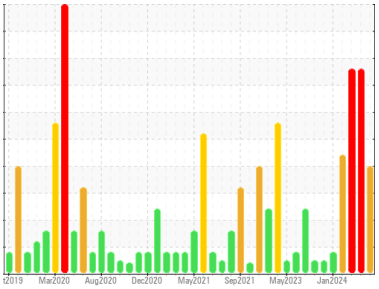
FUEL REPORT

Sample Rating Trend



ISO

Area
CRANES
Machine Id
Crane - Fwd Fuel Sample (S/N Sample Tag: MA-04003)
Component
Diesel Fuel
Fluid
No.2 DIESEL FUEL (LOW-SULPHUR) (--- GAL)

DIAGNOSIS

▲ Recommendation

We advise that you check all areas where contaminants can enter the system. Laboratory test indicate that this fuel is suitable for use and meets all test requirements. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you filter this fluid before use. Resample in 30-45 days to monitor this situation.

▲ Contaminants

There is a high amount of particulates (2 to 100 microns in size) present in the fuel. The water content is negligible.

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		**PC**	PC	PC0076303
Sample Date		Client Info		**31 Mar 2024**	07 Feb 2024	24 Jan 2024
Machine Age	hrs	Client Info		**0**	0	0
Sample Status				**SEVERE**	SEVERE	ABNORMAL

PHYSICAL PROPERTIES		method	limit/base	current	history1	history2
Specific Gravity		ASTM D1298*	0.839	**0.849**	0.851	0.853
Fuel Color	text	Visual Screen*	Yllow	**Yllow**	Yllow	Yllow
Visc @ 40°C	cSt	ASTM D7279(m)	3.0	**3**	3	2.9
Pensky-Martens Flash Point	°C	ASTM D7215*	52	**63**	64.7	64.3

SULFUR CONTENT		method	limit/base	current	history1	history2
Sulfur	ppm	ASTM D5185(m)	250	**7**	8	8

DISTILLATION		method	limit/base	current	history1	history2
Initial Boiling Point	°C	ASTM D2887*	165	**174**	176	176
5% Distillation Point	°C	ASTM D2887*		**199**	203	202
10% Distill Point	°C	ASTM D2887*	201	**211**	215	214
15% Distillation Point	°C	ASTM D2887*		**219**	223	222
20% Distill Point	°C	ASTM D2887*	216	**228**	232	231
30% Distill Point	°C	ASTM D2887*	230	**243**	246	245
40% Distill Point	°C	ASTM D2887*	243	**256**	258	256
50% Distill Point	°C	ASTM D2887*	255	**269**	270	268
60% Distill Point	°C	ASTM D2887*	267	**283**	283	280
70% Distill Point	°C	ASTM D2887*	280	**297**	296	293
80% Distill Point	°C	ASTM D2887*	295	**312**	310	307
85% Distillation Point	°C	ASTM D2887*		**323**	321	318
90% Distill Point	°C	ASTM D2887*	310	**334**	331	329
95% Distillation Point	°C	ASTM D2887*		**352**	348	347
Final Boiling Point	°C	ASTM D2887*	341	**377**	363	377

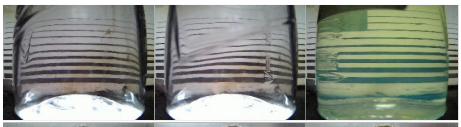
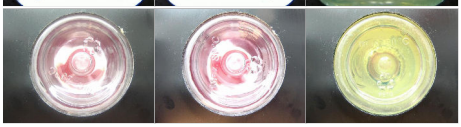
IGNITION QUALITY	method	limit/base	current	history1	history2
API Gravity	ASTM D1298*	37.7	**35**	34	34
Cetane Index	ASTM D4737*	<40.0	**47**	47	45

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	<1.0	**0**	0	0
Sodium	ppm	ASTM D5185(m)	<0.1	**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Water	%	ASTM D6304*	<0.05	**0.005**	0.006	0.009
ppm Water	ppm	ASTM D6304*	<500	**58**	70	95

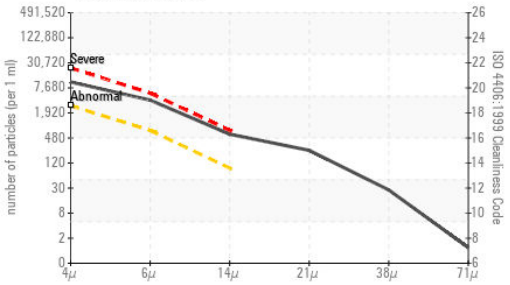
FLUID CLEANLINESS	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	▲ **9241**	▲ 24039	▲ 7747
Particles >6µm	ASTM D7647	>640	▲ **3401**	▲ 8059	● 1050
Particles >14µm	ASTM D7647	>80	▲ **520**	▲ 960	34
Particles >21µm	ASTM D7647	>20	▲ **213**	▲ 223	8
Particles >38µm	ASTM D7647	>4	▲ **24**	5	1
Particles >71µm	ASTM D7647	>3	**1**	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	▲ **20/19/16**	▲ 22/20/17	▲ 20/17/12

FUEL REPORT

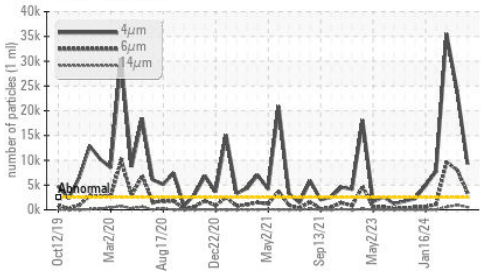
HEAVY METALS		method	limit/base	current	history1	history2
Aluminum	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Nickel	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Lead	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Vanadium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Iron	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Calcium	ppm	ASTM D5185(m)	<0.1	**0**	0	0
Magnesium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

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

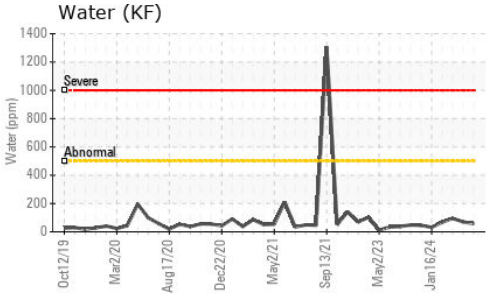
Particle Count



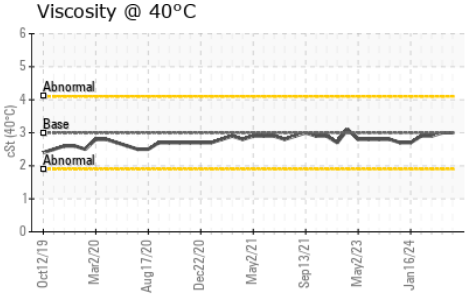
Particle Trend



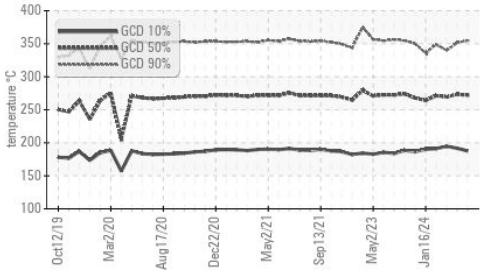
Water (KF)



Viscosity @ 40°C

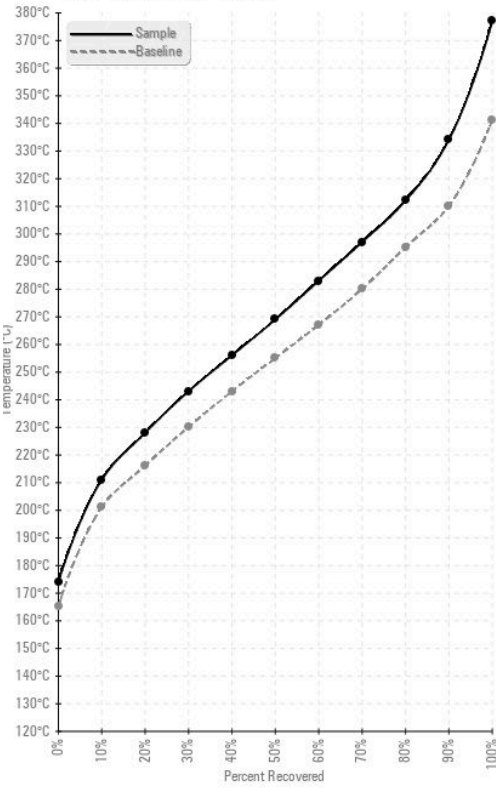


Gas Chromatography (GCD)

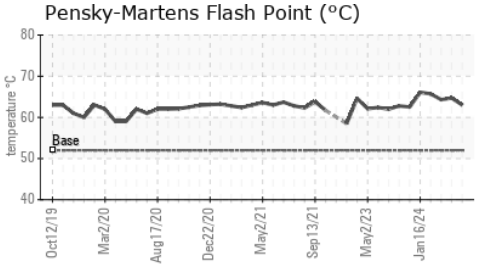


GRAPHS

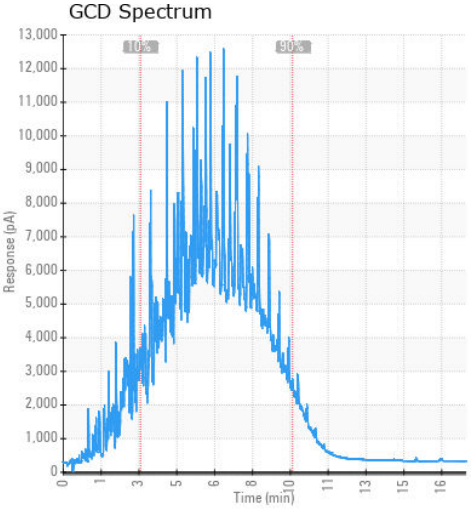
Fuel Distillation Curve



Pensky-Martens Flash Point (°C)



GCD Spectrum



CALA
ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC
Lab Number : 02625825
Unique Number : 5750944
Test Package : FUEL (Additional Tests: CC Flash, PrtCount)
Received : 01 Apr 2024
Tested : 03 Apr 2024
Diagnosed : 03 Apr 2024 - Kevin Marson

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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