

Machine Id
4582
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

RECOMMENDATION

We advise that you check the fuel injection system. We advise that you check for the source of the coolant leak. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		GFL0117347	GFL0112389	GFL0084286
Sample Date		Client Info		16 May 2024	28 Feb 2024	12 Jul 2023
Machine Age	kms	Client Info		0	0	28044
Oil Age	kms	Client Info		0	10829	600
Filter Age	kms	Client Info		0	10829	600
Oil Changed		Client Info		Not Changd	Changed	Changed
Filter Changed		Client Info		Not Changd	Changed	Changed
Sample Status				SEVERE	SEVERE	SEVERE

WEAR

Aluminum and iron ppm levels are severe. Cylinder, crank, or cam shaft wear is indicated. Piston wear is indicated.

PQ		ASTM D8184*	>30	0	0	0
Iron	ppm	ASTM D5185(m)	>110	▲ 381	▲ 136	▲ 226
Chromium	ppm	ASTM D5185(m)	>4	3	<1	2
Nickel	ppm	ASTM D5185(m)	>2	1	▲ 3	▲ 12
Titanium	ppm	ASTM D5185(m)		1	0	<1
Silver	ppm	ASTM D5185(m)	>2	<1	0	<1
Aluminum	ppm	ASTM D5185(m)	>25	▲ 110	▲ 36	▲ 83
Lead	ppm	ASTM D5185(m)	>45	15	4	16
Copper	ppm	ASTM D5185(m)	>85	58	36	▲ 128
Tin	ppm	ASTM D5185(m)	>4	2	<1	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
White Metal	scalar	Visual*	NONE	NONE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---

CONTAMINATION

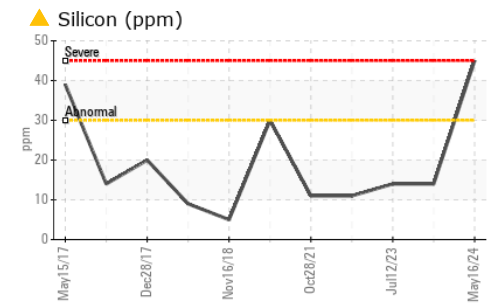
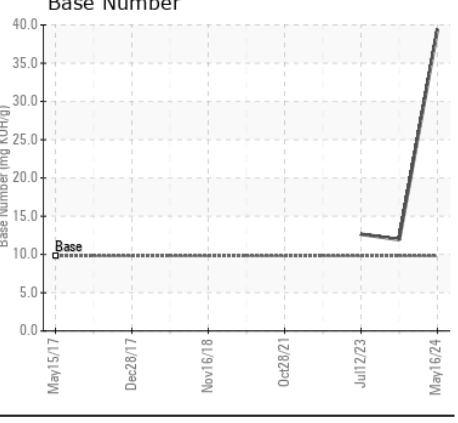
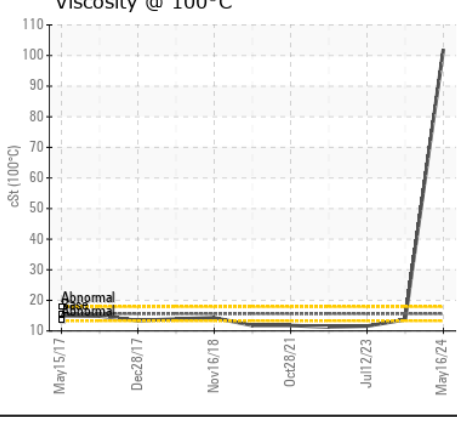
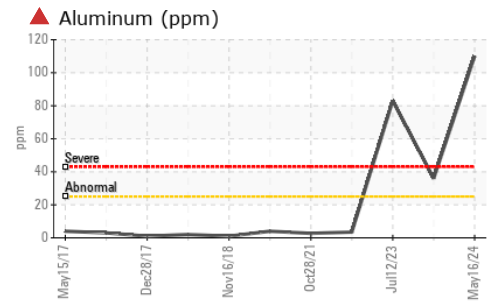
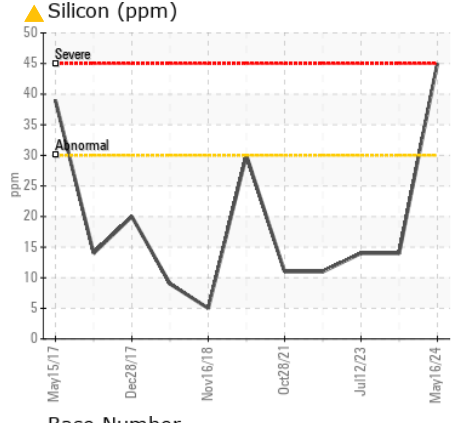
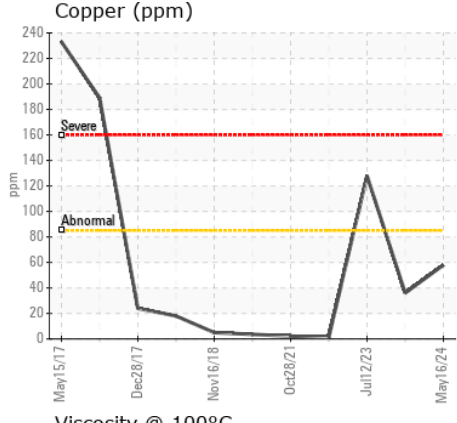
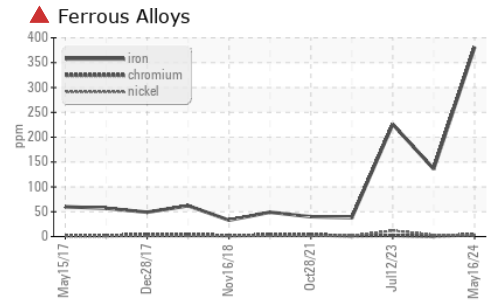
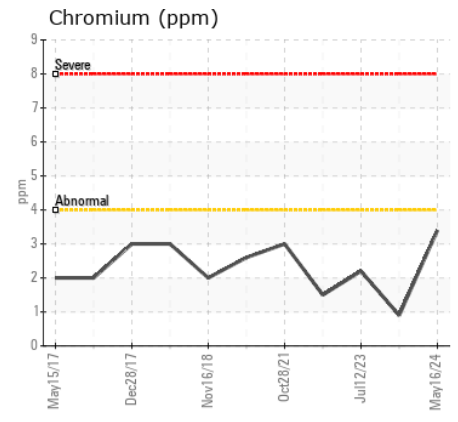
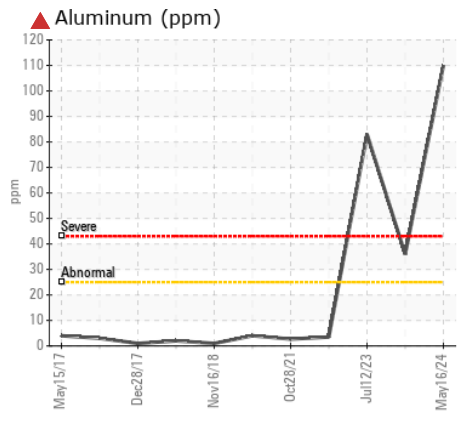
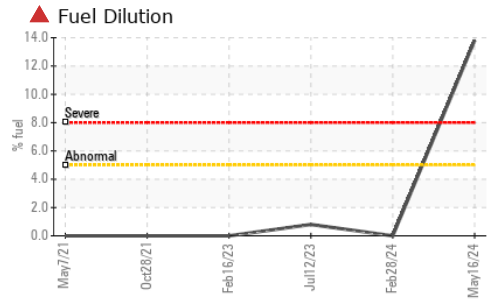
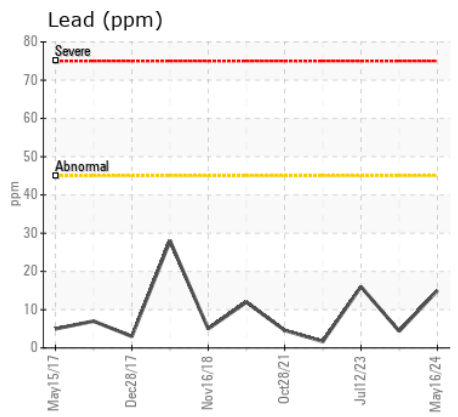
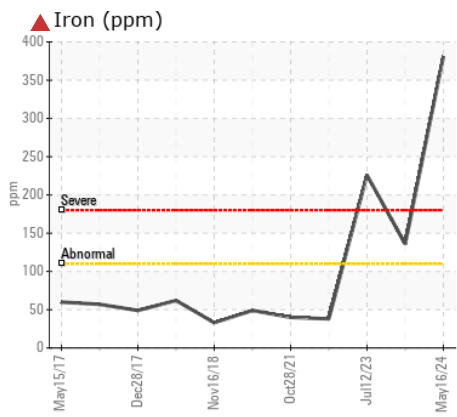
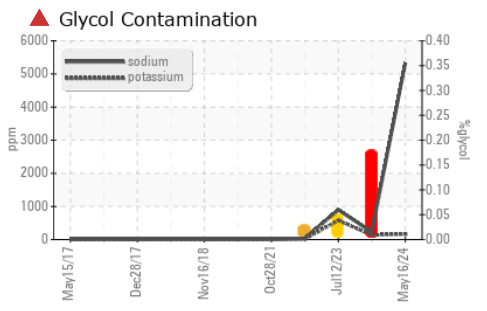
Test for glycol is positive. There is a high amount of fuel present in the oil. There is a high concentration of glycol present in the oil. There is a moderate concentration of water present in the oil. Excessive free water present. Tests confirm the presence of fuel in the oil.

Silicon	ppm	ASTM D5185(m)	>30	▲ 45	14	14
Potassium	ppm	ASTM D5185(m)	>20	▲ 164	▲ 134	▲ 578
Fuel	%	ASTM D7593*	>5	▲ 13.8	<1.0	0.8
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	ASTM D7922*		▲ >.70	▲ 0.179	▲ 0.05
Soot %	%	ASTM D7844*	>3	1.1	0.2	0.3
Nitration	Abs/cm	ASTM D7624*	>20	77.9	8.1	15.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	0.0	18.9	19.7
Silt	scalar	Visual*	NONE	LIGHT	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	▲ WGOIL	---	---
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	▲ 1%	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)		● 5327	● 223	● 895
Boron	ppm	ASTM D5185(m)	0	14	8	36
Barium	ppm	ASTM D5185(m)	0	<1	0	0
Molybdenum	ppm	ASTM D5185(m)	60	455	58	67
Manganese	ppm	ASTM D5185(m)	0	2	2	6
Magnesium	ppm	ASTM D5185(m)	1010	408	905	929
Calcium	ppm	ASTM D5185(m)	1070	412	1009	956
Phosphorus	ppm	ASTM D5185(m)	1150	502	978	1035
Zinc	ppm	ASTM D5185(m)	1270	569	1120	1171
Sulfur	ppm	ASTM D5185(m)	2060	1317	2605	2483
Oxidation	Abs/.1mm	ASTM D7414*	>25	74.6	14.5	15.7
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	39.42	11.94	12.65
Visc @ 100°C	cSt	ASTM D7279(m)	15.6	102	13.7	▲ 11.6



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0117347
Lab Number : 02637859
Unique Number : 5787021
Test Package : MOB 2 (Additional Tests: FuelDilution, PercentFuel, PQ, Visual)
Received : 28 May 2024
Tested : 29 May 2024
Diagnosed : 30 May 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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