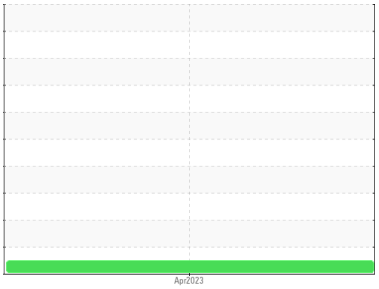
FUEL REPORT

Sample Rating Trend



NORMAL

Machine Id
834 - WASHINGTOND OPTIMUM 1
Component
Diesel Fuel
Fluid
DIESEL FUEL No. 1 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. 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 moderate amount of silt (particulates < 14 microns in size) 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		**WC0798140**	---	---
Sample Date		Client Info		**11 Apr 2023**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Sample Status				**NORMAL**	---	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298		**0.842**	---	---
Fuel Color	text	*Visual Screen		**Red**	---	---
ASTM Color	scalar	*ASTM D1500		**L4.0**	---	---
Visc @ 40°C	cSt	ASTM D445	2.4	**2.48**	---	---
Pensky-Martens Flash Point	°C	*PMCC Calculated		**63**	---	---

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m		**0**	---	---
Sulfur (UVF)	ppm	ASTM D5453		**85**	---	---

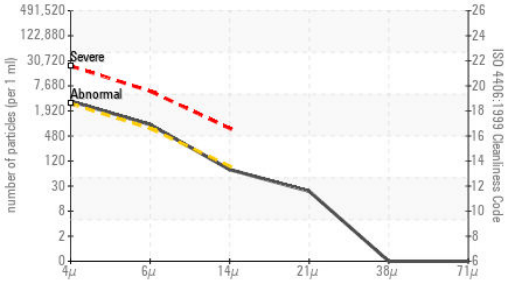
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		**172**	---	---
5% Distillation Point	°C	ASTM D86		**195**	---	---
10% Distill Point	°C	ASTM D86		**203**	---	---
15% Distillation Point	°C	ASTM D86		**212**	---	---
20% Distill Point	°C	ASTM D86		**220**	---	---
30% Distill Point	°C	ASTM D86		**233**	---	---
40% Distill Point	°C	ASTM D86		**248**	---	---
50% Distill Point	°C	ASTM D86		**262**	---	---
60% Distill Point	°C	ASTM D86		**276**	---	---
70% Distill Point	°C	ASTM D86		**291**	---	---
80% Distill Point	°C	ASTM D86		**307**	---	---
85% Distillation Point	°C	ASTM D86		**316**	---	---
90% Distill Point	°C	ASTM D86		**327**	---	---
95% Distillation Point	°C	ASTM D86		**342**	---	---
Final Boiling Point	°C	ASTM D86		**351**	---	---
Distillation Residue	%	ASTM D86		**1.4**	---	---
Distillation Loss	%	ASTM D86		**0.7**	---	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777		**36.6**	---	---
Cetane Index		ASTM D4737	<40.0	**48.0**	---	---

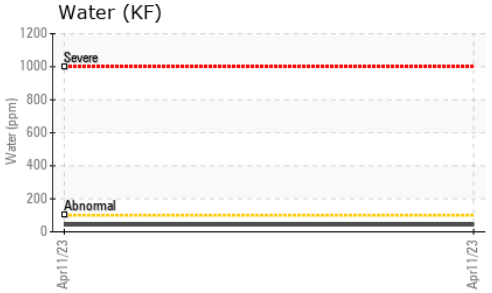
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	---	---
Sodium	ppm	ASTM D5185m	<0.1	**0**	---	---
Potassium	ppm	ASTM D5185m	<0.1	**0**	---	---
Water	%	ASTM D6304	<0.05	**0.004**	---	---
ppm Water	ppm	ASTM D6304	<500	**42.5**	---	---
% Gasoline	%	*In-House	<0.50	**0.0**	---	---
% Biodiesel	%	*In-House	<20.0	**1.6**	---	---

FUEL REPORT

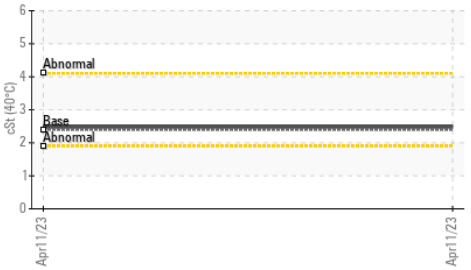
Particle Count



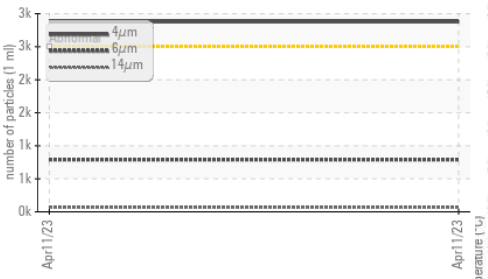
Water (KF)



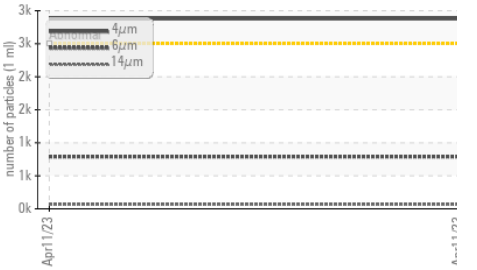
Viscosity @ 40°C



Particle Trend

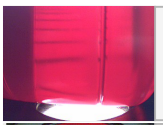
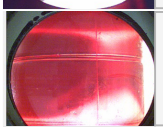


Particle Trend



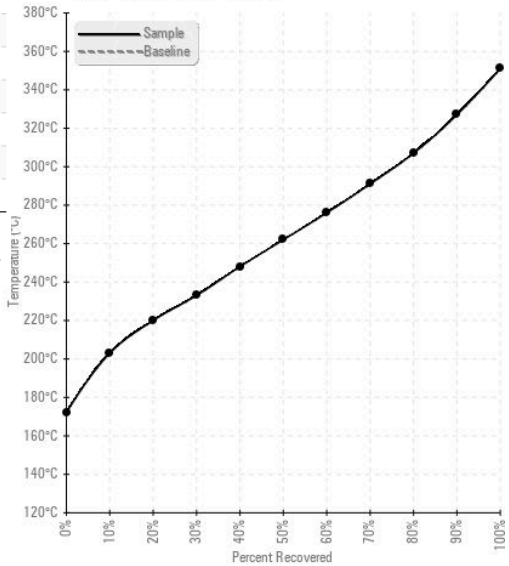
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**2878**	---	---
Particles >6µm		ASTM D7647	>640	**790**	---	---
Particles >14µm		ASTM D7647	>80	**66**	---	---
Particles >21µm		ASTM D7647	>20	**20**	---	---
Particles >38µm		ASTM D7647	>4	**0**	---	---
Particles >71µm		ASTM D7647	>3	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**19/17/13**	---	---

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

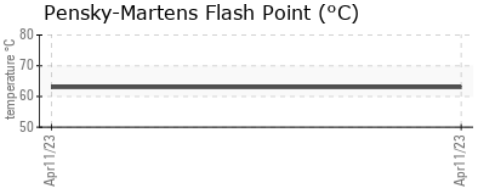
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0798140 **Received** : 28 Apr 2023
Lab Number : 05833383 **Tested** : 10 May 2023
Unique Number : 10446876 **Diagnosed** : 12 May 2023 - 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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