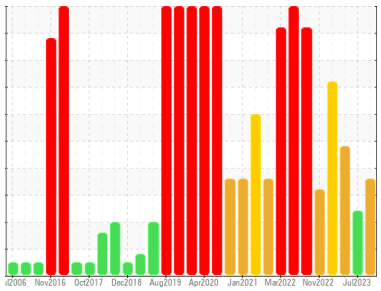
FUEL REPORT

Sample Rating Trend



WATER

Area
System 61 - Diesel
Machine Id
F-6101B WEST RAW
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (ULTRALOW SULPHUR) (--- LTR)

DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you filter this fluid before use. We advise that you follow the water drain-off procedure for this component. We recommend an early resample to monitor this condition.

Corrosion

{not applicable}

Contaminants

There is a moderate amount of particulates (2 to 100 microns in size) present in the fuel. Free water present. There is no bacteria or fungus (yeast and/or mold) present in the sample. Small amount of bacteria present. No reportable mold present. No reportable yeast present.

Fuel Condition

The fuel is still serviceable provided that the contaminant(s) can be reduced to acceptable levels. All laboratory tests indicate that this sample meets specifications for No.2 ultra-low-sulfur diesel fuel (US EPA/CGSB-3.517-3 type B).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PP**	PP	PP
Sample Date		Client Info		**14 Oct 2023**	23 Jul 2023	07 Jun 2023
Machine Age	hrs	Client Info		**0**	0	1930
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D1298*	0.839	**0.838**	0.837	0.837
Fuel Color	text	Visual Screen*	Yllow	**Yllow**	Yllow	Yllow
Visc @ 40°C	cSt	ASTM D7279(m)	3.0	**2.7**	2.7	2.7
Pensky-Martens Flash Point	°C	ASTM D7215*	52	**64.6**	64.6	63.7
Cloud Point	°C	ASTM D2500*		**-15**	-15	-14

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185(m)	10	**7**	6	6

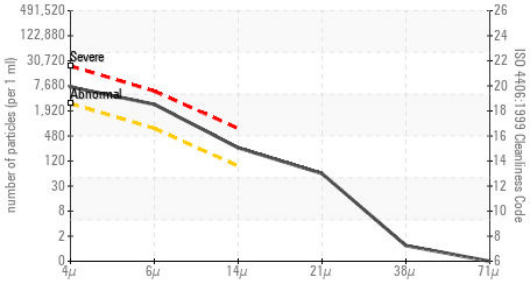
DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D2887*	165	**175**	175	174
5% Distillation Point	°C	ASTM D2887*		**196**	196	196
10% Distill Point	°C	ASTM D2887*	201	**207**	208	207
15% Distillation Point	°C	ASTM D2887*		**215**	217	216
20% Distill Point	°C	ASTM D2887*	216	**224**	225	224
30% Distill Point	°C	ASTM D2887*	230	**239**	241	240
40% Distill Point	°C	ASTM D2887*	243	**253**	254	253
50% Distill Point	°C	ASTM D2887*	255	**266**	268	267
60% Distill Point	°C	ASTM D2887*	267	**280**	282	281
70% Distill Point	°C	ASTM D2887*	280	**294**	296	295
80% Distill Point	°C	ASTM D2887*	295	**309**	311	311
85% Distillation Point	°C	ASTM D2887*		**320**	322	322
90% Distill Point	°C	ASTM D2887*	310	**331**	332	333
95% Distillation Point	°C	ASTM D2887*		**349**	350	351
Final Boiling Point	°C	ASTM D2887*	341	**365**	367	376

IGNITION QUALITY		method	limit/base	current	history1	history2
API Gravity		ASTM D1298*	37.7	**37**	37	37
Cetane Index		ASTM D4737*	<40.0	**50**	51	51

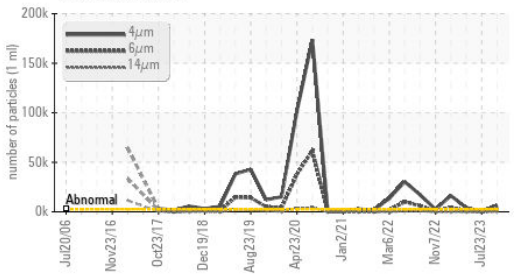
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	<1.0	**0**	0	0
Sodium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Potassium	ppm	ASTM D5185(m)	<0.1	**<1**	<1	<1
Water	%	ASTM D6304*	<0.05	**0.014**	0.005	0.005
ppm Water	ppm	ASTM D6304*	<500	**143.8**	50.7	53.1
Sediment	%	ASTM D1796(e)*	<0.05	**0.055**	0.093	0.001

FUEL REPORT

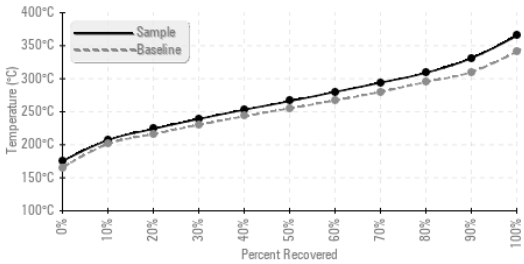
Particle Count



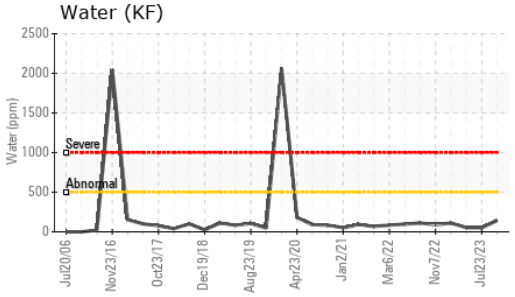
Particle Trend



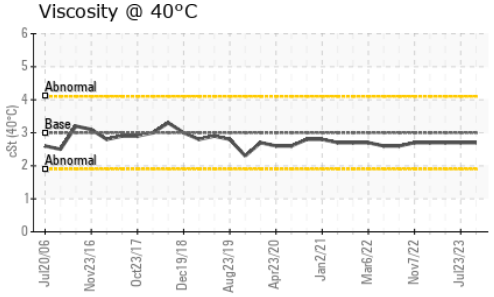
Fuel Distillation Curve



Water (KF)



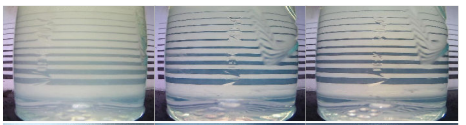
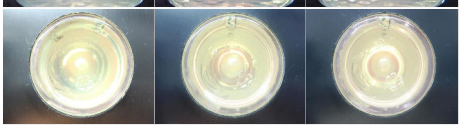
Viscosity @ 40°C



FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ **6277**	296	▲ 4123
Particles >6µm	ASTM D7647	>640	▲ **2407**	88	▲ 1160
Particles >14µm	ASTM D7647	>80	▲ **220**	12	62
Particles >21µm	ASTM D7647	>20	▲ **53**	3	12
Particles >38µm	ASTM D7647	>4	**1**	0	1
Particles >71µm	ASTM D7647	>3	**0**	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ **20/18/15**	15/14/11	▲ 19/17/13

MICROBIAL		method	limit/base	current	history1	history2
Bacteria	CFU/ml	ASTM D6469*	>=100000	**1000**	1000	▲ 10000
Yeast	CFU/ml	ASTM D6469*	>=100000	**0**	0	0
Mold	Colonies	ASTM D6469*	MODER	**NONE**	NONE	NONE

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	**<1**	<1	<1
Calcium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Magnesium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Phosphorus	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Zinc	ppm	ASTM D5185(m)	<0.1	**0**	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 : 02592773
Unique Number : 5669852
Test Package : FUEL (Additional Tests: Bacteria, CC Flash, CldPt, GC-PercFuel, PrtCount, Sediment)

Received : 30 Oct 2023
Diagnosed : 03 Nov 2023
Diagnostician : Kevin Marson

HIBERNIA MGMT & DEVELOPMENT CO. LTD
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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.