



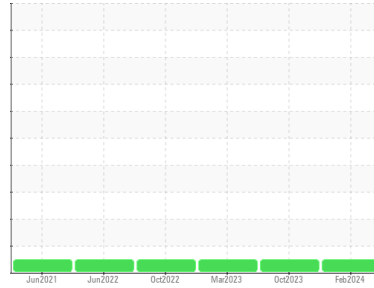
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
401156
 Component
Diesel Engine
 Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)



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 condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0100589	GFL0077015	GFL0077044
Sample Date	Client Info		05 Feb 2024	11 Oct 2023	15 Mar 2023
Machine Age	kms	Client Info	329019	310053	10600
Oil Age	kms	Client Info	10600	10600	600
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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)	>65	19	19	6
Chromium	ppm	ASTM D5185(m)	>5	1	1	<1
Nickel	ppm	ASTM D5185(m)	>3	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>5	0	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	<1	1
Aluminum	ppm	ASTM D5185(m)	>35	10	9	3
Lead	ppm	ASTM D5185(m)	>10	<1	<1	0
Copper	ppm	ASTM D5185(m)	>180	7	7	2
Tin	ppm	ASTM D5185(m)	>8	1	<1	<1
Antimony	ppm	ASTM D5185(m)	>35	0	0	<1
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	2	2	3
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	60	62	59
Manganese	ppm	ASTM D5185(m)	0	0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	965	988	972
Calcium	ppm	ASTM D5185(m)	1070	1089	1084	1110
Phosphorus	ppm	ASTM D5185(m)	1150	980	956	1078
Zinc	ppm	ASTM D5185(m)	1270	1186	1206	1180
Sulfur	ppm	ASTM D5185(m)	2060	2498	2282	2641
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

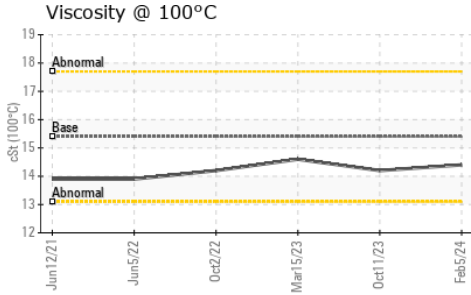
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	9	11	4
Sodium	ppm	ASTM D5185(m)		3	3	1
Potassium	ppm	ASTM D5185(m)	>20	4	2	2

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>3	0.5	0.5	0
Nitration	Abs/cm	ASTM D7624*	>20	8.2	7.7	6.1
Sulfation	Abs./1mm	ASTM D7415*	>30	19.9	19.8	21.2



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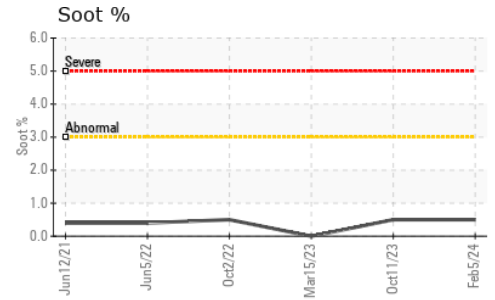
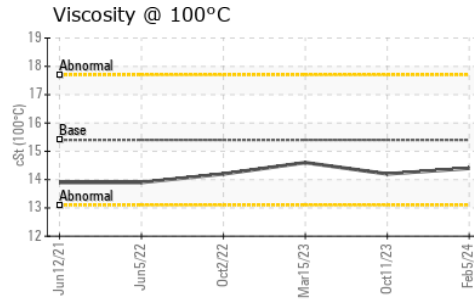
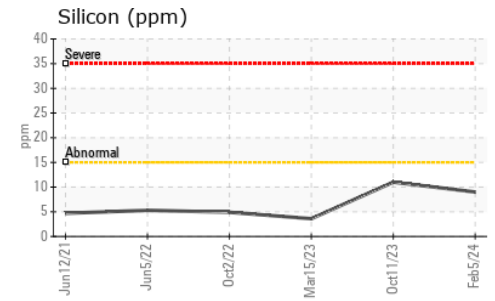
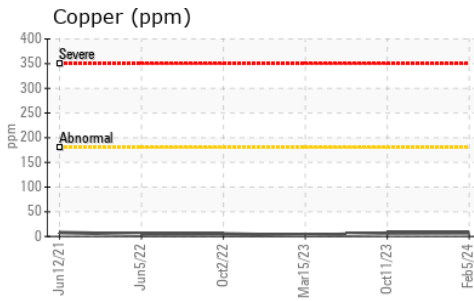
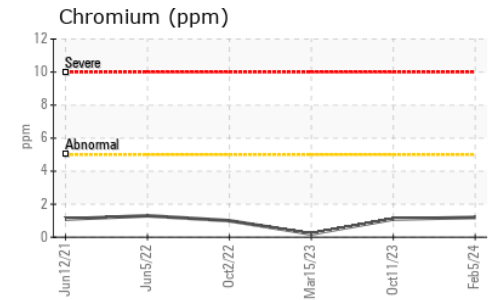
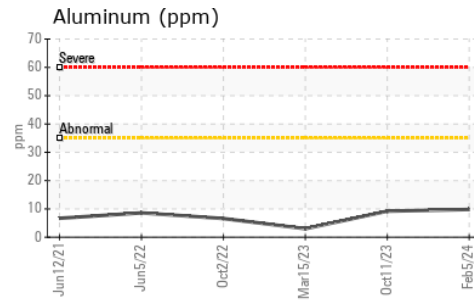
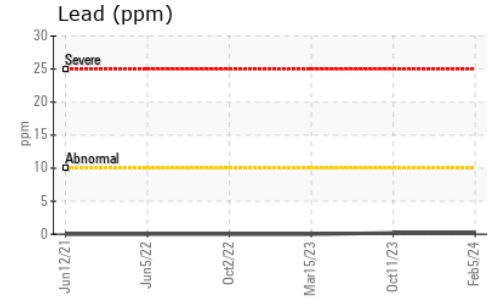
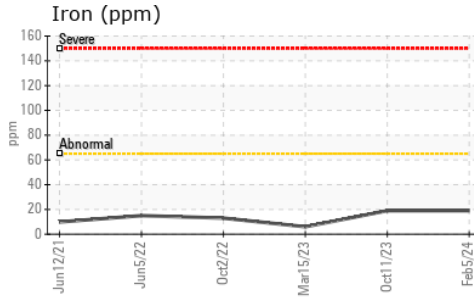


FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs./1mm	ASTM D7414*	>25	15.2	15.0	13.9

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)	15.4	14.4	14.2	14.6

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0100589
Lab Number : 02614378
Unique Number : 5723473
Test Package : MOB 1

GFL Environmental - 575 - Squamish Hauling
 38950 Queens Way,
 Squamish, BC
 CA V8B 0K8
 Contact: Dean Imbeau
 dimbeau@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.