

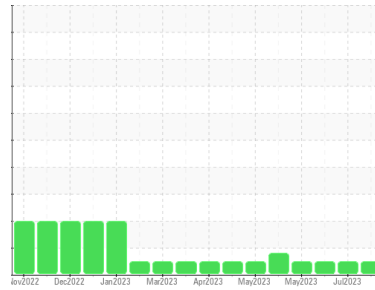


OIL ANALYSIS REPORT



Area
166
Machine Id
413005
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

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		GFL0091211	GFL0070607	GFL0081142
Sample Date	Client Info		16 Aug 2023	07 Jul 2023	15 Jun 2023
Machine Age	hrs	Client Info	28743	17683	28743
Oil Age	hrs	Client Info	600	600	600
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >120	14	7	4
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	0	0	0
Titanium	ppm	ASTM D5185m >2	0	0	<1
Silver	ppm	ASTM D5185m >2	<1	0	<1
Aluminum	ppm	ASTM D5185m >20	6	4	2
Lead	ppm	ASTM D5185m >40	0	0	1
Copper	ppm	ASTM D5185m >330	56	42	33
Tin	ppm	ASTM D5185m >15	0	<1	<1
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	1	0	<1
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	76	61	60
Manganese	ppm	ASTM D5185m 0	0	<1	<1
Magnesium	ppm	ASTM D5185m 1010	1192	911	1031
Calcium	ppm	ASTM D5185m 1070	1280	1042	1113
Phosphorus	ppm	ASTM D5185m 1150	1199	1017	1046
Zinc	ppm	ASTM D5185m 1270	1662	1204	1336
Sulfur	ppm	ASTM D5185m 2060	4147	3099	3821

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	4	4
Sodium	ppm	ASTM D5185m	<1	0	2
Potassium	ppm	ASTM D5185m >20	8	9	7

INFRA-RED

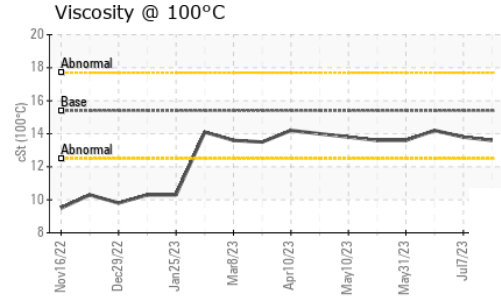
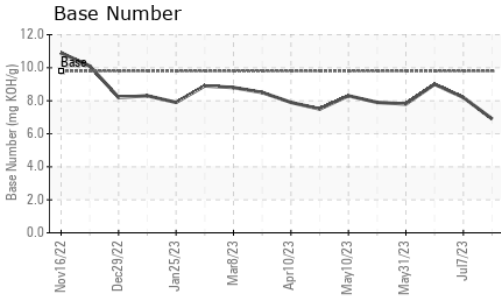
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.3	0.2	0.1
Nitration	Abs/cm	*ASTM D7624 >20	8.3	6.7	6.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.3	19.9	18.5

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.5	16.2	14.0
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.9	8.2	9.0



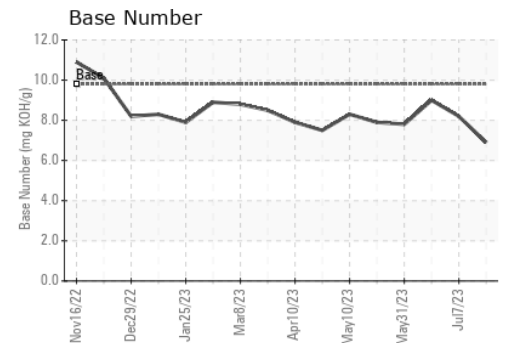
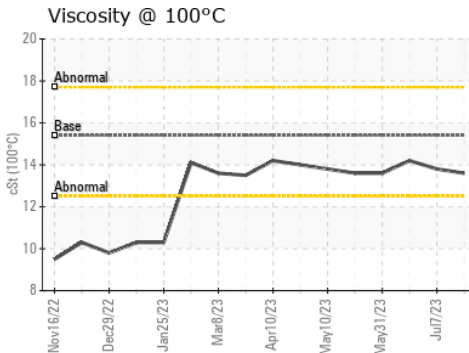
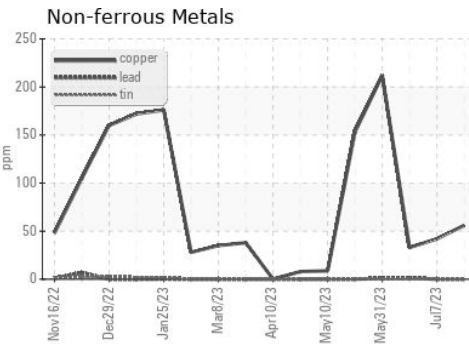
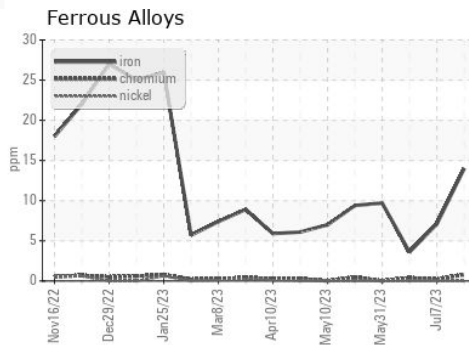
OIL ANALYSIS REPORT



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	13.6	13.8	14.2

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0091211 Received : 21 Aug 2023
 Lab Number : 05929292 Diagnosed : 21 Aug 2023
 Unique Number : 10609239 Diagnostician : Wes Davis
 Test Package : FLEET

GFL Environmental - 166 - Phenix City
 18 Old Brickyard Rd
 Phenix City, AL
 US 36869
 Contact: DEAN PEACE JR
 dean.peace@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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