

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend

NORMAL

#### Area (90324X) Walgreens Machine Id [Walgreens] 136A66162 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.

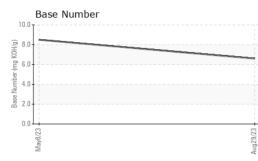
### Fluid Condition

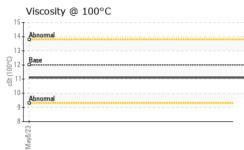
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0091538	PCA0091481	
Sample Date		Client Info		29 Aug 2023	08 May 2023	
Machine Age	mls	Client Info		696507	674254	
Oil Age	mls	Client Info		696507	25000	
Oil Changed		Client Info		N/A	Oil Added	
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	>110	10	3	
Chromium	ppm	ASTM D5185m	>4	<1	0	
Nickel	ppm	ASTM D5185m	>2	0	0	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>2	0	0	
Aluminum	ppm	ASTM D5185m	>25	2	5	
Lead	ppm	ASTM D5185m	>45	0	0	
Copper	ppm	ASTM D5185m	>85	4	<1	
Tin	ppm	ASTM D5185m	>4	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 0	history1 1	history2
	ppm ppm					history2  
Boron		ASTM D5185m	2	0	1	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0 50	0 0	1 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 0 60	1 0 63	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 0 60 <1	1 0 63 0	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 0 60 <1 929	1 0 63 0 1047	
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	0 0 60 <1 929 1053	1 0 63 0 1047 1189	
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	0 0 60 <1 929 1053 965	1 0 63 0 1047 1189 1104	
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	0 0 60 <1 929 1053 965 1187	1 0 63 0 1047 1189 1104 1356	   
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 ASTM D5185m	2 0 50 950 1050 995 1180 2600	0 0 60 <1 929 1053 965 1187 3227	1 0 63 0 1047 1189 1104 1356 3698	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	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	0 0 60 <1 929 1053 965 1187 3227 current	1 0 63 0 1047 1189 1104 1356 3698 history1	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	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	0 0 60 <1 929 1053 965 1187 3227 current 23	1 0 63 0 1047 1189 1104 1356 3698 history1 3	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	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 Limit/base >30	0 0 60 <1 929 1053 965 1187 3227 current 23 2	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1	     history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >30	0 0 60 <1 929 1053 965 1187 3227 current 23 2 2 0	1 0 63 0 1047 1189 1104 1356 3698 history1 3 < 1	     history2
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> >30	0 0 60 <1 929 1053 965 1187 3227 current 23 2 0 0	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1 1 1 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 ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >30 20 <b>imit/base</b>	0 0 60 <1 929 1053 965 1187 3227 current 23 2 0 0 current	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1 1 1 history1 0.4	    history2  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 limit/base >30 20 limit/base >33 >20	0 0 60 <1 929 1053 965 1187 3227 <i>current</i> 23 2 2 0 <i>current</i> 0.7 10.0	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1 1 1 history1 0.4 8.4	    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> >30 >20 <b>imit/base</b> >3 >20	0 0 60 <1 929 1053 965 1187 3227 current 23 2 0 current 0.7 10.0 21.5	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1 1 1 history1 0.4 8.4 18.8	    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 D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >30 <b>imit/base</b> >3 20 >30 imit/base	0 0 60 <1 929 1053 965 1187 3227 current 23 2 0 current 0.7 10.0 21.5 current	1 0 63 0 1047 1189 1104 1356 3698 history1 3 <1 1 1 history1 0.4 8.4 18.8 history1	    history2  history2  history2  history2



# **OIL ANALYSIS REPORT**





bpm

Non-ferrous Metals

Viscosity @ 100°C

14

13

Mav8/73

cSt (100°C)

Laboratory

VISUAL		method	limit/base	current	history1	history2
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	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
FLUID PROPE Visc @ 100°C	CSt	method ASTM D445	limit/base 12.00	current	history1 11.1	history2
						history2
Visc @ 100°C GRAPHS Ferrous Alloys						history2
Visc @ 100°C GRAPHS						history2
Visc @ 100°C GRAPHS Ferrous Alloys						history2
Visc @ 100°C GRAPHS Ferrous Alloys						history2
Visc @ 100°C GRAPHS Ferrous Alloys						history2

Aug29/23 -

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9.0

8.0 (6,7.0 6.0 0 Bull 5.0

檀 4.0 3.0 ase 6 2.0 1.0 0.0

Mav8/23

Base Number



Sample No. : PCA0091538 Received : 31 Aug 2023 Lab Number : 05940122 Diagnosed : 01 Sep 2023 Unique Number : 10630734 Diagnostician : Wes Davis Test Package : FLEET Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. mhurda@transervice.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)

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