

FUEL REPORT

Sample Rating Trend

NORMAL

KIOTI CK3510HSEB YJJ801195

Diesel Fuel Fluid {not provided} (--- GAL)

DIAGNOSIS

Recommendation

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

The water content is negligible. There is no bacteria or fungus (yeast and/or mold) indicated in the sample. There is no indication of any contamination in the fuel. The amount and size of particulates present in the system are acceptable.

Fuel Condition

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

				Feb2024			
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		KT0000917			
Sample Date		Client Info		21 Feb 2024			
Machine Age	hrs	Client Info		36			
Sample Status				NORMAL			
PHYSICAL PROP	FRTIES	method	limit/base	current	history1	history2	
			innin baoo				
Specific Gravity	4	*ASTM D1298		0.834			
Fuel Color ASTM Color	text scalar	*Visual Screen		Yllow			
		*ASTM D1500		L2.5 2.29			
Visc @ 40°C	cSt °C	ASTM D445 *PMCC Calculated		2.29 54			
Pensky-Martens Flash Point				54			
SULFUR CONTEI	NT	method	limit/base	current	history1	history2	
Sulfur	ppm	ASTM D5185m		3			
Sulfur (UVF)	ppm	ASTM D5453		8			
DISTILLATION		method	limit/base	current	history1	history2	
Initial Boiling Point	°C	ASTM D86		149			
5% Distillation Point	°C	ASTM D86		177			
10% Distill Point	°C	ASTM D86		190			
15% Distillation Point	°C	ASTM D86		201			
20% Distill Point	°C	ASTM D86		210			
30% Distill Point	°C	ASTM D86		227			
40% Distill Point	°C	ASTM D86		243			
50% Distill Point	°C	ASTM D86		259			
60% Distill Point	°C	ASTM D86		274			
70% Distill Point	°C	ASTM D86		290			
80% Distill Point	°C	ASTM D86		306			
85% Distillation Point	°C	ASTM D86		316			
90% Distill Point	°C	ASTM D86		328			
95% Distillation Point	°C	ASTM D86		346			
Final Boiling Point	°C	ASTM D86		354			
Distillation Residue	%	ASTM D86		1.4			
Distillation Loss	%	ASTM D86		0.9			
IGNITION QUALI	ΓY	method	limit/base	current	history1	history2	
API Gravity		ASTM D7777		38.2			
Cetane Index		ASTM D4737	<40.0	49.9			
CONTAMINANTS		method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	<1.0	0			
Sodium	ppm	ASTM D5185m	<0.1	0			
Potassium	ppm	ASTM D5185m	<0.1	0			
Water	%	ASTM D6304	< 0.05	0.003			
ppm Water	ppm	ASTM D6304	<500	32			
% Gasoline	%	*In-House	<0.50	0.0			
% Biodiesel	%	*In-House	<20.0	0.0			



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Particle Count	FLUID CLEANLINESS	method	limit/base	current	history1	history2
491,520 122,880					HISTOLA	TIIStOLYZ
20 200 Pauma	Particles >4µm	ASTM D7647		862		
Image: Transmission of the second s	Particles >6µm	ASTM D7647		279		
	Particles >14µm	ASTM D7647		40		
16 Ceaning 120	Particles >21µm	ASTM D7647		13		
30- +12 k	Particles >38µm	ASTM D7647		1		
10 Co de	Particles >71µm	ASTM D7647		0		
	Oil Cleanliness	ISO 4406 (c)	>18/16/13	17/15/12		
$4\mu = 6\mu = 14\mu = 21\mu = 38\mu = 71\mu$	HEAVY METALS	method	limit/base	current	history1	history2
Water (KF)	Aluminum ppm	ASTM D5185m	<0.1	0		
1000 - Severe	Nickel ppm	ASTM D5185m	<0.1	0		
- 800-	Lead ppm	ASTM D5185m	<0.1	0		
(c)	Vanadium ppm	ASTM D5185m	<0.1	0		
^{4te} ₄₀₀	Iron ppm	ASTM D5185m	<0.1	0		
200	Calcium ppm	ASTM D5185m	<0.1	0		
Abnormal	Magnesium ppm	ASTM D5185m	<0.1	0		
- 1/24 -	Phosphorus ppm	ASTM D5185m	<0.1	0		
Feb21/24	Zinc ppm	ASTM D5185m	<0.1	0		
Viscosity @ 40°C	SAMPLE IMAGES	method	limit/base	current	history1	history2
6 5 Abnormal CDD 3 3 3 4 4 5 4 4 5 4 4 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5	Color				no image	no image
2 + 4 + 1 +	Bottom				no image	no image
<u>a</u>	GRAPHS					
Particle Trend	Fuel Distillation Curve		70	Pensky-Marten	s Flash Point (°	°C)
E 3k 4μm 3 L 5μm 3 L 14μm 3 L 14μm 3 L 14μm 3 L 3 3 L	60°C - Sample 40°C - Baseline 20°C		temberging 40	Feb21/24		Feb21/24 +
Feb	60°C 40°C					
Gas Chromatography (GCD)	20°C					
5 - CCD 50%	00°C 80°C 60°C 40°C 20°C 20°C 20°C 20°C 20°C 20°C 20°C 20°C	Pa 60% + 70% - 80% -	90%			
Sample No. Lab Number Unique Number Certificate 12367 To discuss this sample report,	: 06100578 Test : 10898808 Diag : DF-2 (Additional Tests: Scree contact Customer Service at 1- are outside of the ISO 17025 sc	eived : 26 ed : 01 nosed : 01 en) 800-237-1368 ope of accred	5 Feb 2024 Mar 2024 Mar 2024 - Doug Mar 2024 - Doug Mar 2024 - Doug	g Bogart service@	LO Contact: SE bluegrasslawna T: (11 DIXIE HWY DUISVILLE, KY US 40272 ERVICE DEPT