

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id

912066 Component Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- 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.

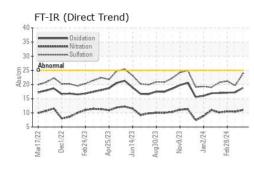
Fluid Condition

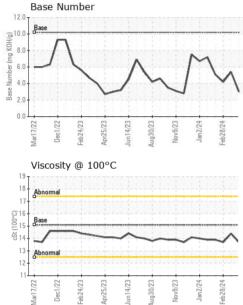
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114056	GFL0114088	GFL0109796
Sample Date		Client Info		09 Apr 2024	18 Mar 2024	28 Feb 2024
Machine Age	hrs	Client Info		5760	5610	5482
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
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	4	16	2
Chromium	ppm	ASTM D5185m	>4	0	1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	2	3
Lead	ppm	ASTM D5185m	>30	0	2	<1
Copper	ppm	ASTM D5185m	>35	0	15	1
Tin	ppm	ASTM D5185m	>4	0	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 50	current 4	10	history2 9
	ppm ppm					
Boron		ASTM D5185m	50	4 0 47	10	9
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	4 0	10 0	9 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	4 0 47	10 0 57 0 587	9 0 45 <1 486
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	4 0 47 0	10 0 57 0 587 1786	9 0 45 <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	4 0 47 0 523	10 0 57 0 587 1786 854	9 0 45 <1 486
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	4 0 47 0 523 1756	10 0 57 0 587 1786	9 0 45 <1 486 1519
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	4 0 47 0 523 1756 782	10 0 57 0 587 1786 854	9 0 45 <1 486 1519 672
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	4 0 47 0 523 1756 782 956	10 0 57 0 587 1786 854 1051	9 0 45 <1 486 1519 672 942
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 50 560 1510 780 870 2040 >+100	4 0 47 0 523 1756 782 956 3010	10 0 57 0 587 1786 854 1051 3150	9 0 45 <1 486 1519 672 942 2340
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 50 560 1510 780 870 2040 >+100	4 0 47 0 523 1756 782 956 3010 current	10 0 57 0 587 1786 854 1051 3150 history1	9 0 45 <1 486 1519 672 942 2340 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 2040 2040 2040	4 0 47 0 523 1756 782 956 3010 current	10 0 57 0 587 1786 854 1051 3150 history1 4	9 0 45 <1 486 1519 672 942 2340 history2 4
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 2040 2040 2040	4 0 47 0 523 1756 782 956 3010 current 5 7	10 0 57 0 587 1786 854 1051 3150 history1 4 71	9 0 45 <1 486 1519 672 942 2340 history2 4 5
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 5 50 0 560 1510 780 870 2040 limit/base >+100	4 0 47 0 523 1756 782 956 3010 current 5 7 1	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1
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 Limit/base >20 Limit/base	4 0 47 0 523 1756 782 956 3010 current 5 7 1 1	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21 21 history1	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1 5 <1
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 Limit/base >20 Limit/base	4 0 47 0 523 1756 782 956 3010 <u>current</u> 5 7 1 1 <u>current</u> 0	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21 history1 0	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1 5 <1 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	4 0 47 0 523 1756 782 956 3010 <u>current</u> 5 7 1 1 <u>current</u> 0 11.0	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21 4 71 21 bistory1 0 10.4	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1 5 <1 history2 0 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 imit/base >+100 imit/base >20 30 imit/base	4 0 47 0 523 1756 782 956 3010 <u>current</u> 5 7 1 1 <u>current</u> 0 11.0 23.8	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21 4 71 21 0 history1 0 10.4 19.6	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1 kistory2 0 10.5 21.2
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 *ASTM D7844	50 50 50 1510 780 870 2040 imit/base >+100 20 imit/base >20 imit/base >30	4 0 47 0 523 1756 782 956 3010 current 5 7 1 1 current 0 11.0 23.8	10 0 57 0 587 1786 854 1051 3150 history1 4 71 21 history1 0 10.4 19.6 history1	9 0 45 <1 486 1519 672 942 2340 history2 4 5 <1 history2 0 10.5 21.2 history2



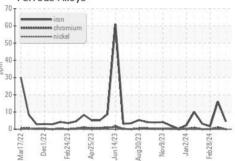
OIL ANALYSIS REPORT

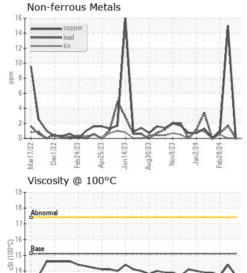


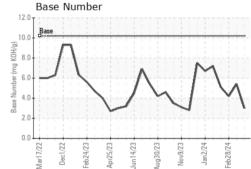


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	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	ERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	13.7	14.4	13.7
GRAPHS						

Ferrous Alloys







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 836 - Kansas City Hauling Sample No. : GFL0114056 Received : 12 Apr 2024 7801 East Truman Road Lab Number : 06146989 Tested : 15 Apr 2024 Kansas City, MO Unique Number : 10977067 Diagnosed : 15 Apr 2024 - Wes Davis US 64126 Test Package : FLEET Contact: Loyce Stewart Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. loyce.stewart@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:

un14/23

urg30/23 Nov9/23 Jan2/24

13 Abnorm

12

Mar17/22

Dec1/22

Feb24/23

Apr/25/73

Contact/Location: GFL823,834,836,837,840 - Loyce Stewart - GFL836