

OIL ANALYSIS REPORT

Sample Rating Trend



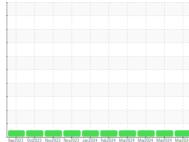


Machine Id 912004

Fluid

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (--- GAL)



GFL0104432

15 Mar 2024

Not Changd

51528

0

GFL0104245

6831

300

Changed



GFL0104293

07 Mar 2024 06 Mar 2024

6821

600

Changed

	DIAGNOSIS	SAMPLE INFORM	MATION	method	limi
	Recommendation	Sample Number		Client Info	
	Resample at the next service interval to monitor.	Sample Date		Client Info	
	Wear	Machine Age	mls	Client Info	
	Metal levels are typical for a new component	Oil Age	mls	Client Info	
	breaking in.	Oil Changed		Client Info	
	Contamination	Sample Status			
	There is no indication of any contamination in the oil.	CONTAMINATI	ON	method	limi
	Fluid Condition	Fuel		WC Method	>3.0
	The BN result indicates that there is suitable	Water		WC Method	>0.2
	alkalinity remaining in the oil. The condition of the	Glycol		WC Method	
	oil is suitable for further service.	WEAR METAL	S	method	limi
		Iron	ppm	ASTM D5185m	>120
		Chromium	ppm	ASTM D5185m	>20
		Nickel	ppm	ASTM D5185m	>5
		Titanium	ppm	ASTM D5185m	>2
		Silver	ppm	ASTM D5185m	>2
		Aluminum	ppm	ASTM D5185m	>20
		Lead	ppm	ASTM D5185m	>40
		Copper	ppm	ASTM D5185m	>330
		Tin	ppm	ASTM D5185m	>15
		Vanadium	ppm	ASTM D5185m	
		Cadmium	ppm	ASTM D5185m	
		ADDITIVES		method	limi
		Boron	ppm	ASTM D5185m	0
		Barium	ppm	ASTM D5185m	0
		Molybdenum	ppm	ASTM D5185m	60
		Manganese	ppm	ASTM D5185m	0
		Magnesium	ppm	ASTM D5185m	1010
		Calcium	ppm	ASTM D5185m	1070
		Phosphorus	ppm	ASTM D5185m	1150
		Zinc	ppm	ASTM D5185m	1270
		Sulfur	ppm	ASTM D5185m	2060

Base Number (BN) mg KOH/g ASTM D2896 9.8

Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	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		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	4	11	20
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	1
Titanium	ppm	ASTM D5185m	>2	<1	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	<1	0	2
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	1	0	1
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	57	56	57
Manganese	ppm	ASTM D5185m	0	0	0	<1
Magnesium	ppm	ASTM D5185m	1010	926	865	932
Calcium	ppm	ASTM D5185m	1070	1048	934	1001
Phosphorus	ppm	ASTM D5185m	1150	1038	802	1010
Zinc	ppm	ASTM D5185m	1270	1235	1056	1267
Sulfur	ppm	ASTM D5185m	2060	3406	2473	2575
CONTAMINAN	TS	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	4	3	3
Sodium	ppm	ASTM D5185m		2	10	3
Potassium	ppm	ASTM D5185m	>20	2	0	2
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>4	0.2	0.3	1.2
Nitration	Abs/cm	*ASTM D7624	>20	5.0	7.9	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	19.0	21.4
FLUID DEGRA	DATION	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.8	15.6	17.1

Report Id: GFL410 [WUSCAR] 06122125 (Generated: 03/20/2024 09:32:05) Rev: 1

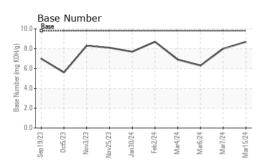
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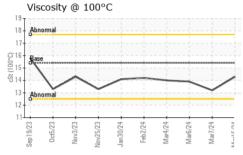
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6.3



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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	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	13.2	13.9
GRAPHS						

Ferrous Alloys 70 60 50 40 30 20 10 Π. Sep19/23 -0ct5/23 Feb2/24 Nov3/23 Vov25/23 an30/24 Aar4/74 Aar7/04 Aar15/74 /ar6/24 Non-ferrous Metals Sep19/23 lar15/24 dav/2/22 10125/D2 eh 7/74 ar4/74 ar7/04 Viscosity @ 100°C Base Number 19 10.0 18 17 8. (mg KOH/g) (100-01) 15 14 6 Number (4 (Base Abno 12 0.0 Mar15/24 -Sep19/23 ov25/23 Feb2/24 Mar4/24 Mar7/24 0ct5/23 Vov3/23 Feb2/24 Mar4/24 Mar15/24 Nov3/23 Mar6/24 Mar7/24 Sep19/23 Jan 30/24 Jov25/23 Jan 30/24 Mar6/24 : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 410 - Michigan West Laboratory Sample No. : GFL0104432 Received : 19 Mar 2024 39000 Van Born Rd Lab Number : 06122125 Tested : 20 Mar 2024 Wayne, MI Unique Number : 10936276 Diagnosed : 20 Mar 2024 - Wes Davis US 48184 Test Package : FLEET Contact: Belal Dgheish To discuss this sample report, contact Customer Service at 1-800-237-1369. bdgheish@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (734)714-2340

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

Certificate L2367

F: