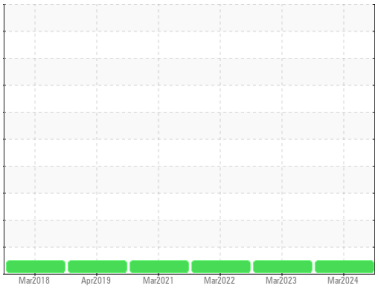
FUEL REPORT

Sample Rating Trend



NORMAL

Machine Id
HRMC FP
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (200 GAL)

DIAGNOSIS

Recommendation
All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel.

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

Contaminants
There is no bacteria or fungus (yeast and/or mold) indicated in the sample. The water content is negligible. There is no indication of any contamination in the fuel.

Fuel Condition
Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level is acceptable for ULSD specification.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WCDF4532**	WCDF4370	WCDF04378
Sample Date		Client Info		**12 Mar 2024**	29 Mar 2023	07 Mar 2022
Machine Age	mls	Client Info		**0**	0	0
Sample Status				**NORMAL**	NORMAL	NORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298	0.839	**---**	0.831	0.842
Fuel Color	text	*Visual Screen	Yllow	**Red**	Red	Red
ASTM Color	scalar	*ASTM D1500		**L4.5**	L4.5	L5.0
Visc @ 40°C	cSt	ASTM D445	3.0	**2.46**	2.05	2.72
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**67.1**	56	62
Cloud Point	°C	ASTM D5771		**-10**	-9	-11

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	10	**5**	0	24
Sulfur (UVF)	ppm	ASTM D5453		**9**	10	11

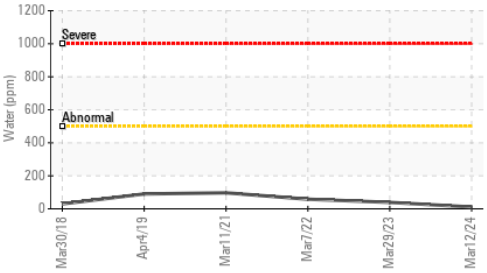
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86	165	**177**	157	155
5% Distillation Point	°C	ASTM D86		**195**	181	186
10% Distill Point	°C	ASTM D86	201	**203**	190	199
15% Distillation Point	°C	ASTM D86		**211**	200	209
20% Distill Point	°C	ASTM D86	216	**219**	207	219
30% Distill Point	°C	ASTM D86	230	**235**	223	235
40% Distill Point	°C	ASTM D86	243	**249**	241	250
50% Distill Point	°C	ASTM D86	255	**264**	257	264
60% Distill Point	°C	ASTM D86	267	**279**	273	278
70% Distill Point	°C	ASTM D86	280	**293**	289	293
80% Distill Point	°C	ASTM D86	295	**310**	307	310
85% Distillation Point	°C	ASTM D86		**321**	317	319
90% Distill Point	°C	ASTM D86	310	**331**	329	330
95% Distillation Point	°C	ASTM D86		**347**	346	346
Final Boiling Point	°C	ASTM D86	341	**360**	354	355
Distillation Residue	%	ASTM D86	3.0	**---**	1.4	1.4
Distillation Loss	%	ASTM D86	3.0	**---**	0.6	0.5

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777	37.7	**37.3**	38.8	36.6
Cetane Index		ASTM D4737	<40.0	**50**	50.8	48.3

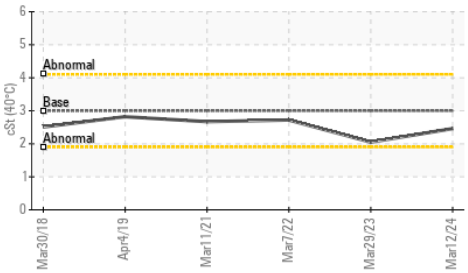
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	0	0
Sodium	ppm	ASTM D5185m	<0.1	**<1**	0	0
Potassium	ppm	ASTM D5185m	<0.1	**<1**	<1	1
Water	%	ASTM D6304	<0.05	**0.001**	0.003	0.005
ppm Water	ppm	ASTM D6304	<500	**11**	39.0	58.2
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	0.0
% Biodiesel	%	*In-House	<20.0	**0.0**	0.0	0.0

FUEL REPORT

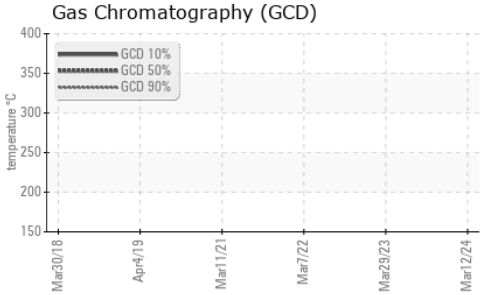
Water (KF)



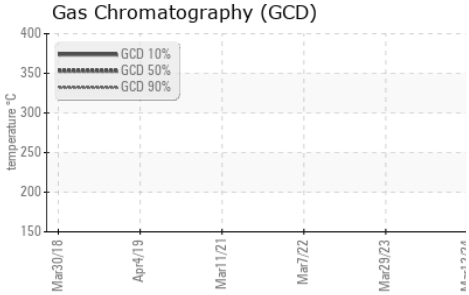
Viscosity @ 40°C



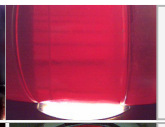
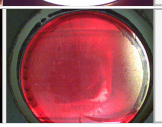
Gas Chromatography (GCD)



Gas Chromatography (GCD)

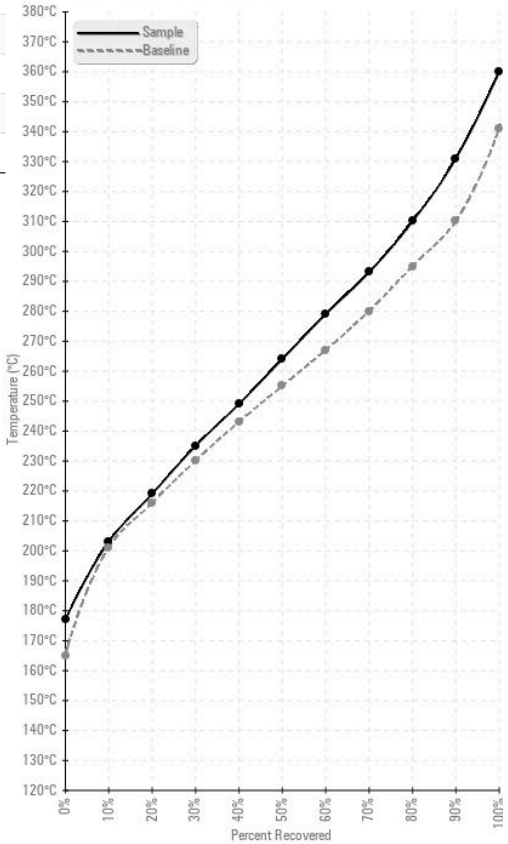


HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m	<0.1	**0**	0	<1
Nickel	ppm	ASTM D5185m	<0.1	**0**	0	0
Lead	ppm	ASTM D5185m	<0.1	**0**	0	0
Vanadium	ppm	ASTM D5185m	<0.1	**0**	0	0
Iron	ppm	ASTM D5185m	<0.1	**0**	0	0
Calcium	ppm	ASTM D5185m	<0.1	**<1**	0	0
Magnesium	ppm	ASTM D5185m	<0.1	**0**	0	0
Phosphorus	ppm	ASTM D5185m	<0.1	**0**	5	1
Zinc	ppm	ASTM D5185m	<0.1	**0**	0	0

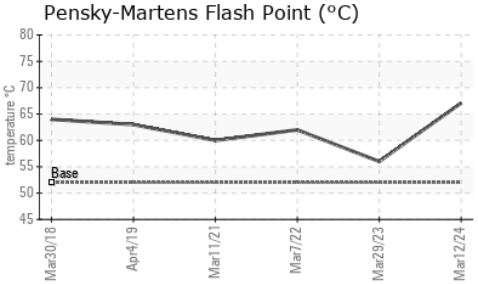
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

GRAPHS

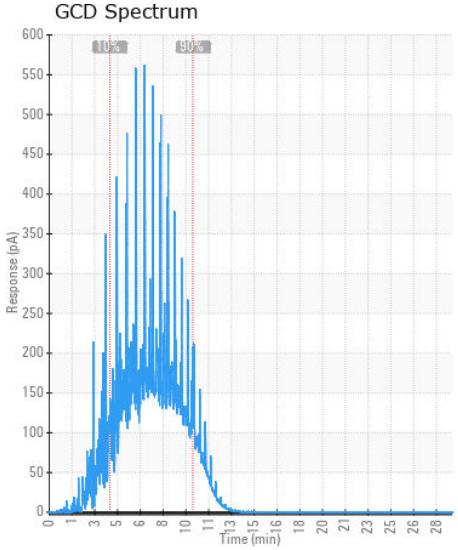
Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



GCD Spectrum



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WCDF4532 **Received** : 18 Mar 2024
Lab Number : 06121308 **Tested** : 01 Apr 2024
Unique Number : 10930141 **Diagnosed** : 01 Apr 2024 - Doug Bogart
Test Package : DF-2 (Additional Tests: CldPt, 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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