



# FUEL REPORT

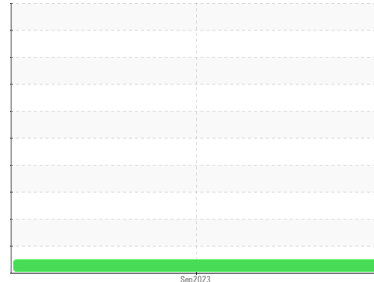
Sample Rating Trend

**NORMAL**



Machine Id  
**CORESITE-RESTON-UST4-6IN**

Component  
**Bottom Diesel Fuel**  
Fluid  
**DIESEL FUEL No. 2 (--- GAL)**



## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. 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 a moderate amount of particulates present in the fuel. The water content is negligible. There is no bacteria or fungus (yeast and/or mold) indicated in the sample.

### 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			<b>WC0787046</b>	---	---
Sample Date	Client Info			<b>14 Sep 2023</b>	---	---
Machine Age	hrs	Client Info		<b>0</b>	---	---
Sample Status				<b>NORMAL</b>	---	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298		<b>0.840</b>	---	---
Fuel Color	text	*Visual Screen		<b>Red</b>	---	---
ASTM Color	scalar	*ASTM D1500		<b>L4.5</b>	---	---
Visc @ 40°C	cSt	ASTM D445	4.1	<b>2.14</b>	---	---
Pensky-Martens Flash Point	°C	*PMCC Calculated		<b>57</b>	---	---

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m		<b>7</b>	---	---
Sulfur (UVF)	ppm	ASTM D5453		<b>8</b>	---	---

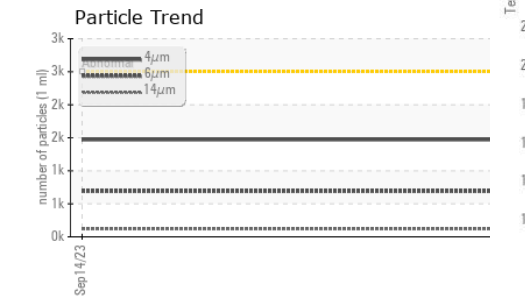
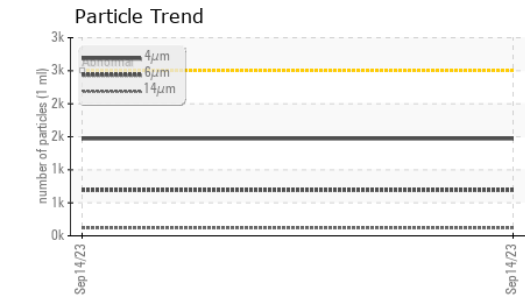
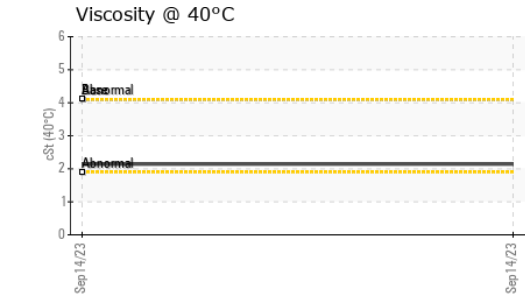
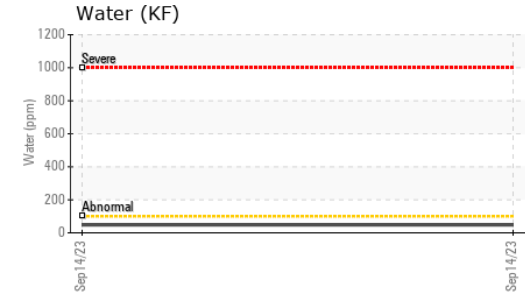
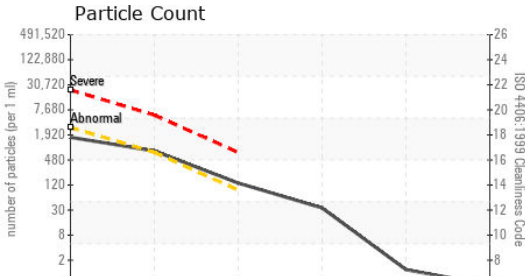
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		<b>159</b>	---	---
5% Distillation Point	°C	ASTM D86		<b>185</b>	---	---
10% Distill Point	°C	ASTM D86		<b>196</b>	---	---
15% Distillation Point	°C	ASTM D86		<b>206</b>	---	---
20% Distill Point	°C	ASTM D86		<b>213</b>	---	---
30% Distill Point	°C	ASTM D86		<b>228</b>	---	---
40% Distill Point	°C	ASTM D86		<b>243</b>	---	---
50% Distill Point	°C	ASTM D86		<b>257</b>	---	---
60% Distill Point	°C	ASTM D86		<b>272</b>	---	---
70% Distill Point	°C	ASTM D86		<b>288</b>	---	---
80% Distill Point	°C	ASTM D86		<b>305</b>	---	---
85% Distillation Point	°C	ASTM D86		<b>314</b>	---	---
90% Distill Point	°C	ASTM D86		<b>326</b>	---	---
95% Distillation Point	°C	ASTM D86		<b>342</b>	---	---
Final Boiling Point	°C	ASTM D86		<b>352</b>	---	---
Distillation Residue	%	ASTM D86		<b>1.4</b>	---	---
Distillation Loss	%	ASTM D86		<b>0.6</b>	---	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777		<b>37.0</b>	---	---
Cetane Index		ASTM D4737	<40.0	<b>47.6</b>	---	---

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



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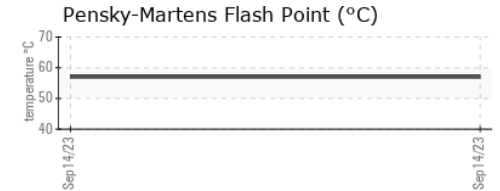
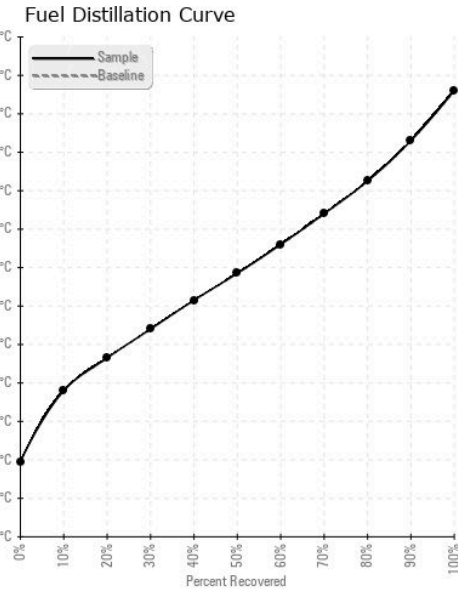


FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	<b>1471</b>	---	---
Particles >6µm	ASTM D7647	>640	<b>692</b>	---	---
Particles >14µm	ASTM D7647	>80	<b>118</b>	---	---
Particles >21µm	ASTM D7647	>20	<b>30</b>	---	---
Particles >38µm	ASTM D7647	>4	<b>1</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	<b>18/17/14</b>	---	---

HEAVY METALS	method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m <0.1	<b>0</b>	---	---
Nickel	ppm	ASTM D5185m <0.1	<b>0</b>	---	---
Lead	ppm	ASTM D5185m <0.1	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m <0.1	<b>0</b>	---	---
Iron	ppm	ASTM D5185m <0.1	<b>0</b>	---	---
Calcium	ppm	ASTM D5185m <0.1	<b>&lt;1</b>	---	---
Magnesium	ppm	ASTM D5185m <0.1	<b>1</b>	---	---
Phosphorus	ppm	ASTM D5185m <0.1	<b>1</b>	---	---
Zinc	ppm	ASTM D5185m <0.1	<b>0</b>	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0787046 **Received** : 22 Sep 2023  
**Lab Number** : **05958878** **Diagnosed** : 02 Oct 2023  
**Unique Number** : 10660091 **Diagnostician** : Doug Bogart  
**Test Package** : DF-2 ( Additional Tests: Screen )

**VITAL FUEL SYSTEMS**  
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 US 27539  
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 T: (919)629-8180  
 F: (919)303-7399

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)