

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



#### Machine Id 26510 Component

Diesel Engine

## PETRO CANADA DURON SHP 10W30 (38 QTS)

### DIAGNOSIS

#### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Fuel content negligible. There is no indication of any contamination in the oil.

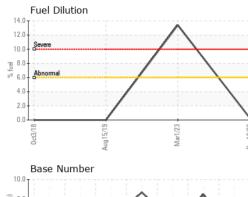
#### Fluid Condition

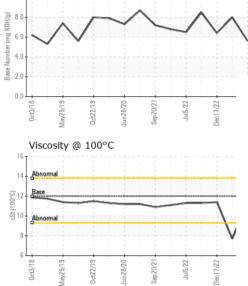
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

ITS)		Oct2018 May	2019 Oct2019 Jun202	20 Sep2021 Jul2022 Dec202	2 Dec2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA06030131	PCA0094134	PCA0088183
Sample Date		Client Info		10 Dec 2023	01 Mar 2023	17 Dec 2022
Machine Age	mls	Client Info		674166	651265	630477
Oil Age	mls	Client Info		674166	20788	43085
Oil Changed		Client Info		N/A	Not Changd	Changed
Sample Status				NORMAL	SEVERE	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S .	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	35	14	42
Chromium	ppm	ASTM D5185m	>20	1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m		8	8	31
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	8	4	8
Lead	ppm	ASTM D5185m	>40	2	0	<1
Copper	ppm	ASTM D5185m		3	<1	4
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m	210	<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	4	0
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	55	44	43
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	950	951	727	751
Calcium						
	mag	ASTM D5185m				
	ppm ppm	ASTM D5185m ASTM D5185m	1050	1250	1058	1363
Phosphorus	ppm	ASTM D5185m	1050 995	1250 919	1058 819	1363 947
			1050	1250	1058	1363
Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1050 995 1180	1250 919 1374	1058 819 1059	1363 947 1185
Phosphorus Zinc Sulfur	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base	1250 919 1374 3686	1058 819 1059 2812	1363 947 1185 3448
Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	1050 995 1180 2600 limit/base	1250 919 1374 3686 current	1058 819 1059 2812 history1	1363 947 1185 3448 history2
Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1050 995 1180 2600 limit/base >25	1250 919 1374 3686 current 5	1058 819 1059 2812 history1 3	1363 947 1185 3448 history2 6
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m	1050 995 1180 2600 <b>limit/base</b> >25 >20	1250 919 1374 3686 current 5 13	1058 819 1059 2812 history1 3 5	1363 947 1185 3448 history2 6 18
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 <b>limit/base</b> >25 >20	1250 919 1374 3686 <u>current</u> 5 13 5	1058 819 1059 2812 history1 3 5 <1	1363 947 1185 3448 history2 6 18 <1
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 <b>limit/base</b> >25 >20 >6.0 <b>limit/base</b>	1250 919 1374 3686 <u>current</u> 5 13 5 0.3	1058 819 1059 2812 history1 3 5 <1 € 13.4	1363 947 1185 3448 history2 6 18 <1 <10
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	1050 995 1180 2600 <i>limit/base</i> >25 >20 >6.0 <i>limit/base</i> >3	1250 919 1374 3686 current 5 13 5 0.3 current	1058 819 1059 2812 history1 3 5 <1 € 13.4 history1	1363 947 1185 3448 history2 6 18 <1 <10 +istory2
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524	1050 995 1180 2600 <b>limit/base</b> >20 >6.0 <b>limit/base</b> >3 >20	1250 919 1374 3686 current 5 13 5 0.3 current 0.7	1058 819 1059 2812 history1 3 5 <1 € 13.4 history1 0.4	1363 947 1185 3448 history2 6 18 <1 <1.0 history2 1
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7824	1050 995 1180 2600 <b>limit/base</b> >20 >6.0 <b>limit/base</b> >3 >20	1250 919 1374 3686 <u>current</u> 5 13 5 0.3 <u>current</u> 0.7 10.0	1058 819 1059 2812 history1 3 5 <1 13.4 history1 0.4 7.6	1363 947 1185 3448 history2 6 18 <1 <1.0 history2 1 9.8
Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm TS ppm ppm ppm %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D3524 *ASTM D7844 *ASTM D7824	1050 995 1180 2600 <b>limit/base</b> >20 >30 >30 <b>limit/base</b>	1250 919 1374 3686 <u>current</u> 5 13 5 0.3 <u>current</u> 0.7 10.0 21.9	1058 819 1059 2812 <b>history1</b> 3 5 <1 ● 13.4 <b>history1</b> 0.4 7.6 18.3	1363 947 1185 3448 history2 6 18 <1 <1.0 history2 1 9.8 23.1



# **OIL ANALYSIS REPORT**





		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	12.00	11.2	<b>▲</b> 7.7	11.4
GRAPHS						
iron chromium						
0 +	$\backslash$	$\sim$	$\checkmark$			
0 - chromium nickel	Jun28/20 Sep20/21	Jul5/22	Dec10/23			
6L/6Z/2P0 Non-ferrous Meta	0.50	JuliSi22	Det 10/23			
0ct31/18 Mia/29/19 0ct22/19 0ct22/19	0.50	Jul5/22 Dec17/22	Dec10/23			

8.0

(B7.0 6.0 KOH/d) 5.0

.0 Anmper 3.0 3.0 ase 2.0 1.0 0.0

0ct22/19

lun28/20

May29/19

0ct3/1

Sep20/21

**PERDUE FARMS - GEORGETOWN** 

ul5/22

Dec10/23.

: 11 Dec 2023

: 18 Dec 2023

Dec17/22



Unique Number : 10779922 Diagnostician : Wes Davis Test Package : FLEET (Additional Tests: PercentFuel) Contact: ROBERT LOCKWOOD Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. Robert.Lockwood@Perdue.com \* - 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)

Jun28/20

Sep20/21

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Recieved

Diagnosed

0ct22/19

Jul5/22 -

A 14

13

12 cSt (100°C)

6

Laboratory

Sample No.

Lab Number

0ct3/18

Mav29/19

: PCA06030131

: 06030131

20621 SAVANAH RD

GEORGETOWN, DE

Dec10/23 -

T:

Dec17/22

US 19947

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