

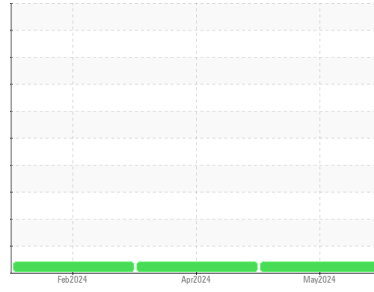


OIL ANALYSIS REPORT



Area
(61AATE4)
Machine Id
214009
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



VISCOSITY



DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	GFL0121422	GFL0115820	GFL0113687
Sample Date	Client Info	16 May 2024	05 Apr 2024	22 Feb 2024
Machine Age	hrs	532	404	144
Oil Age	hrs	532	404	0
Oil Changed	Client Info	Changed	N/A	N/A
Sample Status		ATTENTION	ATTENTION	ATTENTION

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >3.0	<1.0	<1.0	0.6
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 >120	83	63	52
Chromium	ppm ASTM D5185m >20	2	2	1
Nickel	ppm ASTM D5185m >5	<1	<1	0
Titanium	ppm ASTM D5185m >2	<1	<1	<1
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	13	10	8
Lead	ppm ASTM D5185m >40	<1	1	0
Copper	ppm ASTM D5185m >330	85	73	51
Tin	ppm ASTM D5185m >15	<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	46	47	57
Barium	ppm ASTM D5185m 0	8	6	5
Molybdenum	ppm ASTM D5185m 60	45	40	44
Manganese	ppm ASTM D5185m 0	6	5	5
Magnesium	ppm ASTM D5185m 1010	558	525	553
Calcium	ppm ASTM D5185m 1070	1601	1565	1474
Phosphorus	ppm ASTM D5185m 1150	819	718	755
Zinc	ppm ASTM D5185m 1270	964	880	940
Sulfur	ppm ASTM D5185m 2060	2529	2568	2537

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	31	27	26
Sodium	ppm ASTM D5185m	6	8	7
Potassium	ppm ASTM D5185m >20	24	26	12

INFRA-RED

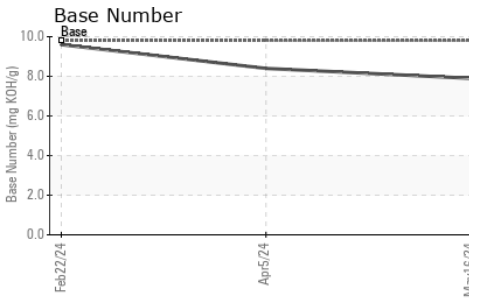
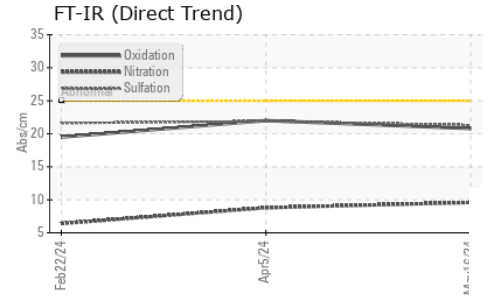
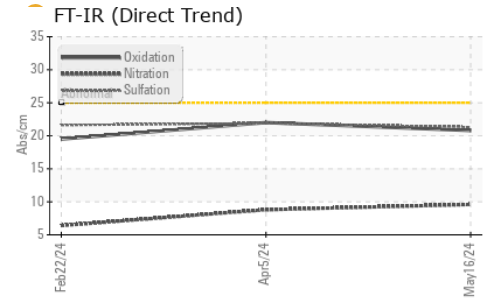
method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.2	0.2	0.1
Nitration	Abs/cm *ASTM D7624 >20	9.6	8.8	6.4
Sulfation	Abs/.1mm *ASTM D7415 >30	21.3	21.9	21.6

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	20.8	22.0	19.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	7.9	8.4	9.6



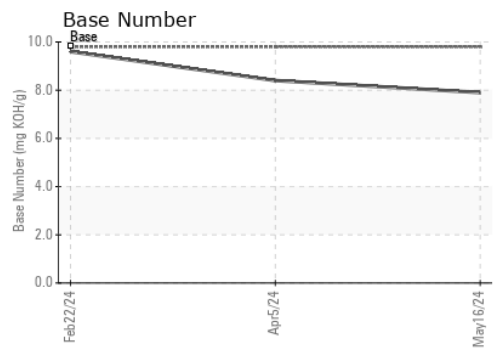
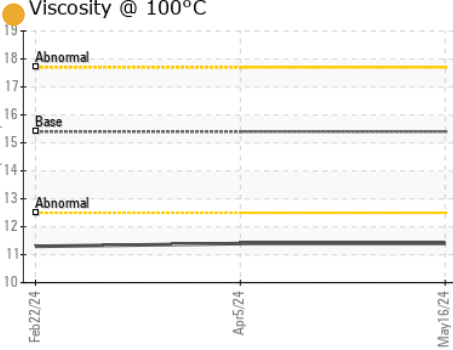
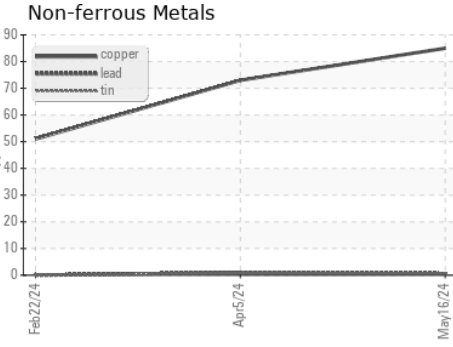
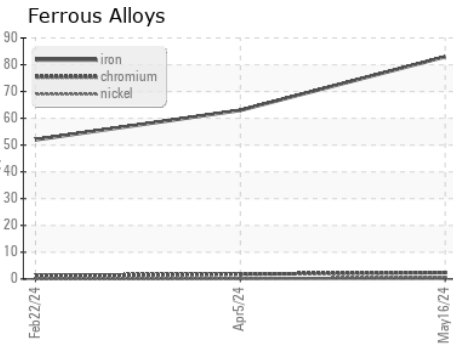
OIL ANALYSIS REPORT



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	● 11.4	● 11.4	● 11.3

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0121422 **Received** : 31 May 2024
Lab Number : 06196299 **Tested** : 03 Jun 2024
Unique Number : 11058422 **Diagnosed** : 03 Jun 2024 - Don Baldrige
Test Package : FLEET

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)
 13737 Plant Rd
 Childersburg, AL 35044
 Contact: JONATHAN WILLIAMS
 jonathan.williams@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)