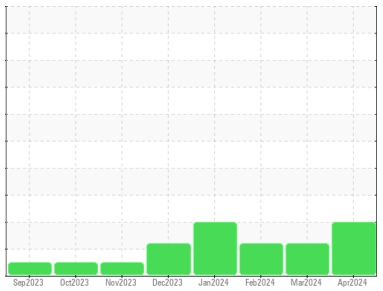
FUEL REPORT

Sample Rating Trend



ISO

Machine Id
IDEM FO2T 1-5
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation
We advise that you filter this fluid before use. ASTM D240 result 18,039 BTU/lb. Test performed at subcontracted ISO 17025 laboratory. 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. 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		**WC0934835**	WC0926729	WC0911756
Sample Date		Client Info		**15 Apr 2024**	15 Mar 2024	15 Feb 2024
Machine Age	hrs	Client Info		**0**	0	0
Sample Status				**ABNORMAL**	ABNORMAL	ATTENTION

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298	0.839	**---**	0.865	0.865
Specific Gravity		*ASTM D1298		**0.865**	0.865	---
Fuel Color	text	*Visual Screen	Yllow	**Red**	Red	Red
ASTM Color	scalar	*ASTM D1500		**L4.0**	L4.5	L4.5
Visc @ 40°C	cSt	ASTM D445	3.0	**2.79**	2.73	2.79
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**65.3**	65.8	61
Cloud Point	°C	ASTM D5771		**-19**	-19	-20
Pour Point	°C	ASTM D5950		**-39**	-38	-41

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	10	**6**	0	2
Sulfur (UVF)	ppm	ASTM D5453		**14**	9	9

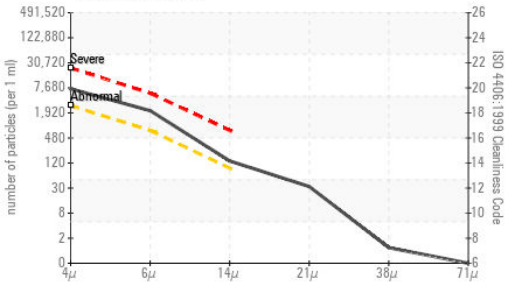
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86	165	**177**	169	168
5% Distillation Point	°C	ASTM D86		**206**	198	196
10% Distill Point	°C	ASTM D86	201	**216**	213	210
15% Distillation Point	°C	ASTM D86		**224**	223	221
20% Distill Point	°C	ASTM D86	216	**232**	230	230
30% Distill Point	°C	ASTM D86	230	**246**	245	245
40% Distill Point	°C	ASTM D86	243	**258**	257	257
50% Distill Point	°C	ASTM D86	255	**270**	270	269
60% Distill Point	°C	ASTM D86	267	**282**	282	282
70% Distill Point	°C	ASTM D86	280	**294**	295	294
80% Distill Point	°C	ASTM D86	295	**307**	309	307
85% Distillation Point	°C	ASTM D86		**316**	37	316
90% Distill Point	°C	ASTM D86	310	**325**	328	326
95% Distillation Point	°C	ASTM D86		**341**	346	341
Final Boiling Point	°C	ASTM D86	341	**354**	354	351
Distillation Residue	%	ASTM D86	3.0	**---**	1.4	1.4
Distillation Loss	%	ASTM D86	3.0	**---**	1.1	0.5

IGNITION QUALITY	method	limit/base	current	history1	history2
API Gravity	ASTM D7777	37.7	**32**	32.1	32.1
Cetane Index	ASTM D4737	<40.0	**41**	41.7	41.3

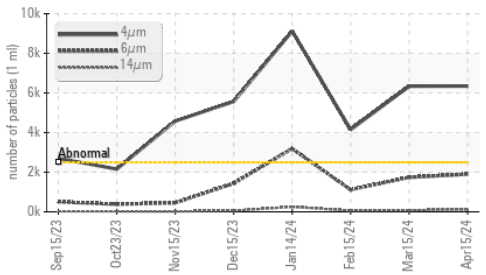
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	0	0
Sodium	ppm	ASTM D5185m	<0.1	**<1**	2	<1
Potassium	ppm	ASTM D5185m	<0.1	**0**	<1	<1
Water	%	ASTM D6304	<0.05	**0.003**	0.004	0.003
ppm Water	ppm	ASTM D6304	<500	**39**	45	38
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	0.0
% Biodiesel	%	*In-House	<20.0	**0.0**	0.0	0.0

FUEL REPORT

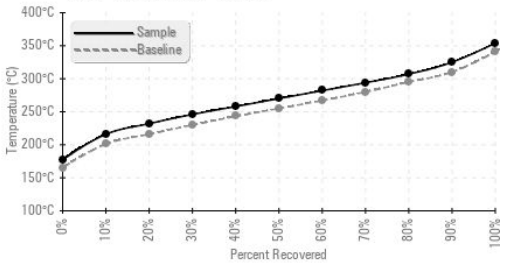
Particle Count



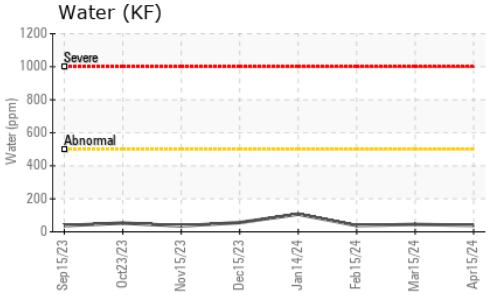
Particle Trend



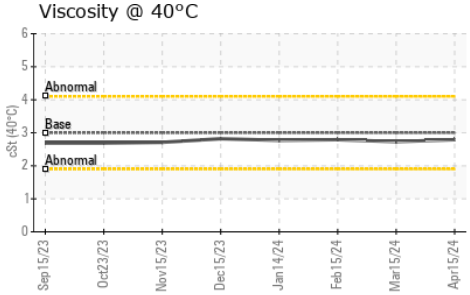
Fuel Distillation Curve



Water (KF)

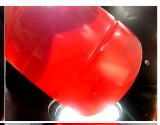
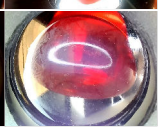


Viscosity @ 40°C



FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	▲ **6345**	▲ 6338	● 4146
Particles >6µm		ASTM D7647	>640	▲ **1902**	▲ 1740	● 1113
Particles >14µm		ASTM D7647	>80	● **119**	75	61
Particles >21µm		ASTM D7647	>20	● **29**	19	14
Particles >38µm		ASTM D7647	>4	**1**	1	0
Particles >71µm		ASTM D7647	>3	**0**	1	0
Oil Cleanliness		ISO 4406 (c)	>18/16/13	▲ **20/18/14**	▲ 20/18/13	● 19/17/13

HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m	<0.1	**0**	0	0
Nickel	ppm	ASTM D5185m	<0.1	**0**	0	0
Lead	ppm	ASTM D5185m	<0.1	**0**	0	0
Vanadium	ppm	ASTM D5185m	<0.1	**0**	0	0
Iron	ppm	ASTM D5185m	<0.1	**0**	0	0
Calcium	ppm	ASTM D5185m	<0.1	**0**	0	<1
Magnesium	ppm	ASTM D5185m	<0.1	**0**	0	0
Phosphorus	ppm	ASTM D5185m	<0.1	**2**	0	0
Zinc	ppm	ASTM D5185m	<0.1	**0**	0	0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0934835
Lab Number : 06155023
Unique Number : 10990446
Test Package : DF-3 (Additional Tests: Fuel, Screen)

Received : 19 Apr 2024
Tested : 01 May 2024
Diagnosed : 01 May 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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