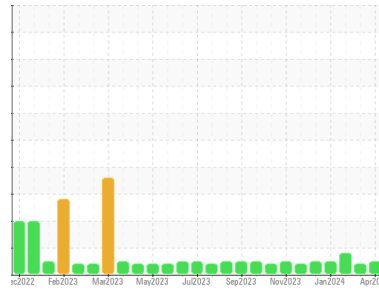




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id

413108

Component

Diesel Engine

Fluid

PETRO CANADA DURON UHP 5W30 (--- 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	GFL0117187	GFL0114046	GFL0109833	
Sample Date	Client Info	19 Apr 2024	21 Mar 2024	07 Feb 2024	
Machine Age	hrs	Client Info	4081	3917	3625
Oil Age	hrs	Client Info	0	0	600
Oil Changed	Client Info	Not Changed	Not Changd	Changed	
Sample Status		NORMAL	ATTENTION	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 >80	21	5	16
Chromium	ppm ASTM D5185m >5	<1	0	1
Nickel	ppm ASTM D5185m >2	0	0	▲ 7
Titanium	ppm ASTM D5185m	0	0	<1
Silver	ppm ASTM D5185m >3	0	0	0
Aluminum	ppm ASTM D5185m >30	2	1	6
Lead	ppm ASTM D5185m >30	0	0	<1
Copper	ppm ASTM D5185m >150	4	5	16
Tin	ppm ASTM D5185m >5	<1	0	<1
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	<1

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 0	4	7	42
Barium	ppm ASTM D5185m 0	0	0	0
Molybdenum	ppm ASTM D5185m 64	60	59	19
Manganese	ppm ASTM D5185m 0	<1	0	2
Magnesium	ppm ASTM D5185m 1160	898	960	877
Calcium	ppm ASTM D5185m 820	1075	1185	1286
Phosphorus	ppm ASTM D5185m 1160	999	1090	766
Zinc	ppm ASTM D5185m 1260	1210	1276	937
Sulfur	ppm ASTM D5185m 3000	3265	3866	2464

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >20	6	4	5
Sodium	ppm ASTM D5185m	4	1	0
Potassium	ppm ASTM D5185m >20	0	0	10

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	0.9	0.1	0.3
Nitration	Abs/cm *ASTM D7624 >20	10.3	4.8	10.7
Sulfation	Abs/.1mm *ASTM D7415 >30	21.2	17.0	22.0

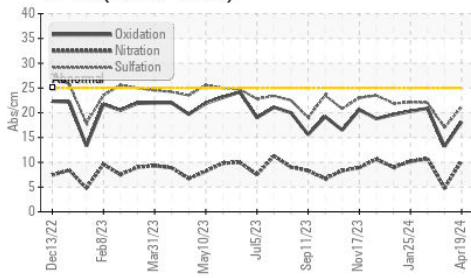
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.2	13.2	20.9
Base Number (BN)	mg KOH/g ASTM D2896 11.0	8.4	9.6	6.2

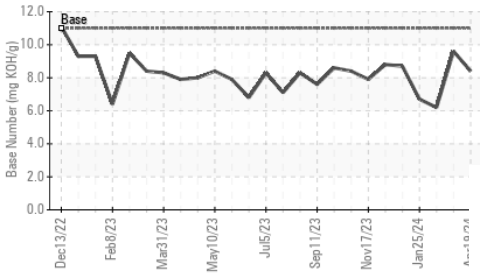


OIL ANALYSIS REPORT

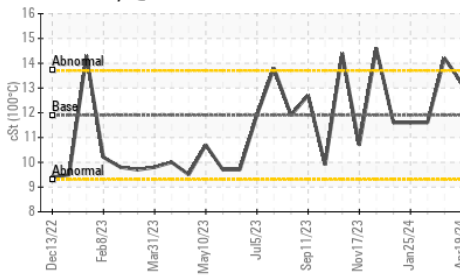
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C



VISUAL

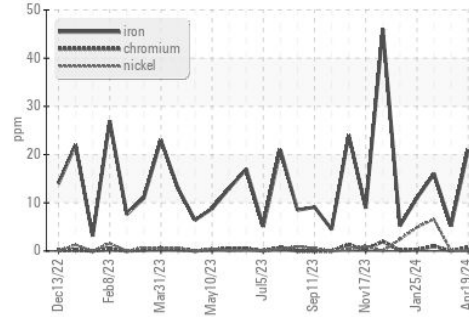
	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar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

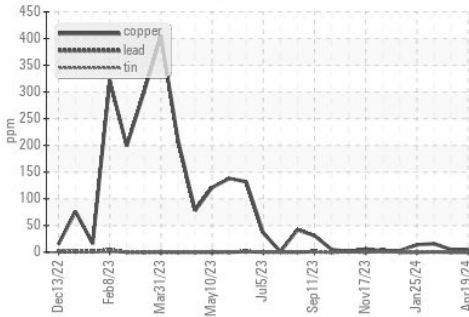
	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.9	13.2	14.2

GRAPHS

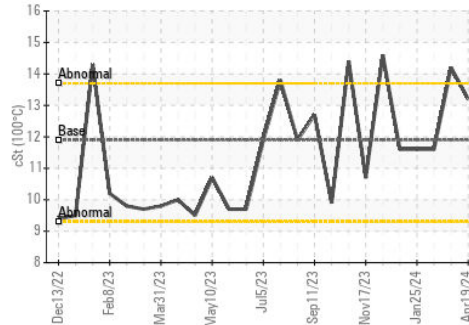
Ferrous Alloys



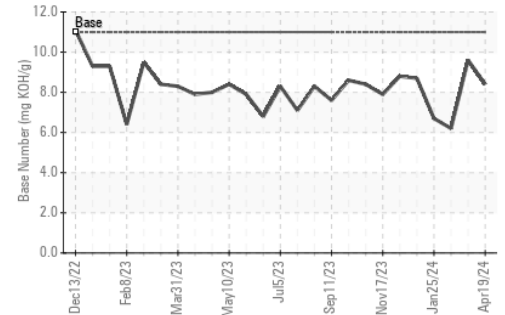
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : GFL0117187
 Lab Number : 06158361
 Unique Number : 10993784
 Test Package : FLEET

GFL Environmental - 836 - Kansas City Hauling
 7801 East Truman Road
 Kansas City, MO
 US 64126
 Contact: Loyce Stewart
 loyce.stewart@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: