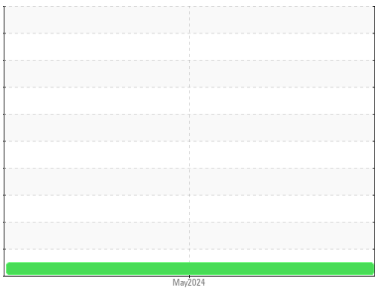
FUEL REPORT

Sample Rating Trend



NORMAL

Machine Id
ZDC AST 5 12 IN
Component
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
Gasoline content negligible. 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) present 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		**WC0929977**	---	---
Sample Date		Client Info		**08 May 2024**	---	---
Machine Age	hrs	Client Info		**0**	---	---
Sample Status				**NORMAL**	---	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Fuel Color	text	*Visual Screen		**Red**	---	---
ASTM Color	scalar	*ASTM D1500		**L4.5**	---	---
Visc @ 40°C	cSt	ASTM D445	4.1	**2.5**	---	---
Pensky-Martens Flash Point	°C	*PMCC Calculated		**60.9**	---	---

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

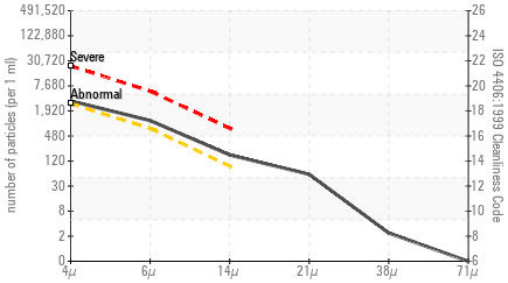
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		**172**	---	---
5% Distillation Point	°C	ASTM D86		**196**	---	---
10% Distill Point	°C	ASTM D86		**206**	---	---
15% Distillation Point	°C	ASTM D86		**214**	---	---
20% Distill Point	°C	ASTM D86		**222**	---	---
30% Distill Point	°C	ASTM D86		**237**	---	---
40% Distill Point	°C	ASTM D86		**250**	---	---
50% Distill Point	°C	ASTM D86		**264**	---	---
60% Distill Point	°C	ASTM D86		**278**	---	---
70% Distill Point	°C	ASTM D86		**292**	---	---
80% Distill Point	°C	ASTM D86		**308**	---	---
85% Distillation Point	°C	ASTM D86		**318**	---	---
90% Distill Point	°C	ASTM D86		**328**	---	---
95% Distillation Point	°C	ASTM D86		**344**	---	---
Final Boiling Point	°C	ASTM D86		**357**	---	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777		**36**	---	---
Cetane Index		ASTM D4737	<40.0	**48**	---	---

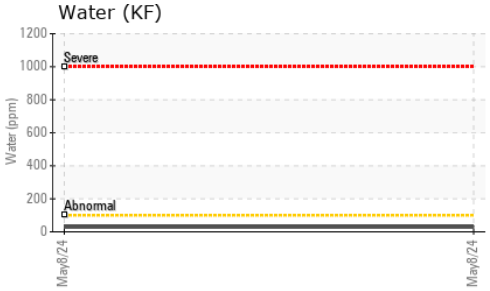
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	---	---
Sodium	ppm	ASTM D5185m	<0.1	**<1**	---	---
Potassium	ppm	ASTM D5185m	<0.1	**0**	---	---
Water	%	ASTM D6304	<0.05	**0.003**	---	---
ppm Water	ppm	ASTM D6304	<500	**29**	---	---
% Gasoline	%	*In-House	<0.50	**2.3**	---	---
% Biodiesel	%	*In-House	<20.0	**1.4**	---	---

FUEL REPORT

Particle Count

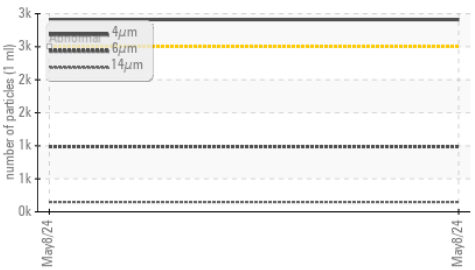


Water (KF)

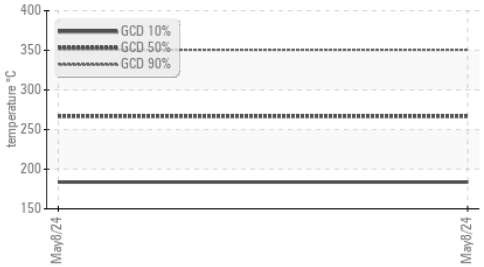


Viscosity @ 40°C

Particle Trend

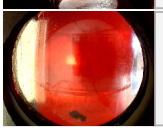


Gas Chromatography (GCD)



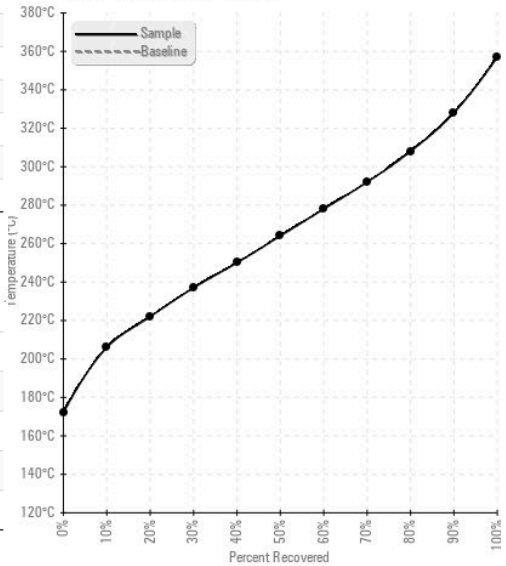
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**2911**	---	---
Particles >6µm		ASTM D7647	>640	**988**	---	---
Particles >14µm		ASTM D7647	>80	**148**	---	---
Particles >21µm		ASTM D7647	>20	**51**	---	---
Particles >38µm		ASTM D7647	>4	**2**	---	---
Particles >71µm		ASTM D7647	>3	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**19/17/14**	---	---

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**	---	---

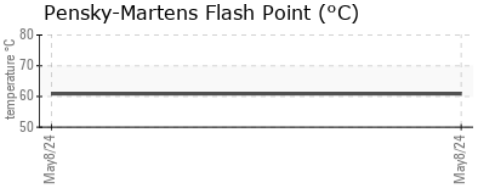
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

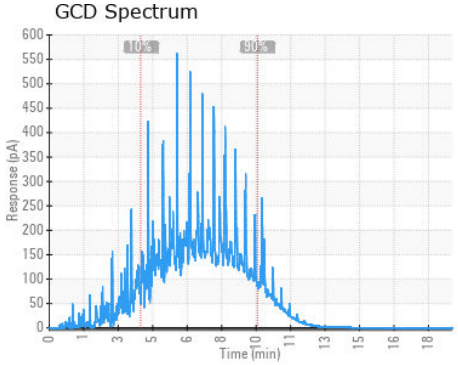
Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



GCD Spectrum



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0929977 **Received** : 09 May 2024
Lab Number : 06174982 **Tested** : 14 May 2024
Unique Number : 11021035 **Diagnosed** : 14 May 2024 - Doug Bogart
Test Package : DF-2 (Additional Tests: Fuel, Screen)

Certificate L2367

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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APEX, NC
US 27539
Contact: SERVICE
service@vitalfuelsystems.com
T: (919)629-8180
F: (919)303-7399

Report Id: VITAPE [WUSCAR] 06174982 (Generated: 05/14/2024 17:23:45) Rev: 1

Contact/Location: SERVICE ? - VITAPE