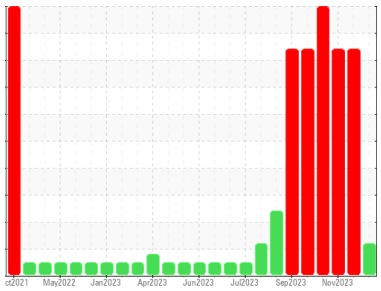
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
811046
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation
Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

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		**GFL0103028**	GFL0102995	GFL0103034
Sample Date		Client Info		**30 Dec 2023**	14 Dec 2023	28 Nov 2023
Machine Age	hrs	Client Info		**6185**	71445	5960
Oil Age	hrs	Client Info		**71445**	65485	0
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ATTENTION**	SEVERE	SEVERE

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	**3**	6	4
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	0
Silver	ppm	ASTM D5185m	>3	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>20	**1**	3	4
Lead	ppm	ASTM D5185m	>40	**0**	1	0
Copper	ppm	ASTM D5185m	>330	**<1**	<1	0
Tin	ppm	ASTM D5185m	>15	**0**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**14**	19	20
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**64**	86	83
Manganese	ppm	ASTM D5185m	0	**<1**	0	<1
Magnesium	ppm	ASTM D5185m	1010	**968**	944	943
Calcium	ppm	ASTM D5185m	1070	**1035**	976	1008
Phosphorus	ppm	ASTM D5185m	1150	**1012**	957	1114
Zinc	ppm	ASTM D5185m	1270	**1206**	1242	1311
Sulfur	ppm	ASTM D5185m	2060	**3013**	3208	3379

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**4**	11	9
Sodium	ppm	ASTM D5185m		▲ **103**	▲ 782	▲ 635
Potassium	ppm	ASTM D5185m	>20	**13**	▲ 113	▲ 96
Glycol	%	*ASTM D2982		**NEG**	⬢ 0.10	⬢ 0.10

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.3	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**5.1**	7.6	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**17.9**	18.5	18.1

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**13.4**	13.7	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**9.5**	10.5	11.4

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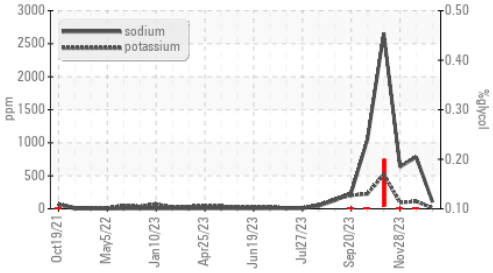
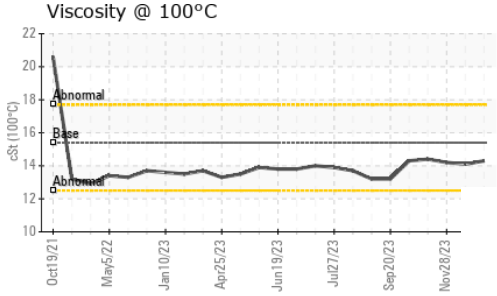
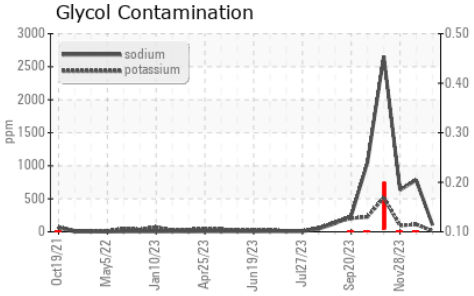
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

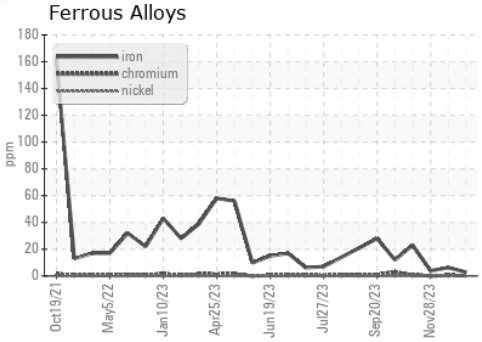


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

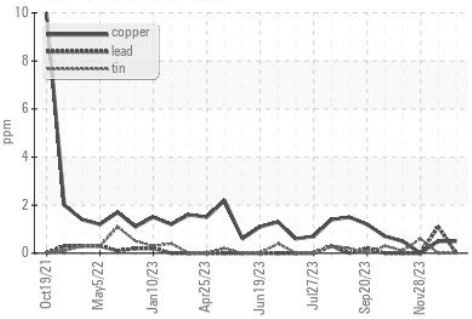
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.3**	14.1	14.2

GRAPHS

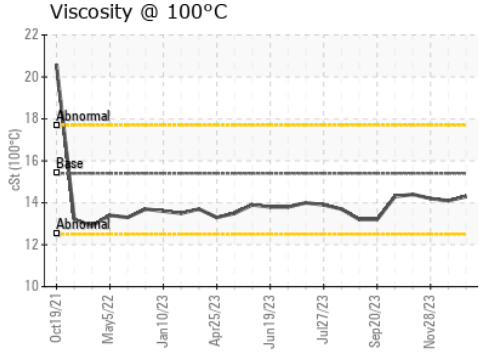
Ferrous Alloys



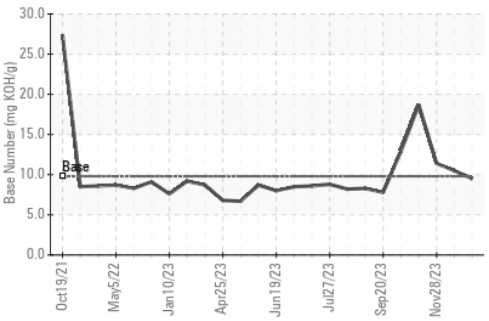
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory	: WearCheck USA - 501 Madison Ave., Cary, NC 27513		
Sample No.	: GFL0103028	**Recieved**	: 03 Jan 2024
Lab Number	: 06050425	**Diagnosed**	: 05 Jan 2024
Unique Number	: 10816374	**Diagnostician**	: Jonathan Hester
Test Package	: FLEET		

GFL Environmental - 814 - Little Rock Hauling
4005 Hwy 161 N.
LIttle Rock, AR
US 72117
Contact: Brad Manager
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)