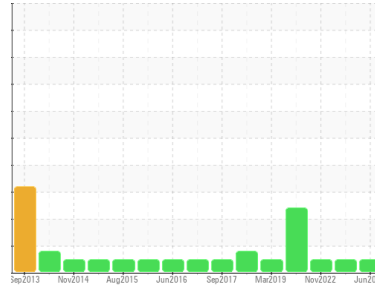




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
7939
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (20 LTR)

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	history 1	history 2
Sample Number	Client Info		GFL0084560	GFL0071458	GFL0058698
Sample Date	Client Info		13 Jun 2023	03 Jan 2023	07 Nov 2022
Machine Age	hrs	Client Info	700	25243	15113
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>5	<1.0	<1.0	0.8
Glycol	WC Method		NEG	NEG	NEG

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >80	13	16	4
Chromium	ppm	ASTM D5185m >5	<1	1	<1
Nickel	ppm	ASTM D5185m >2	<1	<1	0
Titanium	ppm	ASTM D5185m	<1	0	0
Silver	ppm	ASTM D5185m >3	<1	0	0
Aluminum	ppm	ASTM D5185m >30	6	3	2
Lead	ppm	ASTM D5185m >30	3	<1	0
Copper	ppm	ASTM D5185m >150	2	<1	0
Tin	ppm	ASTM D5185m >5	2	<1	<1
Antimony	ppm	ASTM D5185m	---	---	---
Vanadium	ppm	ASTM D5185m	<1	0	0
Beryllium	ppm	ASTM D5185m	---	---	---
Cadmium	ppm	ASTM D5185m	<1	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	33	0	3
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	54	60	58
Manganese	ppm	ASTM D5185m 0	2	<1	<1
Magnesium	ppm	ASTM D5185m 1010	602	942	946
Calcium	ppm	ASTM D5185m 1070	1784	1110	1066
Phosphorus	ppm	ASTM D5185m 1150	792	987	1004
Zinc	ppm	ASTM D5185m 1270	1038	1262	1249
Sulfur	ppm	ASTM D5185m 2060	2849	3367	3521
Lithium	ppm	ASTM D5185m	---	---	---

CONTAMINANTS

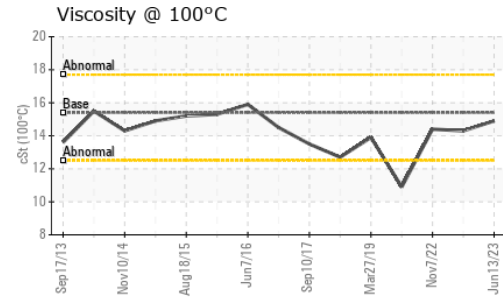
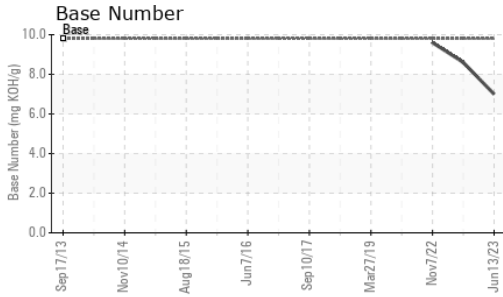
	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >20	5	4	3
Sodium	ppm	ASTM D5185m	6	5	2
Potassium	ppm	ASTM D5185m >20	2	7	2

INFRA-RED

	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >3	0.1	0.7	0.2
Nitration	Abs/cm	*ASTM D7624 >20	8.6	9.4	5.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.3	19.9	17.6



OIL ANALYSIS REPORT



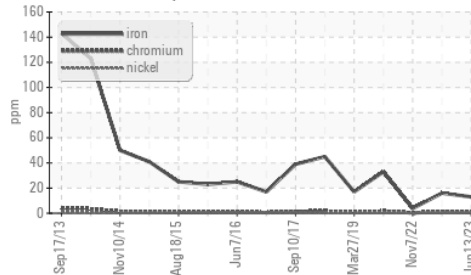
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs./1mm	*ASTM D7414	>25	18.0	16.7	13.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.0	8.6	9.6

VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

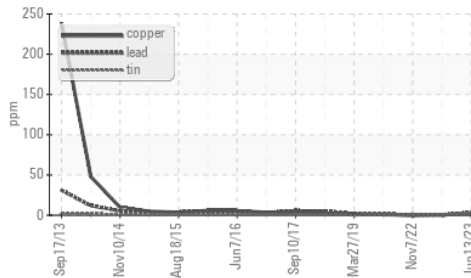
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	14.9	14.3	14.4

GRAPHS

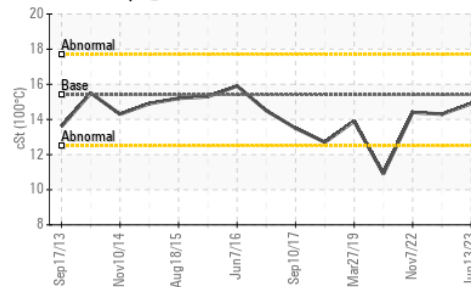
Ferrous Alloys



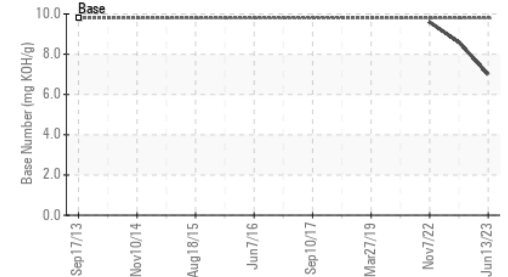
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0084560 **Received** : 28 Jun 2023
Lab Number : 05885459 **Diagnosed** : 30 Jun 2023
Unique Number : 10535942 **Diagnostician** : Don Baldrige
Test Package : FLEET

GFL Environmental - 918 - Hartland HC
 630 E Industrial Drive
 Hartland, WI
 US 53029
 Contact: David McCall
 david.mccall@gflenv.com
 T: (262)369-3069
 F:

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)