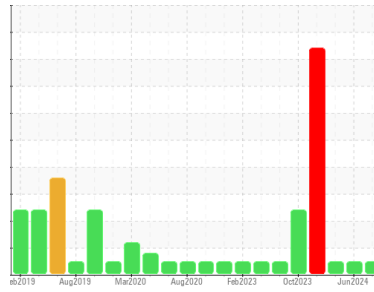




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
727096-310021

Component
Diesel Engine

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Sample)

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		GFL0125196	GFL0125198	GFL0114493
Sample Date	Client Info		28 Jun 2024	28 Jun 2024	24 Feb 2024
Machine Age	mls	Client Info	147386	145266	145266
Oil Age	mls	Client Info	0	141662	145266
Oil Changed	Client Info		Not Chngd	Not Chngd	Not Chngd
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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >100	23	23	7
Chromium	ppm	ASTM D5185m >20	<1	<1	0
Nickel	ppm	ASTM D5185m >4	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	3	<1
Lead	ppm	ASTM D5185m >40	0	0	0
Copper	ppm	ASTM D5185m >330	12	12	9
Tin	ppm	ASTM D5185m >15	0	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	3	4	4
Barium	ppm	ASTM D5185m 0	0	0	0
Molybdenum	ppm	ASTM D5185m 60	61	62	63
Manganese	ppm	ASTM D5185m 0	<1	<1	0
Magnesium	ppm	ASTM D5185m 1010	982	976	1161
Calcium	ppm	ASTM D5185m 1070	1144	1146	1270
Phosphorus	ppm	ASTM D5185m 1150	1063	1043	1280
Zinc	ppm	ASTM D5185m 1270	1319	1313	1570
Sulfur	ppm	ASTM D5185m 2060	3504	3508	3914

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	6	6	4
Sodium	ppm	ASTM D5185m	17	17	10
Potassium	ppm	ASTM D5185m >20	40	41	27
Glycol	%	*ASTM D2982	NEG	NEG	NEG

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	0.7	0.7	0.4
Nitration	Abs/cm	*ASTM D7624 >20	9.4	9.4	6.4
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.4	20.3	18.9

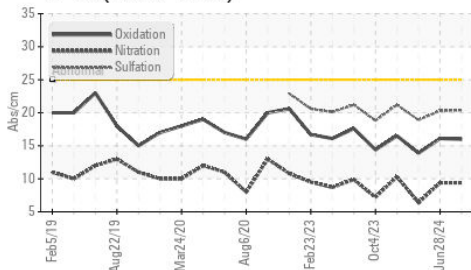
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	16.0	16.1	13.9
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	8.4	8.4	9.1

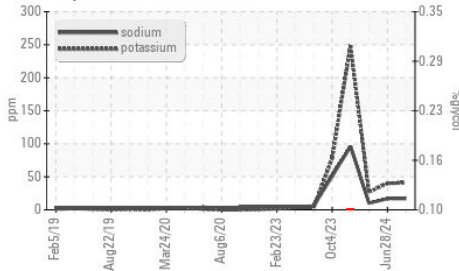


OIL ANALYSIS REPORT

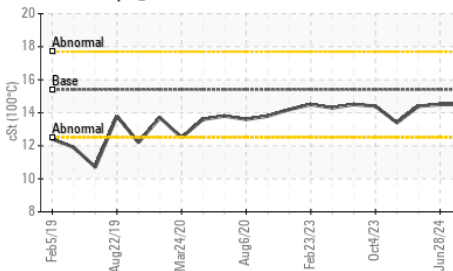
FT-IR (Direct Trend)



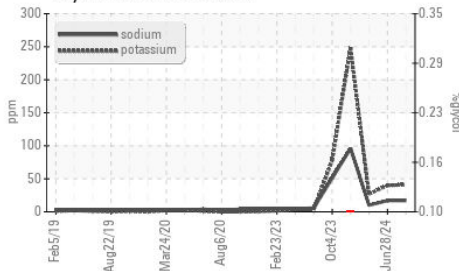
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

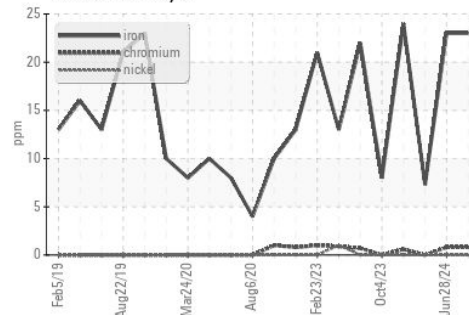


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

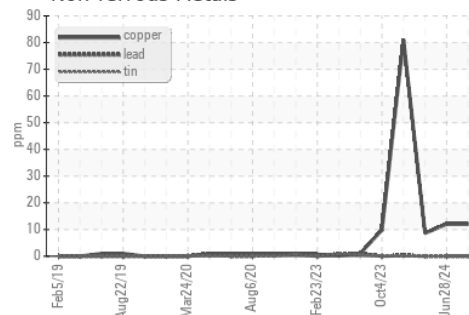
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.4

GRAPHS

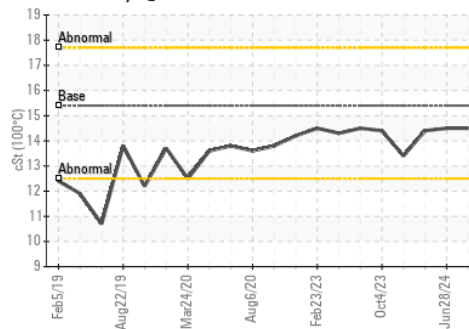
Ferrous Alloys



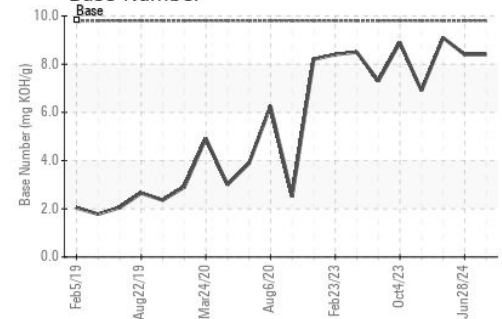
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0125196

Lab Number : 06229554

Unique Number : 11113047

Test Package : FLEET (Additional Tests: Glycol)

Received : 05 Jul 2024

Tested : 09 Jul 2024

Diagnosed : 09 Jul 2024 - Jonathan Hester

GFL Environmental - 865 - East Mount Hauling

7213 East Mount Houston Road

Houston, TX

US 77050

Contact: Saul Castillo

saul.castillo@gflenv.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)