

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **743353** 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

Metal levels are typical for a new component breaking in.

#### Contamination

There is no indication of any contamination in the oil.

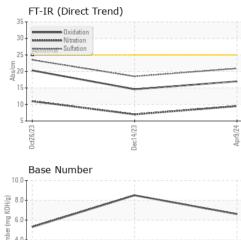
#### Fluid Condition

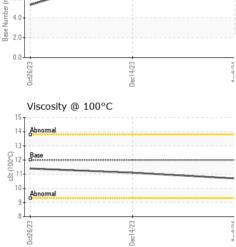
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MAT <u>IO</u> N	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0121007	PCA0105826	PCA0105770
Sample Date		Client Info		09 Apr 2024	14 Dec 2023	26 Oct 2023
Machine Age	mls	Client Info		87610	57042	38077
Oil Age	mls	Client Info		36568	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron		ASTM D5185m	>100	37	12	56
Chromium	ppm	ASTM D5185m	>20	2	0	1
Nickel	ppm		>20	2	0	<1
Titanium	ppm	ASTM D5185m ASTM D5185m	>4	। <1	0	<1
Silver	ppm		. 2		0	
Aluminum	ppm	ASTM D5185m ASTM D5185m	>3 >20	<1 8	3	0 29
	ppm		>20	0 4	0	29 6
Lead	ppm	ASTM D5185m			4	
Copper Tin	ppm	ASTM D5185m	>330 >15	5	4	37 3
Vanadium	ppm	ASTM D5185m ASTM D5185m	>15	3 <1	0	0
Cadmium	ppm	ASTM D5185m		1	0	0
Gaumum	ppm	ASTIVI DOTODITI		•	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	ASTM D5185m	limit/base 2	current 4	history1 8	history2 19
	ppm ppm				8 0	
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4	8 0 63	19 4 11
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	4 <1	8 0	19 4
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 <1 86	8 0 63 0 1036	19 4 11
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 <1 86 2 1232 1525	8 0 63 0	19 4 11 4
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	4 <1 86 2 1232 1525 1490	8 0 63 0 1036 1330 1138	19 4 11 4 710 1311 591
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	4 <1 86 2 1232 1525	8 0 63 0 1036 1330 1138 1436	19 4 11 4 710 1311 591 768
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	2 0 50 0 950 1050 995	4 <1 86 2 1232 1525 1490	8 0 63 0 1036 1330 1138	19 4 11 4 710 1311 591
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	4 <1 86 2 1232 1525 1490 1624	8 0 63 0 1036 1330 1138 1436	19 4 11 4 710 1311 591 768
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	4 <1 86 2 1232 1525 1490 1624 4238	8 0 63 0 1036 1330 1138 1436 4050	19 4 11 4 710 1311 591 768 2604
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	4 <1 86 2 1232 1525 1490 1624 4238 current	8 0 63 0 1036 1330 1138 1436 4050 history1	19 4 11 4 710 1311 591 768 2604 history2
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>	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	4 <1 86 2 1232 1525 1490 1624 4238 current 15	8 0 63 0 1036 1330 1138 1436 4050 history1 8	19 4 11 4 710 1311 591 768 2604 history2 41
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m 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 <b>limit/base</b> >25	4 <1 86 2 1232 1525 1490 1624 4238 <u>current</u> 15 2	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1	19 4 11 4 710 1311 591 768 2604 <b>history2</b> 41 6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 >20	4 <1 86 2 1232 1525 1490 1624 4238 current 15 2 17	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1 8 1 8 1 8 1 8 1 0.3	19 4 11 4 710 1311 591 768 2604 history2 41 6 87
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >25 >20 <b>Imit/base</b> >3	4 <1 86 2 1232 1525 1490 1624 4238 current 15 2 17 current	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1 8 1 8 <i>history</i> 1	19 4 11 4 710 1311 591 768 2604 <b>bistory2</b> 41 6 87 <b>bistory2</b>
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 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	4 <1 86 2 1232 1525 1490 1624 4238 current 15 2 17 current 0.7	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1 8 1 8 1 8 1 8 1 0.3	19 4 11 4 710 1311 591 768 2604 <b>history2</b> 41 6 87 <b>history2</b> 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	4 <1 86 2 1232 1525 1490 1624 4238 current 15 2 17 current 0.7 9.5	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1 8 1 8 1 8 1 8 1 0.3 7.0	19 4 11 4 710 1311 591 768 2604 history2 41 6 87 history2 0.6 11.0
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 >20 <b>imit/base</b> >3 >20 >30	4 <1 86 2 1232 1525 1490 1624 4238 current 15 2 17 current 0.7 9.5 20.9	8 0 63 0 1036 1330 1138 1436 4050 history1 8 1 8 1 8 1 8 1 8 1 0.3 7.0 18.5	19 4 11 4 710 1311 591 768 2604 <b>history2</b> 41 6 87 <b>history2</b> 0.6 11.0 23.5

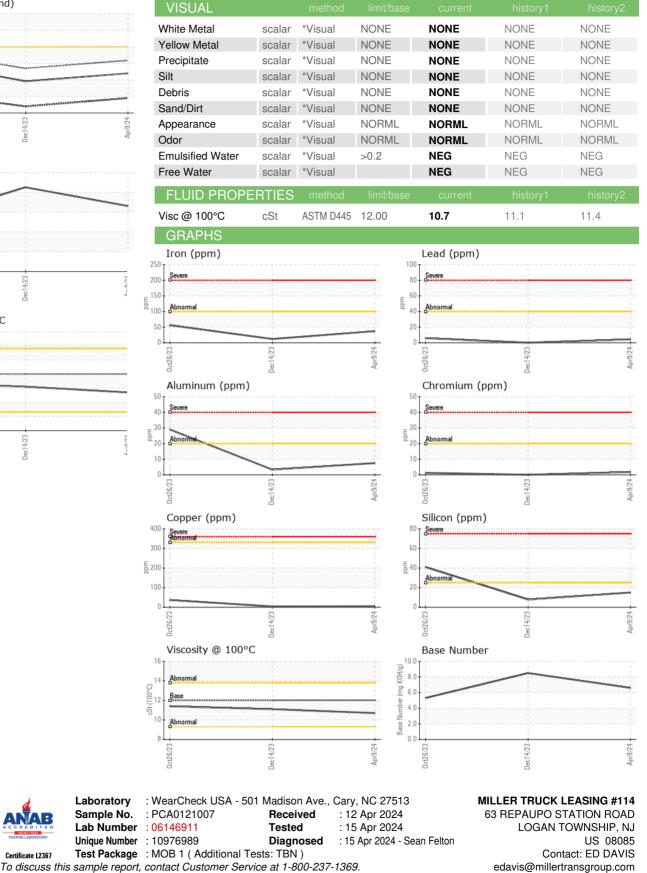


# **OIL ANALYSIS REPORT**





ppm



\* - 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)

Report Id: MILLOG [WUSCAR] 06146911 (Generated: 04/15/2024 16:27:47) Rev: 1

Certificate 12367

Laboratory

Sample No.

Contact/Location: ED DAVIS - MILLOG

T: (856)214-3521

F: (856)214-3663