

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 443001

Component Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

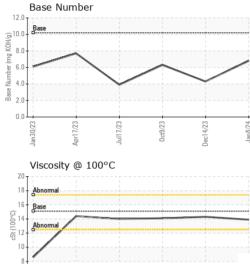
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Jan2023	Apr2023 Jul2023	Oct2023 Dec2023	Jan2024	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0103342	GFL0099915	GFL0095124
Sample Date		Client Info		08 Jan 2024	14 Dec 2023	09 Oct 2023
Machine Age	hrs	Client Info		15523	15388	15056
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	<1	45	4
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m		2	5	3
Lead	ppm	ASTM D5185m	>30	- <1	<1	<1
Copper	ppm	ASTM D5185m		<1	13	4
Tin	ppm	ASTM D5185m	>4	<1	2	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ppm				-	-
ADDITIVES		method	limit/base		history1	history2
Boron	ppm	ASTM D5185m	50	24	11	26
Barium	ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m	50	45	52	51
Manganese			0	<1	12	<1
manyanese	ppm	ASTM D5185m	0		12	<1
Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	560	540	753	583
Magnesium				540 1576		
Magnesium Calcium	ppm	ASTM D5185m	560		753	583
Magnesium Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	560 1510	1576	753 1331	583 1498
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780	1576 834	753 1331 683	583 1498 790
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870	1576 834 976	753 1331 683 964	583 1498 790 981
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base	1576 834 976 2590	753 1331 683 964 2317	583 1498 790 981 2432
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	560 1510 780 870 2040 limit/base	1576 834 976 2590 current	753 1331 683 964 2317 history1	583 1498 790 981 2432 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base	1576 834 976 2590 current 5	753 1331 683 964 2317 history1 26	583 1498 790 981 2432 history2 11
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >+100	1576 834 976 2590 current 5 4	753 1331 683 964 2317 history1 26 4	583 1498 790 981 2432 history2 11 4
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >+100	1576 834 976 2590 current 5 4 <1	753 1331 683 964 2317 history1 26 4 7	583 1498 790 981 2432 history2 11 4 3
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN ^T Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >+100 >20 limit/base	1576 834 976 2590 current 5 4 <1 current	753 1331 683 964 2317 history1 26 4 7 7 history1	583 1498 790 981 2432 history2 11 4 3 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >+100 >20 limit/base	1576 834 976 2590 current 5 4 <1 current 0	753 1331 683 964 2317 history1 26 4 7 7 history1 0.1	583 1498 790 981 2432 history2 11 4 3 history2 0
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	560 1510 780 870 2040 limit/base >+100 >20 limit/base >20	1576 834 976 2590 current 5 4 <1 current 0 8.8	753 1331 683 964 2317 history1 26 4 7 history1 0.1 12.1	583 1498 790 981 2432 history2 11 4 3 history2 0 9.2
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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624	560 1510 780 870 2040 limit/base >20 limit/base >20 >20 >30	1576 834 976 2590 current 5 4 <1 current 0 8.8 19.2	753 1331 683 964 2317 history1 26 4 7 history1 0.1 12.1 23.1	583 1498 790 981 2432 history2 11 4 3 history2 0 9.2 20.4



OIL ANALYSIS REPORT

VISUAL



Jul17/23

0ct9/23

Apr17/23

Jan30/23

	VISUAL		method	limit/base	current	history1	history2
	White Metal	scalar *\	/isual	NONE	NONE	NONE	NONE
	Yellow Metal	scalar *\	/isual	NONE	NONE	NONE	NONE
	Precipitate	scalar *\	/isual	NONE	NONE	NONE	NONE
\checkmark	Silt	scalar *\	/isual	NONE	NONE	NONE	NONE
	Debris	scalar *\	/isual	NONE	NONE	NONE	NONE
	Sand/Dirt	scalar *\	/isual	NONE	NONE	NONE	NONE
Dec14/23 Jan 8/24	Appearance	scalar *\	/isual	NORML	NORML	NORML	NORML
Jar	Odor	scalar *\	/isual	NORML	NORML	NORML	NORML
	Emulsified Water	scalar *\	/isual	>0.1	NEG	NEG	NEG
	Free Water	scalar *\	/isual		NEG	NEG	NEG
	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt A	STM D445	15.1	13.9	14.3	14.1
	GRAPHS						
	Ferrous Alloys						
53	40 iron		Λ				
Dec14/23	35 - nickel		/ \				
	30	\	/				
	25 20	\backslash	/ \				
	15	\setminus /					
	10	\setminus /		Λ			
	5-	V					
	3 33	53 53	33	24			
	Jan30/23 Apr17/23	Juli 1/23 Oct9/23	Dec14/23	Jan 8/24			
	⊸						
	200 T	115					
	copper						
	150 tin						
u d	100						
	50						
	Andan manager and a state of the state of th	ALL DOWNERS AND ADDRESS OF					
	1/23	123	/23	/24			
	Jan30/23 Apr17/23	Jull 1/23 0ct9/23	Dec14/23	Jan8/24			
	Viscosity @ 100°	С			Dees Norshan		
	²⁰			12	Base Number		
	18 - Abnormal			10.	Base		
	16 Base						
	g 14-			M Bu			
01/10	Abnormal			.8 .9 .9 .9 .9 .9 .9 .0 .4	0	\sim	
	10			UN 4	o	\checkmark	\sim
	8			88 2.	0		
			1				
	/23	/23 -	/23 -			/23 -	/23+
	Jan30/23 Apr17/23	Jul1 //23 0ct9/23	Dec14/23	Jan8/24	Jan30/23 Apr17/23	Jul17/23 0ct9/23	Dec14/23 Jan8/24
					r -		
Laboratory	: WearCheck USA -				3 GFL Envir	ronmental - 836 - Ka	
Sample No. Lab Number	: GFL0103342 : 06056365	Recieved Diagnosed		lan 2024 Ian 2024			t Truman Road ansas City, MO
Unique Number	: 10822314	Diagnosed		s Davis		Na Na	US 64126
Test Package	: FLEET						ct: Robert Hart
			227 1260	`			rt@aflany.com

Test Package : FLEET Certificate L2367 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)

Report Id: GFL836 [WUSCAR] 06056365 (Generated: 01/11/2024 04:41:38) Rev: 1

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836

F:

rhart@gflenv.com

T: (580)461-1509