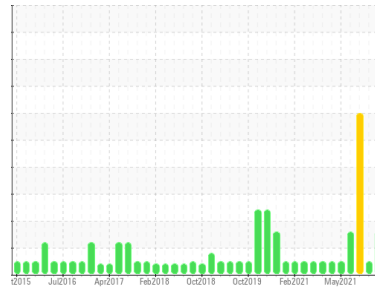




PROBLEM SUMMARY

Sample Rating Trend



WEAR



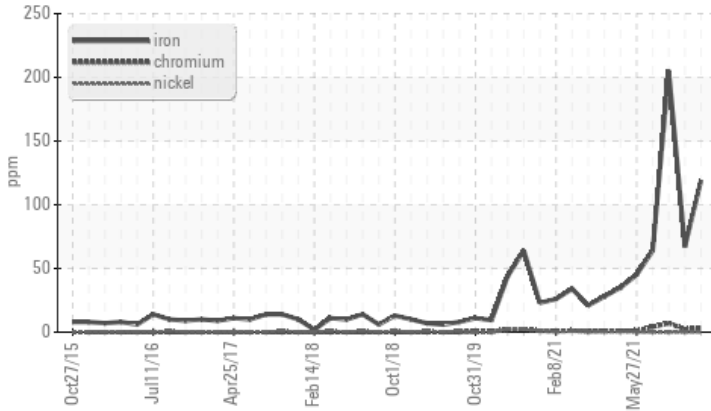
Machine Id
2529

Component
Diesel Engine

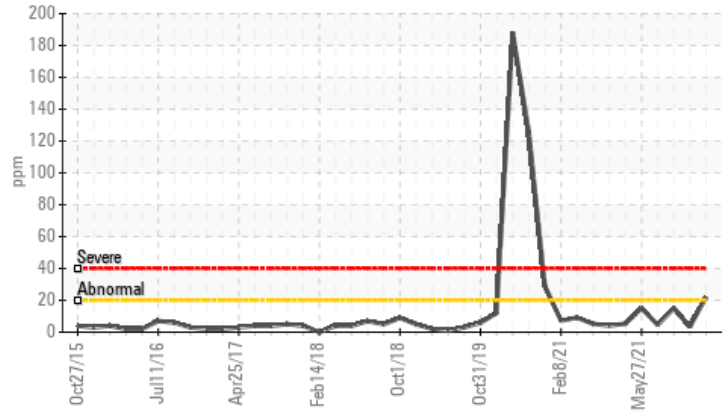
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

COMPONENT CONDITION SUMMARY

▲ Ferrous Alloys



▲ Aluminum (ppm)



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	ABNORMAL
Iron	ppm	ASTM D5185m	>90	▲ 119	67	▲ 205
Aluminum	ppm	ASTM D5185m	>20	▲ 22	3	▲ 15

Customer Id: GFL005
Sample No.: GFL0086420
Lab Number: 05891027
Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data:
Doug Bogart +1 (800)237-1369 x4016
dougb@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

11 Jan 2023 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



15 Nov 2022 Diag: Jonathan Hester

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. NOTE: High solids (carbon/soot) in the sample have limited the accuracy of Infra-Red data including Total Base Number (TBN) value. The lead level is abnormal. Cylinder, crank, or cam shaft wear is indicated. There is an abnormal amount of solids and carbon present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. The BN level is low.

view report



12 Jul 2022 Diag: Don Baldrige

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. All component wear rates are normal. Elemental level of silicon (Si) above normal. 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.

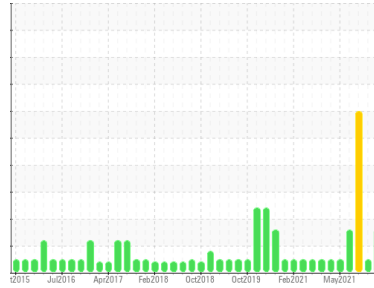
view report





OIL ANALYSIS REPORT

Sample Rating Trend



WEAR



Machine Id
2529

Component

Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (--- GAL)

DIAGNOSIS

▲ Recommendation

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

▲ Wear

Piston and cylinder wear is indicated.

Contamination

There is no indication of any contamination in the oil.

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	history 1	history 2
Sample Number	Client Info		GFL0086420	GFL0048911	GFL0048875
Sample Date	Client Info		28 Jun 2023	11 Jan 2023	15 Nov 2022
Machine Age	hrs	Client Info	132533	0	0
Oil Age	hrs	Client Info	753	250	653
Oil Changed	Client Info		N/A	Changed	Changed
Sample Status			ABNORMAL	NORMAL	ABNORMAL

CONTAMINATION

	method	limit/base	current	history 1	history 2
Fuel	WC Method	>3.0	<1.0	<1.0	<1.0

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >90	▲ 119	67	▲ 205
Chromium	ppm	ASTM D5185m >20	3	2	7
Nickel	ppm	ASTM D5185m >2	<1	0	0
Titanium	ppm	ASTM D5185m >2	<1	2	11
Silver	ppm	ASTM D5185m >2	0	<1	0
Aluminum	ppm	ASTM D5185m >20	▲ 22	3	▲ 15
Lead	ppm	ASTM D5185m >40	20	11	▲ 60
Copper	ppm	ASTM D5185m >330	22	7	27
Tin	ppm	ASTM D5185m >15	2	<1	4
Vanadium	ppm	ASTM D5185m	<1	0	0
Cadmium	ppm	ASTM D5185m	0	0	0

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 0	3	6	11
Barium	ppm	ASTM D5185m 0	<1	0	0
Molybdenum	ppm	ASTM D5185m 60	64	56	49
Manganese	ppm	ASTM D5185m 0	2	1	5
Magnesium	ppm	ASTM D5185m 1010	932	870	722
Calcium	ppm	ASTM D5185m 1070	1143	1132	1613
Phosphorus	ppm	ASTM D5185m 1150	955	938	871
Zinc	ppm	ASTM D5185m 1270	1217	1127	1052
Sulfur	ppm	ASTM D5185m 2060	3100	3515	3508

CONTAMINANTS

	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >25	15	14	▲ 65
Sodium	ppm	ASTM D5185m	136	6	11
Potassium	ppm	ASTM D5185m >20	6	0	8
Glycol	%	*ASTM D2982	0.0	NEG	NEG

INFRA-RED

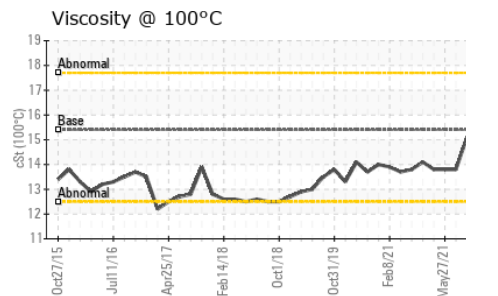
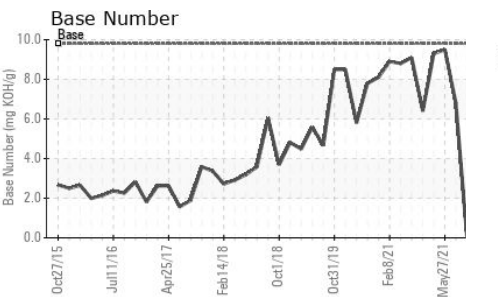
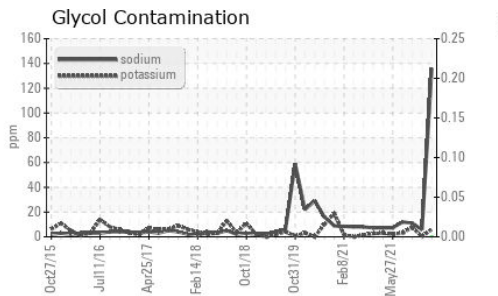
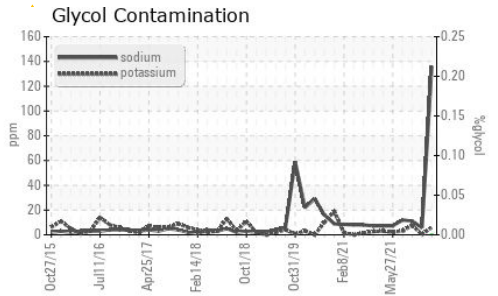
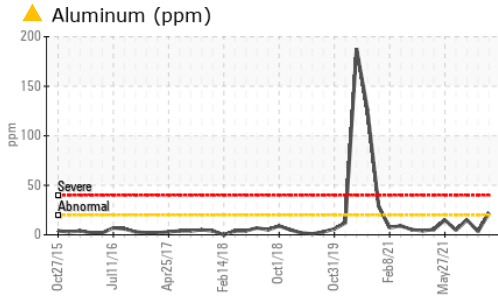
	method	limit/base	current	history 1	history 2
Soot %	%	*ASTM D7844 >6	1.5	1	▲ 5
Nitration	Abs/cm	*ASTM D7624 >20	11.6	8.2	16.9
Sulfation	Abs/.1mm	*ASTM D7415 >30	24.9	20.3	37.3

FLUID DEGRADATION

	method	limit/base	current	history 1	history 2
Oxidation	Abs/.1mm	*ASTM D7414 >25	20.6	15.0	27.1
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	6.9	8.9	▲ 0.0



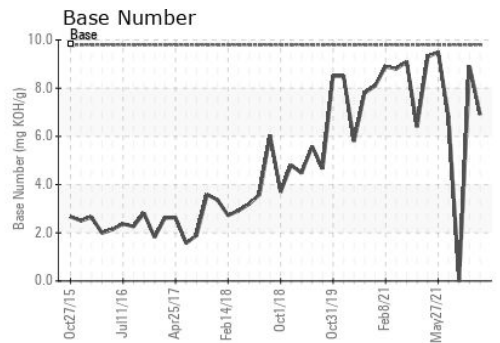
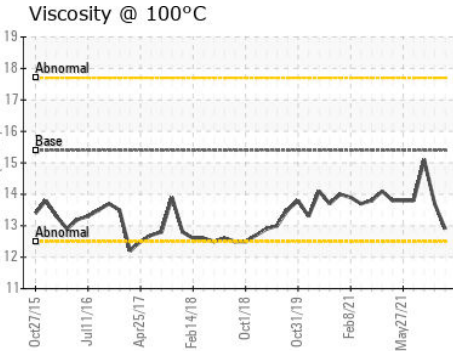
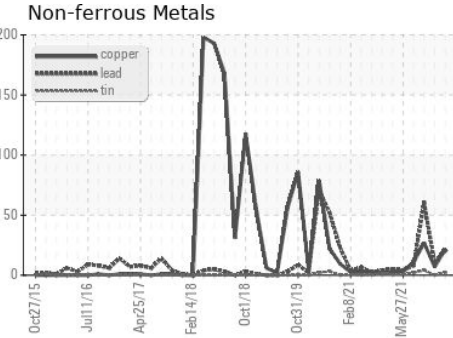
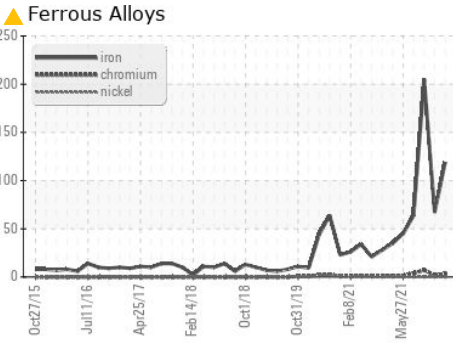
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history 1	history 2
Visc @ 100°C	cSt	ASTM D445	15.4	12.9	13.7

GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : GFL0086420 **Received** : 06 Jul 2023
Lab Number : 05891027 **Diagnosed** : 09 Jul 2023
Unique Number : 10546837 **Diagnostician** : Doug Bogart
Test Package : FLEET (Additional Tests: Glycol)

GFL Environmental - 005 - Wilson/Tri-East (CNG)
 2810 Contentnea Road S
 Wilson, NC
 US 27893-8501
 Contact: SPENCER LIGGON
 spencer.liggon@gflenv.com
 T: (800)207-6618
 F:

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)