

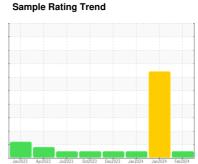
OIL ANALYSIS REPORT



443001

Component **Natural Gas Engine**

PETRO CANADA DURON GEO LD 15W40 (--- 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

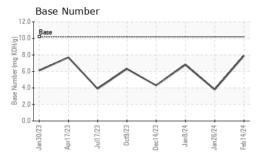
Fluid Condition

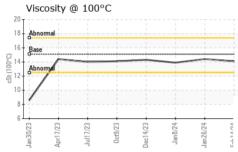
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

GEO LD 15W40 (Jan 2023 /	Apr2023 Jul2023 Oct203	23 December 1202180 C3		
SAMPLE INFOR	RMATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0109823	GFL0103274	GFL0103342
Sample Date		Client Info		14 Feb 2024	26 Jan 2024	08 Jan 2024
Machine Age	hrs	Client Info		15760	15627	15523
Oil Age	hrs	Client Info		0	1200	0
Oil Changed		Client Info		Not Changd	Changed	Not Changd
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINA	ΓΙΟΝ	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAI	S	method	limit/base	current	history1	history2
ron	ppm	ASTM D5185m	>50	12	<u> </u>	<1
Chromium	ppm	ASTM D5185m	>4	1	<u>^</u> 9	0
Nickel	ppm	ASTM D5185m	>2	<1	3	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m		2	<u> 8</u>	2
_ead	ppm	ASTM D5185m	>30	3	<u> 14</u>	<1
Copper	ppm	ASTM D5185m	>35	13	4 99	<1
Гin	ppm	ASTM D5185m	>4	<1	<1	<1
/anadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	27	10	24
Barium	ppm	ASTM D5185m	5	0	2	0
Molybdenum	10 10 100	ASTM D5185m	50	54	0.0	45
-	ppm	ASTIVI DSTOSIII	50	J7	98	45
Manganese				<1	98	<1
-	ppm	ASTM D5185m ASTM D5185m				
Magnesium	ppm	ASTM D5185m ASTM D5185m	0 560	<1 560	2 551	<1
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510	<1 560 1540	2 551 1614	<1 540
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780	<1 560 1540 789	2 551 1614 743	<1 540 1576 834
Magnesium Calcium Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510	<1 560 1540	2 551 1614	<1 540 1576
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870	<1 560 1540 789 998	2 551 1614 743 1015	<1 540 1576 834 976
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 560 1510 780 870 2040	<1 560 1540 789 998 2588	2 551 1614 743 1015 2466	<1 540 1576 834 976 2590
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI Silicon	ppm 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	<1 560 1540 789 998 2588 current	2 551 1614 743 1015 2466 history1	<1 540 1576 834 976 2590 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	<1 560 1540 789 998 2588	2 551 1614 743 1015 2466 history1	<1 540 1576 834 976 2590 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	<1 560 1540 789 998 2588 current 6 62	2 551 1614 743 1015 2466 history1 18	<1 540 1576 834 976 2590 history2 5 4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100	<1 560 1540 789 998 2588 current 6 62 21 current	2 551 1614 743 1015 2466 history1 18 600 206 history1	<1 540 1576 834 976 2590 history2 5 4 <1
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAI Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20	<1 560 1540 789 998 2588 current 6 62 21 current	2 551 1614 743 1015 2466 history1 18 600 206 history1 0	<1 540 1576 834 976 2590 history2 5 4 <1 history2 0
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAL Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m	0 560 1510 780 870 2040 limit/base >+100 >20	<1 560 1540 789 998 2588 current 6 62 21 current	2 551 1614 743 1015 2466 history1 18 600 206 history1	<1 540 1576 834 976 2590 history2 5 4 <1
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 D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 560 1510 780 870 2040 limit/base >+100 limit/base	<1 560 1540 789 998 2588 current 6 62 21 current 0 8.3	2 551 1614 743 1015 2466 history1 18 600 206 history1 0 13.9	<1 540 1576 834 976 2590 history2 5 4 <1 history2 0 8.8
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm	ASTM D5185m Method *ASTM D5185m ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base	<1 560 1540 789 998 2588 current 6 62 21 current 0 8.3 19.0 current	2 551 1614 743 1015 2466 history1 18 600 206 history1 0 13.9 26.5 history1	<1 540 1576 834 976 2590 history2 5 4 <1 history2 0 8.8 19.2 history2
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 D5185m Method *ASTM D7844 *ASTM D7624 *ASTM D76145	0 560 1510 780 870 2040 limit/base >+100 >20 limit/base >20 limit/base >30 limit/base	<1 560 1540 789 998 2588 current 6 62 21 current 0 8.3 19.0	2 551 1614 743 1015 2466 history1 18 600 206 history1 0 13.9 26.5	<1 540 1576 834 976 2590 history2 5 4 <1 history2 0 8.8 19.2



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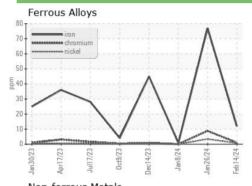


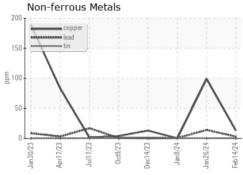


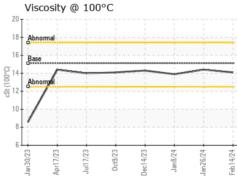
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual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

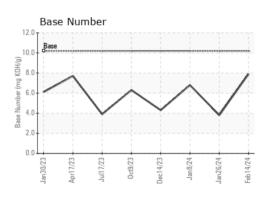
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	15.1	14.1	14.4	13.9	

GRAPHS













Certificate L2367

Laboratory Sample No. Lab Number : 06091489

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0109823

Unique Number : 10884342 Test Package : FLEET

Received : 16 Feb 2024 **Tested** Diagnosed

: 17 Feb 2024 : 17 Feb 2024 - Wes Davis

GFL Environmental - 836 - Kansas City Hauling

7801 East Truman Road Kansas City, MO US 64126

Contact: Loyce Stewart loyce.stewart@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.

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

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