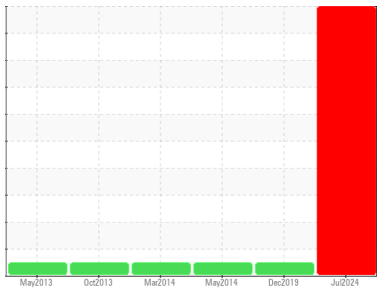
FUEL REPORT

Sample Rating Trend



WATER

Machine Id
26-T-6270 NO 2 MGO SERVICE TANK
Component
Port Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check for the source of water entry. We advise that you filter this fluid before use. We recommend an early resample to monitor this condition. Diagnostician's Note: This fuel has higher boiling points for 10%, 20%, 50%, 90% and EBP. This sample was mostly aqueous (contaminated water) with a small film of fuel on top. The fuel layer was centrifuged and extracted to run the GCD/SimDis analysis. The aqueous layer was analysed by ICP and contains high levels of sodium, magnesium, sulfur, potassium, calcium, phosphorus and boron. The specific gravity of the aqueous layer is 1.009. Distilled water is 1.000, salt water is 1.030. Likely this is a combination of fresh/salt water (bilge water). This appears to be a different grade fuel from the original IMO 9274501 bunker sample.

Corrosion
Iron ppm levels are abnormal. The high metal levels indicate corrosion in the system.

Contaminants
There is a high concentration of water present in the fuel.

Fuel Condition
Pensky-Martens Flash Point is abnormally high. 10%, 20%, 50%, 90%and Final Boiling Point results are abnormally high. Sodium, Magnesium, Phosphorus, Sulfur, Calcium, and Boron ppm levels are abnormally high. The fuel is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PP**	PP	PP
Sample Date		Client Info		**02 Jul 2024**	05 Dec 2019	02 May 2014
Machine Age	hrs	Client Info		**0**	0	0
Sample Status				**SEVERE**	NORMAL	NORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D1298*	0.839	**---**	0.845	0.845
Fuel Color	text	Visual Screen*	Yllow	**---**	Yllow	Yllow
Visc @ 40°C	cSt	ASTM D7279(m)	3.0	**---**	2.6	2.8
Pensky-Martens Flash Point	°C	ASTM D7215*	52	▲ **108.3**	64	67

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185(m)	10	▲ **172**	8	4

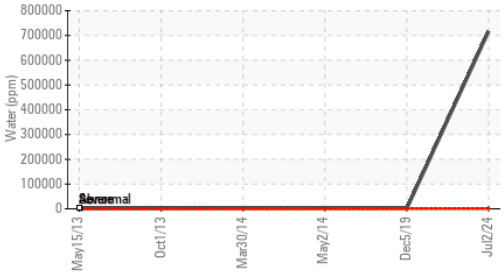
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D2887*	165	**232**	164	172
5% Distillation Point	°C	ASTM D2887*		**249**	192	---
10% Distill Point	°C	ASTM D2887*	201	▲ **253**	205	209
15% Distillation Point	°C	ASTM D2887*		**257**	213	---
20% Distill Point	°C	ASTM D2887*	216	▲ **261**	221	228
30% Distill Point	°C	ASTM D2887*	230	**270**	234	243
40% Distill Point	°C	ASTM D2887*	243	**278**	247	257
50% Distill Point	°C	ASTM D2887*	255	▲ **286**	259	270
60% Distill Point	°C	ASTM D2887*	267	**297**	272	284
70% Distill Point	°C	ASTM D2887*	280	**308**	285	298
80% Distill Point	°C	ASTM D2887*	295	**320**	300	314
85% Distillation Point	°C	ASTM D2887*		**331**	309	---
90% Distill Point	°C	ASTM D2887*	310	▲ **341**	320	335
95% Distillation Point	°C	ASTM D2887*		**358**	338	---
Final Boiling Point	°C	ASTM D2887*	341	▲ **387**	348	359
Distillation Residue	%	ASTM D86(e)*	3.0	**---**	1.4	1.4
Distillation Loss	%	ASTM D86(e)*	3.0	**---**	0.6	0.8

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D1298*	37.7	**---**	36.0	36.0
Cetane Index		ASTM D4737*	<40.0	**---**	46.7	48.6

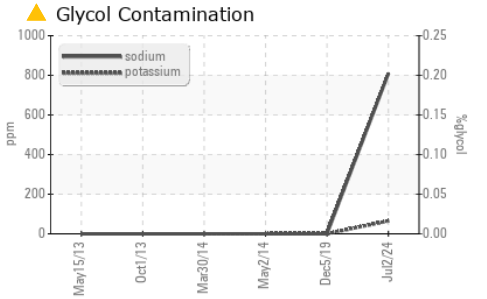
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	<1.0	**0**	0	0
Sodium	ppm	ASTM D5185(m)	<0.1	▲ **809**	0	<1
Potassium	ppm	ASTM D5185(m)	<0.1	▲ **65**	<1	0
Water	%	ASTM D6304*	<0.05	▲ **71.61**	0.001	0.001
ppm Water	ppm	ASTM D6304*	<500	▲ **716181**	11.7	17.0

FUEL REPORT

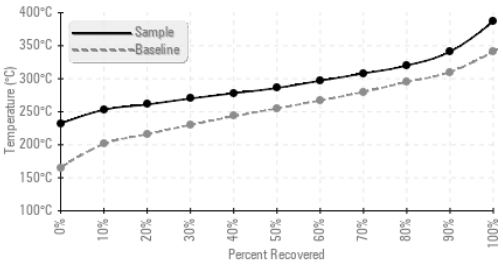
Water (KF)



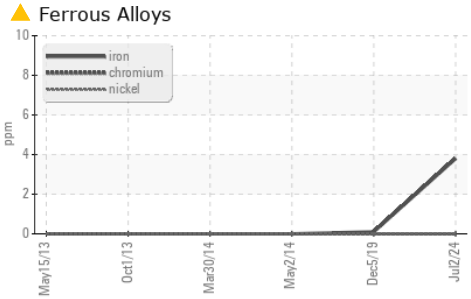
Glycol Contamination



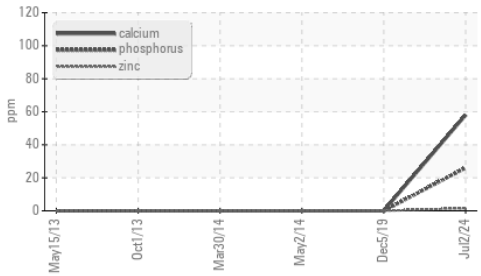
Fuel Distillation Curve



Ferrous Alloys

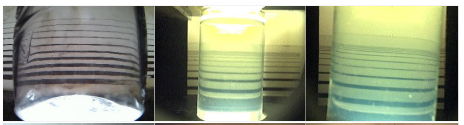


Additives



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	---	505	---
Particles >6µm	ASTM D7647	>640	---	137	---
Particles >14µm	ASTM D7647	>80	---	10	---
Particles >21µm	ASTM D7647	>20	---	2	---
Particles >38µm	ASTM D7647	>4	---	0	---
Particles >71µm	ASTM D7647	>3	---	0	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	---	16/14/10	---

HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Nickel	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Lead	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Vanadium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Iron	ppm	ASTM D5185(m)	<0.1	▲ **4**	<1	0
Calcium	ppm	ASTM D5185(m)	<0.1	▲ **58**	0	0
Magnesium	ppm	ASTM D5185(m)	<0.1	▲ **240**	0	0
Phosphorus	ppm	ASTM D5185(m)	<0.1	▲ **26**	0	0
Zinc	ppm	ASTM D5185(m)	<0.1	**2**	0	0

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PP
Lab Number : 02646811
Unique Number : 5812363
Test Package : FUEL (Additional Tests: Bacteria, CC Flash, FT-IR, PQ, PrtCount, PrtFilterPrep)

Received : 09 Jul 2024
Tested : 10 Jul 2024
Diagnosed : 10 Jul 2024 - Bill Quesnel

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

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Report Id: SPESTJ [WCAMIS] 02646811 (Generated: 07/10/2024 16:55:22) Rev: 1
Contact/Location: Nick Fewer - SPESTJ