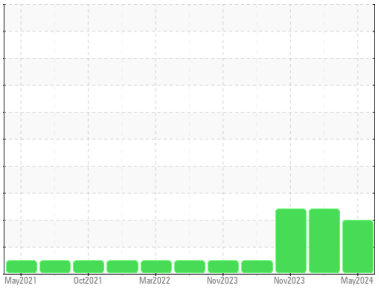
PROBLEM SUMMARY

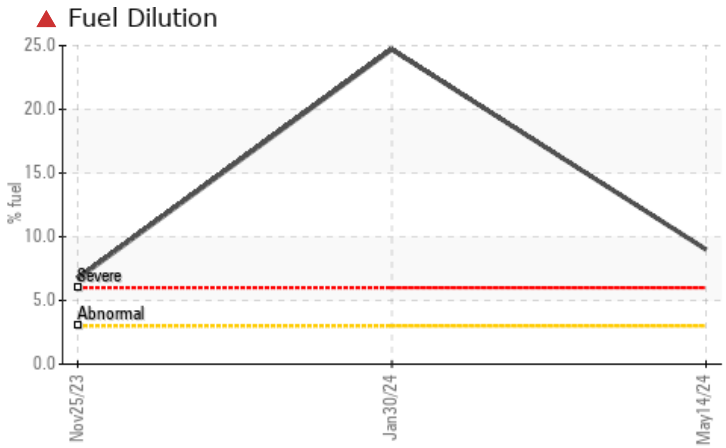
Area
(BA85865)
Machine Id
4564M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (5 GAL)

Sample Rating Trend



FUEL

COMPONENT CONDITION SUMMARY



RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS

Sample Status				**SEVERE**	SEVERE	SEVERE
Fuel	%	ASTM D3524	>3.0	▲ **9.0**	▲ 24.7	▲ 6.7

Customer Id: GFL405
Sample No.: GFL0115058
Lab Number: 06190260
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

To change component or sample information:
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Fluid	---	---	?	Oil and filter change at the time of sampling has been noted.
Change Filter	---	---	?	Oil and filter change at the time of sampling has been noted.
Resample	---	---	?	We recommend an early resample to monitor this condition.
Check Fuel/injector System	---	---	?	We advise that you check the fuel injection system.

HISTORICAL DIAGNOSIS

FUEL

30 Jan 2024 Diag: Sean Felton

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

FUEL

25 Nov 2023 Diag: Wes Davis

We advise that you check the fuel injection system. We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

view report

NORMAL

13 Nov 2023 Diag: Wes Davis

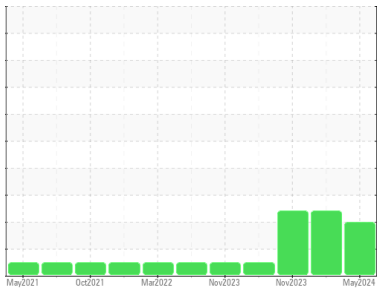
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Area
(BA85865)
Machine Id
4564M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (5 GAL)

Sample Rating Trend



FUEL

DIAGNOSIS

▲ Recommendation
We advise that you check the fuel injection system. 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
There is a high amount of fuel present in the oil.

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		**GFL0115058**	GFL0106674	GFL0089132
Sample Date		Client Info		**14 May 2024**	30 Jan 2024	25 Nov 2023
Machine Age	hrs	Client Info		**22474**	21889	21425
Oil Age	hrs	Client Info		**585**	551	21338
Oil Changed		Client Info		**Changed**	Changed	Not Changd
Sample Status				**SEVERE**	SEVERE	SEVERE

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	>75	**45**	33	3
Chromium	ppm	ASTM D5185m	>5	**3**	2	<1
Nickel	ppm	ASTM D5185m	>4	**1**	<1	0
Titanium	ppm	ASTM D5185m	>2	**<1**	0	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>15	**7**	4	1
Lead	ppm	ASTM D5185m	>25	**2**	0	0
Copper	ppm	ASTM D5185m	>100	**2**	1	0
Tin	ppm	ASTM D5185m	>4	**1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	<1	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	<1	2
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**56**	44	51
Manganese	ppm	ASTM D5185m	0	**<1**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**882**	639	862
Calcium	ppm	ASTM D5185m	1070	**974**	741	937
Phosphorus	ppm	ASTM D5185m	1150	**821**	692	950
Zinc	ppm	ASTM D5185m	1270	**1153**	801	1144
Sulfur	ppm	ASTM D5185m	2060	**2830**	1984	2810

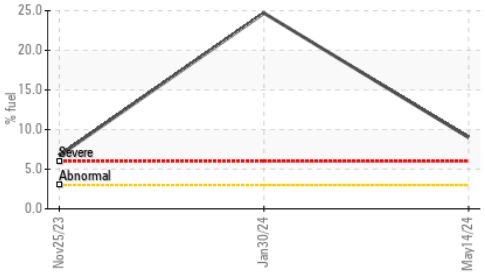
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**11**	9	3
Sodium	ppm	ASTM D5185m		**15**	61	4
Potassium	ppm	ASTM D5185m	>20	**6**	2	2
Fuel	%	ASTM D3524	>3.0	▲ **9.0**	▲ 24.7	▲ 6.7

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>6	**0.9**	1.4	0.4
Nitration	Abs/cm	*ASTM D7624	>20	**13.7**	16.8	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.6**	26.2	18.7

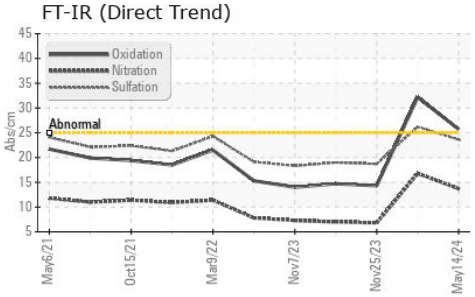
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**25.7**	32.2	14.3
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**6.7**	5.7	8.8

OIL ANALYSIS REPORT

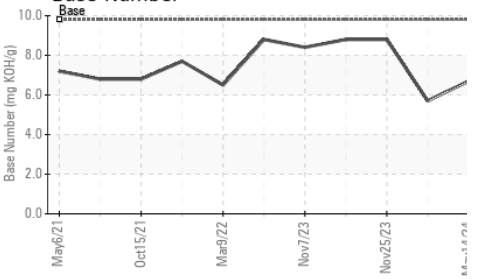
Fuel Dilution



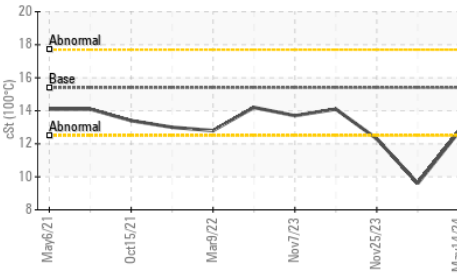
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

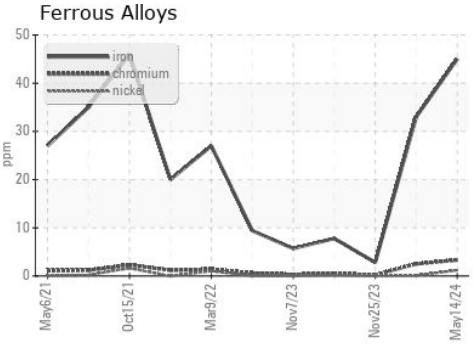


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

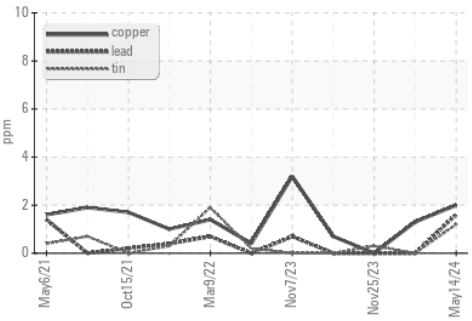
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**12.7**	▲ 9.6	▲ 12.3

GRAPHS

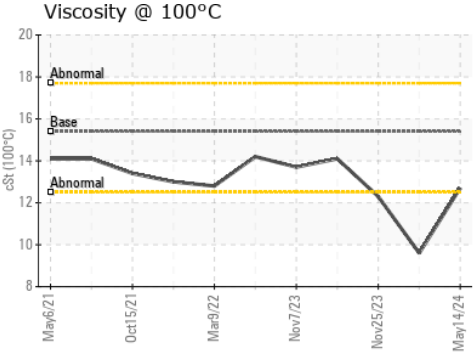
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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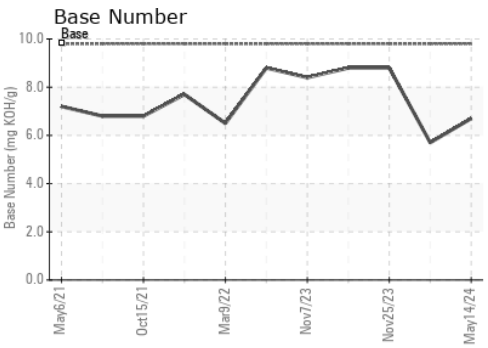

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0115058
Lab Number : 06190260
Unique Number : 11047012
Test Package : FLEET (Additional Tests: PercentFuel)

Received : 24 May 2024
Tested : 30 May 2024
Diagnosed : 30 May 2024 - Jonathan Hester

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
7811 Chubb Rd
NORTHVILLE, MI
US 48168
Contact: Anthony Hopkins
ahopkins@gflenv.com
T:
F:

Report Id: GFL405 [WUSCAR] 06190260 (Generated: 05/30/2024 13:48:01) Rev: 1

Submitted By: John Nahal