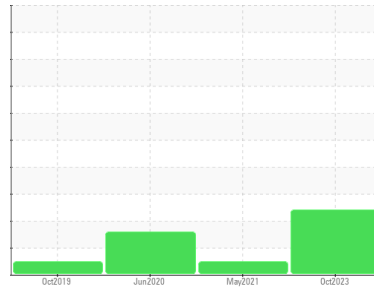




FUEL REPORT

Sample Rating Trend



ISO



Machine Id CYRUSONE MAIN TANK 3

Component
Diesel Fuel
Fluid

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 INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	WC0869458	WCDF03701	WCDF01998
Sample Date	Client Info	12 Oct 2023	03 May 2021	03 Jun 2020
Machine Age	hrs	0	0	0
Sample Status		ATTENTION	NORMAL	ABNORMAL

PHYSICAL PROPERTIES

method	limit/base	current	history1	history2		
Specific Gravity	*ASTM D1298	0.839	0.841	0.843	0.843	
Fuel Color	text	*Visual Screen	Yellow	Red	Red	Red
ASTM Color	scalar	*ASTM D1500		L4.5	L6.0	L5.5
Visc @ 40°C	cSt	ASTM D445	3.0	2.44	2.51	2.47
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	59	60	59

SULFUR CONTENT

method	limit/base	current	history1	history2		
Sulfur	ppm	ASTM D5185m	10	0	10	11
Sulfur (UVF)	ppm	ASTM D5453		8	9	8

DISTILLATION

method	limit/base	current	history1	history2		
Initial Boiling Point	°C	ASTM D86	165	165	157	157
5% Distillation Point	°C	ASTM D86		189	190	188
10% Distill Point	°C	ASTM D86	201	199	201	199
15% Distillation Point	°C	ASTM D86		208	210	210
20% Distill Point	°C	ASTM D86	216	217	218	218
30% Distill Point	°C	ASTM D86	230	232	233	233
40% Distill Point	°C	ASTM D86	243	247	247	247
50% Distill Point	°C	ASTM D86	255	261	262	261
60% Distill Point	°C	ASTM D86	267	275	276	275
70% Distill Point	°C	ASTM D86	280	290	291	290
80% Distill Point	°C	ASTM D86	295	307	307	307
85% Distillation Point	°C	ASTM D86		316	316	316
90% Distill Point	°C	ASTM D86	310	327	327	327
95% Distillation Point	°C	ASTM D86		344	345	345
Final Boiling Point	°C	ASTM D86	341	351	351	351
Distillation Residue	%	ASTM D86	3.0	1.4	1.4	1.4
Distillation Loss	%	ASTM D86	3.0	0.9	0.8	0.9

IGNITION QUALITY

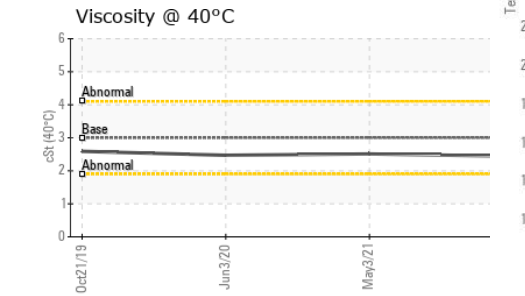
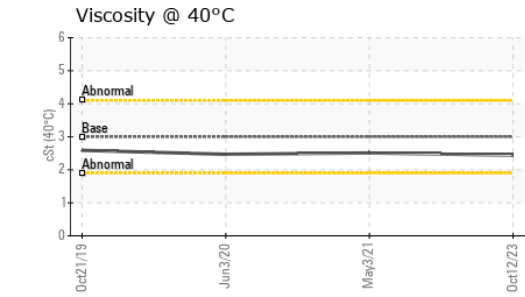
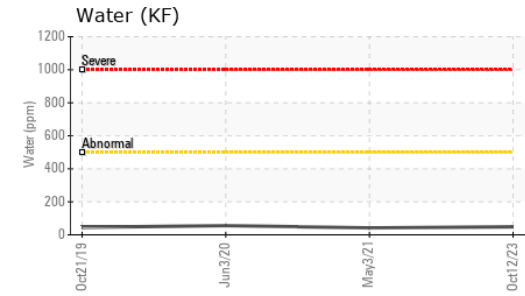
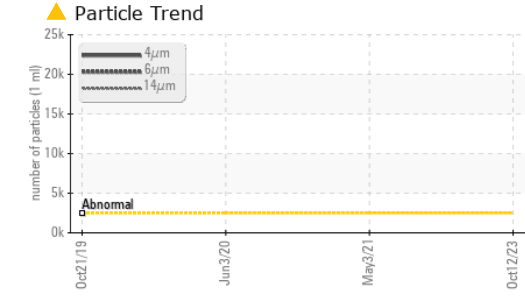
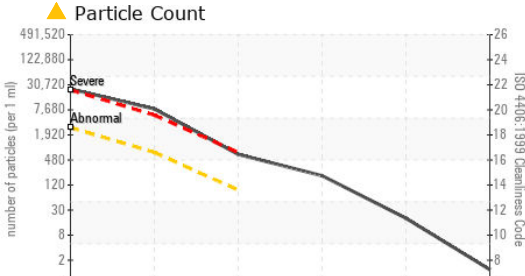
method	limit/base	current	history1	history2	
API Gravity	ASTM D7777	37.7	36.8	36.4	36.4
Cetane Index	ASTM D4737	<40.0	48.2	47.4	47.2

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	<1.0	0	0	0
Sodium	ppm	ASTM D5185m	<0.1	0	1	0
Potassium	ppm	ASTM D5185m	<0.1	<1	<1	0
Water	%	ASTM D6304	<0.05	0.004	0.004	0.005
ppm Water	ppm	ASTM D6304	<500	48.4	41.8	56.0
% Gasoline	%	*In-House	<0.50	0.0	0.0	0.0
% Biodiesel	%	*In-House	<20.0	1.9	1.3	0.9



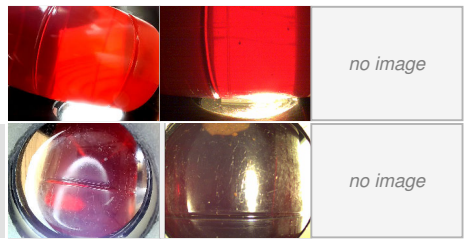
FUEL REPORT



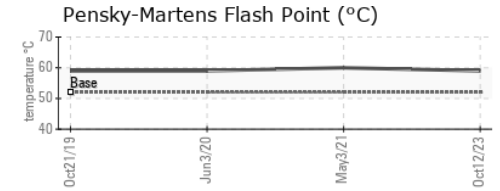
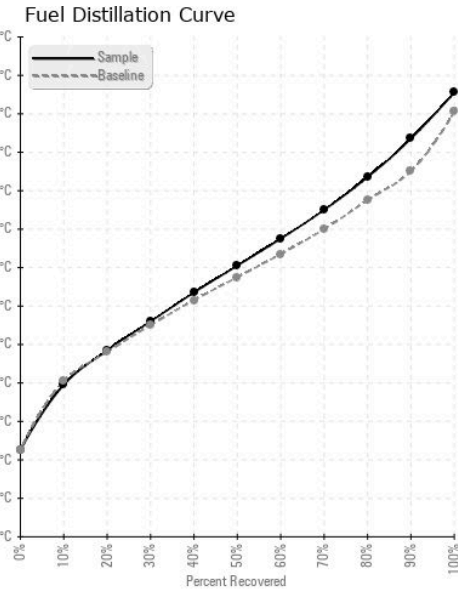
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ 21140	---	---
Particles >6µm	ASTM D7647	>640	▲ 7037	---	---
Particles >14µm	ASTM D7647	>80	▲ 575	---	---
Particles >21µm	ASTM D7647	>20	▲ 177	---	---
Particles >38µm	ASTM D7647	>4	▲ 17	---	---
Particles >71µm	ASTM D7647	>3	1	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ 22/20/16	---	---

HEAVY METALS	method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m <0.1	0	<1	0
Nickel	ppm	ASTM D5185m <0.1	0	<1	<1
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	1	0
Calcium	ppm	ASTM D5185m <0.1	<1	1	0
Magnesium	ppm	ASTM D5185m <0.1	0	0	0
Phosphorus	ppm	ASTM D5185m <0.1	6	2	1
Zinc	ppm	ASTM D5185m <0.1	0	0	0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0869458 **Received** : 17 Oct 2023
Lab Number : 05981543 **Diagnosed** : 25 Oct 2023
Unique Number : 10698838 **Diagnostician** : Doug Bogart
Test Package : DF-2 (Additional Tests: Screen)

VITAL FUEL SYSTEMS
 1076 CLASSIC RD
 APEX, NC
 US 27539
 Contact: JOHN MORREALE
 jmorreale@vitalfuelsystems.com
 T: (919)629-8180
 F: (919)303-7399

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)