

# **OIL ANALYSIS REPORT**

Sample Rating Trend



#### Area (16069Z) Walgreens Machine Id [Walgreens] 136A61361 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (11 GAL)

## DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

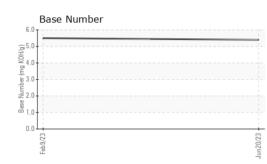
## Fluid Condition

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

SAMPLE INFORI	MATION	method	limit/base	current	history 1	history 2
Sample Number		Client Info		PCA0096019	PCA0090887	
Sample Date		Client Info		20 Jun 2023	09 Feb 2023	
Machine Age	mls	Client Info		367991	320329	
Oil Age	mls	Client Info		50000	50000	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history 1	history 2
Fuel		WC Method	>5	<1.0	<1.0	
Glycol		WC Method		NEG	NEG	
WEAR METAL	S	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m	>80	24	24	
Chromium	ppm	ASTM D5185m	>5	2	2	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>30	7	13	
Lead	ppm	ASTM D5185m	>30	0	<1	
Copper	ppm	ASTM D5185m	>150	6	6	
Tin	ppm	ASTM D5185m	>5	<1	<1	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method			history 1	history 2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 2	history 1 2	history 2
	ppm ppm					
Boron		ASTM D5185m	2	2	2	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	2 0	2 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	2 0 66	2 0 59	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	2 0 66 <1	2 0 59 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	2 0 66 <1 919	2 0 59 1 921	
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	2 0 66 <1 919 1105	2 0 59 1 921 1113	   
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	2 0 66 <1 919 1105 995	2 0 59 1 921 1113 865	   
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	2 0 66 <1 919 1105 995 1220	2 0 59 1 921 1113 865 1167	    
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 50 950 1050 995 1180 2600	2 0 66 <1 919 1105 995 1220 2805	2 0 59 1 921 1113 865 1167 2579	
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	2 0 66 <1 919 1105 995 1220 2805 current	2 0 59 1 921 1113 865 1167 2579 history 1	     history 2
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	2 0 66 <1 919 1105 995 1220 2805 current 4	2 0 59 1 921 1113 865 1167 2579 history 1 5	     history 2
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> >20	2 0 66 <1 919 1105 995 1220 2805 current 4 1	2 0 59 1 921 1113 865 1167 2579 history 1 5 2	     history 2
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> >20	2 0 66 <1 919 1105 995 1220 2805 <u>current</u> 4 1 5	2 0 59 1 921 1113 865 1167 2579 history 1 5 2 8	     history 2  
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20 <b>limit/base</b>	2 0 66 <1 919 1105 995 1220 2805 <u>current</u> 4 1 5 <u>current</u> 1.1	2 0 59 1 921 1113 865 1167 2579 history 1 5 2 8 8 history 1	     history 2   history 2
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 >20 >20 limit/base >20	2 0 66 <1 919 1105 995 1220 2805 current 4 1 5 current	2 0 59 1 921 1113 865 1167 2579 history 1 5 2 8 8 history 1 1.2	     history 2  history 2 
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>imit/base</i> >20 <i>imit/base</i> >20	2 0 66 <1 919 1105 995 1220 2805 <i>current</i> 4 1 5 <i>current</i> 1.1 9.5	2 0 59 1 921 1113 865 1167 2579 history 1 5 2 8 history 1 1.2 10.0	     history 2   history 2  history 2
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20 >30	2 0 66 <1 919 1105 995 1220 2805 <i>current</i> 4 1 5 <i>current</i> 1.1 9.5 23.2 <i>current</i>	2 0 59 1 921 1113 865 1167 2579 history 1 5 2 8 history 1 1.2 10.0 23.0 history 1	    history 2  history 2  history 2
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 D7844 *ASTM D7624 *ASTM D7415	2 0 0 50 0 950 1050 995 1180 2600 2600 20 20 20 20 20 3 20 20 20 3 3 20 20 3 3 20 20 3 3 20 20 20 20 20 20 20 20 20 20 20 20 20	2 0 66 <1 919 1105 995 1220 2805 <u>current</u> 4 1 5 <u>current</u> 1.1 9.5 23.2	2 0 59 1 921 1113 865 1167 2579 <b>history 1</b> 5 2 8 <b>history 1</b> 1.2 10.0 23.0	    history 2  history 2  history 2  history 2 



# **OIL ANALYSIS REPORT**



#### Viscosity @ 100°C

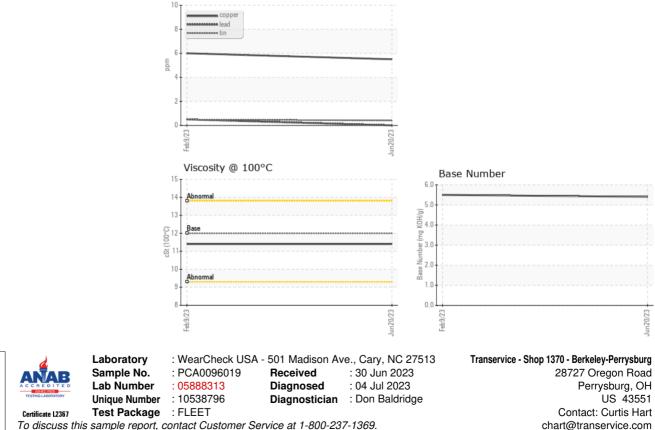


VISUAL NONE \*Visual NONE NONE White Metal scalar Yellow Metal NONE NONE NONE scalar \*Visual Precipitate scalar \*Visual NONE NONE NONE Silt scalar \*Visual NONE NONE NONE Debris \*Visual NONE NONE NONE scalar NONE Sand/Dirt scalar \*Visual NONE NONE NORML Appearance \*Visual NORML NORML scalar Odor NORML NORML scalar \*Visual NORML **Emulsified Water** scalar \*Visual >0.2 NEG NEG Free Water scalar \*Visual NEG NEG **FLUID PROPERTIES** Visc @ 100°C cSt ASTM D445 12.00 11.4 11.4 GRAPHS Ferrous Alloys 16 ye



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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)

Submitted By: Curtis Hart Page 2 of 2

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