

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id 121355

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.

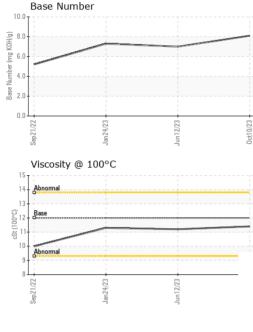
#### Fluid Condition

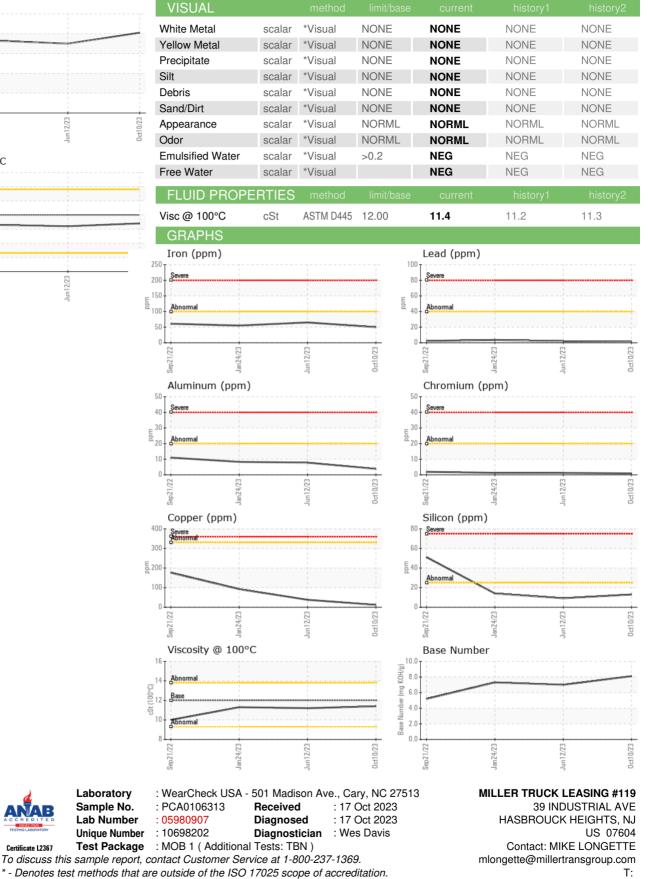
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

ITS)		Sep202	2 Jan2023	Jun2023 04	42023	
SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0106313	PCA0095936	PCA0089670
Sample Date		Client Info		10 Oct 2023	12 Jun 2023	24 Jan 2023
Machine Age	mls	Client Info		31265	23731	15432
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
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	50	65	55
Chromium	ppm	ASTM D5185m	>20	<1	1	1
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m		4	8	8
Lead	ppm	ASTM D5185m	>40	1	2	4
Copper	ppm	ASTM D5185m		12	38	92
Tin	ppm	ASTM D5185m	>15	2	2	3
Vanadium	ppm	ASTM D5185m	210	0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	1	10	15
		AOTH DELOF	0	0	0	0
Barium	ppm	ASTM D5185m	0	U	0	0
	ppm ppm	ASTM D5185m ASTM D5185m	50	62	63	58
Molybdenum			50			
Molybdenum Manganese	ppm	ASTM D5185m	50	62	63	58
Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	62 <1	63 2	58 1
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	62 <1 954	63 2 960	58 1 783
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050	62 <1 954 1079	63 2 960 1226	58 1 783 1208
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	62 <1 954 1079 983	63 2 960 1226 1058	58 1 783 1208 957
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180	62 <1 954 1079 983 1241	63 2 960 1226 1058 1374	58 1 783 1208 957 1199
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	50 0 950 1050 995 1180 2600	62 <1 954 1079 983 1241 2873	63 2 960 1226 1058 1374 3668	58 1 783 1208 957 1199 3171
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600	62 <1 954 1079 983 1241 2873 current	63 2 960 1226 1058 1374 3668 history1	58 1 783 1208 957 1199 3171 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	62 <1 954 1079 983 1241 2873 current 13	63 2 960 1226 1058 1374 3668 history1 9	58 1 783 1208 957 1199 3171 history2 14
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon Sodium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	62 <1 954 1079 983 1241 2873 current 13 2	63 2 960 1226 1058 1374 3668 history1 9 1	58 1 783 1208 957 1199 3171 history2 14 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	62 <1 954 1079 983 1241 2873 current 13 2 0	63 2 960 1226 1058 1374 3668 history1 9 1 2	58 1 783 1208 957 1199 3171 history2 14 2 2
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	62 <1 954 1079 983 1241 2873 current 13 2 0 current	63 2 960 1226 1058 1374 3668 history1 9 1 2 history1	58 1 783 1208 957 1199 3171 history2 14 2 2 history2
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	62 <1 954 1079 983 1241 2873 current 13 2 0 current 0.8	63 2 960 1226 1058 1374 3668 history1 9 1 2 2 history1 0.8	58 1 783 1208 957 1199 3171 history2 14 2 2 2 history2 0.8
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	62 <1 954 1079 983 1241 2873 <u>current</u> 13 2 0 <u>current</u> 0.8 10.8	63 2 960 1226 1058 1374 3668 history1 9 1 2 history1 0.8 10.8	58 1 783 1208 957 1199 3171 history2 14 2 2 history2 0.8 11.2
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	50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	62 <1 954 1079 983 1241 2873 current 13 2 0 current 0.8 10.8 21.5	63 2 960 1226 1058 1374 3668 history1 9 1 2 history1 0.8 10.8 22.0	58 1 783 1208 957 1199 3171 history2 14 2 2 history2 0.8 11.2 21.8



# **OIL ANALYSIS REPORT**





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

Certificate L2367

Laboratory

Sample No.

Lab Number

F: (201)528-7053