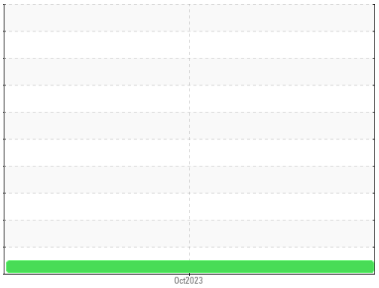
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
MACK 487
Component
Diesel Engine
Fluid
PETRO CANADA 10W30 (--- GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

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

Contamination
Fuel content negligible. 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0072101**	---	---
Sample Date		Client Info		**24 Oct 2023**	---	---
Machine Age	kms	Client Info		**1585**	---	---
Oil Age	kms	Client Info		**700**	---	---
Oil Changed		Client Info		**Not Changd**	---	---
Sample Status				**NORMAL**	---	---

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	---	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>120	**23**	---	---
Chromium	ppm	ASTM D5185(m)	>20	**<1**	---	---
Nickel	ppm	ASTM D5185(m)	>5	**2**	---	---
Titanium	ppm	ASTM D5185(m)	>2	**0**	---	---
Silver	ppm	ASTM D5185(m)	>2	**2**	---	---
Aluminum	ppm	ASTM D5185(m)	>20	**4**	---	---
Lead	ppm	ASTM D5185(m)	>40	**4**	---	---
Copper	ppm	ASTM D5185(m)	>330	**99**	---	---
Tin	ppm	ASTM D5185(m)	>15	**<1**	---	---
Antimony	ppm	ASTM D5185(m)		**0**	---	---
Vanadium	ppm	ASTM D5185(m)		**0**	---	---
Beryllium	ppm	ASTM D5185(m)		**0**	---	---
Cadmium	ppm	ASTM D5185(m)		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**8**	---	---
Barium	ppm	ASTM D5185(m)		**<1**	---	---
Molybdenum	ppm	ASTM D5185(m)		**67**	---	---
Manganese	ppm	ASTM D5185(m)		**<1**	---	---
Magnesium	ppm	ASTM D5185(m)		**933**	---	---
Calcium	ppm	ASTM D5185(m)		**1109**	---	---
Phosphorus	ppm	ASTM D5185(m)		**901**	---	---
Zinc	ppm	ASTM D5185(m)		**1142**	---	---
Sulfur	ppm	ASTM D5185(m)		**2104**	---	---
Lithium	ppm	ASTM D5185(m)		**<1**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	**8**	---	---
Sodium	ppm	ASTM D5185(m)		**2**	---	---
Potassium	ppm	ASTM D5185(m)	>20	**16**	---	---
Fuel	%	ASTM D7593*	>3.0	**0.5**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>4	**0.3**	---	---
Nitration	Abs/cm	ASTM D7624*	>20	**8.6**	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	**20.9**	---	---

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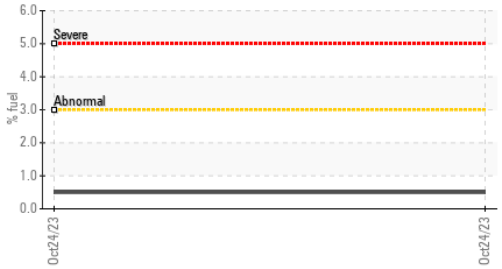
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	**17.3**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896*		**7.92**	---	---

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

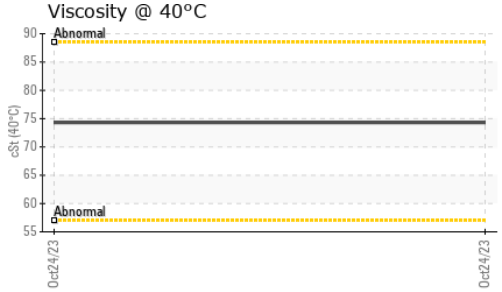
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		**74.3**	---	---
Visc @ 100°C	cSt	ASTM D7279(m)		**11.3**	---	---
Viscosity Index (VI)	Scale	ASTM D2270*		**143**	---	---

GRAPHS

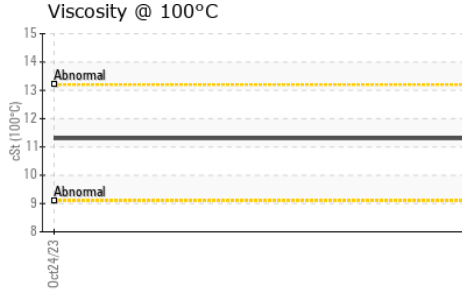
Fuel Dilution



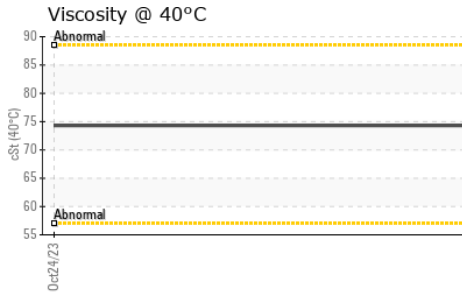
Viscosity @ 40°C



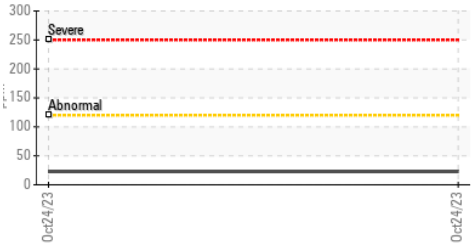
Viscosity @ 100°C



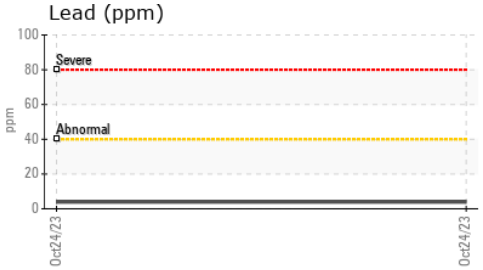
Viscosity @ 40°C



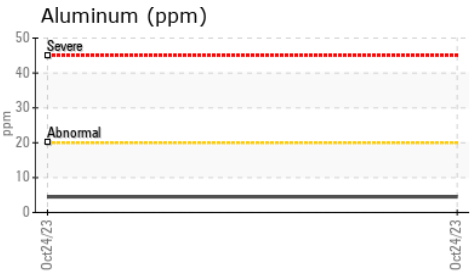
Iron (ppm)



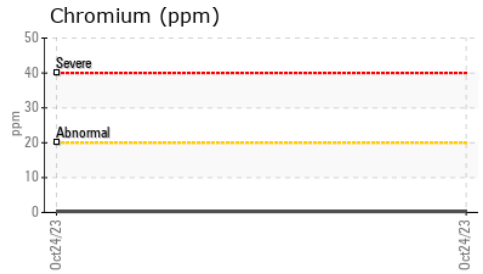
Lead (ppm)



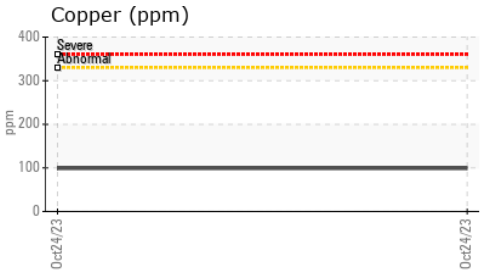
Aluminum (ppm)



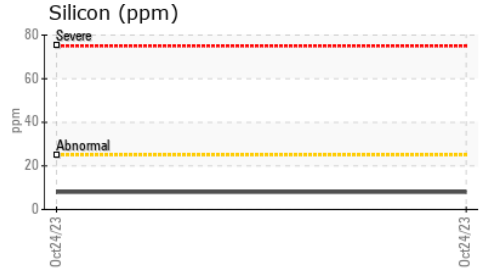
Chromium (ppm)



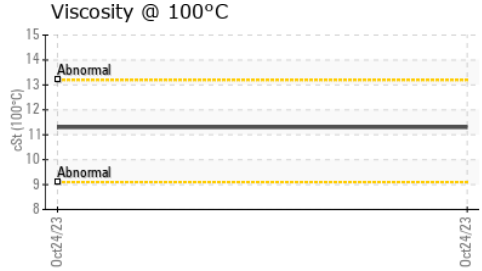
Copper (ppm)



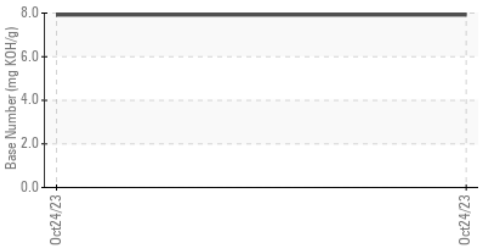
Silicon (ppm)



Viscosity @ 100°C



Base Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **PROGRESSIVE WASTE - 612H : ON - MAIDSTONE**
Sample No. : PC0072101 **Received** : 27 Oct 2023 5000 8TH CONCESSION
Lab Number : 02592344 **Diagnosed** : 30 Oct 2023 MAIDSTONE, ON
Unique Number : 5669423 **Diagnostician** : Wes Davis CA NOR 1K0
Test Package : MOB 2 (Additional Tests: FuelDilution, KV40, PercentFuel, VI) Contact: STEVE KINCH
To discuss this sample report, contact Customer Service at 1-800-268-2131. steve.kinch@progressivewaste.com
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
Validity of results and interpretation are based on the sample and information as supplied. F: