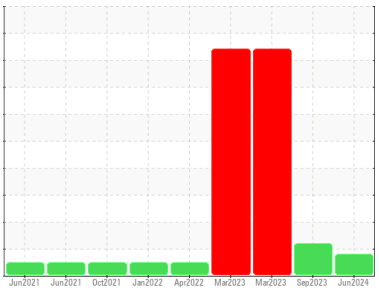
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
(YA163372)
Machine Id
930013
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

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

Wear
The lead 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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0123373**	GFL0082445	GFL0050774
Sample Date		Client Info		**20 Jun 2024**	07 Sep 2023	28 Mar 2023
Machine Age	hrs	Client Info		**7510**	7510	6771
Oil Age	hrs	Client Info		**7510**	932	193
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**ABNORMAL**	ATTENTION	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG
Glycol		WC Method		**---**	0.0	▲ 0.20

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	**16**	12	13
Chromium	ppm	ASTM D5185m	>4	**2**	3	3
Nickel	ppm	ASTM D5185m	>2	**0**	<1	2
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>9	**2**	2	3
Lead	ppm	ASTM D5185m	>30	▲ **36**	2	5
Copper	ppm	ASTM D5185m	>35	**4**	2	2
Tin	ppm	ASTM D5185m	>4	**<1**	2	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	**8**	33	39
Barium	ppm	ASTM D5185m	5	**0**	44	<1
Molybdenum	ppm	ASTM D5185m	50	**52**	48	80
Manganese	ppm	ASTM D5185m	0	**<1**	1	<1
Magnesium	ppm	ASTM D5185m	560	**606**	508	538
Calcium	ppm	ASTM D5185m	1510	**1823**	1407	1587
Phosphorus	ppm	ASTM D5185m	780	**839**	715	777
Zinc	ppm	ASTM D5185m	870	**1066**	864	959
Sulfur	ppm	ASTM D5185m	2040	**2913**	2545	2519

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**12**	20	25
Sodium	ppm	ASTM D5185m		**13**	21	● 948
Potassium	ppm	ASTM D5185m	>20	**19**	● 58	▲ 1201

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**13.3**	7.8	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**28.5**	19.0	22.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**25.5**	15.6	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	**3.0**	7.6	10.1

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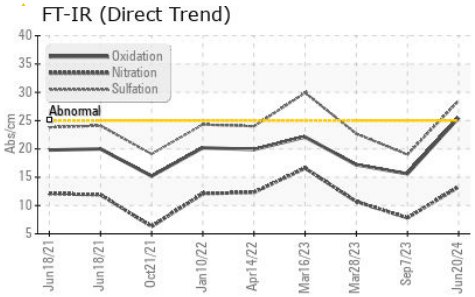
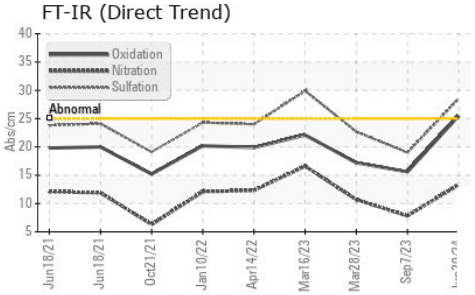
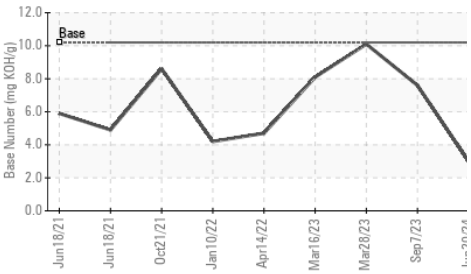
FT-IR (Direct Trend)



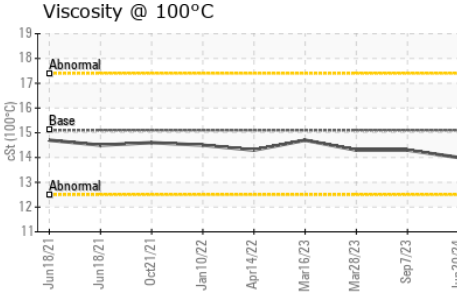
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

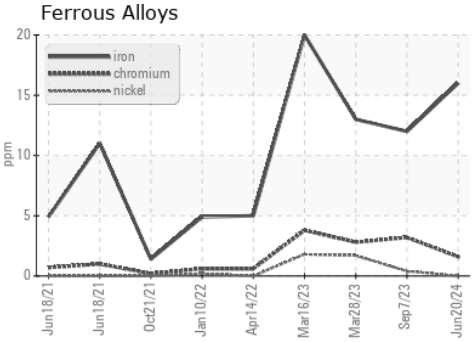


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

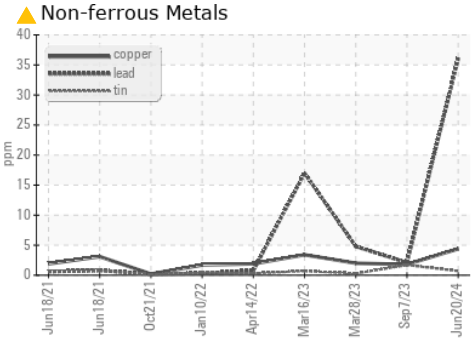
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	**14.0**	14.3	14.3

GRAPHS

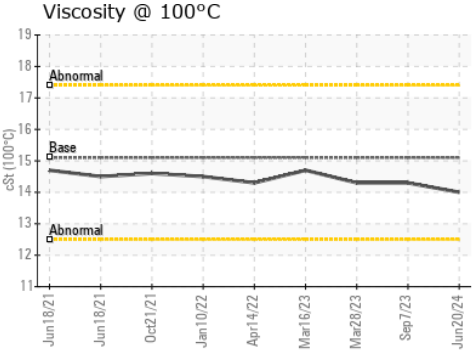
Ferrous Alloys



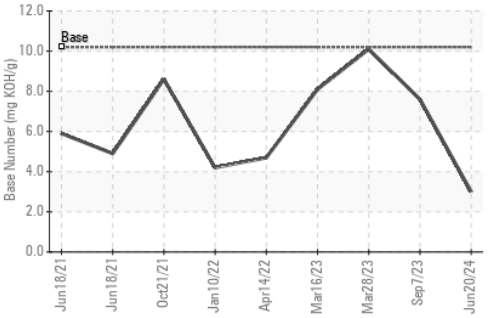
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0123373
Lab Number : 06223338
Unique Number : 11101535
Test Package : FLEET

Received : 28 Jun 2024
Tested : 01 Jul 2024
Diagnosed : 01 Jul 2024 - Don Baldridge

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)

GFL Environmental - 007 - Brunswick
2809 Galloway Road
Bolivia, NC
US 28422
Contact: DONALD CRAVEN
dcraven@gflenv.com
T:
F: (910)253-4179

Report Id: GFL007 [WUSCAR] 06223338 (Generated: 07/01/2024 11:38:56) Rev: 1

Submitted By: DONALD CRAVEN