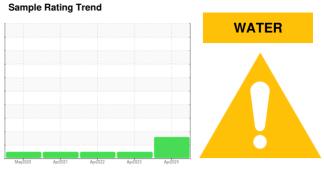


FUEL REPORT

[PMOAS3372430] **SD300 FREDERICK DR (S/N 2103231)**

Diesel Fuel

No.2 DIESEL FUEL (LOW-SULPHUR) (1000 GAL)



DIAGNOSIS

Recommendation

We advise that you follow the water drain-off procedure for this component.

Corrosion

All metal levels are normal indicating no corrosion in the system.

Contaminants

Free water present. There is no bacteria or fungus (yeast and/or mold) present in the sample.

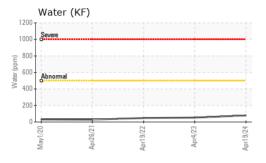
Fuel Condition

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

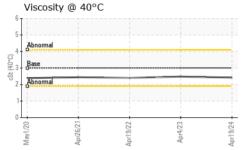
Sample Date	UAL)						
Sample Date Client Info 19 Apr 2024 04 Apr 2023 19 Apr 2024 603 561 593 593 593 593 594	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age Sample Status hrs Client Info 603 561 593 ABNORMAL NORMAL NORMAL PHYSICAL PROPERTIES method limit/base current history1 history2 ASTM Color scalar 'ASTM D1500 L5.5 L4.5 L4.5 Visco @ 40°C cst ASTM D445 3.0 2.42 2.48 2.4 SULFUR CONTENT method limit/base current history1 history2 Sulfur (UVF) ppm ASTM D5453 15 14 13 IGNITION QUALITY method limit/base current history1 history2 API Gravity ASTM D5185m <1.0	Sample Number		Client Info		DC0034674	DC0029069	DC0019545
ABNORMAL NORMAL NORMAL PHYSICAL PROPERTIES method limit/base current history1 history2	Sample Date		Client Info		19 Apr 2024	04 Apr 2023	19 Apr 2022
PHYSICAL PROPERTIES method limit/base current history1 history2	Machine Age	hrs	Client Info		603	561	593
ASTM Color scalar "ASTM D1500	Sample Status				ABNORMAL	NORMAL	NORMAL
SULFUR CONTENT	PHYSICAL PROP	ERTIES	method	limit/base	current	history1	history2
Sulfur ppm ASTM D5185m 250 0 5 3	ASTM Color	scalar	*ASTM D1500		L5.5	L4.5	L4.5
Sulfur ppm ASTM D5185m 250 0 5 3 3 3 3 3 4 13 15 14 13 3 3 3 3 3 3 3 3	Visc @ 40°C	cSt	ASTM D445	3.0	2.42	2.48	2.4
Description Description	SULFUR CONTE	NT	method	limit/base	current	history1	history2
API Gravity	Sulfur	ppm	ASTM D5185m	250	0	5	3
API Gravity ASTM D7777 37.7 36.4 36.4 36.4 36.2 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m < -1.0 0 0 0 0 Sodium ppm ASTM D5185m < -0.1 0 0 0 < -1 Potassium ppm ASTM D5185m < 0.1 0 0 0 0 Water % ASTM D6304 < -0.05 0.007 0.005 0.004 Opm Water ppm ASTM D6304 < -500 79 53.2 48.2 % Gasoline % *In-House < -0.50 0.0 0.0 0.0 % Biodiesel % *In-House < -20.0 0.0 0.0 0.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 > -2500 7461 5126 Particles >6μm ASTM D7647 > -2500 7461 5126 Particles >14μm ASTM D7647 > -20 106 162 Particles >38μm ASTM D7647 > -20 29 27 Particles >38μm ASTM D7647 > -20 29 27 Particles >71μm ASTM D7647 > -3 10 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Particles CPU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 ASTM D5185m < -0.1 0 0 0 Vanadium ppm ASTM D5185m < -0.1 0 0 0 Vanadium ppm ASTM D5185m < -0.1 0 0 0 Calcicium ppm ASTM D5185m < -0.1 0 0 0 Magnesium ppm ASTM D5185m < -0.1 0 0 0 Magnesium ppm ASTM D5185m < -0.1 0 0 0 Magnesium ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 0 Phosphorus ppm ASTM D5185m < -0.1 0 0 0 0 0 Phosphorus ppm ASTM D51	Sulfur (UVF)	ppm	ASTM D5453		15	14	13
API Gravity ASTM D7777 37.7 36.4 36.4 36.4 36.2 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m <1.0 0 0 0 Sodium ppm ASTM D5185m <0.1 0 0 0 Water % ASTM D5185m <0.1 0 0 0 Water % ASTM D6304 <0.05 0.007 0.005 0.004 Opm Water ppm ASTM D6304 <500 79 53.2 48.2 % Gasoline % *In-House <0.50 0.0 0.0 0.0 % Biodiesel % *In-House <20.0 0.0 0.0 0.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 7461 5126 Particles >6μm ASTM D7647 >640 1625 1650 Particles >21μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Particles CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 ASTM D5185m <0.1 0 0 0 Vanadium ppm ASTM D5185m <0.1 0 0 0 Vanadium ppm ASTM D5185m <0.1 0 0 0 Vanadium ppm ASTM D5185m <0.1 0 0 0 Calcicium ppm ASTM D5185m <0.1 0 0 0 Magnesium ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0 0	IGNITION QUALIT	ΓΥ	method	limit/base	current	historv1	history2
CONTAMINANTS	API Gravity						
Silicon	•		method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m <0.1 0 0 0 0 0 0							
Potassium ppm ASTM D5185m < 0.1 0 0 0 Water % ASTM D6304 < 0.05 0.007 0.005 0.004 opm Water ppm ASTM D6304 < 500 79 53.2 48.2 % Gasoline % *In-House < 0.50 0.0 0.0 0.0 % Biodiesel % *In-House < 0.50 0.0 0.0 0.0 % Biodiesel % *In-House < 0.50 0.0 0.0 0.0 Biodiesel % *In-House < 0.0 0.0 0.0 0.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 7461 5126 Particles >4µm ASTM D7647 >80 106 162 Particles >21µm ASTM D7647 >20 29 27 Particles >38µm ASTM D7647 >3 <td></td> <td>• • • • • • • • • • • • • • • • • • • •</td> <td></td> <td></td> <th></th> <td></td> <td></td>		• • • • • • • • • • • • • • • • • • • •					
Water % ASTM D6304 < 0.05 0.007 0.005 0.004 opm Water ppm ASTM D6304 < 500					-		
Oppm Water ppm ASTM D6304 <500 79 53.2 48.2 76 Gasoline % *In-House <0.50							
% Gasoline % *In-House <0.50 0.0 0.0 0.0 % Biodiesel % *In-House <20.0 0.0 0.0 0.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 7461 5126 Particles >6µm ASTM D7647 >640 1625 1650 Particles >14µm ASTM D7647 >80 106 162 Particles >21µm ASTM D7647 >20 29 27 Particles >71µm ASTM D7647 >3 1 2 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 0 0 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method							
% Biodiesel % *In-House *20.0 0.0 0.0 0.0 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >2500 7461 5126 Particles >6µm ASTM D7647 >640 1625 1650 Particles >14µm ASTM D7647 >80 106 162 Particles >21µm ASTM D7647 >20 29 27 Particles >38µm ASTM D7647 >4 1 2 Particles >71µm ASTM D7647 >3 0 0 Dil Cleanliness ISO 4406 (c) 18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Wold Colonies WC-Method >=100000 0 Wold <	•						
FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >2500 7461 5126 Particles >6μm ASTM D7647 >640 1625 1650 Particles >14μm ASTM D7647 >80 106 162 Particles >21μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >4 1 2 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method >=100000 0 -							
Particles >4μm ASTM D7647 >2500 7461 5126 Particles >6μm ASTM D7647 >640 1625 1650 Particles >14μm ASTM D7647 >80 106 162 Particles >21μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >4 1 2 Particles >71μm ASTM D7647 >3 0 0 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 0 0 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></th<>							
Particles >6μm ASTM D7647 >640 1625 1650 Particles >14μm ASTM D7647 >80 106 162 Particles >21μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >4 1 2 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method >=100000 0 HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1 0 0 <		ESS	method	limit/base	current		history2
Particles >14μm ASTM D7647 >80 106 162 Particles >21μm ASTM D7647 >20 29 27 Particles >38μm ASTM D7647 >4 1 2 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 0 0 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER Meath WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1	Particles >4µm						
Particles >21µm	•		ASTM D7647	>640		1625	1650
Particles >38µm ASTM D7647 >4 1 2 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1	Particles >14μm					106	162
Particles >71µm	Particles >21µm		ASTM D7647	>20		29	27
Oil Cleanliness ISO 4406 (c) >18/16/13 20/18/14 20/18/15 MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1	Particles >38µm		ASTM D7647	>4		1	2
MICROBIAL method limit/base current history1 history2 Bacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1	Particles >71µm		ASTM D7647	>3		0	0
Pacteria CFU/ml WC-Method >=100000 0 Yeast CFU/ml WC-Method >=100000 0 Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1 0 0 <1 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 0 Magnesium ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0 O	Oil Cleanliness		ISO 4406 (c)	>18/16/13		20/18/14	20/18/15
Yeast CFU/mI WC-Method >=100000 0 Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1 0 0 <1 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 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0	MICROBIAL		method	limit/base	current	history1	history2
Mold Colonies WC-Method MODER HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1					0		
HEAVY METALS method limit/base current history1 history2 Aluminum ppm ASTM D5185m <0.1	Yeast	CFU/ml	WC-Method	>=100000	0		
Aluminum ppm ASTM D5185m < 0.1 0 0 < 1 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 0 Magnesium ppm ASTM D5185m < 0.1 0 0 0 Phosphorus ppm ASTM D5185m < 0.1 0 0 0	Mold	Colonies	WC-Method	MODER			
Nickel ppm ASTM D5185m < 0.1	HEAVY METALS		method	limit/base	current	history1	history2
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 0 Magnesium ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0	Aluminum	ppm	ASTM D5185m	< 0.1	0	0	<1
Vanadium ppm ASTM D5185m < 0.1 0 0 0 Iron ppm ASTM D5185m < 0.1	Nickel	ppm	ASTM D5185m	< 0.1	0	0	0
fron ppm ASTM D5185m < 0.1 0 0 0 Calcium ppm ASTM D5185m < 0.1 0 0 0 Magnesium ppm ASTM D5185m < 0.1 0 0 0 Phosphorus ppm ASTM D5185m < 0.1 0 0 0	_ead	ppm	ASTM D5185m	<0.1	0	0	0
Calcium ppm ASTM D5185m <0.1 0 0 0 Magnesium ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0	Vanadium	ppm	ASTM D5185m	<0.1	0	0	0
Magnesium ppm ASTM D5185m <0.1 0 0 0 Phosphorus ppm ASTM D5185m <0.1 0 0 0	ron	ppm	ASTM D5185m	< 0.1	0	0	0
Phosphorus ppm ASTM D5185m < 0.1 0 0	Calcium	ppm	ASTM D5185m	<0.1	0	0	0
	Magnesium	ppm	ASTM D5185m	<0.1	0	0	0
	Phosphorus	ppm	ASTM D5185m	<0.1	0	0	0
	Zinc		ASTM D5185m	<0.1	0	0	0



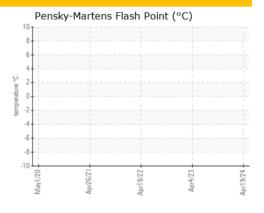
FUEL REPORT







GRAPHS





Certificate 12367

Laboratory

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 **Sample No.** : DC0034674 Lab Number : 06159975

Received Tested

: 24 Apr 2024 : 06 May 2024

: 06 May 2024 - Doug Bogart

KELLY GENERATOR & EQUIPMENT INC 1955 DALE LN OWINGS, MD

Unique Number : 10995398 Diagnosed Test Package : DF-5 (Additional Tests: API, Bacteria, Cetane, Fuel, PrtCount, Screen) Contact: LESLIE SNURR To discuss this sample report, contact Customer Service at 1-800-237-1369. LSNURR@KGE.COM

* - 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)

T: (410)257-5225 F: (410)257-5227

US 20736