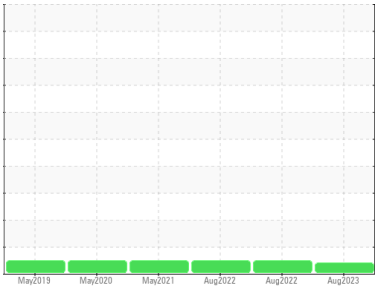
FUEL REPORT

Sample Rating Trend



VIS DEBRIS

Machine Id
RIBBON
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- QTS)

DIAGNOSIS

Recommendation

We advise that you filter this fluid before use. All other laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel.We were unable to perform a particle count due to a high concentration of particles present in this sample.

Corrosion

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

Contaminants

Moderate concentration of visible dirt/debris 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. Sulfur level is acceptable for ULSD specification.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC05925215**	WC05611798	WC05609365
Sample Date		Client Info		**15 Aug 2023**	08 Aug 2022	04 Aug 2022
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	**0.841**	0.842	0.842
Fuel Color	text	*Visual Screen	Yllow	**Red**	Red	Red
ASTM Color	scalar	*ASTM D1500		**L4.0**	L4.0	L4.5
Visc @ 40°C	cSt	ASTM D445	3.0	**2.46**	2.53	2.53
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**59**	63	62

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	10	**0**	0	0
Sulfur (UVF)	ppm	ASTM D5453		**12**	10	10

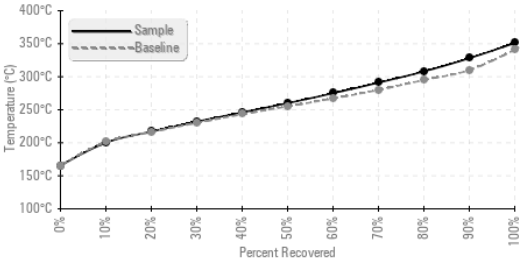
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86	165	**165**	163	164
5% Distillation Point	°C	ASTM D86		**189**	192	194
10% Distill Point	°C	ASTM D86	201	**200**	203	204
15% Distillation Point	°C	ASTM D86		**208**	212	212
20% Distill Point	°C	ASTM D86	216	**217**	220	220
30% Distill Point	°C	ASTM D86	230	**232**	234	235
40% Distill Point	°C	ASTM D86	243	**246**	247	248
50% Distill Point	°C	ASTM D86	255	**260**	261	261
60% Distill Point	°C	ASTM D86	267	**275**	275	275
70% Distill Point	°C	ASTM D86	280	**291**	290	290
80% Distill Point	°C	ASTM D86	295	**308**	306	306
85% Distillation Point	°C	ASTM D86		**317**	316	316
90% Distill Point	°C	ASTM D86	310	**328**	327	326
95% Distillation Point	°C	ASTM D86		**344**	343	342
Final Boiling Point	°C	ASTM D86	341	**351**	349	349
Distillation Residue	%	ASTM D86	3.0	**1.4**	1.4	1.4
Distillation Loss	%	ASTM D86	3.0	**0.7**	0.7	0.6

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777	37.7	**36.8**	36.6	36.6
Cetane Index		ASTM D4737	<40.0	**47.9**	48.1	48.2

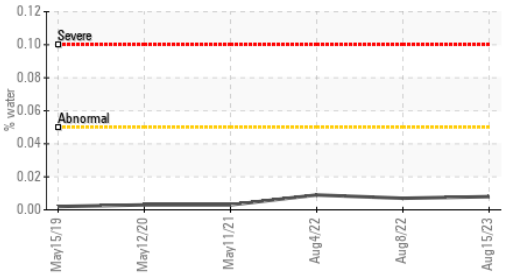
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**<1**	0	0
Sodium	ppm	ASTM D5185m	<0.1	**0**	<1	0
Potassium	ppm	ASTM D5185m	<0.1	**0**	0	0
Water	%	ASTM D6304	<0.05	**0.008**	0.007	0.009
ppm Water	ppm	ASTM D6304	<500	**88.4**	72.7	90.8
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	0.0
% Biodiesel	%	*In-House	<20.0	**2.0**	1.7	2.3

FUEL REPORT

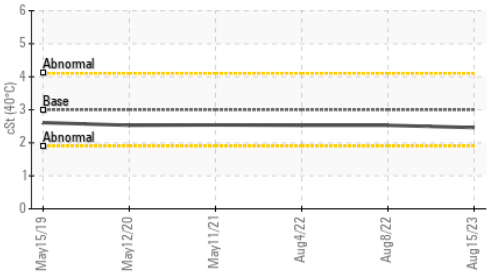
Fuel Distillation Curve



Water

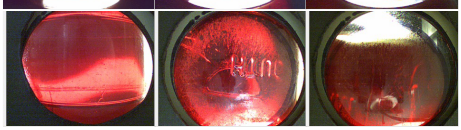


Viscosity @ 40°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	---	10642	---
Particles >6µm	ASTM D7647	>640	---	2719	---
Particles >14µm	ASTM D7647	>80	---	257	---
Particles >21µm	ASTM D7647	>20	---	48	---
Particles >38µm	ASTM D7647	>4	---	3	---
Particles >71µm	ASTM D7647	>3	---	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	---	21/19/15	---

HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m	<0.1	**<1**	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	**<1**	0	<1
Calcium	ppm	ASTM D5185m	<0.1	**0**	0	<1
Magnesium	ppm	ASTM D5185m	<0.1	**<1**	0	0
Phosphorus	ppm	ASTM D5185m	<0.1	**<1**	0	2
Zinc	ppm	ASTM D5185m	<0.1	**0**	0	2

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC05925215 **Received** : 15 Aug 2023
Lab Number : 05925215 **Diagnosed** : 23 Aug 2023
Unique Number : 10605162 **Diagnostician** : Doug Bogart
Test Package : DF-2 (Additional Tests: 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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