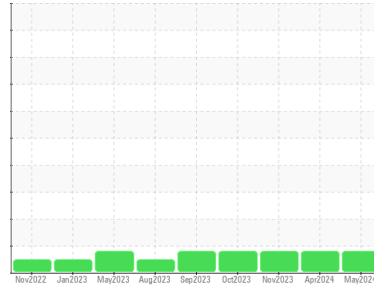




OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Area
(FAN283)

Machine Id
420063

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

The aluminum level is abnormal. All other 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			GFL0077442	GFL0111498	GFL0083068
Sample Date	Client Info			21 May 2024	26 Apr 2024	02 Nov 2023
Machine Age	hrs	Client Info		0	9610	0
Oil Age	hrs	Client Info		0	2873	0
Oil Changed	Client Info			Not Changed	Not Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

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	48	48	34
Chromium	ppm	ASTM D5185m	>20	3	4	4
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	▲ 29	▲ 29	▲ 28
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m	>330	7	6	6
Tin	ppm	ASTM D5185m	>15	<1	1	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	3	2	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	64	62	59
Manganese	ppm	ASTM D5185m	0	1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	910	909	866
Calcium	ppm	ASTM D5185m	1070	1069	1068	995
Phosphorus	ppm	ASTM D5185m	1150	1004	987	900
Zinc	ppm	ASTM D5185m	1270	1217	1206	1181
Sulfur	ppm	ASTM D5185m	2060	2732	2691	2496

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	7	6	8
Sodium	ppm	ASTM D5185m		6	5	5
Potassium	ppm	ASTM D5185m	>20	20	18	17

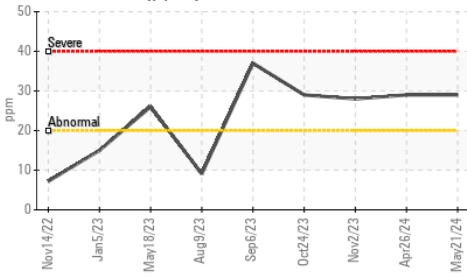
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.9	0.9	0.9
Nitration	Abs/cm	*ASTM D7624	>20	11.3	10.9	9.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	24.3	24.0	21.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	20.9	20.8	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	5.0	4.9	6.7

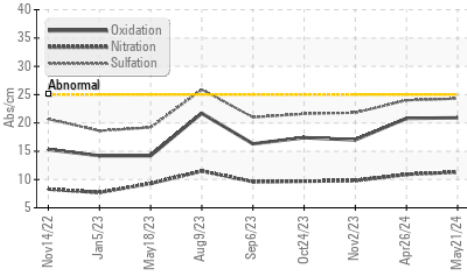


OIL ANALYSIS REPORT

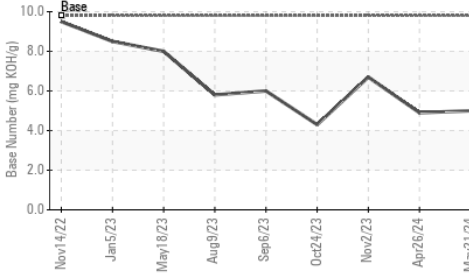
▲ Aluminum (ppm)



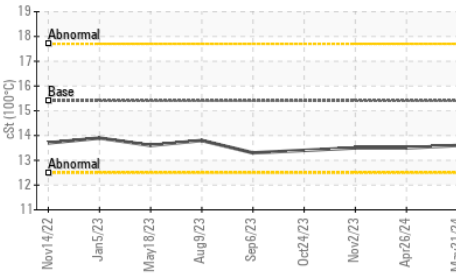
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

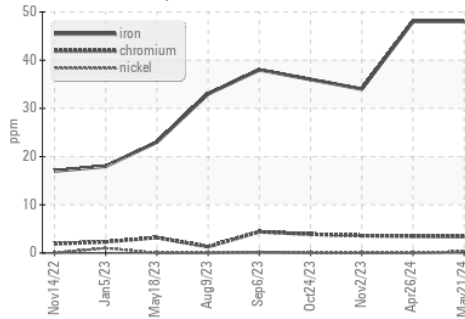


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

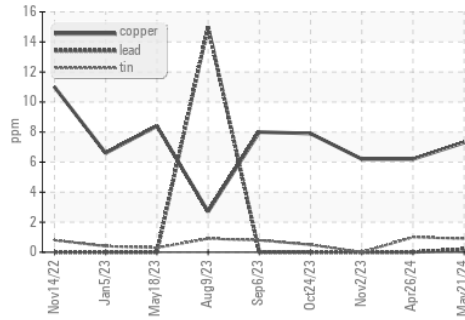
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.5

GRAPHS

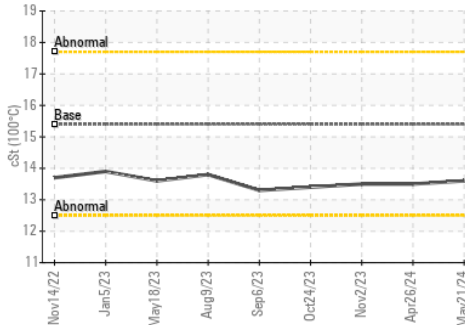
Ferrous Alloys



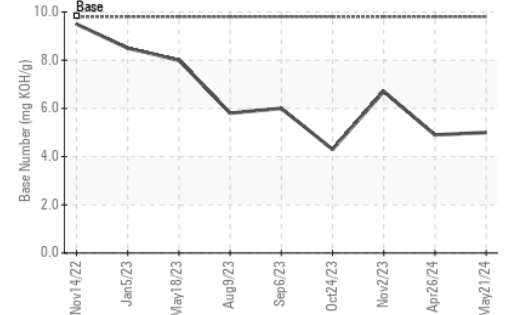
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0077442
 Lab Number : 06193748
 Unique Number : 11050500
 Test Package : FLEET

Received : 29 May 2024
 Tested : 30 May 2024
 Diagnosed : 30 May 2024 - Sean Felton

GFL Environmental - 072 - Americus - Transwaste
 361 McMath Mill Road
 Americus, GA
 US 31719

Contact: RICHARD HEINZERLING
 richard.heinzerling@gflenv.com
 T: (229)924-3669

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)

F: