



Machine Id **10674** Component **Diesel Engine** Fluid **PETRO CANADA DURON SHP 15W40 (30 QTS)**

COMPONENT CONDITION SUMMARY



RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

ABNORMAL NORMAL NORMAL	
ppm ASTM D5185m >4 🔺 7 2 <1	
ABNORMAL NORMAL NORMAL ppm ASTM D5185m >4 A 7 2 <1	

Customer Id: GFL035 Sample No.: GFL0071559 Lab Number: 05888773 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 <u>don.b505@comcast.net</u>

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS							
Action	Status	Date	Done By	Description			
Change Fluid			?	Oil and filter change at the time of sampling has been noted.			
Change Filter			?	Oil and filter change at the time of sampling has been noted.			

HISTORICAL DIAGNOSIS



13 Mar 2023 Diag: Wes Davis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

22 Sep 2022 Diag: Angela Borella



Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

22 Jul 2022 Diag: Don Baldridge



We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Piston, ring and cylinder wear is indicated. Elemental levels of silicon (Si) and aluminum (AI) indicate alumina-silicate (coarse dirt) ingress. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.





view report





OIL ANALYSIS REPORT



10674 Component

Machine Id

Diesel Engine

PETRO CANADA DURON SHP 15W40 (30 QTS)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

🔺 Wear

Valve wear is indicated. All other 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.

SAMPLE INFOR	MATION	method	limit/base	current	history 1	history 2	
Sample Number		Client Info		GFL0071559	GFL0053152	GFL0053236	
Sample Date		Client Info		29 Jun 2023	13 Mar 2023	22 Sep 2022	
Machine Age	hrs	Client Info		8895	8895	8895	
Oil Age	hrs	Client Info		600	600	600	
Oil Changed	nged		Client Info		Changed	Changed	
Sample Status				ABNORMAL	NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history 1	history 2	
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	NEG	
WEAR METAL	S	method	limit/base	current	history 1	history 2	
Iron	maa	ASTM D5185m	>75	36	20	21	
Chromium	ppm	ASTM D5185m	>5	1	<1	<1	
Nickel	ppm	ASTM D5185m	>4	<mark>▲</mark> 7	2	<1	
Titanium	ppm	ASTM D5185m	>2	<1	0	0	
Silver	maa	ASTM D5185m	>2	0	0	0	
Aluminum	ppm	ASTM D5185m	>15	4	3	4	
Lead	maa	ASTM D5185m	>25	<1	0	0	
Copper	mag	ASTM D5185m	>100	2	<1	1	
Tin	ppm	ASTM D5185m	>4	- <1	0	0	
Vanadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history 1	history 2	
Boron	ppm	ASTM D5185m	0	0	7	41	
Barium	ppm	ASTM D5185m	0	2	0	0	
Molybdenum	ppm	ASTM D5185m	60	65	56	40	
Manganese	nnm				00	-10	
	ppill	ASTM D5185m	0	<1	<1	<1	
Magnesium	ppm	ASTM D5185m ASTM D5185m	0 1010	<1 856	<1 795	<1 472	
Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070	<1 856 1113	<1 795 1123	<1 472 1656	
Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150	<1 856 1113 1030	<1 795 1123 905	<1 472 1656 729	
Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270	<1 856 1113 1030 1197	<1 795 1123 905 1063	<1 472 1656 729 888	
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060	<1 856 1113 1030 1197 3152	<1 795 1123 905 1063 3328	<1 472 1656 729 888 2844	
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	0 1010 1070 1150 1270 2060 limit/base	<1 856 1113 1030 1197 3152 current	<1 795 1123 905 1063 3328 history 1	<1 472 1656 729 888 2844 history 2	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	<1 856 1113 1030 1197 3152 current 12	<1 795 1123 905 1063 3328 history 1 9	<1 472 1656 729 888 2844 history 2 9	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25	<1 856 1113 1030 1197 3152 current 12 0	<1 795 1123 905 1063 3328 history 1 9 4	<1 472 1656 729 888 2844 history 2 9 2	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20	<1 856 1113 1030 1197 3152 current 12 0 4	<1 795 1123 905 1063 3328 history 1 9 4 0	<1 472 1656 729 888 2844 history 2 9 2 1	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm 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 ASTM D5185m ASTM D5185m	0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	<1 <p>856 1113 1030 1197 3152 current 12 0 4 current</p>	<1 795 1123 905 1063 3328 history 1 9 4 0 history 1	<pre> </pre> <1 472 1656 729 888 2844 history 2 9 2 1 history 2	
Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 ASTM D5185m ASTM D5185m *ASTM D7844	0 1010 1070 1150 2060 limit/base >25 >20 limit/base >6	<1 <p>856 1113 1030 1197 3152 current 12 0 4 current 1</p>	<1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0 0 4.00 0 0.4	<1 472 1656 729 888 2844 history 2 9 2 1 history 2 0.3	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824	0 1010 1070 1150 2060 limit/base >25 >20 limit/base >6 >20	<1 <p>856 1113 1030 1197 3152 current 12 0 4 current 1 8.5</p>	<pre><1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0.4 6.5</pre>	<pre> </pre> <1 472 1656 729 888 2844 history 2 9 2 1 history 2 0.3 6.5	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS 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	0 1010 1070 1150 2060 limit/base >25 >20 limit/base >6 >20 >30	<1 856 1113 1030 1197 3152 current 12 0 4 current 1 8.5 20.4	<pre> </pre> <1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0.4 6.5 18.5	<pre> </pre> <pre> <pre> </pre> </pre> <pre> </pre> </th	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	0 1010 1070 1150 2060 limit/base >25 >20 limit/base >6 >20 >30 limit/base	<1 856 1113 1030 1197 3152 current 12 0 4 current 1 8.5 20.4 current	<pre> </pre> <1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0.4 6.5 18.5 18.5	<pre> </pre> <pre> <pre> </pre> </pre> <pre></pre>	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation	ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm % Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7844 *ASTM D7415	0 1010 1070 1150 2060 limit/base >20 limit/base >6 >20 >30 limit/base	<1 <1 856 1113 1030 1197 3152 current 12 0 4 current 1 8.5 20.4 current 16.3 	<pre><1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0.4 6.5 18.5 history 1 13.9 </pre>	<pre> </pre> <pre> <pre> </pre> </pre> <pre></pre>	
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE Oxidation Base Number (BN)	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 D7844 *ASTM D7844 *ASTM D7415	0 1010 1070 1150 1270 2060 limit/base >20 limit/base >6 >20 >30 limit/base >25 9.8	<1 856 1113 1030 1197 3152 current 12 0 4 current 1 8.5 20.4 current 16.3 8.1	<pre> </pre> <1 795 1123 905 1063 3328 history 1 9 4 0 history 1 0.4 6.5 18.5 history 1 13.9 9.1	<pre> </pre> <pre> <pre> </pre> </pre> <pre></pre>	



OIL ANALYSIS REPORT

VISUAL





	Λ	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
	Val	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
/1/19 r6/20	n2/21 16/22	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Ma	Jur Jur Mari	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
	Λ	Free Water	scalar	*Visual		NEG	NEG	NEG
\sim	A	FLUID PROPE	RTIES	method	limit/base	current	history 1	history 2
MIN	/~ `	Visc @ 100°C	cSt	ASTM D445	15.4	13.9	13.6	13.5
γ		GRAPHS						
		A Ferrous Alloys						
20	22	iron		٨				
Nov1, Mar6, Sep4,	Jun6,	400 - nickel						
C	5	300 -						
		200						
		100						
T			\sim	- Antiber				
~~/	L	/22/17 /20/18 /21/18	ov 1/19 ar6/20	sp4/20 in2/21 in6/22	13/23			
		May May May	N N N	-1 -1 Se	Mai			
6 0 0	21+	Non-ferrous Metal	S					
Nov1/1 Mar6/2 Sep4/2	Jun2/	copper						
		400 - tin						
		300						
	udd							
		200						
		100-						
		22/17	v1/19	n2/21	13/23			
		May May	Ma Ma	Jun Jun	Mar			
		Viscosity @ 100°C				Base Number		
		18 Abnormal			12.0			٨
		17				Base		
	Ē	16 Base			HO 8.0-		-M.	$\Lambda \Lambda I$
	00-00	15 -		$ \longrightarrow $	ш ы 6.0-		N	VV
	ż		\sim		Vumb	. AA	/ V	
		12 Abnorma	¥		9.0- 82 80	VV		
		11			2.0-			
			50	21	0.0	17	20	22
		May22/ Nov20/ May21/ May14/	Mar6/	Sep4// Jun2/ Jun6//	Mar13/	May22/ Nov20/ May21/ May14/	Nov1/ Mar6// Sep4//	Jun2/ Jun6// Mar13//
,								1000
	Laboratory Sample No	: WearCheck USA - 5	001 Madis Received	on Ave., Ca	ry, NC 27513 Iul 2023		123	6 Flon Place
ACCREDITED	Lab Number	: 05888773	Diagnose	ed : 05 .	Jul 2023		Hi	gh Point, NC
TESTING LABORATORY	Unique Number	: 10539256	Diagnosti	i cian : Don	Baldridge			US 27263
Certificate L2367	Test Package	: FLEET	ion at 1 C	00 007 4000			Contact: JOF	RGE COSTA
* - Denotes test	methods that ar	e outside of the ISO 1	се ас 1-80 7025 scoj	be of accred	itation.		jorge.costa(T: (3	26)668-3712

method limit/base current

history 1

history 2

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

F: