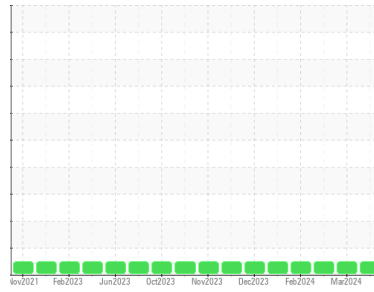




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
411026-411026

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

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	GFL0104810	GFL0104789	GFL0104947
Sample Date	Client Info	28 Mar 2024	07 Mar 2024	13 Feb 2024
Machine Age	hrs Client Info	7330	7005	7005
Oil Age	hrs Client Info	7005	6703	0
Oil Changed	Client Info	N/A	Changed	N/A
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<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 >100	7	5	14
Chromium	ppm ASTM D5185m >20	<1	<1	1
Nickel	ppm ASTM D5185m >4	<1	0	0
Titanium	ppm ASTM D5185m	0	0	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >20	7	2	6
Lead	ppm ASTM D5185m >40	<1	0	0
Copper	ppm ASTM D5185m >330	0	<1	<1
Tin	ppm ASTM D5185m >15	<1	0	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	1	2	0
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 60	53	53	55
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 1010	862	857	852
Calcium	ppm ASTM D5185m 1070	924	971	947
Phosphorus	ppm ASTM D5185m 1150	996	986	927
Zinc	ppm ASTM D5185m 1270	1173	1142	1083
Sulfur	ppm ASTM D5185m 2060	3504	3040	2639

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	1	2	2
Sodium	ppm ASTM D5185m	3	4	7
Potassium	ppm ASTM D5185m >20	10	2	6

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.9	0.5	1.3
Nitration	Abs/cm *ASTM D7624 >20	6.5	5.6	8.0
Sulfation	Abs/.1mm *ASTM D7415 >30	19.0	18.0	20.3

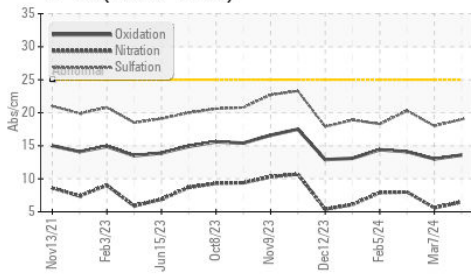
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	13.6	13.0	14.1
Base Number (BN)	mg KOH/g ASTM D2896 9.8	8.5	8.6	8.4

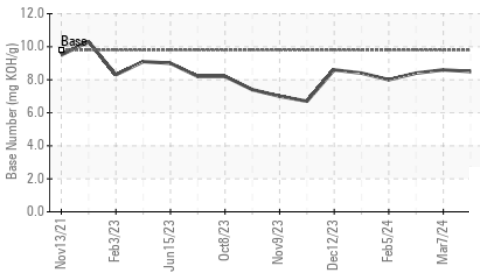


OIL ANALYSIS REPORT

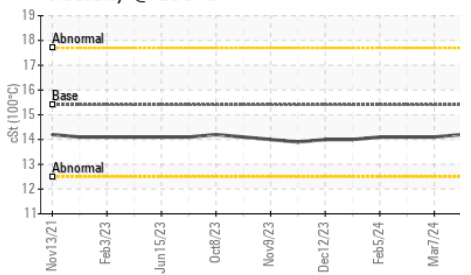
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

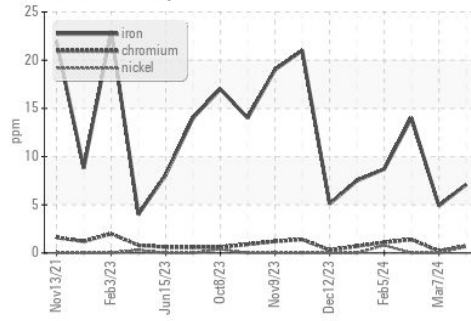


PARAMETER	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

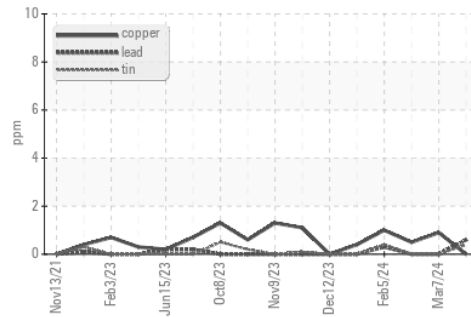
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.1

GRAPHS

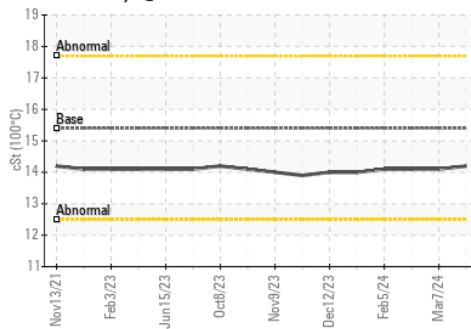
Ferrous Alloys



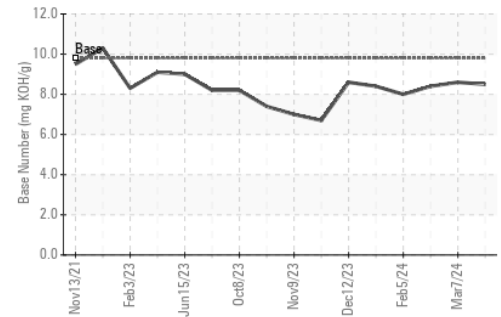
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0104810
 Lab Number : 06139568
 Unique Number : 10964376
 Test Package : FLEET

Received : 05 Apr 2024
 Tested : 05 Apr 2024
 Diagnosed : 05 Apr 2024 - Wes Davis

GFL Environmental - 820 - Joplin Hauling
 3700 West 7th Street
 Joplin, MO
 US 64801

Contact: James Jarrett
 jjarrett@gflenv.com
 T: (417)310-2802

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)