



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
40

Component
Diesel Engine

Fluid
PETRO CANADA DURON UHP 5W40 (--- 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		PC0066789	PC0064255	PC0064367
Sample Date		Client Info		12 Jan 2024	21 Jun 2023	30 Jan 2023
Machine Age	hrs	Client Info		0	3107	2792
Oil Age	hrs	Client Info		332	250	500
Filter Age	hrs	Client Info		332	250	500
Oil Changed		Client Info		Changed	N/A	Changed
Filter Changed		Client Info		Changed	N/A	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

Aluminum ppm levels are abnormal. Piston wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	55	38	34
Chromium	ppm	ASTM D5185(m)	>20	2	2	2
Nickel	ppm	ASTM D5185(m)	>2	1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	▲ 38	24	▲ 38
Lead	ppm	ASTM D5185(m)	>40	3	1	6
Copper	ppm	ASTM D5185(m)	>330	141	44	▲ 218
Tin	ppm	ASTM D5185(m)	>15	0	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

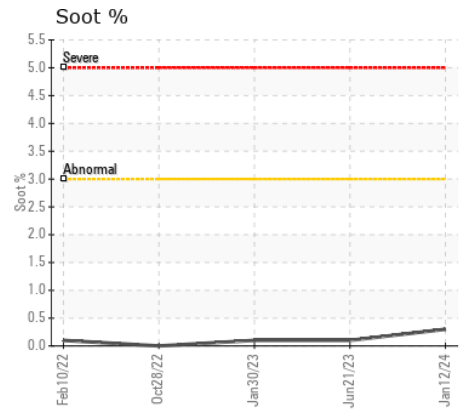
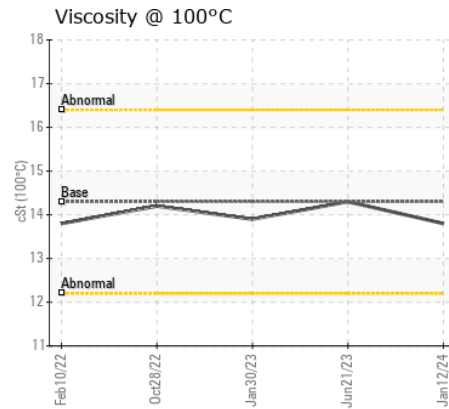
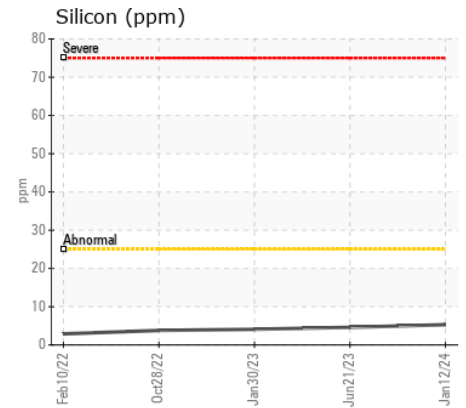
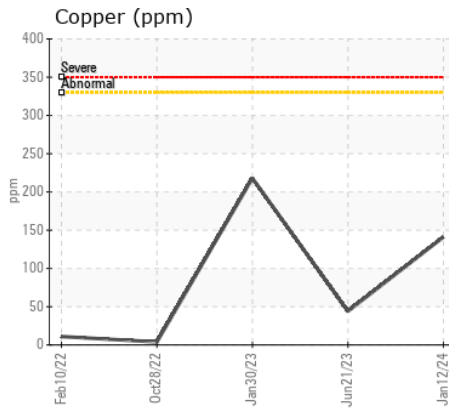
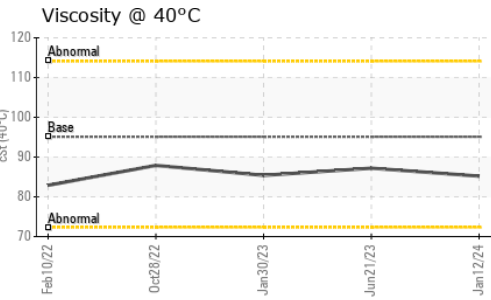
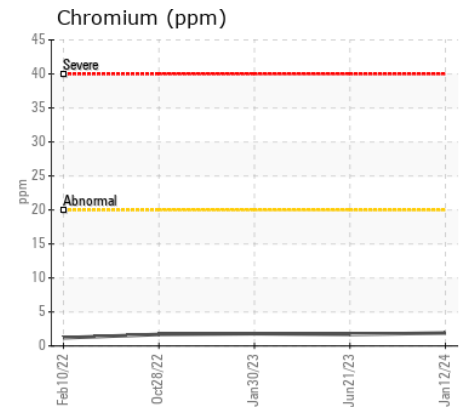
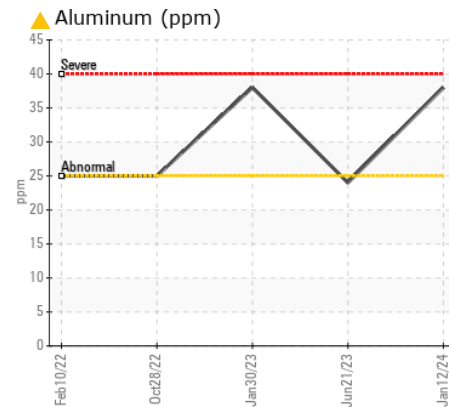
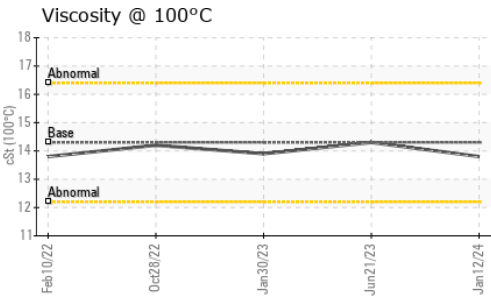
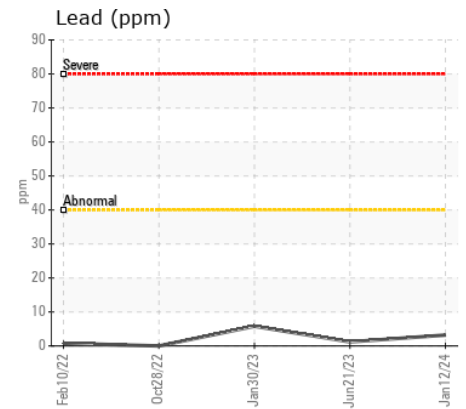
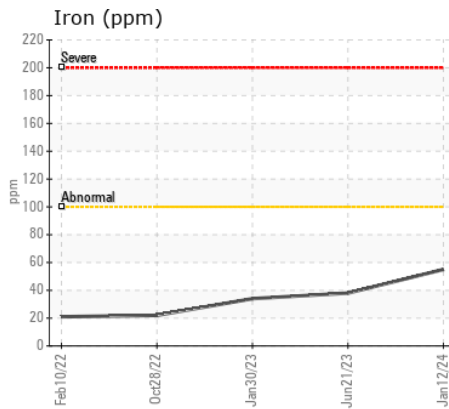
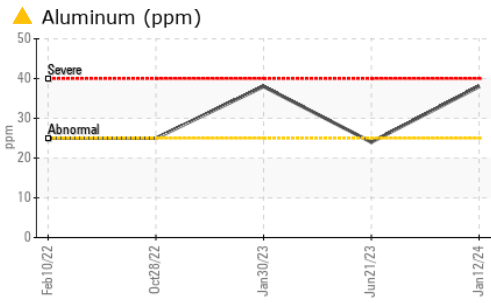
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	5	5	4
Potassium	ppm	ASTM D5185(m)	>20	0	<1	0
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	0.3	0.1	0.1
Nitration	Abs/cm	ASTM D7624*	>20	10.4	8.5	10.1
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.6	20.2	21.4
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG

FLUID CONDITION

The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Sodium	ppm	ASTM D5185(m)		4	4	4
Boron	ppm	ASTM D5185(m)	65	21	35	30
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	65	57	56	52
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1160	1074	1082	1016
Calcium	ppm	ASTM D5185(m)	820	858	840	909
Phosphorus	ppm	ASTM D5185(m)	1160	969	1036	1068
Zinc	ppm	ASTM D5185(m)	1260	1162	1167	1155
Sulfur	ppm	ASTM D5185(m)	3000	2711	2687	2749
Oxidation	Abs/.1mm	ASTM D7414*	>25	20.1	18.0	19.1
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	85.2	87.2	85.4
Visc @ 100°C	cSt	ASTM D7279(m)	14.3	13.8	14.3	13.9
Viscosity Index (VI)	Scale	ASTM D2270*	169	166	170	167



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0066789 **Received** : 17 Jan 2024
Lab Number : 02609227 **Diagnosed** : 18 Jan 2024
Unique Number : 5710313 **Diagnostician** : Kevin Marson
Test Package : MOB 1 (Additional Tests: KV40, 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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