

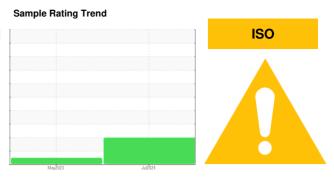
FUEL REPORT



Machine Id CATERPILLAR 00C32HJSJ04339

Diesel Fuel

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



DIAGNOSIS

Recommendation

We advise that you filter this fluid before use. 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

There is a high amount of particulates present in the fuel. The water content is negligible. There is no bacteria or fungus (yeast and/or mold) indicated in the sample.

Fuel Condition

Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level is acceptable for ULSD specification.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC06235311	AOL05866010	
Sample Date		Client Info		05 Jul 2024	25 May 2023	
Machine Age	hrs	Client Info		145	119	
Sample Status				ABNORMAL	NORMAL	
PHYSICAL PROF	PERTIES	method	limit/base	current	history1	history2
ASTM Color	scalar	*ASTM D1500		L4.5	L4.0	
Visc @ 40°C	cSt	ASTM D445	3.0	2.63	2.59	
SULFUR CONTE	NT	method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	10	0	0	
Sulfur (UVF)	ppm	ASTM D5453		12	11	
CONTAMINANTS	3	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	<1	0	
Sodium	ppm	ASTM D5185m	<0.1	2	0	
Potassium	ppm	ASTM D5185m	< 0.1	0	<1	
Water	%	ASTM D6304	< 0.05	0.003	0.002	
ppm Water	ppm	ASTM D6304	<500	40	22.1	
% Gasoline	%	*In-House	< 0.50	0.0	0.0	
% Biodiesel	%	*In-House	<20.0	0.0	0.0	
FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	29575	2229	
Particles >6µm		ASTM D7647	>640	10985	793	
Particles >14μm		ASTM D7647	>80	<u> </u>	99	
Particles >21µm		ASTM D7647	>20	<u>^</u> 23	31	
Particles >38µm		ASTM D7647	>4	0	1	
Particles >71μm		ASTM D7647	>3	0	0	
Oil Cleanliness		ISO 4406 (c)	>18/16/13	<u>22/21/15</u>	18/17/14	
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	0	
Vanadium	ppm	ASTM D5185m	<0.1	0	0	
Iron	ppm	ASTM D5185m	<0.1	0	0	
Calcium	ppm	ASTM D5185m	<0.1	0	0	
Magnesium	ppm	ASTM D5185m	<0.1	2	0	
Phosphorus	ppm	ASTM D5185m	<0.1	0	0	
Zinc	ppm	ASTM D5185m	<0.1	0	<1	
SAMPLE IMAGES	2	method	limit/base	current	history1	history2

Color



Bottom

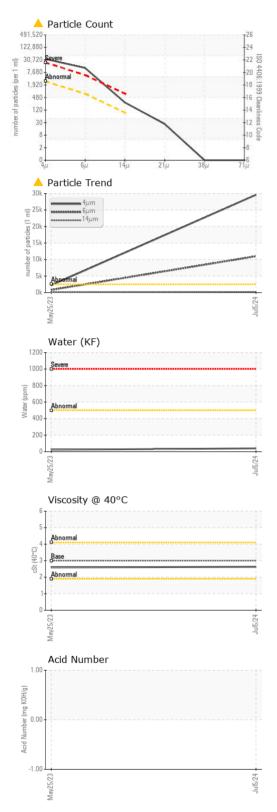
ontact/Location: JASON HAINEY - APEGRA

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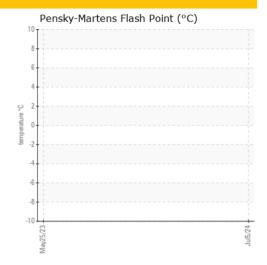
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FUEL REPORT



GRAPHS





Certificate 12367

Laboratory Sample No.

: WC06235311 Lab Number : 06235311

Unique Number : 11124145

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 12 Jul 2024 **Tested** : 18 Jul 2024

: 18 Jul 2024 - Elizabeth Valachovic Diagnosed Test Package : DF-5 (Additional Tests: Screen, TAN Man)

US 49512 Contact: JASON RAINEY jrainey@apexoillab.com T: (616)328-6672

3956 44th STREET SE

GRAND RAPIDS, MI

F: (616)828-1791

* - 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) **APEX OIL LAB**