



FUEL REPORT

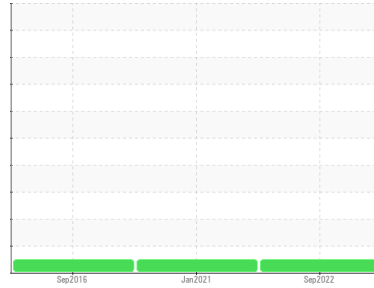
Sample Rating Trend

NORMAL



Area
MARS BLACK & MC [136034]
Machine Id
UNIT #2 (S/N 25291510)

Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)



DIAGNOSIS

Recommendation

Laboratory test indicate that this fuel is suitable for use and meets all test requirements. Resample at the next service interval to monitor.

Contaminants

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The water content is negligible. There is no indication of any contamination in the diesel fuel.

Fuel Condition

All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			CU0020130	CU0017316	CU0012248
Sample Date	Client Info			08 Sep 2022	04 Jan 2021	27 Sep 2016
Machine Age	hrs	Client Info		334	0	227
Sample Status				NORMAL	NORMAL	NORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D1298*	0.839	0.846	0.852	0.830
Fuel Color	text	Visual Screen*	Yllow	Red	Pink	Pink
Visc @ 40°C	cSt	ASTM D7279(m)	3.0	2.6	2.7	2.3
Pensky-Martens Flash Point	°C	ASTM D7215*	52	56.6	57.8	50

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185(m)	10	9	4	8

DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D2887*	165	152	152	160
5% Distillation Point	°C	ASTM D2887*		190	193	184
10% Distill Point	°C	ASTM D2887*	201	202	206	192
15% Distillation Point	°C	ASTM D2887*		210	214	202
20% Distill Point	°C	ASTM D2887*	216	217	222	209
30% Distill Point	°C	ASTM D2887*	230	231	236	222
40% Distill Point	°C	ASTM D2887*	243	244	249	234
50% Distill Point	°C	ASTM D2887*	255	257	262	247
60% Distill Point	°C	ASTM D2887*	267	270	274	260
70% Distill Point	°C	ASTM D2887*	280	285	288	274
80% Distill Point	°C	ASTM D2887*	295	302	304	290
85% Distillation Point	°C	ASTM D2887*		312	313	299
90% Distill Point	°C	ASTM D2887*	310	323	324	310
95% Distillation Point	°C	ASTM D2887*		339	340	328
Final Boiling Point	°C	ASTM D2887*	341	346	350	338
Distillation Residue	%	ASTM D86(e)*	3.0	---	---	1.4
Distillation Loss	%	ASTM D86(e)*	3.0	---	---	0.7

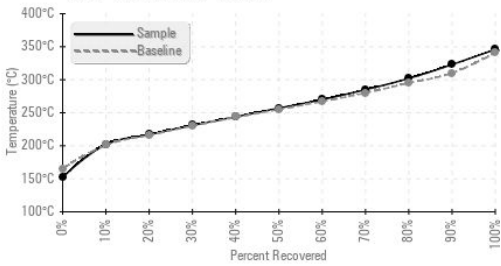
IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D1298*	37.7	35	34	39.0
Cetane Index		ASTM D4737*	<40.0	45	44	46.0

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	<1.0	0	0	0
Sodium	ppm	ASTM D5185(m)	<0.1	0	<1	<1
Potassium	ppm	ASTM D5185(m)	<0.1	0	0	0
Water	%	ASTM D6304*	<0.05	0.002	0.001	0.001
ppm Water	ppm	ASTM D6304*	<500	23.6	13.9	12.2

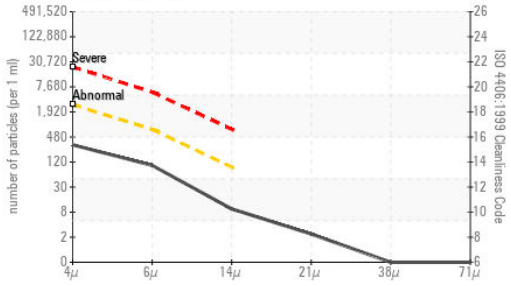


FUEL REPORT

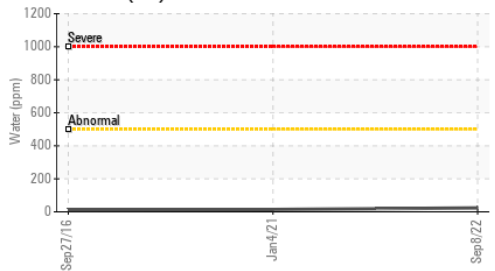
Fuel Distillation Curve



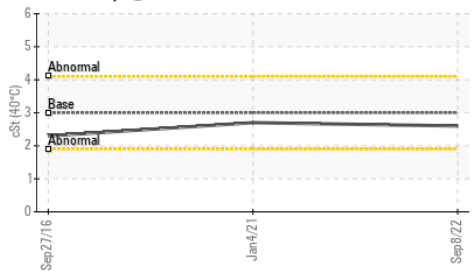
Particle Count



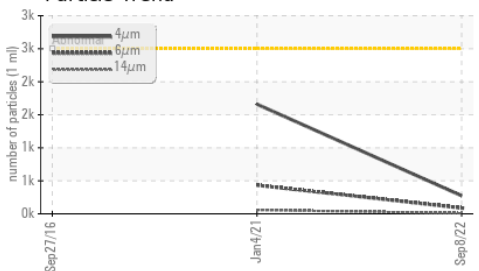
Water (KF)



Viscosity @ 40°C



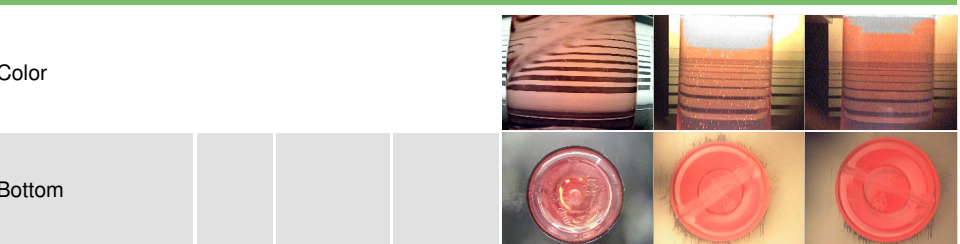
Particle Trend



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	274	1660	---
Particles >6µm	ASTM D7647	>640	88	433	---
Particles >14µm	ASTM D7647	>80	8	58	---
Particles >21µm	ASTM D7647	>20	2	24	---
Particles >38µm	ASTM D7647	>4	0	2	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	15/14/10	18/16/13	---

HEAVY METALS	method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185(m)	<0.1	0	0
Nickel	ppm	ASTM D5185(m)	<0.1	0	0
Lead	ppm	ASTM D5185(m)	<0.1	0	0
Vanadium	ppm	ASTM D5185(m)	<0.1	0	0
Iron	ppm	ASTM D5185(m)	<0.1	<1	<1
Calcium	ppm	ASTM D5185(m)	<0.1	<1	<1
Magnesium	ppm	ASTM D5185(m)	<0.1	<1	<1
Phosphorus	ppm	ASTM D5185(m)	<0.1	<1	<1
Zinc	ppm	ASTM D5185(m)	<0.1	<1	<1

SAMPLE IMAGES



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **CUMMINS CANADA ULC - GENERATOR DIVISION**
Sample No. : CU0020130 **Received** : 14 Sep 2022 7175 PACIFIC CIRCLE
Lab Number : **02510625** **Tested** : 15 Sep 2022 MISSISSAUGA, ON
Unique Number : 5451595 **Diagnosed** : 15 Sep 2022 - Kevin Marson CA L5T 2A5
Test Package : FUEL (Additional Tests: CC Flash, GC-PercFuel, PrtCount) Contact: Elisia Johnson
 elisia.johnson@cummins.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

T: (905)795-0050
 F: (905)795-9252