

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



Machine Id 738211 Component

Diesel Engine

Fluid 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.

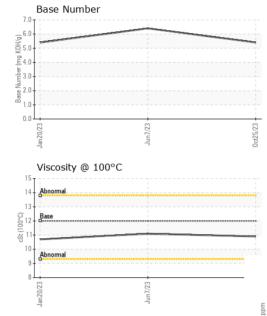
#### Fluid Condition

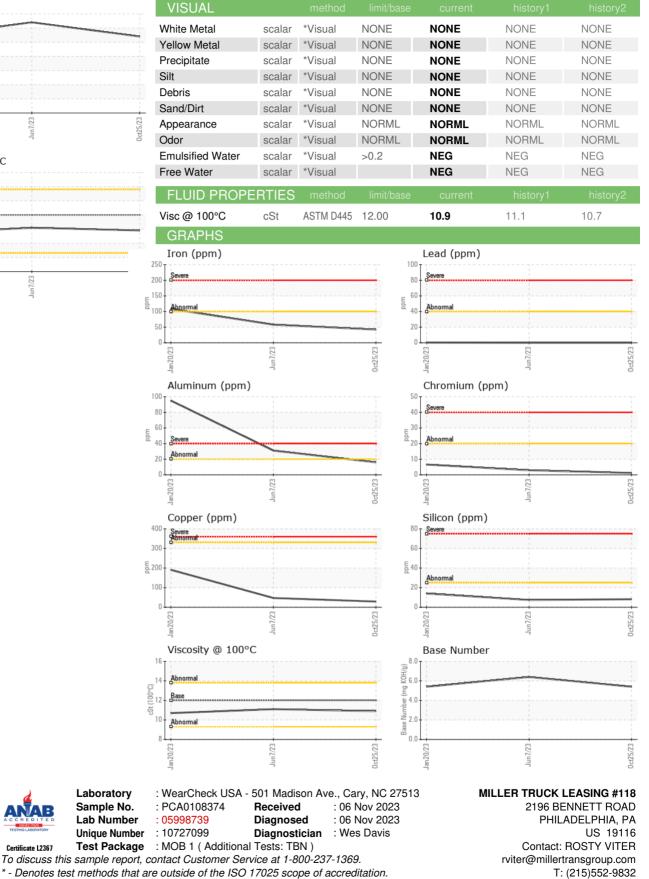
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		Jan		Jun2023 Oct202		
SAMPLE INFORM	<b>/</b> ATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0108374	PCA0095770	PCA0085185
Sample Date		Client Info		25 Oct 2023	07 Jun 2023	20 Jan 2023
Machine Age	mls	Client Info		55203	127826	72473
Oil Age	mls	Client Info		55203	127826	72473
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	42	58	108
Chromium	ppm	ASTM D5185m	>20	1	3	7
Nickel	ppm	ASTM D5185m	>4	0	1	1
Titanium	ppm	ASTM D5185m		2	8	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	16	31	95
Lead	ppm	ASTM D5185m	>40	0	0	<1
Copper	ppm	ASTM D5185m	>330	29	47	191
Tin	ppm	ASTM D5185m	>15	0	3	8
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	2	6	21
Barium	ppm	ASTM D5185m	0	0	<1	2
Molybdenum						= 0
	ppm	ASTM D5185m	50	61	55	53
Manganese	ppm ppm	ASTM D5185m ASTM D5185m	50 0	61 <1	55 1	53 4
•				-		
Magnesium	ppm	ASTM D5185m	0	<1	1	4
Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m	0 950	<1 910	1 828	4 571
Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050	<1 910 1213	1 828 1367	4 571 1907
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995	<1 910 1213 942	1 828 1367 943	4 571 1907 786
Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180	<1 910 1213 942 1236	1 828 1367 943 1200	4 571 1907 786 993
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600	<1 910 1213 942 1236 2211	1 828 1367 943 1200 2469	4 571 1907 786 993 1930
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base	<1 910 1213 942 1236 2211 current	1 828 1367 943 1200 2469 history1	4 571 1907 786 993 1930 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	0 950 1050 995 1180 2600 limit/base	<1 910 1213 942 1236 2211 current 8	1 828 1367 943 1200 2469 history1 7	4 571 1907 786 993 1930 history2 14
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 limit/base >25	<1 910 1213 942 1236 2211 current 8 3	1 828 1367 943 1200 2469 history1 7 2	4 571 1907 786 993 1930 history2 14 8
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	<1 910 1213 942 1236 2211 current 8 3 33	1 828 1367 943 1200 2469 history1 7 2 71	4 571 1907 786 993 1930 history2 14 8 221
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium Potassium INFRA-RED Soot %	ppm 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 ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	<1 910 1213 942 1236 2211 current 8 3 33 33 current 1.3	1 828 1367 943 1200 2469 history1 7 2 71 2 71 history1 1.2	4 571 1907 786 993 1930 history2 14 8 221 history2
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	<1 910 1213 942 1236 2211 current 8 3 33 33	1 828 1367 943 1200 2469 history1 7 2 71 71 history1	4 571 1907 786 993 1930 history2 14 8 221 history2 1.5
Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	<1 910 1213 942 1236 2211 current 8 3 33 33 current 1.3 10.9	1 828 1367 943 1200 2469 history1 7 2 71 history1 1.2 11.8	4 571 1907 786 993 1930 history2 14 8 221 history2 1.5 1.5 14.3
Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	0 950 1050 995 1180 2600 <b>limit/base</b> >25 <b>limit/base</b> >3 >20 >30	<1 910 1213 942 1236 2211 current 8 3 33 33 current 1.3 10.9 23.6	1 828 1367 943 1200 2469 history1 7 2 71 2 71 history1 1.2 11.8 23.3	4 571 1907 786 993 1930 history2 14 8 221 history2 1.5 14.3 26.6



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\* - 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)

Certificate L2367

Laboratory

Sample No.

Lab Number

Unique Number

F: (215)552-9892