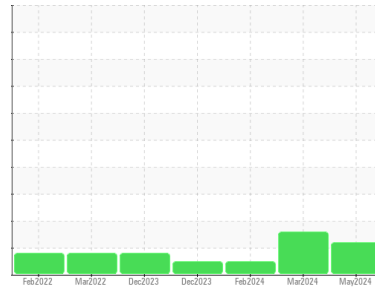




OIL ANALYSIS REPORT

Sample Rating Trend



COOL CHEMICALS



Machine Id
945019-260276

Component
Natural Gas Engine

Fluid
PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

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		GFL0121862	GFL0106806	GFL0092062
Sample Date	Client Info		23 May 2024	12 Mar 2024	14 Feb 2024
Machine Age	hrs	Client Info	34803	34229	32182
Oil Age	hrs	Client Info	600	600	600
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			ABNORMAL	ABNORMAL	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	13	10	14
Chromium	ppm	ASTM D5185m >4	<1	0	<1
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m	<1	0	<1
Silver	ppm	ASTM D5185m >3	0	0	0
Aluminum	ppm	ASTM D5185m >9	2	0	1
Lead	ppm	ASTM D5185m >30	<1	0	<1
Copper	ppm	ASTM D5185m >35	3	<1	8
Tin	ppm	ASTM D5185m >4	<1	0	0
Vanadium	ppm	ASTM D5185m	0	0	<1
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 50	13	41	14
Barium	ppm	ASTM D5185m 5	<1	0	0
Molybdenum	ppm	ASTM D5185m 50	60	47	46
Manganese	ppm	ASTM D5185m 0	<1	0	0
Magnesium	ppm	ASTM D5185m 560	575	567	560
Calcium	ppm	ASTM D5185m 1510	1593	1643	1566
Phosphorus	ppm	ASTM D5185m 780	838	853	698
Zinc	ppm	ASTM D5185m 870	945	1020	941
Sulfur	ppm	ASTM D5185m 2040	2663	3096	2362

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >+100	9	5	4
Sodium	ppm	ASTM D5185m	16	4	5
Potassium	ppm	ASTM D5185m >20	▲ 52	0	<1

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	0.1	0.1	0
Nitration	Abs/cm	*ASTM D7624 >20	10.3	7.9	10.7
Sulfation	Abs/.1mm	*ASTM D7415 >30	20.8	17.4	21.1

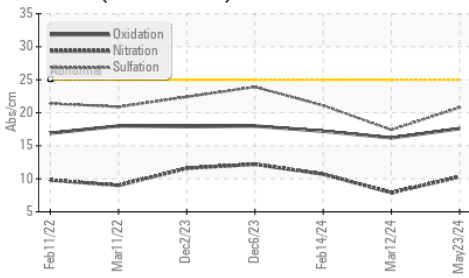
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	17.6	16.2	17.2
Base Number (BN)	mg KOH/g	ASTM D2896 10.2	6.1	11.2	4.4

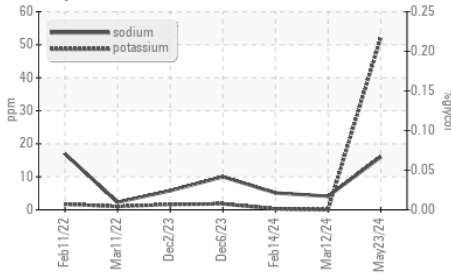


OIL ANALYSIS REPORT

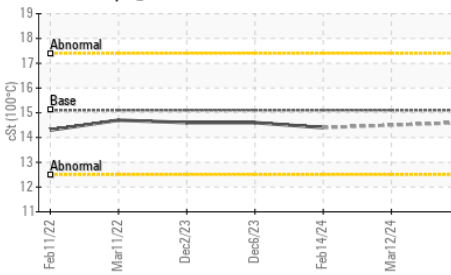
FT-IR (Direct Trend)



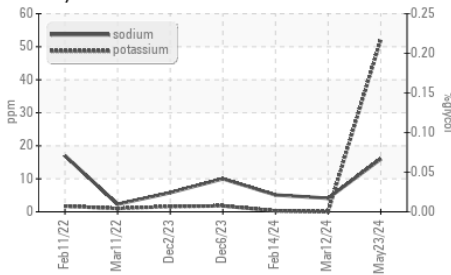
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

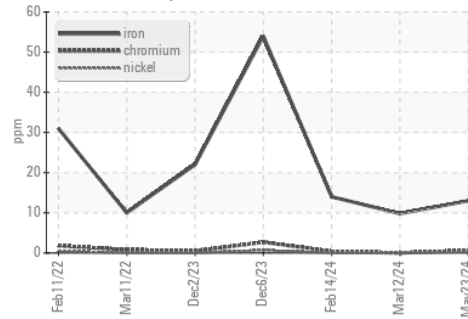


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	0.2%
Free Water	scalar	*Visual		NEG	NEG

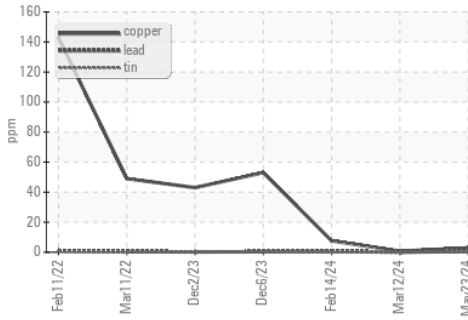
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.6	---

GRAPHS

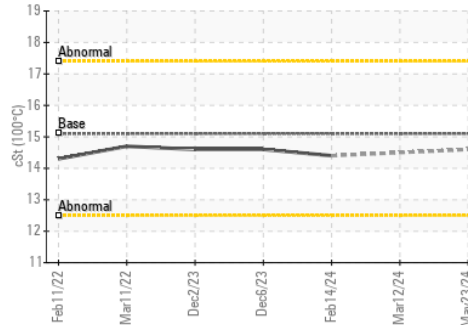
Ferrous Alloys



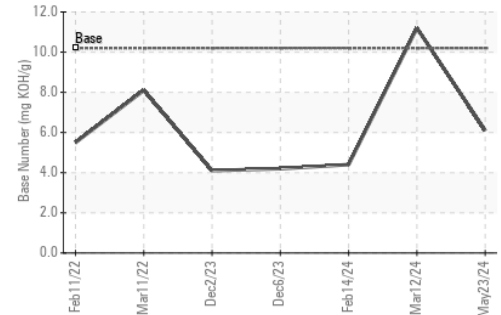
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0121862

Lab Number : 06196296

Unique Number : 11058419

Test Package : FLEET (Additional Tests: Glycol)

Received : 31 May 2024

Tested : 04 Jun 2024

Diagnosed : 04 Jun 2024 - Jonathan Hester

GFL Environmental - 856 - Houston South

8515 Highway 6 South

Houston, TX

US 77083

Contact: Apolinar Zacarias

pzacariascano@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)