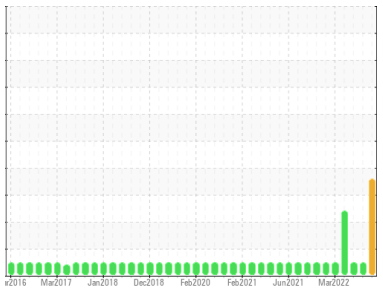
OIL ANALYSIS REPORT

Sample Rating Trend



DEGRADATION

Area
(YA122725)
Machine Id
3648C
Component
Natural Gas Engine
Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation
The oil is near the end of it`s useful service life, recommend schedule an oil change. Resample at the next service interval to monitor.

Wear
Piston, ring and cylinder wear is indicated.

Contamination
There is no indication of any contamination in the oil.

Fluid Condition
The BN level is low.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0109715**	GFL0092737	GFL0072378
Sample Date		Client Info		**17 Apr 2024**	03 Jan 2024	12 Jul 2023
Machine Age	hrs	Client Info		**0**	18663	18663
Oil Age	hrs	Client Info		**0**	578	652
Oil Changed		Client Info		**N/A**	Changed	N/A
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	▲ **51**	11	49
Chromium	ppm	ASTM D5185m	>4	▲ **6**	1	7
Nickel	ppm	ASTM D5185m	>2	**2**	1	1
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	0
Aluminum	ppm	ASTM D5185m	>9	▲ **7**	2	5
Lead	ppm	ASTM D5185m	>30	**1**	<1	1
Copper	ppm	ASTM D5185m	>35	**8**	6	<1
Tin	ppm	ASTM D5185m	>4	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	**2**	31	4
Barium	ppm	ASTM D5185m	5	**0**	0	0
Molybdenum	ppm	ASTM D5185m	50	**61**	47	69
Manganese	ppm	ASTM D5185m	0	**1**	1	1
Magnesium	ppm	ASTM D5185m	560	**818**	765	978
Calcium	ppm	ASTM D5185m	1510	**1248**	1121	1409
Phosphorus	ppm	ASTM D5185m	780	**735**	684	1133
Zinc	ppm	ASTM D5185m	870	**939**	862	1386
Sulfur	ppm	ASTM D5185m	2040	**2785**	2498	3966

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+100	**9**	5	12
Sodium	ppm	ASTM D5185m		**16**	5	11
Potassium	ppm	ASTM D5185m	>20	**10**	6	1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0**	0	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**12.9**	8.5	9.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**26.5**	20.2	21.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**23.6**	18.0	15.4
Base Number (BN)	mg KOH/g	ASTM D2896	10.2	▲ **2.5**	8.8	7.0

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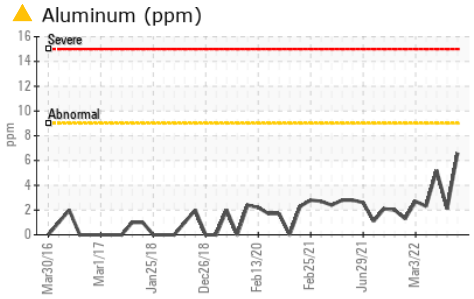
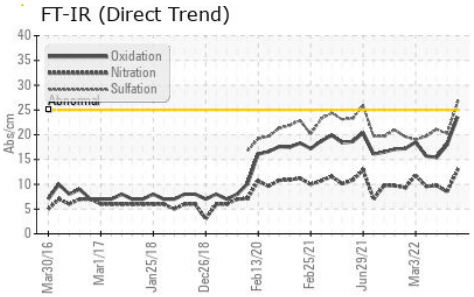
Aluminum (ppm)



FT-IR (Direct Trend)

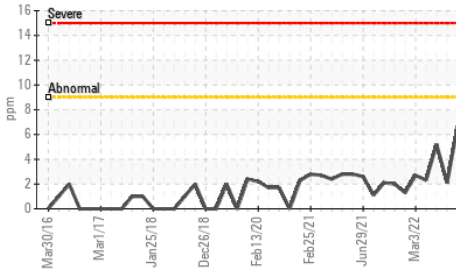


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

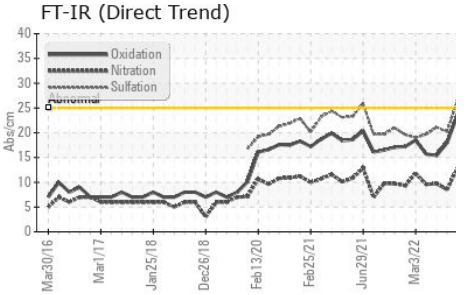
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	**14.2**	14.0	14.0

GRAPHS

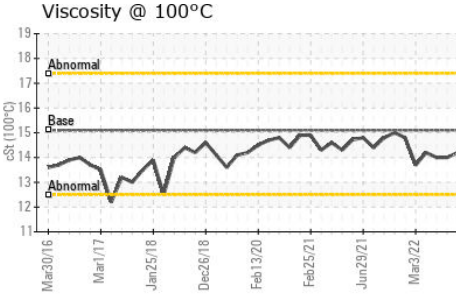
Aluminum (ppm)



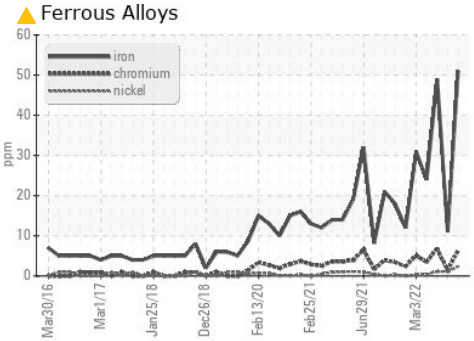
FT-IR (Direct Trend)



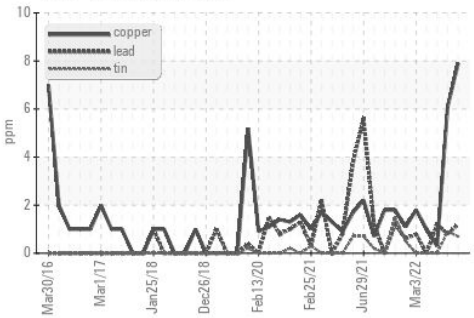
Viscosity @ 100°C



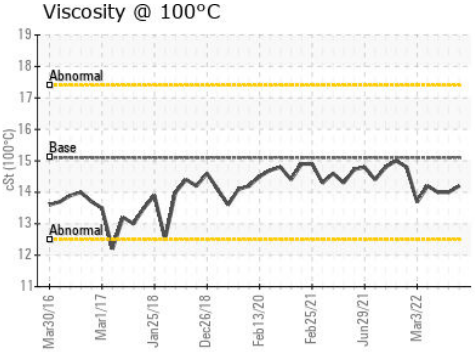
Ferrous Alloys



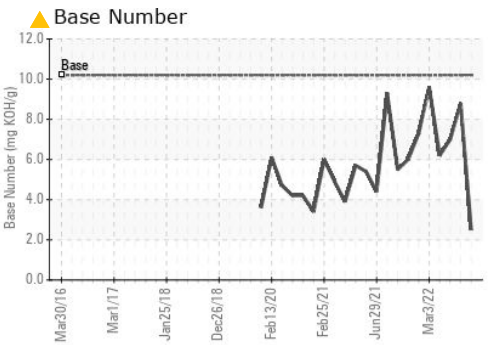
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0109715
Lab Number : 06155066
Unique Number : 10990489
Test Package : FLEET

Received : 19 Apr 2024
Tested : 24 Apr 2024
Diagnosed : 24 Apr 2024 - Jonathan Hester

Certificate L2367

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)

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