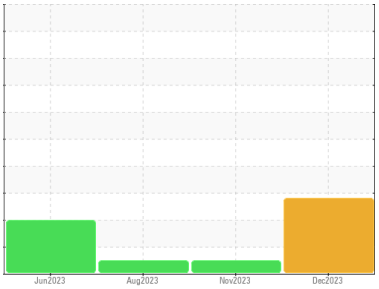
PROBLEM SUMMARY

Machine Id
913128
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (28 GAL)

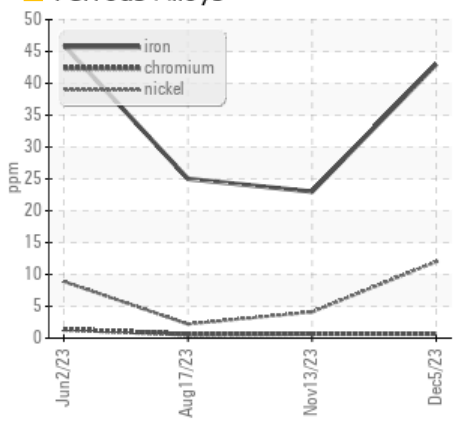
Sample Rating Trend



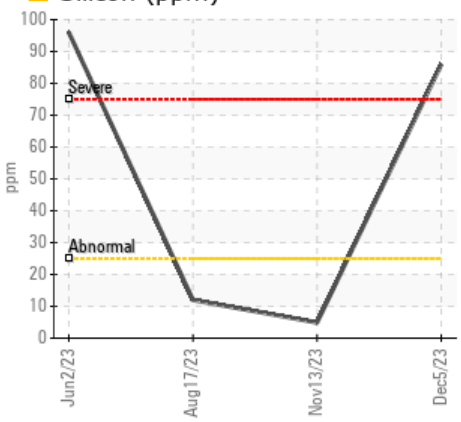
DIRT

COMPONENT CONDITION SUMMARY

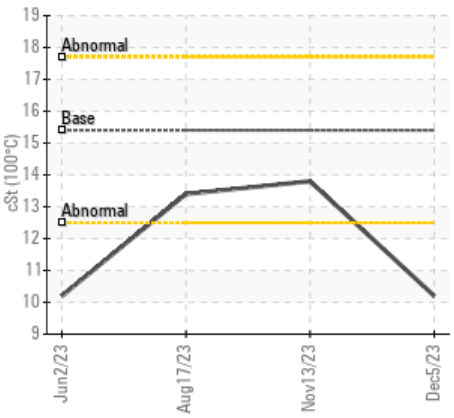
▲ Ferrous Alloys



▲ Silicon (ppm)



▲ Viscosity @ 100°C



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	NORMAL
Nickel	ppm	ASTM D5185m	>5	▲ **12**	4	2
Silicon	ppm	ASTM D5185m	>25	▲ **86**	5	12
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.2**	13.8	13.4

Customer Id: GFL401
Sample No.: GFL0096883
Lab Number: 06025978
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

13 Nov 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

17 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

02 Jun 2023 Diag: Don Baldridge

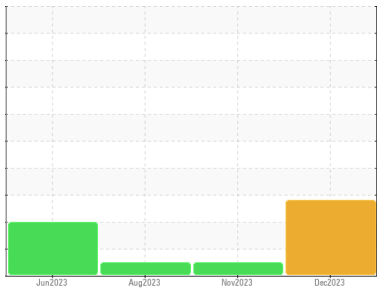
DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. 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. Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of dirt/seal material. 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
913128
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (28 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
Valve wear is indicated.

Contamination
Fuel content negligible. Elemental level of silicon (Si) above normal indicating ingress of dirt/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		**GFL0096883**	GFL0091701	GFL0091718
Sample Date		Client Info		**05 Dec 2023**	13 Nov 2023	17 Aug 2023
Machine Age	hrs	Client Info		**0**	0	1215
Oil Age	hrs	Client Info		**0**	600	600
Oil Changed		Client Info		**N/A**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

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	**43**	23	25
Chromium	ppm	ASTM D5185m	>20	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>5	▲ **12**	4	2
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**1**	<1	<1
Aluminum	ppm	ASTM D5185m	>20	**4**	2	0
Lead	ppm	ASTM D5185m	>40	**0**	0	<1
Copper	ppm	ASTM D5185m	>330	**89**	14	69
Tin	ppm	ASTM D5185m	>15	**2**	<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	**194**	2	11
Barium	ppm	ASTM D5185m	0	**3**	2	0
Molybdenum	ppm	ASTM D5185m	60	**120**	60	69
Manganese	ppm	ASTM D5185m	0	**4**	<1	1
Magnesium	ppm	ASTM D5185m	1010	**680**	917	1025
Calcium	ppm	ASTM D5185m	1070	**1448**	1098	1248
Phosphorus	ppm	ASTM D5185m	1150	**658**	914	1013
Zinc	ppm	ASTM D5185m	1270	**854**	1197	1327
Sulfur	ppm	ASTM D5185m	2060	**2526**	3827	3251

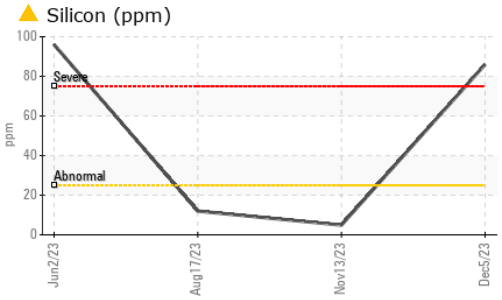
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **86**	5	12
Sodium	ppm	ASTM D5185m		**2**	0	2
Potassium	ppm	ASTM D5185m	>20	**8**	1	2
Fuel	%	ASTM D3524	>3.0	**0.3**	<1.0	<1.0

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	**0.6**	0.7	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**10.0**	8.8	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**24.3**	20.2	20.4

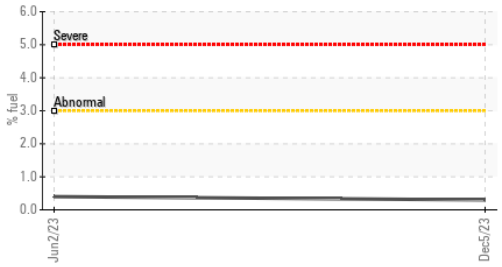
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**22.2**	15.7	16.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**7.4**	7.3	7.5

OIL ANALYSIS REPORT

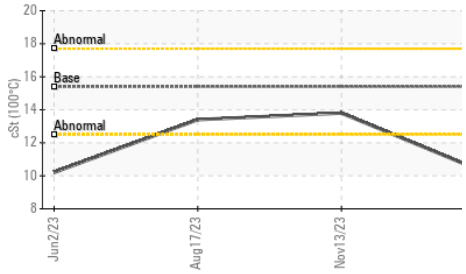
Silicon (ppm)



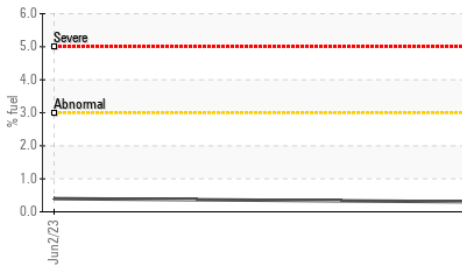
Fuel Dilution



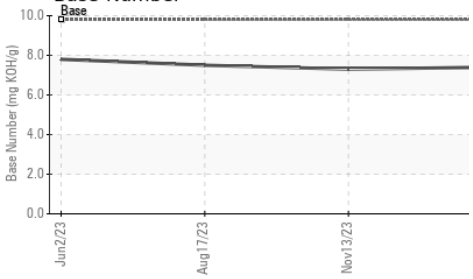
Viscosity @ 100°C



Fuel Dilution



Base Number

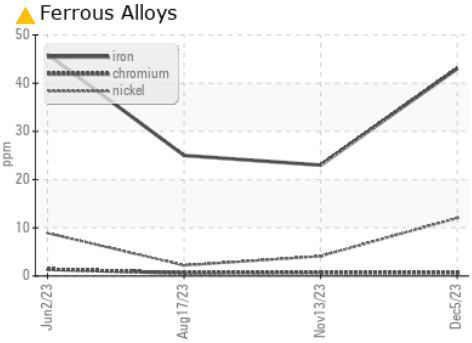


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

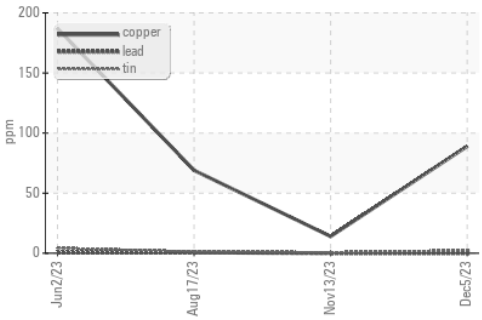
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **10.2**	13.8	13.4

GRAPHS

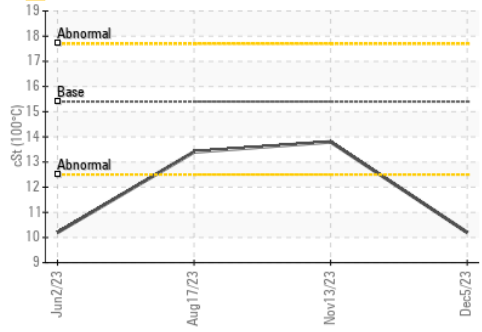
Ferrous Alloys



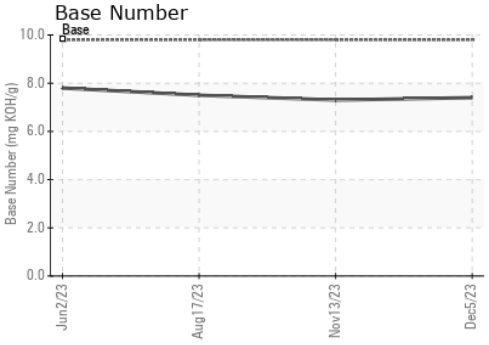
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0096883 **Received** : 06 Dec 2023
Lab Number : 06025978 **Diagnosed** : 14 Dec 2023
Unique Number : 10775769 **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)

GFL Environmental - 401 - Fort Wayne Hauling
4429 ALLEN MARTIN DR
FORT WAYNE, IN
US 46806
Contact: Stephanie Burton
stephanieburton@gflenv.com
T: (260)747-5037
F: