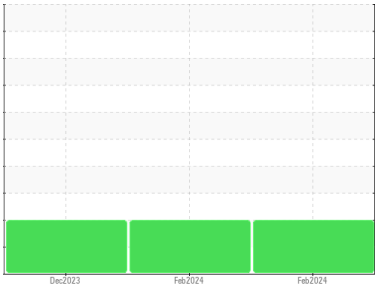
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
814025
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (8 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Fluid Condition
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0105306**	GFL0105222	GFL0105129
Sample Date		Client Info		**26 Feb 2024**	02 Feb 2024	09 Dec 2023
Machine Age	hrs	Client Info		**390**	249	126
Oil Age	hrs	Client Info		**390**	249	126
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
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**26**	20	16
Chromium	ppm	ASTM D5185m	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**4**	2	2
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**6**	6	5
Lead	ppm	ASTM D5185m	>40	**<1**	<1	0
Copper	ppm	ASTM D5185m	>330	**44**	11	10
Tin	ppm	ASTM D5185m	>15	**3**	2	<1
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	0	**317**	393	401
Barium	ppm	ASTM D5185m	0	**2**	0	0
Molybdenum	ppm	ASTM D5185m	60	**123**	122	123
Manganese	ppm	ASTM D5185m	0	**5**	4	4
Magnesium	ppm	ASTM D5185m	1010	**626**	662	683
Calcium	ppm	ASTM D5185m	1070	**1350**	1405	1504
Phosphorus	ppm	ASTM D5185m	1150	**596**	689	721
Zinc	ppm	ASTM D5185m	1270	**764**	803	813
Sulfur	ppm	ASTM D5185m	2060	**2375**	2375	2417

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **90**	▲ 75	▲ 75
Sodium	ppm	ASTM D5185m		**3**	4	2
Potassium	ppm	ASTM D5185m	>20	**6**	6	3
Fuel	%	ASTM D3524	>3.0	**<1.0**	<1.0	0.4

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.2**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**8.0**	7.2	6.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**25.7**	25.2	26.2

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**21.7**	20.6	20.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.6**	7.9	9.5

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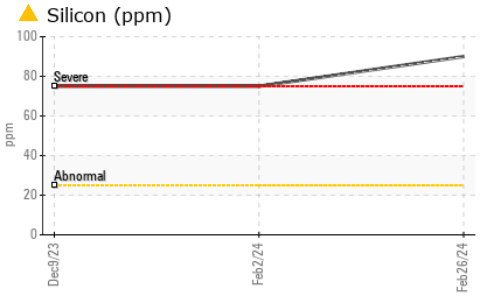
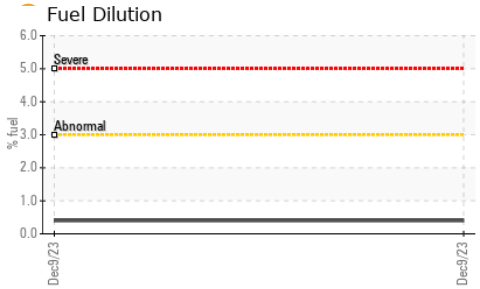
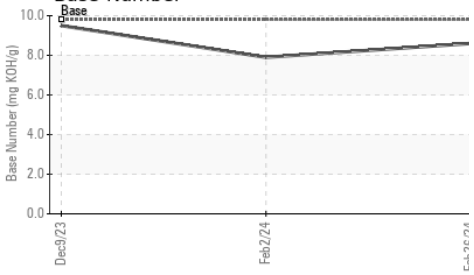
Silicon (ppm)



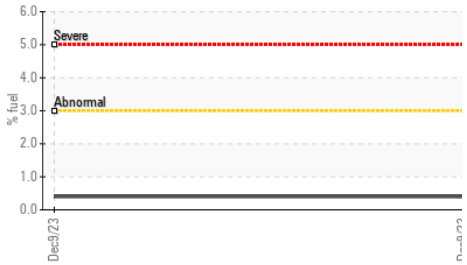
Fuel Dilution



Base Number



Fuel Dilution

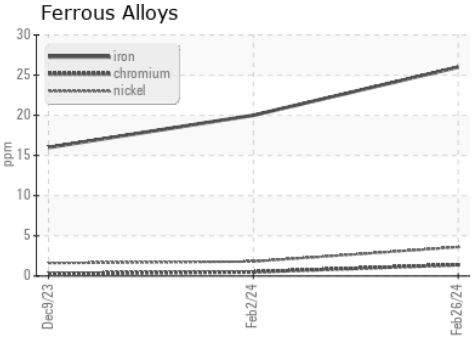


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

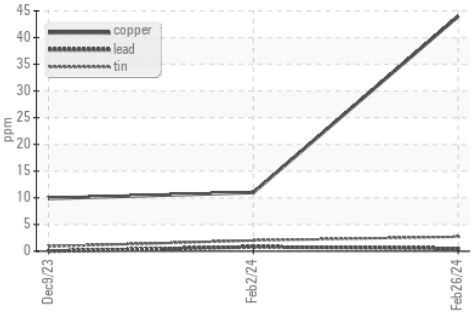
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**9.5**	9.7	9.5

GRAPHS

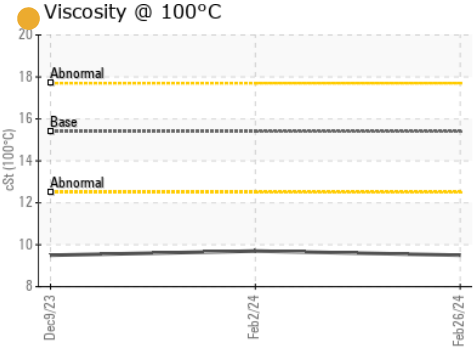
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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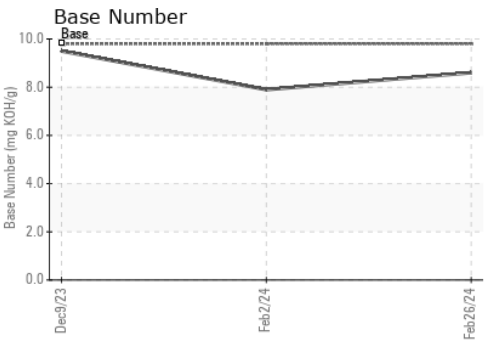

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0105306
Lab Number : 06102740
Unique Number : 10900970
Test Package : FLEET (Additional Tests: FuelDilution)

Received : 28 Feb 2024
Tested : 29 Feb 2024
Diagnosed : 29 Feb 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)

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Report Id: GFL821 [WUSCAR] 06102740 (Generated: 02/29/2024 21:10:19) Rev: 1

Submitted By: GFL821, GFL824 and GFL829 - Landen Johnson