



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
1832
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON HP 15W40 (24 LTR)

RECOMMENDATION

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: Note: wear metals found in last sample.)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PC0081596	PC0032173	PC0031594
Sample Date		Client Info		12 Feb 2024	28 Sep 2023	17 May 2023
Machine Age	kms	Client Info		204513	191470	180860
Oil Age	kms	Client Info		13043	10353	12681
Filter Age	kms	Client Info		13043	10353	12681
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL

WEAR

Aluminum ppm levels are abnormal. Piston wear is indicated.

Iron	ppm	ASTM D5185(m)	>100	41	63	38
Chromium	ppm	ASTM D5185(m)	>20	1	2	1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	<1
Silver	ppm	ASTM D5185(m)	>3	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	▲ 22	▲ 40	19
Lead	ppm	ASTM D5185(m)	>40	0	0	<1
Copper	ppm	ASTM D5185(m)	>330	1	2	1
Tin	ppm	ASTM D5185(m)	>15	0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0

CONTAMINATION

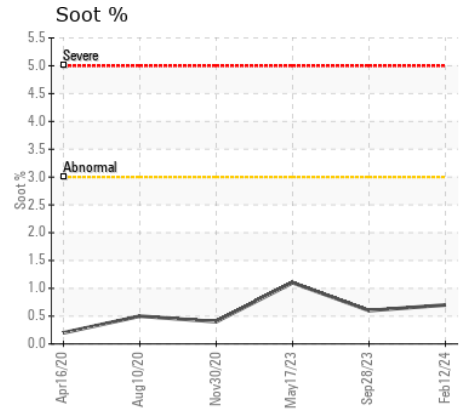
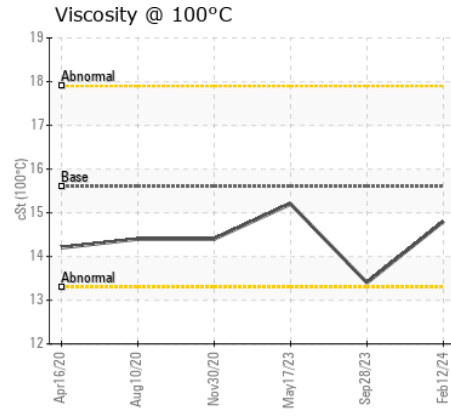
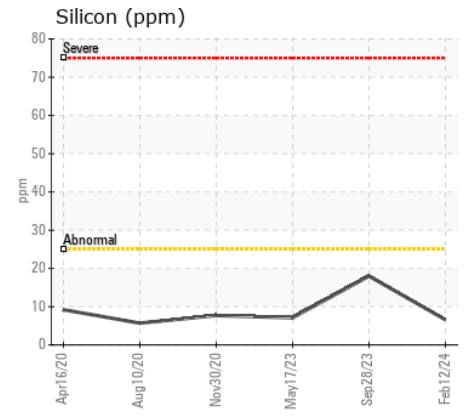
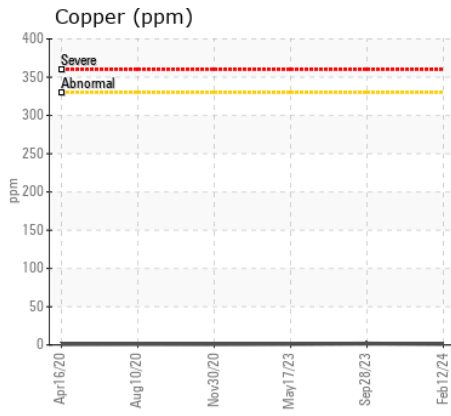
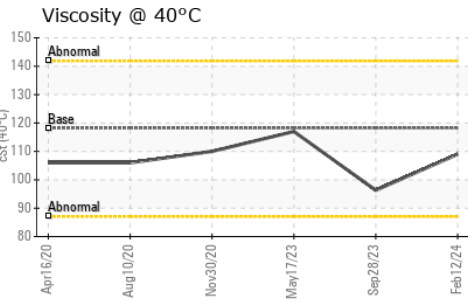
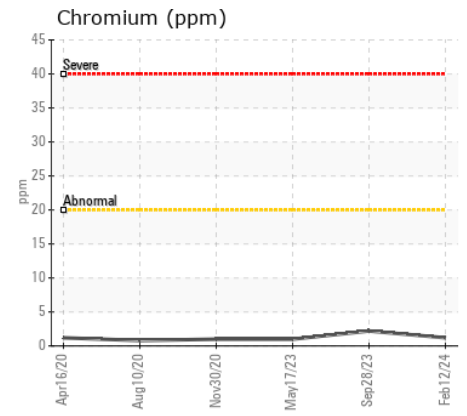
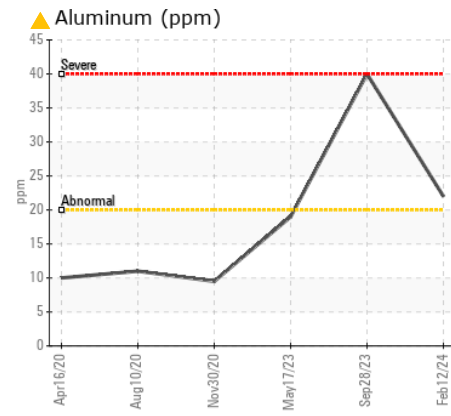
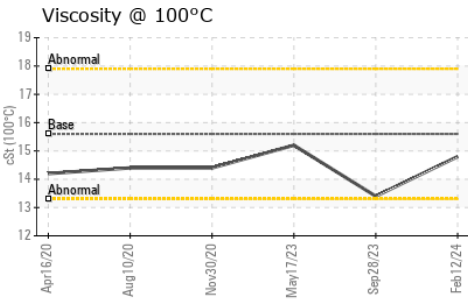
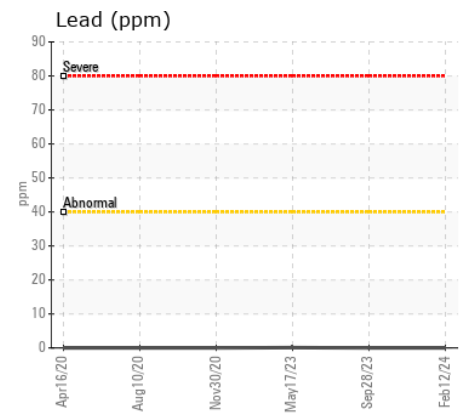
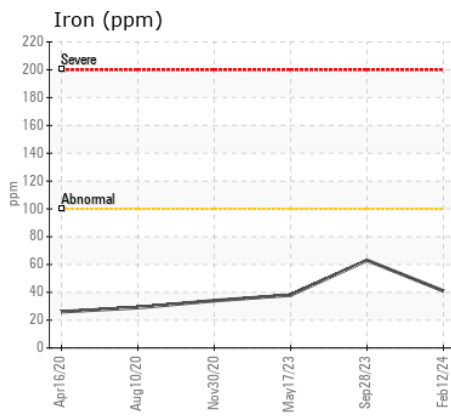
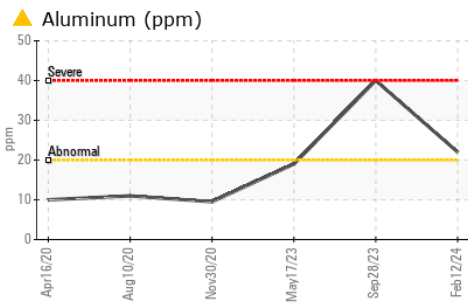
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185(m)	>25	7	18	7
Potassium	ppm	ASTM D5185(m)	>20	1	28	7
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	0.0	0.0
Soot %	%	ASTM D7844*	>3	0.7	0.6	1.1
Nitration	Abs/cm	ASTM D7624*	>20	9.8	7.2	10.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	21.7	23.5	27.5
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	8	4
Boron	ppm	ASTM D5185(m)	0	3	7	74
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	59	56	4
Manganese	ppm	ASTM D5185(m)	0	0	<1	<1
Magnesium	ppm	ASTM D5185(m)	1010	974	884	56
Calcium	ppm	ASTM D5185(m)	1070	1121	1092	2297
Phosphorus	ppm	ASTM D5185(m)	1150	1029	958	1028
Zinc	ppm	ASTM D5185(m)	1270	1215	1164	1163
Sulfur	ppm	ASTM D5185(m)	2060	2564	2332	2822
Oxidation	Abs/.1mm	ASTM D7414*	>25	17.8	19.5	22.0
Visc @ 40°C	cSt	ASTM D7279(m)	118.2	109	96.3	117
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	14.8	13.4	15.2
Viscosity Index (VI)	Scale	ASTM D2270*	139	140	138	135



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0081596
Lab Number : 02617587
Unique Number : 5734697
Test Package : MOB 1 (Additional Tests: KV40, VI)

Received : 23 Feb 2024
Tested : 23 Feb 2024
Diagnosed : 23 Feb 2024 - Kevin Marson

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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