



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
INTERNATIONAL 51938
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0935041	WC0892068	WC0879086
Sample Date		Client Info		23 May 2024	23 Feb 2024	10 Nov 2023
Machine Age	mls	Client Info		26461	335829	307509
Oil Age	mls	Client Info		26461	28600	28169
Filter Age	mls	Client Info		26461	28600	28169
Oil Changed		Client Info		Changed	Changed	N/A
Filter Changed		Client Info		Changed	Changed	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

Metal levels are typical for a new component breaking in.

Iron	ppm	ASTM D5185(m)	>100	47	21	17
Chromium	ppm	ASTM D5185(m)	>20	3	1	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		2	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	9	4	4
Lead	ppm	ASTM D5185(m)	>40	2	2	3
Copper	ppm	ASTM D5185(m)	>330	3	1	1
Tin	ppm	ASTM D5185(m)	>15	2	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

There is no indication of any contamination in the oil.

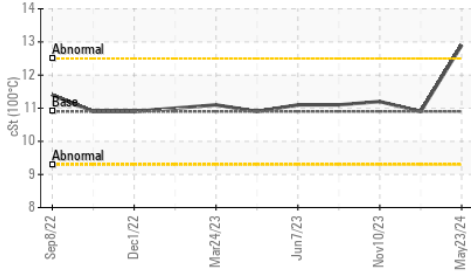
Silicon	ppm	ASTM D5185(m)	>25	29	5	4
Potassium	ppm	ASTM D5185(m)	>20	1	2	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	0.1	0.3	0.4
Nitration	Abs/cm	ASTM D7624*	>20	7.5	8.7	9.4
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.1	19.7	21.1
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

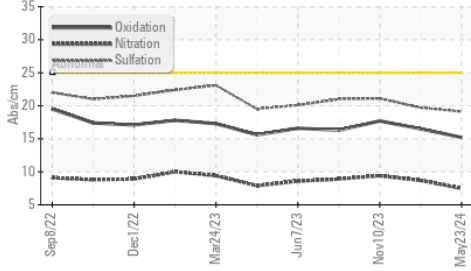
Viscosity of sample indicates oil is within SAE 40 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)		4	2	2
Boron	ppm	ASTM D5185(m)	250	10	6	4
Barium	ppm	ASTM D5185(m)	10	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	100	62	61	61
Manganese	ppm	ASTM D5185(m)		1	0	0
Magnesium	ppm	ASTM D5185(m)	450	947	973	980
Calcium	ppm	ASTM D5185(m)	3000	1063	1088	1089
Phosphorus	ppm	ASTM D5185(m)	1150	955	1017	976
Zinc	ppm	ASTM D5185(m)	1350	1162	1207	1213
Sulfur	ppm	ASTM D5185(m)	4250	2412	2574	2347
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.2	16.5	17.7
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	▲ 12.9	10.9	11.2

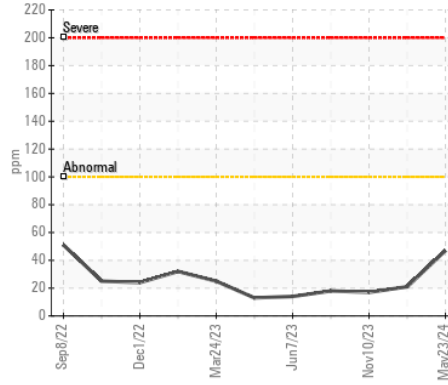
▲ Viscosity @ 100°C



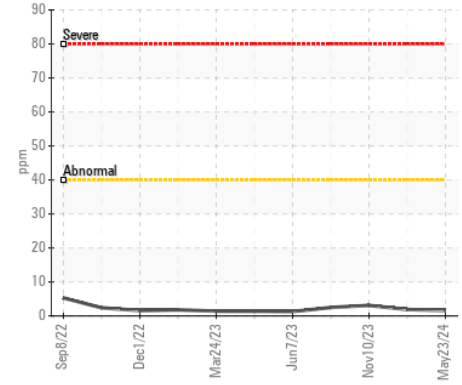
FT-IR (Direct Trend)



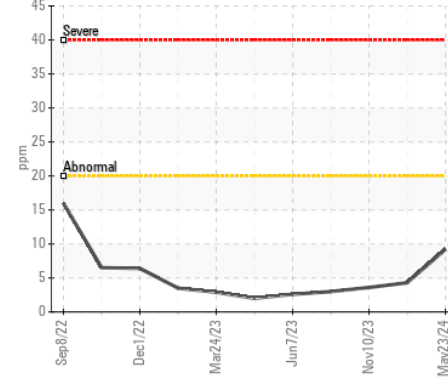
Iron (ppm)



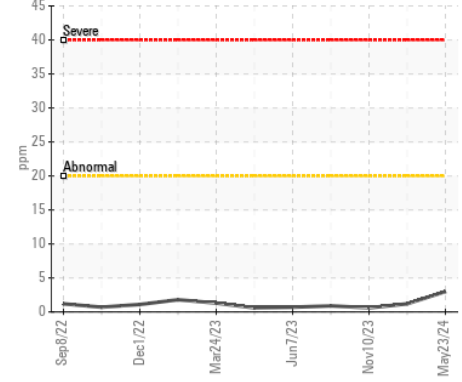
Lead (ppm)



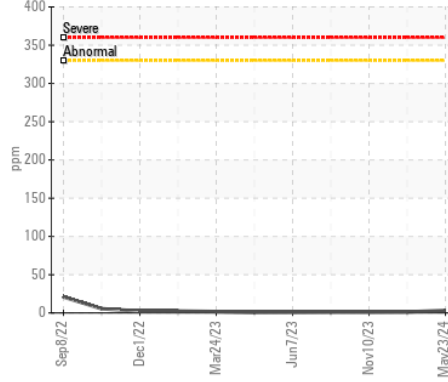
Aluminum (ppm)



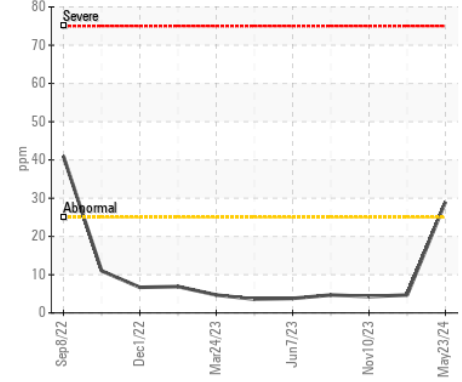
Chromium (ppm)



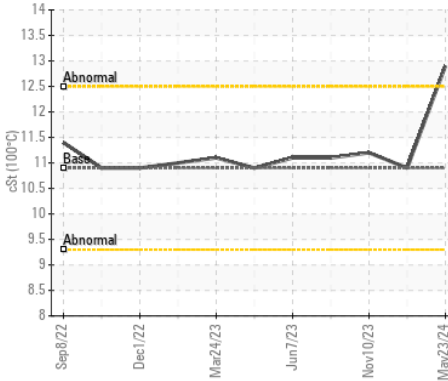
Copper (ppm)



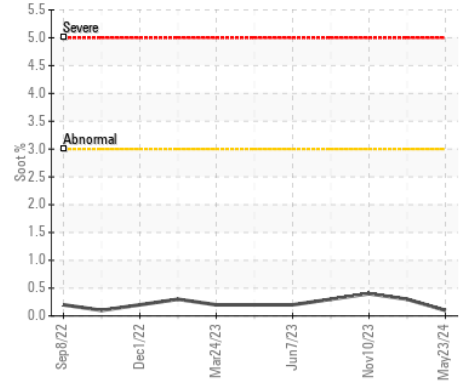
Silicon (ppm)



▲ Viscosity @ 100°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0935041 **Received** : 06 Jun 2024
Lab Number : 02640072 **Tested** : 06 Jun 2024
Unique Number : 5789234 **Diagnosed** : 06 Jun 2024 - Kevin Marson
Test Package : MOB 1

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 75 MUMFORD ROAD
 LIVELY, ON
 CA P3Y 1L1
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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.