

# **OIL ANALYSIS REPORT**

#### Sample Rating Trend



## Machine Id 725083

Component
Diesel Engine

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

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

#### Fluid Condition

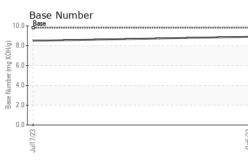
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

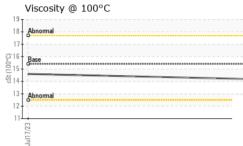
AL)			Jul2023	0ct2023		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0066280	GFL0060523	
Sample Date		Client Info		05 Oct 2023	17 Jul 2023	
Machine Age	mls	Client Info		246060	246060	
Oil Age	mls	Client Info		246060	0	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	23	50	
Chromium	ppm	ASTM D5185m	>20	<1	2	
Nickel	ppm	ASTM D5185m	>4	0	<1	
Titanium	ppm	ASTM D5185m		0	2	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	6	
Lead	ppm	ASTM D5185m	>40	0	<1	
Copper	ppm	ASTM D5185m	>330	<1	2	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	<1	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<1	6	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	60	59	65	
Manganese	ppm	ASTM D5185m	0	0	<1	
Magnesium	ppm	ASTM D5185m	1010	005		
	1-1-	ASTIVI DJIOJIII	1010	895	922	
Calcium	ppm	ASTM D5185m	1070	1101	922 1295	
Phosphorus	ppm	ASTM D5185m	1070	1101	1295	
Phosphorus Zinc	ppm ppm	ASTM D5185m ASTM D5185m	1070 1150	1101 964	1295 1017	
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1101 964 1219	1295 1017 1288	
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base	1101 964 1219 2841	1295 1017 1288 3566	  
Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1070 1150 1270 2060 limit/base	1101 964 1219 2841 current	1295 1017 1288 3566 history1	   history2
Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium	ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1070 1150 1270 2060 limit/base	1101 964 1219 2841 current 5	1295 1017 1288 3566 history1 6	   history2
Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1101 964 1219 2841 current 5 6	1295 1017 1288 3566 history1 6 4	   history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20	1101 964 1219 2841 current 5 6 0	1295 1017 1288 3566 history1 6 4 4	  history2  
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	1101 964 1219 2841 current 5 6 0 current	1295 1017 1288 3566 history1 6 4 4 4 history1	  history2   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	1101 964 1219 2841 current 5 6 0 current 0.7	1295 1017 1288 3566 history1 6 4 4 4 history1 1.3	  history2  history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm rS 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 D7844 *ASTM D7624 *ASTM D7415	1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20	1101 964 1219 2841 <u>current</u> 5 6 0 <u>current</u> 0.7 9.1	1295 1017 1288 3566 history1 6 4 4 4 history1 1.3 11.8	  history2  history2  history2
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm rS 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 D7844 *ASTM D7624 *ASTM D7415	1070 1150 1270 2060 limit/base >25 >20 limit/base >3 >20 >30	1101 964 1219 2841 <i>current</i> 5 6 0 <i>current</i> 0.7 9.1 20.8	1295 1017 1288 3566 history1 6 4 4 4 history1 1.3 11.8 23.1	  history2  history2  history2



# **OIL ANALYSIS REPORT**

VISUAL





	White Metal	scalar	*Visual	NONE	NONE	NONE	
	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
	Precipitate	scalar	*Visual	NONE	NONE	NONE	
	Silt	scalar	*Visual	NONE	NONE	NONE	
	Debris	scalar	*Visual	NONE	NONE	NONE	
	Sand/Dirt		*Visual	NONE	NONE	NONE	
- 23 -	Appearance	scalar scalar	*Visual	NORML	NORML	NORML	
0ct5/23	Odor			NORML			
	Emulsified Water	scalar scalar	*Visual *Visual	>0.2	NORML NEG	NORML NEG	
С				>0.2			
	Free Water	scalar	*Visual		NEG	NEG	
	FLUID PROPE	ERTIES	method	limit/base	current	history1	history2
	Visc @ 100°C	cSt	ASTM D445	15.4	14.2	14.6	
	GRAPHS						
	Ferrous Alloys						
	<sup>50</sup>						
	40 - nickel						
	30- E						
	E 20						
	10						
	0			0ct5/23 -			
	Juli 7/23			Octi			
	Non-ferrous Meta	ls					
	<sup>10</sup> T						
	8 - copper						
	°						
	6-						
	u d						
	4						
	2						
				23			
	Jul 7/23			0ct5/23			
	→ Viscosity @ 100°	<u>_</u>					
	<sup>19</sup> T			10.0	Base Number		
	18 - Abnormal			10.0			
	17-				D		
	c16			(b)HOX Dw) tag 4,0			
	© 16 Base 00 15			B 6.0	D		
	ёз <sub>14</sub>			<sup>4</sup> 4.0	D		
	13 Abnormal			ase N			
	13 Abnormal			<sup>°°</sup> 2.0	D		
	11						
	Jul17/23			0ct5/23	Jul17/23		0ct5/23
	Jul			00	llul		0
) <b>J</b> _k	MaarObeels 100						00 U 0''
Laboratory Sample No.	: WearCheck USA - : GFL0066280	501 Madis Received		ry, NC 2751: Nov 2023	o GFL ENV	ironmental - 93	38 - Hager City N9724 WIS-35
Lab Number	: 05998722	Diagnose		Nov 2023			GER CITY, W
TESTING LABORATORY Unique Number	: 10727082	Diagnosti		s Davis			US 54014
Certificate L2367 Test Package	: FLEET	-				Contact	t: ANDY KANE
To discuss this sample report, o						-	
* - Denotes test methods that a					(ICOM 100-0010)	T:	(715)202-3420
Statements of conformity to spec	incations are based on i	uie simple .	acceptance (	Jecision rule (	JUGIVI 106:2012)		F:

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