

FUEL REPORT

Sample Rating Trend



NORMAL



Machine Id **A2**Component **Diesel Fuel**

No.1 DIESEL FUEL (ULTRALOW SULPHUR) (--- 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.

Fuel Condition

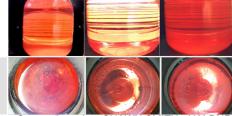
Sulfur value derived by ASTM D5453 method for ULSD validation. Sulfur level is acceptable for ULSD specification.

, ,		Nov2021	Apr2022	Dct2022 Apr2023	Oct2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		WC0873531	WC0812014	WC0750383
Sample Date		Client Info		31 Oct 2023	18 Apr 2023	10 Oct 2022
Machine Age	hrs	Client Info		0	0	0
Sample Status				NORMAL	NORMAL	NORMAL
PHYSICAL PROF	PERTIES	method	limit/base	current	history1	history2
ASTM Color	scalar	*ASTM D1500		L4.0	L4.0	L4.0
Visc @ 40°C	cSt	ASTM D445		2.46	2.46	2.48
SULFUR CONTE	NT	method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m	7	0	2	0
Sulfur (UVF)	ppm	ASTM D5453		9	12	8
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	<1	0	1
Sodium	ppm	ASTM D5185m	< 0.1	2	0	1
Potassium	ppm	ASTM D5185m	<0.1	1	<1	0
Water	%	ASTM D6304	< 0.05	0.004	0.003	0.004
ppm Water	ppm	ASTM D6304	<500	43.1	38.5	44.2
% Gasoline	%	*In-House	< 0.50	0.0	0.0	0.0
	, 0		10.00	0.0	0.0	0.0
% Biodiesel	%	*In-House	<20.0	0.0	0.0	0.0
% Biodiesel FLUID CLEANLIN	%					
	%	*In-House	<20.0	0.0	0.0	0.0
FLUID CLEANLIN	%	*In-House method	<20.0 limit/base >2500	0.0 current	0.0 history1	0.0 history2
FLUID CLEANLIN Particles >4μm	%	*In-House method ASTM D7647	<20.0 limit/base >2500	0.0 current 1157	0.0 history1 1638	0.0 history2 1164
FLUID CLEANLIN Particles >4µm Particles >6µm	%	*In-House method ASTM D7647 ASTM D7647	<20.0 limit/base >2500 >640	0.0 current 1157 421	0.0 history1 1638 386	0.0 history2 1164 423
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm	%	*In-House method ASTM D7647 ASTM D7647 ASTM D7647	<20.0 limit/base >2500 >640 >80	0.0 current 1157 421 59	0.0 history1 1638 386 41	0.0 history2 1164 423 74
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm	%	*In-House method ASTM D7647 ASTM D7647 ASTM D7647	<20.0 limit/base >2500 >640 >80 >20 >4	0.0 current 1157 421 59 23	0.0 history1 1638 386 41	0.0 history2 1164 423 74 32
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm Particles >38μm	%	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	<20.0 limit/base >2500 >640 >80 >20 >4	0.0 current 1157 421 59 23 2	0.0 history1 1638 386 41 10 1	0.0 history2 1164 423 74 32 0
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm Particles >38μm Particles >71μm	%	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	<20.0 limit/base >2500 >640 >80 >20 >4 >3	0.0 current 1157 421 59 23 2 0	0.0 history1 1638 386 41 10 1	0.0 history2 1164 423 74 32 0
FLUID CLEANLIN Particles >4μm Particles >6μm Particles >14μm Particles >21μm Particles >38μm Particles >71μm Oil Cleanliness	%	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c)	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13	0.0 current 1157 421 59 23 2 0 17/16/13	0.0 history1 1638 386 41 10 1 0 18/16/13	0.0 history2 1164 423 74 32 0 17/16/13
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS	% IESS	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c)	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base	0.0 current 1157 421 59 23 2 0 17/16/13 current	0.0 history1 1638 386 41 10 1 0 18/16/13	0.0 history2 1164 423 74 32 0 17/16/13 history2
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead	% JESS ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m ASTM D5185m ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0	0.0 history2 1164 423 74 32 0 0 17/16/13 history2 1 <1 0
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead Vanadium	% IESS ppm ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m ASTM D5185m ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1 0	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0 0	0.0 history2 1164 423 74 32 0 17/16/13 history2 1 <1 0 <1
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead Vanadium Iron	ppm ppm ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1 0 0	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0	0.0 history2 1164 423 74 32 0 0 17/16/13 history2 1 <1 0 <11 0
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead Vanadium	ppm ppm ppm ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1 0 <1 <1	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0 0 0 <1	0.0 history2 1164 423 74 32 0 0 17/16/13 history2 1 <1 0 <1 0 0
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead Vanadium Iron Calcium Magnesium	ppm ppm ppm ppm ppm ppm ppm ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1 0 <1 0 <1 0	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0 0 0 0 1 1	0.0 history2 1164 423 74 32 0 0 17/16/13 history2 1 <1 0 <1 0 0 0
FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm Particles >21µm Particles >38µm Particles >71µm Oil Cleanliness HEAVY METALS Aluminum Nickel Lead Vanadium Iron Calcium	ppm ppm ppm ppm ppm ppm	*In-House method ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ISO 4406 (c) method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	<20.0 limit/base >2500 >640 >80 >20 >4 >3 >18/16/13 limit/base <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1 <0.1	0.0 current 1157 421 59 23 2 0 17/16/13 current 0 <1 <1 0 <1 <1	0.0 history1 1638 386 41 10 1 0 18/16/13 history1 0 0 0 0 <1	0.0 history2 1164 423 74 32 0 0 17/16/13 history2 1 <1 0 <1 0 0

SAMPLE IMAGES method limit/base current history1 history2

Color

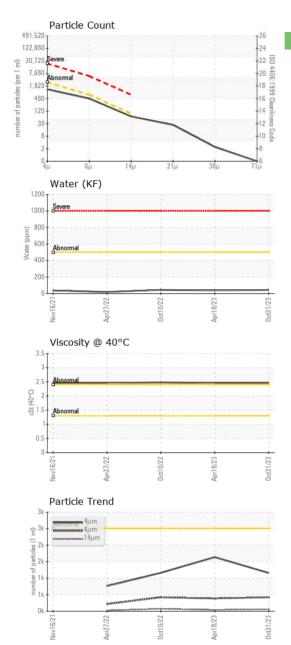




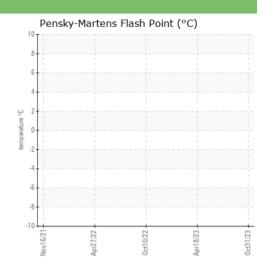
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FUEL REPORT









Certificate L2367

Laboratory Sample No. Lab Number Unique Number : 10723534

: WC0873531 : 05995174 **Test Package**: DF-5 (Additional Tests: Screen)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received Diagnosed

: 31 Oct 2023 : 13 Nov 2023

Diagnostician : Doug Bogart

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

NALCO AN ECOLAB COMPANY 1304 SEATON ROAD UNIT 8 DURHAM, NC US 27707

Contact: SHAWN SMITH shawn.smith@ecolab.com T:

* - 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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