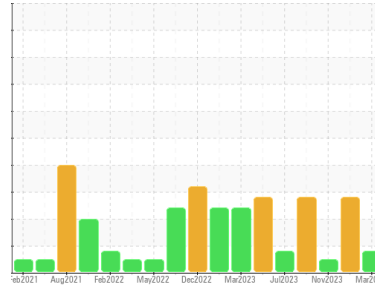




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
827036-1040

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor. (Customer Sample Comment: Sampled oil)

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring.

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	GFL0110341	GFL0110305	GFL0102796	
Sample Date	Client Info	08 Mar 2024	05 Mar 2024	30 Nov 2023	
Machine Age	hrs	Client Info	14227	14437	14196
Oil Age	hrs	Client Info	370	241	286
Oil Changed	Client Info	Not Chngd	Not Chngd	Not Chngd	
Sample Status		MARGINAL	SEVERE	NORMAL	

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 D5185m	>80	33	47	2
Chromium	ppm	ASTM D5185m	>5	1	2	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>30	2	3	1
Lead	ppm	ASTM D5185m	>30	0	<1	<1
Copper	ppm	ASTM D5185m	>150	<1	3	0
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m	0	0	3	8
Barium	ppm	ASTM D5185m	0	0	<1	0
Molybdenum	ppm	ASTM D5185m	60	62	49	59
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	903	732	918
Calcium	ppm	ASTM D5185m	1070	1078	894	1070
Phosphorus	ppm	ASTM D5185m	1150	1020	788	1086
Zinc	ppm	ASTM D5185m	1270	1220	998	1284
Sulfur	ppm	ASTM D5185m	2060	3055	2396	3261

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>20	3	15	2
Sodium	ppm	ASTM D5185m		8	6	1
Potassium	ppm	ASTM D5185m	>20	<1	2	<1
Fuel	%	ASTM D3524	>5	▲ 3.6	▲ 13.3	0.0

INFRA-RED

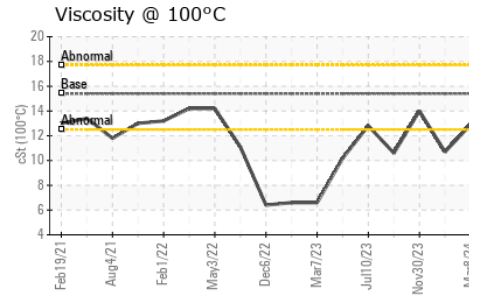
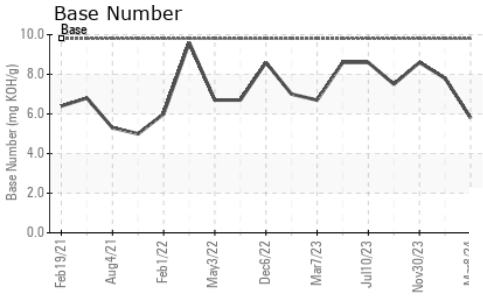
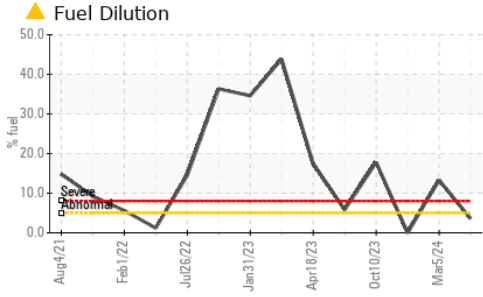
method	limit/base	current	history1	history2		
Soot %	%	*ASTM D7844	>3	0.7	0.7	0.3
Nitration	Abs/cm	*ASTM D7624	>20	11.6	10.4	4.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.9	19.1	17.4

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Oxidation	Abs/.1mm	*ASTM D7414	>25	22.3	16.9	12.5
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.8	7.8	8.6



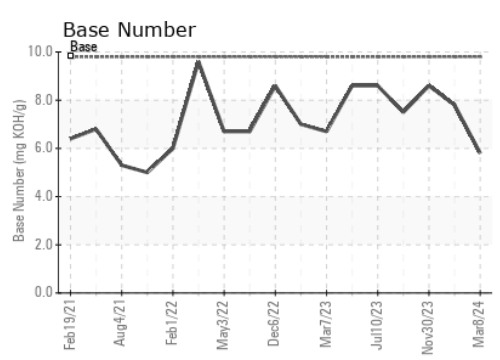
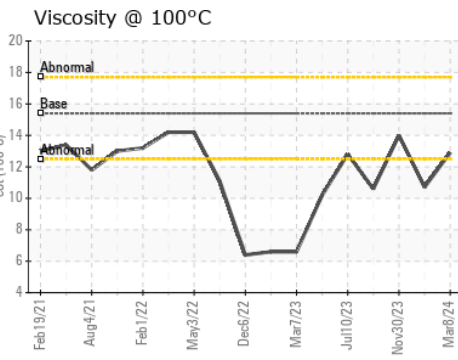
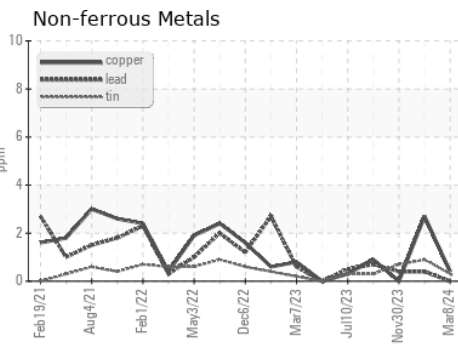
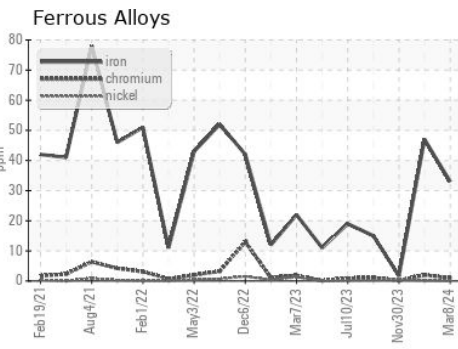
OIL ANALYSIS REPORT



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	12.9	▲ 10.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0110341 **Received** : 12 Mar 2024
Lab Number : 06116379 **Tested** : 19 Mar 2024
Unique Number : 10925212 **Diagnosed** : 19 Mar 2024 - Jonathan Hester
Test Package : FLEET (Additional Tests: PercentFuel)

GFL Environmental - 622 - Traverse City Hauling
 160 Hughes Dr
 Traverse City, MI
 US 49686
 Contact: GARY BREWER

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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