

# **OIL ANALYSIS REPORT**

Sample Rating Trend





Machine Id 714056 Component

Fluid

Diesel Engine

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

## DIAGNOSIS Recommendation

Resample at the next service interval to monitor.

### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

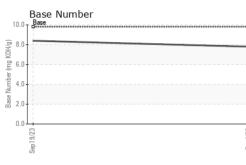
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

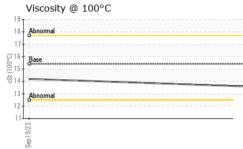
	GAL)		Sep2023	Dec2023		
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0096592	GFL0027571	
Sample Date		Client Info		04 Dec 2023	19 Sep 2023	
Machine Age	hrs	Client Info		1184	544	
Oil Age	hrs	Client Info		600	600	
Oil Changed		Client Info		Changed	Not Changd	
Sample Status				NORMAL	NORMAL	
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method		NEG	NEG	
WEAR METALS	5	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	30	10	
Chromium	ppm	ASTM D5185m	>20	<1	0	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m	>2	0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	1	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	2	5	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	3	28	
Barium	ppm	ASTM D5185m	0	0	0	
Molybdenum	ppm	ASTM D5185m	60	60	69	
Manganese	ppm	ASTM D5185m	0	<1	1	
Magnesium	ppm	ASTM D5185m	1010			
0.1.1		AOTIVI DOTODITI	1010	897	826	
Calcium	ppm	ASTM D5185m	1070	897 1060	826 1138	
Calcium Phosphorus	ppm ppm					
		ASTM D5185m	1070	1060	1138	
Phosphorus	ppm	ASTM D5185m ASTM D5185m	1070 1150	1060 858	1138 897	
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270	1060 858 1183	1138 897 1097	
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060	1060 858 1183 3133	1138 897 1097 3643	
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1060 858 1183 3133 current	1138 897 1097 3643 history1	   history2
Phosphorus Zinc Sulfur CONTAMINANT Silicon	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1070 1150 1270 2060 limit/base >25	1060 858 1183 3133 current 4	1138 897 1097 3643 history1 8	  history2
Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1070 1150 1270 2060 limit/base >25	1060 858 1183 3133 current 4 4 1 current	1138 897 1097 3643 history1 8 4 6 history1	  history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm TS 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	1060 858 1183 3133 current 4 4 1 1 current 0.6	1138 897 1097 3643 history1 8 4 6 6 history1 0.2	  history2 
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844	1070 1150 1270 2060 limit/base >25 >20 limit/base	1060 858 1183 3133 current 4 4 1 2 0.6 9.3	1138 897 1097 3643 history1 8 4 6 history1 0.2 6.5	  history2   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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 imit/base >25 >20 imit/base >6	1060 858 1183 3133 current 4 4 1 1 current 0.6	1138 897 1097 3643 history1 8 4 6 6 history1 0.2	  history2   history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	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 D7844 *ASTM D7624 *ASTM D7415	1070 1150 1270 2060 imit/base >25 >20 imit/base >6 >20	1060 858 1183 3133 current 4 4 1 2 0.6 9.3	1138 897 1097 3643 history1 8 4 6 history1 0.2 6.5	  history2   history2  history2
Phosphorus Zinc Sulfur CONTAMINAN Solicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	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 D7844 *ASTM D7624 *ASTM D7415	1070 1150 1270 2060 <b>limit/base</b> >25 >20 <b>limit/base</b> >6 >20 >20 >30	1060 858 1183 3133 current 4 4 1 1 current 0.6 9.3 20.0	1138 897 1097 3643 history1 8 4 6 history1 0.2 6.5 18.3	  history2   history2  history2



# **OIL ANALYSIS REPORT**

VISUAL





					NONE	
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal		*Visual	NONE	NONE	NONE	
Precipitate		*Visual	NONE	NONE	NONE	
Silt		*Visual	NONE	NONE	NONE	
Debris		*Visual	NONE	NONE	NONE	
_ Sand/Dirt		*Visual	NONE	NONE	NONE	
Appearance		*Visual	NORML	NORML	NORML	
Odor		*Visual	NORML	NORML	NORML	
Emulsified Water		*Visual		NEG	NEG	
Free Water	scalar		>0.2	NEG	NEG	
	scalar					
FLUID PROPE		method	limit/base	current	history1	history
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	14.2	
GRAPHS						
Ferrous Alloys						
25 - iron						
nickel	/					
20						
툍 15						
10						
5						
0						
0		111111111111111111111111111111111111111	sc4/23			
			Dec4/23			
Non-ferrous Metal	s		Dec4/23			
Non-ferrous Meta	5		Dec4/23			
Non-ferrous Metal	s		Dec4/23			
Non-ferrous Meta	ls		Dec4/23			
Non-ferrous Metal	ls		Dec4/23			
Non-ferrous Metal	ls		Dec4/23			
Non-ferrous Metal	S		Dec4/23			
Non-ferrous Metal	s		Dec4/23			
Non-ferrous Metal	5		Dec4/23			
Non-ferrous Metal	ls					
Non-ferrous Metal	IS		Dec4/23			
Non-ferrous Metal						
Non-ferrous Metal			Dec4/23	Base Number		
Non-ferrous Metal						
Non-ferrous Metal			10.0	Base Number		
Non-ferrous Metal			10.0	Base Number		
Non-ferrous Metal			10.0	Base Number		
Non-ferrous Metal			10.0	Base Number		
Non-ferrous Metal			10.0	Base Number		
Non-ferrous Metal			0.01 0.01 0.0 0.0 0.0 0.0 0.0 0.0	Base Number		
Non-ferrous Metal			10.0 (0)(0)(0) (0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(0)(	Base Number		
Non-ferrous Metal			0.01 ase humber (mg K0H(0) 0.6.0 0	Base Number		



 Certificate L2367
 Test Package
 : FLEET

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 \*

 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Diagnosed

Diagnostician : Wes Davis

: 12 Dec 2023

Lab Number

Unique Number : 10780076

: 06030285

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