

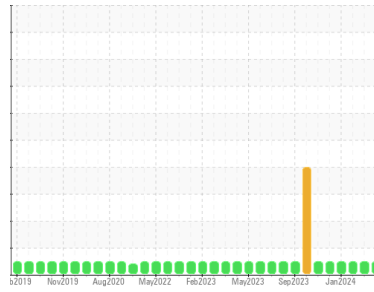


OIL ANALYSIS REPORT



Machine Id
426081-402330
 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	GFL0118613	GFL0114012	GFL0109769
Sample Date	Client Info	02 Apr 2024	11 Mar 2024	30 Jan 2024
Machine Age	hrs	0	18123	17989
Oil Age	hrs	0	0	0
Oil Changed	Client Info	Not Changed	Not Changed	Not Changed
Sample Status		NORMAL	NORMAL	NORMAL

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	31	14	18
Chromium	ppm ASTM D5185m >20	1	<1	0
Nickel	ppm ASTM D5185m >5	<1	0	0
Titanium	ppm ASTM D5185m >2	<1	0	0
Silver	ppm ASTM D5185m >2	0	0	0
Aluminum	ppm ASTM D5185m >20	12	2	5
Lead	ppm ASTM D5185m >40	2	0	<1
Copper	ppm ASTM D5185m >330	4	<1	5
Tin	ppm ASTM D5185m >15	1	0	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	3	4	4
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	63	55	58
Manganese	ppm ASTM D5185m 0	1	<1	<1
Magnesium	ppm ASTM D5185m 1010	791	832	898
Calcium	ppm ASTM D5185m 1070	1259	1013	1065
Phosphorus	ppm ASTM D5185m 1150	928	940	1043
Zinc	ppm ASTM D5185m 1270	1187	1141	1193
Sulfur	ppm ASTM D5185m 2060	3342	3080	3010

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	14	4	6
Sodium	ppm ASTM D5185m	4	2	4
Potassium	ppm ASTM D5185m >20	8	0	11

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >4	0.8	0.6	0.4
Nitration	Abs/cm *ASTM D7624 >20	11.4	8.8	7.6
Sulfation	Abs/.1mm *ASTM D7415 >30	22.2	19.5	19.1

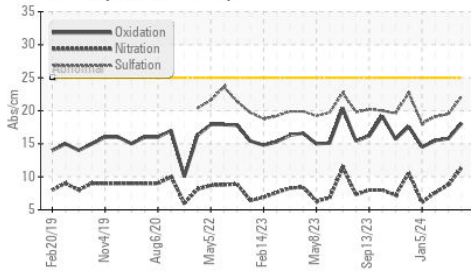
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.1	15.8	15.5
Base Number (BN)	mg KOH/g ASTM D2896 9.8	5.1	8.2	8.3

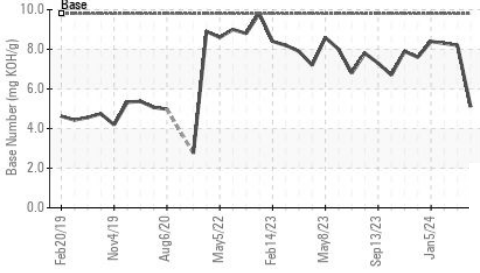


OIL ANALYSIS REPORT

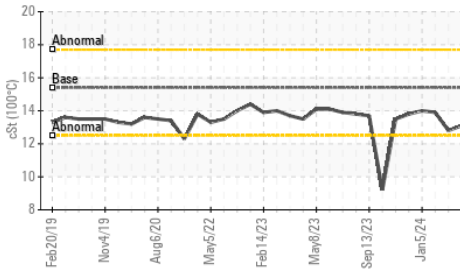
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

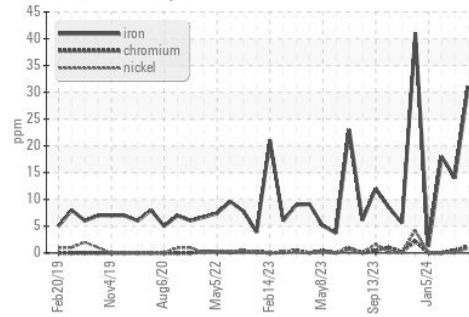


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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

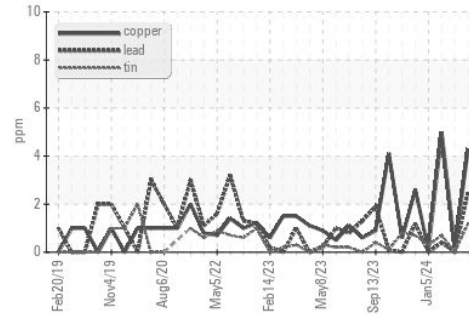
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.1	12.8

GRAPHS

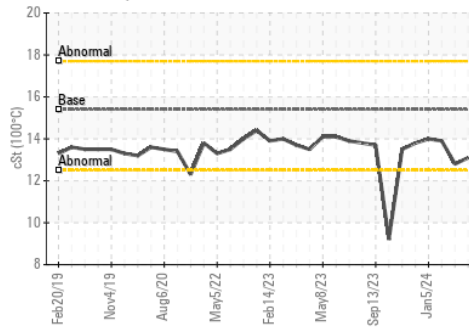
Ferrous Alloys



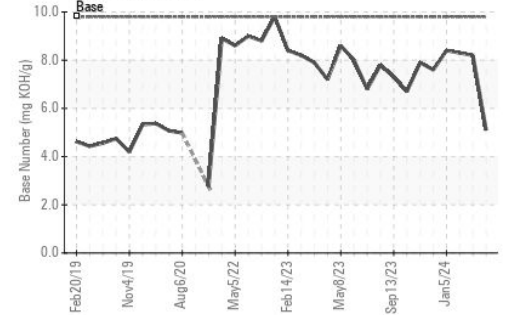
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : GFL0118613

Lab Number : 06144053

Unique Number : 10968861

Test Package : FLEET

Received : 10 Apr 2024

Tested : 11 Apr 2024

Diagnosed : 12 Apr 2024 - Don Baldrige

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road

Kansas City, MO

US 64126

Contact: Loyce Stewart

loyce.stewart@gflen.com

T:

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)