



WEAR	<b>ABNORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>



Machine Id  
**CATERPILLAR 320 83 (S/N OHEX11128)**  
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON UHP 5W40 (--- GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>PCA0115081</b>	PCA0115084	---
Sample Date		Client Info		<b>03 Apr 2024</b>	15 Dec 2023	---
Machine Age	hrs	Client Info		<b>3500</b>	3402	---
Oil Age	hrs	Client Info		<b>500</b>	385	---
Filter Age	hrs	Client Info		<b>500</b>	385	---
Oil Changed		Client Info		<b>Changed</b>	Not Changed	---
Filter Changed		Client Info		<b>Changed</b>	Not Changed	---
Sample Status				<b>ABNORMAL</b>	NORMAL	---

**WEAR**

The aluminum level is abnormal. Piston wear is indicated.

Iron	ppm	ASTM D5185m	>100	<b>60</b>	38	---
Chromium	ppm	ASTM D5185m	>20	<b>6</b>	2	---
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	---
Aluminum	ppm	ASTM D5185m	>25	<b>▲ 55</b>	18	---
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	---
Copper	ppm	ASTM D5185m	>330	<b>47</b>	39	---
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	0	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	---
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	---

**CONTAMINATION**

There is no indication of any contamination in the oil.

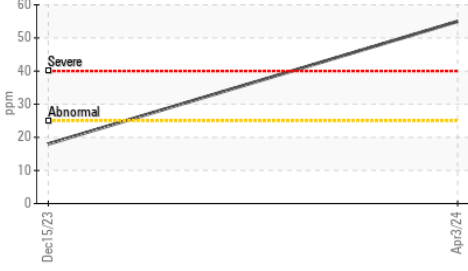
Silicon	ppm	ASTM D5185m	>25	<b>6</b>	5	---
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	---
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	---
Water		WC Method	>0.2	<b>NEG</b>	NEG	---
Glycol		WC Method		<b>NEG</b>	NEG	---
Soot %	%	*ASTM D7844	>3	<b>0.8</b>	0.6	---
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.9</b>	10.2	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.5</b>	20.5	---
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	---
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	---
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	---

**FLUID CONDITION**

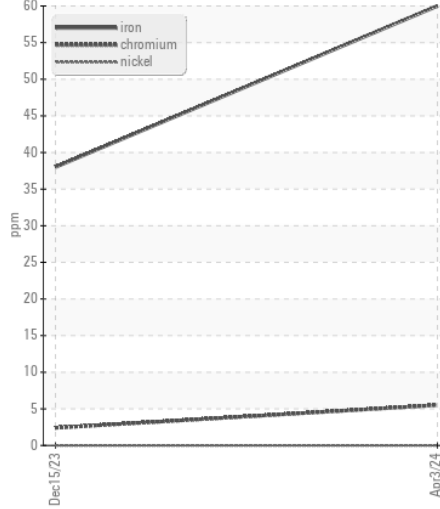
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>4</b>	3	---
Boron	ppm	ASTM D5185m	65	<b>16</b>	15	---
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	---
Molybdenum	ppm	ASTM D5185m	65	<b>62</b>	52	---
Manganese	ppm	ASTM D5185m	0	<b>1</b>	<1	---
Magnesium	ppm	ASTM D5185m	1160	<b>1081</b>	1025	---
Calcium	ppm	ASTM D5185m	820	<b>866</b>	835	---
Phosphorus	ppm	ASTM D5185m	1160	<b>969</b>	883	---
Zinc	ppm	ASTM D5185m	1260	<b>1247</b>	1163	---
Sulfur	ppm	ASTM D5185m	3000	<b>3442</b>	2866	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>19.4</b>	18.5	---
Base Number (BN)	mg KOH/g	ASTM D2896	11.0	<b>7.1</b>	7.4	---
Visc @ 100°C	cSt	ASTM D445	14.3	<b>13.7</b>	13.9	---

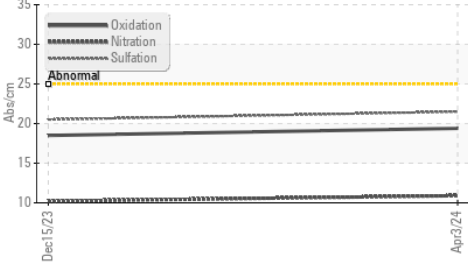
▲ Aluminum (ppm)



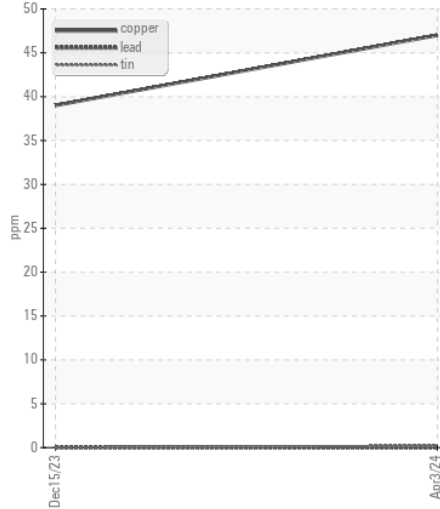
Ferrous Alloys



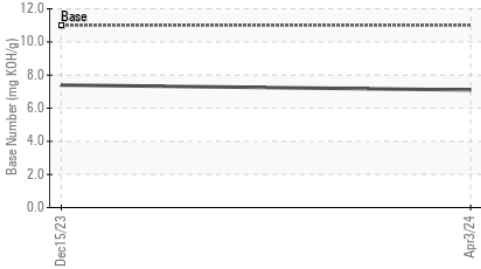
FT-IR (Direct Trend)



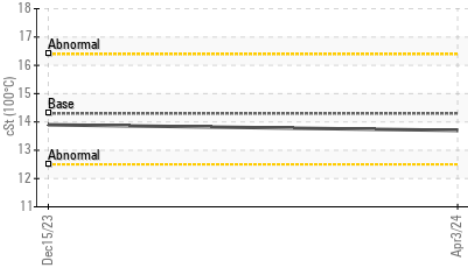
Non-ferrous Metals



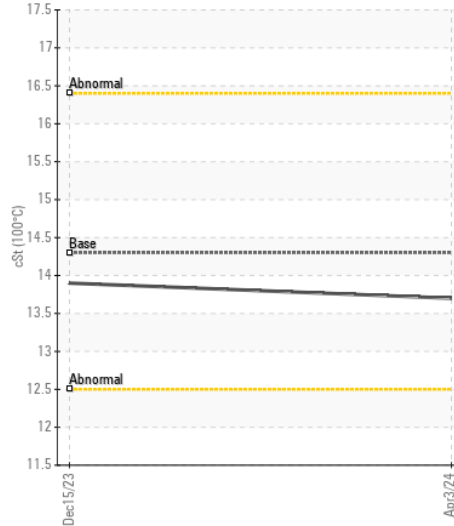
Base Number



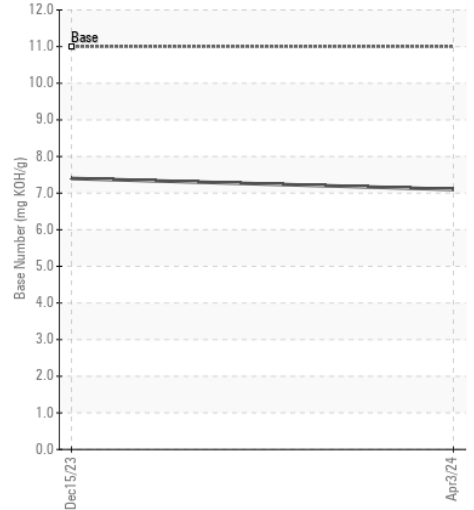
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : PCA0115081

Lab Number : 06147115

Unique Number : 10977193

Test Package : FLEET

Received : 12 Apr 2024

Tested : 15 Apr 2024

Diagnosed : 16 Apr 2024 - Jonathan Hester

CLARE ROAD COMMISSION

3900 E MANNSIDING RD

HARRISON, MI

US 48625

Contact: SHOP FOREMAN

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T:

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)