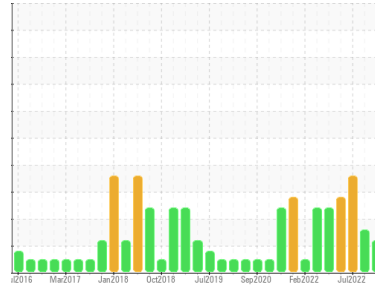




OIL ANALYSIS REPORT

Sample Rating Trend



FUEL



Machine Id
10652

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (13 GAL)

DIAGNOSIS

Recommendation

The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		GFL0109923	GFL0062305	GFL0042971
Sample Date	Client Info		29 Jan 2024	16 Jan 2023	22 Jul 2022
Machine Age	hrs	Client Info	18308	18185	23449
Oil Age	hrs	Client Info	123	725	0
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
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	>75	13	21	60
Chromium	ppm	ASTM D5185m	>5	<1	1	2
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	1	3
Lead	ppm	ASTM D5185m	>25	<1	1	▲ 57
Copper	ppm	ASTM D5185m	>100	13	▲ 110	▲ 162
Tin	ppm	ASTM D5185m	>4	<1	0	▲ 4
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	36	8	1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	59	62	59
Manganese	ppm	ASTM D5185m	0	<1	<1	2
Magnesium	ppm	ASTM D5185m	1010	665	808	851
Calcium	ppm	ASTM D5185m	1070	953	1054	1180
Phosphorus	ppm	ASTM D5185m	1150	889	793	987
Zinc	ppm	ASTM D5185m	1270	1044	1049	1225
Sulfur	ppm	ASTM D5185m	2060	2609	2660	2997

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	4	6	10
Sodium	ppm	ASTM D5185m		26	31	8
Potassium	ppm	ASTM D5185m	>20	2	0	8
Fuel	%	ASTM D3524	>3.0	▲ 3.5	▲ 3.0	▲ 5.7

INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>6	0.2	0.5	2.5
Nitration	Abs/cm	*ASTM D7624	>20	7.4	11.9	11.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.0	22.7	26.3

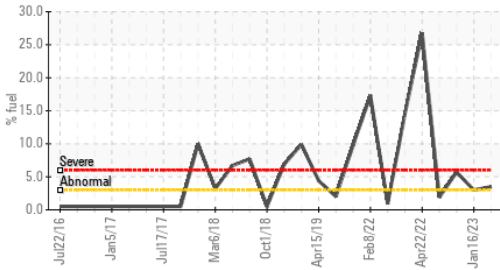
FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	19.5	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	7.4	6.0	11.6

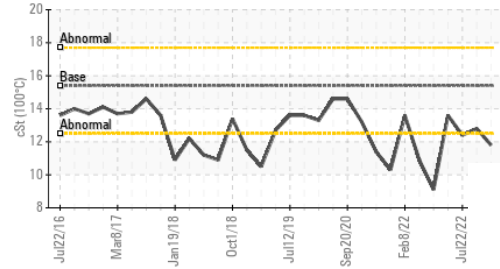


OIL ANALYSIS REPORT

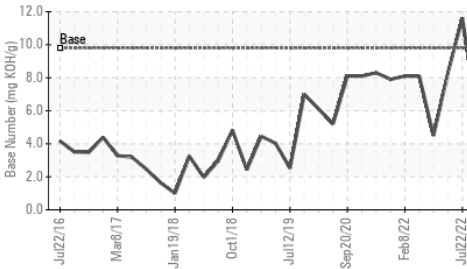
▲ Fuel Dilution



▲ Viscosity @ 100°C



Base Number

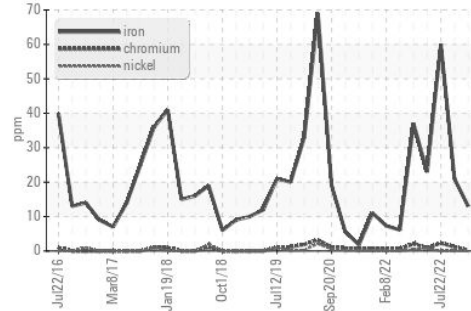


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

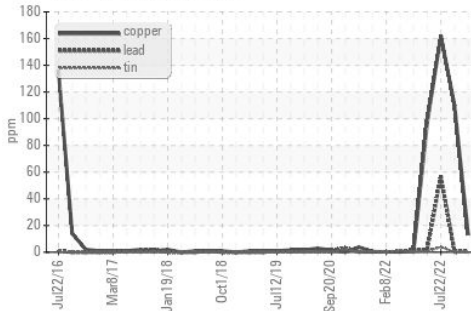
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4 ▲ 11.8	12.8	▲ 12.4

GRAPHS

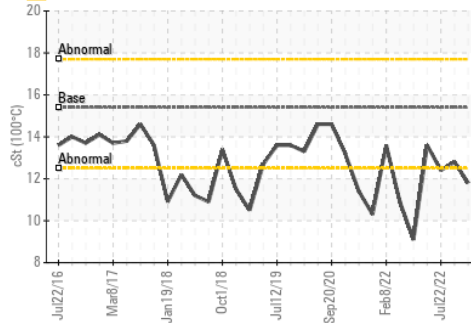
Ferrous Alloys



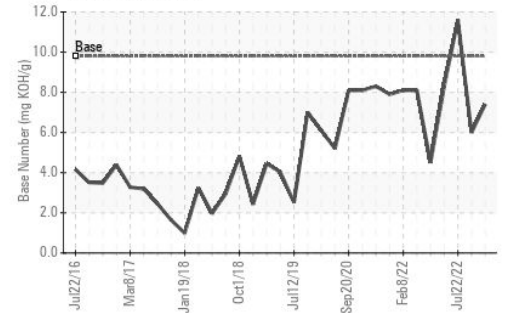
Non-ferrous Metals



▲ Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0109923
 Lab Number : 06077980
 Unique Number : 10860071
 Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel)

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)

T:
F: