

# **OIL ANALYSIS REPORT**

## Sample Rating Trend





Machine Id 831046 Component **Diesel 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

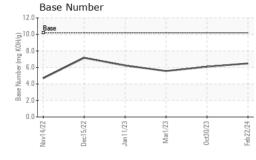
## **Fluid Condition**

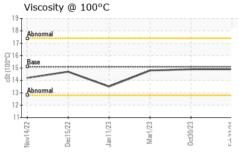
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		GFL0112419	GFL0091588	GFL0070729	
Sample Date		Client Info		22 Feb 2024	30 Oct 2023	01 Mar 2023	
Machine Age	hrs	Client Info		3312	2700	1658	
Oil Age	hrs	Client Info		0	0	585	
Oil Changed		Client Info		Changed	Changed	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINATI	ION	method	limit/base	current	history1	history2	
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	NEG	
Glycol		WC Method	7 0.2	NEG	NEG	NEG	
WEAR METALS	S	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>120	14	18	19	
Chromium	ppm	ASTM D5185(m)	>20	1	2	1	
Nickel	ppm	ASTM D5185(m)	>5	<1	<1	<1	
Titanium	ppm	ASTM D5185(m)		0	0	<1	
Silver	ppm	ASTM D5185(m)	>2	0	<1	0	
Aluminum	ppm	ASTM D5185(m)	>20	2	3	3	
Lead	ppm	ASTM D5185(m)	>40	2	3	1	
Copper	ppm	ASTM D5185(m)	>330	2	2	4	
Tin	ppm	ASTM D5185(m)	>15	<1	<1	1	
Antimony	ppm	ASTM D5185(m)		0	0	0	
Vanadium	ppm	ASTM D5185(m)		0	0	0	
Beryllium	ppm	ASTM D5185(m)		0	0	0	
Cadmium	ppm	ASTM D5185(m)		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	50	6	7	9	
Barium	ppm	ASTM D5185(m)	5	0	<1	0	
Molybdenum	ppm	ASTM D5185(m)	50	55	59	54	
Manganese	ppm	ASTM D5185(m)	0	0	<1	2	
Magnesium	ppm	ASTM D5185(m)	560	573	615	562	
Calcium	ppm	ASTM D5185(m)	1510	1689	1746	1667	
Phosphorus	ppm	ASTM D5185(m)	780	694	746	719	
Zinc	ppm	ASTM D5185(m)	870	925	993	912	
Sulfur	ppm	ASTM D5185(m)	2040	2045	2015	2034	
Lithium	ppm	ASTM D5185(m)		<1	<1	<1	
CONTAMINAN	TS	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>25	5	7	7	
Sodium	ppm	ASTM D5185(m)		9	9	8	
Potassium	ppm	ASTM D5185(m)	>20	2	3	1	
INFRA-RED		method	limit/base	current	history1	history2	
Soot %	%	ASTM D7844*	>4	0	0	0	
Nitration	Abs/cm	ASTM D7624*	>20	11.7	12.4	7.7	
Sulfation	Abs/.1mm	ASTM D7415*	>30	25.4	27.0	19.6	



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FLUID DEGRAD	ATION	method	limit/b	ase curr	ent	histo	ory1	history	/2
Oxidation	Abs/.1mm	ASTM D7414*	>25	21.6		22.2		12.7	
Base Number (BN)	mg KOH/g	ASTM D2896*	10.2	6.49		6.08		5.57	
VISUAL		method	limit/b	ase curr	ent	histo	ry1	history	/2
Emulsified Water	scalar	Visual*	>0.2	NEG		NEG		NEG	
Free Water	scalar	Visual*		NEG		NEG		NEG	
FLUID PROPE		method	limit/b		ent	histo	ory1	history	/2
Visc @ 100°C GRAPHS	cSt	ASTM D7279(m)	15.1	14.9		14.9		14.8	
Iron (ppm)				Lead (p	opm)				
300				100					
250 - 3evere		<del> </del>		80 Severe					
Abnormal				Abnormal					
50				20					
0	3	3		0 2	2			m	=
Nov14/22 Dec15/22 Jan11/23	Mar1/23	0ct30/23	Feb22/24	Nov14/22	Dec15/22	Jan11/23	Mar1/23	Oct30/23	Feb22/24
Aluminum (ppm)			_	Chrom		-			
Severe				50 Severe					
30				30					
Abnormal 20 + O				Abnormal 20					
10-				10					
22 22	- 53	53	- 42	0 22	22	53		53	Z4 ===
Nov14/22 Dec15/22 Jan11/23	Mar1/23	Oct30/23	Feb22/24	Nov14/22	Dec15/22	Jan11/23	Mar1/23	Oct30/23	Feb22/24
Copper (ppm)				Silicon	(ppm)				
Abnormal									
300				60					
E 200				E 40 Aboormal					
100 +				20					
727	/23		124	- 137 o	/22	/23	/23	/23 -	Z4 📶
Nov14/22 Dec15/22 Jan11/23	Mar1/23	0ct30/23	Feb22/24	Nov14/22	Dec15/22	Jan11/23	Mar1/23	0ct30/23	Feb22/24 -
Viscosity @ 100°C				Base N	umber				
18 - Abnormal				\$10.0 Base					
Base Base Abnormal				W 8.0					
Abnormal				(b) 10.0 - D					
12				l i					
4/22 + 4/22 + 1/23 + 1/2	Mar1/23 -	0/23	2/24	0.0	5/22 -	1/23	Mar1/23 -	0ct30/23 +	Feb22/24
Nov14/22 Dec15/22 Jan11/23	Mari	Oct30/23	Feb22/24	Nov14/22	Dec15/22	Jan11/23	Mar	0ct3(	Feb2





Sample No.

: GFL0112419 Lab Number : 02618612 Unique Number : 5735722 Test Package : MOB 2

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County Received **Tested** 

Diagnosed

: 28 Feb 2024 : 29 Feb 2024

: 29 Feb 2024 - Wes Davis

220 Carmek Blvd Rocky View County, AB **CA T1X 1X1** 

Contact: GFL Calgary calgarymaintenance@gflenv.com

F: (403)369-6163

Submitted By: GFL Calgary

To discuss this sample report, contact Customer Service at 1-800-268-2131. Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.

Validity of results and interpretation are based on the sample and information as supplied.