

(DQ\$270)

## **OIL ANALYSIS REPORT**

Sample Rating Trend



**Diesel Engine** PETRO CANADA DURON SHP 15W40 (8 GAL) SAMPLE INFORMATION method

### DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

#### Wear

Area

Fluic

3695

All component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high.

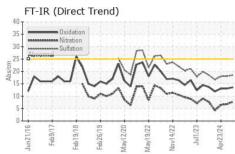
#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil.

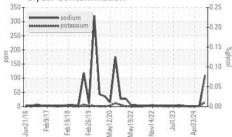
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0122200	GFL0118051	GFL0118023
Sample Date		Client Info		23 May 2024	02 May 2024	23 Apr 2024
Machine Age	hrs	Client Info		2320	2210	2070
Oil Age	hrs	Client Info		481	371	231
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	17	13	10
Chromium	ppm	ASTM D5185m	>5	1	1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m	>2	<1	<1	0
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	5	4	2
Lead	ppm	ASTM D5185m	>25	<1	<1	0
Copper	ppm	ASTM D5185m		4	4	1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
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	29	10	6
Barium	ppm		0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	66	62	64
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m	1010	887	826	907
Calcium	ppm				1001	
		ASTM D5185m	1070	1076	1031	1155
Phosphorus	ppm	ASTM D5185m	1150	1023	933	1036
Zinc Sulfur						
Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1150 1270	1023 1188	933 1121 3024	1036 1276 3612
Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060	1023 1188 3422	933 1121	1036 1276
Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	1150 1270 2060 limit/base	1023 1188 3422 current	933 1121 3024 history1	1036 1276 3612 history2
Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	1150 1270 2060 limit/base	1023 1188 3422 current 9	933 1121 3024 history1 6	1036 1276 3612 history2 4
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	1023 1188 3422 current 9 ▲ 110	933 1121 3024 history1 6 2	1036 1276 3612 history2 4 2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1150 1270 2060 limit/base >25	1023 1188 3422 current 9 ▲ 110 ▲ 15	933 1121 3024 history1 6 2 2 2	1036 1276 3612 history2 4 2 <1
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982	1150 1270 2060 limit/base >25 >20	1023 1188 3422 <u>current</u> 9 ▲ 110 ▲ 15 NEG	933 1121 3024 history1 6 2 2 2 NEG	1036 1276 3612 history2 4 2 <1 NEG
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method	1150 1270 2060 limit/base >25 >20 limit/base	1023 1188 3422 <u>current</u> 9 ▲ 110 ▲ 15 NEG current	933 1121 3024 history1 6 2 2 2 NEG history1	1036 1276 3612 history2 4 2 <1 NEG history2
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 method *ASTM D7844	1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >6	1023 1188 3422 9 ▲ 110 ▲ 15 NEG current 0.5	933 1121 3024 history1 6 2 2 2 NEG history1 0.4	1036 1276 3612 history2 4 2 <1 NEG history2 0.4
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7415	1150 1270 2060 >25 >20 >20 limit/base >6 >20	1023 1188 3422 <u>current</u> 9 ▲ 110 ▲ 15 NEG <u>current</u> 0.5 7.8	933 1121 3024 history1 6 2 2 2 NEG NEG history1 0.4 6.8	1036 1276 3612 4 2 <1 NEG history2 0.4 6.5
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7415	1150 1270 2060 >25 >20 >20 limit/base >6 >20 >20 >30	1023 1188 3422 <u>current</u> 9 ▲ 110 ▲ 15 NEG <u>current</u> 0.5 7.8 18.5	933 1121 3024 history1 6 2 2 NEG history1 0.4 6.8 18.1	1036 1276 3612 4 2 <1 NEG history2 0.4 6.5 18.0
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm TS ppm ppm ppm % % Abs/cm Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D2982 *ASTM D2982 *ASTM D7844 *ASTM D7844 *ASTM D7624	1150 1270 2060 >25 >20 >20 Iimit/base >20 >30 Iimit/base >25	1023 1188 3422 current 9 ▲ 110 ▲ 15 NEG current 0.5 7.8 18.5 current	933 1121 3024 history1 6 2 2 2 NEG history1 0.4 6.8 18.1 history1	1036 1276 3612 4 2 <1 NEG history2 0.4 6.5 18.0 history2

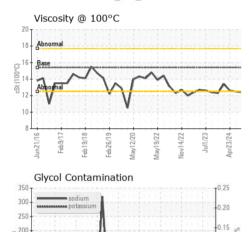


# **OIL ANALYSIS REPORT**









(19/19/1) Jov14/22

CICIUM I -eb26/1

100

50

Feb19/18

-eb9/1

NONE White Metal NONE \*Visual NONE scalar Yellow Metal \*Visual NONE NONE NONE scalar NONE Precipitate scalar \*Visua NONE NONE Silt scalar \*Visual NONE NONE NONE Debris \*Visual NONE NONE NONE scalar Sand/Dirt NONE scalar \*Visual NONE NONE NORML Appearance \*Visual NORML NORML scalar Odor \*Visual NORML NORML NORML scalar **Emulsified Water** scalar \*Visual >0.2 NEG NEG Free Water scalar \*Visual NEG NEG **FLUID PROPERTIES** method limit/base curren history Visc @ 100°C cSt ASTM D445 15.4 12.4 12.5

method

limit/base

current

history1

history2

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history2

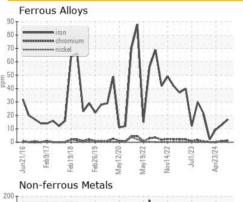
NEG

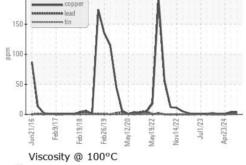
NEG

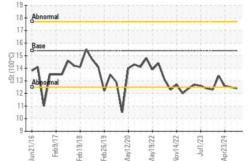
12.6

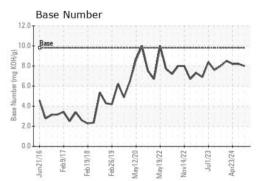
GRAPHS

VISUAL









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 010 - Stockbridge Sample No. : GFL0122200 Received : 24 May 2024 1280 Rum Creek Parkway Lab Number : 06191502 Tested : 30 May 2024 Stockbridge, GA Diagnosed Unique Number : 11048254 : 30 May 2024 - Jonathan Hester US 30281 Test Package : FLEET ( Additional Tests: Glycol ) Contact: JOSHUA TINKER Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. joshuatinker@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

0.10

0.05

1.00

Apr23/24

Report Id: GFL010 [WUSCAR] 06191502 (Generated: 05/30/2024 15:24:57) Rev: 1

Submitted By: JOSHUA TINKER Page 2 of 2