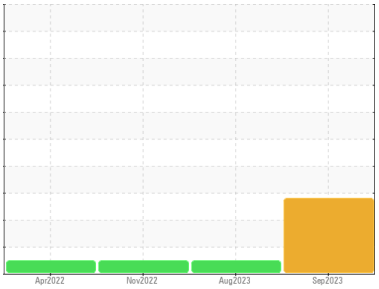
PROBLEM SUMMARY

Machine Id
7840M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

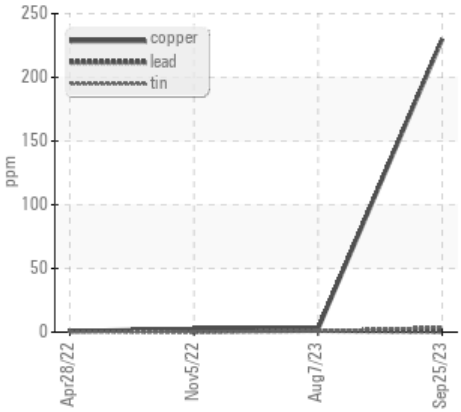
Sample Rating Trend



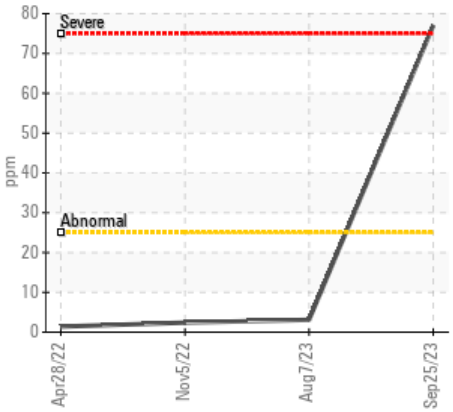
DIRT

COMPONENT CONDITION SUMMARY

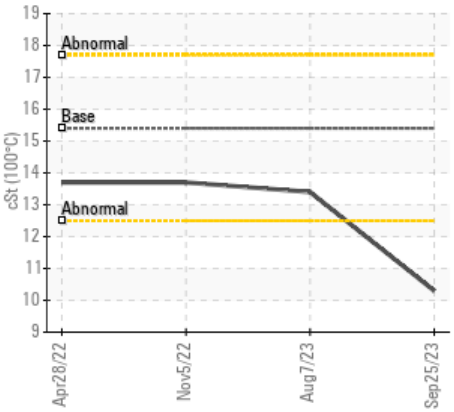
▲ Non-ferrous Metals



▲ Silicon (ppm)



▲ Viscosity @ 100°C



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	NORMAL	NORMAL
Copper	ppm	ASTM D5185m	>330	▲ **230**	3	2
Silicon	ppm	ASTM D5185m	>25	▲ **77**	3	2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.3**	13.4	13.7

Customer Id: GFL410
Sample No.: GFL0084933
Lab Number: 05964013
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.

HISTORICAL DIAGNOSIS

07 Aug 2023 Diag: Wes Davis

NORMAL

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

05 Nov 2022 Diag: Wes Davis

NORMAL

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

28 Apr 2022 Diag: Wes Davis

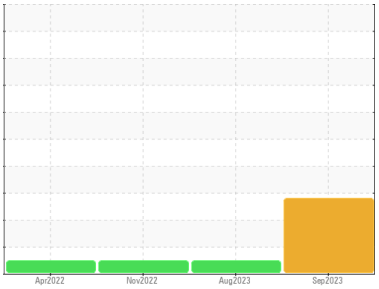
NORMAL

Resample at the next service interval to monitor.Metal levels are typical for a components first oil change. 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

Sample Rating Trend



DIRT

Machine Id
7840M
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (36 QTS)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core).

Contamination
Fuel content negligible. 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		**GFL0084933**	GFL0085055	GFL0059214
Sample Date		Client Info		**25 Sep 2023**	07 Aug 2023	05 Nov 2022
Machine Age	hrs	Client Info		**10165**	9832	7792
Oil Age	hrs	Client Info		**333**	9832	7792
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION	method	limit/base	current	history1	history2
Glycol	WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	**41**	17	9
Chromium	ppm	ASTM D5185m	>20	**1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	**1**	0	0
Titanium	ppm	ASTM D5185m	>2	**<1**	<1	0
Silver	ppm	ASTM D5185m	>2	**<1**	0	0
Aluminum	ppm	ASTM D5185m	>20	**4**	<1	<1
Lead	ppm	ASTM D5185m	>40	**<1**	1	<1
Copper	ppm	ASTM D5185m	>330	▲ **230**	3	2
Tin	ppm	ASTM D5185m	>15	**4**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	<1	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**189**	0	6
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**111**	60	57
Manganese	ppm	ASTM D5185m	0	**4**	<1	<1
Magnesium	ppm	ASTM D5185m	1010	**746**	976	902
Calcium	ppm	ASTM D5185m	1070	**1446**	1091	1041
Phosphorus	ppm	ASTM D5185m	1150	**723**	920	906
Zinc	ppm	ASTM D5185m	1270	**875**	1273	1181
Sulfur	ppm	ASTM D5185m	2060	**2284**	2738	3008

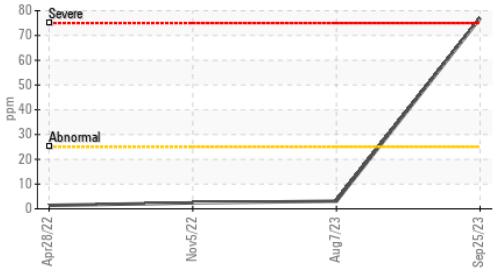
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **77**	3	2
Sodium	ppm	ASTM D5185m		**7**	4	5
Potassium	ppm	ASTM D5185m	>20	**8**	<1	0
Fuel	%	ASTM D3524	>3.0	**0.3**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.4**	0.9	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**6.6**	9.0	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.2**	21.7	21.6

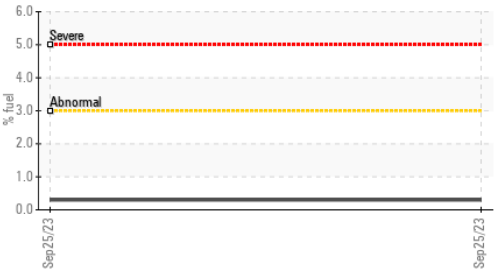
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.7**	17.5	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.1**	5.2	8.2

OIL ANALYSIS REPORT

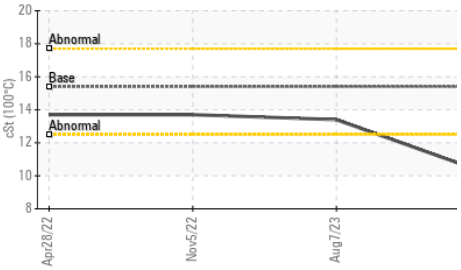
Silicon (ppm)



Fuel Dilution

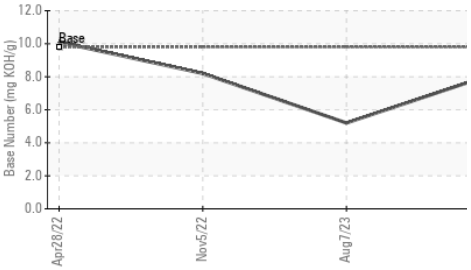


Viscosity @ 100°C



Fuel Dilution

Base Number

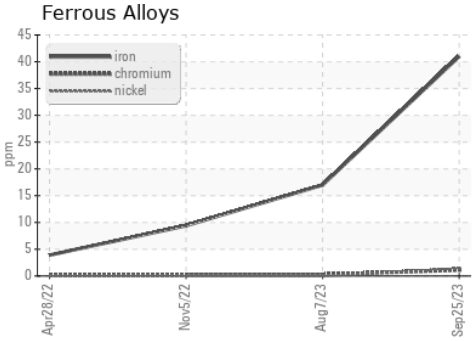


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

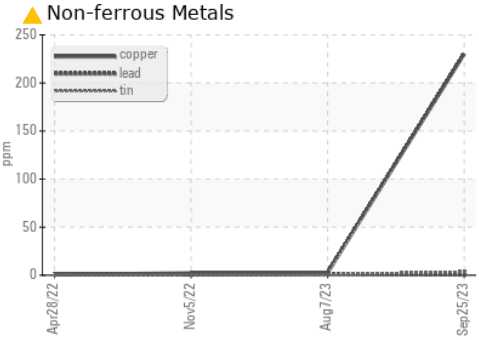
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.3**	13.4	13.7

GRAPHS

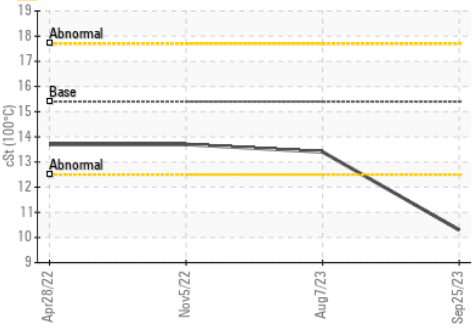
Ferrous Alloys



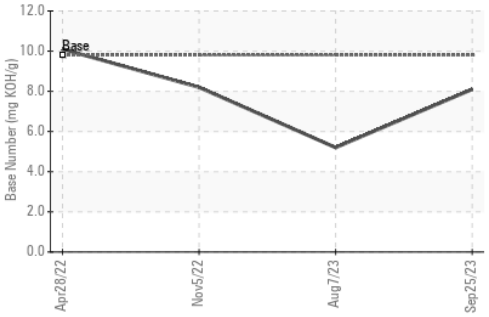
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0084933 **Received** : 28 Sep 2023
Lab Number : 05964013 **Diagnosed** : 02 Oct 2023
Unique Number : 10670564 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FuelDilution, 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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