OIL ANALYSIS REPORT

Sample Rating Trend

DEGRADATION

Machine Id
745188
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (--- GAL)

DIAGNOSIS

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

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

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.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0118580**	---	---
Sample Date		Client Info		**21 Mar 2024**	---	---
Machine Age	mls	Client Info		**770561**	---	---
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	▲ **128**	---	---
Chromium	ppm	ASTM D5185m	>20	**6**	---	---
Nickel	ppm	ASTM D5185m	>4	**0**	---	---
Titanium	ppm	ASTM D5185m		**<1**	---	---
Silver	ppm	ASTM D5185m	>3	**0**	---	---
Aluminum	ppm	ASTM D5185m	>20	**47**	---	---
Lead	ppm	ASTM D5185m	>40	**0**	---	---
Copper	ppm	ASTM D5185m	>330	**320**	---	---
Tin	ppm	ASTM D5185m	>15	**4**	---	---
Vanadium	ppm	ASTM D5185m		**0**	---	---
Cadmium	ppm	ASTM D5185m		**0**	---	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	**23**	---	---
Barium	ppm	ASTM D5185m	0	**0**	---	---
Molybdenum	ppm	ASTM D5185m	50	**43**	---	---
Manganese	ppm	ASTM D5185m	0	**4**	---	---
Magnesium	ppm	ASTM D5185m	950	**539**	---	---
Calcium	ppm	ASTM D5185m	1050	**1810**	---	---
Phosphorus	ppm	ASTM D5185m	995	**738**	---	---
Zinc	ppm	ASTM D5185m	1180	**876**	---	---
Sulfur	ppm	ASTM D5185m	2600	**1787**	---	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**12**	---	---
Sodium	ppm	ASTM D5185m		**8**	---	---
Potassium	ppm	ASTM D5185m	>20	**134**	---	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**1.6**	---	---
Nitration	Abs/cm	*ASTM D7624	>20	**21.3**	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**31.6**	---	---

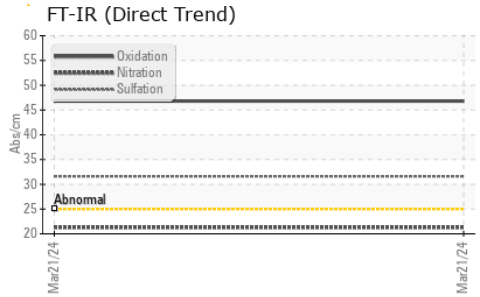
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**46.8**	---	---
Base Number (BN)	mg KOH/g	ASTM D2896		▲ **2.7**	---	---

OIL ANALYSIS REPORT

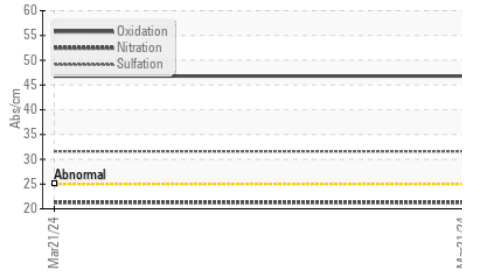
OIL DIAGNOSTICS

Ferrous Alloys

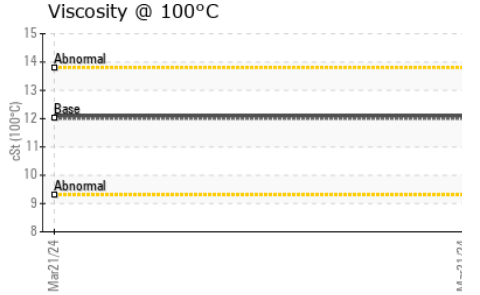
FT-IR (Direct Trend)



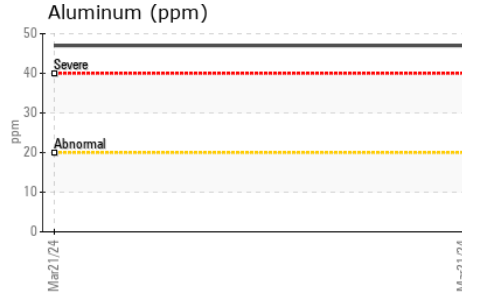
FT-IR (Direct Trend)



Viscosity @ 100°C



Aluminum (ppm)

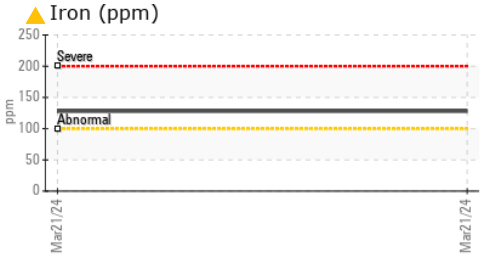


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	---	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	---	---
Precipitate	scalar	*Visual	NONE	**NONE**	---	---
Silt	scalar	*Visual	NONE	**NONE**	---	---
Debris	scalar	*Visual	NONE	**NONE**	---	---
Sand/Dirt	scalar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

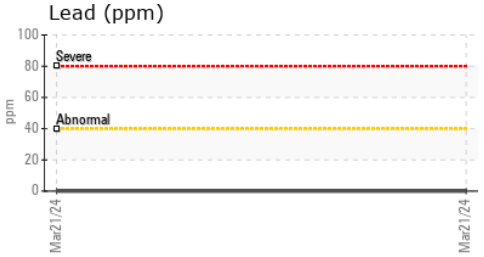
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	12.00	**12.1**	---	---

GRAPHS

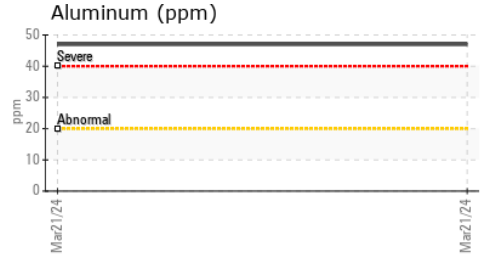
Iron (ppm)



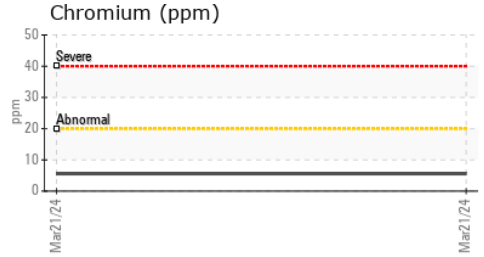
Lead (ppm)



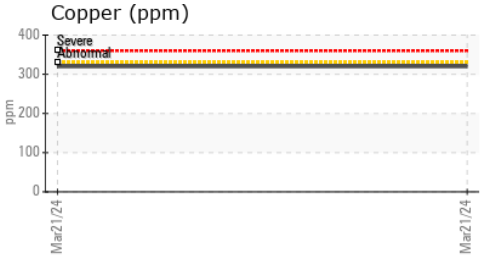
Aluminum (ppm)



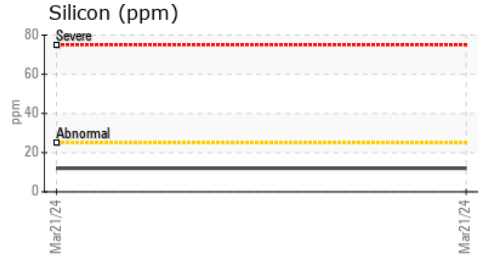
Chromium (ppm)



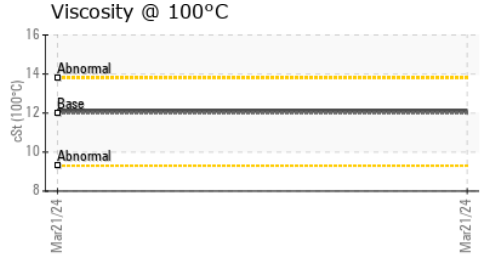
Copper (ppm)



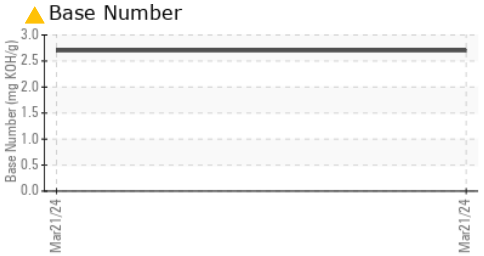
Silicon (ppm)



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0118580 **Received** : 15 Apr 2024
Lab Number : 06148263 **Tested** : 16 Apr 2024
Unique Number : 10978341 **Diagnosed** : 16 Apr 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

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)

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