



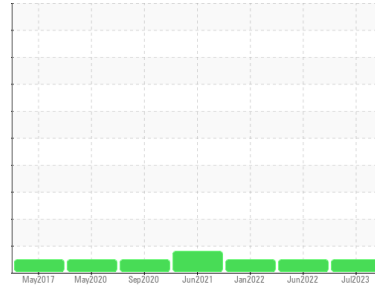
OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
4707
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (40 LTR)



DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. 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

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		GFL0086761	GFL0042881	GFL0032454
Sample Date	Client Info		06 Jul 2023	16 Jun 2022	06 Jan 2022
Machine Age	hrs	Client Info	260171	12808	216642
Oil Age	hrs	Client Info	14986	0	16930
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2	
Iron	ppm	ASTM D5185(m)	>120	7	5	5
Chromium	ppm	ASTM D5185(m)	>20	<1	0	0
Nickel	ppm	ASTM D5185(m)	>5	<1	0	0
Titanium	ppm	ASTM D5185(m)	>2	<1	0	<1
Silver	ppm	ASTM D5185(m)	>2	0	0	0
Aluminum	ppm	ASTM D5185(m)	>20	4	3	3
Lead	ppm	ASTM D5185(m)	>40	1	2	<1
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	0	<1	<1
Antimony	ppm	ASTM D5185(m)		0	0	0
Vanadium	ppm	ASTM D5185(m)		0	0	<1
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185(m)	0	15	35	31
Barium	ppm	ASTM D5185(m)	0	0	0	0
Molybdenum	ppm	ASTM D5185(m)	60	43	86	80
Manganese	ppm	ASTM D5185(m)	0	<1	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	131	30	27
Calcium	ppm	ASTM D5185(m)	1070	2149	2088	2081
Phosphorus	ppm	ASTM D5185(m)	1150	1005	1046	993
Zinc	ppm	ASTM D5185(m)	1270	1123	1185	1124
Sulfur	ppm	ASTM D5185(m)	2060	2940	3030	3026
Lithium	ppm	ASTM D5185(m)		<1	0	<1

CONTAMINANTS

	method	limit/base	current	history 1	history 2	
Silicon	ppm	ASTM D5185(m)	>25	4	4	3
Sodium	ppm	ASTM D5185(m)		5	4	5
Potassium	ppm	ASTM D5185(m)	>20	<1	0	2

INFRA-RED

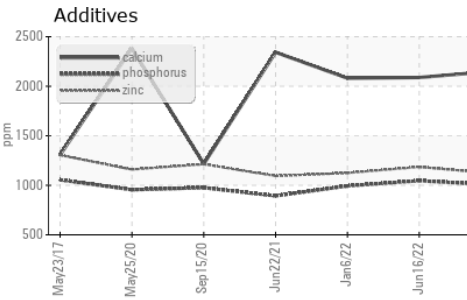
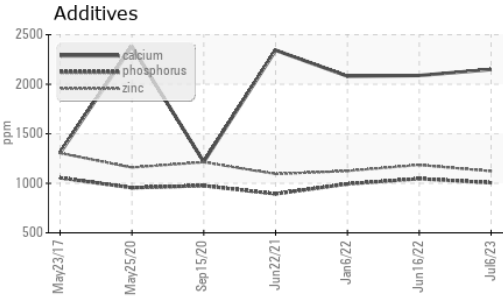
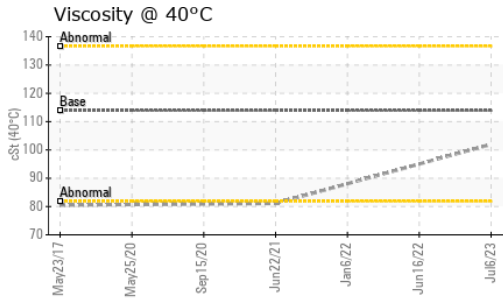
	method	limit/base	current	history 1	history 2	
Soot %	%	ASTM D7844*	>4	0.1	0.1	0
Nitration	Abs/cm	ASTM D7624*	>20	8.8	9.3	5.9
Sulfation	Abs/.1mm	ASTM D7415*	>30	20.4	23.3	14.4

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2	
Oxidation	Abs/.1mm	ASTM D7414*	>25	14.5	16.9	9.8



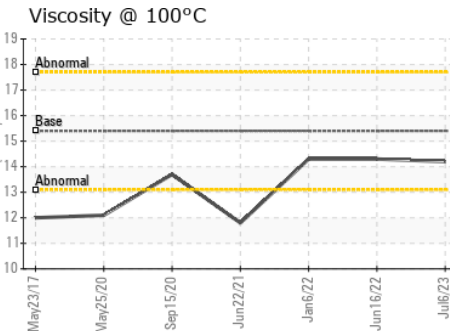
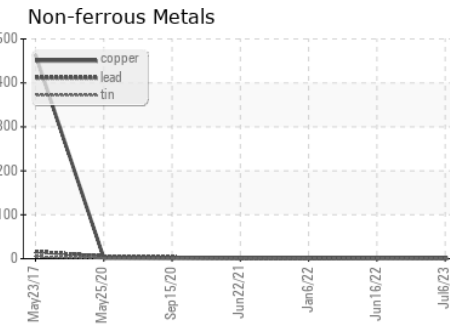
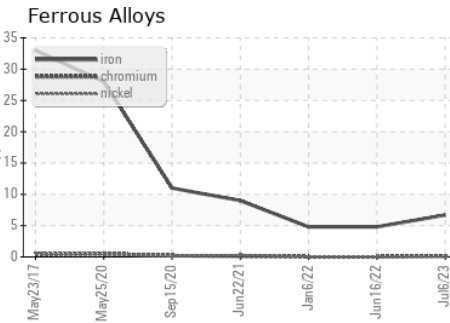
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	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	history 1	history 2
Visc @ 40°C	cSt	ASTM D7279(m)	113.9	102	---
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.2	14.3
Viscosity Index (VI)	Scale	ASTM D2270*	142	142	---

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : GFL0086761
Lab Number : 02568660
Unique Number : 5605706
Test Package : MOB 1 (Additional Tests: KV40, PrtCount, VI, Visual)

GFL Environmental - 222 - Sandhill
 SANDHILL DISPOSAL & RECYCLING DIVIS, 19 COMMERCE ROAD
 ORANGEVILLE, ON
 CA L9W 3X5
 Contact: GLENN COOK
 gcook@gflenv.com
 T: (519)940-4167
 F:

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.