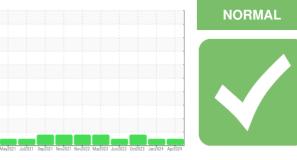


## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

944023

Component Natural Gas Engine Fluid PETRO CANADA DURON GEO LD 15W40 (--- LTR)

### 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.

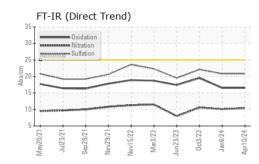
## Fluid Condition

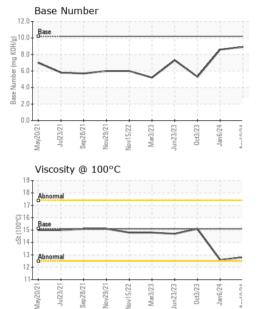
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0115506	GFL0106978	GFL0094260
Sample Date		Client Info		10 Apr 2024	06 Jan 2024	03 Oct 2023
Machine Age	hrs	Client Info		11414	10760	10070
Oil Age	hrs	Client Info		11414	690	242
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
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	17	19	12
Chromium	ppm	ASTM D5185m	>4	0	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	<1	6
Lead	ppm	ASTM D5185m	>30	0	<1	1
Copper	ppm	ASTM D5185m	>35	0	0	<b>6</b> 5
Tin	ppm	ASTM D5185m	>4	0	<1	1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
-						
Boron	ppm	ASTM D5185m	50	3	3	12
	ppm ppm					
Boron		ASTM D5185m	50	3	3	12
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	3 0	3 0	12 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	3 0 55	3 0 57	12 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	3 0 55 0	3 0 57 <1	12 0 66 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	3 0 55 0 829	3 0 57 <1 864	12 0 66 <1 703
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	3 0 55 0 829 1043	3 0 57 <1 864 1037	12 0 66 <1 703 1846
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	3 0 55 0 829 1043 988	3 0 57 <1 864 1037 1050	12 0 66 <1 703 1846 839
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	3 0 55 0 829 1043 988 1162	3 0 57 <1 864 1037 1050 1246	12 0 66 <1 703 1846 839 1151
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040	3 0 55 0 829 1043 988 1162 3091	3 0 57 <1 864 1037 1050 1246 2958	12 0 66 <1 703 1846 839 1151 2836
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040	3 0 55 0 829 1043 988 1162 3091 current	3 0 57 <1 864 1037 1050 1246 2958 history1	12 0 66 <1 703 1846 839 1151 2836 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	3 0 555 0 829 1043 988 1162 3091 current 2	3 0 57 <1 864 1037 1050 1246 2958 history1 3	12 0 66 <1 703 1846 839 1151 2836 history2 5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	3 0 555 0 829 1043 988 1162 3091 current 2 17	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16	12 0 66 <1 703 1846 839 1151 2836 history2 5 9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 <b>limit/base</b> >+100	3 0 555 0 829 1043 988 1162 3091 current 2 17 5	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7	12 0 66 <1 703 1846 839 1151 2836 history2 5 9 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >20 <b>limit/base</b>	3 0 555 0 829 1043 988 1162 3091 current 2 17 5 5	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7 history1	12 0 66 <1 703 1846 839 1151 2836 history2 5 9 3 X
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >20 <b>limit/base</b>	3 0 55 0 829 1043 988 1162 3091 <u>current</u> 2 17 5 <u>current</u> 1.5	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7 history1 1.5	12 0 66 <1 703 1846 839 1151 2836 history2 5 9 3 3 history2 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 imit/base >+100 20 imit/base	3 0 55 0 829 1043 988 1162 3091 <i>current</i> 2 17 5 <i>current</i> 1.5 10.4	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7 <i>history1</i> 1.5 10.1	12 0 66 <1 703 1846 839 1151 2836 history2 5 9 3 history2 0 10.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 >+100 >+100 >20 imit/base >20 >20 >30 imit/base	3 0 55 0 829 1043 988 1162 3091 current 2 17 5 current 1.5 10.4 20.8 current	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7 history1 1.5 10.1 20.8 history1	12 0 66 <1 703 1846 839 1151 2836 history2 5 9 3 <b>history2</b> 0 10.6 22.1 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 50 1510 780 870 2040 <b>imit/base</b> >+100 20 <b>imit/base</b> >20 <b>imit/base</b> >30	3 0 55 0 829 1043 988 1162 3091 <u>current</u> 2 17 5 <u>current</u> 1.5 10.4 20.8	3 0 57 <1 864 1037 1050 1246 2958 history1 3 16 7 <u>history1</u> 1.5 10.1 20.8	12 0 66 <1 703 1846 839 1151 2836 <b>history2</b> 5 9 3 <b>history2</b> 0 10.6 22.1



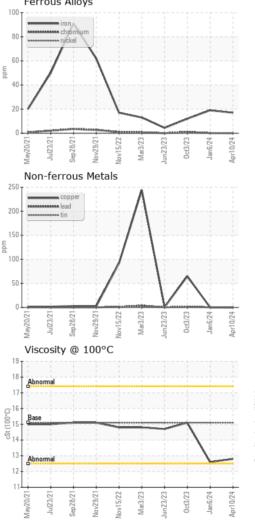
# **OIL ANALYSIS REPORT**

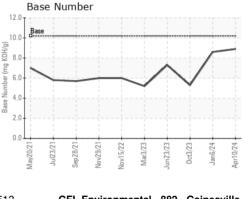




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	12.8	12.6	15.1
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 882 - Gainesville Sample No. : GFL0115506 Received : 15 Apr 2024 5002 SW 41st Blvd Lab Number : 06148211 Tested : 16 Apr 2024 Gainesville, FL Unique Number : 10978289 Diagnosed : 16 Apr 2024 - Sean Felton US 32608 Test Package : FLEET Contact: ROBERT CLARK Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. robert.clark@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Submitted By: CARL MIMS

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