

Area  
**Charlestown**  
Machine Id  
**654**  
Component  
**Diesel Engine**  
Fluid  
**PETRO CANADA DURON SHP 10W30 (--- GAL)**

**RECOMMENDATION**

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0122827</b>	PCA0083232	PCA0078134
Sample Date		Client Info		<b>17 Jun 2024</b>	27 Apr 2023	10 Jan 2023
Machine Age	mls	Client Info		<b>371785</b>	0	288046
Oil Age	mls	Client Info		<b>0</b>	0	18000
Filter Age	mls	Client Info		<b>0</b>	0	18000
Oil Changed		Client Info		<b>N/A</b>	N/A	Changed
Filter Changed		Client Info		<b>N/A</b>	N/A	Changed
Sample Status				<b>ABNORMAL</b>	SEVERE	NORMAL

**WEAR**

The copper level is abnormal. The aluminum level is marginal.

Iron	ppm	ASTM D5185m	>200	<b>30</b>	10	16
Chromium	ppm	ASTM D5185m	>20	<b>3</b>	1	2
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Titanium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>▲ 29</b>	1	9
Lead	ppm	ASTM D5185m	>30	<b>&lt;1</b>	0	<1
Copper	ppm	ASTM D5185m	>30	<b>▲ 75</b>	6	4
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

Sodium and/or potassium levels remain elevated. Test for glycol is negative.

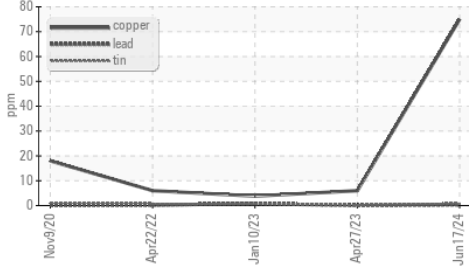
Silicon	ppm	ASTM D5185m	>30	<b>6</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>● 47</b>	▲ 532	26
Fuel		WC Method	>3.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	▲ 0.10	NEG
Soot %	%	*ASTM D7844	>3	<b>1</b>	0.3	0.6
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.3</b>	8.0	8.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.8</b>	17.1	19.4
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

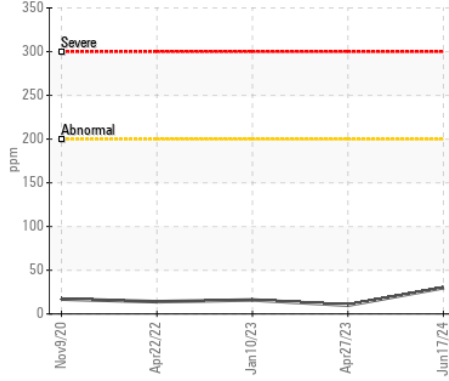
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>23</b>	● 470	14
Boron	ppm	ASTM D5185m	2	<b>2</b>	1	2
Barium	ppm	ASTM D5185m	0	<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185m	50	<b>60</b>	86	62
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	950	<b>915</b>	887	944
Calcium	ppm	ASTM D5185m	1050	<b>1078</b>	984	1166
Phosphorus	ppm	ASTM D5185m	995	<b>892</b>	990	1042
Zinc	ppm	ASTM D5185m	1180	<b>1194</b>	1166	1281
Sulfur	ppm	ASTM D5185m	2600	<b>2399</b>	3023	3485
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.5</b>	13.0	14.9
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.61</b>	11.59	8.87
Visc @ 100°C	cSt	ASTM D445	12.00	<b>11.7</b>	11.6	11.6

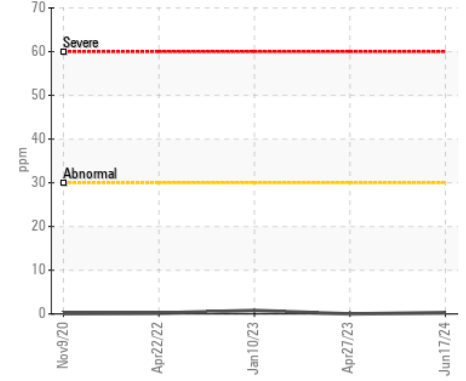
▲ Non-ferrous Metals



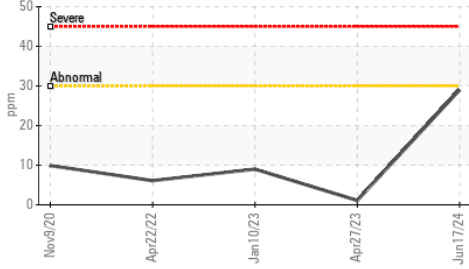
Iron (ppm)



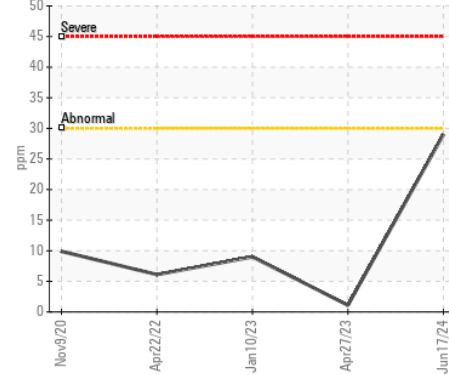
Lead (ppm)



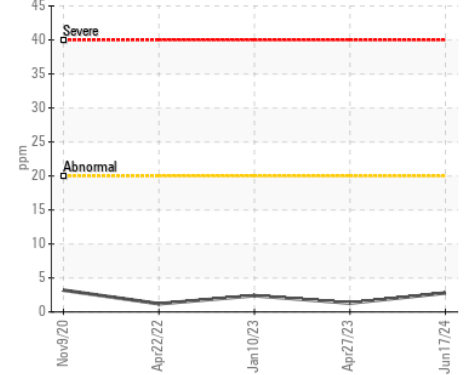
▲ Aluminum (ppm)



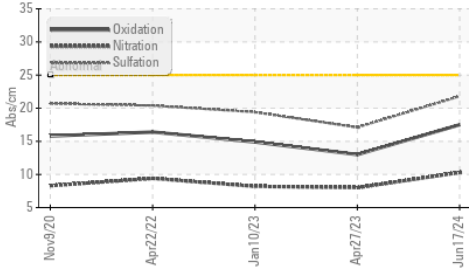
▲ Aluminum (ppm)



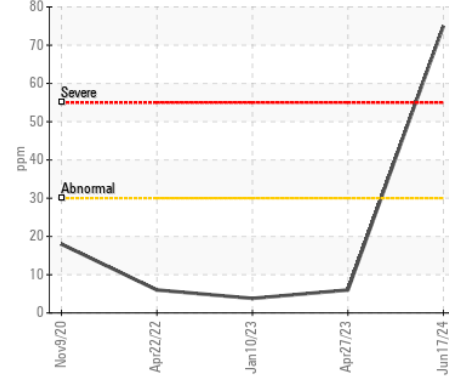
Chromium (ppm)



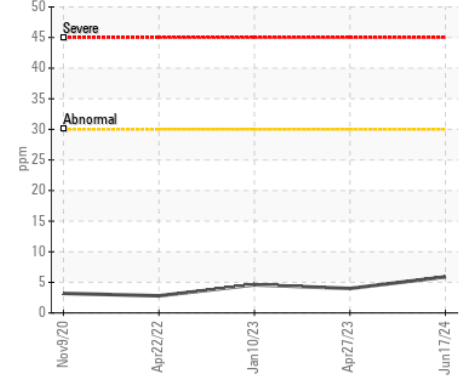
FT-IR (Direct Trend)



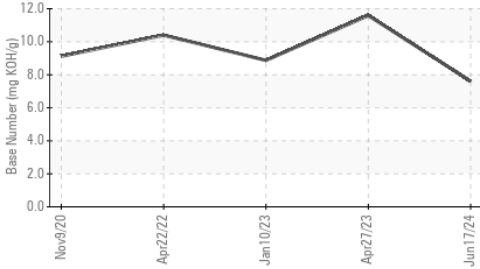
▲ Copper (ppm)



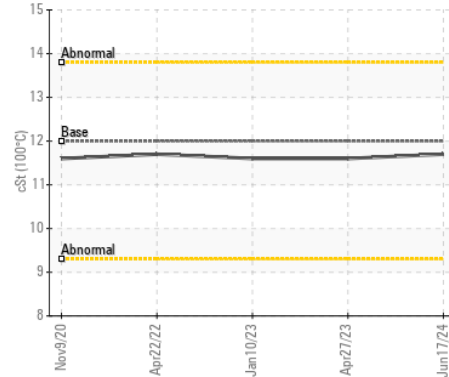
Silicon (ppm)



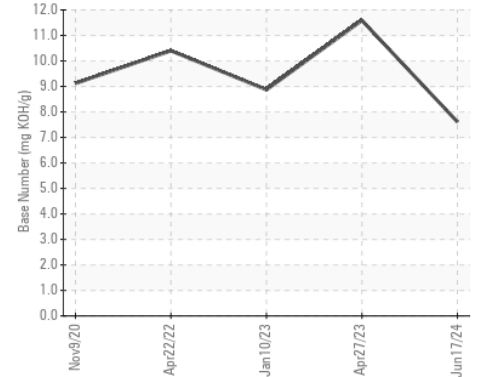
Base Number



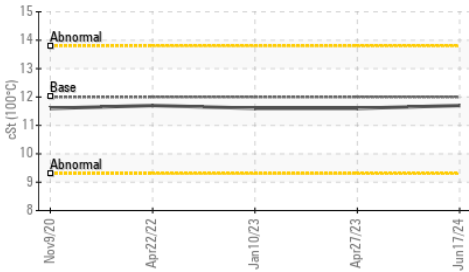
Viscosity @ 100°C



Base Number



Viscosity @ 100°C



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : PCA0122827

Lab Number : 06222502

Unique Number : 11100699

Test Package : MOB 2

Received : 27 Jun 2024

Tested : 01 Jul 2024

Diagnosed : 01 Jul 2024 - Jonathan Hester

PORTSIDE TRUCK AND AUTO - DIVERSIFIED AUTO

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US 02129

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BWINTERS@DIVERSIFIEDAUTO.COM

T: 1(857)998-2229

F:

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)