



FUEL REPORT

Sample Rating Trend

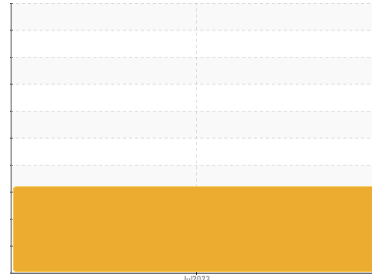
WATER



Machine Id
UNC ROCKINGHAM - 20K VST

Component
Diesel Fuel

Fluid
DIESEL FUEL No. 2 (20000 GAL)



DIAGNOSIS

Recommendation

We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We advise that you inspect for the source(s) of rust. All other laboratory tests indicate that this sample meets specifications for No.2 low-sulfur diesel fuel.

Corrosion

Moderate concentration of visible metal present as rust.

Contaminants

Free water present. Moderate concentration of visible dirt/debris present in the fuel. There is no bacteria or fungus (yeast and/or mold) present in the sample.

Fuel Condition

The fuel is still serviceable provided that the contaminant(s) can be reduced to acceptable levels. Sulfur value derived by ASTM D5453 method for ULSD validation.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0787040	---	---
Sample Date	Client Info	14 Jul 2023	---	---
Machine Age	hrs Client Info	0	---	---
Sample Status		ABNORMAL	---	---

PHYSICAL PROPERTIES

method	limit/base	current	history1	history2
Specific Gravity	*ASTM D1298	0.849	---	---
Fuel Color	text *Visual Screen	Red	---	---
ASTM Color	scalar *ASTM D1500	L5.5	---	---
Visc @ 40°C	cSt ASTM D445 4.1	2.49	---	---
Pensky-Martens Flash Point	°C *PMCC Calculated	57	---	---

SULFUR CONTENT

method	limit/base	current	history1	history2
Sulfur	ppm ASTM D5185m	1104	---	---
Sulfur (UVF)	ppm ASTM D5453	900	---	---

DISTILLATION

method	limit/base	current	history1	history2
Initial Boiling Point	°C ASTM D86	160	---	---
5% Distillation Point	°C ASTM D86	194	---	---
10% Distill Point	°C ASTM D86	205	---	---
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	248	---	---
50% Distill Point	°C ASTM D86	261	---	---
60% Distill Point	°C ASTM D86	273	---	---
70% Distill Point	°C ASTM D86	286	---	---
80% Distill Point	°C ASTM D86	302	---	---
85% Distillation Point	°C ASTM D86	311	---	---
90% Distill Point	°C ASTM D86	323	---	---
95% Distillation Point	°C ASTM D86	341	---	---
Final Boiling Point	°C ASTM D86	350	---	---
Distillation Residue	% ASTM D86	1.4	---	---
Distillation Loss	% ASTM D86	0.5	---	---

IGNITION QUALITY

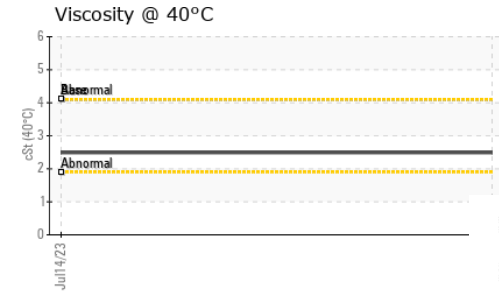
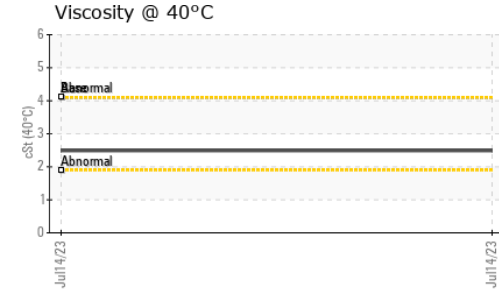
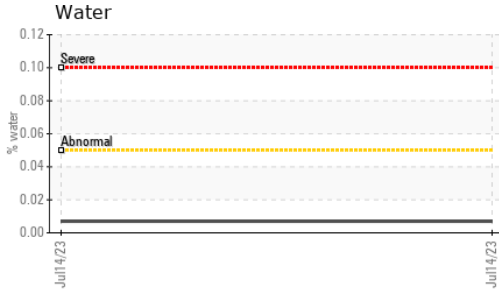
method	limit/base	current	history1	history2
API Gravity	ASTM D7777	35.2	---	---
Cetane Index	ASTM D4737 <40.0	42.8	---	---

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	<1	---	---
Water	% ASTM D6304 <0.05	0.007	---	---
ppm Water	ppm ASTM D6304 <500	78.7	---	---
% Gasoline	% *In-House <0.50	0.0	---	---
% Biodiesel	% *In-House <20.0	0.0	---	---



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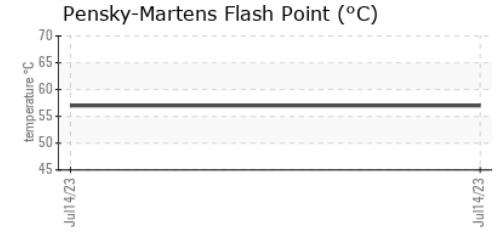
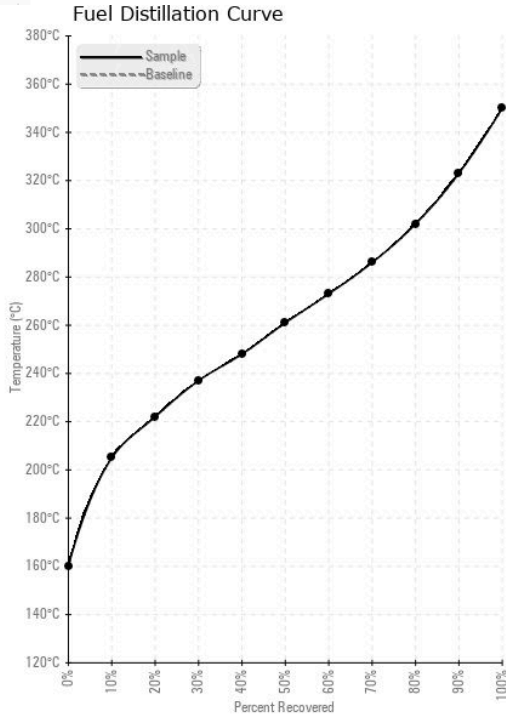


MICROBIAL	method	limit/base	current	history1	history2
Bacteria	CFU/ml WC-Method	>=100000	0	---	---
Yeast	CFU/ml WC-Method	>=100000	0	---	---
Mold	Colonies WC-Method	MODER	---	---	---

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



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0787040 **Received** : 19 Jul 2023
Lab Number : 05902706 **Diagnosed** : 18 Aug 2023
Unique Number : 10564062 **Diagnostician** : Doug Bogart
Test Package : DF-2 (Additional Tests: Bacteria, Screen)

VITAL FUEL SYSTEMS
 1076 CLASSIC RD
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 US 27539

Contact: JOHN MORREALE
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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)