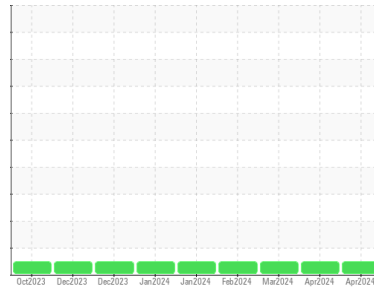




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
{UNASSIGNED}

Machine Id
834092

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. 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	GFL0118025	GFL0115674	GFL0115746
Sample Date	Client Info	19 Apr 2024	16 Apr 2024	22 Mar 2024
Machine Age	hrs Client Info	1180	1153	1021
Oil Age	hrs Client Info	585	558	426
Oil Changed	Client Info	Changed	Not Changd	Not Changd
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Water	WC Method >0.1	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >50	29	27	23
Chromium	ppm ASTM D5185m >4	3	3	2
Nickel	ppm ASTM D5185m >2	<1	0	<1
Titanium	ppm ASTM D5185m	0	0	0
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >9	70	67	47
Lead	ppm ASTM D5185m >30	<1	<1	<1
Copper	ppm ASTM D5185m >35	1	0	3
Tin	ppm ASTM D5185m >4	2	1	<1
Vanadium	ppm ASTM D5185m	0	0	<1
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	4	3	3
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	70	67	65
Manganese	ppm ASTM D5185m 0	3	2	2
Magnesium	ppm ASTM D5185m 1010	938	912	968
Calcium	ppm ASTM D5185m 1070	1127	1116	1175
Phosphorus	ppm ASTM D5185m 1150	1015	962	1001
Zinc	ppm ASTM D5185m 1270	1255	1212	1213
Sulfur	ppm ASTM D5185m 2060	3363	3133	3460

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	10	9	8
Sodium	ppm ASTM D5185m	6	4	5
Potassium	ppm ASTM D5185m >20	178	164	112

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0	0	0
Nitration	Abs/cm *ASTM D7624 >20	9.7	9.8	8.8
Sulfation	Abs/.1mm *ASTM D7415 >30	21.3	21.2	19.4

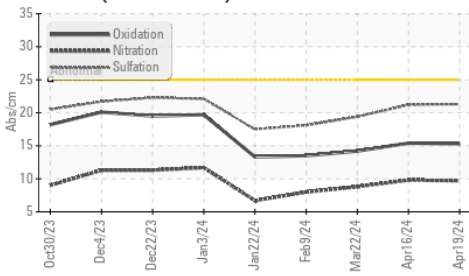
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.3	15.4	14.2
Base Number (BN)	mg KOH/g ASTM D2896 9.8	3.6	3.8	5.4

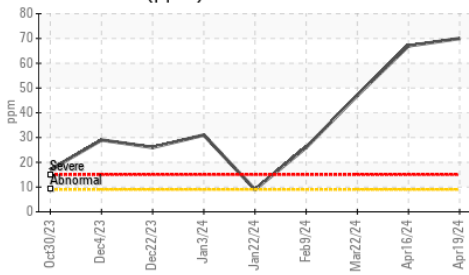


OIL ANALYSIS REPORT

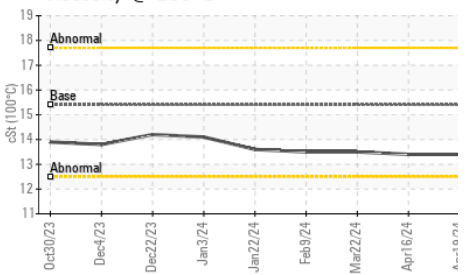
FT-IR (Direct Trend)



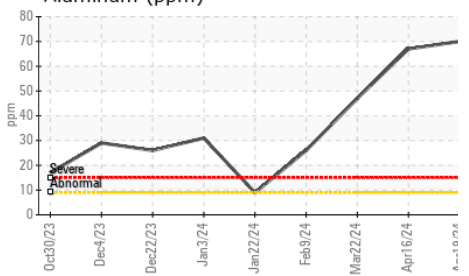
Aluminum (ppm)



Viscosity @ 100°C



Aluminum (ppm)

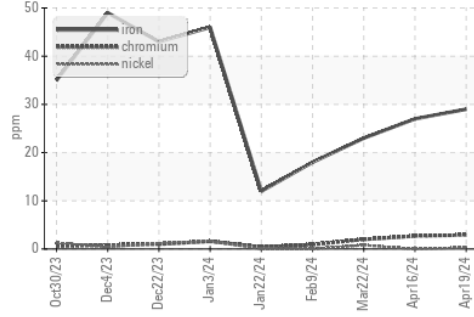


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

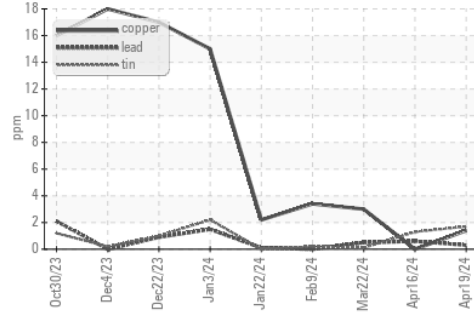
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	13.5

GRAPHS

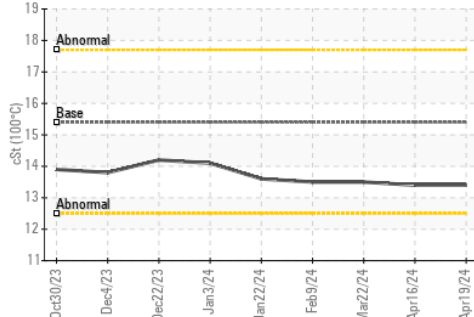
Ferrous Alloys



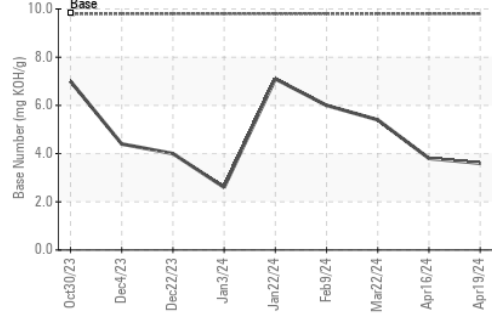
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0118025
Lab Number : 06156793
Unique Number : 10992216
Test Package : FLEET
Received : 22 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Wes Davis

GFL Environmental - 010 - Stockbridge
 1280 Rum Creek Parkway
 Stockbridge, GA
 US 30281
 Contact: JOSHUA TINKER
 joshuatinker@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)