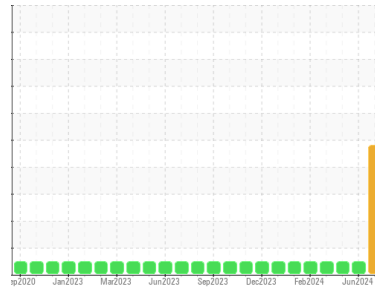




OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
929090-205313

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			GFL0115808	GFL0121432	GFL0115831
Sample Date	Client Info			25 Jun 2024	03 Jun 2024	01 May 2024
Machine Age	hrs	Client Info		9793	9646	9500
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			Not Changed	Not Changed	Not Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<1.0	<1.0	<1.0
Water	WC Method	>0.2		NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	31	18	7
Chromium	ppm	ASTM D5185m	>20	2	1	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	9	4	2
Lead	ppm	ASTM D5185m	>40	14	3	2
Copper	ppm	ASTM D5185m	>330	3	<1	0
Tin	ppm	ASTM D5185m	>15	1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	61	6	10
Barium	ppm	ASTM D5185m	0	2	0	0
Molybdenum	ppm	ASTM D5185m	60	128	69	64
Manganese	ppm	ASTM D5185m	0	1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	940	915	901
Calcium	ppm	ASTM D5185m	1070	1116	1100	1122
Phosphorus	ppm	ASTM D5185m	1150	1082	881	1080
Zinc	ppm	ASTM D5185m	1270	1287	1174	1240
Sulfur	ppm	ASTM D5185m	2060	3205	2784	3567

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ 29	6	4
Sodium	ppm	ASTM D5185m		▲ 1380	14	8
Potassium	ppm	ASTM D5185m	>20	▲ 116	5	4
Glycol	%	*ASTM D2982		NEG	NEG	NEG

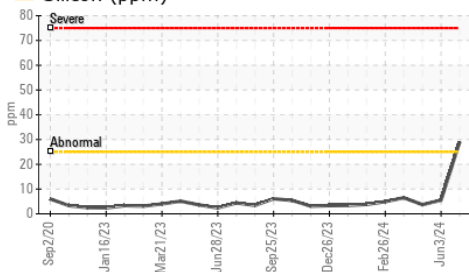
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	0.6	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	13.6	9.0	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	22.9	21.1	19.4

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	16.1	16.1	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	12.5	7.9	8.4

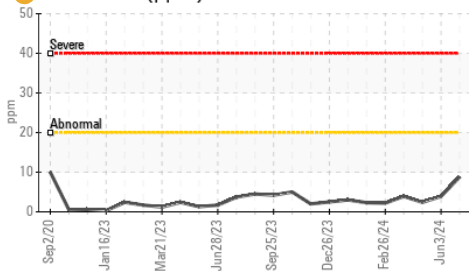


OIL ANALYSIS REPORT

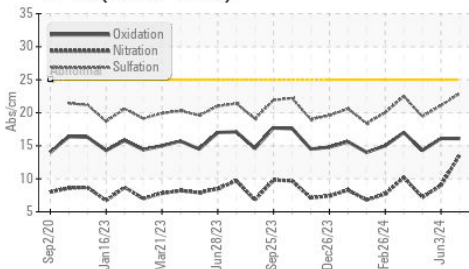
▲ Silicon (ppm)



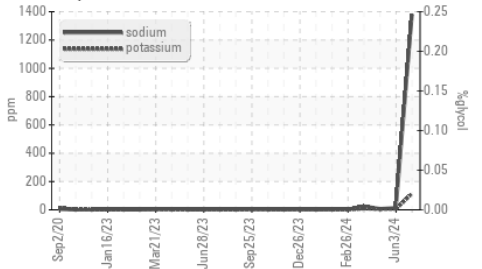
● Aluminum (ppm)



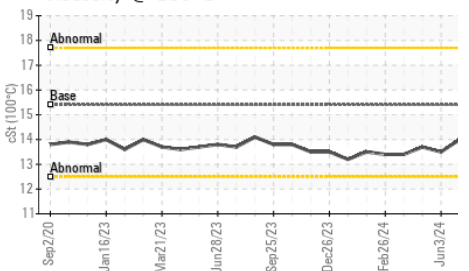
FT-IR (Direct Trend)



Glycol Contamination



Viscosity @ 100°C

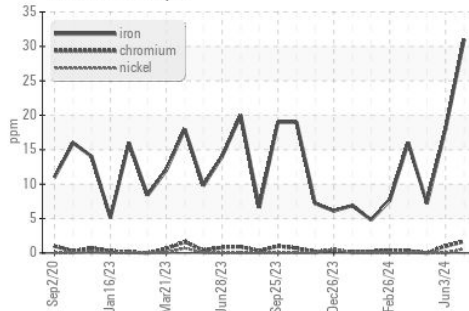


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

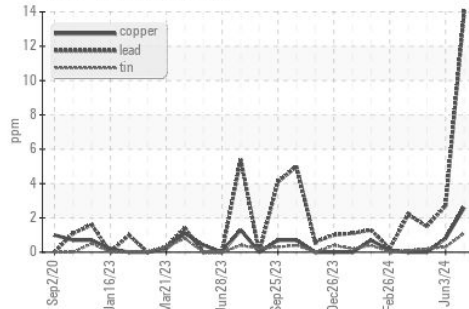
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	14.0	13.5	13.7

GRAPHS

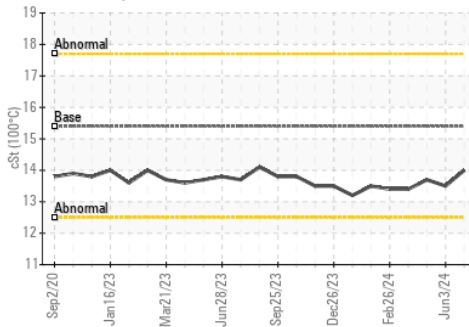
Ferrous Alloys



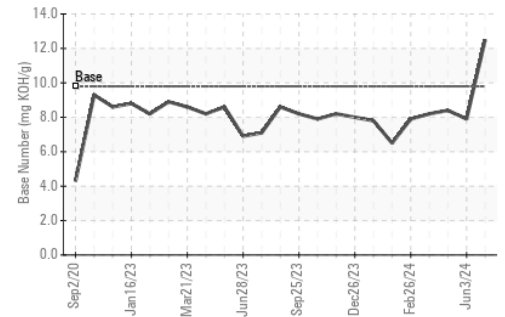
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

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

Sample No. : GFL0115808

Lab Number : 06223126

Unique Number : 11101323

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 : 28 Jun 2024

Tested : 01 Jul 2024

Diagnosed : 01 Jul 2024 - Jonathan Hester

GFL Environmental - 868 - Childersburg Fines Hauling (Alpine)

13737 Plant Rd

Childersburg, AL

US 35044

Contact: JONATHAN WILLIAMS

jonathan.williams@gflenv.com

T:

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