

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

## TM7069

#### 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.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0123929	PCA0104258	PCA0101322
Sample Date		Client Info		12 Apr 2024	14 Nov 2023	11 Jul 2023
Machine Age	mls	Client Info		218966	209256	200597
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
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	ppm	ASTM D5185m	>100	34	21	49
Chromium	ppm	ASTM D5185m	>20	1	<1	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m	~ 1	<1	0	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	4	3	4
Lead	ppm	ASTM D5185m	>40	<1	0	0
Copper	ppm	ASTM D5185m		2	1	<1
Tin	ppm	ASTM D5185m	>15	1	0	0
Vanadium	ppm	ASTM D5185m	210	- <1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
oddiniani	ppm				0	0
			11 11 11			
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	4	21	4
Boron Barium	ppm ppm		2 0	4 0		4
Boron	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	4 0 68	21 0 59	4 0 70
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	4 0 68 <1	21 0 59 <1	4 0 70 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	4 0 68 <1 874	21 0 59 <1 866	4 0 70 <1 1012
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	4 0 68 <1 874 1060	21 0 59 <1 866 1174	4 0 70 <1 1012 1276
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 0 68 <1 874 1060 860	21 0 59 <1 866 1174 1034	4 0 70 <1 1012 1276 1109
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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 0 68 <1 874 1060 860 1169	21 0 59 <1 866 1174 1034 1293	4 0 70 <1 1012 1276 1109 1419
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 0 68 <1 874 1060 860 1169 2765	21 0 59 <1 866 1174 1034 1293 3086	4 0 70 <1 1012 1276 1109 1419 3595
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 0 68 <1 874 1060 860 1169 2765 current	21 0 59 <1 866 1174 1034 1293 3086 history1	4 0 70 <1 1012 1276 1109 1419
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	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	4 0 68 <1 874 1060 860 1169 2765 current 7	21 0 59 <1 866 1174 1034 1293 3086 history1 4	4 0 70 <1 1012 1276 1109 1419 3595 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	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	4 0 68 <1 874 1060 860 1169 2765 <u>current</u> 7 0	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >25	4 0 68 <1 874 1060 860 1169 2765 current 7	21 0 59 <1 866 1174 1034 1293 3086 history1 4	4 0 70 <1 1012 1276 1109 1419 3595 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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>limit/base</b> >25 -20 <b>limit/base</b>	4 0 68 <1 874 1060 860 1169 2765 current 7 0 5 5	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2 2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	4 0 68 <1 874 1060 860 1169 2765 <i>current</i> 7 0 5 <i>current</i> 0.4	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1 0.4	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2 2 history2 0.5
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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	4 0 68 <1 874 1060 860 1169 2765 <u>current</u> 7 0 5 <u>current</u> 0.4 9.6	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1 0.4 8.5	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2 2 history2 0.5 11.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	4 0 68 <1 874 1060 860 1169 2765 <i>current</i> 7 0 5 <i>current</i> 0.4	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1 0.4	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2 2 history2 0.5
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 spm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3 >20	4 0 68 <1 874 1060 860 1169 2765 <u>current</u> 7 0 5 <u>current</u> 0.4 9.6	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1 0.4 8.5	4 0 70 <1 1012 1276 1109 1419 3595 history2 4 2 2 history2 0.5 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 spm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>imit/base</b> >25 <b>imit/base</b> >3 >20	4 0 68 <1 874 1060 860 1169 2765 <b>current</b> 7 0 5 <b>current</b> 0.4 9.6 19.7	21 0 59 <1 866 1174 1034 1293 3086 history1 4 2 3 3 history1 0.4 8.5 19.7	4 0 70 <1 1012 1276 1109 1419 3595 <b>history2</b> 4 2 2 <b>history2</b> 0.5 11.0 22.5



Abnorma

Dec12/18

# **OIL ANALYSIS REPORT**

scalar

scalar

scalar

scalar

scalar

scalar

VISUAL

White Metal

Yellow Metal

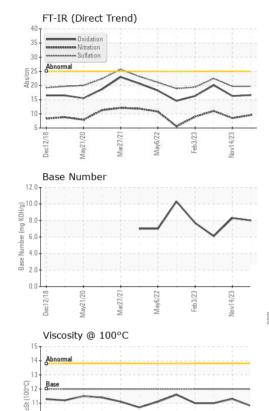
Precipitate

Silt

Debris

Sand/Dirt

Appearance

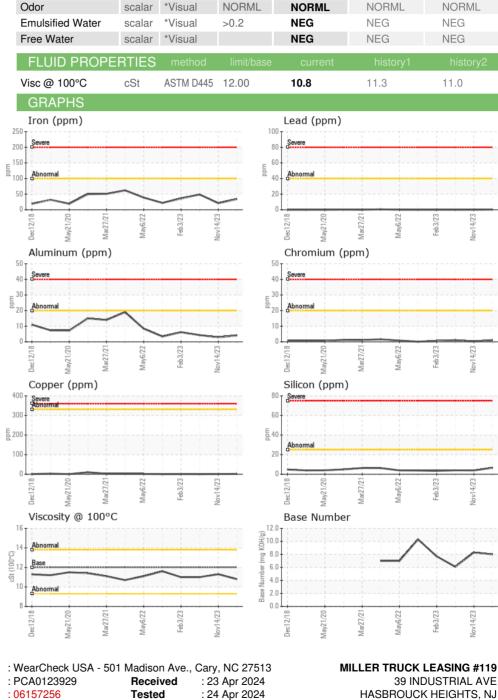


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Lab Number : 06157256 Tested : 24 Apr 2024 Unique Number : 10992679 Diagnosed : 24 Apr 2024 - Wes Davis Test Package : MOB 1 (Additional Tests: TBN)

\* - 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) F: (201)528-7053

Report Id: MILRUT [WUSCAR] 06157256 (Generated: 04/24/2024 10:32:43) Rev: 1

Contact/Location: MIKE LONGETTE - MILRUT

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