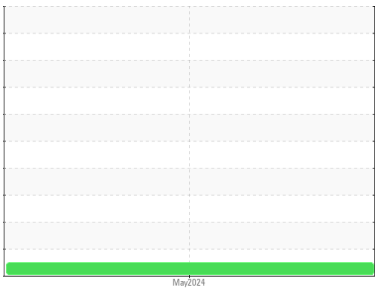
FUEL REPORT

Sample Rating Trend



NORMAL

Machine Id
KIOTI CK3510SKHST YJJ801161
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation
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
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. The amount and size of particulates present in the system are acceptable.

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		**KT0001491**	---	---
Sample Date		Client Info		**06 May 2024**	---	---
Machine Age	hrs	Client Info		**488**	---	---
Sample Status				**NORMAL**	---	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Fuel Color	text	*Visual Screen	YIlow	**YIlow**	---	---
ASTM Color	scalar	*ASTM D1500		**L2.5**	---	---
Visc @ 40°C	cSt	ASTM D445	3.0	**2.43**	---	---
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**59.8**	---	---

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	10	**7**	---	---
Sulfur (UVF)	ppm	ASTM D5453		**12**	---	---

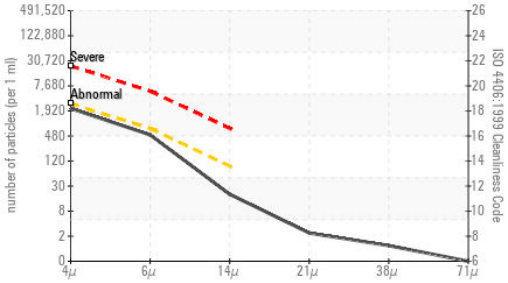
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86	165	**170**	---	---
5% Distillation Point	°C	ASTM D86		**193**	---	---
10% Distill Point	°C	ASTM D86	201	**203**	---	---
15% Distillation Point	°C	ASTM D86		**211**	---	---
20% Distill Point	°C	ASTM D86	216	**219**	---	---
30% Distill Point	°C	ASTM D86	230	**233**	---	---
40% Distill Point	°C	ASTM D86	243	**246**	---	---
50% Distill Point	°C	ASTM D86	255	**259**	---	---
60% Distill Point	°C	ASTM D86	267	**273**	---	---
70% Distill Point	°C	ASTM D86	280	**287**	---	---
80% Distill Point	°C	ASTM D86	295	**303**	---	---
85% Distillation Point	°C	ASTM D86		**314**	---	---
90% Distill Point	°C	ASTM D86	310	**325**	---	---
95% Distillation Point	°C	ASTM D86		**345**	---	---
Final Boiling Point	°C	ASTM D86	341	**360**	---	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777	37.7	**36**	---	---
Cetane Index		ASTM D4737	<40.0	**48**	---	---

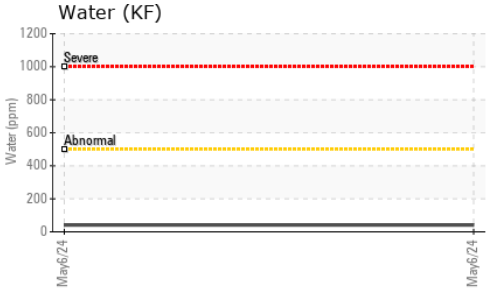
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**<1**	---	---
Sodium	ppm	ASTM D5185m	<0.1	**2**	---	---
Potassium	ppm	ASTM D5185m	<0.1	**<1**	---	---
Water	%	ASTM D6304	<0.05	**0.004**	---	---
ppm Water	ppm	ASTM D6304	<500	**41**	---	---
% Gasoline	%	*In-House	<0.50	**0.0**	---	---
% Biodiesel	%	*In-House	<20.0	**0.0**	---	---

FUEL REPORT

Particle Count

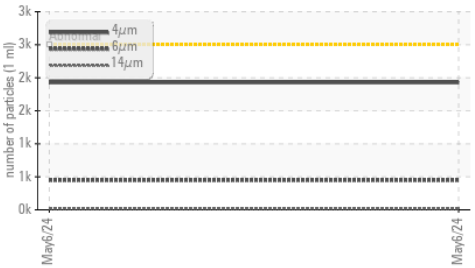


Water (KF)

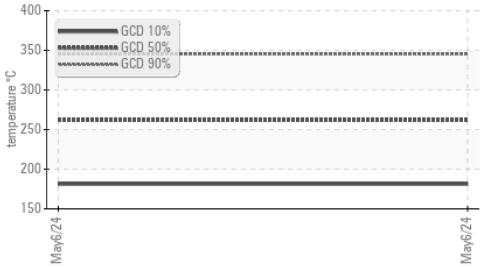


Viscosity @ 40°C

Particle Trend

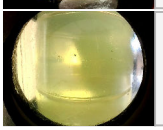


Gas Chromatography (GCD)



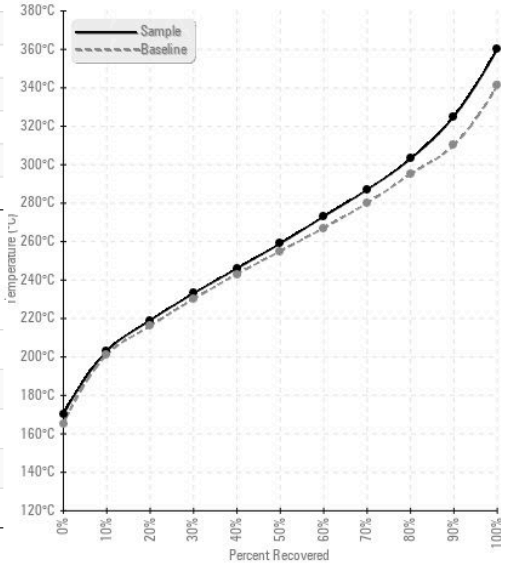
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	**1927**	---	---
Particles >6µm		ASTM D7647	>640	**449**	---	---
Particles >14µm		ASTM D7647	>80	**17**	---	---
Particles >21µm		ASTM D7647	>20	**2**	---	---
Particles >38µm		ASTM D7647	>4	**1**	---	---
Particles >71µm		ASTM D7647	>3	**0**	---	---
Oil Cleanliness		ISO 4406 (c)	>18/16/13	**18/16/11**	---	---

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	**<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**	---	---

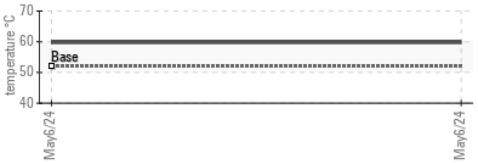
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				*no image*	*no image*
Bottom				*no image*	*no image*

GRAPHS

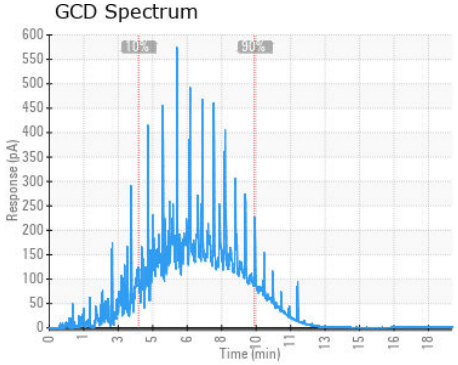
Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



GCD Spectrum



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : KT0001491
Lab Number : 06178274
Unique Number : 11029600
Test Package : DF-2 (Additional Tests: Fuel, Screen)

Received : 13 May 2024
Tested : 04 Jun 2024
Diagnosed : 04 Jun 2024 - Doug Bogart

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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sbroughton@reddirtequipment.com
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Report Id: REDMAR [WUSCAR] 06178274 (Generated: 06/05/2024 10:14:14) Rev: 1

Contact/Location: S. BROUGHTON - REDMAR