

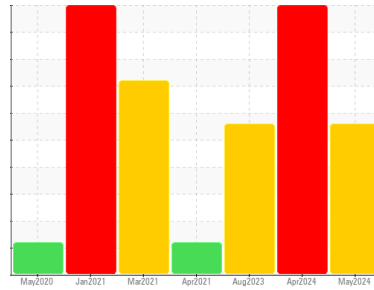


OIL ANALYSIS REPORT



Machine Id
OR343
Component
Diesel Engine
Fluid
PETRO CANADA DURON HP 15W40 (--- GAL)

Sample Rating Trend



GLYCOL



DIAGNOSIS

Recommendation

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 an early resample to monitor this condition.

Wear

Nickel ppm levels are abnormal. Exhaust valve wear is indicated.

Contamination

Test for glycol is positive. There is a moderate concentration of glycol present in the oil.

Fluid Condition

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

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0124637	GFL0113343	GFL0092257
Sample Date	Client Info		30 May 2024	15 Apr 2024	21 Aug 2023
Machine Age	hrs	Client Info	16058	16058	15462
Oil Age	hrs	Client Info	200	596	500
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			ABNORMAL	SEVERE	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>2.1	<1.0	0.0	1.5
Water	WC Method	>0.21	NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>37	15	48	24
Chromium	ppm	ASTM D5185(m)	>11	1	4	2
Nickel	ppm	ASTM D5185(m)	>5	9	11	3
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>31	9	25	9
Lead	ppm	ASTM D5185(m)	>26	<1	3	5
Copper	ppm	ASTM D5185(m)	>26	11	32	83
Tin	ppm	ASTM D5185(m)	>4	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	11	5	5
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	54	64	60
Manganese	ppm	ASTM D5185(m)	0	<1	1	<1
Magnesium	ppm	ASTM D5185(m)	1010	847	945	928
Calcium	ppm	ASTM D5185(m)	1070	1055	1086	971
Phosphorus	ppm	ASTM D5185(m)	1150	912	921	990
Zinc	ppm	ASTM D5185(m)	1270	1123	1159	1084
Sulfur	ppm	ASTM D5185(m)	2060	2436	2034	2393
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>22	6	9	10
Sodium	ppm	ASTM D5185(m)	>31	70	101	87
Potassium	ppm	ASTM D5185(m)	>20	10	20	34
Glycol	%	ASTM D7922*		0.058	0.064	0.016

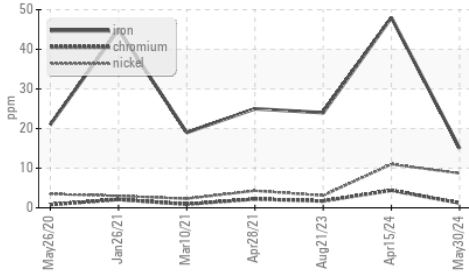
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	5.4	8.1	6.8
Sulfation	Abs.1mm	ASTM D7415*	>30	19.0	20.3	20.2



OIL ANALYSIS REPORT

▲ Ferrous Alloys



FLUID DEGRADATION

method	limit/base	current	history1	history2	
Oxidation	Abs./1mm ASTM D7414*	>25	13.1	15.6	13.6

VISUAL

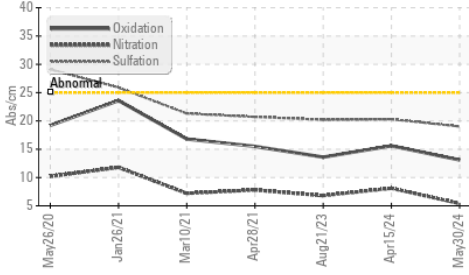
method	limit/base	current	history1	history2	
Emulsified Water	scalar Visual*	>0.21	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

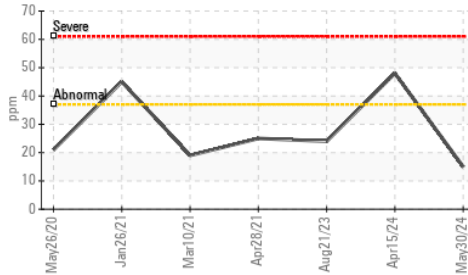
method	limit/base	current	history1	history2	
Visc @ 100°C	cSt ASTM D7279(m)	15.6	12.5	12.6	13.3

GRAPHS

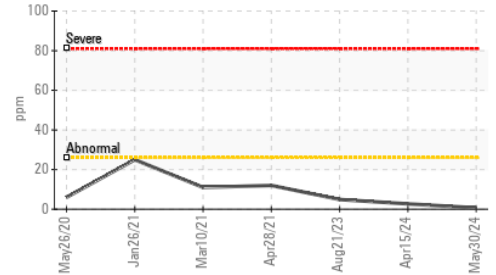
FT-IR (Direct Trend)



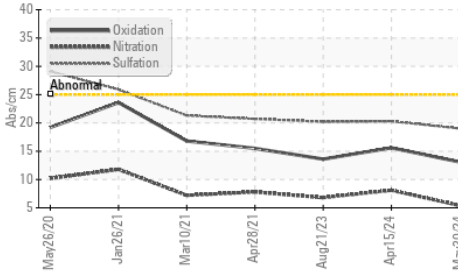
Iron (ppm)



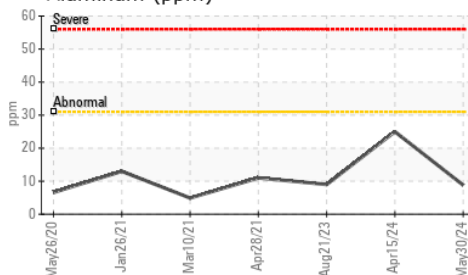
Lead (ppm)



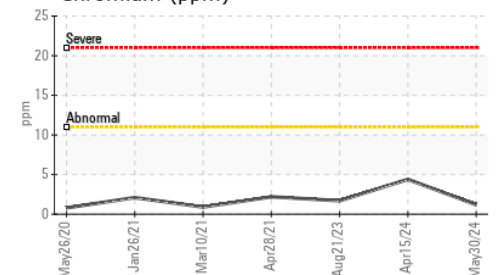
FT-IR (Direct Trend)



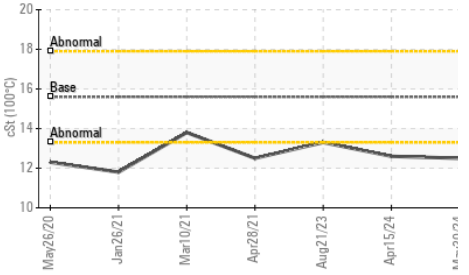
Aluminum (ppm)



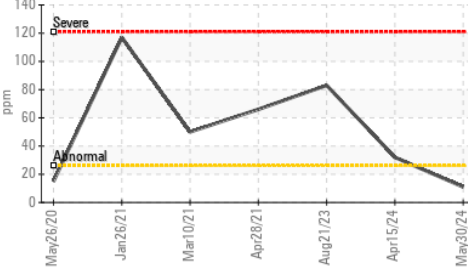
Chromium (ppm)



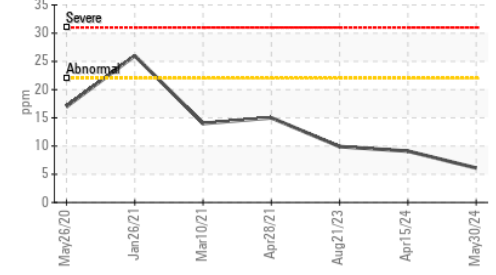
Viscosity @ 100°C



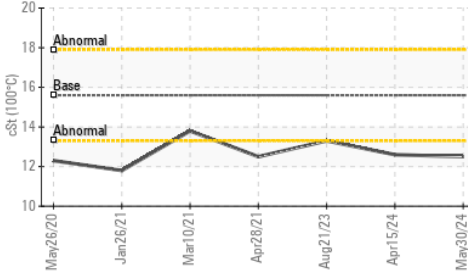
Copper (ppm)



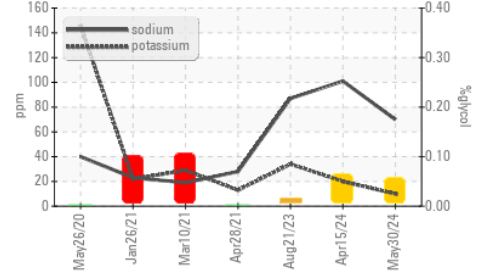
Silicon (ppm)



Viscosity @ 100°C



▲ Glycol Contamination



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0124637
Lab Number : 02639116
Unique Number : 5788278
Test Package : MOB 1

GFL Environmental - 720 - Lafleche - Landfill
 17125 Lafleche Road,
 Moose Creek, ON
 CA K0C 1W0
 Contact: Charles Bergeron
 cbergeron@gflenv.com
 T: (613)538-4853
 F:

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.