

# **OIL ANALYSIS REPORT**

(P633828) 3758C

**Natural Gas Engine** 

Fluid

PETRO CANADA DURON GEO LD 15W40 (40 QTS)



Sample Rating Trend



## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

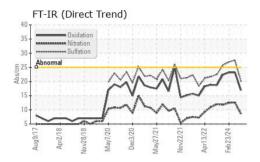
### **Fluid Condition**

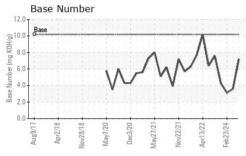
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

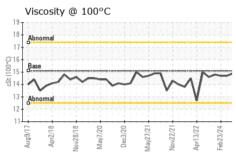
40 (410)						
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0117986	GFL0101792	GFL0101743
Sample Date		Client Info		22 May 2024	13 Mar 2024	23 Feb 2024
Machine Age	hrs	Client Info		16321	15720	15100
Oil Age	hrs	Client Info		601	600	600
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	13	27	20
Chromium	ppm	ASTM D5185m	>4	2	5	2
Nickel	ppm	ASTM D5185m	>2	<1	1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m		3	6	3
Lead	ppm	ASTM D5185m	>30	1	10	8
Copper	ppm	ASTM D5185m		<1	1	<1
Tin	ppm	ASTM D5185m	>4	<1	1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ррпп		12 21 /1			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	13	11	8
Barium	ppm	ASTM D5185m	5	0	0	59
		AOTAL DELOE	F0		0.4	59
Molybdenum	ppm	ASTM D5185m	50	54	61	
Manganese	ppm	ASTM D5185m	0	<1	<1	0
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	0 560	<1 573	<1 646	0 589
Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510	<1 573 1646	<1 646 1843	0 589 1635
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780	<1 573 1646 731	<1 646 1843 872	0 589 1635 826
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870	<1 573 1646 731 1015	<1 646 1843 872 1113	0 589 1635 826 992
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040	<1 573 1646 731	<1 646 1843 872 1113 2651	0 589 1635 826 992 2552
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base	<1 573 1646 731 1015 2578	<1 646 1843 872 1113 2651 history1	0 589 1635 826 992 2552 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 560 1510 780 870 2040 limit/base	<1 573 1646 731 1015 2578 current	<1 646 1843 872 1113 2651 history1	0 589 1635 826 992 2552 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base	<1 573 1646 731 1015 2578	<1 646 1843 872 1113 2651 history1	0 589 1635 826 992 2552 history2 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20	<1 573 1646 731 1015 2578 current	<1 646 1843 872 1113 2651 history1	0 589 1635 826 992 2552 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100	<1 573 1646 731 1015 2578  current 6 8	<1 646 1843 872 1113 2651 history1 11	0 589 1635 826 992 2552 history2 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20	<1 573 1646 731 1015 2578 current 6 8 5 current 0.1	<1 646 1843 872 1113 2651 history1 11 6 history1 0	0 589 1635 826 992 2552 history2 8 8
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20	<1 573 1646 731 1015 2578 current 6 8 5	<1 646 1843 872 1113 2651 history1 11 6 history1	0 589 1635 826 992 2552 history2 8 8 5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base	<1 573 1646 731 1015 2578 current 6 8 5 current 0.1	<1 646 1843 872 1113 2651 history1 11 6 history1 0	0 589 1635 826 992 2552 history2 8 8 5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m  Method  ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  *ASTM D5185m  *ASTM D5185m  *ASTM D7844  *ASTM D7624  *ASTM D7415	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base	<1 573 1646 731 1015 2578 current 6 8 5 current 0.1 8.6	<1 646 1843 872 1113 2651 history1 11 6 history1 0 12.6	0 589 1635 826 992 2552 history2 8 8 5 history2 0 12.5
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm	ASTM D5185m  Method  ASTM D5185m ASTM D5185m ASTM D5185m  ASTM D5185m  *ASTM D5185m  *ASTM D5185m  *ASTM D7844  *ASTM D7624  *ASTM D7415	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base >30	<1 573 1646 731 1015 2578	<1 646 1843 872 1113 2651 history1 11 6 history1 0 12.6 27.5	0 589 1635 826 992 2552 history2 8 8 5 history2 0 12.5 26.9
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7844	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base	<1 573 1646 731 1015 2578 current 6 8 5 current 0.1 8.6 20.2 current	<1 646 1843 872 1113 2651 history1 11 6 history1 0 12.6 27.5 history1	0 589 1635 826 992 2552 history2 8 8 5 history2 0 12.5 26.9



# **OIL ANALYSIS REPORT**



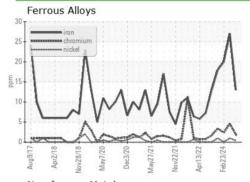


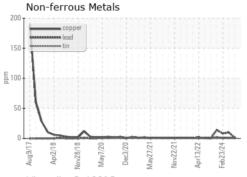


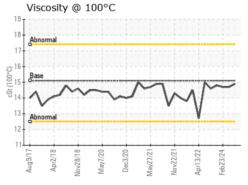
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	LIGHT	NONE
Sand/Dirt	scalar	*Visual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

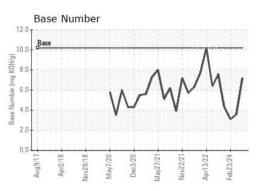
FLUID PROPE	ERTIES	method				history2
Visc @ 100°C	cSt	ASTM D445	15.1	14.9	14.7	14.7

### **GRAPHS**













Laboratory Sample No.

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

: GFL0117986 Lab Number : 06188773 Unique Number : 11045525

Received : 23 May 2024 **Tested** : 24 May 2024 Diagnosed

: 24 May 2024 - Wes Davis

GFL Environmental - 030 - Conway Myrtle Beach

3010 HWY 378 Conway, SC US 29527

aruiz@gflenv.com

Contact: ARCILIO RUEZ

Test Package : FLEET Certificate 12367 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)

Submitted By: TECHNICIAN ACCOUNT

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