

Machine Id
1310
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

RECOMMENDATION

The oil 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		PC0080275	PC0032175	PC0031709
Sample Date		Client Info		09 Jan 2024	03 Oct 2023	27 Jul 2023
Machine Age	kms	Client Info		507785	593960	581400
Oil Age	kms	Client Info		13710	12560	12078
Filter Age	kms	Client Info		13710	12560	12078
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
PQ		ASTM D8184*		0	---	---
Iron	ppm	ASTM D5185(m)	>100	▲ 113	16	22
Chromium	ppm	ASTM D5185(m)	>20	2	<1	1
Nickel	ppm	ASTM D5185(m)	>4	<1	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	4	2	1
Lead	ppm	ASTM D5185(m)	>40	3	<1	<1
Copper	ppm	ASTM D5185(m)	>330	69	10	4
Tin	ppm	ASTM D5185(m)	>15	<1	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

There is no indication of any contamination in the oil.

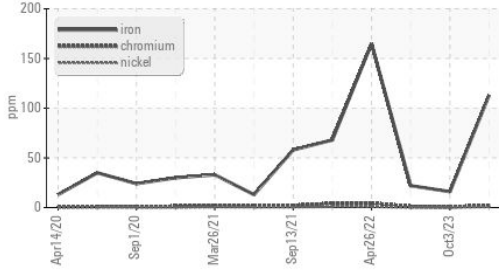
Silicon	ppm	ASTM D5185(m)	>25	7	6	11
Potassium	ppm	ASTM D5185(m)	>20	2	1	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	ASTM D7844*	>3	2.5	0.6	0.5
Nitration	Abs/cm	ASTM D7624*	>20	11.5	8.8	6.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.4	21.8	19.9
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

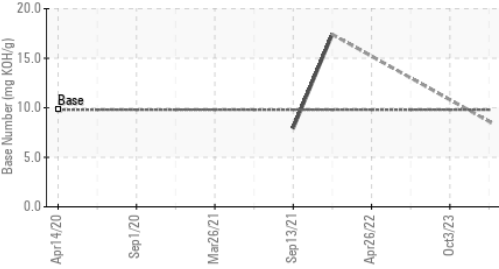
The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		45	72	6
Boron	ppm	ASTM D5185(m)	0	3	25	13
Barium	ppm	ASTM D5185(m)	0	0	<1	1
Molybdenum	ppm	ASTM D5185(m)	60	61	52	53
Manganese	ppm	ASTM D5185(m)	0	1	0	2
Magnesium	ppm	ASTM D5185(m)	1010	943	799	870
Calcium	ppm	ASTM D5185(m)	1070	1091	1196	1172
Phosphorus	ppm	ASTM D5185(m)	1150	928	754	1046
Zinc	ppm	ASTM D5185(m)	1270	1144	887	1167
Sulfur	ppm	ASTM D5185(m)	2060	2302	2004	2597
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.8	17.3	12.9
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	8.62	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	101	98.7	107
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	13.9	13.4	14.3
Viscosity Index (VI)	Scale	ASTM D2270*	139	139	135	136

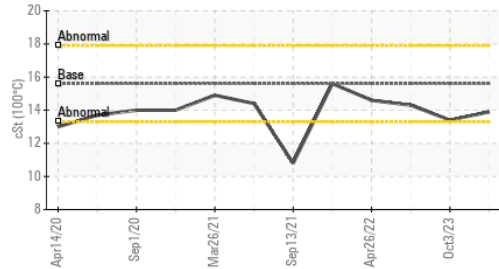
▲ Ferrous Alloys



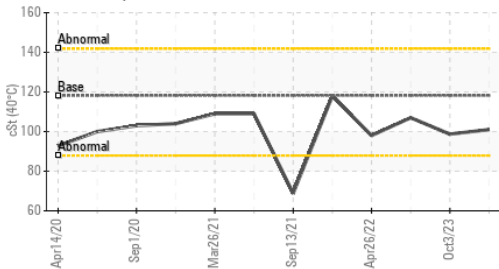
Base Number



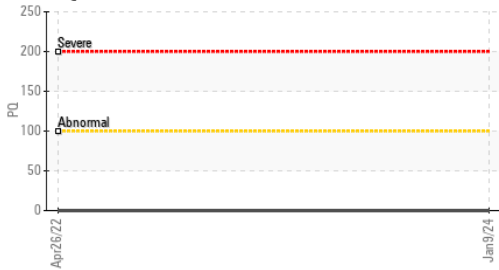
Viscosity @ 100°C



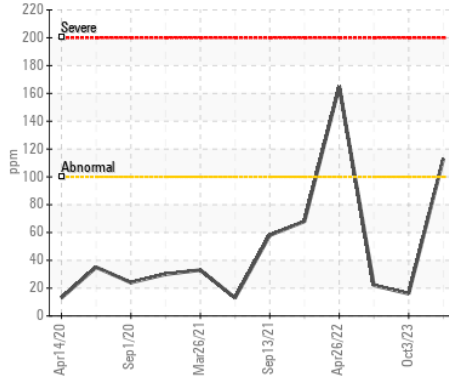
Viscosity @ 40°C



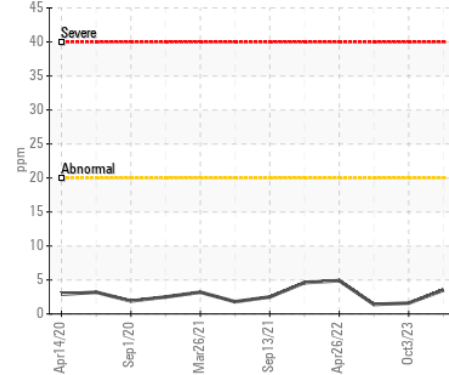
PQ



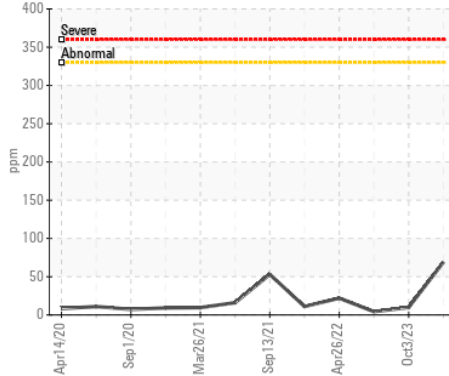
▲ Iron (ppm)



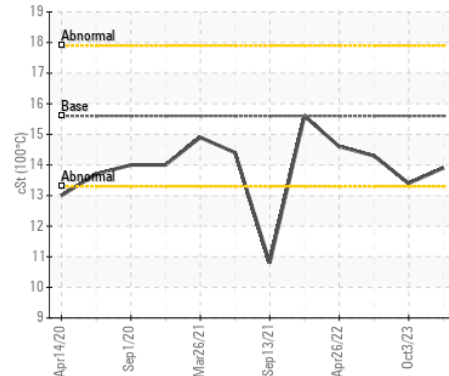
Aluminum (ppm)



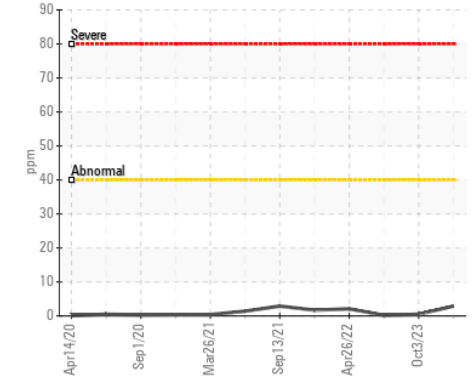
Copper (ppm)



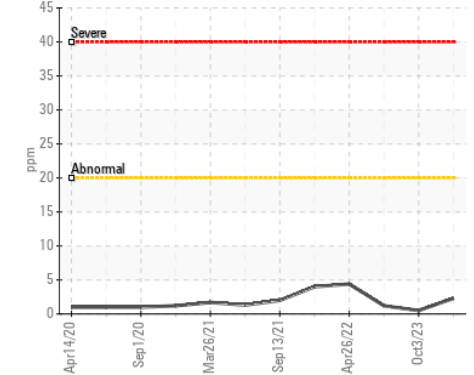
Viscosity @ 100°C



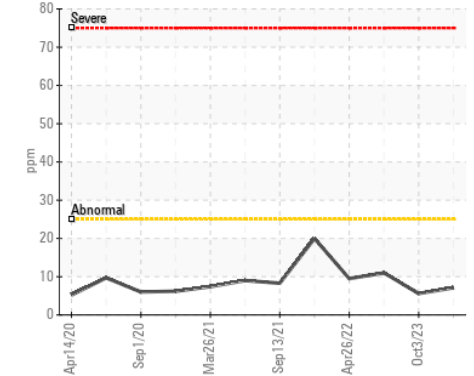
Lead (ppm)



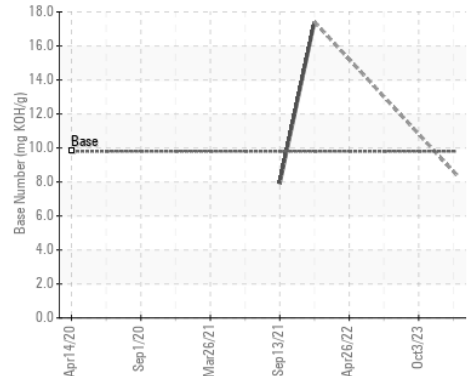
Chromium (ppm)



Silicon (ppm)



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0080275 **Received** : 10 Jan 2024
Lab Number : 02607717 **Diagnosed** : 11 Jan 2024
Unique Number : 5708803 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (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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