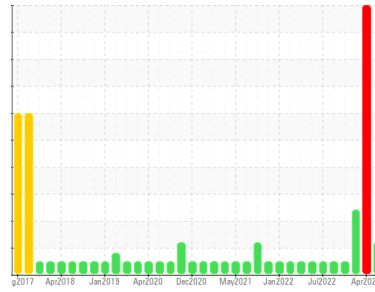




OIL ANALYSIS REPORT

Sample Rating Trend



COOL CHEMICALS



Area
(P633850)
 Machine Id
10769C
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (40 QTS)

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 remain elevated. 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	GFL0117988	GFL0117964	GFL0101796
Sample Date	Client Info	22 May 2024	24 Apr 2024	31 Jan 2024
Machine Age	hrs	17000	15605	15000
Oil Age	hrs	600	605	600
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		ATTENTION	SEVERE	ABNORMAL

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	7	▲ 45	12
Chromium	ppm ASTM D5185m >4	<1	▲ 8	1
Nickel	ppm ASTM D5185m >2	<1	1	<1
Titanium	ppm ASTM D5185m	<1	0	<1
Silver	ppm ASTM D5185m >3	<1	0	0
Aluminum	ppm ASTM D5185m >9	2	3	2
Lead	ppm ASTM D5185m >30	<1	16	<1
Copper	ppm ASTM D5185m >35	<1	2	1
Tin	ppm ASTM D5185m >4	<1	<1	<1
Vanadium	ppm ASTM D5185m	<1	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	40	3	7
Barium	ppm ASTM D5185m 5	0	0	<1
Molybdenum	ppm ASTM D5185m 50	50	61	52
Manganese	ppm ASTM D5185m 0	<1	1	<1
Magnesium	ppm ASTM D5185m 560	564	664	498
Calcium	ppm ASTM D5185m 1510	1502	1884	1525
Phosphorus	ppm ASTM D5185m 780	740	849	668
Zinc	ppm ASTM D5185m 870	933	1131	902
Sulfur	ppm ASTM D5185m 2040	2522	3322	2495

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	6	8	3
Sodium	ppm ASTM D5185m	7	▲ 64	▲ 22
Potassium	ppm ASTM D5185m >20	● 58	▲ 1143	▲ 356
Glycol	% *ASTM D2982	---	▲ 0.20	---

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.1	0.1	0
Nitration	Abs/cm *ASTM D7624 >20	7.3	13.9	12.0
Sulfation	Abs/.1mm *ASTM D7415 >30	19.2	28.3	23.1

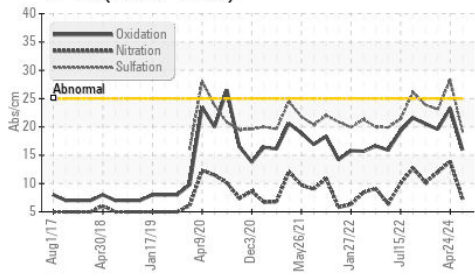
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	15.9	23.3	19.6
Base Number (BN)	mg KOH/g ASTM D2896 10.2	8.5	4.4	4.4

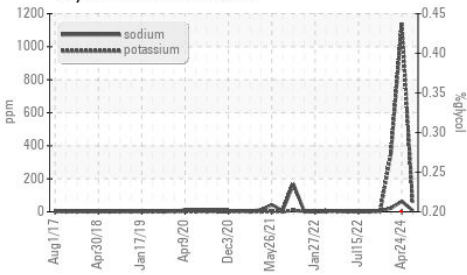


OIL ANALYSIS REPORT

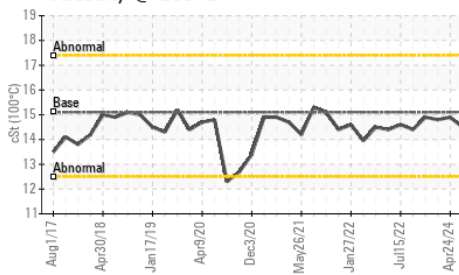
FT-IR (Direct Trend)



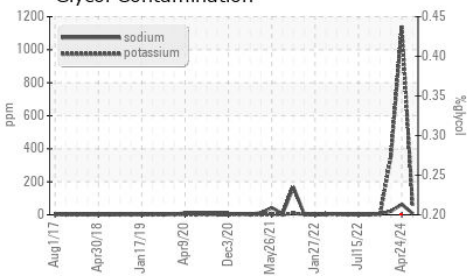
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

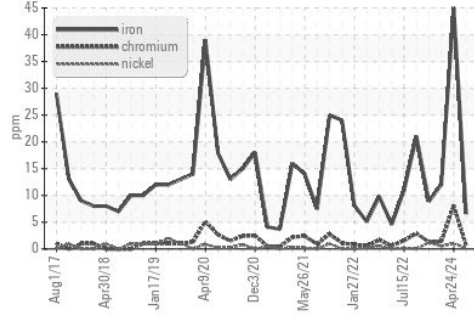


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

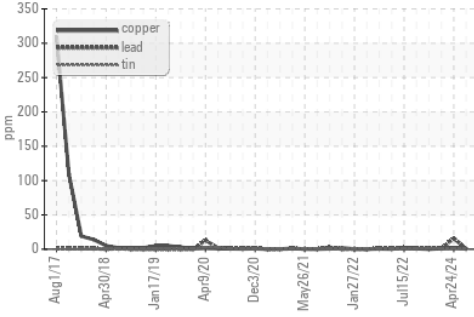
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.5	14.9

GRAPHS

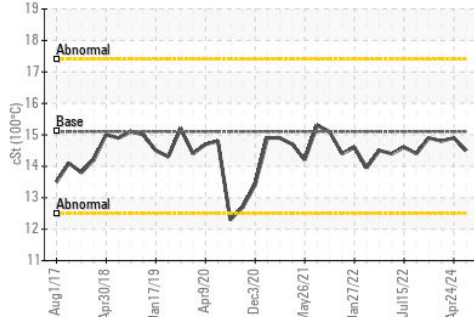
Ferrous Alloys



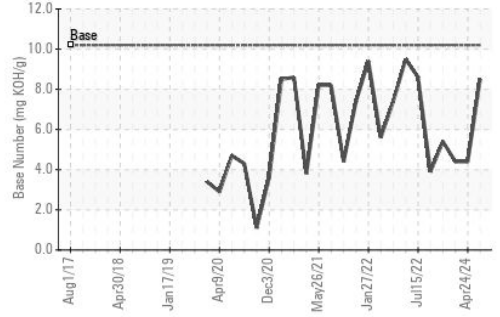
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0117988 **Received** : 23 May 2024
Lab Number : **06188772** **Tested** : 29 May 2024
Unique Number : 11045524 **Diagnosed** : 29 May 2024 - Jonathan Hester
Test Package : FLEET

GFL Environmental - 030 - Conway Myrtle Beach
 3010 HWY 378
 Conway, SC
 US 29527
 Contact: ARCILIO RUEZ
 aruiz@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)