

# FUEL REPORT

Sample Rating Trend

ISO

# ZDC AST 2 12 IN

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

## DIAGNOSIS

### A 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.

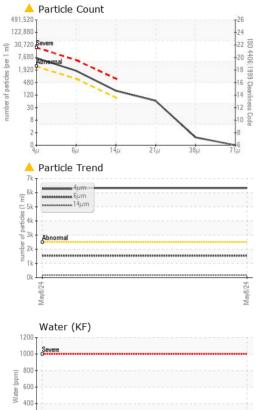
# **Fuel Condition**

Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level above maximum allowed value for ULSD specification.

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0929971		
Sample Date		Client Info		08 May 2024		
Machine Age	hrs	Client Info		0		
Sample Status				ABNORMAL		
PHYSICAL PROP	ERTIES	method	limit/base	current	history1	history2
Fuel Color	text	*Visual Screen		Red		
ASTM Color	scalar	*ASTM D1500		L4.5		
Visc @ 40°C	cSt	ASTM D445	4.1	2.53		
Pensky-Martens Flash Point	°C	*PMCC Calculated		61		
SULFUR CONTE	NT	method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m		0		
Sulfur (UVF)	ppm	ASTM D5453		9		
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		172		
5% Distillation Point	°C	ASTM D86		196		
10% Distill Point	°C	ASTM D86		206		
15% Distillation Point	°C	ASTM D86		214		
20% Distill Point	°C	ASTM D86		222		
30% Distill Point	°C	ASTM D86		237		
40% Distill Point	°C	ASTM D86		251		
50% Distill Point	°C	ASTM D86		264		
60% Distill Point	°C	ASTM D86		278		
70% Distill Point	°C	ASTM D86		292		
80% Distill Point	°C	ASTM D86		308		
85% Distillation Point	°C	ASTM D86		318		
90% Distill Point	°C	ASTM D86		329		
95% Distillation Point	°C	ASTM D86		344		
Final Boiling Point	°C	ASTM D86		357		
IGNITION QUALI	ΓY	method	limit/base	current	history1	history2
API Gravity		ASTM D7777		36		
Cetane Index		ASTM D4737	<40.0	48		
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	0		
Sodium	ppm	ASTM D5185m	<0.1	<1		
Potassium	ppm	ASTM D5185m	<0.1	0		
Water	%	ASTM D6304	< 0.05	0.004		
ppm Water	ppm	ASTM D6304	<500	40		
% Gasoline	%	*In-House	<0.50	0.0		
% Biodiesel	%	*In-House	<20.0	1.6		



# **FUEL REPORT**



FLUID CLEAN	NLINESS	method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>2500	6322		
Particles >6µm		ASTM D7647	>640	1546		
Particles >14µm	ı	ASTM D7647	>80	171		
Particles >21µm	ı	ASTM D7647	>20	<b>5</b> 6		
Particles >38µm	ı	ASTM D7647	>4	1		
Particles >71µm	ı	ASTM D7647	>3	0		
Oil Cleanliness		ISO 4406 (c)	>18/16/13	20/18/15		
HEAVY MET	ALS	method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185m	<0.1	0		
Nickel	ppm	ASTM D5185m	<0.1	0		
Lead	ppm	ASTM D5185m	<0.1	0		
Vanadium	ppm	ASTM D5185m	<0.1	0		
Iron	ppm	ASTM D5185m	<0.1	0		
Calcium	ppm	ASTM D5185m		0		
Magnesium	ppm	ASTM D5185m	<0.1	0		
Phosphorus	ppm	ASTM D5185m	<0.1	0		
Zinc	ppm	ASTM D5185m	<0.1	0		
SAMPLE IMA	GES	method	limit/base	current	history1	history2
Color					no image	no image
Bottom					no image	no image
Bottom						
GRAPHS Fuel Distillatio	n Curve			Pensky-Marter		no image
GRAPHS	n Curve		چ <sup>80</sup>	Pensky-Marter	no image	no image
GRAPHS Fuel Distillatio	n Curve		در المراجع angro Barter Barter Control of the second se	Pensky-Marter	no image	no image
GRAPHS Fuel Distillatio	n Curve		Bob	Pensky-Marter	no image	no image
GRAPHS Fuel Distillation	n Curve		2. 80 170 60 50		no image	no image °C)
GRAPHS Fuel Distillation	n Curve		eo 10 20 20 20 20 20 20 20 20 20 20 20 20 20	Pensky-Marter	no image	no image
GRAPHS Fuel Distillatio	n Curve		80 100 100 100 100 100 100 100 100 100 1		no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		600	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		50	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		50 600 550 500 450	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		600 550 500 450 450	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillation	n Curve		600 550 500 450 450	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		600 550 450 450 450 450 450 450 450 450 4	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillation	n Curve		600 550 450 450 400 ¥350 80 300 \$300 \$250 200	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillatio	n Curve		50 600 550 450 450 450 450 450 450 450 250 200 150	GCD Spectrum	no image ns Flash Point (	no image °C)
GRAPHS Fuel Distillation	n Curve		600 550 450 450 400 ¥350 80 300 \$300 \$250 200	GCD Spectrum	no image ns Flash Point (	no image °C)

200 0. Mav8/24

(40°C) cSt (

Abnormal

Mav8/2/

400

350

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g 250

200

150

Viscosity @ 40°C

Gas Chromatography (GCD)

GCD 10%

GCD 90%

12 May8/24 Percent Recovered VITAL FUEL SYSTEMS Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0929971 Received Sample No. : 09 May 2024 1076 CLASSIC RD Lab Number : 06174989 Tested : 24 May 2024 APEX, NC Unique Number : 11021042 Diagnosed : 24 May 2024 - Doug Bogart US 27539 Test Package : DF-2 (Additional Tests: Fuel, Screen) Contact: SERVICE Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. service@vitalfuelsystems.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (919)629-8180 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F: (919)303-7399

Report Id: VITAPE [WUSCAR] 06174989 (Generated: 05/24/2024 08:17:06) Rev: 1

May8/24

Contact/Location: SERVICE ? - VITAPE

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