

## **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# Machine Id 621328

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.

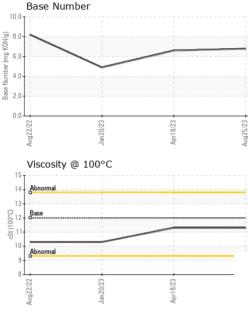
#### Fluid Condition

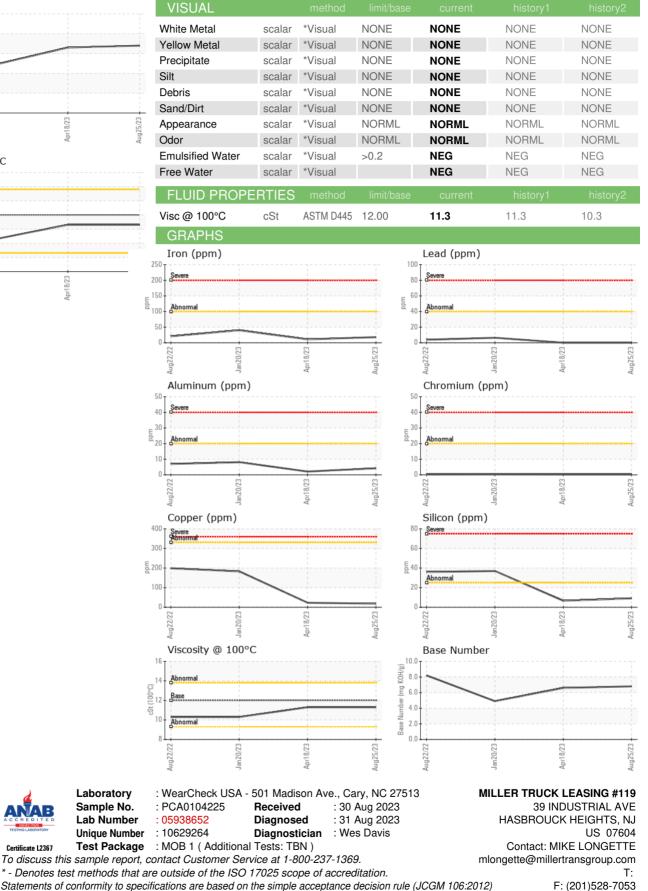
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

ITS)		Aug202	2 Jan2023	Apr2023 Au	g2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0104225	PCA0095888	PCA0089693
Sample Date		Client Info		25 Aug 2023	18 Apr 2023	20 Jan 2023
Machine Age	mls	Client Info		26621	0	14207
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
Sample Status				NORMAL	NORMAL	ABNORMAL
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	18	11	40
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	1	2
Silver	ppm	ASTM D5185m	>3	<1	1	0
Aluminum	ppm	ASTM D5185m	>20	4	2	8
Lead	ppm	ASTM D5185m	>40	0	0	6
Copper	ppm	ASTM D5185m	>330	18	23	183
Tin	ppm	ASTM D5185m	>15	1	<1	6
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	9	24	59
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	63	64	99
Manganese		AOTH DEADE	0	<1	1	5
	ppm	ASTM D5185m	0		1	5
Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	950	936	906	690
Magnesium Calcium						
U U	ppm	ASTM D5185m	950	936	906	690
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	950 1050	936 1129	906 1137	690 1537
Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995	936 1129 1030	906 1137 989	690 1537 680
Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180	936 1129 1030 1294	906 1137 989 1205	690 1537 680 818
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base	936 1129 1030 1294 3711	906 1137 989 1205 3736	690 1537 680 818 2515
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	950 1050 995 1180 2600 limit/base	936 1129 1030 1294 3711 current	906 1137 989 1205 3736 history1	690 1537 680 818 2515 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base	936 1129 1030 1294 3711 current 9	906 1137 989 1205 3736 history1 7	690 1537 680 818 2515 history2 ▲ 37
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25	936 1129 1030 1294 3711 current 9 <1	906 1137 989 1205 3736 history1 7 1	690 1537 680 818 2515 history2 ▲ 37 4
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 <i>limit/base</i> >25 >20	936 1129 1030 1294 3711 current 9 <1 3	906 1137 989 1205 3736 history1 7 1 3	690 1537 680 818 2515 history2 ▲ 37 4 17
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	936 1129 1030 1294 3711 current 9 <1 3 current 0.2	906 1137 989 1205 3736 history1 7 1 3 3 history1 0.1	690 1537 680 818 2515 history2 ▲ 37 4 17 history2 0.3
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	936 1129 1030 1294 3711 current 9 <1 3 current	906 1137 989 1205 3736 history1 7 1 3 history1	690 1537 680 818 2515 history2 ▲ 37 4 17 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	936 1129 1030 1294 3711 current 9 <1 3 current 0.2 8.8	906 1137 989 1205 3736 history1 7 1 3 history1 0.1 7.9	690 1537 680 818 2515 history2 ▲ 37 4 17 history2 0.3 12.9
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >30	936 1129 1030 1294 3711 current 9 <1 3 current 0.2 8.8 19.2	906 1137 989 1205 3736 history1 7 1 3 <u>history1</u> 0.1 7.9 17.3	690 1537 680 818 2515 <b>history2</b> ▲ 37 4 17 <b>history2</b> 0.3 12.9 24.8



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Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Certificate L2367

Laboratory