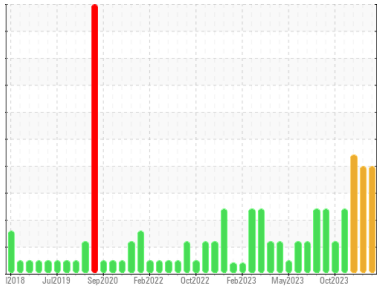
OIL ANALYSIS REPORT

Sample Rating Trend



GLYCOL

Machine Id
10858
Component
Diesel Engine
Fluid
PETRO CANADA ANTIFREEZE (29 GAL)

DIAGNOSIS

Recommendation
We advise that you check the fuel injection system. We recommend an early resample to monitor this condition.

Wear
Piston and cylinder wear is indicated.

Contamination
Sodium and/or potassium levels are high. Light fuel dilution occurring. Test for glycol is negative.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. 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		**GFL0107255**	GFL0107248	GFL0101184
Sample Date		Client Info		**02 Jan 2024**	19 Dec 2023	17 Nov 2023
Machine Age	hrs	Client Info		**1607**	1687	1592
Oil Age	hrs	Client Info		**155**	235	140
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	▲ **86**	▲ 178	30
Chromium	ppm	ASTM D5185m	>5	**<1**	<1	2
Nickel	ppm	ASTM D5185m	>4	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	▲ **36**	▲ 44	4
Lead	ppm	ASTM D5185m	>25	**0**	0	1
Copper	ppm	ASTM D5185m	>100	**29**	37	▲ 125
Tin	ppm	ASTM D5185m	>4	**8**	10	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**12**	9	10
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**59**	59	70
Manganese	ppm	ASTM D5185m		**3**	4	1
Magnesium	ppm	ASTM D5185m		**830**	812	800
Calcium	ppm	ASTM D5185m		**940**	948	982
Phosphorus	ppm	ASTM D5185m		**934**	909	905
Zinc	ppm	ASTM D5185m		**1053**	1054	1100
Sulfur	ppm	ASTM D5185m		**2649**	2782	2496

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**10**	11	12
Sodium	ppm	ASTM D5185m		▲ **167**	▲ 177	▲ 373
Potassium	ppm	ASTM D5185m	>20	**14**	16	▲ 43
Fuel	%	ASTM D3524	>3.0	▲ **3.1**	▲ 3.2	▲ 7.4
Glycol	%	*ASTM D2982		**NEG**	NEG	NEG

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.1**	0.1	0.8
Nitration	Abs/cm	*ASTM D7624	>20	**5.6**	5.5	13.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	**16.7**	17.0	24.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**12.4**	12.2	24.7
Base Number (BN)	mg KOH/g	ASTM D2896		**8.4**	8.4	5.2

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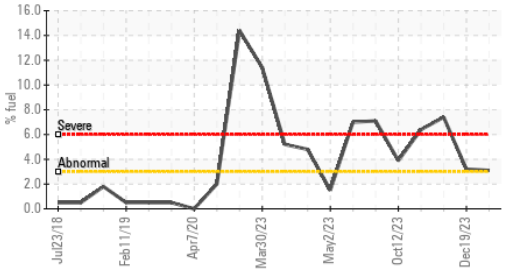
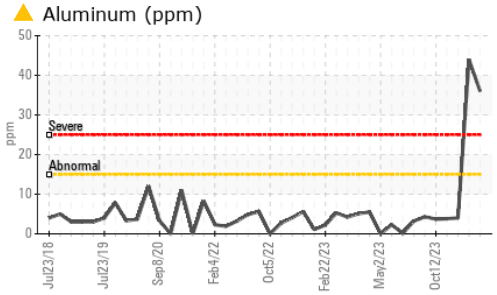
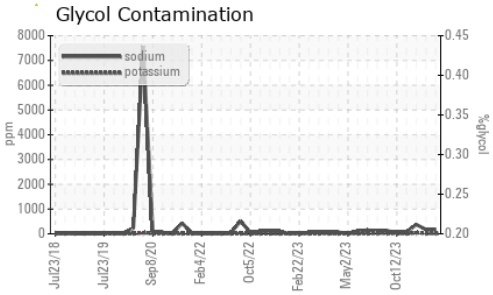
Fuel Dilution



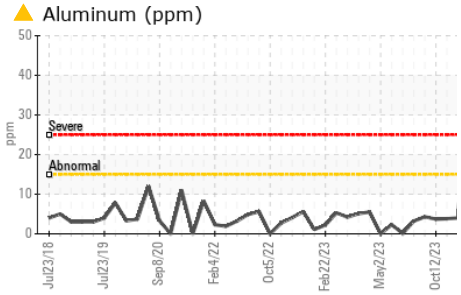
Aluminum (ppm)



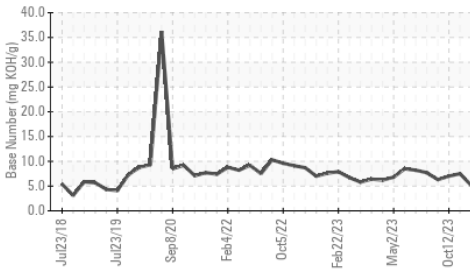
Glycol Contamination



Aluminum (ppm)



Base Number

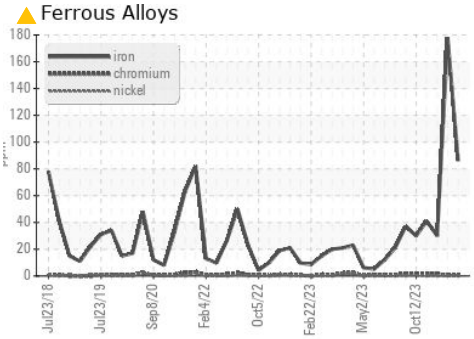


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

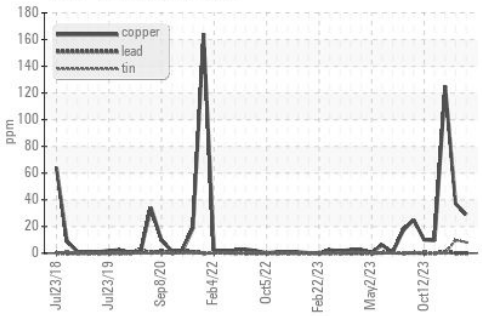
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		▲ **12.2**	▲ 12.1	▲ 11.6

GRAPHS

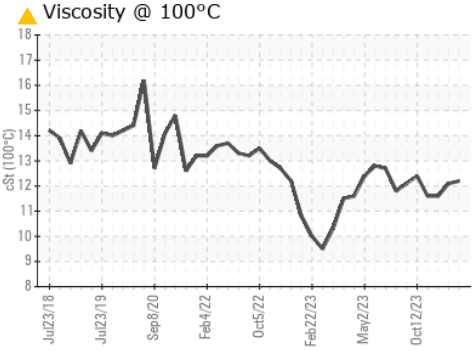
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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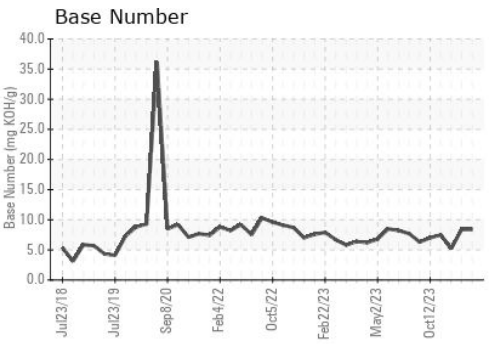

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0107255 **Recieved** : 05 Jan 2024
Lab Number : 06052400 **Diagnosed** : 09 Jan 2024
Unique Number : 10818349 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol, PercentFuel)

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)

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Report Id: GFL010 [WUSCAR] 06052400 (Generated: 01/09/2024 15:03:12) Rev: 1

Submitted By: JOSHUA TINKER