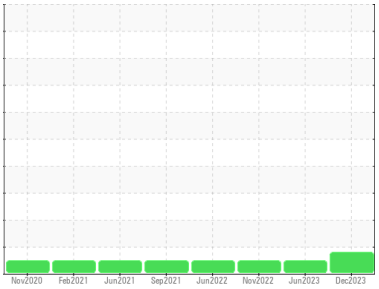
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
9642
Component
Diesel Engine
Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

DIAGNOSIS

Recommendation
The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear
Iron ppm levels are abnormal. Cylinder, crank, or cam shaft wear is indicated.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition
The oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0853052**	WC0796541	WC0737463
Sample Date		Client Info		**14 Dec 2023**	02 Jun 2023	24 Nov 2022
Machine Age	kms	Client Info		**140527**	116053	100911
Oil Age	kms	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
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

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>75	▲ **112**	27	18
Chromium	ppm	ASTM D5185(m)	>5	**4**	1	<1
Nickel	ppm	ASTM D5185(m)	>4	**1**	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	**0**	<1	<1
Silver	ppm	ASTM D5185(m)	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185(m)	>15	**24**	6	5
Lead	ppm	ASTM D5185(m)	>25	**2**	1	<1
Copper	ppm	ASTM D5185(m)	>100	**14**	4	2
Tin	ppm	ASTM D5185(m)	>4	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**0**	0	<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

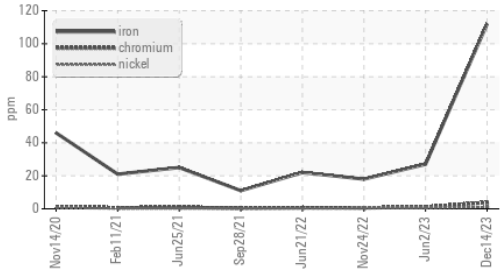
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	250	**22**	41	64
Barium	ppm	ASTM D5185(m)	10	**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	100	**7**	7	28
Manganese	ppm	ASTM D5185(m)		**2**	<1	<1
Magnesium	ppm	ASTM D5185(m)	450	**690**	689	677
Calcium	ppm	ASTM D5185(m)	3000	**1298**	1372	1358
Phosphorus	ppm	ASTM D5185(m)	1150	**661**	695	686
Zinc	ppm	ASTM D5185(m)	1350	**742**	733	726
Sulfur	ppm	ASTM D5185(m)	4250	**2476**	2520	2362
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**15**	6	6
Sodium	ppm	ASTM D5185(m)		**6**	3	4
Potassium	ppm	ASTM D5185(m)	>20	**37**	8	8

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**1.2**	0.4	0.2
Nitration	Abs/cm	ASTM D7624*	>20	**17.2**	11.6	11.7
Sulfation	Abs/.1mm	ASTM D7415*	>30	**32.1**	22.6	24.2

OIL ANALYSIS REPORT

Ferrous Alloys



FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**33.3**	19.6	20.0

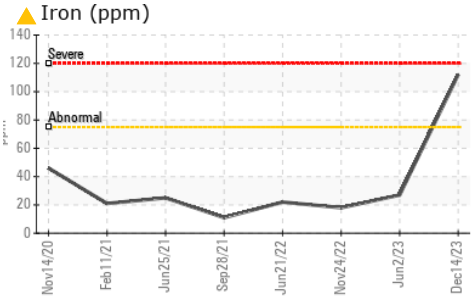
VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	**NEG**	NEG	NEG
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	10.9	**11.8**	11.1	11.4

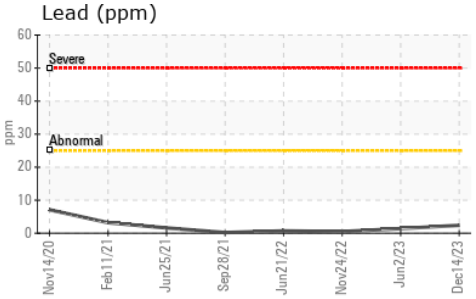
GRAPHS

PQ

Iron (ppm)

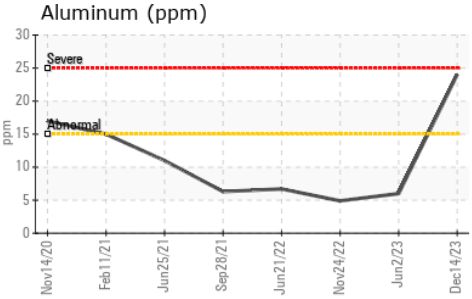


Lead (ppm)

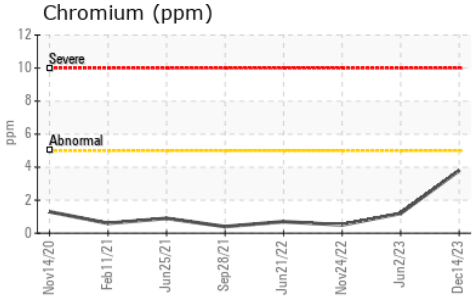


PQ

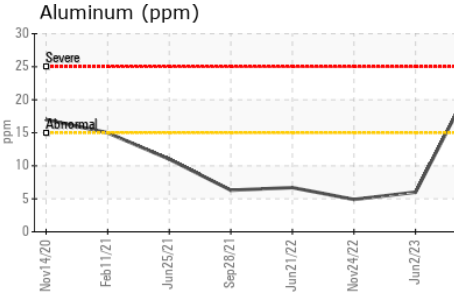
Aluminum (ppm)



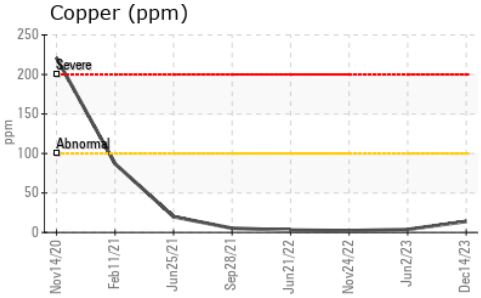
Chromium (ppm)



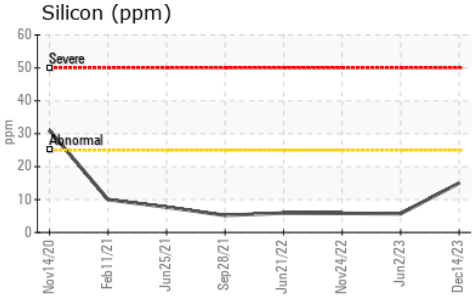
Aluminum (ppm)



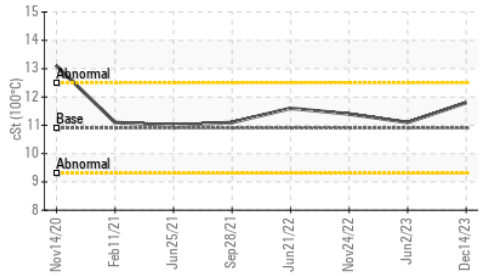
Copper (ppm)



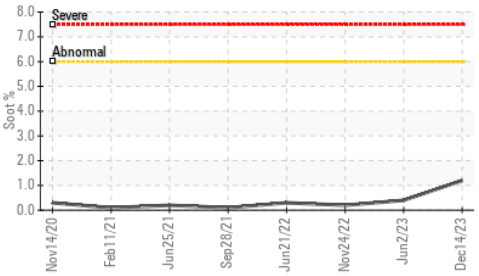
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0853052 **Recieved** : 24 Jan 2024
Lab Number : 02610813 **Diagnosed** : 25 Jan 2024
Unique Number : 5711899 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: PQ)

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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