



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Area

BELL [50506]

Machine Id

I060967890

Component

Diesel Engine

Fluid

DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		CU0022203	CU0018127	CU0017214
Sample Date		Client Info		04 Jun 2024	13 Jun 2022	22 Oct 2020
Machine Age	hrs	Client Info		0	282	216
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	Not Changd
Filter Changed		Client Info		N/A	N/A	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185(m)	>90	3	3	2
Chromium	ppm	ASTM D5185(m)	>20	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	0	0	0
Titanium	ppm	ASTM D5185(m)	>2	<1	<1	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	<1
Lead	ppm	ASTM D5185(m)	>40	<1	<1	<1
Copper	ppm	ASTM D5185(m)	>330	5	6	1
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	VLITE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---

CONTAMINATION

There is no indication of any contamination in the oil.

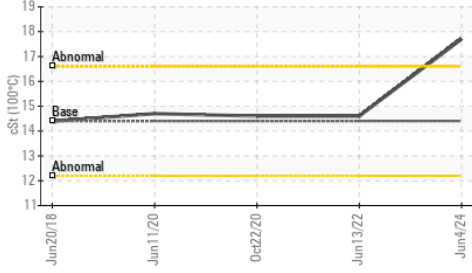
Silicon	ppm	ASTM D5185(m)	>25	4	3	4
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	<1
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>6	0	0	0
Nitration	Abs/cm	ASTM D7624*	>20	7.5	6.9	6.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.3	20.9	19.2
Silt	scalar	Visual*	NONE	VLITE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

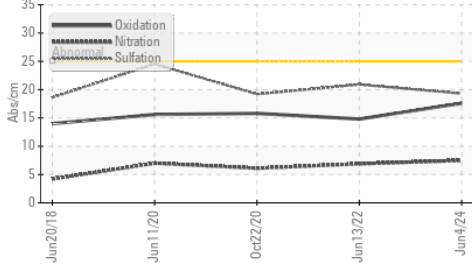
Viscosity of sample indicates oil is within SAE 50 range, advise investigate. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185(m)	>158	4	4	4
Boron	ppm	ASTM D5185(m)	250	62	61	61
Barium	ppm	ASTM D5185(m)	10	0	0	0
Molybdenum	ppm	ASTM D5185(m)	100	49	45	43
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	716	593	585
Calcium	ppm	ASTM D5185(m)	3000	1553	1510	1394
Phosphorus	ppm	ASTM D5185(m)	1150	890	985	956
Zinc	ppm	ASTM D5185(m)	1350	1204	1150	1165
Sulfur	ppm	ASTM D5185(m)	4250	2460	2999	2621
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.6	14.8	15.8
Visc @ 100°C	cSt	ASTM D7279(m)	14.4	▲ 17.7	14.6	14.6

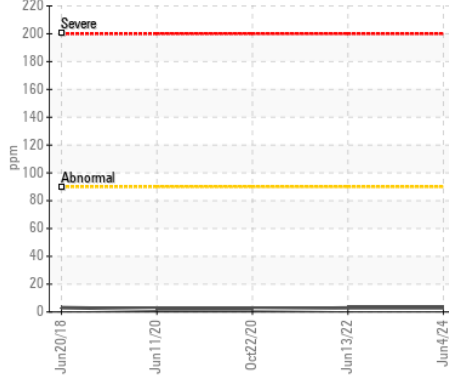
▲ Viscosity @ 100°C



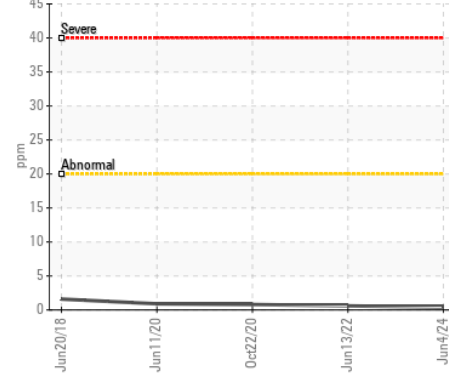
FT-IR (Direct Trend)



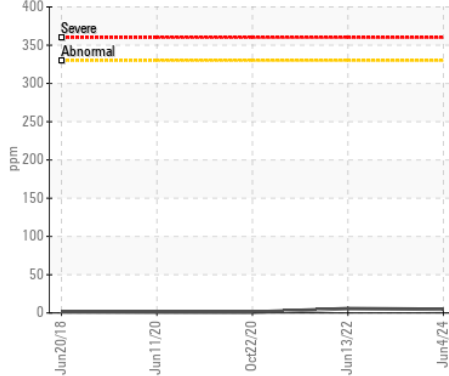
Iron (ppm)



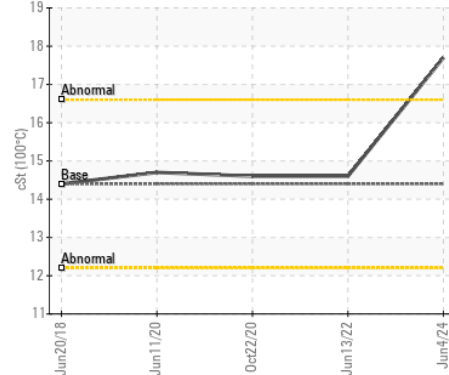
Aluminum (ppm)



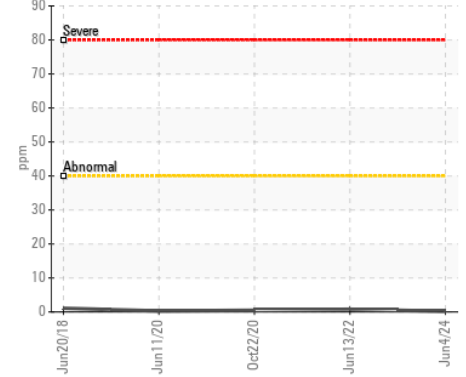
Copper (ppm)



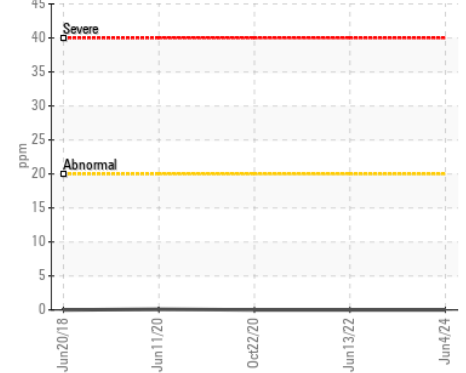
▲ Viscosity @ 100°C



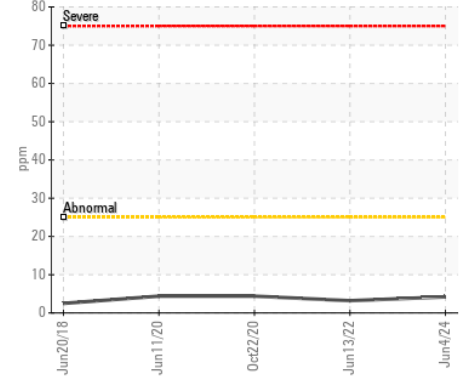
Lead (ppm)



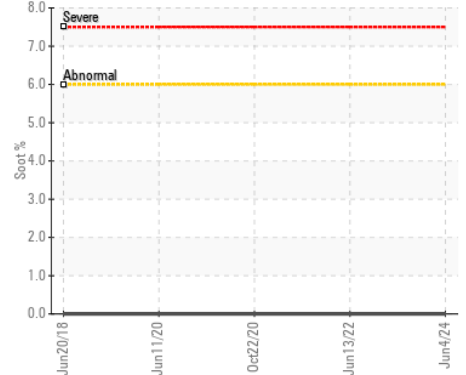
Chromium (ppm)



Silicon (ppm)



Soot %



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9

Sample No. : CU0022203

Lab Number : 02639746

Unique Number : 5788908

Test Package : MOB 1 (Additional Tests: Visual)

Received : 05 Jun 2024

Tested : 07 Jun 2024

Diagnosed : 07 Jun 2024 - Kevin Marson

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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.