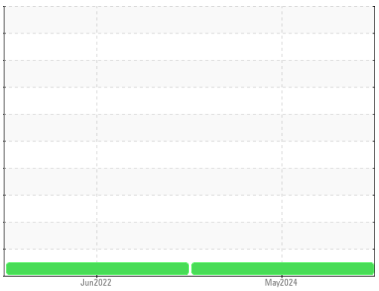
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
R277
Component
Diesel Engine
Fluid
SHELL 15W40 (--- GAL)

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0554142**	WC0553381	---
Sample Date		Client Info		**24 May 2024**	14 Jun 2022	---
Machine Age	kms	Client Info		**173334**	67776	---
Oil Age	kms	Client Info		**0**	67776	---
Oil Changed		Client Info		**Changed**	Changed	---
Sample Status				**NORMAL**	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	**<1.0**	<1.0	---
Water		WC Method	>0.2	**NEG**	NEG	---
Glycol		WC Method		**NEG**	NEG	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>90	**54**	50	---
Chromium	ppm	ASTM D5185(m)	>20	**2**	2	---
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	0	---
Silver	ppm	ASTM D5185(m)	>2	**<1**	<1	---
Aluminum	ppm	ASTM D5185(m)	>20	**24**	94	---
Lead	ppm	ASTM D5185(m)	>40	**<1**	3	---
Copper	ppm	ASTM D5185(m)	>330	**8**	75	---
Tin	ppm	ASTM D5185(m)	>15	**<1**	2	---
Antimony	ppm	ASTM D5185(m)		**0**	<1	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	---
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

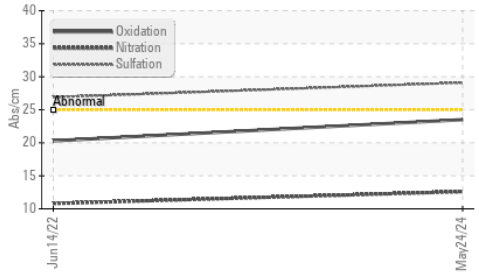
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**36**	51	---
Barium	ppm	ASTM D5185(m)		**<1**	1	---
Molybdenum	ppm	ASTM D5185(m)		**<1**	9	---
Manganese	ppm	ASTM D5185(m)		**<1**	2	---
Magnesium	ppm	ASTM D5185(m)		**16**	111	---
Calcium	ppm	ASTM D5185(m)		**2246**	2067	---
Phosphorus	ppm	ASTM D5185(m)		**838**	926	---
Zinc	ppm	ASTM D5185(m)		**1068**	1124	---
Sulfur	ppm	ASTM D5185(m)		**2737**	2637	---
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**8**	12	---
Sodium	ppm	ASTM D5185(m)	>150	**3**	5	---
Potassium	ppm	ASTM D5185(m)	>20	**40**	184	---

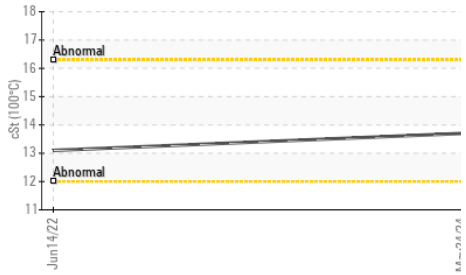
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>6	**0.8**	0.4	---
Nitration	Abs/cm	ASTM D7624*	>20	**12.6**	10.8	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**29.1**	26.9	---

OIL ANALYSIS REPORT

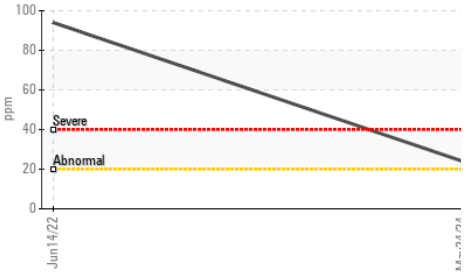
FT-IR (Direct Trend)



Viscosity @ 100°C



Aluminum (ppm)



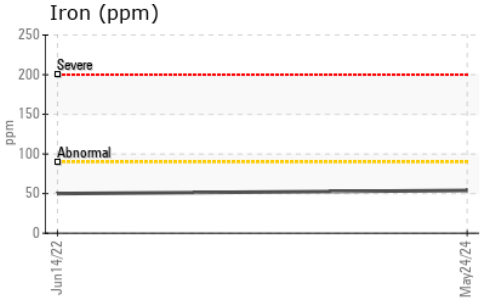
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**23.5**	20.3	---

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

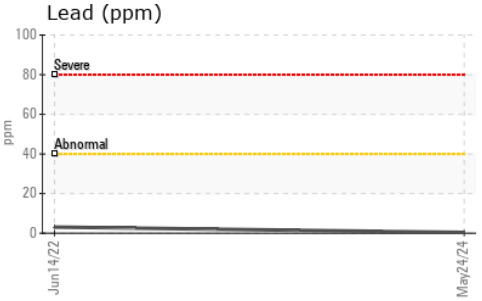
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)		**13.7**	13.1	---

GRAPHS

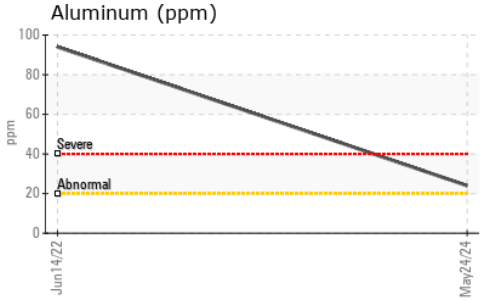
Iron (ppm)



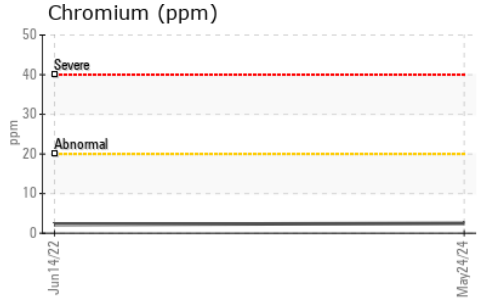
Lead (ppm)



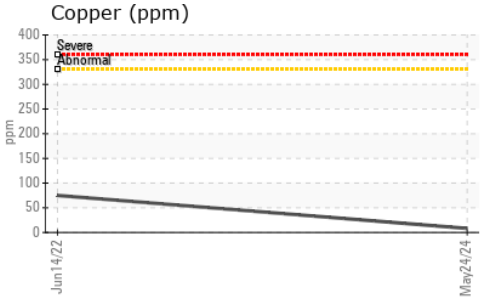
Aluminum (ppm)



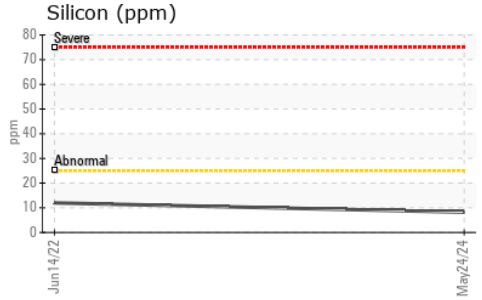
Chromium (ppm)



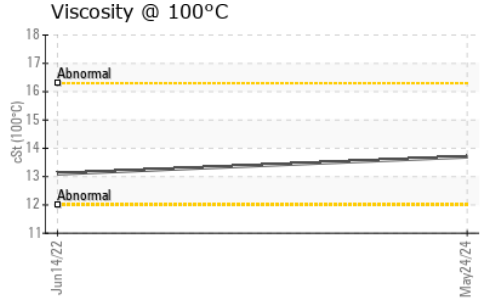
Copper (ppm)



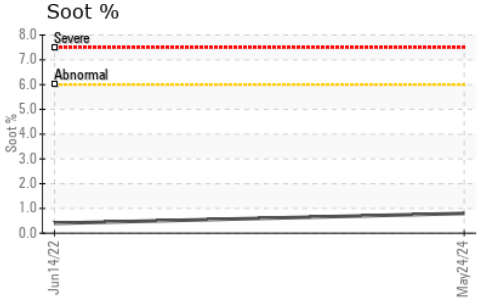
Silicon (ppm)



Viscosity @ 100°C



Soot %



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0554142
Lab Number : 02643174
Unique Number : 5800713
Test Package : MOB 1

Received : 20 Jun 2024
Tested : 20 Jun 2024
Diagnosed : 20 Jun 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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