

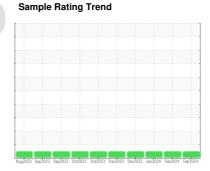
# **OIL ANALYSIS REPORT**



# (C0807580) {UNASSIGNED} 834020

Component
Natural Gas Engine

PETRO CANADA DURON SHP 15W40 (8 GAL)





### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

### **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.

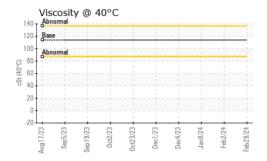
SAMPLE INFORM	ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112361	GFL0109949	GFL0107222
Sample Date		Client Info		29 Feb 2024	02 Feb 2024	08 Jan 2024
Machine Age	hrs	Client Info		1795	1626	1350
Oil Age	hrs	Client Info		1783	428	152
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	NC	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	19	23	17
Chromium	ppm	ASTM D5185m	>4	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	1	0	1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	4	2	4
Lead	ppm	ASTM D5185m	>30	2	1	2
Copper	ppm	ASTM D5185m	>35	5	6	4
Tin	ppm	ASTM D5185m	>4	2	<1	2
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
_	ppm	method ASTM D5185m	limit/base	current 2	history1 4	history2 0
Boron	ppm ppm	ASTM D5185m			· · · · · · · · · · · · · · · · · · ·	· ·
Boron Barium		ASTM D5185m	0	2	4	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m	0 0 60	2 0	4 6	0
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	2 0 66	4 6 71	0 0 65
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	2 0 66 2	4 6 71	0 0 65 2
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	2 0 66 2 922	4 6 71 1 973	0 0 65 2 950
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	2 0 66 2 922 1113	4 6 71 1 973 1101	0 0 65 2 950 1111
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	2 0 66 2 922 1113 924	4 6 71 1 973 1101 818	0 0 65 2 950 1111 921
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	2 0 66 2 922 1113 924 1250	4 6 71 1 973 1101 818 1225	0 0 65 2 950 1111 921 1274
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	2 0 66 2 922 1113 924 1250 2438	4 6 71 1 973 1101 818 1225 2525	0 0 65 2 950 1111 921 1274 2686
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	2 0 66 2 922 1113 924 1250 2438	4 6 71 1 973 1101 818 1225 2525 history1	0 0 65 2 950 1111 921 1274 2686 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100	2 0 66 2 922 1113 924 1250 2438 current	4 6 71 1 973 1101 818 1225 2525 history1	0 0 65 2 950 1111 921 1274 2686 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100	2 0 66 2 922 1113 924 1250 2438 current 7	4 6 71 1 973 1101 818 1225 2525 history1 7	0 0 65 2 950 1111 921 1274 2686 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100	2 0 66 2 922 1113 924 1250 2438 current 7	4 6 71 1 973 1101 818 1225 2525 history1 7 1	0 0 65 2 950 1111 921 1274 2686 history2 7 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	2 0 66 2 922 1113 924 1250 2438 current 7 7	4 6 71 1 973 1101 818 1225 2525 history1 7 1 4	0 0 65 2 950 1111 921 1274 2686 history2 7 3 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  method  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	2 0 66 2 922 1113 924 1250 2438 current 7 7 4	4 6 71 1 973 1101 818 1225 2525 history1 7 1 4 history1	0 0 65 2 950 11111 921 1274 2686 history2 7 3 0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >+100 >20	2 0 66 2 922 1113 924 1250 2438 current 7 7 4 current 0 10.2	4 6 71 1 973 1101 818 1225 2525 history1 7 1 4 history1 0 9.4	0 0 65 2 950 1111 921 1274 2686 history2 7 3 0 history2 0 9.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur  CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm	ASTM D5185m  Method  *ASTM D5185m ASTM D5185m	0 0 0 0 1010 1150 1270 2060 limit/base >+100 >20 limit/base	2 0 66 2 922 1113 924 1250 2438 current 7 7 4 current 0 10.2 23.7	4 6 71 1 973 1101 818 1225 2525 history1 7 1 4 history1 0 9.4 23.0	0 0 65 2 950 11111 921 1274 2686 history2 7 3 0 history2 0 9.4 20.3

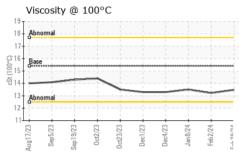
3.3

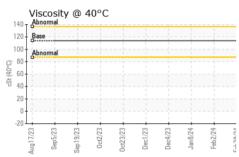
Base Number (BN) mg KOH/g ASTM D2896 9.8



## **OIL ANALYSIS REPORT**



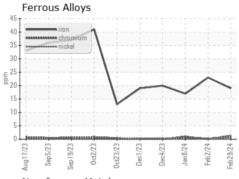


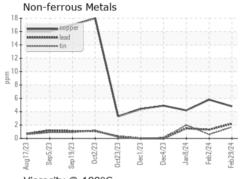


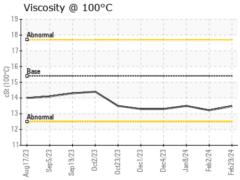
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

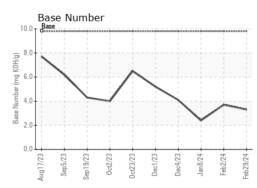
FLUID PROPI	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.48	13.22	13.5

### **GRAPHS**













Laboratory Sample No. Lab Number : 06106495 Unique Number : 10909992

: GFL0112361

Received **Tested** 

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Diagnosed Test Package: FLEET (Additional Tests: KV40)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : 01 Mar 2024

: 07 Mar 2024 : 07 Mar 2024 - Jonathan Hester

GFL Environmental - 010 - Stockbridge

1280 Rum Creek Parkway Stockbridge, GA US 30281

Contact: JOSHUA TINKER joshuatinker@gflenv.com

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.

T:

F: