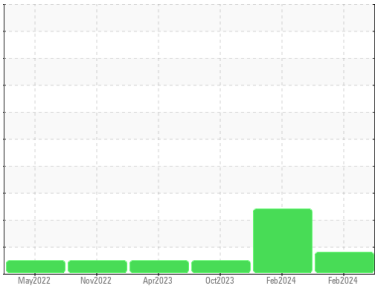
OIL ANALYSIS REPORT

Machine Id
559M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (5 GAL)

Sample Rating Trend



FUEL

DIAGNOSIS

Recommendation
Resample at the next service interval to monitor. (Customer Sample Comment: Resample)

Wear
All component wear rates are normal.

Contamination
Light fuel dilution occurring. No other contaminants were detected in the oil.

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		**GFL0115046**	GFL0106681	GFL0097670
Sample Date		Client Info		**22 Feb 2024**	14 Feb 2024	29 Oct 2023
Machine Age	hrs	Client Info		**6467**	6448	5989
Oil Age	hrs	Client Info		**400**	460	592
Oil Changed		Client Info		**Not Changd**	N/A	Changed
Sample Status				**MARGINAL**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	0.0

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	**18**	13	23
Chromium	ppm	ASTM D5185m	>20	**1**	<1	1
Nickel	ppm	ASTM D5185m	>2	**0**	<1	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>20	**2**	2	3
Lead	ppm	ASTM D5185m	>40	**<1**	<1	1
Copper	ppm	ASTM D5185m	>330	**2**	0	1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**3**	7	7
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**52**	61	63
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**855**	852	959
Calcium	ppm	ASTM D5185m	1070	**912**	889	1121
Phosphorus	ppm	ASTM D5185m	1150	**932**	959	1079
Zinc	ppm	ASTM D5185m	1270	**1190**	1134	1360
Sulfur	ppm	ASTM D5185m	2060	**2683**	2697	3023

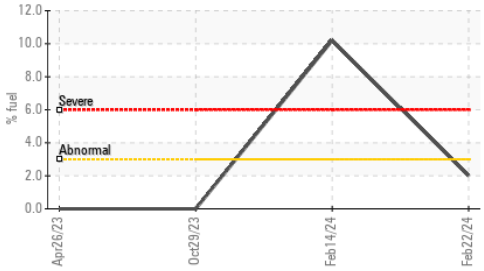
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**3**	7	6
Sodium	ppm	ASTM D5185m		**5**	194	120
Potassium	ppm	ASTM D5185m	>20	**2**	2	2
Fuel	%	ASTM D3524	>3.0	▲ **2.0**	▲ 10.2	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.5**	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	**8.9**	9.8	10.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.5**	20.9	23.3

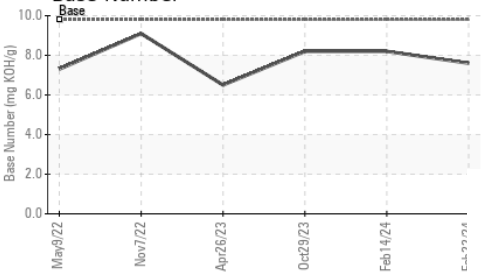
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**16.6**	19.4	20.9
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.6**	8.2	8.2

OIL ANALYSIS REPORT

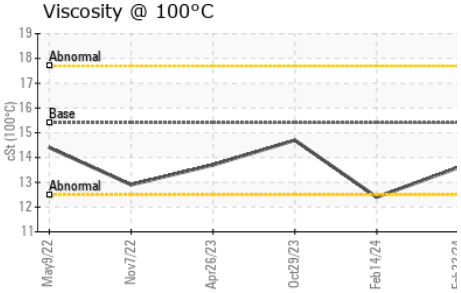
Fuel Dilution



Base Number



Viscosity @ 100°C

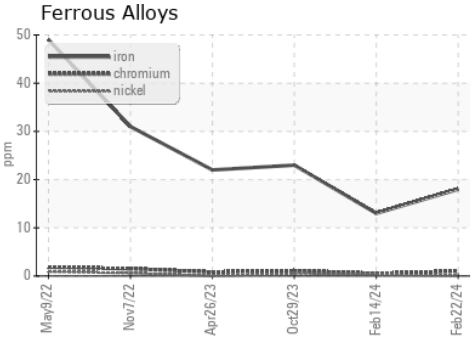


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

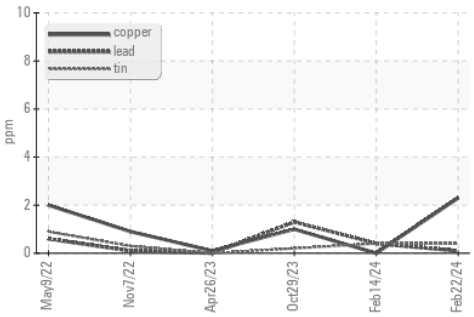
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.6**	▲ 12.4	14.7

GRAPHS

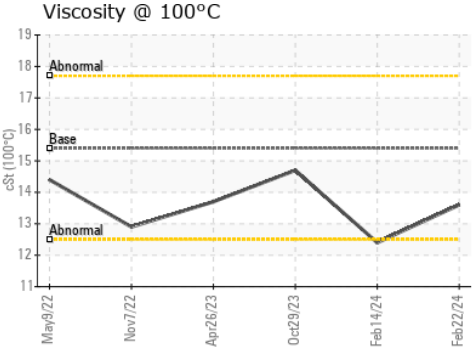
Ferrous Alloys



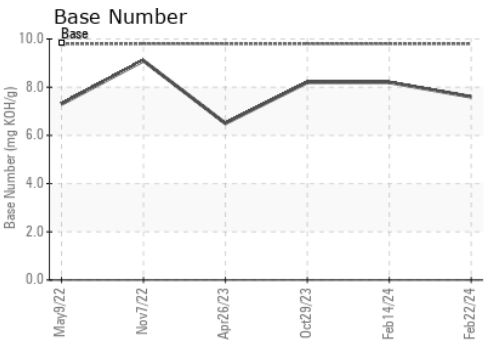
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115046
Lab Number : 06105874
Unique Number : 10909371
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 01 Mar 2024
Tested : 05 Mar 2024
Diagnosed : 05 Mar 2024 - Don Baldridge

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)

GFL Environmental - 405 - Arbor Hills
7400 Napier Rd
NORTHVILLE, MI
US 48168
Contact: John Nahal
jnahal@gflenv.com
T:
F: