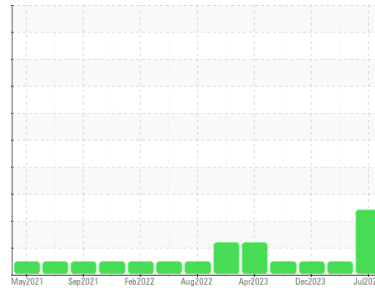




OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL



Machine Id
944031
 Component
Natural Gas Engine
 Fluid
PETRO CANADA DURON GEO LD 15W40 (--- LTR)

DIAGNOSIS

Recommendation

Check for low coolant level. 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.

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	GFL0119137	GFL0115499	GFL0106970
Sample Date	Client Info	12 Jul 2024	22 Mar 2024	16 Dec 2023
Machine Age	hrs	22504	22504	22052
Oil Age	hrs	22052	452	340
Oil Changed	Client Info	Changed	Not Changd	Changed
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	15	14	20
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	4	<1	<1
Lead	ppm ASTM D5185m >30	3	0	<1
Copper	ppm ASTM D5185m >35	2	<1	<1
Tin	ppm ASTM D5185m >4	<1	0	0
Vanadium	ppm ASTM D5185m	<1	<1	<1
Cadmium	ppm ASTM D5185m	<1	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 50	7	<1	1
Barium	ppm ASTM D5185m 5	<1	0	0
Molybdenum	ppm ASTM D5185m 50	57	39	57
Manganese	ppm ASTM D5185m 0	<1	<1	<1
Magnesium	ppm ASTM D5185m 560	610	587	820
Calcium	ppm ASTM D5185m 1510	1472	709	1006
Phosphorus	ppm ASTM D5185m 780	840	652	895
Zinc	ppm ASTM D5185m 870	1051	760	1111
Sulfur	ppm ASTM D5185m 2040	2725	2196	2750

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+100	4	1	3
Sodium	ppm ASTM D5185m	50	11	17
Potassium	ppm ASTM D5185m >20	47	4	6

INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844	0.3	1.5	1.4
Nitration	Abs/cm *ASTM D7624 >20	11.7	10.5	9.9
Sulfation	Abs/.1mm *ASTM D7415 >30	22.9	21.6	20.9

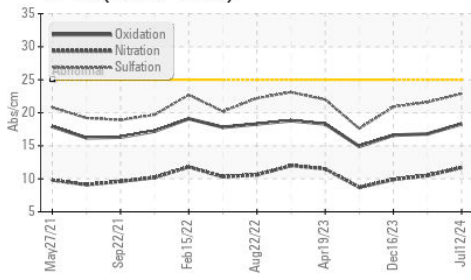
FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	18.3	16.8	16.6
Base Number (BN)	mg KOH/g ASTM D2896 10.2	5.6	8.5	8.6

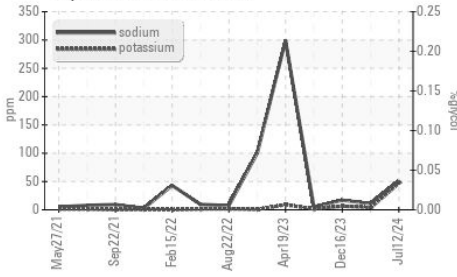


OIL ANALYSIS REPORT

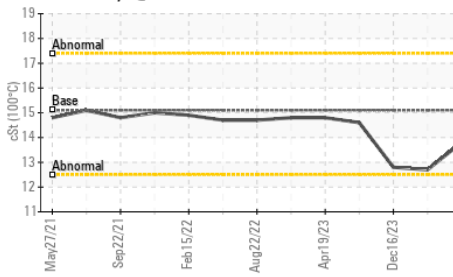
FT-IR (Direct Trend)



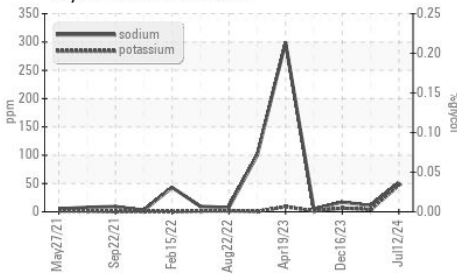
Glycol Contamination



Viscosity @ 100°C



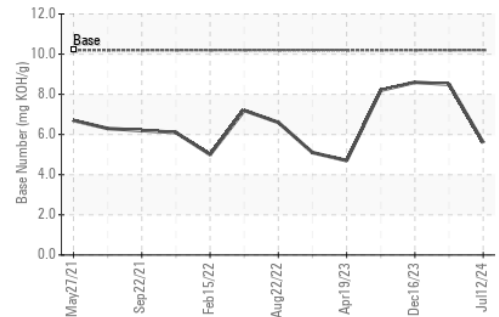
Glycol Contamination



Viscosity @ 100°C



Base Number

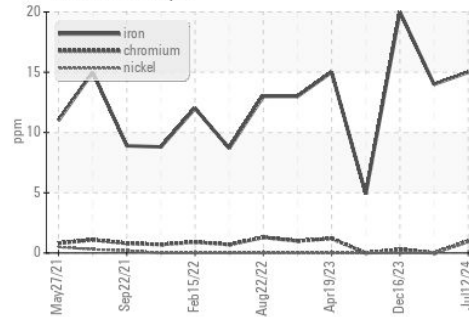


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

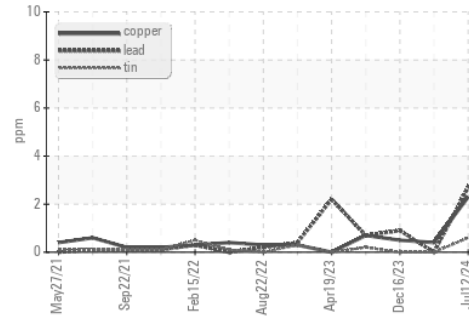
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	13.8	12.7

GRAPHS

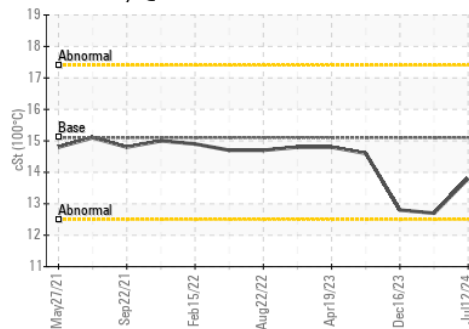
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Certificate L2367

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

Sample No. : GFL0119137

Lab Number : 06238960

Unique Number : 11127794

Test Package : FLEET (Additional Tests : Glycol)

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)

Received : 17 Jul 2024

Tested : 19 Jul 2024

Diagnosed : 19 Jul 2024 - Sean Felton

GFL Environmental - 882 - Gainesville

5002 SW 41st Blvd

Gainesville, FL

US 32608

Contact: ROBERT CLARK

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