



OIL ANALYSIS REPORT

Sample Rating Trend

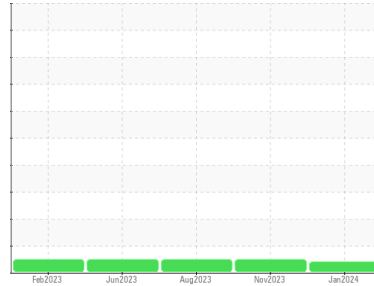
VISCOSITY



Machine Id
427190 - SW4735

Component
Diesel Engine

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



DIAGNOSIS

Recommendation

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

Wear

All component wear rates are normal.

Contamination

Fuel content negligible. 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		GFL0105513	GFL0094065	GFL0089381
Sample Date	Client Info		24 Jan 2024	29 Nov 2023	05 Aug 2023
Machine Age	mls	Client Info	333869	327511	318792
Oil Age	mls	Client Info	333869	327511	318792
Oil Changed	Client Info		Changed	N/A	Changed
Sample Status			ATTENTION	NORMAL	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 >100	21	13	3
Chromium	ppm	ASTM D5185m >20	1	0	0
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	0	0	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	<1	<1
Lead	ppm	ASTM D5185m >40	2	<1	4
Copper	ppm	ASTM D5185m >330	0	<1	<1
Tin	ppm	ASTM D5185m >15	<1	0	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	0
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	57	50	44
Manganese	ppm	ASTM D5185m 0	1	<1	<1
Magnesium	ppm	ASTM D5185m 1010	13	24	15
Calcium	ppm	ASTM D5185m 1070	2565	2479	2561
Phosphorus	ppm	ASTM D5185m 1150	1195	943	1104
Zinc	ppm	ASTM D5185m 1270	1349	1268	1404
Sulfur	ppm	ASTM D5185m 2060	3268	3082	4017

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	6	7
Sodium	ppm	ASTM D5185m	2	1	<1
Potassium	ppm	ASTM D5185m >20	4	<1	2
Fuel	%	ASTM D3524 >5	0.2	<1.0	<1.0

INFRA-RED

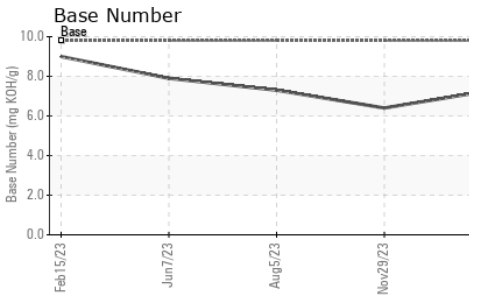
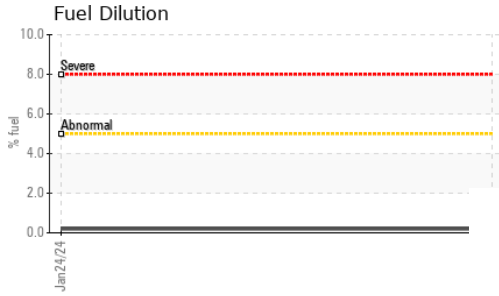
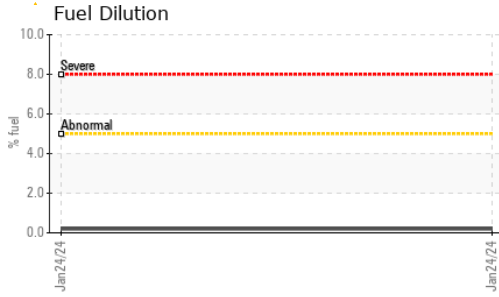
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.4	0.4	0.2
Nitration	Abs/cm	*ASTM D7624 >20	9.0	9.9	6.8
Sulfation	Abs/.1mm	*ASTM D7415 >30	18.8	19.8	16.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	10.5	11.2	10.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	7.3	6.4	7.3



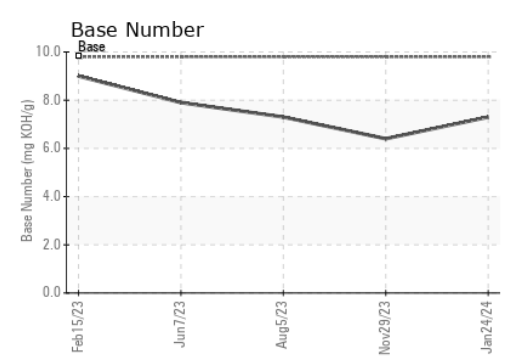
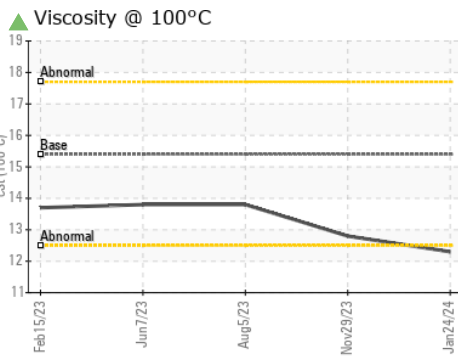
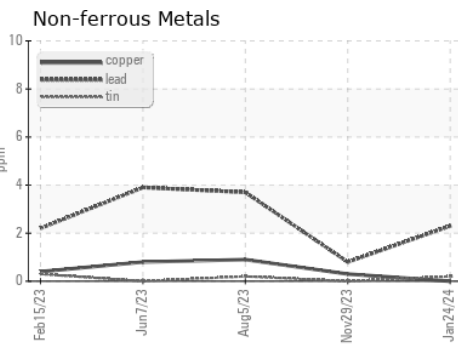
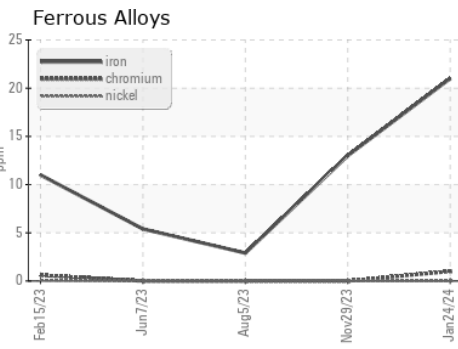
OIL ANALYSIS REPORT



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 ▲ 12.3	12.8	13.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105513 **Received** : 29 Jan 2024
Lab Number : 06072605 **Diagnosed** : 31 Jan 2024
Unique Number : 10849282 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

GFL Environmental - 983 - Sugar Land Hauling
 16011 West Belfort Street
 Sugar Land, TX
 US 77498
 Contact: Adrian Martinez
 adrianmartinez@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)