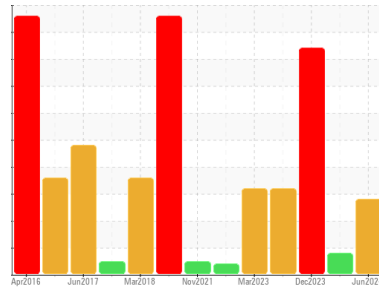




OIL ANALYSIS REPORT

Sample Rating Trend



SOOT



Machine Id

4535

Component

Front Diesel Engine

Fluid

PETRO CANADA DURON XL SYN BLEND 15W40 (22 LTR)

DIAGNOSIS

▲ Recommendation

We advise that you check for faulty combustion, plugged air filters, or aftercoolers. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

Metal levels are typical for a new component breaking in.

▲ Contamination

There is a moderate amount of fuel present in the oil. There is an abnormal amount of solids and carbon present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0117281	GFL0112428	GFL0099538
Sample Date	Client Info		03 Jun 2024	19 Feb 2024	26 Dec 2023
Machine Age	kms	Client Info	625	10539	301017
Oil Age	kms	Client Info	625	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			SEVERE	ABNORMAL	SEVERE

CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.2	NEG	NEG	NEG
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>127	221	93	▲ 281
Chromium	ppm	ASTM D5185(m)	>3	3	2	▲ 3
Nickel	ppm	ASTM D5185(m)	>30	1	<1	1
Titanium	ppm	ASTM D5185(m)	>2	0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>59	15	10	11
Lead	ppm	ASTM D5185(m)	>29	4	2	6
Copper	ppm	ASTM D5185(m)	>135	2	1	3
Tin	ppm	ASTM D5185(m)	>2	<1	<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)	1	4	2	2
Barium	ppm	ASTM D5185(m)	1	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	55	56	56
Manganese	ppm	ASTM D5185(m)	1	1	<1	2
Magnesium	ppm	ASTM D5185(m)	1010	867	889	865
Calcium	ppm	ASTM D5185(m)	1070	979	996	993
Phosphorus	ppm	ASTM D5185(m)	1150	872	924	891
Zinc	ppm	ASTM D5185(m)	1270	1077	1095	1092
Sulfur	ppm	ASTM D5185(m)	2060	2083	2436	2237
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>18	4	5	5
Sodium	ppm	ASTM D5185(m)		2	1	1
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	1
Fuel	%	ASTM D7593*	>2.0	▲ 3.8	▲ 3.4	▲ 2.9

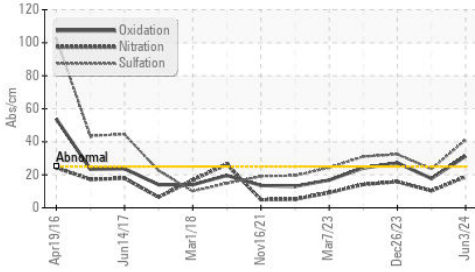
INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	▲ 5.6	2.1	▲ 4.5
Nitration	Abs/cm	ASTM D7624*	>20	18.8	10.3	15.8
Sulfation	Abs./1mm	ASTM D7415*	>30	41.2	23.5	32.4

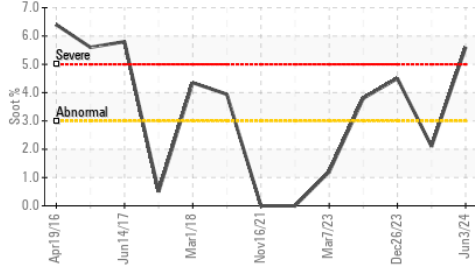


OIL ANALYSIS REPORT

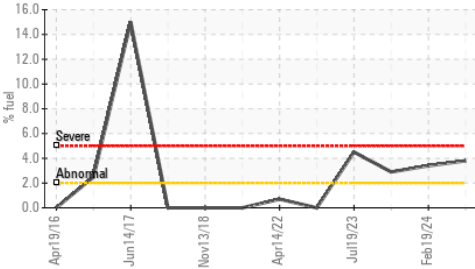
▲ FT-IR (Direct Trend)



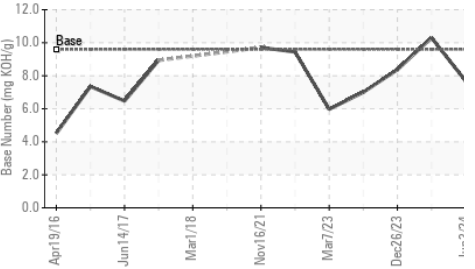
▲ Soot %



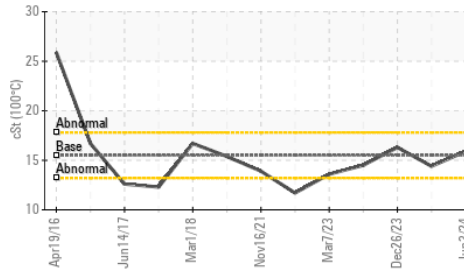
▲ Fuel Dilution



Base Number



Viscosity @ 100°C



FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm ASTM D7414*	>25	17.7	27.2
Base Number (BN)	mg KOH/g ASTM D2896*	9.6	10.30	8.37

VISUAL

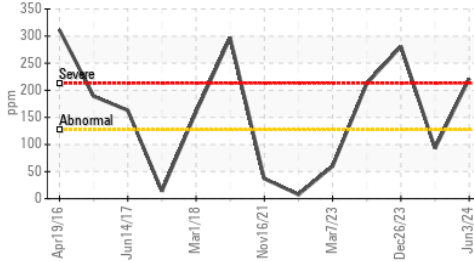
method	limit/base	current	history1	history2
Emulsified Water	scalar Visual*	>0.2	NEG	NEG
Free Water	scalar Visual*	NEG	NEG	NEG

FLUID PROPERTIES

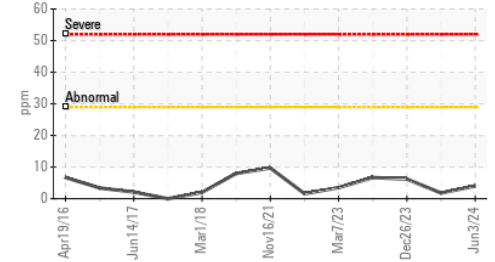
method	limit/base	current	history1	history2
Visc @ 100°C	cSt ASTM D7279(m)	15.5	14.4	16.3

GRAPHS

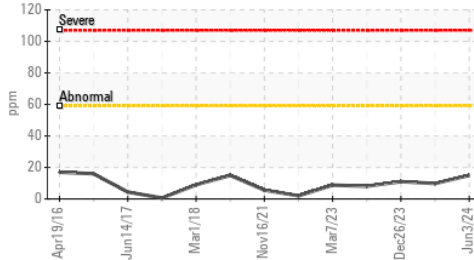
Iron (ppm)



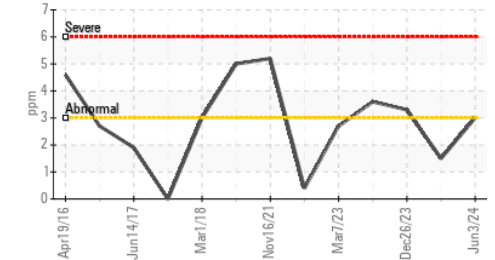
Lead (ppm)



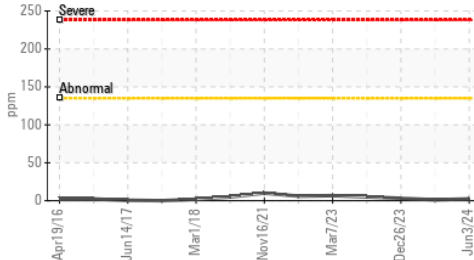
Aluminum (ppm)



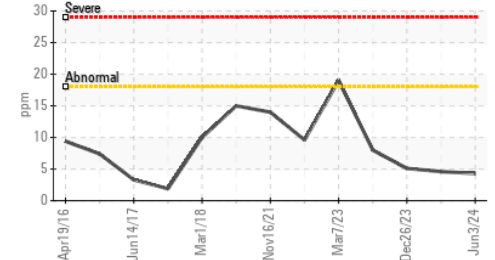
Chromium (ppm)



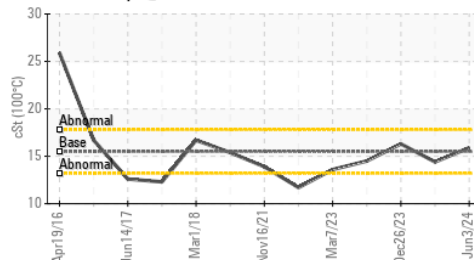
Copper (ppm)



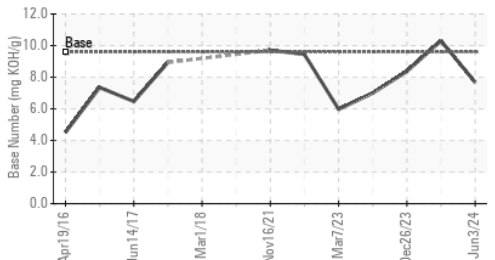
Silicon (ppm)



Viscosity @ 100°C



Base Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0117281
Lab Number : 02641075
Unique Number : 5798614
Test Package : MOB 2 (Additional Tests: PercentFuel)
Received : 11 Jun 2024
Tested : 12 Jun 2024
Diagnosed : 12 Jun 2024 - Wes Davis

GFL Environmental - 550 - Rocky View County
 220 Carmek Blvd
 Rocky View County, AB
 CA T1X 1X1
 Contact: GFL Calgary
 calgarymaintenance@gflenv.com

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.

T:
 F: (403)369-6163