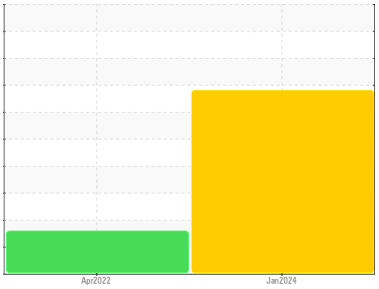
FUEL REPORT

Sample Rating Trend



WATER

Machine Id
ELECTR-WINTER-AST 4
Component
Diesel Fuel
Fluid
DIESEL FUEL No. 2 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you follow the water drain-off procedure for this component, and use off-line filtration to improve the cleanliness of the system fluid. We recommend you service and check the fuel filters for mucous-like deposits. Check with fuel supplier for biocides available to destroy the microorganisms in the fuel system. We recommend an early resample to monitor this condition. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Corrosion

The iron level is abnormal.

Contaminants

Appearance indicates probable bacterial contamination existed. Excessive free water present. High concentration of visible dirt/debris present in the fuel. There is no bacteria or fungus (yeast and/or mold) present in the sample.

Fuel Condition

The fuel is no longer serviceable due to the presence of contaminants. Sulfur value derived by ASTM D5453 method for ULSD validation.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0869473**	WC0681824	---
Sample Date		Client Info		**24 Jan 2024**	18 Apr 2022	---
Machine Age	hrs	Client Info		**0**	0	---
Sample Status				**SEVERE**	ABNORMAL	---

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		*ASTM D1298		**0.839**	0.838	---
Fuel Color	text	*Visual Screen		**Red**	Red	---
ASTM Color	scalar	*ASTM D1500		**L5.0**	L4.5	---
Visc @ 40°C	cSt	ASTM D445	4.1	**2.5**	2.5	---
Pensky-Martens Flash Point	°C	*PMCC Calculated		**57**	61	---

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185m		**0**	0	---
Sulfur (UVF)	ppm	ASTM D5453		**7**	6	---

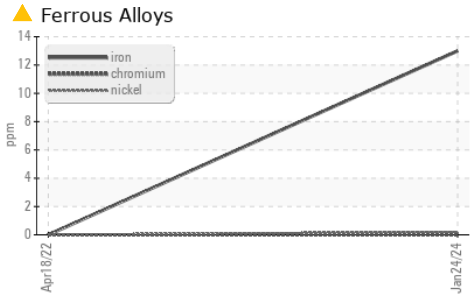
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D86		**158**	162	---
5% Distillation Point	°C	ASTM D86		**186**	187	---
10% Distill Point	°C	ASTM D86		**198**	199	---
15% Distillation Point	°C	ASTM D86		**208**	208	---
20% Distill Point	°C	ASTM D86		**216**	216	---
30% Distill Point	°C	ASTM D86		**232**	231	---
40% Distill Point	°C	ASTM D86		**247**	246	---
50% Distill Point	°C	ASTM D86		**262**	261	---
60% Distill Point	°C	ASTM D86		**275**	276	---
70% Distill Point	°C	ASTM D86		**289**	292	---
80% Distill Point	°C	ASTM D86		**304**	309	---
85% Distillation Point	°C	ASTM D86		**313**	318	---
90% Distill Point	°C	ASTM D86		**324**	329	---
95% Distillation Point	°C	ASTM D86		**339**	344	---
Final Boiling Point	°C	ASTM D86		**349**	354	---
Distillation Residue	%	ASTM D86		**1.4**	1.4	---
Distillation Loss	%	ASTM D86		**0.4**	0.6	---

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D7777		**37.2**	37.4	---
Cetane Index		ASTM D4737	<40.0	**48.6**	49.3	---

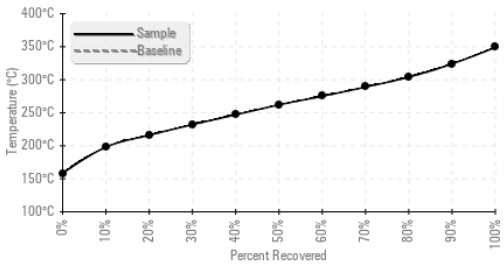
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	<1.0	**0**	0	---
Sodium	ppm	ASTM D5185m	<0.1	**<1**	<1	---
Potassium	ppm	ASTM D5185m	<0.1	**0**	0	---
Water	%	ASTM D6304	<0.05	**0.007**	0.004	---
ppm Water	ppm	ASTM D6304	<500	**77**	43.1	---
% Gasoline	%	*In-House	<0.50	**0.0**	0.0	---
% Biodiesel	%	*In-House	<20.0	**0.0**	1.8	---

FUEL REPORT

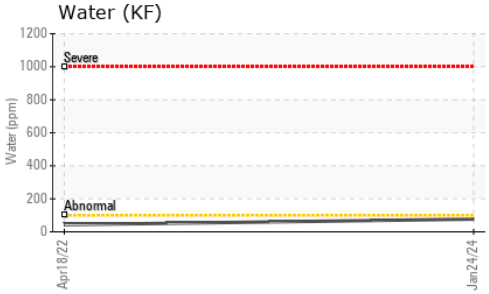
Ferrous Alloys



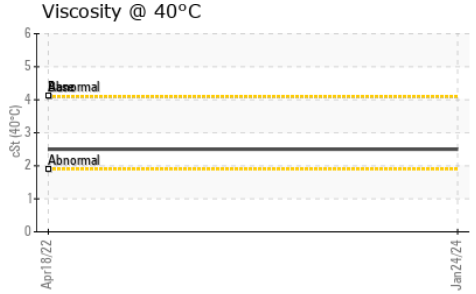
Fuel Distillation Curve



Water (KF)



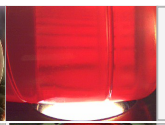
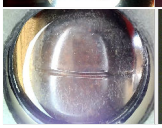
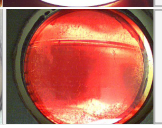
Viscosity @ 40°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	---	▲ 3729	---
Particles >6µm	ASTM D7647	>640	---	▲ 1341	---
Particles >14µm	ASTM D7647	>80	---	▲ 145	---
Particles >21µm	ASTM D7647	>20	---	▲ 23	---
Particles >38µm	ASTM D7647	>4	---	2	---
Particles >71µm	ASTM D7647	>3	---	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	---	▲ 19/18/14	---

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	**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	▲ **13**	0	---
Calcium	ppm	ASTM D5185m	<0.1	**<1**	0	---
Magnesium	ppm	ASTM D5185m	<0.1	**<1**	0	---
Phosphorus	ppm	ASTM D5185m	<0.1	**0**	0	---
Zinc	ppm	ASTM D5185m	<0.1	**0**	0	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					*no image*
Bottom					*no image*

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0869473 **Recieved** : 30 Jan 2024
Lab Number : 06074270 **Diagnosed** : 06 Feb 2024
Unique Number : 10856361 **Diagnostician** : Doug Bogart
Test Package : DF-2 (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)

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