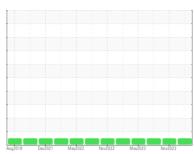


OIL ANALYSIS REPORT

Sample Rating Trend







Machine Id **801021**

Component Diesel Engine

PETRO CANADA DURON SHP 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

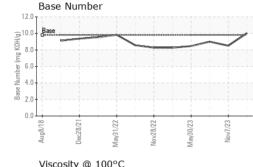
Fluid Condition

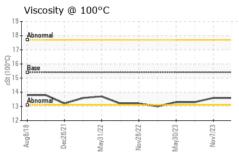
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

GAL)		Aug2018	Dec2021 May2022	Nov2022 May2023 No	ov2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0099562	GFL0091602	GFL0084346
Sample Date		Client Info		06 Feb 2024	07 Nov 2023	29 Aug 2023
Machine Age	hrs	Client Info		15809	15307	14827
Oil Age	hrs	Client Info		506	5816	580
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)	>100	7	7	7
Chromium	ppm	ASTM D5185(m)	>20	<1	0	<1
Nickel	ppm	ASTM D5185(m)	>4	<1	<1	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)	>3	0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	2	1	1
Lead	ppm	ASTM D5185(m)	>40	0	0	0
Copper	ppm	ASTM D5185(m)	>330	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>15	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)	0	2	3	2
Barium	ppm	ASTM D5185(m)	0	0	<1	0
Molybdenum	ppm	ASTM D5185(m)	60	56	55	55
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)	1010	899	909	916
Calcium	ppm	ASTM D5185(m)	1070	1037	1027	987
Phosphorus	ppm	ASTM D5185(m)	1150	981	962	1000
Zinc	ppm	ASTM D5185(m)		1139	1138	1140
Sulfur	ppm	ASTM D5185(m)	2060	2621	2459	2427
Lithium	ppm	ASTM D5185(m)		<1	<1	<1
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>25	3	3	5
Sodium	ppm	ASTM D5185(m)		4	4	5
Potassium	ppm	ASTM D5185(m)	>20	<1	0	0
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*	>3	0.3	0.3	0.3
Nitration	Abs/cm	ASTM D7624*	>20	7.7	7.9	8.6
Sulfation	Abs/.1mm	ASTM D7415*	>30	19.7	19.8	21.4



OIL ANALYSIS REPORT





FLUID DEGRAD	ATION	method	limit/bas	e current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*	>25	15.9	17.0	18.0
Base Number (BN)	mg KOH/g	ASTM D2896*	9.8	10.03	8.51	8.99
VISUAL		method	limit/bas	e current	history1	history2
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG
FLUID PROPER		method	limit/bas		history1	history2
Visc @ 100°C	cSt	ASTM D7279(m)	15.4	13.6	13.6	13.3
GRAPHS				Load (nnm)		
Iron (ppm)	77			Lead (ppm)		
200 Severe				80 Severe		
150 - Abnormal			E	60		
100 Abnormal	+ +		E G G	40 - Abnormal		
50				20		
22	22	23	3	0 9 0	22	23
Aug8/18 Dec28/21	Nov28/22	May30/23	TAGE TO THE TAGE T	Aug8/18 Dec28/21	May31/22 Nov28/22	May30/23 Nov7/23
Aluminum (ppm)		_		Chromium (_	_
50 Severe				Severe		
40 - Sever				30		
20 Abnormal				Abnormal		
10				10		
				0		
Aug8/18 Dec28/21	Nov28/22	May30/23	57/1/52	Aug8/18 Dec28/21	May31/22 Nov28/22	May30/23 Nov7/23
_ ≥	No	May	2		_	May N
Copper (ppm) 400 Severe				Silicon (ppm)	
Abnormal		+		60		
튙 200				40		
			1	Abnormal		
100				20	_	
Aug8/18	3/22	lay30/23	67/	Aug8/18 -	1727	ay30/23
Aug8/18 Dec28/21 May31/22	Nov28/22	May30/23		Aug8/18 Dec28/21	May31/22 Nov28/22	May30/23 Nov7/23
Viscosity @ 100°C				Base Numbe	r	
18 - Abnormal						
17			mg KOl	8.0		
8 Base			mper (6.0		
Abnormal			Sase Nu	10.0 Base 8.0 6.0 4.0 2.0		
12		8		0.0	2	3
Aug8/18 Dec28/21 May31/22	Nov28/22	May30/23	7/1001	Aug8/18 Dec28/21	May31/22 Nov28/22	May30/23 Nov7/23



CALA ISO 17025:2017 Accredited Laboratory

Report Id: GFL550 [WCAMIS] 02615267 (Generated: 02/14/2024 10:28:08) Rev: 1

Sample No. Lab Number : 02615267

Laboratory

: GFL0099562 Unique Number : 5724362 Test Package : MOB 2

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

Diagnosed

: 13 Feb 2024 : 14 Feb 2024

: 14 Feb 2024 - Wes Davis

220 Carmek Blvd Rocky View County, AB

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

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.

F: (403)369-6163