



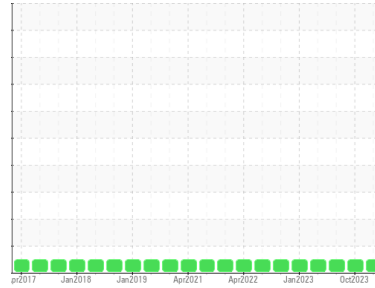
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
4515
Component
Front Diesel Engine
Fluid
PETRO CANADA DURON XL SYN BLEND 15W40 (38 LTR)



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0112387	GFL0091577	GFL0084324
Sample Date	Client Info		29 Feb 2024	10 Oct 2023	10 Aug 2023
Machine Age	hrs	Client Info	20985	20394	20112
Oil Age	hrs	Client Info	591	278	580
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>6.0	<1.0	<1.0	<1.0
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)	>100	8	4	7
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>2	0	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	2	1	2
Lead	ppm	ASTM D5185(m)	>40	<1	<1	1
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	<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	2	2	3
Barium	ppm	ASTM D5185(m)	1	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	56	56	59
Manganese	ppm	ASTM D5185(m)	1	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	922	925	969
Calcium	ppm	ASTM D5185(m)	1070	1100	1083	1091
Phosphorus	ppm	ASTM D5185(m)	1150	988	949	1036
Zinc	ppm	ASTM D5185(m)	1270	1170	1149	1184
Sulfur	ppm	ASTM D5185(m)	2060	2531	2431	2453
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

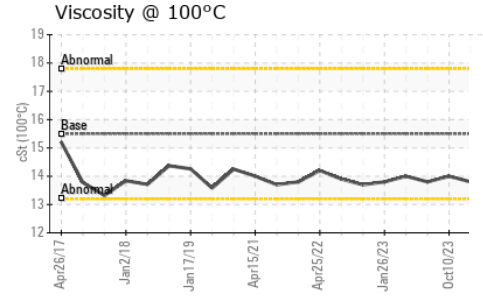
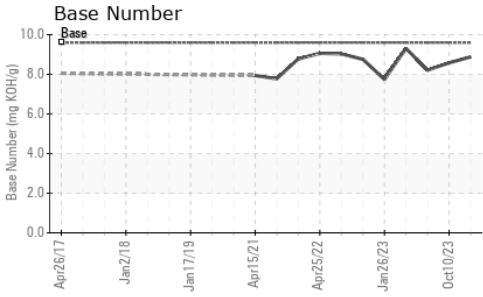
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	6	7	8
Sodium	ppm	ASTM D5185(m)		4	4	6
Potassium	ppm	ASTM D5185(m)	>20	<1	<1	1

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.2	0.1	0.3
Nitration	Abs/cm	ASTM D7624*	>20	8.0	6.5	8.2
Sulfation	Abs./1mm	ASTM D7415*	>30	19.9	19.0	21.3



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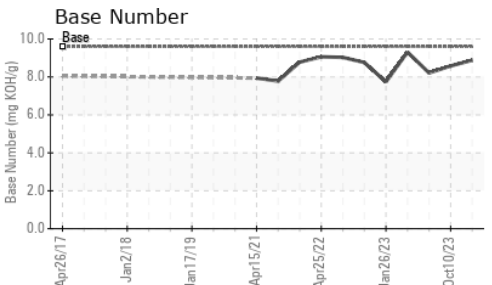
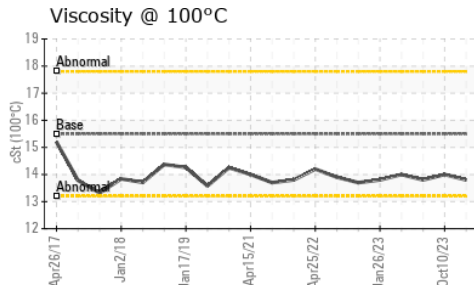
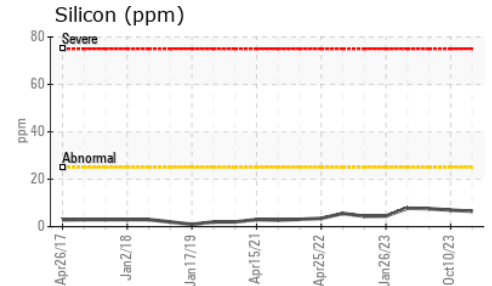
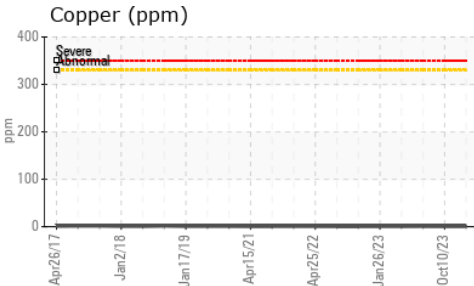
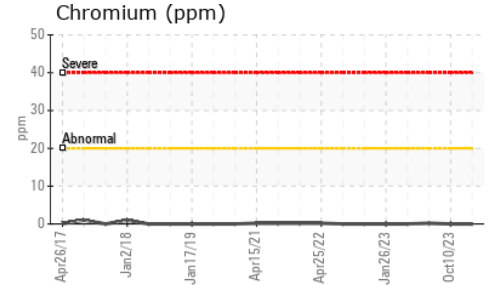
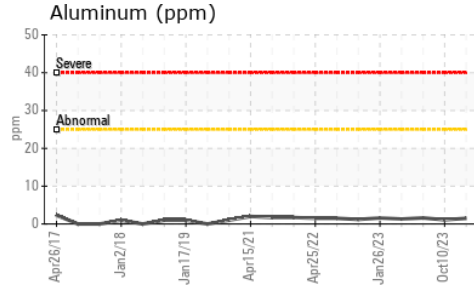
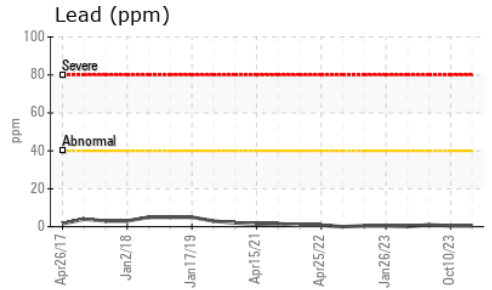
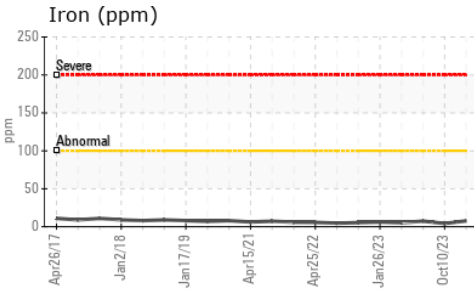


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	16.5	14.7	17.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.6	8.88	8.58	8.21

VISUAL		method	limit/base	current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	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)	15.5	13.8	14.0	13.8

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0112387
Lab Number : **02619529**
Unique Number : 5736639
Test Package : MOB 2
Received : 04 Mar 2024
Tested : 05 Mar 2024
Diagnosed : 05 Mar 2024 - Kevin Marson

GFL Environmental - 550 - Rocky View County
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 Rocky View County, AB
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 calgarymaintenance@gflenv.com
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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.