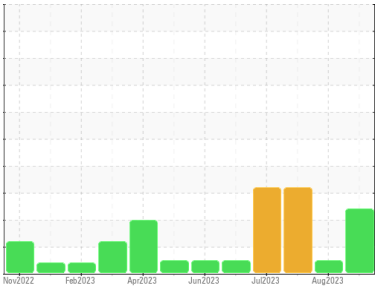
PROBLEM SUMMARY

Area
166
Machine Id
223032-2
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

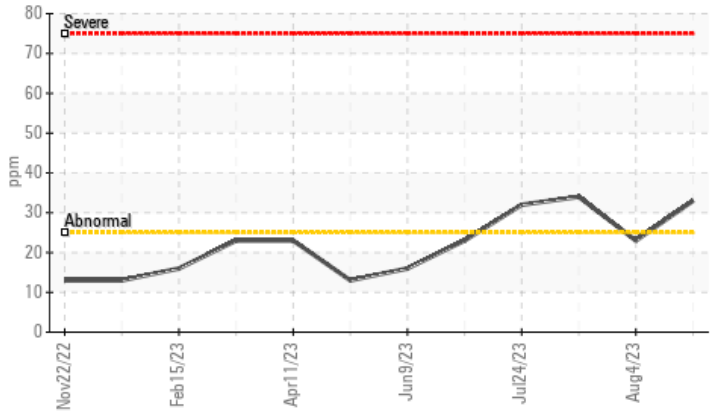
Sample Rating Trend



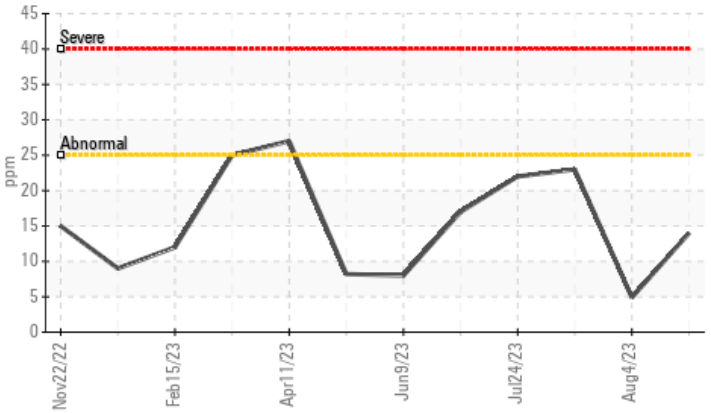
DIRT

COMPONENT CONDITION SUMMARY

Silicon (ppm)



Aluminum (ppm)



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	>25	▲ **14**	5	▲ 23
Silicon	ppm	ASTM D5185m	>25	▲ **33**	23	▲ 34

Customer Id: GFL166
Sample No.: GFL0087854
Lab Number: 05934750
Test Package: FLEET

To manage this report scan the QR code

To discuss the diagnosis or test data:
Don Baldridge +1
don.b505@comcast.net

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

04 Aug 2023 Diag: Don Baldridge

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 Jul 2023 Diag: Sean Felton

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.Cylinder, crank, or cam shaft wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report

24 Jul 2023 Diag: Don Baldridge

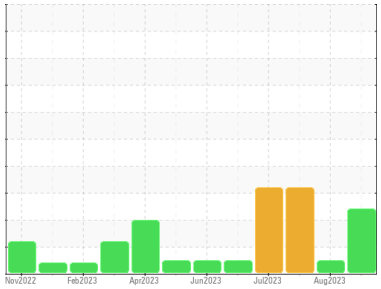
DIRT

We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Resample at the next service interval to monitor.Cylinder, crank, or cam shaft wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
166
Machine Id
223032-2
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 acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**GFL0087854**	GFL0087834	GFL0087836
Sample Date		Client Info		**21 Aug 2023**	04 Aug 2023	28 Jul 2023
Machine Age	hrs	Client Info		**19235**	19128	19087
Oil Age	hrs	Client Info		**200**	20	600
Oil Changed		Client Info		**Not Changd**	Not Changd	Changed
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>5	**<1.0**	<1.0	<1.0
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	**69**	32	▲ 132
Chromium	ppm	ASTM D5185m	>20	**4**	2	6
Nickel	ppm	ASTM D5185m	>2	**2**	<1	3
Titanium	ppm	ASTM D5185m	>2	**<1**	0	<1
Silver	ppm	ASTM D5185m	>2	**<1**	<1	3
Aluminum	ppm	ASTM D5185m	>25	▲ **14**	5	▲ 23
Lead	ppm	ASTM D5185m	>40	**0**	0	0
Copper	ppm	ASTM D5185m	>330	**3**	2	8
Tin	ppm	ASTM D5185m	>15	**<1**	<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	**9**	2	3
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	60	**87**	63	83
Manganese	ppm	ASTM D5185m	0	**1**	<1	2
Magnesium	ppm	ASTM D5185m	1010	**1035**	958	1058
Calcium	ppm	ASTM D5185m	1070	**1159**	1016	1141
Phosphorus	ppm	ASTM D5185m	1150	**1122**	1033	1096
Zinc	ppm	ASTM D5185m	1270	**1361**	1251	1383
Sulfur	ppm	ASTM D5185m	2060	**3876**	3643	3342

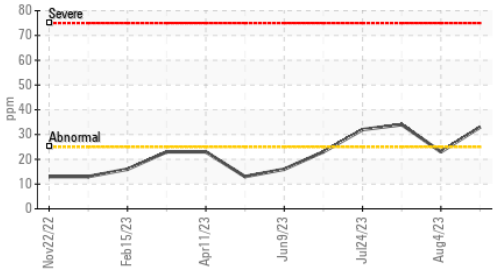
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	▲ **33**	23	▲ 34
Sodium	ppm	ASTM D5185m		**31**	15	73
Potassium	ppm	ASTM D5185m	>20	**2**	2	6

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	**0.3**	0.2	0.7
Nitration	Abs/cm	*ASTM D7624	>20	**7.8**	5.8	11.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	**18.2**	17.4	22.2

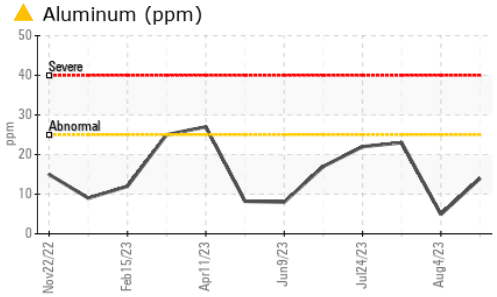
FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**14.8**	13.6	20.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**8.9**	8.9	6.5

OIL ANALYSIS REPORT

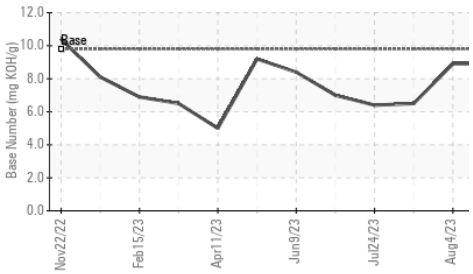
Silicon (ppm)



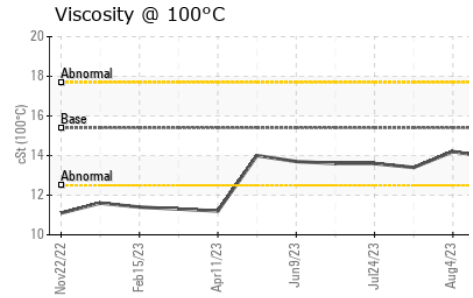
Aluminum (ppm)



Base Number



Viscosity @ 100°C

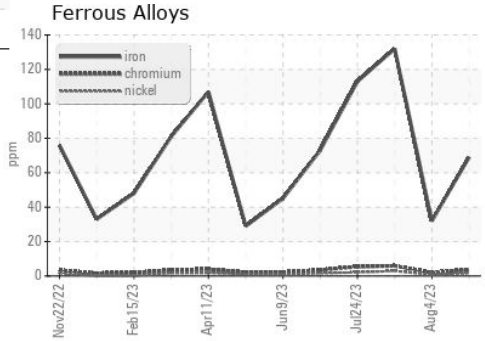


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt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

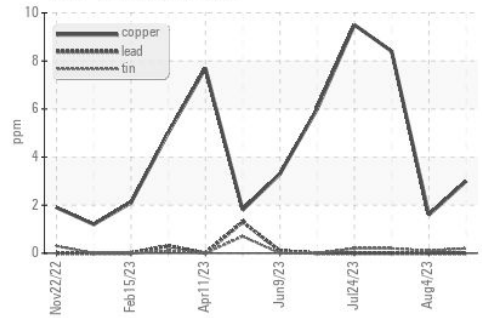
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	**13.9**	14.2	13.4

GRAPHS

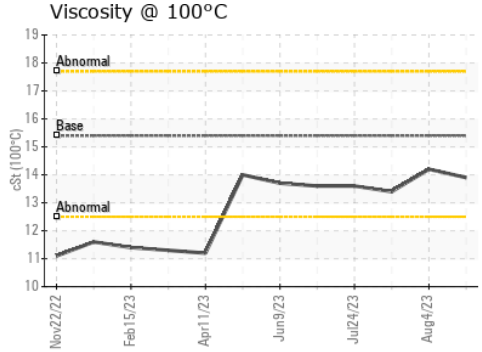
Ferrous Alloys



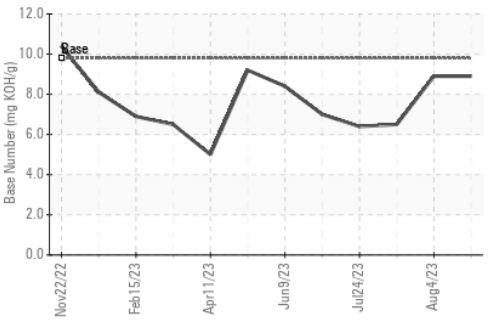
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0087854
Lab Number : 05934750
Unique Number : 10620021
Test Package : FLEET

Received : 25 Aug 2023
Diagnosed : 27 Aug 2023
Diagnostician : 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)

GFL Environmental - 166 - Phenix City
18 Old Brickyard Rd
Phenix City, AL
US 36869
Contact: DEAN PEACE JR
dean.peace@gflenv.com
T:
F:

Report Id: GFL166 [WUSCAR] 05934750 (Generated: 08/28/2023 18:05:07) Rev: 1

Submitted By: DARRIN WRIGHT