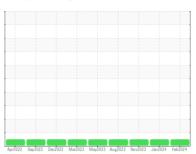


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **421051**

Component **Diesel Engine**

PETRO CANADA DURON XL SYN BLEND 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

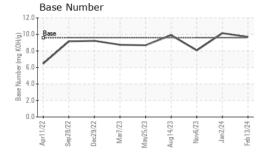
Fluid Condition

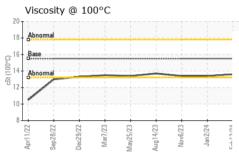
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

3W40 (GAL)		Apr2022 Sej		May2023 Aug2023 Nov2023 Jan20		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0112408	GFL0099545	GFL0091586
Sample Date		Client Info		13 Feb 2024	02 Jan 2024	06 Nov 2023
Machine Age	hrs	Client Info		4933	4608	4195
Oil Age	hrs	Client Info		308	500	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>80	6	6	13
Chromium	ppm	ASTM D5185(m)	>5	<1	<1	<1
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	0	<1
Aluminum	ppm	ASTM D5185(m)	>30	4	3	5
Lead	ppm	ASTM D5185(m)	>30	0	0	0
Copper	ppm	ASTM D5185(m)	>150	<1	<1	1
Tin	ppm	ASTM D5185(m)	>5	0	0	0
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)	1	3	2	2
Barium	ppm	ASTM D5185(m)	1	0	0	<1
Molybdenum	ppm	ASTM D5185(m)	60	58	57	57
Manganese	ppm	ASTM D5185(m)	1	0	0	0
Magnesium	ppm	ASTM D5185(m)	1010	937	927	934
Calcium	ppm	ASTM D5185(m)	1070	1056	1066	1085
Phosphorus	ppm	ASTM D5185(m)	1150	1035	1015	987
Zinc	ppm	ASTM D5185(m)	1270	1163	1167	1174
Sulfur	ppm	ASTM D5185(m)	2060	2739	2720	2501
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	3	2	<1
Sodium	ppm	ASTM D5185(m)		1	1	<1
Potassium	ppm	ASTM D5185(m)	>20	4	2	4
INFRA-RED		method	limit/base	current	history1	history2
	%	method ASTM D7844*	limit/base >3	current 0.1	history1 0.1	history2 0.3
INFRA-RED Soot % Nitration	% Abs/cm	ASTM D7844*	>3		•	0.3 8.3



OIL ANALYSIS REPORT





FLUID DEGRAD	ATION	method	limit/base	current	history1	history2
Oxidation Base Number (BN)	Abs/.1mm mg KOH/g	ASTM D7414* ASTM D2896*	>25 9.6	14.3 9.69	14.6 10.15	16.5 8.06
VISUAL	ing itoring		limit/base			history2
Emulsified Water		method		current	history1	
Free Water	scalar	Visual* Visual*	>0.2	NEG NEG	NEG NEG	NEG NEG
FLUID PROPER		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.5	13.6	13.4	13.4
GRAPHS						
Iron (ppm)		, , -	70	Lead (ppm)		
120 Severe				i i i		
100 Abnormal			50 = 40	i i		
g 60			E 40	1: : :		-
40			20	1 1		
		3 3			2 2 3	4 4
Apr11/22 Sep28/22 Dec29/22 Mar7/23	May25/23	Nov6/23 Jan2/24	Feb13/24	Apr11/22 Sep28/22 Dec29/22	Mar7/23 May25/23 Aug14/23	Nov6/23 Jan2/24 Feb13/24
Aluminum (ppm)	2 <			Chromium (p	_	
Severe			12	Smarr		
40			10	T I I		
E 30 Abnormal			Ed 6			
20			4			
10			2			
Apr11/22	May25/23 -	Nov6/23 -	Feb13/24 +	Apr11/22 Sep28/22	May25/23 -	Nov6/23 - Jan2/24 - Feb13/24 -
	May	No.	92		≥ ⋖	No.
Copper (ppm) Severe			40			
250			30	Severe		
200 Abnormal						
150 Abnormal						
50			10			
2 2 2 2	23	23 24			23 1	23 + 24 + 24 + 1
Apr11/22 Sep28/22 Dec29/22 Mar7/23	May25/23	Nov6/23	Feb13/24	Apr11/22 Sep28/22 Dec29/22	Mar7/23 May25/23 Aug14/23	Nov6/23 Jan2/24 Feb13/24
Viscosity @ 100°C				Base Number		
Abnormal			12.0 ©10.0			
			X NOW B 8.0			
On 14 Abnormal			0.0 D.8 Base Mumber (mg KOH/g)			
			4.0			
10			2.0			
Apr11/22 - Sep28/22 - Dec29/22 - Mar7/23 -	May25/23	Nov6/23 - Jan2/24 -	Feb13/24	Apr11/22 - Sep28/22 - Dec29/22 -	Mar7/23 - //ay25/23 - /ug14/23 -	Nov6/23 - Jan2/24 - Feb13/24 -



CALA ISO 17025:2017 Accredited Laboratory

Sample No.

Lab Number : 02616929 Unique Number : 5734039 Test Package : MOB 2

: WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 GFL Environmental - 550 - Rocky View County : GFL0112408 Received **Tested**

Diagnosed

: 21 Feb 2024 : 22 Feb 2024

: 22 Feb 2024 - Kevin Marson

220 Carmek Blvd Rocky View County, AB

CA T1X 1X1 Contact: GFL Calgary calgarymaintenance@gflenv.com

F: (403)369-6163

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.

Submitted By: GFL Calgary