



WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
R/L
Machine Id
11208
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 10W30 (20 LTR)

RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend that you drain the oil from the component if this has not already been done. We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition.

WEAR

Iron ppm levels are abnormal. Aluminum ppm levels are noted. Cylinder, crank, or cam shaft wear is indicated.

CONTAMINATION

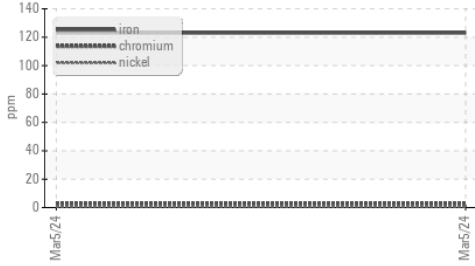
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

FLUID CONDITION

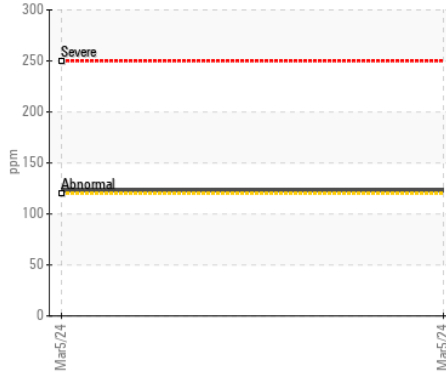
Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0071324	---	---
Sample Date		Client Info		05 Mar 2024	---	---
Machine Age	hrs	Client Info		0	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				ABNORMAL	---	---
PQ		ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>120	▲ 123	---	---
Chromium	ppm	ASTM D5185(m)	>20	3	---	---
Nickel	ppm	ASTM D5185(m)	>5	<1	---	---
Titanium	ppm	ASTM D5185(m)	>2	0	---	---
Silver	ppm	ASTM D5185(m)	>2	0	---	---
Aluminum	ppm	ASTM D5185(m)	>20	● 13	---	---
Lead	ppm	ASTM D5185(m)	>40	2	---	---
Copper	ppm	ASTM D5185(m)	>330	78	---	---
Tin	ppm	ASTM D5185(m)	>15	<1	---	---
Vanadium	ppm	ASTM D5185(m)		0	---	---
Silicon	ppm	ASTM D5185(m)	>25	▲ 39	---	---
Potassium	ppm	ASTM D5185(m)	>20	19	---	---
Fuel		WC Method	>3.0	<1.0	---	---
Water		WC Method	>0.2	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	ASTM D7844*	>4	0.3	---	---
Nitration	Abs/cm	ASTM D7624*	>20	13.3	---	---
Sulfation	Abs/.1mm	ASTM D7415*	>30	24.6	---	---
Emulsified Water	scalar	Visual*	>0.2	NEG	---	---
Sodium	ppm	ASTM D5185(m)		7	---	---
Boron	ppm	ASTM D5185(m)	2	26	---	---
Barium	ppm	ASTM D5185(m)	0	8	---	---
Molybdenum	ppm	ASTM D5185(m)	50	43	---	---
Manganese	ppm	ASTM D5185(m)	0	8	---	---
Magnesium	ppm	ASTM D5185(m)	950	548	---	---
Calcium	ppm	ASTM D5185(m)	1050	1611	---	---
Phosphorus	ppm	ASTM D5185(m)	995	701	---	---
Zinc	ppm	ASTM D5185(m)	1180	853	---	---
Sulfur	ppm	ASTM D5185(m)	2600	1864	---	---
Oxidation	Abs/.1mm	ASTM D7414*	>25	29.2	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	80.1	81.7	---	---
Visc @ 100°C	cSt	ASTM D7279(m)	12.00	11.8	---	---
Viscosity Index (VI)	Scale	ASTM D2270*	144	137	---	---

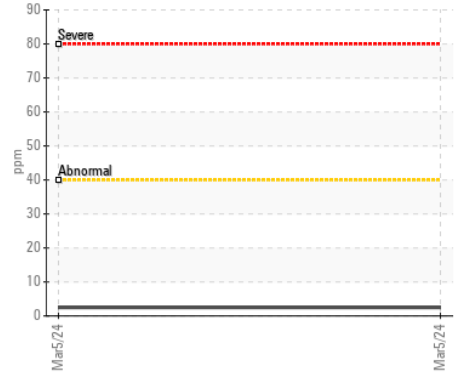
▲ Ferrous Alloys



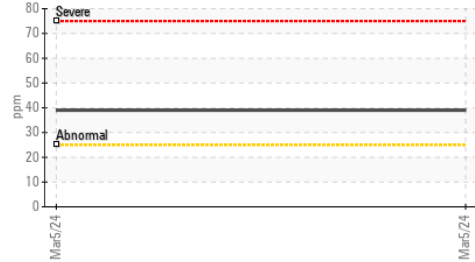
▲ Iron (ppm)



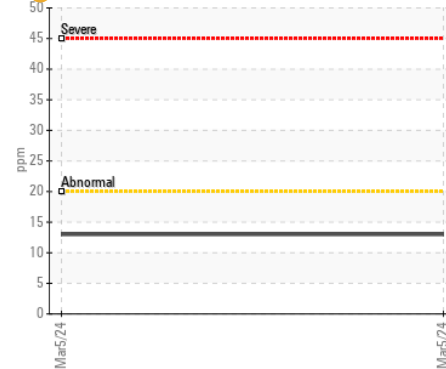
Lead (ppm)



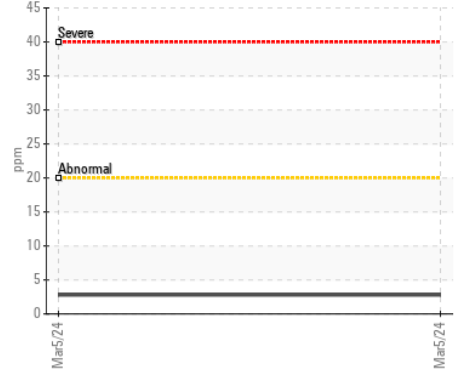
▲ Silicon (ppm)



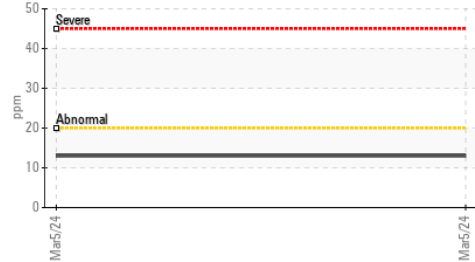
● Aluminum (ppm)



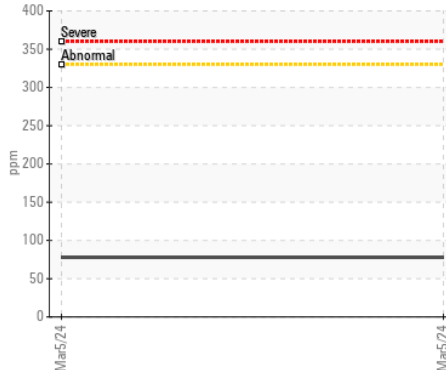
Chromium (ppm)



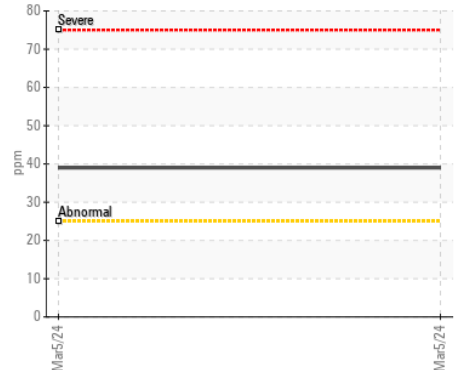
● Aluminum (ppm)



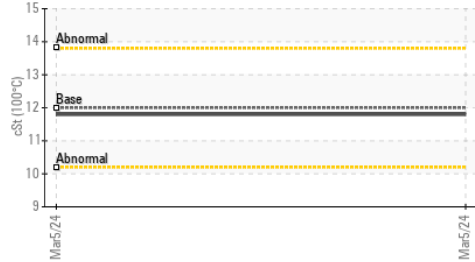
Copper (ppm)



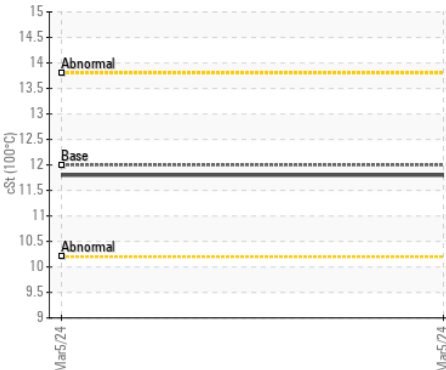
▲ Silicon (ppm)



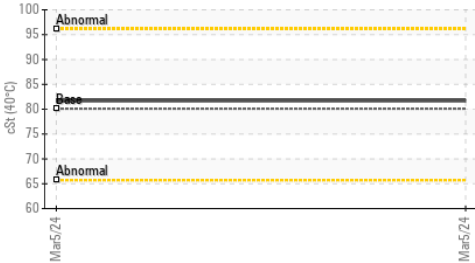
Viscosity @ 100°C



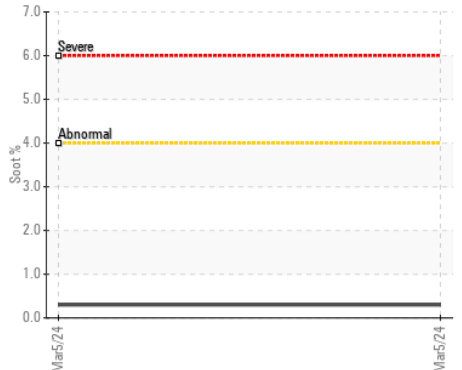
Viscosity @ 100°C



Viscosity @ 40°C



Soot %



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0071324 **Received** : 06 Mar 2024
Lab Number : 02620117 **Tested** : 06 Mar 2024
Unique Number : 5737227 **Diagnosed** : 06 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KV40, PQ, VI)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

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