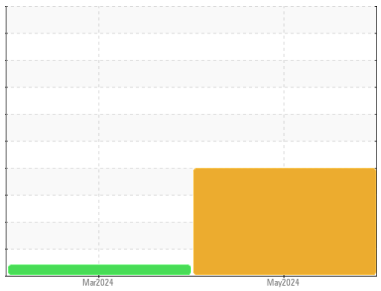
OIL DIAGNOSTICS

OIL ANALYSIS REPORT

Sample Rating Trend



WATER

Machine Id
HEX244696
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

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

Wear
The copper level is abnormal. Moderate concentration of visible metal present. All other component wear rates are normal.

Contamination
There is a light concentration of water present in the oil.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PCA0110076**	PCA0090482	---
Sample Date		Client Info		**24 May 2024**	22 Mar 2024	---
Machine Age	hrs	Client Info		**575**	147	---
Oil Age	hrs	Client Info		**575**	147	---
Oil Changed		Client Info		**N/A**	N/A	---
Sample Status				**ABNORMAL**	ATTENTION	---

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**15**	9	---
Chromium	ppm	ASTM D5185m	>10	**0**	0	---
Nickel	ppm	ASTM D5185m	>10	**0**	1	---
Titanium	ppm	ASTM D5185m		**0**	0	---
Silver	ppm	ASTM D5185m	>2	**0**	0	---
Aluminum	ppm	ASTM D5185m	>10	**3**	3	---
Lead	ppm	ASTM D5185m	>20	**<1**	2	---
Copper	ppm	ASTM D5185m	>15	▲ **109**	55	---
Tin	ppm	ASTM D5185m	>10	**2**	2	---
Vanadium	ppm	ASTM D5185m		**0**	0	---
Cadmium	ppm	ASTM D5185m		**0**	<1	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**23**	68	---
Barium	ppm	ASTM D5185m	0	**<1**	0	---
Molybdenum	ppm	ASTM D5185m	60	**85**	81	---
Manganese	ppm	ASTM D5185m	0	**3**	3	---
Magnesium	ppm	ASTM D5185m	1010	**15**	14	---
Calcium	ppm	ASTM D5185m	1070	**2226**	2157	---
Phosphorus	ppm	ASTM D5185m	1150	**1014**	1025	---
Zinc	ppm	ASTM D5185m	1270	**1240**	1154	---
Sulfur	ppm	ASTM D5185m	2060	**3867**	4520	---

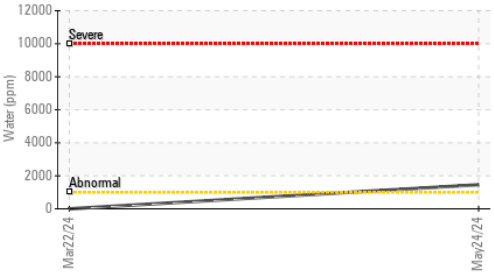
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**36**	24	---
Sodium	ppm	ASTM D5185m		**3**	4	---
Potassium	ppm	ASTM D5185m	>20	**2**	5	---
Fuel	%	ASTM D3524	>6.0	**<1.0**	0.4	---
Water	%	ASTM D6304	>0.1	▲ **0.146**	---	---
ppm Water	ppm	ASTM D6304	>1000	▲ **1460**	---	---
Glycol	%	*ASTM D2982		**NEG**	NEG	---

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.1**	0	---
Nitration	Abs/cm	*ASTM D7624	>20	**8.8**	7.8	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.7**	18.0	---

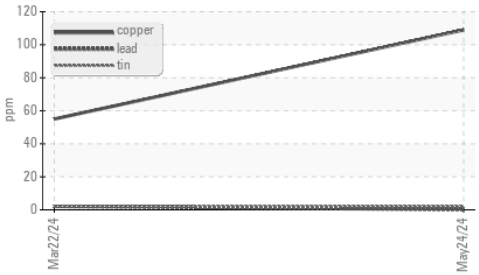
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.0**	14.0	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.12**	10.39	---

OIL ANALYSIS REPORT

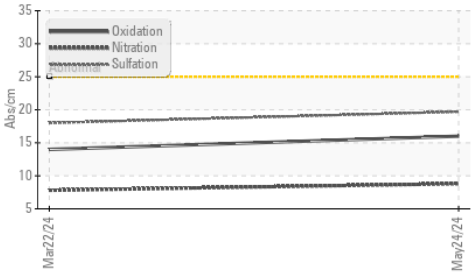
Water (KF)



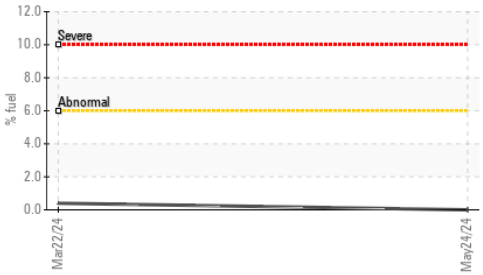
Non-ferrous Metals



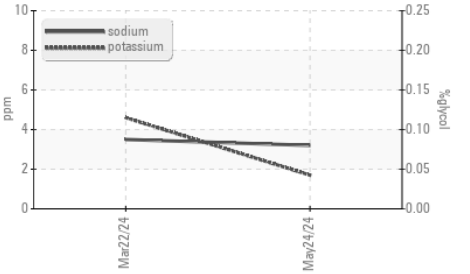
FT-IR (Direct Trend)



Fuel Dilution



Glycol Contamination

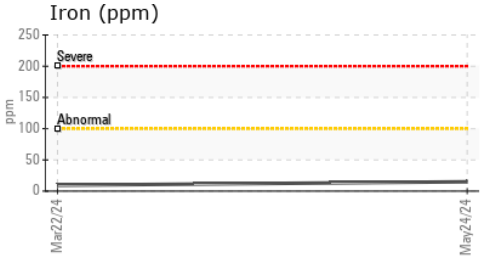


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	▲ **MODER**	NONE	---
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	---
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	---
Silt	scalar	*Visual	NONE	**NONE**	NONE	---
Debris	scalar	*Visual	NONE	**LIGHT**	NONE	---
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	---
Appearance	scalar	*Visual	NORML	**NORML**	NORML	---
Odor	scalar	*Visual	NORML	**NORML**	NORML	---
Emulsified Water	scalar	*Visual	>0.1	**0.2%**	NEG	---
Free Water	scalar	*Visual		**NEG**	NEG	---

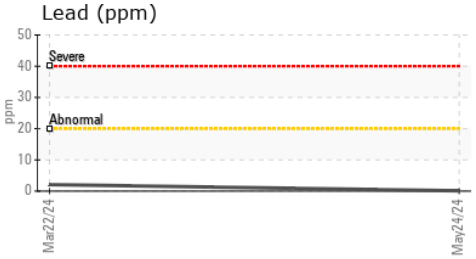
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	● **10.3**	10.8	---

GRAPHS

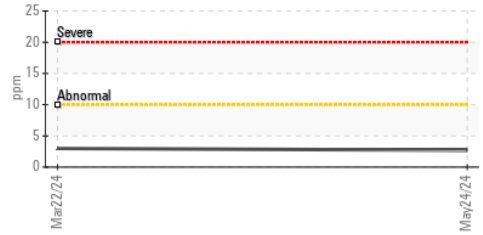
Iron (ppm)



Lead (ppm)

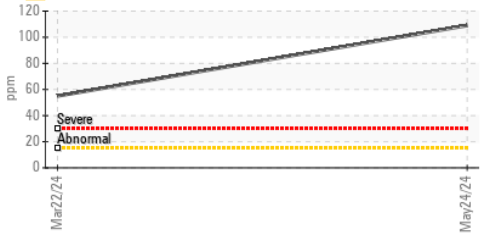


Aluminum (ppm)

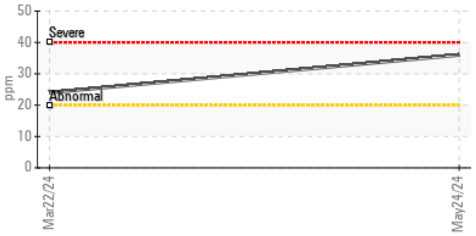


Chromium (ppm)

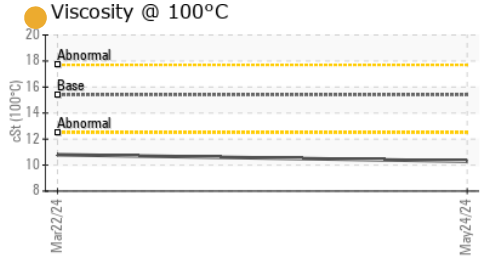
▲ Copper (ppm)



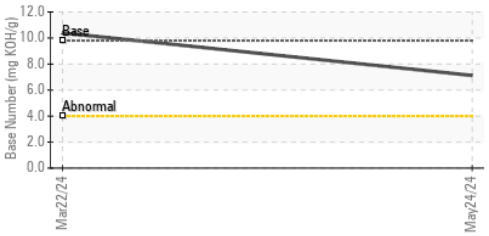
Silicon (ppm)



● Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0110076
Lab Number : 06195625
Unique Number : 11057748
Test Package : MOB 2 (Additional Tests: FuelDilution, Glycol, KF, PercentFuel)

Received : 30 May 2024
Tested : 04 Jun 2024
Diagnosed : 04 Jun 2024 - Jonathan Hester

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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Report Id: WINTAU [WUSCAR] 06195625 (Generated: 06/04/2024 09:07:21) Rev: 1

Submitted By: MATT MANOLI