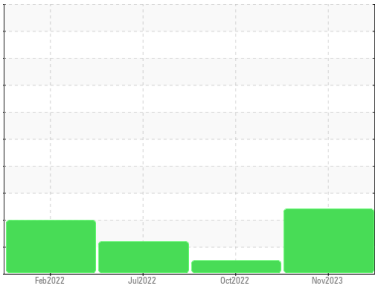
PROBLEM SUMMARY

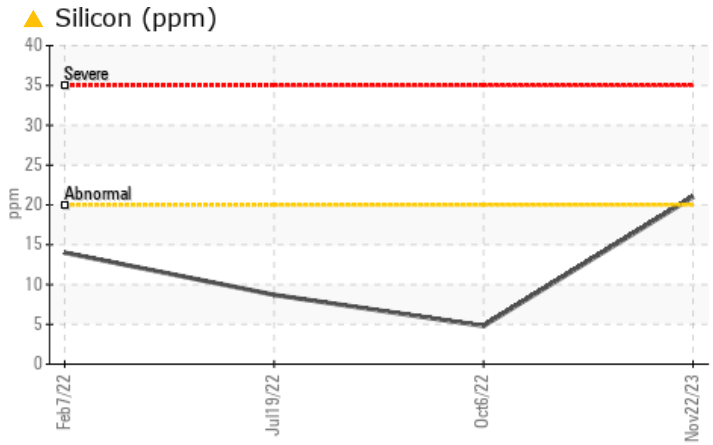
Machine Id
812002
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

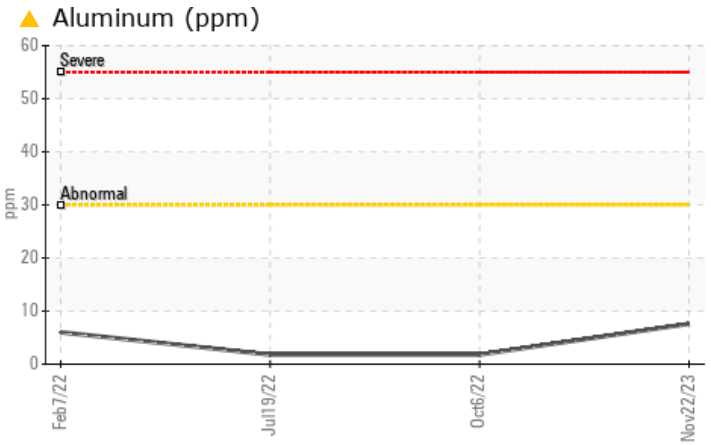
Sample Rating Trend



DIRT

COMPONENT CONDITION SUMMARY





RECOMMENDATION

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	NORMAL	ABNORMAL
Aluminum	ppm	ASTM D5185m	>30	▲ 8	2	2
Silicon	ppm	ASTM D5185m	>20	▲ 21	5	9

Customer Id: GFL415
Sample No.: GFL0089112
Lab Number: 06016114
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
Check Dirt Access	---	---	?	We advise that you check the air filter, air induction system, and any areas where dirt may enter the component.

HISTORICAL DIAGNOSIS

06 Oct 2022 Diag: Wes Davis

NORMAL

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.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

19 Jul 2022 Diag: Don Baldridge

DEGRADATION

Oil and filter change at the time of sampling has been noted. 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 level is low. The condition of the oil is acceptable for the time in service.

view report

07 Feb 2022 Diag: Jonathan Hester

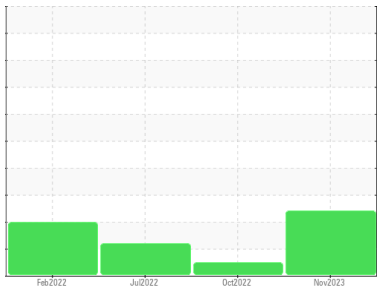
WEAR

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.Cylinder, crank, or cam shaft wear is indicated. Light fuel dilution occurring. The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
812002
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0089112**	GFL0057260	GFL0055108
Sample Date		Client Info		**22 Nov 2023**	06 Oct 2022	19 Jul 2022
Machine Age	hrs	Client Info		**5800**	3584	2863
Oil Age	hrs	Client Info		**3584**	2863	1532
Oil Changed		Client Info		**Not Changd**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
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	>80	**57**	16	73
Chromium	ppm	ASTM D5185m	>5	**5**	1	2
Nickel	ppm	ASTM D5185m	>2	**1**	<1	4
Titanium	ppm	ASTM D5185m		**<1**	1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	<1
Aluminum	ppm	ASTM D5185m	>30	▲ **8**	2	2
Lead	ppm	ASTM D5185m	>30	**0**	0	2
Copper	ppm	ASTM D5185m	>150	**2**	2	30
Tin	ppm	ASTM D5185m	>5	**0**	<1	3
Antimony	ppm	ASTM D5185m		**---**	---	---
Vanadium	ppm	ASTM D5185m		**<1**	1	0
Cadmium	ppm	ASTM D5185m		**0**	<1	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	5
Barium	ppm	ASTM D5185m	0	**0**	<1	0
Molybdenum	ppm	ASTM D5185m	60	**59**	54	55
Manganese	ppm	ASTM D5185m	0	**<1**	1	1
Magnesium	ppm	ASTM D5185m	1010	**1033**	854	815
Calcium	ppm	ASTM D5185m	1070	**1138**	949	1037
Phosphorus	ppm	ASTM D5185m	1150	**996**	932	806
Zinc	ppm	ASTM D5185m	1270	**1368**	1146	1090
Sulfur	ppm	ASTM D5185m	2060	**3151**	2744	2122

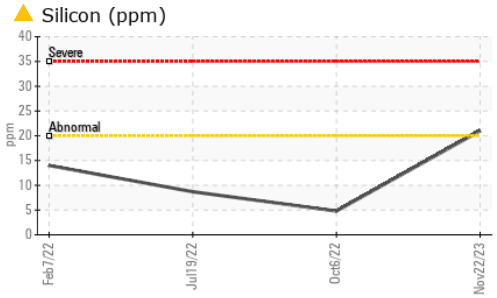
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **21**	5	9
Sodium	ppm	ASTM D5185m		**6**	7	9
Potassium	ppm	ASTM D5185m	>20	**2**	2	0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.2**	0.6	1.5
Nitration	Abs/cm	*ASTM D7624	>20	**6.9**	9.3	18.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**19.0**	22.0	30.0

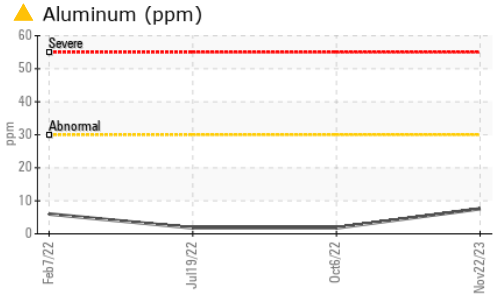
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.3**	18.2	38.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.8**	7.8	▲ 2.8

OIL ANALYSIS REPORT

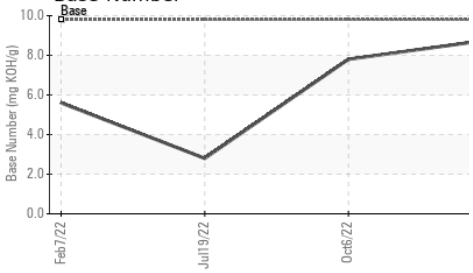
Silicon (ppm)



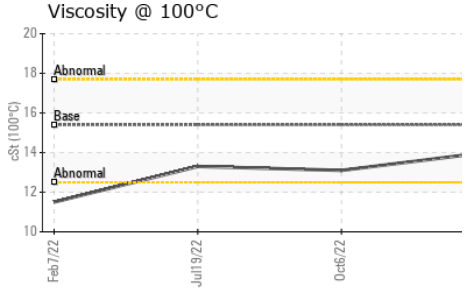
Aluminum (ppm)



Base Number



Viscosity @ 100°C

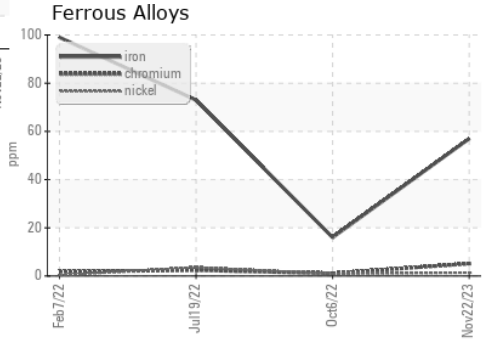


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

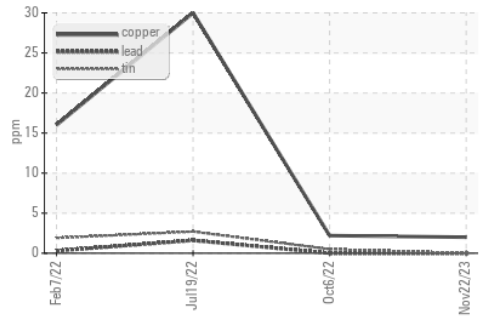
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**14.0**	13.1	13.3

GRAPHS

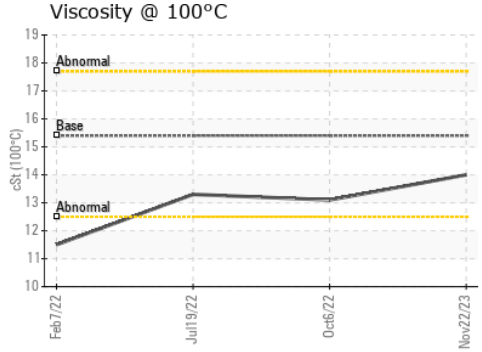
Ferrous Alloys



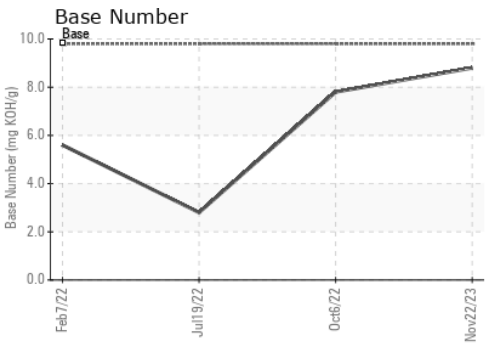
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0089112
Lab Number : 06016114
Unique Number : 10755258
Test Package : FLEET

Received : 24 Nov 2023
Diagnosed : 27 Nov 2023
Diagnostician : 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)

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