

# **OIL ANALYSIS REPORT**

Sample Rating Trend

NORMAL

## Area (YA115779) 10372C

Natural Gas Engine

Fluid PETRO CANADA DURON GEO LD 15W40 (30 GAL)

### 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.

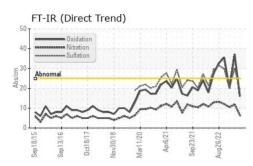
### Fluid Condition

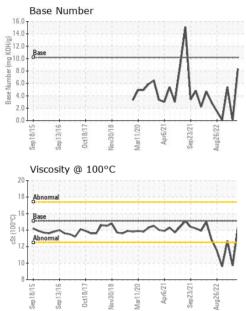
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0123437	GFL0082498	GFL0050739
Sample Date		Client Info		18 Jun 2024	28 Aug 2023	22 Feb 2023
Machine Age	hrs	Client Info		117611	13820	12614
Oil Age	hrs	Client Info		117611	1228	224
Oil Changed		Client Info		N/A	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	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	4	28	8
Chromium	ppm	ASTM D5185m	>4	<1	2	0
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	2	1
Lead	ppm	ASTM D5185m	>30	2	19	1
Copper	ppm	ASTM D5185m	>35	<1	6	<1
Tin	ppm	ASTM D5185m	>4	0	2	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES		method				history2
18811120		mothod	innibadoo	oanon	motory	
Boron	ppm	ASTM D5185m	50	43	12	25
	ppm ppm					
Boron		ASTM D5185m	50 5 50	43 0 48	12 44 29	25
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	43 0	12	25 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	43 0 48	12 44 29 2 293	25 0 42 <1 424
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	43 0 48 <1	12 44 29 2 293 862	25 0 42 <1 424 1398
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	43 0 48 <1 571 1658 842	12 44 29 2 293 862 447	25 0 42 <1 424 1398 633
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	43 0 48 <1 571 1658	12 44 29 2 293 862	25 0 42 <1 424 1398 633 740
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	43 0 48 <1 571 1658 842	12 44 29 2 293 862 447	25 0 42 <1 424 1398 633
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	43 0 48 <1 571 1658 842 1016	12 44 29 2 293 862 447 464	25 0 42 <1 424 1398 633 740
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	50 50 0 560 1510 780 870 2040 <b>limit/base</b>	43 0 48 <1 571 1658 842 1016 3050	12 44 29 2 293 862 447 464 1851	25 0 42 <1 424 1398 633 740 2244
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 50 0 560 1510 780 870 2040 <b>limit/base</b>	43 0 48 <1 571 1658 842 1016 3050 current	12 44 29 2 293 862 447 464 1851 history1	25 0 42 <1 424 1398 633 740 2244 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 50 0 560 1510 780 870 2040 <b>limit/base</b>	43 0 48 <1 571 1658 842 1016 3050 current 4	12 44 29 2 293 862 447 464 1851 history1 13	25 0 42 <1 424 1398 633 740 2244 history2 3
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	43 0 48 <1 571 1658 842 1016 3050 current 4 4 2	12 44 29 2 293 862 447 464 1851 history1 13 9	25 0 42 <1 424 1398 633 740 2244 <b>history2</b> 3 3 3
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	43 0 48 <1 571 1658 842 1016 3050 current 4 4 2	12 44 29 2 293 862 447 464 1851 history1 13 9 4	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0
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 50 0 560 1510 780 870 2040 <b>Imit/base</b> >2040	43 0 48 <1 571 1658 842 1016 3050 current 4 4 2 2	12 44 29 2 293 862 447 464 1851 history1 13 9 4 history1	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0 bistory2
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 50 0 560 1510 780 870 2040 <b>Imit/base</b> >2040	43 0 48 <1 571 1658 842 1016 3050 <u>current</u> 4 4 2 <u>current</u> 0	12 44 29 2 293 862 447 464 1851 history1 13 9 4 history1 0.1	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0 history2 0.1
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	43 0 48 <1 571 1658 842 1016 3050 current 4 4 2 current 0 6.5 19.1	12 44 29 2 293 862 447 464 1851 history1 13 9 4 history1 0.1 11.9	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0 history2 0.1 10.5
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 50 560 1510 780 870 2040 <b>Imit/base</b> >20 <b>Imit/base</b> >20 <b>Imit/base</b>	43 0 48 <1 571 1658 842 1016 3050 Current 4 4 2 Current 0 6.5 19.1 Current	12 44 29 2 293 862 447 464 1851 history1 13 9 4 history1 0.1 11.9 30.1	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0 <u>history2</u> 0.1 10.5 20.0
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 D7844 *ASTM D7844	50 50 560 1510 780 870 2040 <b>i</b> mit/base >+100 20 <b>i</b> mit/base >20 30 <b>i</b> mit/base	43 0 48 <1 571 1658 842 1016 3050 current 4 4 2 current 0 6.5 19.1	12 44 29 2 293 862 447 464 1851 history1 13 9 4 history1 0.1 11.9 30.1 history1	25 0 42 <1 424 1398 633 740 2244 history2 3 3 3 0 history2 0.1 10.5 20.0 history2



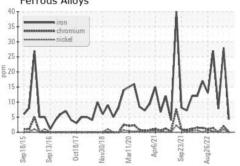
# **OIL ANALYSIS REPORT**





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	14.3	9.7	12.7
GRAPHS						

Ferrous Alloys

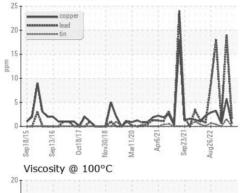


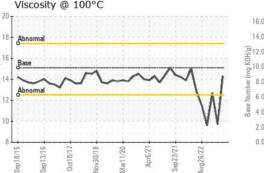
Non-ferrous Metals

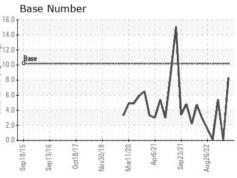
cSt (100°C)

Laboratory

Sample No.







: WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 007 - Brunswick : GFL0123437 Received : 20 Jun 2024 2809 Galloway Road Lab Number : 06215551 Tested : 21 Jun 2024 Bolivia, NC US 28422 Unique Number : 11088415 Diagnosed : 21 Jun 2024 - Wes Davis Test Package : FLEET Contact: DONALD CRAVEN To discuss this sample report, contact Customer Service at 1-800-237-1369. dcraven@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F: (910)253-4179 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)



Report Id: GFL007 [WUSCAR] 06215551 (Generated: 06/21/2024 14:41:54) Rev: 1

Certificate 12367

Submitted By: DONALD CRAVEN

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