

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



### Machine Id 785666

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

#### DIAGNOSIS

#### Recommendation

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

#### 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.

ITS)			Mar2023	Sep2023		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0105785	PCA0094496	
Sample Date		Client Info		27 Sep 2023	23 Mar 2023	
Machine Age	mls	Client Info		372624	365776	
Oil Age	mls	Client Info		0	13688	
Oil Changed		Client Info		Changed	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	7	13	
Chromium	ppm	ASTM D5185m	>20	<1	<1	
Nickel	ppm	ASTM D5185m	>4	0	0	
Titanium	ppm	ASTM D5185m		0	<1	
Silver	ppm	ASTM D5185m	>3	0	0	
Aluminum	ppm	ASTM D5185m	>20	2	4	
Lead	ppm	ASTM D5185m	>40	0	0	
Copper	ppm	ASTM D5185m	>330	<1	3	
Tin	ppm	ASTM D5185m	>15	0	0	
Vanadium	ppm	ASTM D5185m		0	0	
Cadmium	ppm	ASTM D5185m		0	0	
	ppm			U	0	
ADDITIVES	pp	method	limit/base	current	0 history1	history2
ADDITIVES Boron	ppm		limit/base	-	-	
Boron		method	2	current	history1	history2
Boron Barium	ppm	method ASTM D5185m	2	current 12	history1 46	history2
Boron Barium Molybdenum	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 12 0	history1 46 0	history2 
Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 12 0 62	history1 46 0 2	history2  
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 12 0 62 0	history1 46 0 2 1	history2   
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 12 0 62 0 877	history1 46 0 2 1 721	history2   
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           12           0           62           0           877           1113	history1 46 0 2 1 721 1329	history2     
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	current           12           0           62           0           877           1113           990	history1 46 0 2 1 721 1329 1140	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	current           12           0           62           0           877           1113           990           1231	history1 46 0 2 1 721 1329 1140 1340	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current 12 0 62 0 877 1113 990 1231 3250	history1 46 0 2 1 721 1329 1140 1340 4786	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current           12           0           62           0           877           1113           990           1231           3250           current	history1 46 0 2 1 721 1329 1140 1340 4786 history1	history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m 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 >25	current           12           0           62           0           877           1113           990           1231           3250           current           8	history1           46           0           2           1           721           1329           1140           1340           4786           history1           5	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current           12           0           62           0           877           1113           990           1231           3250           current           8           0	history1           46           0           2           1           721           1329           1140           1340           4786           history1           5           2	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	method ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25 -20 <b>limit/base</b>	current           12           0           62           0           877           1113           990           1231           3250           current           8           0           3	history1           46           0           2           1           721           1329           1140           1340           4786           history1           5           2           4	history2 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	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	current           12           0           62           0           877           1113           990           1231           3250           current           8           0           3           current	history1         46         0         2         1         721         1329         1140         1340         4786         history1         5         2         4	history2 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	method           ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >20	current           12           0           62           0           877           1113           990           1231           3250           current           8           0           3           current           0.2	history1           46           0           2           1           721           1329           1140           1340           4786           history1           5           2           4           0           0.1	history2      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	method           ASTM D5185m           ASTM D7844           *ASTM D7624           *ASTM D7624	2 0 50 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >20	current           12           0           62           0           877           1113           990           1231           3250           current           8           0           3           current           0.2           7.4	history1         46         0         2         1         721         1329         1140         1340         4786         history1         5         2         4         0.1         5.7	history2 history2 history2 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	method           ASTM D5185m           ASTM D7844           *ASTM D7624           *ASTM D7624	2 0 50 0 950 1050 995 1180 2600 <b>i</b> mit/base >25 20 <b>i</b> mit/base >3 >20 >30	current           12           0           62           0           877           1113           990           1231           3250           current           8           0           3           current           0.2           7.4           18.5	history1         46         0         2         1         721         1329         1140         1340         4786         history1         5         2         4         history1         0.1         5.7         15.9	history2



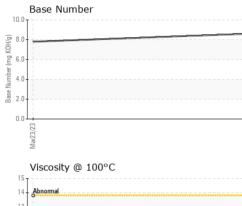
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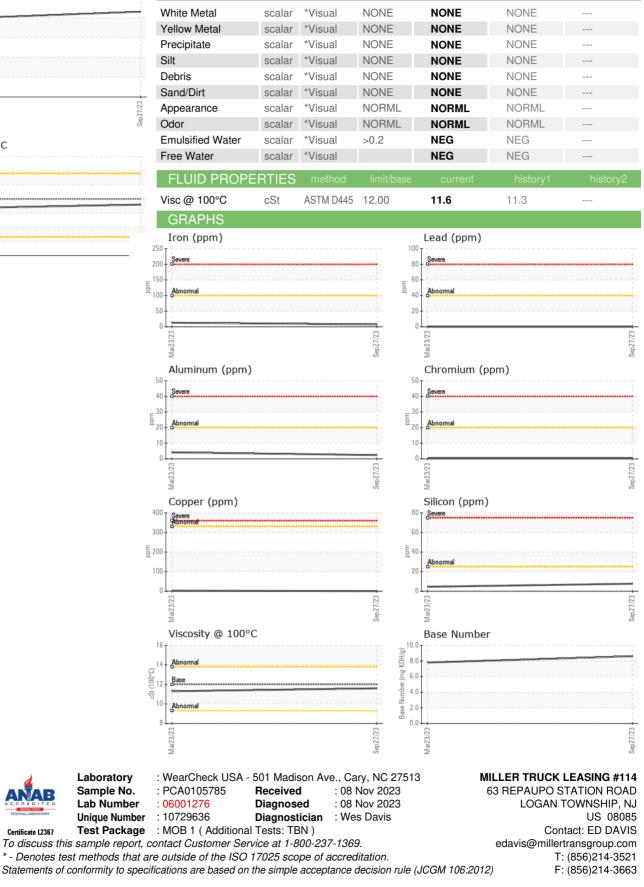
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Mar23/23

# **OIL ANALYSIS REPORT**

VISUAL





Certificate L2367