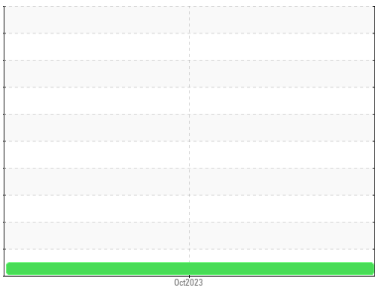
FUEL REPORT

Sample Rating Trend



NORMAL

Area
UMCRMC [R904022631]
Machine Id
182607
Component
Diesel Fuel
Fluid
OFF-ROAD (200 GAL)

DIAGNOSIS

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

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

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**DCDF03984**	---	---
Sample Date		Client Info		**28 Oct 2023**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Sample Status				**NORMAL**	---	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298		**0.846**	---	---
Fuel Color	text	*Visual Screen		**Red**	---	---
ASTM Color	scalar	*ASTM D1500		**L5.5**	---	---
Visc @ 40°C	cSt	ASTM D445		**2.46**	---	---
Pensky-Martens Flash Point	°C	*PMCC Calculated		**63**	---	---
Cloud Point	°C	ASTM D5771		**-12**	---	---
Pour Point	°C	ASTM D5950		**-24**	---	---

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m		**453**	---	---
Sulfur (UVF)	ppm	ASTM D5453		**399**	---	---

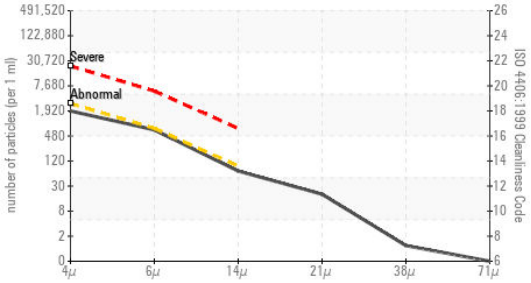
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		**172**	---	---
5% Distillation Point	°C	ASTM D86		**195**	---	---
10% Distill Point	°C	ASTM D86		**206**	---	---
15% Distillation Point	°C	ASTM D86		**214**	---	---
20% Distill Point	°C	ASTM D86		**221**	---	---
30% Distill Point	°C	ASTM D86		**235**	---	---
40% Distill Point	°C	ASTM D86		**248**	---	---
50% Distill Point	°C	ASTM D86		**260**	---	---
60% Distill Point	°C	ASTM D86		**274**	---	---
70% Distill Point	°C	ASTM D86		**288**	---	---
80% Distill Point	°C	ASTM D86		**304**	---	---
85% Distillation Point	°C	ASTM D86		**314**	---	---
90% Distill Point	°C	ASTM D86		**326**	---	---
95% Distillation Point	°C	ASTM D86		**344**	---	---
Final Boiling Point	°C	ASTM D86		**351**	---	---
Distillation Residue	%	ASTM D86		**1.4**	---	---
Distillation Loss	%	ASTM D86		**0.9**	---	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777		**35.8**	---	---
Cetane Index		ASTM D4737	<40.0	**46.6**	---	---

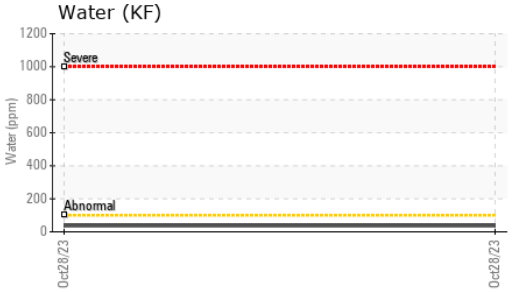
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	---	---
Sodium	ppm	ASTM D5185m	<0.1	**<1**	---	---
Potassium	ppm	ASTM D5185m	<0.1	**0**	---	---
Water	%	ASTM D6304	<0.05	**0.003**	---	---
ppm Water	ppm	ASTM D6304	<500	**36.7**	---	---
% Gasoline	%	*In-House	<0.50	**0.0**	---	---
% Biodiesel	%	*In-House	<20.0	**0.0**	---	---

FUEL REPORT

Particle Count



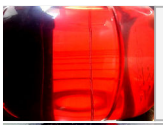
Water (KF)



Viscosity @ 40°C

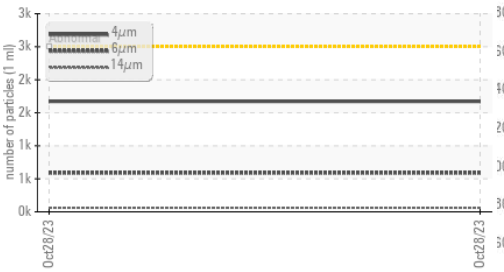
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**1672**	---	---
Particles >6µm		ASTM D7647	>640	**591**	---	---
Particles >14µm		ASTM D7647	>80	**61**	---	---
Particles >21µm		ASTM D7647	>20	**17**	---	---
Particles >38µm		ASTM D7647	>4	**1**	---	---
Particles >71µm		ASTM D7647	>3	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**18/16/13**	---	---

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	**<1**	---	---
Magnesium	ppm	ASTM D5185m	<0.1	**0**	---	---
Phosphorus	ppm	ASTM D5185m	<0.1	**0**	---	---
Zinc	ppm	ASTM D5185m	<0.1	**0**	---	---

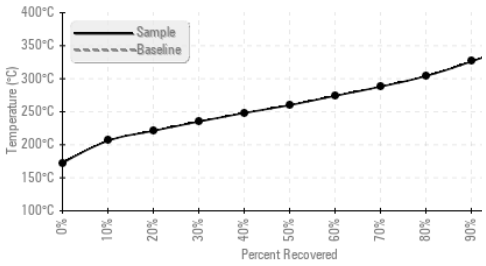
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

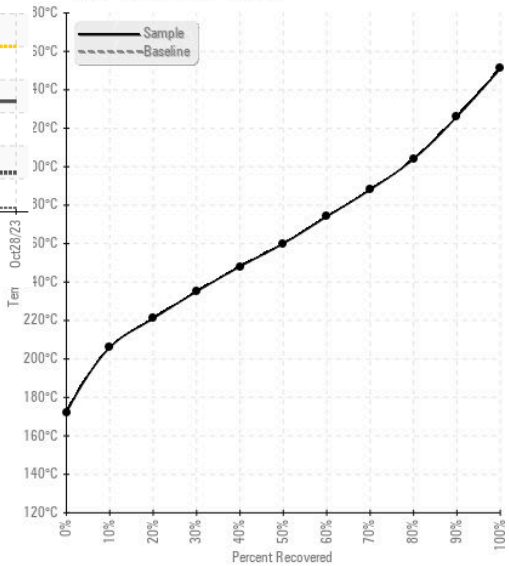
Particle Trend



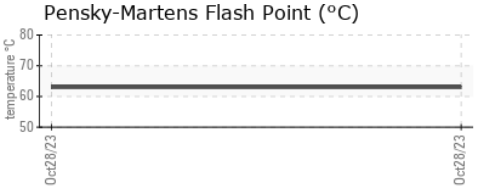
Fuel Distillation Curve



Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : DCDF03984 **Received** : 06 Nov 2023
Lab Number : 05999502 **Diagnosed** : 15 Nov 2023
Unique Number : 10727862 **Diagnostician** : Doug Bogart
Test Package : DF-3 (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)

CURTIS ENGINE
3915 BENSON AVE
BALTIMORE, MD
US 21227
Contact: CHARNETTE WATERS
CWATERS@CURTISPS.COM
T:
F: (410)536-2098