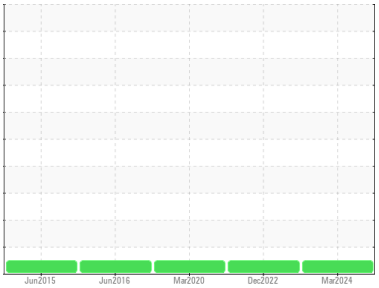
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Area
DEPARTMENT OF TRANSPORTATION AND PUBLIC WORK [6100273505]
Machine Id
JOHN DEERE 199984
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
Metal levels are typical for a new component breaking in.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WA0021310**	WA0018585	WA0015345
Sample Date		Client Info		**25 Mar 2024**	15 Dec 2022	04 Mar 2020
Machine Age	hrs	Client Info		**595**	554	373
Oil Age	hrs	Client Info		**0**	0	80
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**NORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>2.1	**<1.0**	<1.0	<1.0
Water		WC Method	>0.21	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>51	**4**	8	9
Chromium	ppm	ASTM D5185(m)	>11	**0**	0	<1
Nickel	ppm	ASTM D5185(m)	>5	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	<1
Silver	ppm	ASTM D5185(m)	>3	**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>31	**1**	1	2
Lead	ppm	ASTM D5185(m)	>26	**0**	0	<1
Copper	ppm	ASTM D5185(m)	>26	**<1**	<1	1
Tin	ppm	ASTM D5185(m)	>4	**0**	0	<1
Antimony	ppm	ASTM D5185(m)		**0**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**3**	25	38
Barium	ppm	ASTM D5185(m)	0	**0**	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	**57**	49	12
Manganese	ppm	ASTM D5185(m)	0	**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	**941**	812	186
Calcium	ppm	ASTM D5185(m)	1070	**1017**	1305	2174
Phosphorus	ppm	ASTM D5185(m)	1150	**973**	1074	1030
Zinc	ppm	ASTM D5185(m)	1270	**1143**	1186	1194
Sulfur	ppm	ASTM D5185(m)	2060	**2514**	2786	3458
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>22	**<1**	2	2
Sodium	ppm	ASTM D5185(m)	>31	**1**	2	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	1	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	**0**	0	0
Nitration	Abs/cm	ASTM D7624*	>20	**4.7**	3.8	6.3
Sulfation	Abs/.1mm	ASTM D7415*	>30	**18.0**	15.4	21.9

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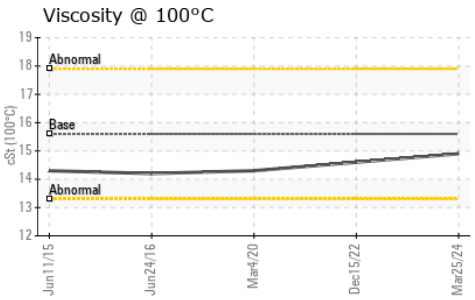
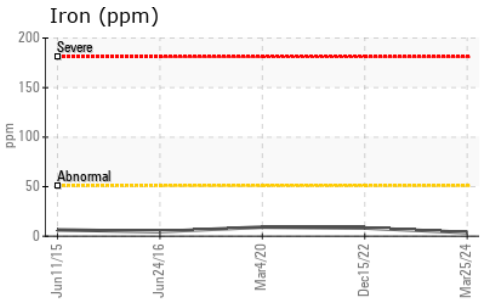


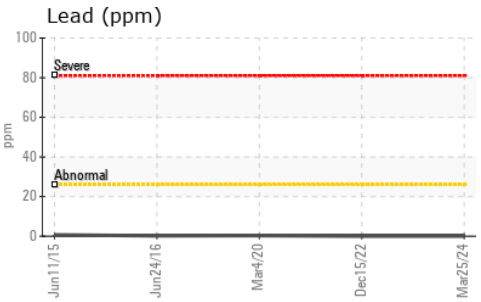
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**13.3**	8.1	14.6

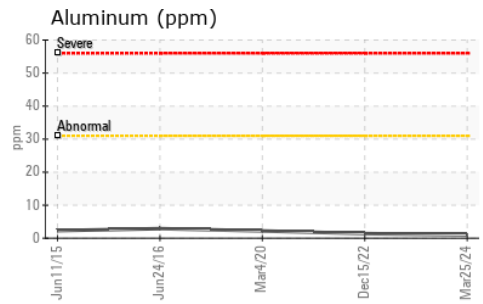
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.21	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

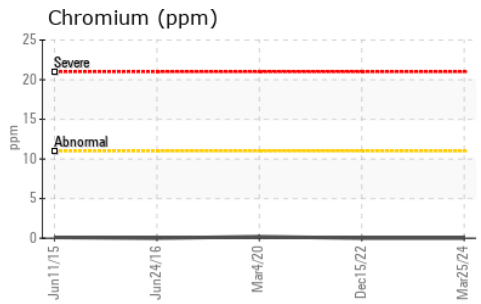
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	**14.9**	14.6	14.3

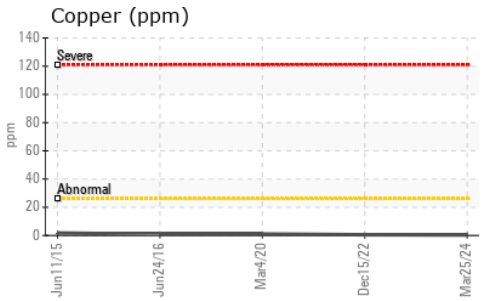
GRAPHS

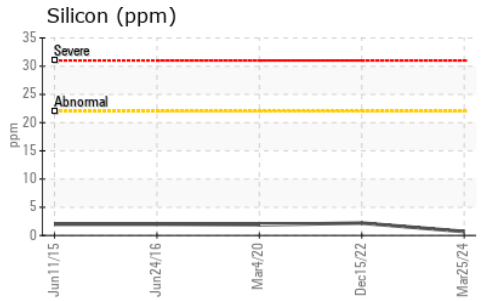


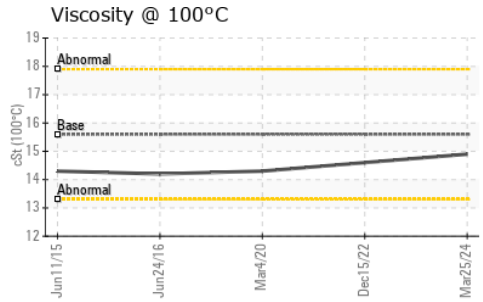


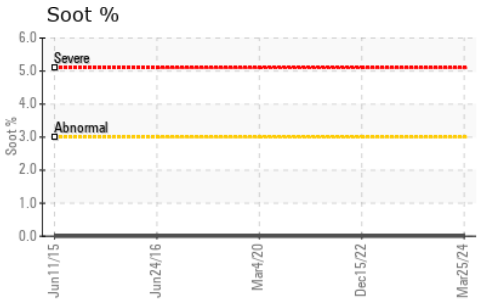












ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WA0021310
Lab Number : 02624611
Unique Number : 5749730
Test Package : MOB 1

Received : 26 Mar 2024
Tested : 26 Mar 2024
Diagnosed : 26 Mar 2024 - Wes Davis

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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