

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend





### Component

Diesel Engine

#### PETRO CANADA DURON SHP 10W30 (--- GAL)

#### DIAGNOSIS

#### Recommendation

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

#### Wear

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

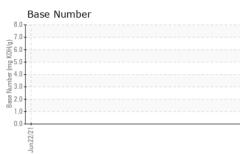
#### Fluid Condition

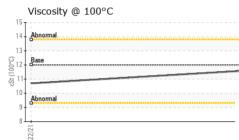
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

JAL)			Jun2021	Aug2023		
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100799	PCA0053289	
Sample Date		Client Info		17 Aug 2023	22 Jun 2021	
Machine Age	mls	Client Info		56907	17305	
Oil Age	mls	Client Info		56907	12000	
Oil Changed		Client Info		Not Changd	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	11	29	
Chromium	ppm	ASTM D5185m	>20	1	3	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		3	<1	
Silver	ppm	ASTM D5185m	>3	<1	<1	
Aluminum	ppm	ASTM D5185m	>20	7	12	
Lead	ppm	ASTM D5185m	>40	0	4	
Copper	ppm	ASTM D5185m	>330	36	2	
Tin	ppm	ASTM D5185m	>15	2	1	
Antimony	ppm	ASTM D5185m			0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current	history1 7	history2
	ppm ppm					
Boron		ASTM D5185m	2	6	7	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	6 0	7 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	6 0 55	7 0 65	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	6 0 55 <1	7 0 65 <1	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	6 0 55 <1 948	7 0 65 <1 972	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	6 0 55 <1 948 1206	7 0 65 <1 972 1085	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	6 0 55 <1 948 1206 1096	7 0 65 <1 972 1085 1017	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	6 0 55 <1 948 1206 1096 1343	7 0 65 <1 972 1085 1017 1267	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	6 0 55 <1 948 1206 1096 1343 3574	7 0 65 <1 972 1085 1017 1267 2417	    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	2 0 50 950 1050 995 1180 2600	6 0 55 <1 948 1206 1096 1343 3574 current	7 0 65 <1 972 1085 1017 1267 2417 history1	    
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600	6 0 55 <1 948 1206 1096 1343 3574 current 3	7 0 65 <1 972 1085 1017 1267 2417 history1 5	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b>	6 0 55 <1 948 1206 1096 1343 3574 current 3 1	7 0 65 <1 972 1085 1017 1267 2417 <b>history1</b> 5 3	      history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	6 0 55 <1 948 1206 1096 1343 3574 current 3 1 7	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37	     history2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20	6 0 55 <1 948 1206 1096 1343 3574 current 3 1 7 current	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37 history1	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	6 0 55 <1 948 1206 1096 1343 3574 <i>current</i> 3 1 7 <i>current</i> 0.3	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37 history1 0.4	     history2   history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	6 0 55 <1 948 1206 1096 1343 3574 <i>current</i> 3 1 7 <i>current</i> 0.3 7.8	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37 history1 0.4 11.6	     history2   history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	6 0 55 <1 948 1206 1096 1343 3574 current 3 1 7 current 0.3 7.8 19.2	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37 history1 0.4 11.6 23.8	     history2  history2  history2  history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 0 50 0 950 1050 995 1180 2600 2600 255 20 220 20 3 20 20 3 3 20 3 3 20 3 3 20 3 3 3 20 3 3 3 20 3 3 3 20 3 3 3 3	6 0 55 <1 948 1206 1096 1343 3574 <i>current</i> 3 1 7 <i>current</i> 0.3 7.8 19.2 <i>current</i>	7 0 65 <1 972 1085 1017 1267 2417 history1 5 3 37 history1 0.4 11.6 23.8 history1	     history2  history2  history2



# **OIL ANALYSIS REPORT**







Certificate L2367

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