASTM D86	3.0	**---**	1.4	1.4
Distillation Loss	%	ASTM D86	3.0	**---**	0.5	0.7

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777	37.7	**36**	36.6	36.4
Cetane Index		ASTM D4737	<40.0	**48**	47.4	47.3

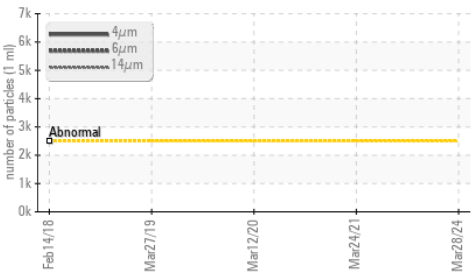
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**<1**	<1	<1
Sodium	ppm	ASTM D5185m	<0.1	**0**	0	0
Potassium	ppm	ASTM D5185m	<0.1	**<1**	1	0
Water	%	ASTM D6304	<0.05	**0.004**	0.004	0.003
ppm Water	ppm	ASTM D6304	<500	**45**	48.0	35.7
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	0.0
% Biodiesel	%	*In-House	<20.0	**0.0**	1.3	0.8

FUEL REPORT

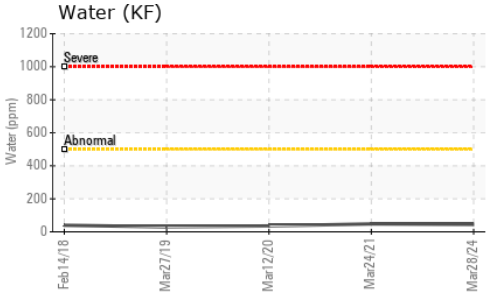
Particle Count



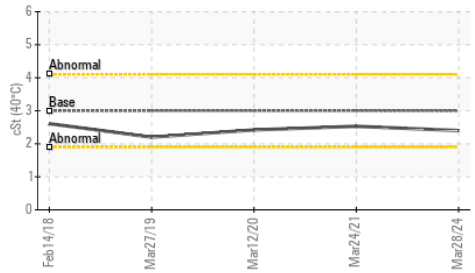
Particle Trend



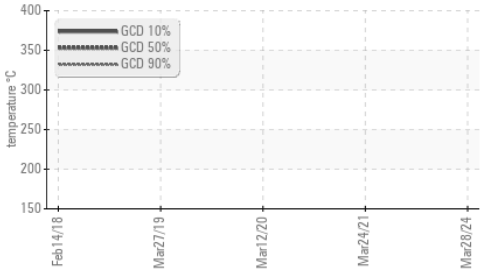
Water (KF)



Viscosity @ 40°C



Gas Chromatography (GCD)



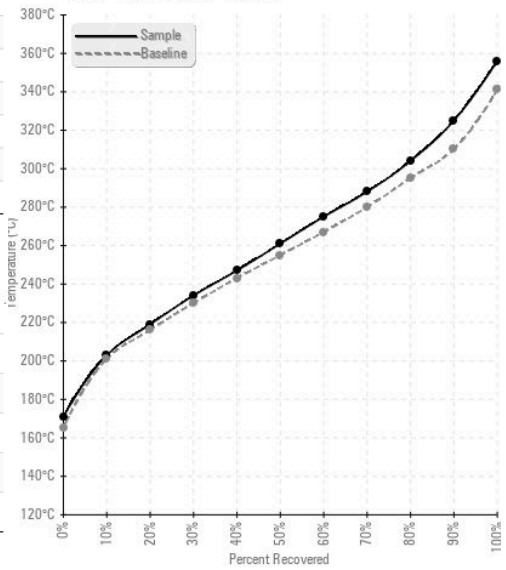
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ **6696**	---	---
Particles >6µm	ASTM D7647	>640	▲ **2275**	---	---
Particles >14µm	ASTM D7647	>80	▲ **200**	---	---
Particles >21µm	ASTM D7647	>20	▲ **55**	---	---
Particles >38µm	ASTM D7647	>4	▲ **6**	---	---
Particles >71µm	ASTM D7647	>3	**0**	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ **20/18/15**	---	---

HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m	<0.1	**0**	0	0
Nickel	ppm	ASTM D5185m	<0.1	**0**	<1	0
Lead	ppm	ASTM D5185m	<0.1	**0**	0	0
Vanadium	ppm	ASTM D5185m	<0.1	**0**	0	0
Iron	ppm	ASTM D5185m	<0.1	**0**	0	0
Calcium	ppm	ASTM D5185m	<0.1	**4**	0	0
Magnesium	ppm	ASTM D5185m	<0.1	**<1**	<1	0
Phosphorus	ppm	ASTM D5185m	<0.1	**0**	0	0
Zinc	ppm	ASTM D5185m	<0.1	**0**	<1	0

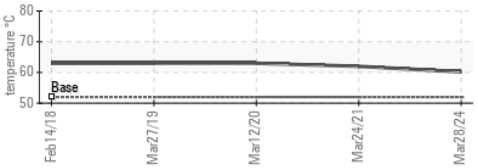
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

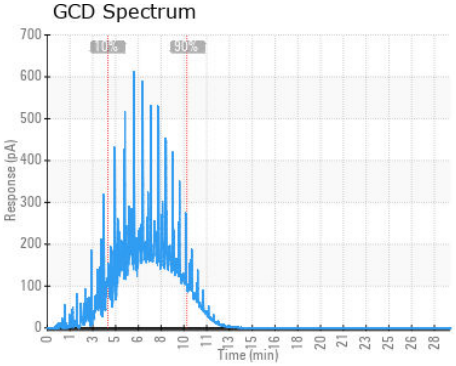
Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



GCD Spectrum



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC06133764 **Received** : 29 Mar 2024
Lab Number : 06133764 **Tested** : 11 Apr 2024
Unique Number : 10953229 **Diagnosed** : 11 Apr 2024 - Doug Bogart
Test Package : DF-2 (Additional Tests: Bacteria, Fuel, Screen)

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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