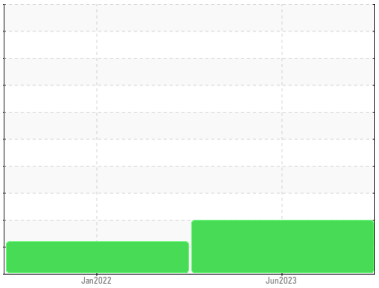
FUEL REPORT

Sample Rating Trend



WATER

Machine Id
Legacy Heights 100kW
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (LOW-SULPHUR) (560 GAL)

DIAGNOSIS

Recommendation

We advise that you follow the water drain-off procedure for this component. All other laboratory tests indicate that this sample meets specifications for No.2 low-sulfur diesel fuel.

Corrosion

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

Contaminants

Moderate concentration of visible dirt/debris present in the fuel. 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.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**WC0829192**	WC0580746	---
Sample Date		Client Info		**14 Jun 2023**	31 Jan 2022	---
Machine Age	hrs	Client Info		**944**	944	---
Sample Status				**ABNORMAL**	ATTENTION	---

PHYSICAL PROPERTIES		method	limit/base	current	history 1	history 2
Specific Gravity		*ASTM D1298	0.839	**0.841**	0.842	---
Fuel Color	text	*Visual Screen	Yllow	**Red**	Red	---
ASTM Color	scalar	*ASTM D1500		**L4.0**	L4.0	---
Visc @ 40°C	cSt	ASTM D445	3.0	**2.46**	2.46	---
Pensky-Martens Flash Point	°C	*PMCC Calculated	52	**61**	64	---
Cloud Point	°C	ASTM D5771		**-13**	-13	---
Pour Point	°C	ASTM D5950		**-35**	-37	---

SULFUR CONTENT		method	limit/base	current	history 1	history 2
Sulfur	ppm	ASTM D5185m	250	**317**	267	---
Sulfur (UVF)	ppm	ASTM D5453		**224**	277	---

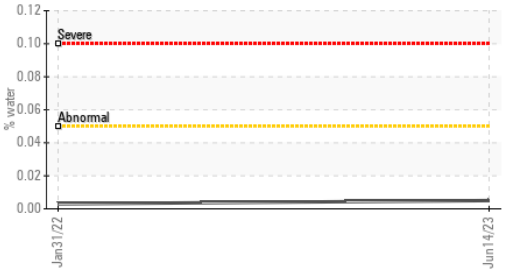
DISTILLATION		method	limit/base	current	history 1	history 2
Initial Boiling Point	°C	ASTM D86	165	**168**	156	---
5% Distillation Point	°C	ASTM D86		**192**	185	---
10% Distill Point	°C	ASTM D86	201	**203**	201	---
15% Distillation Point	°C	ASTM D86		**210**	212	---
20% Distill Point	°C	ASTM D86	216	**218**	219	---
30% Distill Point	°C	ASTM D86	230	**231**	232	---
40% Distill Point	°C	ASTM D86	243	**245**	245	---
50% Distill Point	°C	ASTM D86	255	**258**	258	---
60% Distill Point	°C	ASTM D86	267	**272**	272	---
70% Distill Point	°C	ASTM D86	280	**286**	286	---
80% Distill Point	°C	ASTM D86	295	**303**	302	---
85% Distillation Point	°C	ASTM D86		**312**	312	---
90% Distill Point	°C	ASTM D86	310	**323**	323	---
95% Distillation Point	°C	ASTM D86		**340**	339	---
Final Boiling Point	°C	ASTM D86	341	**349**	349	---
Distillation Residue	%	ASTM D86	3.0	**1.4**	1.4	---
Distillation Loss	%	ASTM D86	3.0	**0.6**	0.4	---

IGNITION QUALITY	method	limit/base	current	history 1	history 2
API Gravity	ASTM D7777	37.7	**36.8**	36.6	---
Cetane Index	ASTM D4737	<40.0	**47.8**	47.4	---

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	<1.0	**0**	0	---
Sodium	ppm	ASTM D5185m	<0.1	**0**	0	---
Potassium	ppm	ASTM D5185m	<0.1	**0**	0	---
Water	%	ASTM D6304	<0.05	**0.005**	0.003	---
ppm Water	ppm	ASTM D6304	<500	**58.1**	34.3	---
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	---
% Biodiesel	%	*In-House	<20.0	**0.0**	0.0	---

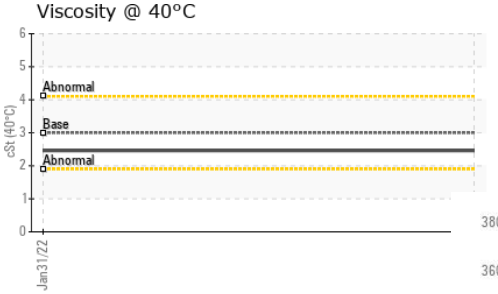
FUEL REPORT

Water



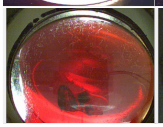
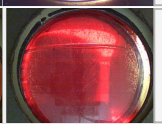
Viscosity @ 40°C

Viscosity @ 40°C



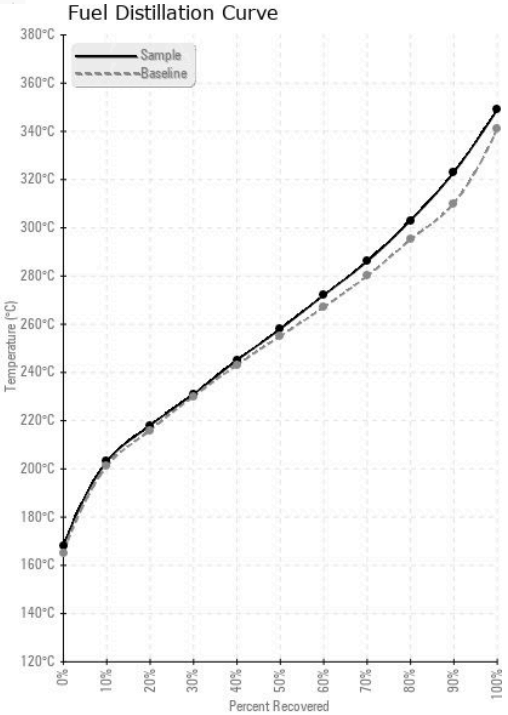
MICROBIAL		method	limit/base	current	history 1	history 2
Bacteria	CFU/ml	WC-Method	>=100000	**0**	---	---
Yeast	CFU/ml	WC-Method	>=100000	**0**	---	---
Mold	Colonies	WC-Method	MODER	**---**	---	---

HEAVY METALS		method	limit/base	current	history 1	history 2
Aluminum	ppm	ASTM D5185m	<0.1	**0**	<1	---
Nickel	ppm	ASTM D5185m	<0.1	**<1**	0	---
Lead	ppm	ASTM D5185m	<0.1	**0**	0	---
Vanadium	ppm	ASTM D5185m	<0.1	**0**	0	---
Iron	ppm	ASTM D5185m	<0.1	**0**	<1	---
Calcium	ppm	ASTM D5185m	<0.1	**0**	2	---
Magnesium	ppm	ASTM D5185m	<0.1	**0**	0	---
Phosphorus	ppm	ASTM D5185m	<0.1	**<1**	8	---
Zinc	ppm	ASTM D5185m	<0.1	**0**	0	---

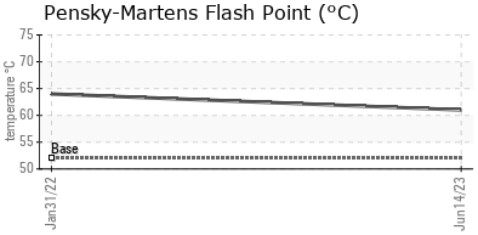
SAMPLE IMAGES	method	limit/base	current	history 1	history 2
Color					*no image*
Bottom					*no image*

GRAPHS

Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0829192 **Received** : 21 Jun 2023
Lab Number : 05880411 **Diagnosed** : 05 Jul 2023
Unique Number : 10525514 **Diagnostician** : Doug Bogart
Test Package : DF-3 (Additional Tests: Bacteria, Screen)

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)

ALTERNATIVE POWER
1000 NORTHGATE CT
MORRISVILLE, NC
US 27560
Contact: RYAN BAILEY
ryan.bailey@bittingelectric.com
T: (919)467-9417
F:

Report Id: BITCAR [WUSCAR] 05880411 (Generated: 07/05/2023 10:09:04) Rev: 1

Submitted By: ROBERT MCARTHUR