



FUEL REPORT

Sample Rating Trend

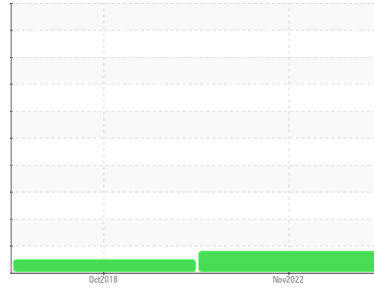
ISO



Machine Id
DUKE NORTH DT 1

Component
Diesel Fuel
Fluid

No.2 DIESEL FUEL (LOW-SULPHUR) (--- GAL)



DIAGNOSIS

Recommendation

All other 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

There is a high 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. Sulfur level is acceptable for ULSD specification.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC05687553	WC04583513	---
Sample Date	Client Info		07 Nov 2022	31 Oct 2018	---
Machine Age	hrs	Client Info	0	0	---
Sample Status			ATTENTION	NORMAL	---

PHYSICAL PROPERTIES

	method	limit/base	current	history1	history2
Specific Gravity	*ASTM D1298	0.839	0.842	0.842	---
Fuel Color	text	*Visual Screen	Red	Red	---
ASTM Color	scalar	*ASTM D1500	L4.5	L5.5	---
Visc @ 40°C	cSt	ASTM D445	2.46	2.56	---
Pensky-Martens Flash Point	°C	*PMCC Calculated	61	63	---

SULFUR CONTENT

	method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	0	37	---
Sulfur (UVF)	ppm	ASTM D5453	8	44	---

DISTILLATION

	method	limit/base	current	history1	history2	
Initial Boiling Point	°C	ASTM D86	165	156	162	---
5% Distillation Point	°C	ASTM D86		188	192	---
10% Distill Point	°C	ASTM D86	201	201	203	---
15% Distillation Point	°C	ASTM D86		209	212	---
20% Distill Point	°C	ASTM D86	216	217	219	---
30% Distill Point	°C	ASTM D86	230	232	234	---
40% Distill Point	°C	ASTM D86	243	247	248	---
50% Distill Point	°C	ASTM D86	255	261	261	---
60% Distill Point	°C	ASTM D86	267	276	275	---
70% Distill Point	°C	ASTM D86	280	291	289	---
80% Distill Point	°C	ASTM D86	295	308	305	---
85% Distillation Point	°C	ASTM D86		318	314	---
90% Distill Point	°C	ASTM D86	310	329	326	---
95% Distillation Point	°C	ASTM D86		345	342	---
Final Boiling Point	°C	ASTM D86	341	353	350	---
Distillation Residue	%	ASTM D86	3.0	1.4	1.4	---
Distillation Loss	%	ASTM D86	3.0	0.7	0.9	---

IGNITION QUALITY

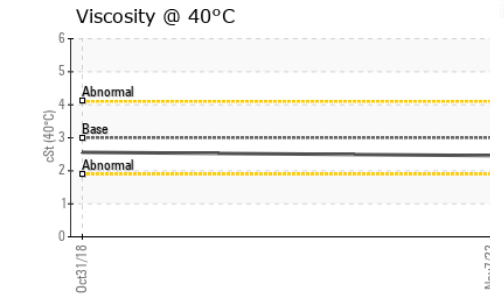
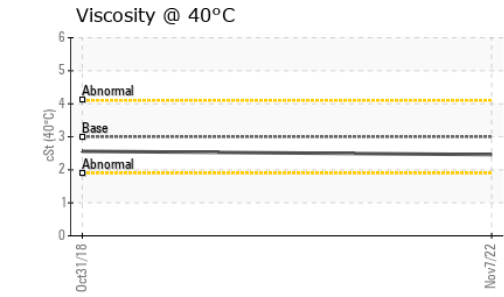
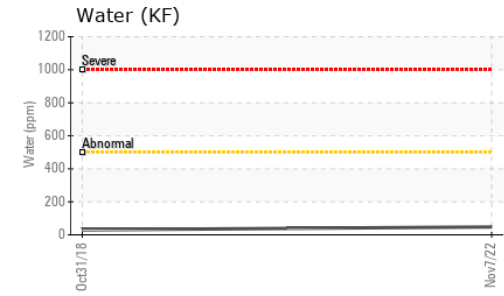
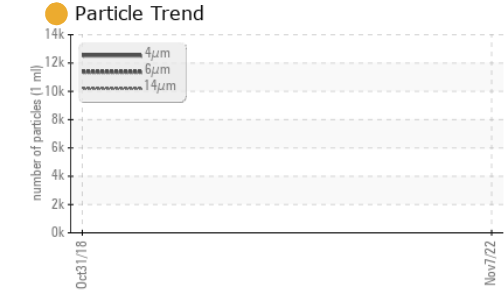
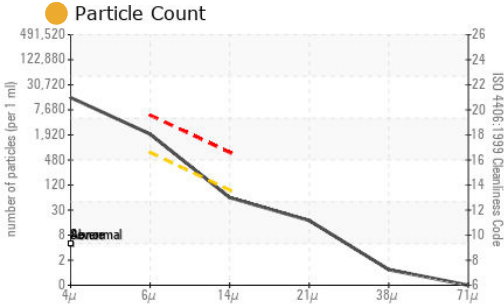
	method	limit/base	current	history1	history2
API Gravity	ASTM D7777	37.7	36.6	36.6	---
Cetane Index	ASTM D4737	<40.0	48.0	47.9	---

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	<1.0	0	0	---
Sodium	ppm	ASTM D5185m	<0.1	0	<1	---
Potassium	ppm	ASTM D5185m	<0.1	0	0	---
Water	%	ASTM D6304	<0.05	0.004	0.003	---
ppm Water	ppm	ASTM D6304	<500	48.0	30	---
% Gasoline	%	*In-House	<0.50	0.0	0.0	---
% Biodiesel	%	*In-House	<20.0	0.0	0.0	---



FUEL REPORT

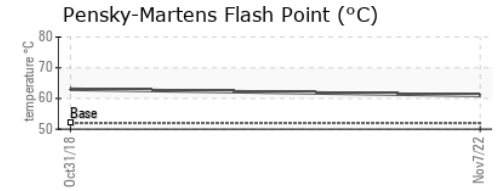
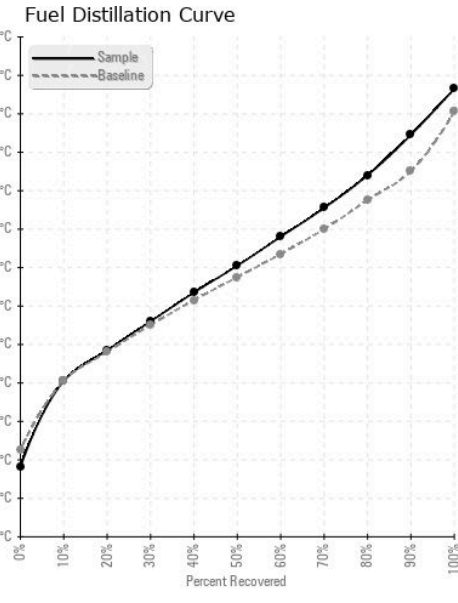


FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		13147	---	---
Particles >6µm	ASTM D7647	>640	1759	---	---
Particles >14µm	ASTM D7647	>80	53	---	---
Particles >21µm	ASTM D7647	>20	15	---	---
Particles >38µm	ASTM D7647	>4	1	---	---
Particles >71µm	ASTM D7647	>3	0	---	---
Oil Cleanliness	ISO 4406 (c)	>--/16/13	21/18/13	---	---

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

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

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC05687553 **Received** : 07 Nov 2022
Lab Number : **05687553** **Tested** : 14 Nov 2022
Unique Number : 10207125 **Diagnosed** : 17 Nov 2022 - Doug Bogart
Test Package : DF-2 (Additional Tests: Screen)

COUCH OIL COMPANY
 2907 HILLSBOROUGH RD
 DURHAM, NC
 US 27705
 Contact: JESSE BROWN
 jesse@couchoilcompany.com
 T: (919)285-5408
 F:

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)