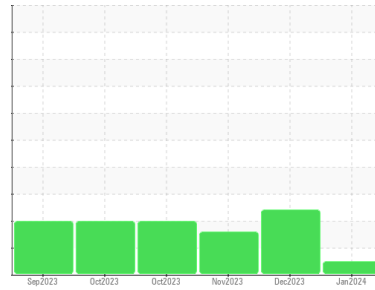




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
414047
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

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 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		GFL0105184	GFL0090336	GFL0090304
Sample Date	Client Info		18 Jan 2024	11 Dec 2023	06 Nov 2023
Machine Age	hrs	Client Info	661	579	406
Oil Age	hrs	Client Info	600	579	406
Oil Changed	Client Info		Changed	Changed	Not Changed
Sample Status			NORMAL	ABNORMAL	ABNORMAL

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 D5185m >120	10	41	33
Chromium	ppm	ASTM D5185m >20	<1	2	1
Nickel	ppm	ASTM D5185m >5	1	2	1
Titanium	ppm	ASTM D5185m >2	<1	<1	<1
Silver	ppm	ASTM D5185m >2	1	<1	2
Aluminum	ppm	ASTM D5185m >20	4	▲ 24	17
Lead	ppm	ASTM D5185m >40	0	<1	<1
Copper	ppm	ASTM D5185m >330	64	223	189
Tin	ppm	ASTM D5185m >15	1	4	3
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	<1	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	16	216	250
Barium	ppm	ASTM D5185m 0	3	12	1
Molybdenum	ppm	ASTM D5185m 60	63	136	124
Manganese	ppm	ASTM D5185m 0	<1	5	4
Magnesium	ppm	ASTM D5185m 1010	887	768	695
Calcium	ppm	ASTM D5185m 1070	1088	1543	1427
Phosphorus	ppm	ASTM D5185m 1150	942	745	714
Zinc	ppm	ASTM D5185m 1270	1157	895	813
Sulfur	ppm	ASTM D5185m 2060	3388	2841	2420

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	12	▲ 97	▲ 86
Sodium	ppm	ASTM D5185m	0	4	1
Potassium	ppm	ASTM D5185m >20	13	54	45

INFRA-RED

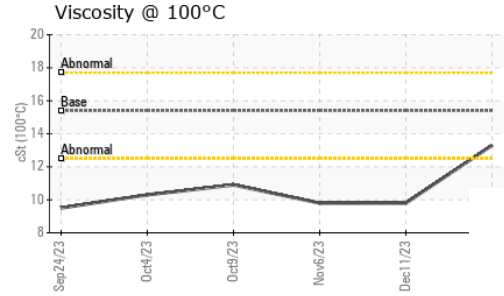
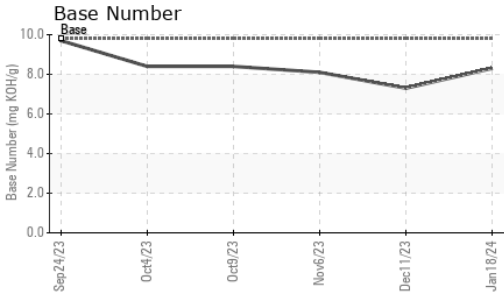
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.1	0.2	0.2
Nitration	Abs/cm	*ASTM D7624 >20	6.2	10.1	9.1
Sulfation	Abs/.1mm	*ASTM D7415 >30	19.0	24.2	24.8

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	14.8	23.0	22.3
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.3	7.3	8.1



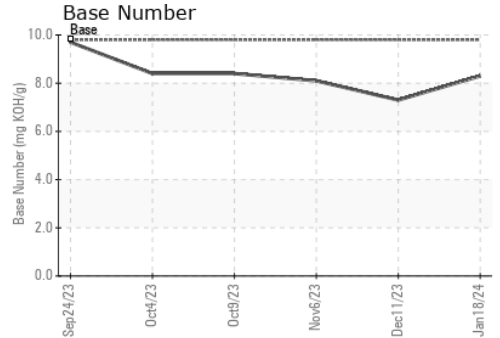
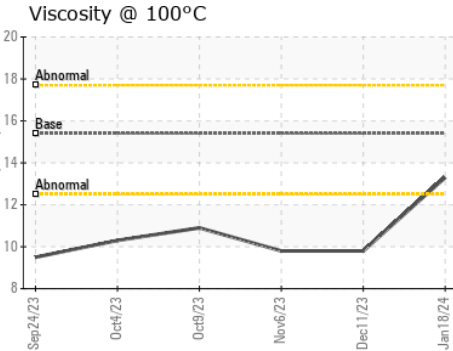
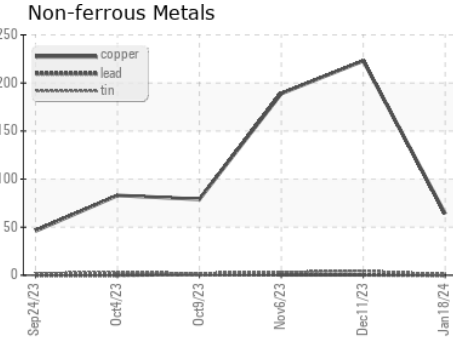
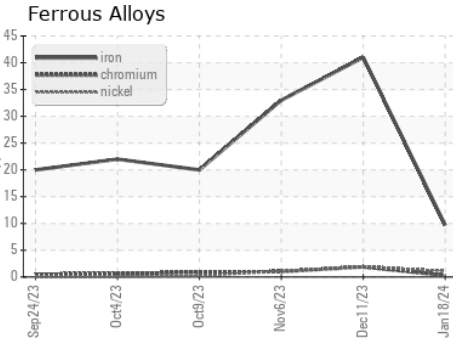
OIL ANALYSIS REPORT



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	13.3	9.8	9.8

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105184 **Recieved** : 22 Jan 2024
Lab Number : **06066540** **Diagnosed** : 22 Jan 2024
Unique Number : 10843217 **Diagnostician** : Wes Davis
Test Package : FLEET

GFL Environmental - 821 - Ozarks Hauling
 33924 Olath Drive
 Lebanon, MO
 US 65536
 Contact: Landen Johnson
 landen.johnson@gflenv.com
 T: (417)664-0010
 F:

Certificate L2367
 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)