

OIL ANALYSIS REPORT

Sample Rating Trend


DEGRADATION


Machine Id
735451
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS
Recommendation

The oil is near the end of its useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

Wear

The copper level is abnormal. Cylinder, crank, or cam shaft wear is indicated. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

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 BN level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		PCA0098949	---	---
Sample Date	Client Info		30 Oct 2023	---	---
Machine Age	mls	Client Info	90912	---	---
Oil Age	mls	Client Info	0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			ABNORMAL	---	---

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>5	<1.0	---	---
Water	WC Method	>0.2	NEG	---	---
Glycol	WC Method		NEG	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	▲ 180	---	---
Chromium	ppm	ASTM D5185m >20	6	---	---
Nickel	ppm	ASTM D5185m >4	2	---	---
Titanium	ppm	ASTM D5185m	<1	---	---
Silver	ppm	ASTM D5185m >3	<1	---	---
Aluminum	ppm	ASTM D5185m >20	48	---	---
Lead	ppm	ASTM D5185m >40	0	---	---
Copper	ppm	ASTM D5185m >330	▲ 351	---	---
Tin	ppm	ASTM D5185m >15	6	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 2	16	---	---
Barium	ppm	ASTM D5185m 0	0	---	---
Molybdenum	ppm	ASTM D5185m 50	50	---	---
Manganese	ppm	ASTM D5185m 0	9	---	---
Magnesium	ppm	ASTM D5185m 950	605	---	---
Calcium	ppm	ASTM D5185m 1050	1907	---	---
Phosphorus	ppm	ASTM D5185m 995	811	---	---
Zinc	ppm	ASTM D5185m 1180	1047	---	---
Sulfur	ppm	ASTM D5185m 2600	2024	---	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	16	---	---
Sodium	ppm	ASTM D5185m	7	---	---
Potassium	ppm	ASTM D5185m >20	127	---	---

INFRA-RED

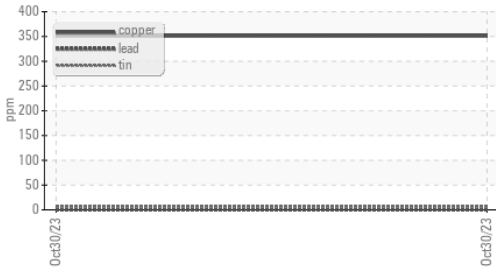
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	1.8	---	---
Nitration	Abs/cm	*ASTM D7624 >20	24.8	---	---
Sulfation	Abs/.1mm	*ASTM D7415 >30	34.1	---	---

FLUID DEGRADATION

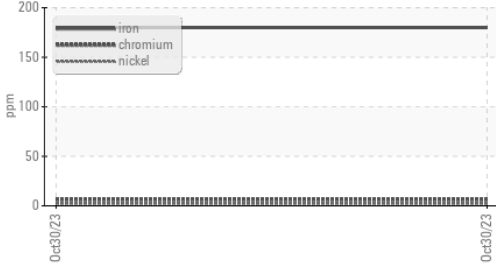
	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	54.5	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	▲ 1.7	---	---

OIL ANALYSIS REPORT

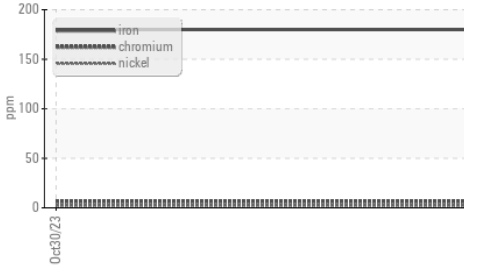
▲ Non-ferrous Metals



▲ Ferrous Alloys



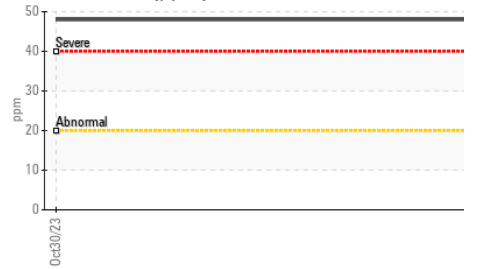
▲ Ferrous Alloys



Viscosity @ 100°C



Aluminum (ppm)

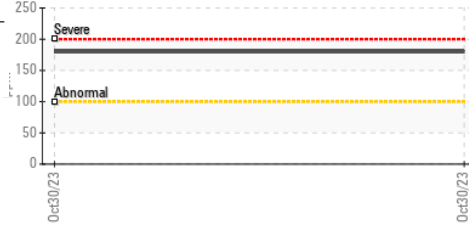


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	---	---
Precipitate	scalar	*Visual	NONE	---	---
Silt	scalar	*Visual	NONE	---	---
Debris	scalar	*Visual	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	---	---
Appearance	scalar	*Visual	NORML	---	---
Odor	scalar	*Visual	NORML	---	---
Emulsified Water	scalar	*Visual	>0.2	---	---
Free Water	scalar	*Visual	---	---	---

PARAMETER	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	12.9	---

GRAPHS

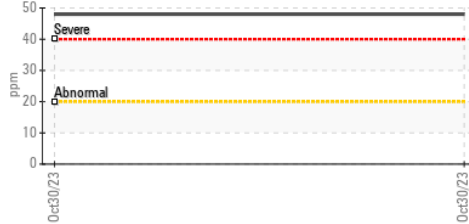
▲ Iron (ppm)



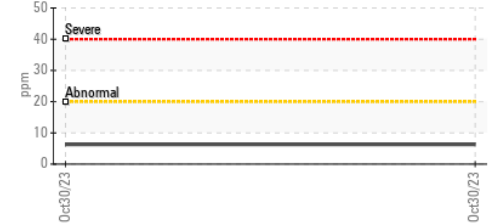
Lead (ppm)



Aluminum (ppm)



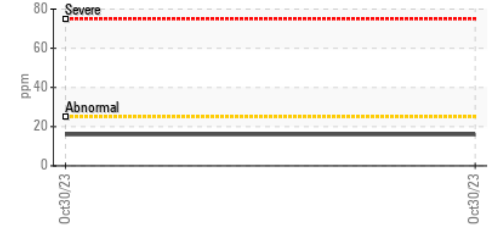
Chromium (ppm)



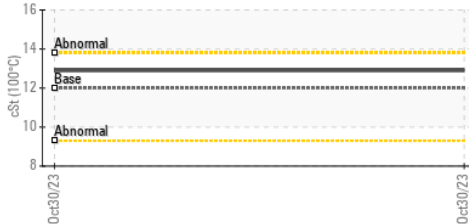
▲ Copper (ppm)



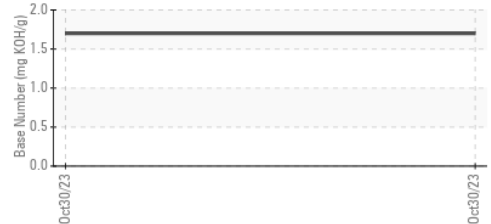
Silicon (ppm)



Viscosity @ 100°C



▲ Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0098949 **Received** : 24 Nov 2023
Lab Number : 06016262 **Diagnosed** : 28 Nov 2023
Unique Number : 10755406 **Diagnostician** : Jonathan Hester
Test Package : MOB 1 (Additional Tests: TBN)

MILLER TRUCK LEASING #112
 1504 MAINLINE DR
 CINNAMINSON, NJ
 US 08077
 Contact: MIKE BOYER
 mboyer@millertransgroup.com
 T: (856)662-4264
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To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)