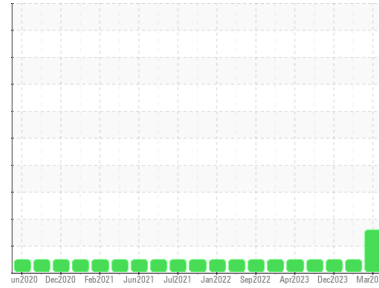




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
829020-1071

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Elemental level of silicon (Si) above normal.

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	GFL0111895	GFL0108331	GFL0098258	
Sample Date	Client Info	14 Mar 2024	11 Jan 2024	20 Dec 2023	
Machine Age	hrs	Client Info	14224	13925	13754
Oil Age	hrs	Client Info	13357	13229	13754
Oil Changed	Client Info	Not Chngd	N/A	N/A	
Sample Status		ABNORMAL	NORMAL	NORMAL	

CONTAMINATION

method	limit/base	current	history1	history2	
Fuel	WC Method	>5	<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 D5185m	>110	11	15	37
Chromium	ppm	ASTM D5185m	>4	<1	<1	2
Nickel	ppm	ASTM D5185m	>2	<1	0	0
Titanium	ppm	ASTM D5185m		0	<1	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	2	1	2
Lead	ppm	ASTM D5185m	>45	<1	<1	7
Copper	ppm	ASTM D5185m	>85	<1	<1	2
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	0	15	12	11
Barium	ppm	ASTM D5185m	0	0	0	<1
Molybdenum	ppm	ASTM D5185m	60	59	61	66
Manganese	ppm	ASTM D5185m	0	0	<1	<1
Magnesium	ppm	ASTM D5185m	1010	900	972	985
Calcium	ppm	ASTM D5185m	1070	1092	1118	1187
Phosphorus	ppm	ASTM D5185m	1150	972	1100	1174
Zinc	ppm	ASTM D5185m	1270	1167	1273	1365
Sulfur	ppm	ASTM D5185m	2060	3158	3180	3044

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>30	▲ 38	5	6
Sodium	ppm	ASTM D5185m		2	3	5
Potassium	ppm	ASTM D5185m	>20	<1	0	3

INFRA-RED

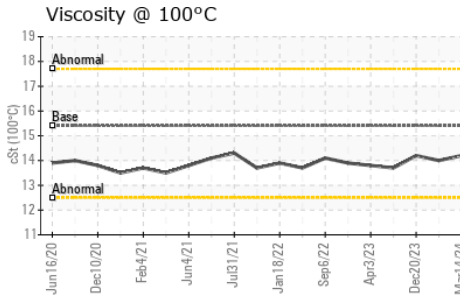
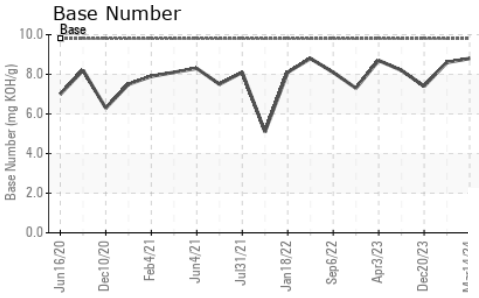
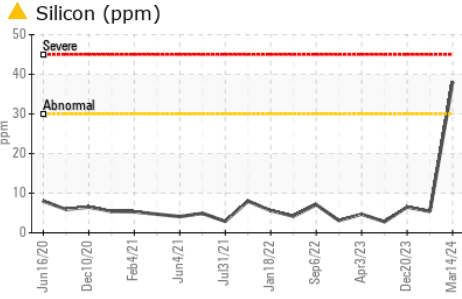
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.6	0.9	2.1
Nitration	Abs/cm	*ASTM D7624	>20	5.6	6.3	10.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	19.5	24.1

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.2	13.4	17.6
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.8	8.6	7.4



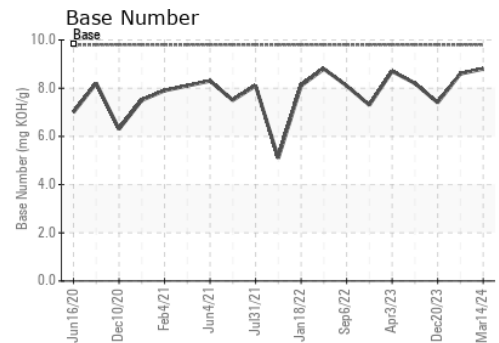
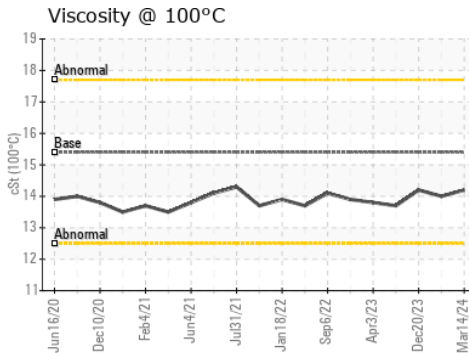
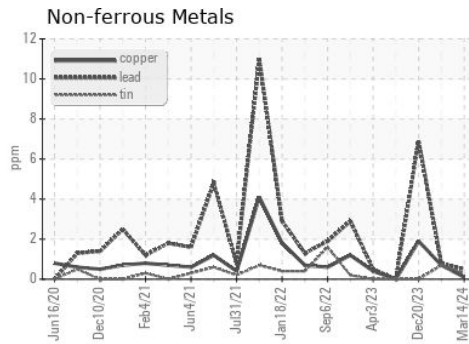
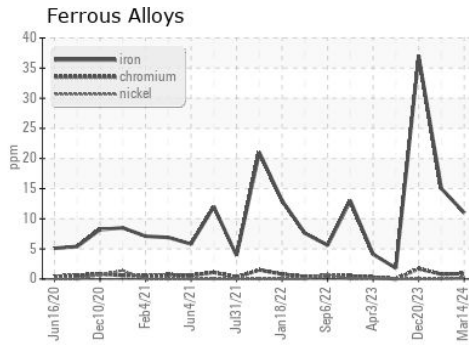
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.0

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0111895
Lab Number : 06120673
Unique Number : 10929506
Test Package : FLEET

Received : 18 Mar 2024
Tested : 19 Mar 2024
Diagnosed : 20 Mar 2024 - Don Baldrige

GFL Environmental - 652 - Fredericksburg Hauling
 10954 Houser Drive
 Fredericksburg, VA
 US 22408
 Contact: WILLIAM MILO
 wmilo@gflenv.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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