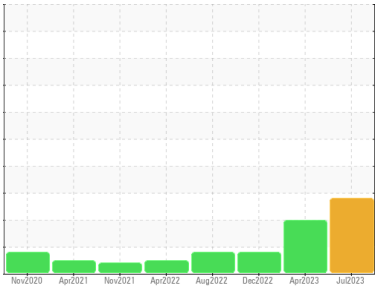
PROBLEM SUMMARY

Sample Rating Trend

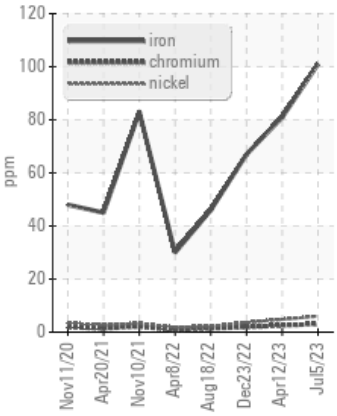


WEAR

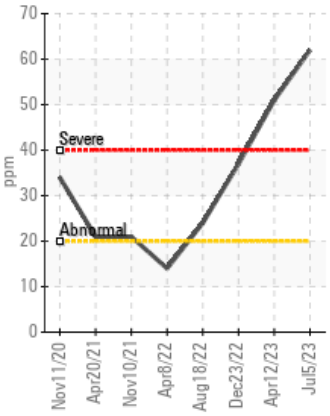
Machine Id
222028-991
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

COMPONENT CONDITION SUMMARY

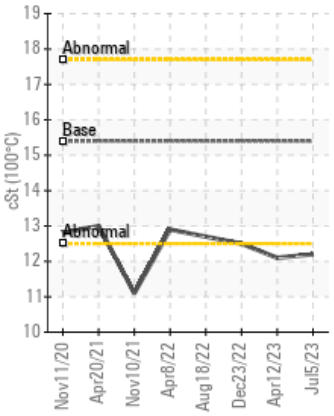
▲ Ferrous Alloys



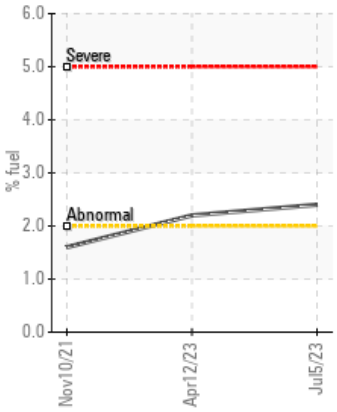
▲ Aluminum (ppm)



▲ Viscosity @ 100°C



▲ Fuel Dilution



RECOMMENDATION

No corrective action is recommended at this time.
Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185m	>100	▲ **101**	81	67
Aluminum	ppm	ASTM D5185m	>20	▲ **62**	▲ 51	▲ 37
Fuel	%	ASTM D3524	>2.0	▲ **2.4**	▲ 2.2	<1.0
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.2**	▲ 12.1	12.5

Customer Id: GFL657
Sample No.: GFL0082513
Lab Number: 05891030
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

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

12 Apr 2023 Diag: Jonathan Hester

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The aluminum level is abnormal. All other component wear rates are normal. 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

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23 Dec 2022 Diag: Jonathan Hester

WEAR

No corrective action is recommended at this time. Resample at the next service interval to monitor.The aluminum level is abnormal. All other 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

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18 Aug 2022 Diag: Don Baldridge

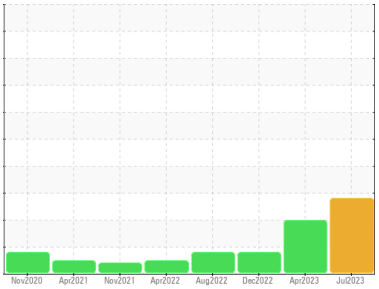
WEAR

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.The aluminum level is abnormal. All other 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 acceptable for the time in service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
222028-991
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- LTR)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
Piston and cylinder wear is indicated.

Contamination
Light fuel dilution occurring.

Fluid Condition
Fuel is present in the oil and is lowering the viscosity. The BN result indicates that there is suitable alkalinity remaining in the oil.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number		Client Info		**GFL0082513**	GFL0070890	GFL0057992
Sample Date		Client Info		**05 Jul 2023**	12 Apr 2023	23 Dec 2022
Machine Age	hrs	Client Info		**9932**	9790	9628
Oil Age	hrs	Client Info		**182**	262	100
Oil Changed		Client Info		**Not Changd**	Not Changd	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>100	▲ **101**	81	67
Chromium	ppm	ASTM D5185m	>20	**3**	2	2
Nickel	ppm	ASTM D5185m	>4	**6**	5	4
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>3	**0**	<1	0
Aluminum	ppm	ASTM D5185m	>20	▲ **62**	▲ 51	▲ 37
Lead	ppm	ASTM D5185m	>40	**<1**	0	<1
Copper	ppm	ASTM D5185m	>330	**4**	3	1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m	0	**4**	7	8
Barium	ppm	ASTM D5185m	0	**<1**	0	0
Molybdenum	ppm	ASTM D5185m	60	**68**	67	61
Manganese	ppm	ASTM D5185m	0	**1**	2	<1
Magnesium	ppm	ASTM D5185m	1010	**959**	917	951
Calcium	ppm	ASTM D5185m	1070	**1123**	1063	1099
Phosphorus	ppm	ASTM D5185m	1150	**1010**	1045	1010
Zinc	ppm	ASTM D5185m	1270	**1222**	1214	1250
Sulfur	ppm	ASTM D5185m	2060	**3660**	3718	3549

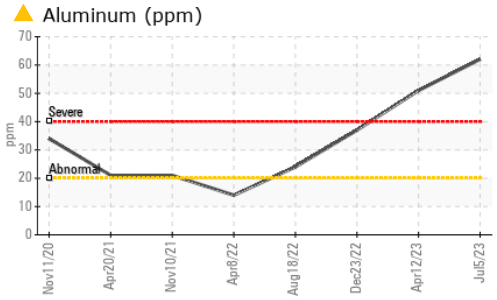
CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m	>25	**7**	4	5
Sodium	ppm	ASTM D5185m		**12**	10	6
Potassium	ppm	ASTM D5185m	>20	**54**	43	25
Fuel	%	ASTM D3524	>2.0	▲ **2.4**	▲ 2.2	<1.0
Glycol	%	*ASTM D2982		**0.0**	NEG	NEG

INFRA-RED		method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844	>3	**1.1**	0.7	0.5
Nitration	Abs/cm	*ASTM D7624	>20	**9.5**	7.7	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	**20.6**	17.2	18.9

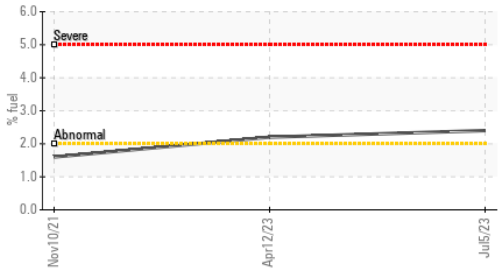
FLUID DEGRADATION		method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.1**	14.0	14.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	**10.5**	8.8	10.4

OIL ANALYSIS REPORT

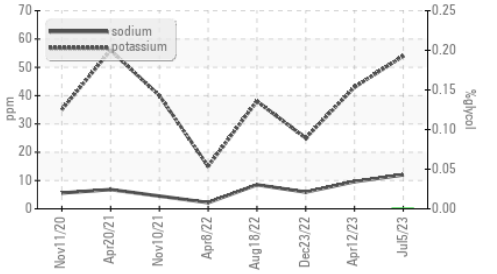
Aluminum (ppm)



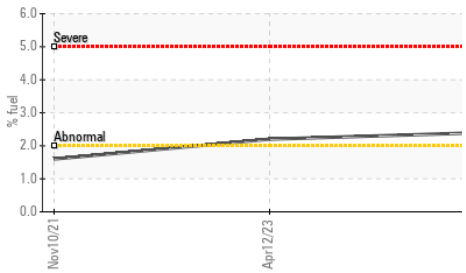
Fuel Dilution



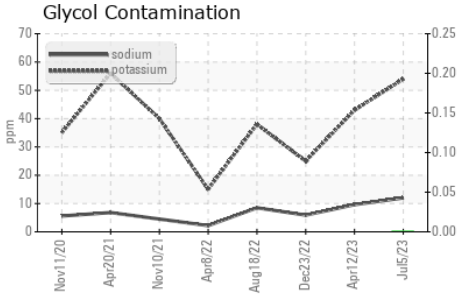
Glycol Contamination



Fuel Dilution



Glycol Contamination

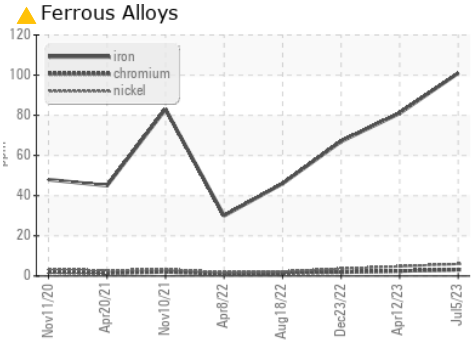


VISUAL		method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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

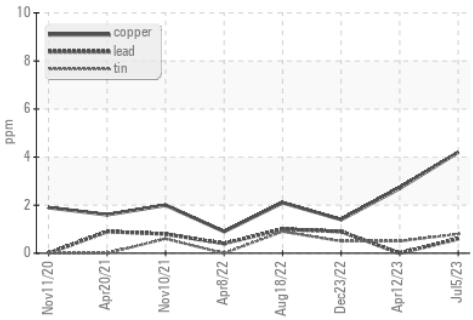
FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	▲ **12.2**	▲ 12.1	12.5

GRAPHS

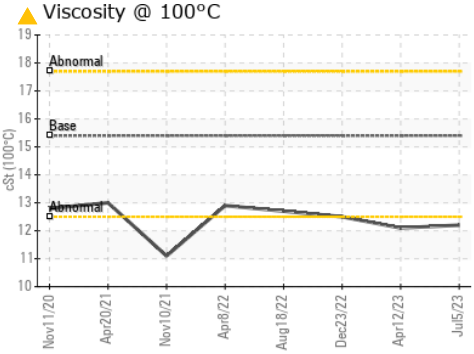
Ferrous Alloys



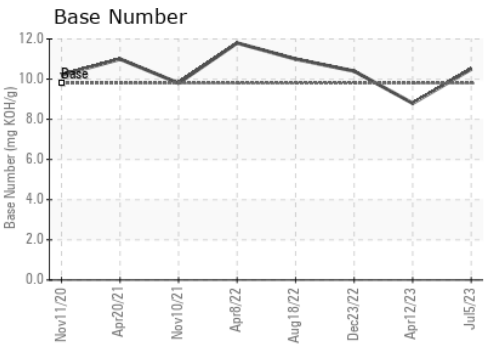
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0082513 **Received** : 06 Jul 2023
Lab Number : 05891030 **Diagnosed** : 11 Jul 2023
Unique Number : 10546840 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: FUELDILUTION, Glycol, 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 - 657 - Charlottesville Hauling
5498 Richmond Road
Troy, VA
US 22974
Contact: Brian Ulickas
bulickas@gflenv.com
T:
F:

Report Id: GFL657 [WUSCAR] 05891030 (Generated: 07/11/2023 14:19:31) Rev: 1

Submitted By: TECHNICIAN ACCOUNT